ATMO 102 – Pacific Climates and Cultures

**Instructor:** Jennifer Griswold  
**Email:** smalljen@hawaii.edu  
**Office Hours:** TBA

Class Times: Mon-Wed-Fri 11:30-12:20  
Class Location: HIG 311  
Course Web address: http://jenniferdsmallphd.com/ATMO_102.html

**Course Description**

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I may give out extra credit work, but if I do, it will be available for all students in the class.
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General Learning Objectives for Hawaiian, Asian, & Pacific Issue Classes
At the end of a course that fulfills the Hawaiian, Asian, and Pacific Issues Focus requirement, students will be able to:

- **HLO1**: Explain the intersection of Native Hawaiian issues with Asian and/or Pacific Island issues.
- **HLO2**: Analyze issues using the conceptual and ethical frameworks and practices of the cultural perspectives, values, and world views of the Indigenous peoples of Hawai‘i, and the Pacific and/or Asia.
- **HLO3**: Integrate the histories, cultures, beliefs, arts, social, political, economic, or technological processes in their analysis of Hawai‘i, and the Pacific and/or Asia.
- **HLO4**: Demonstrate respect and empathy as defined by the Indigenous peoples of Hawai‘i and the pacific and/or Asia in interpersonal and intergroup relationships.

Hallmarks of Hawaiian, Asian, & Pacific Issues Classes
To fulfill the Hawaiian, Asian, and Pacific Issues Focus requirement, at least two-thirds of a class must satisfy the following Hallmarks:

- **H1**: The content should reflect the intersection of Asian and/or Pacific Island cultures with Native Hawaiian culture.
- **H2**: A course can use any disciplinary or multi-disciplinary approach provided that a component of the course uses assignments or practica that encourage learning that comes from the cultural perspectives, values, and world views rooted in the experience of peoples indigenous to Hawai‘i, the Pacific, and Asia.
**H3.** A course should include at least one topic that is crucial to an understanding of the histories, or cultures, or beliefs, or the arts, or the societal, or political, or economic, or technological processes of these regions; for example, the relationships of societal structures to the natural environment.

**H4.** A course should involve an in-depth analysis or understanding of the issues being studied in the hope of fostering multi-cultural respect and understanding.

**Student Learning Objectives (SLOs):** Upon completion of the course, the student should be able to:

*NOTE: “HAP” represents Hawaiian, Asian and Pacific.*

**Pacific Island Culture and Environment SLOs**
1. Identify key differences and similarities between Hawaiian and other Pacific Island Cultures.
2. Identify impacts of weather and climate on clothing style and development over time.
3. Describe they mythological representation of weather phenomena for a variety of Island peoples.
4. Describe the way in which clouds and cloud formation are represented in HAP mythologies.
5. Describe how precipitation type, timing, and patterns are related to cultural events and agriculture.
6. Describe the how weather phenomena are incorporated in to the various dance forms of the Pacific Islands.
7. Identify examples of weather phenomena as represented in music, songs and chants.
8. Identify regional wind patterns and how they relate to the location of HAP cultures.
9. Describe the impact of weather on place names and wind names.
10. Describe the way in weather and ocean currents are related to inter-island travel in the pacific.
11. Describe how the ocean currents and wave shape/types played a role in the development of surfing.
12. Describe the historical and current implication of El Niño events in the Pacific.
13. Be able to generalize how storms and other large weather events are depicted by HAP cultures.
14. Understand and critically examine the social impacts typhoons and hurricanes in HAP cultures.
15. Describe air pollution concerns for the peoples of HAP cultures in the past and present.
16. Identify the ways in which optical effects (e.g. rainbows) are incorporated into HAP mythologies.
17. Describe how the general climate and micro climates of the various Pacific Islands impacted agriculture.
18. Identify the ways in which HAP cultures will be impacted by climate change and sea level rise.

**Atmospheric and Environmental Science SLOs**
1. Demonstrate a familiarity with the basic vocabulary of meteorology.
2. Demonstrate a familiarity with the geographic location of Hawaii and the Pacific Islands.
3. Describe how temperature changes horizontally and vertically in the atmosphere.
4. Describe and explain the origin, composition, structure, and behaviors of the earth's atmosphere.
5. Understand and analyze important environmental problems related to the Pacific atmosphere.
6. Critically examine the phenomena of the Solar and Terrestrial Radiation and understanding the energy transfer by radiation, conduction, convection, and evapotranspiration and explain the factors that determine the distribution of solar energy over the Earth's surface and describe global patterns of temperature.
7. Understand and critically examine the atmospheric phenomena of temperature, moisture conditions, atmospheric stability, forms of condensation and precipitation, air pressure and winds, circulation of the atmosphere, role of air masses, and weather patterns.
8. Describe the major cloud types and explain the phenomena of rainfall, fog, snow, sleet, and frost.
9. Define a cold and warm front and explain the processes leading to the formation of each and also explain the formation of cyclones and anticyclones, tornadoes, hurricanes and typhoons.
10. Understand and describe the formation of thunderstorms, lightning and thunder.
11. Describe and analyze the changing climate in the past, present and future
12. Understand the impact that people have on the atmospheric environment.
13. Differentiate between global warming and the greenhouse effect.
14. Describe the phenomenon of El Nino-Southern Oscillation and the impacts it has on global precipitation and cloud patterns.
15. Describe various types of atmospheric optical phenomena including rainbows, mirages, halos, crepuscular rays, sun dogs, sun pillars, corona and glories.
16. Understand the various impacts and mitigation strategies for climate change and sea level rise in the Pacific region.

**Lecture Topic Schedule and Reading Assignments**

All reading material will be provided in PDF format through Laulima and the Class Website. Page assignments are subject to change as is schedule for field trips! Activities, Experiences, and Field Trips and Holidays are Shaded. Readings that are *italicized* are not required, but are suggested reading.

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<tr>
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<td>Intro to Islands</td>
<td></td>
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<tr>
<td>W2: 1/20</td>
<td>HOLIDAY – Martin Luther King Jr. Day – No Class</td>
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<tr>
<td>W2: 1/22</td>
<td>Temperature and Clothing</td>
<td>MetEd Module (web link)</td>
<td>Keawe (2014: 12-33)</td>
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<tr>
<td>W3: 1/27</td>
<td>Activity/Experience – Clothing of the Pacific Islands</td>
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<td>Hiroa (1924: 25-47)</td>
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<tr>
<td>W4: 2/5</td>
<td>Precipitation Across the Pacific</td>
<td>Current Precipitation Maps &amp; Satellite Data (Real Time Images)</td>
<td>Kamae (2005: DVD 60 min)</td>
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<td>W4: 2/7</td>
<td>Activity/Experience – TBD (Hawaiian Music or other)</td>
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<td>Kanahele (2012: xli-xlvi: 438-441)</td>
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<tr>
<td>W5: 2/10</td>
<td>Pressure and Wind</td>
<td>MetEd Module (web link)</td>
<td>Alameda (1997: 10-13); Alokeanu (1866: Newspaper)</td>
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<tr>
<td>W6: 2/17</td>
<td>HOLIDAY – President’s Day– No Class</td>
<td></td>
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<tr>
<td>W7: 2/28</td>
<td>Activity/Experience – Poetry Writing in the Style of Pukui and Kauka</td>
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<tr>
<td>W8: 3/6</td>
<td>NO CLASS – Dr. Griswold at at Meeting</td>
<td></td>
<td>Clark (2011: 19-37)</td>
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<td>W9: 3/13</td>
<td>Activity/Experience – In-Class “Lightning” and “Hail”</td>
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<td>W10: 3/16</td>
<td>Spring Break – No Class</td>
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<td></td>
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<td>Hairama (1871)</td>
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</tbody>
</table>
Reading Materials for Course

References: Native Hawaiian Voice

Aloikeanu, D. A. K. (1866) "Na Makani", *Ke Au Okoa*, 7 May. (*Hawaiian Newspaper Clipping*)
Ami (1860) He Mele no ka Haku Hawai. *Ka Hae Hawaii*, 25 July. (*Chant about Thunder for Prince Albert Kahanikaua*oul, printed in Hawaiian Language Newspaper)
Lili‘oukalani, Queen (1878) *Alhoa ‘Oe Lyrics*
Maikunu, J. H. (1862) *Ka Nupepa Kuokoa*, 22 February. (*Hawaiian Newspaper Clipping*)


Poliwela, D. W. (1862) “Na Makani”, *Ka Hoku o ka Pakipika*, 1 May. (*Hawaiian Newspaper Clipping*)


**Guest UH Manoa Faculty Speakers - Native Hawaiian Voice, Science, & Culture (Planned, May be Modified)**

Ka’eo (Thomas) Duarte – Hydrology and Water Management

Rick Kaponowaiwaiola Barboza from Hui Ku Maoli Ola – Botany and Native Plants and Agriculture

**References: Asian and Pacific Island Voice**


**References: Intersection of Native Hawaiian, Asian and Pacific Island Cultures**


* Hawaiian language newspaper clippings are obtained through the outstanding effort of the Hawaiian Language Newspaper Translation Project, UH Sea Grant, http://seagrant.soest.hawaii.edu/Hawaiian-language-newspaper-translation-project. Also, the majority of newspaper clippings are taken from coursework lesson plans produced by Steven Businger, Sara DaSilva, Kapōmaika‘i Stone, Iasona Ellinwood, Pauline W. U. Chiin available through Kahua A`o (http://manoa.hawaii.edu/kahuaao/atmospheric_sciences.html)

** Note that “Intersection” Readings as annotated here are ones that meet the intersection requirement by themselves. Throughout the course, the combination of readings covering similar topics in Hawaiian, Asian, and Pacific Cultures provide the “Intersection” required by the HAP focus.

** Atmospheric and Environmental Science References**


MetEd Modules (2014) [https://www.meted.ucar.edu/index.php](https://www.meted.ucar.edu/index.php), University Corporation for Atmospheric Research.


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<td>Activity/Experience – Hawaiian Navigation</td>
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<tr>
<td>W6: 2/17</td>
<td>HOLIDAY – President’s Day– No Class</td>
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<tr>
<td>W6: 2/19</td>
<td>Local Winds</td>
<td>Cavedes (2001: 234-249)</td>
<td>Kuapu’u (1902; pg1) Ka Nupepa Kuokoa (1869)</td>
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<tr>
<td>W7: 2/28</td>
<td>Activity/Experience – Poetry Writing in the Style of Pukui and Kauraka</td>
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<td>W10: 3/16</td>
<td>NO CLASS – Spring Break – No Class</td>
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<td>Spring Break – No Class</td>
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<td>Spring Break – No Class</td>
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<td>W11: 3/27</td>
<td>Activity/Experience – Visit Honolulu NWS to learn about Hawaiian Hurricane Tracking</td>
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<td>W12: 4/3</td>
<td>Activity/Experience – TBA</td>
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<tr>
<td>W13: 4/8</td>
<td>Rainbows, Mirages and Cultural Contexts</td>
<td>Weather 2010 (weblink)</td>
<td>Thurm Nakaina 1907</td>
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<td>W13: 4/10</td>
<td>Holiday – Good Friday – No Class</td>
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<td>W14: 4/17</td>
<td>Activity/Experience: Mapping Hawaii’s Climate Zones</td>
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<td>W15: 4/24</td>
<td>Activity/Experience – How to open a Coconut with a rock!</td>
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<td>W16: 5/1</td>
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<td>Activity/Experience – Visit Honolulu NWS to learn about Hawaiian Hurricane Tracking</td>
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<td>PRESENTATIONS – TURN IN FINAL PAPER DURING LAST CLASS</td>
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Reading Materials for Course

References: Native Hawaiian Voice


Aloikeanu, D. A. K. (1866) “Na Makani”, Ke Au Okoa, 7 May. (*Hawaiian Newspaper Clipping)

Ami (1860) He Mele no ka Hakú Hawai. Ka Hae Hawai, 25 July. (*Chant about Thunder for Prince Albert

Kalanikaukeoul, printed in Hawaiian Language Newspaper)


Hairama, D. U. (1871) Ka Nukepa Kuokoa, 26 August (*Letter to Hawaiian Language Newspaper about Hail)


Ka Nukepa Kuokoa. 18 December 1869, pg. 3. (*Hawaiian Newspaper Clippping)

Ka Nukepa Kuokoa. 4 April 1971, pg. 2. (*Hawaiian Newspaper Clipping – stormy weather)

Ke Koo o Hawaii. 29 August 1883, pg. 5. (*Hawaiian Newspaper Clipping)


Kuapu’u, S. K. (1902) Home Rula Republik, 15 March 1902, pg.1. (*Hawaiian Newspaper Clipping)

Lili’oukalani, Queen (1878) Aloha ’Oe Lyrics

Maikunu, J. H. (1862) *Ka Nupepa Kuokoa*, 22 February. (*Hawaiian Newspaper Clipping*)


Poliwela, D. W. (1862) “Na Makani”, *Ka Hoku o ka Pakipika*, 1 May. (*Hawaiian Newspaper Clipping*)


Guest UH Manoa Faculty Speakers - Native Hawaiian Voice, Science, & Culture (Planned, May be Modified)

Kaʻeo (Thomas) Duarte – Hydrology and Water Management

Rick Kaponowaiwaiola Barboza from Hui Ku Maoli Ola – Botany and Native Plants and Agriculture

References: Asian and Pacific Island Voice


References: Intersection of Native Hawaiian, Asian and Pacific Island Cultures **


* Hawaiian language newspaper clippings are obtained through the outstanding effort of the Hawaiian Language Newspaper Translation Project, UH Sea Grant, http://seagrant.soest.hawaii.edu/Hawaiian-language-newspaper-translation-project. Also, the majority of newspaper clippings are taken from coursework lesson plans produced by Steven Businger, Sara DaSilva, Kapōmaika‘i Stone, Isasona Ellinwood, Pauline W. U. Chiin available through Kahua A’o (http://manoa.hawaii.edu/kahuaao/atmospheric_sciences.html)

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Atmospheric and Environmental Science References


ATMO 102 Syllabus for Spring 2020      Page 6


MetEd Modules (2014) [https://www.meted.ucar.edu/index.php](https://www.meted.ucar.edu/index.php), University Corporation for Atmospheric Research.


ATMO 102 – Pacific Climates and Cultures

Instructor: Jennifer Griswold
Email: smalljen@hawaii.edu
Office Hours: TBA

Class Times: Mon-Wed-Fri 11:30-12:20
Class Location: HIG 311
Course Web address: http://jenniferdsmallphd.com/ATMO_102.html

Course Description
This course is designed to give you an overview of the interface between the observed Weather and Climate of the Pacific Island region and the past and future the culture of the peoples of the Pacific Islands. You will learn about the Earth’s atmosphere, temperature, precipitation, winds, storm systems, hurricanes, tornadoes, air pollution, weather and agriculture, rainbows, and climate change. As we learn about each weather or climate topic we will view these natural phenomena through the cultural lenses of the native peoples of the Pacific region through the historical writings and poetry, music, dance and films of Native Hawaiian and Indigenous Pacific Islanders. You will also participate in activities and in-class experiences that will allow you to experience some of the cultural aspects (e.g. hula, poetry, etc.) each week of the course.

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1. Cell phones/iPods/etc. will remain off while in class or you will be asked to leave class.
2. Dropping the class is your responsibility. If you forget to drop the class formally, you will receive an F grade.
3. Cheating will result in a failing class grade.

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Attendance is mandatory and will be taken each class and counts towards your grade. Students not in attendance on the first day will be dropped as a “no-show” if there are waitlisted students. Due to in-class presentations and presentations by guest speakers and performers it is imperative that you attend class. If your excused absence prevents you from turning in an assignment on its due date then you must turn in the work at the beginning of the next class you attend.

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Throughout the course you will be asked for input regarding the various topics. You will need to participate during in-class activities and extra credit challenges that will take place throughout the semester. You will be expected to turn in proof of attendance (filling out worksheets or completing activities) to get participation credit.

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I may give out extra credit work, but if I do, it will be available for all students in the class.
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Note: the points and percentages given are approximations and may vary slightly

<table>
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<th></th>
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<tbody>
<tr>
<td>Discussion Questions</td>
<td>100</td>
<td>25%</td>
</tr>
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<td>4 Assignments</td>
<td>100</td>
<td>25%</td>
</tr>
<tr>
<td>In class Discussion/Activities/Attendance</td>
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<td>12.5%</td>
</tr>
<tr>
<td>Final Paper/Project &amp; Presentation</td>
<td>150</td>
<td>37.5%</td>
</tr>
<tr>
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You are responsible for managing your courses. If you need to drop without a “W” grade make sure you know the appropriate deadlines. This is your responsibility. If you miss the general drop date you will need a signature from me on the “Drop Form” if you drop the class after that date.

**General Learning Objectives for Hawaiian, Asian, & Pacific Issue Classes**
At the end of a course that fulfills the Hawaiian, Asian, and Pacific Issues Focus requirement, students will be able to:

- **HLO1**: Explain the intersection of Native Hawaiian issues with Asian and/or Pacific Island issues.
- **HLO2**: Analyze issues using the conceptual and ethical frameworks and practices of the cultural perspectives, values, and world views of the Indigenous peoples of Hawai’i, and the Pacific and/or Asia.
- **HLO3**: Integrate the histories, cultures, beliefs, arts, social, political, economic, or technological processes in their analysis of Hawai’i, and the Pacific and/or Asia.
- **HLO4**: Demonstrate respect and empathy as defined by the Indigenous peoples of Hawai’i and the pacific and/or Asia in interpersonal and intergroup relationships.

**Hallmarks of Hawaiian, Asian, & Pacific Issues Classes**
To fulfill the Hawaiian, Asian, and Pacific Issues Focus requirement, at least two-thirds of a class must satisfy the following Hallmarks:

- **H1**: The content should reflect the intersection of Asian and/or Pacific Island cultures with Native Hawaiian culture.
- **H2**: A course can use any disciplinary or multi-disciplinary approach provided that a component of the course uses assignments or practica that encourage learning that comes from the cultural perspectives, values, and world views rooted in the experience of peoples indigenous to Hawai’i, the Pacific, and Asia.

**Grade Structure**

<table>
<thead>
<tr>
<th>Letter</th>
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<tbody>
<tr>
<td>A</td>
<td>93.50-100.00</td>
</tr>
<tr>
<td>A-</td>
<td>90.00-93.49</td>
</tr>
<tr>
<td>B+</td>
<td>86.50-89.99</td>
</tr>
<tr>
<td>B</td>
<td>83.50-86.49</td>
</tr>
<tr>
<td>B-</td>
<td>80.00-83.49</td>
</tr>
<tr>
<td>C+</td>
<td>76.50-79.99</td>
</tr>
<tr>
<td>C</td>
<td>73.50-76.49</td>
</tr>
<tr>
<td>C-</td>
<td>70.00-73.49</td>
</tr>
<tr>
<td>D+</td>
<td>66.50-69.99</td>
</tr>
<tr>
<td>D</td>
<td>63.50-66.49</td>
</tr>
<tr>
<td>D-</td>
<td>60.00-63.49</td>
</tr>
<tr>
<td>F</td>
<td>59.99 and below</td>
</tr>
</tbody>
</table>
H3. A course should include at least one topic that is crucial to an understanding of the histories, or cultures, or beliefs, or the arts, or the societal, or political, or economic, or technological processes of these regions; for example, the relationships of societal structures to the natural environment.

H4. A course should involve an in-depth analysis or understanding of the issues being studied in the hope of fostering multi-cultural respect and understanding.

Student Learning Objectives (SLOs): Upon completion of the course, the student should be able to:

* NOTE: “HAP” represents Hawaiian, Asian and Pacific.

**Pacific Island Culture and Environment SLOs**
1. Identify key differences and similarities between Hawaiian and other Pacific Island Cultures.
2. Identify impacts of weather and climate on clothing style and development over time.
3. Describe they mythological representation of weather phenomena for a variety of Island peoples.
4. Describe the way in which clouds and cloud formation are represented in HAP mythologies
5. Describe how precipitation type, timing, and patterns are related to cultural events and agriculture.
6. Describe the how weather phenomena are incorporated in to the various dance forms of the Pacific Islands.
7. Identify examples of weather phenomena as represented in music, songs and chants.
8. Identify regional wind patterns and how they relate to the location of HAP cultures.
9. Describe the impact of weather on place names and wind names.
10. Describe the way in weather and ocean currents are related to inter-island travel in the pacific.
11. Describe how the ocean currents and wave shape/types played a role in the development of surfing.
12. Describe the historical and current implication of El Niño events in the Pacific.
13. Be able to generalize how storms and other large weather events are depicted by HAP cultures.
14. Understand and critically examine the social impacts typhoons and hurricanes in HAP cultures.
15. Describe air pollution concerns for the peoples of HAP cultures in the past and present.
16. Identify the ways in which optical effects (e.g. rainbows) are incorporated into HAP mythologies.
17. Describe how the general climate and micro climates of the various Pacific Islands impacted agriculture.
18. Identify the ways in which HAP cultures will be impacted by climate change and sea level rise.

**Atmospheric and Environmental Science SLOs**
1. Demonstrate a familiarity with the basic vocabulary of meteorology.
2. Demonstrate a familiarity with the geographic location of Hawaii and the Pacific Islands.
3. Describe how temperature changes horizontally and vertically in the atmosphere.
4. Describe and explain the origin, composition, structure, and behaviors of the earth's atmosphere.
5. Understand and analyze important environmental problems related to the Pacific atmosphere.
6. Critically examine the phenomena of the Solar and Terrestrial Radiation and understanding the energy transfer by radiation, conduction, convection, and evapotranspiration and explain the factors that determine the distribution of solar energy over the Earth's surface and describe global patterns of temperature.
7. Understand and critically examine the atmospheric phenomena of temperature, moisture conditions, atmospheric stability, forms of condensation and precipitation, air pressure and winds, circulation of the atmosphere, role of air masses, and weather patterns.
8. Describe the major cloud types and explain the phenomena of rainfall, fog, snow, sleet, and frost.
9. Define a cold and warm front and explain the processes leading to the formation of each and also explain the formation of cyclones and anticyclones, tornadoes, hurricanes and typhoons.
10. Understand and describe the formation of thunderstorms, lightning and thunder.
11. Describe and analyze the changing climate in the past, present and future
12. Understand the impact that people have on the atmospheric environment.
13. Differentiate between global warming and the greenhouse effect.
14. Describe the phenomenon of El Niño-Southern Oscillation and the impacts it has on global precipitation and cloud patterns.
15. Describe various types of atmospheric optical phenomena including rainbows, mirages, halos, crepuscular rays, sun dogs, sun pillars, corona and glories.
16. Understand the various impacts and mitigation strategies for climate change and sea level rise in the Pacific region.

**Lecture Topic Schedule and Reading Assignments**

All reading material will be provided in PDF format through Laulima and the Class Website. Page assignments are subject to change as is schedule for field trips! Activities, Experiences, and Field Trips and Holidays are Shaded. Readings that are *italicized* are not required, but are suggested reading.

<table>
<thead>
<tr>
<th>Week &amp; Day</th>
<th>Topic</th>
<th>Weather Readings</th>
<th>Native Voice Readings</th>
</tr>
</thead>
<tbody>
<tr>
<td>W2: 1/22</td>
<td>Temperature and Clothing</td>
<td>MetEd Module (web link)</td>
<td>Hiroa (1924: 25-47)</td>
</tr>
<tr>
<td>W4: 2/5</td>
<td>Precipitation Across the Pacific</td>
<td>Current Precipitation Maps &amp; Satellite Data (Real Time Images)</td>
<td>Kamae (2005: DVD 60 min)</td>
</tr>
<tr>
<td>W4: 2/7</td>
<td>Activity/Experience – TBD (Hawaiian Music or other)</td>
<td>Kaua (1987: 52); Fanshawe (2001); Kanaha (2012: xli-xl; 438-441)</td>
<td></td>
</tr>
<tr>
<td>W5: 2/10</td>
<td>Pressure and Wind</td>
<td>MetEd Module (web link)</td>
<td>Alamedia (1997: 10-13); Aloikeanu</td>
</tr>
<tr>
<td>W5: 2/12</td>
<td>Global and Pacific Regional Patterns</td>
<td>Ahrens (2015: 201-225)</td>
<td>Finney (1866: Newspaper)</td>
</tr>
<tr>
<td>W6: 2/17</td>
<td>HOLIDAY – President’s Day– No Class</td>
<td>Kuapu’u (1902: pg1)</td>
<td>Ka Nupepa Kuokoa (1869)</td>
</tr>
<tr>
<td>W6: 2/19</td>
<td>Local Winds</td>
<td>Caviedes (2001: 234-249)</td>
<td>Ka Nupepa Kuokoa (1869)</td>
</tr>
<tr>
<td>W7: 2/26</td>
<td>Historical Impacts of North Pacific Storms</td>
<td>Nakuna (2005: TBD)</td>
<td>Pukui (1883: Various)</td>
</tr>
<tr>
<td>W8: 3/6</td>
<td>NO CLASS – Dr. Griswold at at Meeting</td>
<td></td>
<td>Clark (2011: 19-37)</td>
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<tr>
<td>W9: 3/13</td>
<td>Activity/Experience – In-Class “Lightning” and “Hail”</td>
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<tr>
<td>W10: 3/16</td>
<td>Spring Break – No Class</td>
<td></td>
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<tr>
<td>W10: 3/18</td>
<td>Spring Break – No Class</td>
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<tr>
<td>W10: 3/20</td>
<td>Spring Break – No Class</td>
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<td>Hairama (1871)</td>
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<tr>
<td>W11: 3/27</td>
<td>Activity/Experience – Visit Honolulu NWS to learn about Hawaiian Hurricane Tracking</td>
<td></td>
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<tr>
<td>W12: 4/3</td>
<td>Activity/Experience – TBA</td>
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<tr>
<td>W13: 4/8</td>
<td>Rainbows, Mirages and Cultural Contexts</td>
<td>Weather 2010 (weblink)</td>
<td>Thurm Nakuina 1907</td>
</tr>
<tr>
<td>W13: 4/10</td>
<td>Holiday – Good Friday – No Class</td>
<td></td>
<td></td>
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<tr>
<td>W14: 4/17</td>
<td>Activity/Experience: Mapping Hawaii’s Climate Zones</td>
<td></td>
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<tr>
<td>W15: 4/24</td>
<td>Activity/Experience – How to open a Coconut with a rock!</td>
<td></td>
<td></td>
</tr>
<tr>
<td>W16: 5/1</td>
<td>Activity/Experience – Saving the World from Climate Change</td>
<td></td>
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</tr>
<tr>
<td>W17: 5/4</td>
<td>PRESENTATIONS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>W17: 5/6</td>
<td>PRESENTATIONS – TURN IN FINAL PAPER DURING LAST CLASS</td>
<td></td>
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3. Describe they mythological representation of weather phenomena for a variety of Island peoples.
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5. Understand and analyze important environmental problems related to the Pacific atmosphere.
6. Critically examine the phenomena of the Solar and Terrestrial Radiation and understanding the energy transfer by radiation, conduction, convection, and evapotranspiration and explain the factors that determine the distribution of solar energy over the Earth's surface and describe global patterns of temperature.
7. Understand and critically examine the atmospheric phenomena of temperature, moisture conditions, atmospheric stability, forms of condensation and precipitation, air pressure and winds, circulation of the atmosphere, role of air masses, and weather patterns.
8. Describe the major cloud types and explain the phenomena of rainfall, fog, snow, sleet, and frost.
9. Define a cold and warm front and explain the processes leading to the formation of each and also explain the formation of cyclones and anticyclones, tornadoes, hurricanes and typhoons.
10. Understand and describe the formation of thunderstorms, lightning and thunder.
11. Describe and analyze the changing climate in the past, present and future.
12. Understand the impact that people have on the atmospheric environment.
13. Differentiate between global warming and the greenhouse effect.
14. Describe the phenomenon of El Niño-Southern Oscillation and the impacts it has on global precipitation and cloud patterns.
15. Describe various types of atmospheric optical phenomena including rainbows, mirages, halos, crepuscular rays, sun dogs, sun pillars, corona and glories.
16. Understand the various impacts and mitigation strategies for climate change and sea level rise in the Pacific region.

**Lecture Topic Schedule and Reading Assignments**

All reading material will be provided in PDF format through Laulima and the Class Website. Page assignments are subject to change as is schedule for field trips! Activities, Experiences, and Field Trips and Holidays are Shaded. Readings that are *italicized* are not required, but are suggested reading.

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<thead>
<tr>
<th>Week &amp; Day</th>
<th>Topic</th>
<th>Weather Readings</th>
<th>Native Voice Readings</th>
</tr>
</thead>
<tbody>
<tr>
<td>W1: 1/24</td>
<td>Temperature and Clothing</td>
<td>MetEd Module (web link)</td>
<td>Hiroa (1924: 25-47)</td>
</tr>
<tr>
<td>W2: 1/24</td>
<td>Precipitation Across the Pacific</td>
<td>Current Precipitation Maps &amp; Satellite Data (Real Time Images)</td>
<td>Kamae (2005: DVD 60 min)</td>
</tr>
<tr>
<td>W3: 1/26</td>
<td>HOLIDAY – President’s Day – No Class</td>
<td>Ka Nupepa Kuokoa (1869)</td>
<td>Poliwela (1862)</td>
</tr>
<tr>
<td>W4: 1/24</td>
<td>Activity/Experience – Hawaiian Navigation</td>
<td></td>
<td>Fanshawe (2001);</td>
</tr>
<tr>
<td>W5: 1/20</td>
<td>NO CLASS – Dr. Griswold at at Meeting</td>
<td>Kuapu’u (1902: pg1)</td>
<td>Talu et al (1979: 1-64)</td>
</tr>
<tr>
<td>W5: 1/26</td>
<td>Activity/Experience – In-Class “Lightning” and “Hail”</td>
<td></td>
<td>Hairama (1871)</td>
</tr>
<tr>
<td>W6: 2/17</td>
<td>Spring Break – No Class</td>
<td></td>
<td></td>
</tr>
<tr>
<td>W8: 3/6</td>
<td>NO CLASS – Dr. Griswold at at Meeting</td>
<td>Kuapu’u (1902: pg1)</td>
<td>Hairama (1871)</td>
</tr>
<tr>
<td>W9: 3/13</td>
<td>Activity/Experience – In-Class “Lightning” and “Hail”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>W10: 3/16</td>
<td>Spring Break – No Class</td>
<td></td>
<td></td>
</tr>
<tr>
<td>W10: 3/18</td>
<td>Spring Break – No Class</td>
<td></td>
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Aloikeanu, D. A. K. (1866) “Na Makanii”, *Ke Au Okoa*, 7 May. (*Hawaiian Newspaper Clipping*)
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Ka’eo (Thomas) Duarte – Hydrology and Water Management

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**References: Asian and Pacific Island Voice**


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* Hawaiian language newspaper clippings are obtained through the outstanding effort of the Hawaiian Language Newspaper Translation Project, UH Sea Grant, http://seagrant.soest.hawaii.edu/Hawaiian-language-newspaper-translation-project. Also, the majority of newspaper clippings are taken from coursework lesson plans produced by Steven Businger, Sara DaSilva, Kapōmaika‘i Stone, Iasona Ellinwood, Pauline W. U. Chiin available through Kahua A’o (http://manoa.hawaii.edu/kahuaao/atmospheric_sciences.html)

** Note that “Intersection” Readings as annotated here are ones that meet the intersection requirement by themselves. Throughout the course, the combination of readings covering similar topics in Hawaiian, Asian, and Pacific Cultures provide the “Intersection” required by the HAP focus.

**Atmospheric and Environmental Science References**


MetEd Modules (2014) [https://www.meted.ucar.edu/index.php](https://www.meted.ucar.edu/index.php), University Corporation for Atmospheric Research.


Instructor: Jennifer Griswold  
Email: smalljen@hawaii.edu  
Office Hours: TBA  

Class Times: Mon-Wed-Fri 11:30-12:20  
Class Location: HIG 311  
Course Web address: http://jenniferdsmallphd.com/ATMO_102.html  

Course Description  
This course is designed to give you an overview of the interface between the observed Weather and Climate of the Pacific Island region and the past and future the culture of the peoples of the Pacific Islands. You will learn about the Earth’s atmosphere, temperature, precipitation, winds, storm systems, hurricanes, tornadoes, air pollution, weather and agriculture, rainbows, and climate change. As we learn about each weather or climate topic we will view these natural phenomena through the cultural lenses of the native peoples of the Pacific region through the historical writings and poetry, music, dance and films of Native Hawaiian and Indigenous Pacific Islanders. You will also participate in activities and in-class experiences that will allow you to experience some of the cultural aspects (e.g. hula, poetry, etc.) each week of the course.  

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I may give out extra credit work, but if I do, it will be available for all students in the class.
Grading
Grading will not necessarily be “on a curve.” There is no expectation of what the average grade should be, nor what the grade distribution should look like. If everyone were to demonstrate outstanding understanding of all the material, then everyone deserves a grade of A (and I would be very happy to give each one of them)! I therefore encourage you to discuss the course material with each other to get the most out of the class.

Note: the points and percentages given are approximations and may vary slightly

<table>
<thead>
<tr>
<th>Total Points</th>
<th>Percentage</th>
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<tbody>
<tr>
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<td>4 Assignments 100</td>
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<td>Final Paper/Project &amp; Presentation 150</td>
<td>37.5%</td>
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<tr>
<td>Total 400</td>
<td>100%</td>
</tr>
</tbody>
</table>

Adjustment of letter grade: One can receive an upward adjustment of letter grade for a number of reasons (e.g. very strong improvement during the semester, notable participation during class, exceptional effort). Under no circumstances will a reduction in letter grade be given, and these adjustments are made after the normal grades are assigned and therefore affect no one else’s letter grade.

Dropping the Course
You are responsible for managing your courses. If you need to drop without a “W” grade make sure you know the appropriate deadlines. This is your responsibility. If you miss the general drop date you will need a signature from me on the “Drop Form” if you drop the class after that date.

General Learning Objectives for Hawaiian, Asian, & Pacific Issue Classes
At the end of a course that fulfills the Hawaiian, Asian, and Pacific Issues Focus requirement, students will be able to:

- **HLO1**: Explain the intersection of Native Hawaiian issues with Asian and/or Pacific Island issues.
- **HLO2**: Analyze issues using the conceptual and ethical frameworks and practices of the cultural perspectives, values, and world views of the Indigenous peoples of Hawai‘i, and the Pacific and/or Asia.
- **HLO3**: Integrate the histories, cultures, beliefs, arts, social, political, economic, or technological processes in their analysis of Hawai‘i, and the Pacific and/or Asia.
- **HLO4**: Demonstrate respect and empathy as defined by the Indigenous peoples of Hawai‘i and the pacific and/or Asia in interpersonal and intergroup relationships.

Hallmarks of Hawaiian, Asian, & Pacific Issues Classes
To fulfill the Hawaiian, Asian, and Pacific Issues Focus requirement, at least two-thirds of a class must satisfy the following Hallmarks:

- **H1**: The content should reflect the intersection of Asian and/or Pacific Island cultures with Native Hawaiian culture.
- **H2**: A course can use any disciplinary or multi-disciplinary approach provided that a component of the course uses assignments or practica that encourage learning that comes from the cultural perspectives, values, and world views rooted in the experience of peoples indigenous to Hawai‘i, the Pacific, and Asia.

<table>
<thead>
<tr>
<th>Letter</th>
<th>Percentage</th>
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<tr>
<td>A-</td>
<td>90.00-93.49</td>
</tr>
<tr>
<td>B+</td>
<td>86.50-89.99</td>
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<tr>
<td>B</td>
<td>83.50-86.49</td>
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<tr>
<td>B-</td>
<td>80.00-83.49</td>
</tr>
<tr>
<td>C+</td>
<td>76.50-79.99</td>
</tr>
<tr>
<td>C</td>
<td>73.50-76.49</td>
</tr>
<tr>
<td>C-</td>
<td>70.00-73.49</td>
</tr>
<tr>
<td>D+</td>
<td>66.50-69.99</td>
</tr>
<tr>
<td>D</td>
<td>63.50-66.49</td>
</tr>
<tr>
<td>D-</td>
<td>60.00-63.49</td>
</tr>
<tr>
<td>F</td>
<td>59.99 and below</td>
</tr>
</tbody>
</table>
H3. A course should include at least one topic that is crucial to an understanding of the histories, or cultures, or beliefs, or the arts, or the societal, or political, or economic, or technological processes of these regions; for example, the relationships of societal structures to the natural environment.

H4. A course should involve an in-depth analysis or understanding of the issues being studied in the hope of fostering multi-cultural respect and understanding.

Student Learning Objectives (SLOs): Upon completion of the course, the student should be able to:
* NOTE: “HAP” represents Hawaiian, Asian and Pacific.

Pacific Island Culture and Environment SLOs
1. Identify key differences and similarities between Hawaiian and other Pacific Island Cultures.
2. Identify impacts of weather and climate on clothing style and development over time.
3. Describe they mythological representation of weather phenomena for a variety of Island peoples.
4. Describe the way in which clouds and cloud formation are represented in HAP mythologies.
5. Describe how precipitation type, timing, and patterns are related to cultural events and agriculture.
6. Describe the how weather phenomena are incorporated in to the various dance forms of the Pacific Islands.
7. Identify examples of weather phenomena as represented in music, songs and chants.
8. Identify regional wind patterns and how they relate to the location of HAP cultures.
9. Describe the impact of weather on place names and wind names.
10. Describe the way in weather and ocean currents are related to inter-island travel in the pacific.
11. Describe how the ocean currents and wave shape/types played a role in the development of surfing.
12. Describe the historical and current implication of El Niño events in the Pacific.
13. Be able to generalize how storms and other large weather events are depicted by HAP cultures.
14. Understand and critically examine the social impacts typhoons and hurricanes in HAP cultures.
15. Describe air pollution concerns for the peoples of HAP cultures in the past and present.
16. Identify the ways in which optical effects (e.g. rainbows) are incorporated into HAP mythologies.
17. Describe how the general climate and micro climates of the various Pacific Islands impacted agriculture.
18. Identify the ways in which HAP cultures will be impacted by climate change and sea level rise.

Atmospheric and Environmental Science SLOs
1. Demonstrate a familiarity with the basic vocabulary of meteorology.
2. Demonstrate a familiarity with the geographic location of Hawaii and the Pacific Islands.
3. Describe how temperature changes horizontally and vertically in the atmosphere.
4. Describe and explain the origin, composition, structure, and behaviors of the earth's atmosphere.
5. Understand and analyze important environmental problems related to the Pacific atmosphere.
6. Critically examine the phenomena of the Solar and Terrestrial Radiation and understanding the energy transfer by radiation, conduction, convection, and evapotranspiration and explain the factors that determine the distribution of solar energy over the Earth's surface and describe global patterns of temperature.
7. Understand and critically examine the atmospheric phenomena of temperature, moisture conditions, atmospheric stability, forms of condensation and precipitation, air pressure and winds, circulation of the atmosphere, role of air masses, and weather patterns.
8. Describe the major cloud types and explain the phenomena of rainfall, fog, snow, sleet, and frost.
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11. Describe and analyze the changing climate in the past, present and future.
12. Understand the impact that people have on the atmospheric environment.
13. Differentiate between global warming and the greenhouse effect.
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15. Describe various types of atmospheric optical phenomena including rainbows, mirages, halos, crepuscular rays, sun dogs, sun pillars, corona and glories.
16. Understand the various impacts and mitigation strategies for climate change and sea level rise in the Pacific region.

Lecture Topic Schedule and Reading Assignments
All reading material will be provided in PDF format through Laulima and the Class Website. Page assignments are subject to change as is schedule for field trips! Activities, Experiences, and Field Trips and Holidays are shaded. Readings that are italicized are not required, but are suggested reading.

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<th>Native Voice Readings</th>
</tr>
</thead>
<tbody>
<tr>
<td>W2: 1/22</td>
<td>Temperature and Clothing</td>
<td>MetEd Module (web link)</td>
<td>Hiroa (1924: 25-47)</td>
</tr>
<tr>
<td>W4: 2/3</td>
<td>Precipitation Processes and Types</td>
<td>Aguado &amp; Burt (2013: 189-209)</td>
<td>Kauraka (1987: 52); Fanshawe (2001);</td>
</tr>
<tr>
<td>W4: 2/7</td>
<td>Activity/Experience – TBD (Hawaiian Music or other)</td>
<td></td>
<td></td>
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<tr>
<td>W5: 2/10</td>
<td>Pressure and Wind</td>
<td>MetEd Module (web link)</td>
<td>Alameda (1997: 10-13); Alokeaau (1866: Newspaper)</td>
</tr>
<tr>
<td>W6: 2/17</td>
<td>HOLIDAY – President’s Day– No Class</td>
<td></td>
<td></td>
</tr>
<tr>
<td>W6: 2/19</td>
<td>Local Winds</td>
<td>Caviedes (2001: 234-249)</td>
<td>Ka Nupepa Kuokoa (1869)</td>
</tr>
<tr>
<td>W7: 2/28</td>
<td>Activity/Experience – Poetry Writing in the Style of Pukui and Kauraka</td>
<td></td>
<td></td>
</tr>
<tr>
<td>W8: 3/6</td>
<td>NO CLASS – Dr. Griswold at at Meeting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>W9: 3/13</td>
<td>Activity/Experience – In-Class “Lightning” and “Hail”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>W10: 3/16</td>
<td>Spring Break – No Class</td>
<td></td>
<td></td>
</tr>
<tr>
<td>W10: 3/18</td>
<td>Spring Break – No Class</td>
<td></td>
<td></td>
</tr>
<tr>
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<td>Spring Break – No Class</td>
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ATMO 102 Syllabus for Spring 2020 Page 4
Reading Materials for Course
References: Native Hawaiian Voice


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**Atmospheric and Environmental Science References**


ATMO 102 – Pacific Climates and Cultures

Instructor: Jennifer Griswold
Email: smalljen@hawaii.edu
Office Hours: TBA

Class Times: Mon-Wed-Fri 11:30-12:20
Class Location: HIG 311
Course Web address: http://jenniferdsmallphd.com/ATMO_102.html

Course Description
This course is designed to give you an overview of the interface between the observed Weather and Climate of the Pacific Island region and the past and future the culture of the peoples of the Pacific Islands. You will learn about the Earth’s atmosphere, temperature, precipitation, winds, storm systems, hurricanes, tornadoes, air pollution, weather and agriculture, rainbows, and climate change. As we learn about each weather or climate topic we will view these natural phenomena through the cultural lenses of the native peoples of the Pacific region through the historical writings and poetry, music, dance and films of Native Hawaiian and Indigenous Pacific Islanders. You will also participate in activities and in-class experiences that will allow you to experience some of the cultural aspects (e.g. hula, poetry, etc.) each week of the course.

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<thead>
<tr>
<th>Total Points</th>
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<tbody>
<tr>
<td>Discussion Questions</td>
<td>100</td>
</tr>
<tr>
<td>4 Assignments</td>
<td>100</td>
</tr>
<tr>
<td>In class Discussion/Activities/Attendance</td>
<td>50</td>
</tr>
<tr>
<td>Final Paper/Project &amp; Presentation</td>
<td>150</td>
</tr>
<tr>
<td>Total</td>
<td>400</td>
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</tbody>
</table>

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HLO2: Analyze issues using the conceptual and ethical frameworks and practices of the cultural
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5. Describe how precipitation type, timing, and patterns are related to cultural events and agriculture.
6. Describe the how weather phenomena are incorporated in to the various dance forms of the Pacific Islands.
7. Identify examples of weather phenomena as represented in music, songs and chants.
8. Identify regional wind patterns and how they relate to the location of HAP cultures.
9. Describe the impact of weather on place names and wind names.
10. Describe the way in weather and ocean currents are related to inter-island travel in the pacific.
11. Describe how the ocean currents and wave shape/types played a role in the development of surfing.
12. Describe the historical and current implication of El Niño events in the Pacific.
13. Be able to generalize how storms and other large weather events are depicted by HAP cultures.
14. Understand and critically examine the social impacts typhoons and hurricanes in HAP cultures.
15. Describe air pollution concerns for the peoples of HAP cultures in the past and present.
16. Identify the ways in which optical effects (e.g. rainbows) are incorporated into HAP mythologies.
17. Describe how the general climate and micro climates of the various Pacific Islands impacted agriculture.
18. Identify the ways in which HAP cultures will be impacted by climate change and sea level rise.

**Atmospheric and Environmental Science SLOs**
1. Demonstrate a familiarity with the basic vocabulary of meteorology.
2. Demonstrate a familiarity with the geographic location of Hawaii and the Pacific Islands.
3. Describe how temperature changes horizontally and vertically in the atmosphere.
4. Describe and explain the origin, composition, structure, and behaviors of the earth's atmosphere.
5. Understand and analyze important environmental problems related to the Pacific atmosphere.
6. Critically examine the phenomena of the Solar and Terrestrial Radiation and understanding the energy transfer by radiation, conduction, convection, and evapotranspiration and explain the factors that determine the distribution of solar energy over the Earth's surface and describe global patterns of temperature.
7. Understand and critically examine the atmospheric phenomena of temperature, moisture conditions, atmospheric stability, forms of condensation and precipitation, air pressure and winds, circulation of the atmosphere, role of air masses, and weather patterns.
8. Describe the major cloud types and explain the phenomena of rainfall, fog, snow, sleet, and frost.
9. Define a cold and warm front and explain the processes leading to the formation of each and also explain the formation of cyclones and anticyclones, tornadoes, hurricanes and typhoons.
10. Understand and describe the formation of thunderstorms, lightning and thunder.
11. Describe and analyze the changing climate in the past, present and future.
12. Understand the impact that people have on the atmospheric environment.
13. Differentiate between global warming and the greenhouse effect.
14. Describe the phenomenon of El Nino-Southern Oscillation and the impacts it has on global precipitation and cloud patterns.
15. Describe various types of atmospheric optical phenomena including rainbows, mirages, halos, crepuscular rays, sun dogs, sun pillars, corona and glories.
16. Understand the various impacts and mitigation strategies for climate change and sea level rise in the Pacific region.

**Lecture Topic Schedule and Reading Assignments**

All reading material will be provided in PDF format through Laulima and the Class Website. Page assignments are subject to change as is schedule for field trips! Activities, Experiences, and Field Trips and Holidays are Shaded. Readings that are *italicized* are not required, but are suggested reading.

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<td></td>
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<td>Local Winds</td>
<td>Caviedes (2001: 234-249)</td>
<td></td>
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<tr>
<td>W7: 2/24</td>
<td>Fronts and Mid-Latitude Storm Systems</td>
<td>Weather 2010 (weblink)</td>
<td>Poliwela (1862: Newspaper)</td>
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<td>Activity/Experience – Poetry Writing in the Style of Pukui and Kauraka</td>
<td></td>
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<td>W8: 3/6</td>
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<td>Ka Nupepa Kukuo (1869)</td>
<td>Clark (2011: 19-37)</td>
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<td>Spring Break – No Class</td>
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<td>Spring Break – No Class</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Hairam (1871)</td>
</tr>
<tr>
<td>Activity/Experience – Visit Honolulu NWS to learn about Hawaiian Hurricane Tracking</td>
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<tr>
<td>-------------------------------------------------------------</td>
<td></td>
<td></td>
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<tr>
<td>Activity/Experience – Saving the World from Climate Change</td>
<td></td>
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<tr>
<td>PRESENTATIONS – TURN IN FINAL PAPER DURING LAST CLASS</td>
<td></td>
<td></td>
<td></td>
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- *Ka Nupepa Kuokoa*. 18 December 1869, pg. 3. (*Hawaiian Newspaper Clippping*)
- *Ka Nupepa Kuokoa*. 4 April 1971, pg. 2. (*Hawaiian Newspaper Clipping – stormy weather*)
- *Ke Koo o Hawaii*. 29 August 1883, pg. 5. (*Hawaiian Newspaper Clipping*)
- Lili‘oukalani, Queen (1878) *Alhoa ‘Oe Lyrics*
Maikunu, J. H. (1862) *Ka Nupepa Kuokoa*, 22 February. (*Hawaiian Newspaper Clipping*)


Poliwela, D. W. (1862) “Na Makani”, *Ka Hoku o ka Pakipika*, 1 May. (*Hawaiian Newspaper Clipping*)


**Guest UH Manoa Faculty Speakers - Native Hawaiian Voice, Science, & Culture (Planned, May be Modified)**

Ka‘eo (Thomas) Duarte – Hydrology and Water Management

Rick Kaponowaiwaiola Barboza from Hui Ku Maoli Ola – Botany and Native Plants and Agriculture

**References: Asian and Pacific Island Voice**


**References: Intersection of Native Hawaiian, Asian and Pacific Island Cultures**


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**Atmospheric and Environmental Science References**


**Course Description**

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1. Cell phones/iPods/etc. will remain off while in class or you will be asked to leave class.
2. Dropping the class is your responsibility. If you forget to drop the class formally, you will receive an F grade.
3. Cheating will result in a failing class grade.

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In order to succeed in this class, reading should be considered an ongoing homework assignment. Completing reading assignments will prepare you for assignments and projects. There is no one book that is ideal for this type of cross discipline course. Therefore, all reading will be presented as pdf files on Laulima and on the class website.

**In-Class Activities, Extra Credit, Surveys and Review Sessions**

Throughout the course you will be asked for input regarding the various topics. You will need to participate during in-class activities and extra credit challenges that will take place throughout the semester. You will be expected to turn in proof of attendance (filling out worksheets or completing activities) to get participation credit.

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**Extra Credit -- **

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I may give out extra credit work, but if I do, it will be available for all students in the class.
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<th>Percentage</th>
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<tr>
<td>Discussion Questions</td>
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<tr>
<td>4 Assignments</td>
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<td>In class Discussion/Activities/Attendance</td>
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<tr>
<td>Final Paper/Project &amp; Presentation</td>
<td>150</td>
<td>37.5%</td>
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<tr>
<td><strong>Total</strong></td>
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Dropping the Course
You are responsible for managing your courses. If you need to drop without a “W” grade make sure you know the appropriate deadlines. This is your responsibility. If you miss the general drop date you will need a signature from me on the “Drop Form” if you drop the class after that date.

General Learning Objectives for Hawaiian, Asian, & Pacific Issue Classes
At the end of a course that fulfills the Hawaiian, Asian, and Pacific Issues Focus requirement, students will be able to:

**HLO1:** Explain the intersection of Native Hawaiian issues with Asian and/or Pacific Island issues.

**HLO2:** Analyze issues using the conceptual and ethical frameworks and practices of the cultural perspectives, values, and world views of the Indigenous peoples of Hawai‘i, and the Pacific and/or Asia.

**HLO3:** Integrate the histories, cultures, beliefs, arts, social, political, economic, or technological processes in their analysis of Hawai‘i, and the Pacific and/or Asia.

**HLO4:** Demonstrate respect and empathy as defined by the Indigenous peoples of Hawai‘i and the pacific and/or Asia in interpersonal and intergroup relationships.

Hallmarks of Hawaiian, Asian, & Pacific Issues Classes
To fulfill the Hawaiian, Asian, and Pacific Issues Focus requirement, at least two-thirds of a class must satisfy the following Hallmarks:

**H1.** The content should reflect the intersection of Asian and/or Pacific Island cultures with Native Hawaiian culture.

**H2.** A course can use any disciplinary or multi-disciplinary approach provided that a component of the course uses assignments or practica that encourage learning that comes from the cultural perspectives, values, and world views rooted in the experience of peoples indigenous to Hawai‘i, the Pacific, and Asia.

Grade Structure

<table>
<thead>
<tr>
<th>Letter</th>
<th>Percentage</th>
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<tr>
<td>A</td>
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<tr>
<td>A-</td>
<td>90.00-93.49</td>
</tr>
<tr>
<td>B+</td>
<td>86.50-89.99</td>
</tr>
<tr>
<td>B</td>
<td>83.50-86.49</td>
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<tr>
<td>B-</td>
<td>80.00-83.49</td>
</tr>
<tr>
<td>C+</td>
<td>76.50-79.99</td>
</tr>
<tr>
<td>C</td>
<td>73.50-76.49</td>
</tr>
<tr>
<td>C-</td>
<td>70.00-73.49</td>
</tr>
<tr>
<td>D+</td>
<td>66.50-69.99</td>
</tr>
<tr>
<td>D</td>
<td>63.50-66.49</td>
</tr>
<tr>
<td>D-</td>
<td>60.00-63.49</td>
</tr>
<tr>
<td>F</td>
<td>59.99 and below</td>
</tr>
</tbody>
</table>
H3. A course should include at least one topic that is crucial to an understanding of the histories, or cultures, or beliefs, or the arts, or the societal, or political, or economic, or technological processes of these regions; for example, the relationships of societal structures to the natural environment.

H4. A course should involve an in-depth analysis or understanding of the issues being studied in the hope of fostering multi-cultural respect and understanding.

Student Learning Objectives (SLOs): Upon completion of the course, the student should be able to:
* NOTE: “HAP” represents Hawaiian, Asian and Pacific.

Pacific Island Culture and Environment SLOs
1. Identify key differences and similarities between Hawaiian and other Pacific Island Cultures.
2. Identify impacts of weather and climate on clothing style and development over time.
3. Describe they mythological representation of weather phenomena for a variety of Island peoples.
4. Describe the way in which clouds and cloud formation are represented in HAP mythologies
5. Describe how precipitation type, timing, and patterns are related to cultural events and agriculture.
6. Describe the how weather phenomena are incorporated in to the various dance forms of the Pacific Islands.
7. Identify examples of weather phenomena as represented in music, songs and chants.
8. Identify regional wind patterns and how they relate to the location of HAP cultures.
9. Describe the impact of weather on place names and wind names.
10. Describe the way in weather and ocean currents are related to inter-island travel in the pacific.
11. Describe how the ocean currents and wave shape/types played a role in the development of surfing.
12. Describe the historical and current implication of El Niño events in the Pacific.
13. Be able to generalize how storms and other large weather events are depicted by HAP cultures.
14. Understand and critically examine the social impacts typhoons and hurricanes in HAP cultures.
15. Describe air pollution concerns for the peoples of HAP cultures in the past and present.
16. Identify the ways in which optical effects (e.g. rainbows) are incorporated into HAP mythologies.
17. Describe how the general climate and micro climates of the various Pacific Islands impacted agriculture.
18. Identify the ways in which HAP cultures will be impacted by climate change and sea level rise.

Atmospheric and Environmental Science SLOs
1. Demonstrate a familiarity with the basic vocabulary of meteorology.
2. Demonstrate a familiarity with the geographic location of Hawaii and the Pacific Islands.
3. Describe how temperature changes horizontally and vertically in the atmosphere.
4. Describe and explain the origin, composition, structure, and behaviors of the earth's atmosphere.
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6. Critically examine the phenomena of the Solar and Terrestrial Radiation and understanding the energy transfer by radiation, conduction, convection, and evapotranspiration and explain the factors that determine the distribution of solar energy over the Earth's surface and describe global patterns of temperature.
7. Understand and critically examine the atmospheric phenomena of temperature, moisture conditions, atmospheric stability, forms of condensation and precipitation, air pressure and winds, circulation of the atmosphere, role of air masses, and weather patterns.
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9. Define a cold and warm front and explain the processes leading to the formation of each and also explain the formation of cyclones and anticyclones, tornadoes, hurricanes and typhoons.
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12. Understand the impact that people have on the atmospheric environment.
13. Differentiate between global warming and the greenhouse effect.
14. Describe the phenomenon of El Niño-Southern Oscillation and the impacts it has on global precipitation and cloud patterns.
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<td></td>
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<tr>
<td>W4: 2/5</td>
<td>Precipitation Across the Pacific</td>
<td>Current Precipitation Maps &amp; Satellite Data (Real Time Images)</td>
<td>Kamae (2005: DVD 60 min)</td>
</tr>
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ATMO 102 Syllabus for Spring 2020 Page 4
Reading Materials for Course

References: Native Hawaiian Voice

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Ami (1860) He Mele no ka Haku Hawai. *Ka Hae Hawaii*, 25 July. (*Chant about Thunder for Prince Albert*)
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Kane, H. K. (1976) *Ke Koo o Hawaii*. 29 August 1883, pg. 5. (*Hawaiian Newspaper Clipping*)
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ATMO 102 Syllabus for Spring 2020 Page 5
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**Atmospheric and Environmental Science References**


Instructor: Jennifer Griswold
Email: smalljen@hawaii.edu
Office Hours: TBA

Class Times: Mon-Wed-Fri 11:30-12:20
Class Location: HIG 311
Course Web address: http://jenniferdsmallphd.com/ATMO_102.html

Course Description
This course is designed to give you an overview of the interface between the observed Weather and Climate of the Pacific Island region and the past and future the culture of the peoples of the Pacific Islands. You will learn about the Earth’s atmosphere, temperature, precipitation, winds, storm systems, hurricanes, tornadoes, air pollution, weather and agriculture, rainbows, and climate change. As we learn about each weather or climate topic we will view these natural phenomena through the cultural lenses of the native peoples of the Pacific region through the historical writings and poetry, music, dance and films of Native Hawaiian and Indigenous Pacific Islanders. You will also participate in activities and in-class experiences that will allow you to experience some of the cultural aspects (e.g. hula, poetry, etc.) each week of the course.

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Adjustment of letter grade: One can receive an upward adjustment of letter grade for a number of reasons (e.g. very strong improvement during the semester, notable participation during class, exceptional effort). Under no circumstances will a reduction in letter grade be given, and these adjustments are made after the normal grades are assigned and therefore affect no one else’s letter grade.

Dropping the Course
You are responsible for managing your courses. If you need to drop without a “W” grade make sure you know the appropriate deadlines. This is your responsibility. If you miss the general drop date you will need a signature from me on the “Drop Form” if you drop the class after that date.

General Learning Objectives for Hawaiian, Asian, & Pacific Issue Classes
At the end of a course that fulfills the Hawaiian, Asian, and Pacific Issues Focus requirement, students will be able to:

- **HLO1**: Explain the intersection of Native Hawaiian issues with Asian and/or Pacific Island issues.
- **HLO2**: Analyze issues using the conceptual and ethical frameworks and practices of the cultural perspectives, values, and world views of the Indigenous peoples of Hawai‘i, and the Pacific and/or Asia.
- **HLO3**: Integrate the histories, cultures, beliefs, arts, social, political, economic, or technological processes in their analysis of Hawai‘i, and the Pacific and/or Asia.
- **HLO4**: Demonstrate respect and empathy as defined by the Indigenous peoples of Hawai‘i and the pacific and/or Asia in interpersonal and intergroup relationships.

Hallmarks of Hawaiian, Asian, & Pacific Issues Classes
To fulfill the Hawaiian, Asian, and Pacific Issues Focus requirement, at least two-thirds of a class must satisfy the following Hallmarks:

- **H1**: The content should reflect the intersection of Asian and/or Pacific Island cultures with Native Hawaiian culture.
- **H2**: A course can use any disciplinary or multi-disciplinary approach provided that a component of the course uses assignments or practica that encourage learning that comes from the cultural perspectives, values, and world views rooted in the experience of peoples indigenous to Hawai‘i, the Pacific, and Asia.

<table>
<thead>
<tr>
<th>Letter</th>
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<tr>
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<td>80.00-83.49</td>
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<tr>
<td>C+</td>
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<td>D-</td>
<td>60.00-63.49</td>
</tr>
<tr>
<td>F</td>
<td>59.99 and below</td>
</tr>
</tbody>
</table>
H3. A course should include at least one topic that is crucial to an understanding of the histories, cultures, or beliefs, or the arts, or the societal, or political, or economic, or technological processes of these regions; for example, the relationships of societal structures to the natural environment.

H4. A course should involve an in-depth analysis or understanding of the issues being studied in the hope of fostering multi-cultural respect and understanding.

Student Learning Objectives (SLOs): Upon completion of the course, the student should be able to:
* NOTE: “HAP” represents Hawaiian, Asian and Pacific.

**Pacific Island Culture and Environment SLOs**
1. Identify key differences and similarities between Hawaiian and other Pacific Island Cultures.
2. Identify impacts of weather and climate on clothing style and development over time.
3. Describe they mythological representation of weather phenomena for a variety of Island peoples.
4. Describe the way in which clouds and cloud formation are represented in HAP mythologies.
5. Describe how precipitation type, timing, and patterns are related to cultural events and agriculture.
6. Describe the how weather phenomena are incorporated in to the various dance forms of the Pacific Islands.
7. Identify examples of weather phenomena as represented in music, songs and chants.
8. Identify regional wind patterns and how they relate to the location of HAP cultures.
9. Describe the impact of weather on place names and wind names.
10. Describe the way in weather and ocean currents are related to inter-island travel in the pacific.
11. Describe how the ocean currents and wave shape/types played a role in the development of surfing.
12. Describe the historical and current implication of El Niño events in the Pacific.
13. Be able to generalize how storms and other large weather events are depicted by HAP cultures.
14. Understand and critically examine the social impacts typhoons and hurricanes in HAP cultures.
15. Describe air pollution concerns for the peoples of HAP cultures in the past and present.
16. Identify the ways in which optical effects (e.g. rainbows) are incorporated into HAP mythologies.
17. Describe how the general climate and micro climates of the various Pacific Islands impacted agriculture.
18. Identify the ways in which HAP cultures will be impacted by climate change and sea level rise.

**Atmospheric and Environmental Science SLOs**
1. Demonstrate a familiarity with the basic vocabulary of meteorology.
2. Demonstrate a familiarity with the geographic location of Hawaii and the Pacific Islands.
3. Describe how temperature changes horizontally and vertically in the atmosphere.
4. Describe and explain the origin, composition, structure, and behaviors of the earth's atmosphere.
5. Understand and analyze important environmental problems related to the Pacific atmosphere.
6. Critically examine the phenomena of the Solar and Terrestrial Radiation and understanding the energy transfer by radiation, conduction, convection, and evapotranspiration and explain the factors that determine the distribution of solar energy over the Earth's surface and describe global patterns of temperature.
7. Understand and critically examine the atmospheric phenomena of temperature, moisture conditions, atmospheric stability, forms of condensation and precipitation, air pressure and winds, circulation of the atmosphere, role of air masses, and weather patterns.
8. Describe the major cloud types and explain the phenomena of rainfall, fog, snow, sleet, and frost.
9. Define a cold and warm front and explain the processes leading to the formation of each and also explain the formation of cyclones and anticyclones, tornadoes, hurricanes and typhoons.
10. Understand and describe the formation of thunderstorms, lightning and thunder.
11. Describe and analyze the changing climate in the past, present and future.
12. Understand the impact that people have on the atmospheric environment.
13. Differentiate between global warming and the greenhouse effect.
14. Describe the phenomenon of El Nino-Southern Oscillation and the impacts it has on global precipitation and cloud patterns.
15. Describe various types of atmospheric optical phenomena including rainbows, mirages, halos, crepuscular rays, sun dogs, sun pillars, corona and glories.
16. Understand the various impacts and mitigation strategies for climate change and sea level rise in the Pacific region.

### Lecture Topic Schedule and Reading Assignments

All reading material will be provided in PDF format through Laulima and the Class Website. Page assignments are subject to change as is schedule for field trips! Activities, Experiences, and Field Trips and Holidays are Shaded. Readings that are *italicized* are not required, but are suggested reading.

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<thead>
<tr>
<th>Week &amp; Day</th>
<th>Topic</th>
<th>Weather Readings</th>
<th>Native Voice Readings</th>
</tr>
</thead>
<tbody>
<tr>
<td>W2: 1/20</td>
<td>HOLIDAY – Martin Luther King Jr. Day – No Class</td>
<td></td>
<td></td>
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<tr>
<td>W2: 1/22</td>
<td>Temperature and Clothing</td>
<td>MetEd Module (web link)</td>
<td>Hiroa (1924: 25-47)</td>
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<td>W3: 1/27</td>
<td>Activity/Experience – Clothing of the Pacific Islands</td>
<td></td>
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<tr>
<td>W4: 2/5</td>
<td>Precipitation Processes and Types</td>
<td>Current Precipitation Maps &amp; Satellite Data (Real Time Images)</td>
<td>Kamae (2005: DVD 60 min)</td>
</tr>
<tr>
<td>W4: 2/7</td>
<td>Activity/Experience – TBD (Hawaiian Music or other)</td>
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<tr>
<td>W5: 2/10</td>
<td>Pressure and Wind</td>
<td>MetEd Module (web link)</td>
<td>Alameda (1997: 10-13); Alokeaunu (1866: Newspaper)</td>
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<tr>
<td>W6: 2/17</td>
<td>HOLIDAY – President’s Day – No Class</td>
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<tr>
<td>W6: 2/19</td>
<td>Local Winds</td>
<td>Cavedes (2001: 234-249)</td>
<td>Ka Nupepa Kukoka (1869)</td>
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<tr>
<td>W7: 2/26</td>
<td>Historical Impacts of North Pacific Storms</td>
<td>Nakuna (2005: TBD)</td>
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<tr>
<td>W7: 2/28</td>
<td>Activity/Experience – Poetry Writing in the Style of Pukui and Kauraka</td>
<td></td>
<td></td>
</tr>
<tr>
<td>W8: 3/6</td>
<td>NO CLASS – Dr. Griswold at at Meeting</td>
<td></td>
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<tr>
<td>W9: 3/13</td>
<td>Activity/Experience – In-Class “Lightning” and “Hail”</td>
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</tr>
<tr>
<td>W10: 3/16</td>
<td>Spring Break – No Class</td>
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<td>W10: 3/18</td>
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<tr>
<td>W10: 3/20</td>
<td>Spring Break – No Class</td>
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</tbody>
</table>

ATMO 102 Syllabus for Spring 2020  Page 4
| W11: 3/27 | Activity/Experience – Visit Honolulu NWS to learn about Hawaiian Hurricane Tracking |
| W12: 4/3 | Activity/Experience – TBA |
| W13: 4/8 | Rainbows, Mirages and Cultural Contexts | Weather 2010 (weblink) | Thurm Nakuina 1907 |
| W13: 4/10 | Activity/Experience – Hawaii Climate Types |
| W14: 4/17 | Activity/Experience: Mapping Hawaii’s Climate Zones |
| W15: 4/24 | Activity/Experience – Saving the World from Climate Change |
| W16: 5/1 | Activity/Experience – How to open a Coconut with a rock! |
| W17: 5/4 | PRRESENTATIONS |
| W17: 5/6 | PRESENTATIONS – TURN IN FINAL PAPER DURING LAST CLASS |

**Reading Materials for Course**

**References: Native Hawaiian Voice**


Aloikeanu, D. A. K. (1866) “Na Makani”, *Ke Au Okoa*, 7 May. (*Hawaiian Newspaper Clipping*)

Ami (1860) He Mele no ka Haku Hawai. *Ka Hae Hawaii*, 25 July. (*Chant about Thunder for Prince Albert*)

Kalanikauakeoual, printed in Hawaiian Language Newspaper


*Ka Nupepa Kuokoa*. 18 December 1869, pg. 3. (*Hawaiian Newspaper Clipping*)

*Ka Nupepa Kuokoa*. 4 April 1971, pg. 2. (*Hawaiian Newspaper Clipping – stormy weather*)

*Ke Koo o Hawaii*. 29 August 1883, pg. 5. (*Hawaiian Newspaper Clipping*)


Kuapu’u, S. K. (1902) *Home Rule Republik*, 15 March 1902, pg.1. (*Hawaiian Newspaper Clipping*)

Lili’oukalani, Queen (1878) *Alhoa ‘Oe Lyrics*

Maikunu, J. H. (1862) *Ka Nupepa Kuokoa*, 22 February. (*Hawaiian Newspaper Clipping*)


Poliwela, D. W. (1862) “Na Makani”, *Ka Hoku o ka Pakipika*, 1 May. (*Hawaiian Newspaper Clipping*)


**Guest UH Manoa Faculty Speakers - Native Hawaiian Voice, Science, & Culture (Planned, May be Modified)**

Ka’eo (Thomas) Duarte – Hydrology and Water Management

Rick Kaponowaiwaiola Barboza from Hui Ku Maoli Ola – Botany and Native Plants and Agriculture

**References: Asian and Pacific Island Voice**


**References: Intersection of Native Hawaiian, Asian and Pacific Island Cultures**


* Hawaiian language newspaper clippings are obtained through the outstanding effort of the Hawaiian Language Newspaper Translation Project, UH Sea Grant, http://seagrant.soest.hawaii.edu/Hawaiian-language-newspaper-translation-project. Also, the majority of newspaper clippings are taken from coursework lesson plans produced by Steven Businger, Sara DaSilva, Kapōmaika’i Stone, Iasona Ellinwood, Pauline W. U. Chiin available through Kahua A’o (http://manoa.hawaii.edu/kahuaao/atmospheric_sciences.html)

** Note that “Intersection” Readings as annotated here are ones that meet the intersection requirement by themselves. Throughout the course, the combination of readings covering similar topics in Hawaiian, Asian, and Pacific Cultures provide the “Intersection” required by the HAP focus.

**Atmospheric and Environmental Science References**


MetEd Modules (2014) [https://www.meted.ucar.edu/index.php](https://www.meted.ucar.edu/index.php), University Corporation for Atmospheric Research.


Instructor: Jennifer Griswold  
Email: smalljen@hawaii.edu  
Office Hours: TBA  

Class Times: Mon-Wed-Fri 11:30-12:20  
Class Location: HIG 311  
Course Web address: http://jenniferdsmallphd.com/ATMO_102.html  

Course Description  
This course is designed to give you an overview of the interface between the observed Weather and Climate of the Pacific Island region and the past and future the culture of the peoples of the Pacific Islands. You will learn about the Earth’s atmosphere, temperature, precipitation, winds, storm systems, hurricanes, tornadoes, air pollution, weather and agriculture, rainbows, and climate change. As we learn about each weather or climate topic we will view these natural phenomena through the cultural lenses of the native peoples of the Pacific region through the historical writings and poetry, music, dance and films of Native Hawaiian and Indigenous Pacific Islanders. You will also participate in activities and in-class experiences that will allow you to experience some of the cultural aspects (e.g. hula, poetry, etc.) each week of the course.  

Basic Course and Classroom Conduct  
1. Cell phones/iPods/etc. will remain off while in class or you will be asked to leave class.  
2. Dropping the class is your responsibility. If you forget to drop the class formally, you will receive an F grade.  
3. Cheating will result in a failing class grade.  

Attendance Policy – 50 points (includes in class discussion and activities)  
Attendance is mandatory and will be taken each class and counts towards your grade. Students not in attendance on the first day will be dropped as a “no-show” if there are waitlisted students. Due to in-class presentations and presentations by guest speakers and performers it is imperative that you attend class. If your excused absence prevents you from turning in an assignment on its due date then you must turn in the work at the beginning of the next class you attend.  

Reading Assignments and Discussion Questions  
In order to succeed in this class, reading should be considered an ongoing homework assignment. Completing reading assignments will prepare you for assignments and projects. There is no one book that is ideal for this type of cross discipline course. Therefore, all reading will be presented as pdf files on Laulima and on the class website.  

In-Class Activities, Extra Credit, Surveys and Review Sessions  
Throughout the course you will be asked for input regarding the various topics. You will need to participate during in-class activities and extra credit challenges that will take place throughout the semester. You will be expected to turn in proof of attendance (filling out worksheets or completing activities) to get participation credit.  

Extra Credit -- ** There will be no extra credit offered to any individuals. No exceptions. **  
I may give out extra credit work, but if I do, it will be available for all students in the class.
Grading
Grading will not necessarily be “on a curve.” There is no expectation of what the average grade should be, nor what the grade distribution should look like. If everyone were to demonstrate outstanding understanding of all the material, then everyone deserves a grade of A (and I would be very happy to give each one of them)! I therefore encourage you to discuss the course material with each other to get the most out of the class.

Note: the points and percentages given are approximations and may vary slightly

<table>
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<th>Total Points</th>
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<td>4 Assignments</td>
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<tr>
<td>In class Discussion/Activities/Attendance</td>
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<tr>
<td>Final Paper/Project &amp; Presentation</td>
<td>150</td>
</tr>
<tr>
<td>Total</td>
<td>400</td>
</tr>
</tbody>
</table>

Adjustment of letter grade: One can receive an upward adjustment of letter grade for a number of reasons (e.g. very strong improvement during the semester, notable participation during class, exceptional effort). Under no circumstances will a reduction in letter grade be given, and these adjustments are made after the normal grades are assigned and therefore affect no one else’s letter grade.

Dropping the Course
You are responsible for managing your courses. If you need to drop without a “W” grade make sure you know the appropriate deadlines. This is your responsibility. If you miss the general drop date you will need a signature from me on the “Drop Form” if you drop the class after that date.

General Learning Objectives for Hawaiian, Asian, & Pacific Issue Classes
At the end of a course that fulfills the Hawaiian, Asian, and Pacific Issues Focus requirement, students will be able to:

HLO1: Explain the intersection of Native Hawaiian issues with Asian and/or Pacific Island issues.
HLO2: Analyze issues using the conceptual and ethical frameworks and practices of the cultural perspectives, values, and world views of the Indigenous peoples of Hawai’i, and the Pacific and/or Asia.
HLO3: Integrate the histories, cultures, beliefs, arts, social, political, economic, or technological processes in their analysis of Hawai’i, and the Pacific and/or Asia.
HLO4: Demonstrate respect and empathy as defined by the Indigenous peoples of Hawai’i and the pacific and/or Asia in interpersonal and intergroup relationships.

Hallmarks of Hawaiian, Asian, & Pacific Issues Classes
To fulfill the Hawaiian, Asian, and Pacific Issues Focus requirement, at least two-thirds of a class must satisfy the following Hallmarks:

H1. The content should reflect the intersection of Asian and/or Pacific Island cultures with Native Hawaiian culture.
H2. A course can use any disciplinary or multi-disciplinary approach provided that a component of the course uses assignments or practica that encourage learning that comes from the cultural perspectives, values, and world views rooted in the experience of peoples indigenous to Hawai’i, the Pacific, and Asia.
**H3.** A course should include at least one topic that is crucial to an understanding of the histories, or cultures, or beliefs, or the arts, or the societal, or political, or economic, or technological processes of these regions; for example, the relationships of societal structures to the natural environment.

**H4.** A course should involve an in-depth analysis or understanding of the issues being studied in the hope of fostering multi-cultural respect and understanding.

**Student Learning Objectives (SLOs): Upon completion of the course, the student should be able to:**

* NOTE: “HAP” represents Hawaiian, Asian and Pacific.

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**Pacific Island Culture and Environment SLOs**

1. Identify key differences and similarities between Hawaiian and other Pacific Island Cultures.
2. Identify impacts of weather and climate on clothing style and development over time.
3. Describe they mythological representation of weather phenomena for a variety of Island peoples.
4. Describe the way in which clouds and cloud formation are represented in HAP mythologies.
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7. Identify examples of weather phenomena as represented in music, songs and chants.
8. Identify regional wind patterns and how they relate to the location of HAP cultures.
9. Describe the impact of weather on place names and wind names.
10. Describe the way in which weather and ocean currents are related to inter-island travel in the Pacific.
11. Describe the ocean currents and wave shape/types played a role in the development of surfing.
12. Describe the historical and current implication of El Niño events in the Pacific.
13. Be able to generalize how storms and other large weather events are depicted by HAP cultures.
14. Understand and critically examine the social impacts typhoons and hurricanes in HAP cultures.
15. Describe air pollution concerns for the peoples of HAP cultures in the past and present.
16. Identify the ways in which optical effects (e.g. rainbows) are incorporated into HAP mythologies.
17. Describe how the general climate and micro climates of the various Pacific Islands impacted agriculture.
18. Identify the ways in which HAP cultures will be impacted by climate change and sea level rise.

---

**Atmospheric and Environmental Science SLOs**

1. Demonstrate a familiarity with the basic vocabulary of meteorology.
2. Demonstrate a familiarity with the geographic location of Hawaii and the Pacific Islands.
3. Describe how temperature changes horizontally and vertically in the atmosphere.
4. Describe and explain the origin, composition, structure, and behaviors of the earth's atmosphere.
5. Understand and analyze important environmental problems related to the Pacific atmosphere.
6. Critically examine the phenomena of the Solar and Terrestrial Radiation and understanding the energy transfer by radiation, conduction, convection, and evapotranspiration and explain the factors that determine the distribution of solar energy over the Earth's surface and describe global patterns of temperature.
7. Understand and critically examine the atmospheric phenomena of temperature, moisture conditions, atmospheric stability, forms of condensation and precipitation, air pressure and winds, circulation of the atmosphere, role of air masses, and weather patterns.
8. Describe the major cloud types and explain the phenomena of rainfall, fog, snow, sleet, and frost.
9. Define a cold and warm front and explain the processes leading to the formation of each and also explain the formation of cyclones and anticyclones, tornadoes, hurricanes and typhoons.
10. Understand and describe the formation of thunderstorms, lightning and thunder.
11. Describe and analyze the changing climate in the past, present and future.
12. Understand the impact that people have on the atmospheric environment.
13. Differentiate between global warming and the greenhouse effect.
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**Lecture Topic Schedule and Reading Assignments**
All reading material will be provided in PDF format through Laulima and the Class Website. Page assignments are subject to change as is schedule for field trips! Activities, Experiences, and Field Trips and Holidays are Shaded. Readings that are *italicized* are not required, but are suggested reading.

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<th>Native Voice Readings</th>
</tr>
</thead>
<tbody>
<tr>
<td>W4: 2/5</td>
<td>Precipitation Across the Pacific</td>
<td>Current Precipitation Maps &amp; Satellite Data (Real Time Images)</td>
<td>Kamae (2005: DVD 60 min)</td>
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</table>
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*Ka Nupepa Kuokoa*. 18 December 1869, pg. 3. (*Hawaiian Newspaper Clipping*)

*Ka Nupepa Kuokoa*. 4 April 1971, pg. 2. (*Hawaiian Newspaper Clipping – stormy weather*)

*Ke Koo o Hawaii*. 29 August 1883, pg. 5. (*Hawaiian Newspaper Clipping*)


Lili’oukalani, Queen (1878) *Aloha ‘Oe Lyrics*


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| W11: 3/27 | Activity/Experience – Visit Honolulu NWS to learn about Hawaiian Hurricane Tracking |
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| W13: 4/10 | Holiday – Good Friday – No Class |
| W14: 4/17 | Activity/Experience: Mapping Hawai‘i’s Climate Zones |
| W15: 4/24 | Activity/Experience – How to open a Coconut with a rock! |
| W16: 5/1 | Activity/Experience – Saving the World from Climate Change |
| W17: 5/4 | PRESENTATIONS – TBA |
| W17: 5/6 | PRESENTATIONS – TURN IN FINAL PAPER DURING LAST CLASS |
Maikunu, J. H. (1862) *Ka Nupepa Kuokoa*, 22 February. (*Hawaiian Newspaper Clipping*)

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**Atmospheric and Environmental Science References**


ATMO 102 Syllabus for Spring 2020   Page 6
WW2010 (2010) Module on Mid-latitude Cyclones
http://ww2010.atmos.uiuc.edu/%28Gh%29/guides/mtr/cyc/home.xml, Atmospheric Science Department, University of Illinois.
WW2010 (2010) Module on Atmospheric Optics and Light,
http://ww2010.atmos.uiuc.edu/(Gh)/guides/mtr/opt/home.xml, Atmospheric Science Department, University of Illinois.
Instructor: Jennifer Griswold  
Email: smalljen@hawaii.edu  
Office Hours: TBA

Class Times: Mon-Wed-Fri 11:30-12:20  
Class Location: HIG 311  
Course Web address: http://jenniferdsmallphd.com/ATMO_102.html

Course Description
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At the end of a course that fulfills the Hawaiian, Asian, and Pacific Issues Focus requirement, students will be able to:

- **HLO1**: Explain the intersection of Native Hawaiian issues with Asian and/or Pacific Island issues.
- **HLO2**: Analyze issues using the conceptual and ethical frameworks and practices of the cultural perspectives, values, and world views of the Indigenous peoples of Hawai‘i, and the Pacific and/or Asia.
- **HLO3**: Integrate the histories, cultures, beliefs, arts, social, political, economic, or technological processes in their analysis of Hawai‘i, and the Pacific and/or Asia.
- **HLO4**: Demonstrate respect and empathy as defined by the Indigenous peoples of Hawai‘i and the Pacific and/or Asia in interpersonal and intergroup relationships.

Hallmarks of Hawaiian, Asian, & Pacific Issues Classes
To fulfill the Hawaiian, Asian, and Pacific Issues Focus requirement, at least two-thirds of a class must satisfy the following Hallmarks:

- **H1**: The content should reflect the intersection of Asian and/or Pacific Island cultures with Native Hawaiian culture.
- **H2**: A course can use any disciplinary or multi-disciplinary approach provided that a component of the course uses assignments or practica that encourage learning that comes from the cultural perspectives, values, and world views rooted in the experience of peoples indigenous to Hawai‘i, the Pacific, and Asia.
H3. A course should include at least one topic that is crucial to an understanding of the histories, or cultures, or beliefs, or the arts, or the societal, or political, or economic, or technological processes of these regions; for example, the relationships of societal structures to the natural environment.

H4. A course should involve an in-depth analysis or understanding of the issues being studied in the hope of fostering multi-cultural respect and understanding.

Student Learning Objectives (SLOs): Upon completion of the course, the student should be able to:

* NOTE: “HAP” represents Hawaiian, Asian and Pacific.

**Pacific Island Culture and Environment SLOs**
1. Identify key differences and similarities between Hawaiian and other Pacific Island Cultures.
2. Identify impacts of weather and climate on clothing style and development over time.
3. Describe they mythological representation of weather phenomena for a variety of Island peoples.
4. Describe the way in which clouds and cloud formation are represented in HAP mythologies
5. Describe how precipitation type, timing, and patterns are related to cultural events and agriculture.
6. Describe the how weather phenomena are incorporated in to the various dance forms of the Pacific Islands.
7. Identify examples of weather phenomena as represented in music, songs and chants.
8. Identify regional wind patterns and how they relate to the location of HAP cultures.
9. Describe the impact of weather on place names and wind names.
10. Describe the way in weather and ocean currents are related to inter-island travel in the pacific.
11. Describe how the ocean currents and wave shape/types played a role in the development of surfing.
12. Describe the historical and current implication of El Niño events in the Pacific.
13. Be able to generalize how storms and other large weather events are depicted by HAP cultures.
14. Understand and critically examine the social impacts typhoons and hurricanes in HAP cultures.
15. Describe air pollution concerns for the peoples of HAP cultures in the past and present.
16. Identify the ways in which optical effects (e.g. rainbows) are incorporated into HAP mythologies.
17. Describe how the general climate and micro climates of the various Pacific Islands impacted agriculture.
18. Identify the ways in which HAP cultures will be impacted by climate change and sea level rise.

**Atmospheric and Environmental Science SLOs**
1. Demonstrate a familiarity with the basic vocabulary of meteorology.
2. Demonstrate a familiarity with the geographic location of Hawaii and the Pacific Islands.
3. Describe how temperature changes horizontally and vertically in the atmosphere.
4. Describe and explain the origin, composition, structure, and behaviors of the earth's atmosphere.
5. Understand and analyze important environmental problems related to the Pacific atmosphere.
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8. Describe the major cloud types and explain the phenomena of rainfall, fog, snow, sleet, and frost.
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10. Understand and describe the formation of thunderstorms, lightning and thunder.
11. Describe and analyze the changing climate in the past, present and future
12. Understand the impact that people have on the atmospheric environment.
13. Differentiate between global warming and the greenhouse effect.
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15. Describe various types of atmospheric optical phenomena including rainbows, mirages, halos, crepuscular rays, sun dogs, sun pillars, corona and glories.
16. Understand the various impacts and mitigation strategies for climate change and sea level rise in the Pacific region.

### Lecture Topic Schedule and Reading Assignments

All reading material will be provided in PDF format through Laulima and the Class Website. Page assignments are subject to change as is schedule for field trips! Activities, Experiences, and Field Trips and Holidays are shaded. Readings that are italicized are not required, but are suggested reading.

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<td>Activity/Experience – Clothing of the Pacific Islands</td>
<td></td>
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<tr>
<td>W4: 2/3</td>
<td>Precipitation Processes and Types</td>
<td>Aguado &amp; Burt (2013: 189-209)</td>
<td>Maikunu (1862: Newspaper); Kamae (2005: DVD 60 min)</td>
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<tr>
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<td>Activity/Experience – TBD (Hawaiian Music or other)</td>
<td></td>
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<td>W5: 2/10</td>
<td>Pressure and Wind</td>
<td>MetEd Module (web link)</td>
<td>Alameda (1997: 10-13); Aloi Keana (1866: Newspaper)</td>
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<tr>
<td>W6: 2/17</td>
<td>HOLIDAY – President’s Day – No Class</td>
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</tr>
<tr>
<td>W6: 2/19</td>
<td>Local Winds</td>
<td>Caviedes (2001: 234-249)</td>
<td>Ka Nupepa Kuokoa (1869)</td>
</tr>
<tr>
<td>W7: 2/28</td>
<td>Activity/Experience – Poetry Writing in the Style of Pukui and Kauraka</td>
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<td></td>
</tr>
<tr>
<td>W8: 3/6</td>
<td>NO CLASS – Dr. Griswold at Meeting</td>
<td></td>
<td>Clark (2011: 19-37)</td>
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<td>Activity/Experience – In-Class “Lightning” and “Hail”</td>
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ATMO 102 Syllabus for Spring 2020  Page 4
| W11: 3/27 | Activity/Experience – Visit Honolulu NWS to learn about Hawaiian Hurricane Tracking |
| W12: 4/3 | Activity/Experience – TBA |
| W13: 4/8 | Rainbows, Mirages and Cultural Contexts | Weather 2010 (weblink) | Thurm Nakuna 1907 |
| W13: 4/10 | Holiday – Good Friday – No Class |
| W14: 4/17 | Activity/Experience: Mapping Hawai’i’s Climate Zones |
| W15: 4/24 | Activity/Experience – How to open a Coconut with a rock! |
| W16: 5/1 | Activity/Experience – Saving the World from Climate Change |
| W17: 5/4 | PRESENTATIONS |
| W17: 5/6 | PRESENTATIONS – TURN IN FINAL PAPER DURING LAST CLASS |

**Reading Materials for Course**

**References: Native Hawaiian Voice**

- Aloikeanu, D. A. K. (1866) “Na Makanii”, *Ke Au Okoa*, 7 May. (*Hawaiian Newspaper Clipping*)
- Ami (1860) He Mele no ka Haku Hawai. *Ka Hae Hawai*, 25 July. (*Chant about Thunder for Prince Albert Kalanikaukeaoul, printed in Hawaiian Language Newspaper)*
- *Ka Nupepa Kuokoa*. 18 December 1869, pg. 3. (*Hawaiian Newspaper Clipping*)
- *Ka Nupepa Kuokoa*. 7 May 1902, pg. 5. (*Hawaiian Newspaper clipping*)
- *Ke Koo o Hawaii*. 29 August 1883, pg. 5. (*Hawaiian Newspaper Clipping*)
- Lili’oukalani, Queen (1878) *Aloha ‘Oe* Lyrics
Maikunu, J. H. (1862) *Ka Nupepa Kuokoa*, 22 February. (*Hawaiian Newspaper Clipping*)


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**Atmospheric and Environmental Science References**


MetEd Modules (2014) [https://www.meted.ucar.edu/index.php](https://www.meted.ucar.edu/index.php), University Corporation for Atmospheric Research.


**Instructor:** Jennifer Griswold  
Email: smalljen@hawaii.edu  
Office Hours: TBA

Class Times: Mon-Wed-Fri 11:30-12:20  
Class Location: HIG 311  
Course Web address: http://jenniferdsmallphd.com/ATMO_102.html

**Course Description**
This course is designed to give you an overview of the interface between the observed Weather and Climate of the Pacific Island region and the past and future the culture of the peoples of the Pacific Islands. You will learn about the Earth’s atmosphere, temperature, precipitation, winds, storm systems, hurricanes, tornadoes, air pollution, weather and agriculture, rainbows, and climate change. As we learn about each weather or climate topic we will view these natural phenomena through the cultural lenses of the native peoples of the Pacific region through the historical writings and poetry, music, dance and films of Native Hawaiian and Indigenous Pacific Islanders. You will also participate in activities and in-class experiences that will allow you to experience some of the cultural aspects (e.g. hula, poetry, etc.) each week of the course.

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**Reading Assignments and Discussion Questions**
In order to succeed in this class, reading should be considered an ongoing homework assignment. Completing reading assignments will prepare you for assignments and projects. There is no one book that is ideal for this type of cross discipline course. Therefore, all reading will be presented as pdf files on Laulima and on the class website.

**In-Class Activities, Extra Credit, Surveys and Review Sessions**
Throughout the course you will be asked for input regarding the various topics. You will need to participate during in-class activities and extra credit challenges that will take place throughout the semester. You will be expected to turn in proof of attendance (filling out worksheets or completing activities) to get participation credit.

Extra Credit -- **There will be no extra credit offered to any individuals. No exceptions. **
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<td>Activity/Experience – Hawaiian Navigation</td>
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Kalanikaukiaoul, printed in Hawaiian Language Newspaper

Alhoa ‘Oe Lyrics


*Ka Nupepa Kuokoa*. 18 December 1869, pg. 3. (*Hawaiian Newspaper Clipping*)

*Ka Nupepa Kuokoa*. 4 April 1971, pg. 2. (*Hawaiian Newspaper Clipping – stormy weather*)

*Ke Koo o Hawaii*. 29 August 1883, pg. 5. (*Hawaiian Newspaper Clipping*)


Lili‘oukalani, Queen (1878) *Alhoa ‘Oe Lyrics*


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**ATMO 102 Syllabus for Spring 2020 Page 5**
Maikunu, J. H. (1862) *Ka Nupepa Kuokoa*, 22 February. (*Hawaiian Newspaper Clipping*)


Poliwela, D. W. (1862) “Na Makani”, *Ka Hoku o ka Pakipika*, 1 May. (*Hawaiian Newspaper Clipping*)


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ATMO 102 Syllabus for Spring 2020   Page 6


MetEd Modules (2014) [https://www.meted.ucar.edu/index.php](https://www.meted.ucar.edu/index.php), University Corporation for Atmospheric Research.


ATMO 102 – Pacific Climates and Cultures

Instructor: Jennifer Griswold
Email: smalljen@hawaii.edu
Office Hours: TBA

Class Times: Mon-Wed-Fri 11:30-12:20
Class Location: HIG 311
Course Web address: http://jenniferdsmallphd.com/ATMO_102.html

Course Description
This course is designed to give you an overview of the interface between the observed Weather and Climate of the Pacific Island region and the past and future the culture of the peoples of the Pacific Islands. You will learn about the Earth’s atmosphere, temperature, precipitation, winds, storm systems, hurricanes, tornadoes, air pollution, weather and agriculture, rainbows, and climate change. As we learn about each weather or climate topic we will view these natural phenomena through the cultural lenses of the native peoples of the Pacific region through the historical writings and poetry, music, dance and films of Native Hawaiian and Indigenous Pacific Islanders. You will also participate in activities and in-class experiences that will allow you to experience some of the cultural aspects (e.g. hula, poetry, etc.) each week of the course.

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<tr>
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- **HLO2:** Analyze issues using the conceptual and ethical frameworks and practices of the cultural perspectives, values, and world views of the Indigenous peoples of Hawai’i, and the Pacific and/or Asia.
- **HLO3:** Integrate the histories, cultures, beliefs, arts, social, political, economic, or technological processes in their analysis of Hawai’i, and the Pacific and/or Asia.
- **HLO4:** Demonstrate respect and empathy as defined by the Indigenous peoples of Hawai’i and the pacific and/or Asia in interpersonal and intergroup relationships.

Hallmarks of Hawaiian, Asian, & Pacific Issues Classes
To fulfill the Hawaiian, Asian, and Pacific Issues Focus requirement, at least two-thirds of a class must satisfy the following Hallmarks:

- **H1.** The content should reflect the intersection of Asian and/or Pacific Island cultures with Native Hawaiian culture.
- **H2.** A course can use any disciplinary or multi-disciplinary approach provided that a component of the course uses assignments or practica that encourage learning that comes from the cultural perspectives, values, and world views rooted in the experience of peoples indigenous to Hawai’i, the Pacific, and Asia.

Grade Structure

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<td>B-</td>
<td>80.00-83.49</td>
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<tr>
<td>C</td>
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<td>60.00-63.49</td>
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<tr>
<td>F</td>
<td>59.99 and below</td>
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</table>
H3. A course should include at least one topic that is crucial to an understanding of the histories, or cultures, or beliefs, or the arts, or the societal, or political, or economic, or technological processes of these regions; for example, the relationships of societal structures to the natural environment.

H4. A course should involve an in-depth analysis or understanding of the issues being studied in the hope of fostering multi-cultural respect and understanding.

Student Learning Objectives (SLOs): Upon completion of the course, the student should be able to:

* NOTE: “HAP” represents Hawaiian, Asian and Pacific.

Pacific Island Culture and Environment SLOs
1. Identify key differences and similarities between Hawaiian and other Pacific Island Cultures.
2. Identify impacts of weather and climate on clothing style and development over time.
3. Describe their mythological representation of weather phenomena for a variety of Island peoples.
4. Describe the way in which clouds and cloud formation are represented in HAP mythologies
5. Describe how precipitation type, timing, and patterns are related to cultural events and agriculture.
6. Describe the how weather phenomena are incorporated into the various dance forms of the Pacific Islands.
7. Identify examples of weather phenomena as represented in music, songs and chants.
8. Identify regional wind patterns and how they relate to the location of HAP cultures.
9. Describe the impact of weather on place names and wind names.
10. Describe the way in weather and ocean currents are related to inter-island travel in the pacific.
11. Describe how the ocean currents and wave shape/types played a role in the development of surfing.
12. Describe the historical and current implication of El Niño events in the Pacific.
13. Be able to generalize how storms and other large weather events are depicted by HAP cultures.
14. Understand and critically examine the social impacts typhoons and hurricanes in HAP cultures.
15. Describe air pollution concerns for the peoples of HAP cultures in the past and present.
16. Identify the ways in which optical effects (e.g. rainbows) are incorporated into HAP mythologies.
17. Describe how the general climate and micro climates of the various Pacific Islands impacted agriculture.
18. Identify the ways in which HAP cultures will be impacted by climate change and sea level rise.

Atmospheric and Environmental Science SLOs
1. Demonstrate a familiarity with the basic vocabulary of meteorology.
2. Demonstrate a familiarity with the geographic location of Hawaii and the Pacific Islands.
3. Describe how temperature changes horizontally and vertically in the atmosphere.
4. Describe and explain the origin, composition, structure, and behaviors of the earth's atmosphere.
5. Understand and analyze important environmental problems related to the Pacific atmosphere.
6. Critically examine the phenomena of the Solar and Terrestrial Radiation and understanding the energy transfer by radiation, conduction, convection, and evapotranspiration and explain the factors that determine the distribution of solar energy over the Earth’s surface and describe global patterns of temperature.
7. Understand and critically examine the atmospheric phenomena of temperature, moisture conditions, atmospheric stability, forms of condensation and precipitation, air pressure and winds, circulation of the atmosphere, role of air masses, and weather patterns.
8. Describe the major cloud types and explain the phenomena of rainfall, fog, snow, sleet, and frost.
9. Define a cold and warm front and explain the processes leading to the formation of each and also explain the formation of cyclones and anticyclones, tornadoes, hurricanes and typhoons.
10. Understand and describe the formation of thunderstorms, lightning and thunder.
11. Describe and analyze the changing climate in the past, present and future
12. Understand the impact that people have on the atmospheric environment.
13. Differentiate between global warming and the greenhouse effect.
14. Describe the phenomenon of El Niño-Southern Oscillation and the impacts it has on global precipitation and cloud patterns.
15. Describe various types of atmospheric optical phenomena including rainbows, mirages, halos, crepuscular rays, sun dogs, sun pillars, corona and glories.
16. Understand the various impacts and mitigation strategies for climate change and sea level rise in the Pacific region.

### Lecture Topic Schedule and Reading Assignments

All reading material will be provided in PDF format through Laulima and the Class Website. Page assignments are subject to change as is schedule for field trips! Activities, Experiences, and Field Trips and Holidays are Shaded. Readings that are italicized are not required, but are suggested reading.

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<thead>
<tr>
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<th>Weather Readings</th>
<th>Native Voice Readings</th>
</tr>
</thead>
<tbody>
<tr>
<td>W2: 1/22</td>
<td>Temperature and Clothing</td>
<td>MetEd Module (web link)</td>
<td>Kauraka (1987; 52)</td>
</tr>
<tr>
<td>W4: 2/7</td>
<td>Activity/Experience – TBD (Hawaiian Music or other)</td>
<td>Monger and Morgan (1886: 1-3)</td>
<td>Polo (1862: Newspaper)</td>
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<tr>
<td>W5: 2/10</td>
<td>Pressure and Wind</td>
<td>MetEd Module (web link)</td>
<td>Alameda (1997: 10-13); Alokea (1860)</td>
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<tr>
<td>W6: 2/21</td>
<td>Hawaiian and Pacific Island Winds and Travel</td>
<td>Kuapu'u (1902: pg1)</td>
<td>Pukui (1883: Various)</td>
</tr>
<tr>
<td>W7: 2/26</td>
<td>Historical Impacts of North Pacific Storms</td>
<td>Pukui (1883: Various)</td>
<td>Mau (1907: 204-254)</td>
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<tr>
<td>W9: 3/13</td>
<td>Activity/Experience – In-Class “Lightning” and “Hail”</td>
<td>Pukui (1883: Various)</td>
<td>Hairama (1871)</td>
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</tbody>
</table>

ATMO 102 Syllabus for Spring 2020  Page 4
| W11: 3/27 | Activity/Experience – Visit Honolulu NWS to learn about Hawaiian Hurricane Tracking |
| W12: 4/3 | Activity/Experience – TBA |
| W13: 4/8 | Rainbows, Mirages and Cultural Contexts | Weather 2010 (weblink) | Thurm Nakuina 1907 |
| W13: 4/10 | Holiday – Good Friday – No Class |
| W14: 4/17 | Activity/Experience: Mapping Hawai’i’s Climate Zones |
| W15: 4/24 | Activity/Experience – How to open a Coconut with a rock! |
| W16: 5/1 | Activity/Experience – Saving the World from Climate Change |
| W17: 5/4 | PRRESENTATIONS |
| W17: 5/6 | PRESENTATIONS – TURN IN FINAL PAPER DURING LAST CLASS |

**Reading Materials for Course**

**References: Native Hawaiian Voice**


Aloikaneu, D. A. K. (1866) “Na Makani”, *Ke Au Okoa*, 7 May. (*Hawaiian Newspaper Clipping*)

Ami (1860) *He Mele no ka Haku Hawai* (Hawaiian Language Newspaper)


*Ka Nupepa Kuokoa*. 18 December 1869, pg. 3. (*Hawaiian Newspaper Clipping*)

*Ka Nupepa Kuokoa*. 25 July. (*Chant about Thunder for Prince Albert*)


Maikunu, J. H. (1862) *Ka Nupepa Kuokoa*, 22 February. (*Hawaiian Newspaper Clipping*)
Poliwela, D. W. (1862) “Na Makani”, *Ka Hoku o ka Pakipika*, 1 May. (*Hawaiian Newspaper Clipping*)

**Guest UH Manoa Faculty Speakers - Native Hawaiian Voice, Science, & Culture (Planned, May be Modified)**

Ka’eo (Thomas) Duarte – Hydrology and Water Management
Rick Kaponowaiwaiola Barboza from Hui Ku Maoli Ola – Botany and Native Plants and Agriculture

**References: Asian and Pacific Island Voice**


**References: Intersection of Native Hawaiian, Asian and Pacific Island Cultures**


* Hawaiian language newspaper clippings are obtained through the outstanding effort of the Hawaiian Language Newspaper Translation Project, UH Sea Grant, http://seagrant.soest.hawaii.edu/Hawaiian-language-newspaper-translation-project. Also, the majority of newspaper clippings are taken from coursework lesson plans produced by Steven Businger, Sara DaSilva, Kapōmaika’i Stone, Iasona Ellinwood, Pauline W. U. Chiin available through Kahua A’o (http://manoa.hawaii.edu/kahuaao/atmospheric_sciences.html)

** Note that “Intersection” Readings as annotated here are ones that meet the intersection requirement by themselves. Throughout the course, the combination of readings covering similar topics in Hawaiian, Asian, and Pacific Cultures provide the “Intersection” required by the HAP focus.

**Atmospheric and Environmental Science References**


ATMO 102 Syllabus for Spring 2020  Page 6
MetEd Modules (2014) [https://www.meted.ucar.edu/index.php](https://www.meted.ucar.edu/index.php), University Corporation for Atmospheric Research.
**ATMO 102 – Pacific Climates and Cultures**

**Instructor:** Jennifer Griswold  
Email: smalljen@hawaii.edu  
Office Hours: TBA

Class Times: Mon-Wed-Fri 11:30-12:20  
Class Location: HIG 311  
Course Web address: http://jenniferdsmallphd.com/ATMO_102.html

**Course Description**  
This course is designed to give you an overview of the interface between the observed Weather and Climate of the Pacific Island region and the past and future the culture of the peoples of the Pacific Islands. You will learn about the Earth’s atmosphere, temperature, precipitation, winds, storm systems, hurricanes, tornadoes, air pollution, weather and agriculture, rainbows, and climate change. As we learn about each weather or climate topic we will view these natural phenomena through the cultural lenses of the native peoples of the Pacific region through the historical writings and poetry, music, dance and films of Native Hawaiian and Indigenous Pacific Islanders. You will also participate in activities and in-class experiences that will allow you to experience some of the cultural aspects (e.g. hula, poetry, etc.) each week of the course.

**Basic Course and Classroom Conduct**  
1. Cell phones/iPods/etc. will remain off while in class or you will be asked to leave class.  
2. Dropping the class is your responsibility. If you forget to drop the class formally, you will receive an F grade.  
3. Cheating will result in a failing class grade.

**Attendance Policy – 50 points (includes in class discussion and activities)**  
Attendance is mandatory and will be taken each class and counts towards your grade. Students not in attendance on the first day will be dropped as a “no-show” if there are waitlisted students. Due to in-class presentations and presentations by quest speakers and performers it is imperative that you attend class. If your *excused* absence prevents you from turning in an assignment on its due date then you must turn in the work at the beginning of the next class you attend.

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16. Identify the ways in which optical effects (e.g. rainbows) are incorporated into HAP mythologies.
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<td>W1: 1/17</td>
<td>Activity/Experience – Ice Breaker and Class Bonding</td>
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<td>HOLIDAY – Martin Luther King Jr. Day – No Class</td>
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<td>W2: 1/22</td>
<td>Temperature and Clothing</td>
<td>MetEd Module (web link)</td>
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<td>W3: 1/27</td>
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<td>W4: 2/5</td>
<td>Precipitation Across the Pacific</td>
<td>Current Precipitation Maps &amp; Satellite Data (Real Time Images)</td>
<td>Kamae (2005: DVD 60 min)</td>
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<td>Pressure and Wind</td>
<td>MetEd Module (web link)</td>
<td>Alameda (1997: 10-13); Alokeaunu (1866: Newspaper)</td>
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<td>W6: 2/17</td>
<td>HOLIDAY – President’s Day – No Class</td>
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<td>W6: 2/19</td>
<td>Local Winds</td>
<td>Cavedes (2001: 234-249)</td>
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<td>W7: 2/26</td>
<td>Historical Impacts of North Pacific Storms</td>
<td>Nakuna (2005: TBD)</td>
<td>Kauraka (1987: 52); Fanshawe (2001);</td>
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<td>Activity/Experience – Poetry Writing in the Style of Pukui and Kauraka</td>
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<td>NO CLASS – Dr. Griswold at at Meeting</td>
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<td>Finley (2011: 19-37)</td>
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<td>Activity/Experience – In-Class “Lightning” and “Hail”</td>
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<td>Spring Break – No Class</td>
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ATMO 102 Syllabus for Spring 2020 Page 4
W11: 3/25 Activity/Experience – Visit Honolulu NWS to learn about Hawaiian Hurricane Tracking

W11: 3/27 Case Studies of Historical and Recent Hurricanes and Typhoons

W12: 3/30 Activity/Experience – Visit Honolulu NWS to learn about Hawaiian Hurricane Tracking

W12: 4/1 Pacific Air Pollution: Veg, Fires & Nuclear Tests

W12: 4/3 Activity/Experience – Visit Honolulu NWS to learn about Hawaiian Hurricane Tracking

W13: 4/6 Atmospheric Optical Phenomena

W13: 4/8 Rainbows, Mirages and Cultural Contexts

W13: 4/10 Holiday – Good Friday – No Class

W14: 4/15 Pacific Island Climate Types

W14: 4/17 Activity/Experience: Mapping Hawaii’s Climate Zones

W15: 4/20 Climate, Agriculture & History

W15: 4/24 Activity/Experience – How to open a Coconut with a rock!

W16: 4/27 Sea Level Rise – Impacts & Mitigation in Pacific

W16: 4/29 Sea Level Rise – Impacts & Mitigation in Hawaii

W16: 5/1 Activity/Experience – Saving the World from Climate Change

W17: 5/4 Activity/Experience – Saving the World from Climate Change

W17: 5/6 Activity/Experience – Visit Honolulu NWS to learn about Hawaiian Hurricane Tracking

Reading Materials for Course

References: Native Hawaiian Voice


Aloikeanu, D. A. K. (1866) “Na Makani”, *Ke Au Okoa*, 7 May. (*Hawaiian Newspaper Clipping*)

Ami (1860) He Mele no ka Haku Hawai. *Ka Hae Hawaii*, 25 July. (*Chant about Thunder for Prince Albert Kalanikaukeaol, printed in Hawaiian Language Newspaper*)


*Ka Nupepa Kuokoa*. 18 December 1869, pg. 3. (*Hawaiian Newspaper Clipping*)

*Ka Nupepa Kuokoa*. 4 April 1971, pg. 2. (*Hawaiian Newspaper Clipping – stormy weather)

*Ke Koo o Hawaii*. 29 August 1883, pg. 5. (*Hawaiian Newspaper Clipping*)


Lili‘oukalani, Queen (1878) *Alihoa ‘Oe Lyrics*


ATMO 102 Syllabus for Spring 2020 Page 5
Maikunu, J. H. (1862) *Ka Nupepa Kuokoa*, 22 February. (*Hawaiian Newspaper Clipping*)


Poliwela, D. W. (1862) “Na Makani”, *Ka Hoku o ka Pakipika*, 1 May. (*Hawaiian Newspaper Clipping*)


**Guest UH Manoa Faculty Speakers - Native Hawaiian Voice, Science, & Culture (Planned, May be Modified)**

Kaʻeo (Thomas) Duarte – Hydrology and Water Management

Rick Kaponowaiwaiola Barboza from Hui Ku Maoli Ola – Botany and Native Plants and Agriculture

**References: Asian and Pacific Island Voice**


**References: Intersection of Native Hawaiian, Asian and Pacific Island Cultures**


* Hawaiian language newspaper clippings are obtained through the outstanding effort of the Hawaiian Language Newspaper Translation Project, UH Sea Grant, http://seagrant.soest.hawaii.edu/Hawaiian-language-newspaper-translation-project. Also, the majority of newspaper clippings are taken from coursework lesson plans produced by Steven Businger, Sara DaSilva, Kapōmaika‘i Stone, Iasona Ellinwood, Pauline W. U. Chiin available through Kahua A’o (http://manoa.hawaii.edu/kahuaao/atmospheric_sciences.html)

** Note that “Intersection” Readings as annotated here are ones that meet the intersection requirement by themselves. Throughout the course, the combination of readings covering similar topics in Hawaiian, Asian, and Pacific Cultures provide the “Intersection” required by the HAP focus.

**Atmospheric and Environmental Science References**


MetEd Modules (2014) [https://www.meted.ucar.edu/index.php](https://www.meted.ucar.edu/index.php), University Corporation for Atmospheric Research.


ATMO 102 – Pacific Climates and Cultures

**Instructor:** Jennifer Griswold
Email: smalljen@hawaii.edu
Office Hours: TBA

Class Times: Mon-Wed-Fri 11:30-12:20
Class Location: HIG 311
Course Web address: http://jenniferdsmallphd.com/ATMO_102.html

**Course Description**
This course is designed to give you an overview of the interface between the observed Weather and Climate of the Pacific Island region and the past and future the culture of the peoples of the Pacific Islands. You will learn about the Earth’s atmosphere, temperature, precipitation, winds, storm systems, hurricanes, tornadoes, air pollution, weather and agriculture, rainbows, and climate change. As we learn about each weather or climate topic we will view these natural phenomena through the cultural lenses of the native peoples of the Pacific region through the historical writings and poetry, music, dance and films of Native Hawaiian and Indigenous Pacific Islanders. You will also participate in activities and in-class experiences that will allow you to experience some of the cultural aspects (e.g. hula, poetry, etc.) each week of the course.

**Basic Course and Classroom Conduct**
1. Cell phones/iPods/etc. will remain off while in class or you will be asked to leave class.
2. Dropping the class is your responsibility. If you forget to drop the class formally, you will receive an F grade.
3. Cheating will result in a failing class grade.

**Attendance Policy – 50 points (includes in class discussion and activities)**
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In order to succeed in this class, reading should be considered an ongoing homework assignment. Completing reading assignments will prepare you for assignments and projects. There is no one book that is ideal for this type of cross discipline course. Therefore, all reading will be presented as pdf files on Laulima and on the class website.

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Throughout the course you will be asked for input regarding the various topics. You will need to participate during in-class activities and extra credit challenges that will take place throughout the semester. You will be expected to turn in proof of attendance (filling out worksheets or completing activities) to get participation credit.

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I may give out extra credit work, but if I do, it will be available for all students in the class.
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<td>100</td>
</tr>
<tr>
<td>In class Discussion/Activities/Attendance</td>
<td>50</td>
</tr>
<tr>
<td>Final Paper/Project &amp; Presentation</td>
<td>150</td>
</tr>
<tr>
<td>Total</td>
<td>400</td>
</tr>
</tbody>
</table>

Adjustment of letter grade: One can receive an upward adjustment of letter grade for a number of reasons (e.g. very strong improvement during the semester, notable participation during class, exceptional effort). Under no circumstances will a reduction in letter grade be given, and these adjustments are made after the normal grades are assigned and therefore affect no one else’s letter grade.

Dropping the Course
You are responsible for managing your courses. If you need to drop without a “W” grade make sure you know the appropriate deadlines. This is your responsibility. If you miss the general drop date you will need a signature from me on the “Drop Form” if you drop the class after that date.

General Learning Objectives for Hawaiian, Asian, & Pacific Issue Classes
At the end of a course that fulfills the Hawaiian, Asian, and Pacific Issues Focus requirement, students will be able to:

HLO1: Explain the intersection of Native Hawaiian issues with Asian and/or Pacific Island issues.
HLO2: Analyze issues using the conceptual and ethical frameworks and practices of the cultural perspectives, values, and world views of the Indigenous peoples of Hawai‘i, and the Pacific and/or Asia.
HLO3: Integrate the histories, cultures, beliefs, arts, social, political, economic, or technological processes in their analysis of Hawai‘i, and the Pacific and/or Asia.
HLO4: Demonstrate respect and empathy as defined by the Indigenous peoples of Hawai‘i and the pacific and/or Asia in interpersonal and intergroup relationships.

Hallmarks of Hawaiian, Asian, & Pacific Issues Classes
To fulfill the Hawaiian, Asian, and Pacific Issues Focus requirement, at least two-thirds of a class must satisfy the following Hallmarks:

H1. The content should reflect the intersection of Asian and/or Pacific Island cultures with Native Hawaiian culture.
H2. A course can use any disciplinary or multi-disciplinary approach provided that a component of the course uses assignments or practica that encourage learning that comes from the cultural perspectives, values, and world views rooted in the experience of peoples indigenous to Hawai‘i, the Pacific, and Asia.
**H3.** A course should include at least one topic that is crucial to an understanding of the histories, or cultures, or beliefs, or the arts, or the societal, or political, or economic, or technological processes of these regions; for example, the relationships of societal structures to the natural environment.

**H4.** A course should involve an in-depth analysis or understanding of the issues being studied in the hope of fostering multi-cultural respect and understanding.

**Student Learning Objectives (SLOs):** Upon completion of the course, the student should be able to:

* NOTE: “HAP” represents Hawaiian, Asian and Pacific.

**Pacific Island Culture and Environment SLOs**
1. Identify key differences and similarities between Hawaiian and other Pacific Island Cultures.
2. Identify impacts of weather and climate on clothing style and development over time.
3. Describe they mythological representation of weather phenomena for a variety of Island peoples.
4. Describe the way in which clouds and cloud formation are represented in HAP mythologies.
5. Describe how precipitation type, timing, and patterns are related to cultural events and agriculture.
6. Describe the how weather phenomena are incorporated in to the various dance forms of the Pacific Islands.
7. Identify examples of weather phenomena as represented in music, songs and chants.
8. Identify regional wind patterns and how they relate to the location of HAP cultures.
9. Describe the impact of weather on place names and wind names.
10. Describe the way in weather and ocean currents are related to inter-island travel in the pacific.
11. Describe how the ocean currents and wave shape/types played a role in the development of surfing.
12. Describe the historical and current implication of El Niño events in the Pacific.
13. Be able to generalize how storms and other large weather events are depicted by HAP cultures.
14. Understand and critically examine the social impacts typhoons and hurricanes in HAP cultures.
15. Describe air pollution concerns for the peoples of HAP cultures in the past and present.
16. Identify the ways in which optical effects (e.g. rainbows) are incorporated into HAP mythologies.
17. Describe how the general climate and micro climates of the various Pacific Islands impacted agriculture.
18. Identify the ways in which HAP cultures will be impacted by climate change and sea level rise.

**Atmospheric and Environmental Science SLOs**
1. Demonstrate a familiarity with the basic vocabulary of meteorology.
2. Demonstrate a familiarity with the geographic location of Hawaii and the Pacific Islands.
3. Describe how temperature changes horizontally and vertically in the atmosphere.
4. Describe and explain the origin, composition, structure, and behaviors of the earth's atmosphere.
5. Understand and analyze important environmental problems related to the Pacific atmosphere.
6. Critically examine the phenomena of the Solar and Terrestrial Radiation and understanding the energy transfer by radiation, conduction, convection, and evapotranspiration and explain the factors that determine the distribution of solar energy over the Earth's surface and describe global patterns of temperature.
7. Understand and critically examine the atmospheric phenomena of temperature, moisture conditions, atmospheric stability, forms of condensation and precipitation, air pressure and winds, circulation of the atmosphere, role of air masses, and weather patterns.
8. Describe the major cloud types and explain the phenomena of rainfall, fog, snow, sleet, and frost.
9. Define a cold and warm front and explain the processes leading to the formation of each and also explain the formation of cyclones and anticyclones, tornadoes, hurricanes and typhoons.
10. Understand and describe the formation of thunderstorms, lightning and thunder.
11. Describe and analyze the changing climate in the past, present and future.
12. Understand the impact that people have on the atmospheric environment.
13. Differentiate between global warming and the greenhouse effect.
14. Describe the phenomenon of El Nino-Southern Oscillation and the impacts it has on global precipitation and cloud patterns.
15. Describe various types of atmospheric optical phenomena including rainbows, mirages, halos, crepuscular rays, sun dogs, sun pillars, corona and glories.
16. Understand the various impacts and mitigation strategies for climate change and sea level rise in the Pacific region.

### Lecture Topic Schedule and Reading Assignments

All reading material will be provided in PDF format through Laulima and the Class Website. Page assignments are subject to change as is schedule for field trips! Activities, Experiences, and Field Trips and Holidays are Shaded. Readings that are italicized are not required, but are suggested reading.

<table>
<thead>
<tr>
<th>Week &amp; Day</th>
<th>Topic</th>
<th>Weather Readings</th>
<th>Native Voice Readings</th>
</tr>
</thead>
<tbody>
<tr>
<td>W2: 1/20</td>
<td>HOLIDAY – Martin Luther King Jr. Day – No Class</td>
<td>Hihoe (1924: 25-47)</td>
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<tr>
<td>W2: 1/24</td>
<td>Pacific Natural Environment</td>
<td>Keawe (2014: 12-33)</td>
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<tr>
<td>W3: 1/27</td>
<td>Activity/Experience – Clothing of the Pacific Islands</td>
<td>Keawe (2014: 12-33)</td>
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<tr>
<td>W3: 1/31</td>
<td>Pacific Ocean Clouds and Island Effects</td>
<td>Pukui (1995: 30-31; 103-104)</td>
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<tr>
<td>W4: 2/5</td>
<td>Precipitation Across the Pacific</td>
<td>Kauraka (1987: 52); Kanahele (2012: xli-xlvi; 438-441)</td>
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<tr>
<td>W4: 2/7</td>
<td>Activity/Experience – TBD (Hawaiian Music or other)</td>
<td>Keawe (2014: 25-45)</td>
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<tr>
<td>W5: 2/10</td>
<td>Pressure and Wind</td>
<td>MetEd Module (web link)</td>
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<tr>
<td>W5: 2/12</td>
<td>Global and Pacific Regional Patterns</td>
<td>Alameda (1997: 10-13); Alokea (1866: Newspaper)</td>
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<tr>
<td>W6: 2/17</td>
<td>HOLIDAY – President’s Day – No Class</td>
<td>Ka Nuepea Kuokoa (1869)</td>
<td></td>
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<tr>
<td>W6: 2/19</td>
<td>Local Winds</td>
<td>Caviedes (2001: 234-249)</td>
<td></td>
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<tr>
<td>W6: 2/21</td>
<td>Hawaiian and Pacific Island Winds and Travel</td>
<td>Kuapu’u (1902: p41)</td>
<td></td>
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<tr>
<td>W7: 2/24</td>
<td>Fronts and Mid-Latitude Storm Systems</td>
<td>Poliwela (1862: Newspaper)</td>
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<tr>
<td>W7: 2/26</td>
<td>Historical Impacts of North Pacific Storms</td>
<td>Kane (1997: 96-101)</td>
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<tr>
<td>W8: 3/2</td>
<td>Ocean Currents and Waves</td>
<td>Finn (1995: 327-347)</td>
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<tr>
<td>W8: 3/4</td>
<td>Hawaiian and Pacific Island Currents &amp; Waves</td>
<td>Finn (1960: 314-331)</td>
<td></td>
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<tr>
<td>W8: 3/6</td>
<td>NO CLASS – Dr. Griswold at meeting</td>
<td>Finney (1960: 19-37)</td>
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<tr>
<td>W9: 3/13</td>
<td>Activity/Experience – In-Class “Lightning” and “Hail”</td>
<td>Finney (1960: 19-37)</td>
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<tr>
<td>W10: 3/16</td>
<td>Spring Break – No Class</td>
<td>Finney (1976: TBD)</td>
<td></td>
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</tbody>
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ATMO 102 Syllabus for Spring 2020 Page 4
Reading Materials for Course

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ATMO 102 Syllabus for Spring 2020 Page 5
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Course Web address: http://jenniferdsmallphd.com/ATMO_102.html  

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<td></td>
<td>Malo/Emerson (1951: 9-16)</td>
</tr>
<tr>
<td>W2: 1/22</td>
<td>Temperature and Clothing</td>
<td>MetEd Module (web link)</td>
<td>Hiroa (1924: 25-47)</td>
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<td>W3: 1/27</td>
<td>Activity/Experience – Clothing of the Pacific Islands</td>
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<tr>
<td>W4: 2/5</td>
<td>Precipitation Across the Pacific</td>
<td>Current Precipitation Maps &amp; Satellite Data (Real Time Images)</td>
<td>Kamae (2005: DVD 60 min)</td>
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<tr>
<td>W4: 2/7</td>
<td>Activity/Experience – TBD (Hawaiian Music or other)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>W5: 2/10</td>
<td>Pressure and Wind</td>
<td>MetEd Module (web link)</td>
<td>Alameda (1997: 10-13); Alokeanu (1866: Newspaper)</td>
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<td>HOLIDAY – President’s Day– No Class</td>
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<td>Local Winds</td>
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<td>Ka Nupepa Kuokoa (1869)</td>
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<td>Kane (1997: 96-101)</td>
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<td>Historical Impacts of North Pacific Storms</td>
<td>Nakuna (2005: TBD)</td>
<td>Kauraka (1987: 52); Fanshawe (2001);</td>
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<td></td>
<td>Kauraka (1987: 52); Fanshawe (2001);</td>
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<td>Activity/Experience – Poetry Writing in the Style of Pukui and Kauraka</td>
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<td>Clark (2011: 19-37)</td>
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<td>NO CLASS – Dr. Griswold at at Meeting</td>
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<td>W9: 3/13</td>
<td>Activity/Experience – In-Class “Lightning” and “Hail”</td>
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<td>Spring Break – No Class</td>
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<td>W10: 3/18</td>
<td>Spring Break – No Class</td>
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<tr>
<td>W10: 3/20</td>
<td>Spring Break – No Class</td>
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<td></td>
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<td></td>
<td>Hairama (1871)</td>
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<tr>
<td>Week</td>
<td>Date</td>
<td>Activity/Experience</td>
<td>Resource(s)</td>
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<tr>
<td>W11: 3/27</td>
<td>Activity/Experience – Visit Honolulu NWS to learn about Hawaiian Hurricane Tracking</td>
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<tr>
<td>W12: 4/3</td>
<td>Activity/Experience – TBA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>W13: 4/8</td>
<td>Rainbows, Mirages and Cultural Contexts</td>
<td>Weather 2010 (weblink)</td>
<td>Thurm Nakuina 1907</td>
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<tr>
<td>W13: 4/10</td>
<td>Holiday – Good Friday – No Class</td>
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<tr>
<td>W14: 4/17</td>
<td>Activity/Experience: Mapping Hawaii’s Climate Zones</td>
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<td>W15: 4/24</td>
<td>Activity/Experience – How to open a Coconut with a rock!</td>
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<td>W16: 5/1</td>
<td>Activity/Experience – Saving the World from Climate Change</td>
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<td>W17: 5/4</td>
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<tr>
<td>W17: 5/6</td>
<td>PRESENTATIONS</td>
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</tbody>
</table>
Maikunu, J. H. (1862) *Ma Nupea Kuokoa*, 22 February. (*Hawaiian Newspaper Clipping*)
Poliwela, D. W. (1862) “Na Makani”, *Ka Hoku o ka Pakipika*, 1 May. (*Hawaiian Newspaper Clipping*)

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**References: Asian and Pacific Island Voice**


**References: Intersection of Native Hawaiian, Asian and Pacific Island Cultures **


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**Atmospheric and Environmental Science References**


MetEd Modules (2014) [https://www.meted.ucar.edu/index.php](https://www.meted.ucar.edu/index.php), University Corporation for Atmospheric Research.


Instructor: Jennifer Griswold
Email: smalljen@hawaii.edu
Office Hours: TBA

Class Times: Mon-Wed-Fri 11:30-12:20
Class Location: HIG 311
Course Web address: http://jenniferdsmallphd.com/ATMO_102.html

Course Description
This course is designed to give you an overview of the interface between the observed Weather and Climate of the Pacific Island region and the past and future the culture of the peoples of the Pacific Islands. You will learn about the Earth’s atmosphere, temperature, precipitation, winds, storm systems, hurricanes, tornadoes, air pollution, weather and agriculture, rainbows, and climate change. As we learn about each weather or climate topic we will view these natural phenomena through the cultural lenses of the native peoples of the Pacific region through the historical writings and poetry, music, dance and films of Native Hawaiian and Indigenous Pacific Islanders. You will also participate in activities and in-class experiences that will allow you to experience some of the cultural aspects (e.g. hula, poetry, etc.) each week of the course.

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<table>
<thead>
<tr>
<th>Total Points</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discussion Questions 100</td>
<td>25%</td>
</tr>
<tr>
<td>4 Assignments 100</td>
<td>25%</td>
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<tr>
<td>In class Discussion/Activities/Attendance 50</td>
<td>12.5%</td>
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<tr>
<td>Final Paper/Project &amp; Presentation 150</td>
<td>37.5%</td>
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<tr>
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<td>100%</td>
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Dropping the Course
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At the end of a course that fulfills the Hawaiian, Asian, and Pacific Issues Focus requirement, students will be able to:

**HLO1:** Explain the intersection of Native Hawaiian issues with Asian and/or Pacific Island issues.

**HLO2:** Analyze issues using the conceptual and ethical frameworks and practices of the cultural perspectives, values, and world views of the Indigenous peoples of Hawai‘i, and the Pacific and/or Asia.

**HLO3:** Integrate the histories, cultures, beliefs, arts, social, political, economic, or technological processes in their analysis of Hawai‘i, and the Pacific and/or Asia.

**HLO4:** Demonstrate respect and empathy as defined by the Indigenous peoples of Hawai‘i and the pacific and/or Asia in interpersonal and intergroup relationships.

Hallmarks of Hawaiian, Asian, & Pacific Issues Classes
To fulfill the Hawaiian, Asian, and Pacific Issues Focus requirement, at least two-thirds of a class must satisfy the following Hallmarks:

**H1.** The content should reflect the intersection of Asian and/or Pacific Island cultures with Native Hawaiian culture.

**H2.** A course can use any disciplinary or multi-disciplinary approach provided that a component of the course uses assignments or practica that encourage learning that comes from the cultural perspectives, values, and world views rooted in the experience of peoples indigenous to Hawai‘i, the Pacific, and Asia.
H3. A course should include at least one topic that is crucial to an understanding of the histories, or cultures, or beliefs, or the arts, or the societal, or political, or economic, or technological processes of these regions; for example, the relationships of societal structures to the natural environment.

H4. A course should involve an in-depth analysis or understanding of the issues being studied in the hope of fostering multi-cultural respect and understanding.

Student Learning Objectives (SLOs): Upon completion of the course, the student should be able to:

*NOTE: “HAP” represents Hawaiian, Asian and Pacific.

Pacific Island Culture and Environment SLOs
1. Identify key differences and similarities between Hawaiian and other Pacific Island Cultures.
2. Identify impacts of weather and climate on clothing style and development over time.
3. Describe they mythological representation of weather phenomena for a variety of Island peoples.
4. Describe the way in which clouds and cloud formation are represented in HAP mythologies
5. Describe how precipitation type, timing, and patterns are related to cultural events and agriculture.
6. Describe the how weather phenomena are incorporated in to the various dance forms of the Pacific Islands.
7. Identify examples of weather phenomena as represented in music, songs and chants.
8. Identify regional wind patterns and how they relate to the location of HAP cultures.
9. Describe the impact of weather on place names and wind names.
10. Describe the way in weather and ocean currents are related to inter-island travel in the pacific.
11. Describe how the ocean currents and wave shape/types played a role in the development of surfing.
12. Describe the historical and current implication of El Niño events in the Pacific.
13. Be able to generalize how storms and other large weather events are depicted by HAP cultures.
14. Understand and critically examine the social impacts typhoons and hurricanes in HAP cultures.
15. Describe air pollution concerns for the peoples of HAP cultures in the past and present.
16. Identify the ways in which optical effects (e.g. rainbows) are incorporated into HAP mythologies.
17. Describe how the general climate and micro climates of the various Pacific Islands impacted agriculture.
18. Identify the ways in which HAP cultures will be impacted by climate change and sea level rise.

Atmospheric and Environmental Science SLOs
1. Demonstrate a familiarity with the basic vocabulary of meteorology.
2. Demonstrate a familiarity with the geographic location of Hawaii and the Pacific Islands.
3. Describe how temperature changes horizontally and vertically in the atmosphere.
4. Describe and explain the origin, composition, structure, and behaviors of the earth's atmosphere.
5. Understand and analyze important environmental problems related to the Pacific atmosphere.
6. Critically examine the phenomena of the Solar and Terrestrial Radiation and understanding the energy transfer by radiation, conduction, convection, and evapotranspiration and explain the factors that determine the distribution of solar energy over the Earth's surface and describe global patterns of temperature.
7. Understand and critically examine the atmospheric phenomena of temperature, moisture conditions, atmospheric stability, forms of condensation and precipitation, air pressure and winds, circulation of the atmosphere, role of air masses, and weather patterns.
8. Describe the major cloud types and explain the phenomena of rainfall, fog, snow, sleet, and frost.
9. Define a cold and warm front and explain the processes leading to the formation of each and also explain the formation of cyclones and anticyclones, tornadoes, hurricanes and typhoons.
10. Understand and describe the formation of thunderstorms, lightning and thunder.
11. Describe and analyze the changing climate in the past, present and future
12. Understand the impact that people have on the atmospheric environment.
13. Differentiate between global warming and the greenhouse effect.
14. Describe the phenomenon of El Niño-Southern Oscillation and the impacts it has on global precipitation and cloud patterns.
15. Describe various types of atmospheric optical phenomena including rainbows, mirages, halos, crepuscular rays, sun dogs, sun pillars, corona and glories.
16. Understand the various impacts and mitigation strategies for climate change and sea level rise in the Pacific region.

**Lecture Topic Schedule and Reading Assignments**

All reading material will be provided in PDF format through Laulima and the Class Website. Page assignments are subject to change as is schedule for field trips! Activities, Experiences, and Field Trips and Holidays are shaded. Readings that are italicized are not required, but are suggested reading.

<table>
<thead>
<tr>
<th>Week &amp; Day</th>
<th>Topic</th>
<th>Weather Readings</th>
<th>Native Voice Readings</th>
</tr>
</thead>
<tbody>
<tr>
<td>W1: 1/17</td>
<td>Activity/Experience – Ice Breaker and Class Bonding</td>
<td></td>
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<tr>
<td>W2: 1/20</td>
<td>HOLIDAY – Martin Luther King Jr. Day – No Class</td>
<td></td>
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<tr>
<td>W2: 1/22</td>
<td>Temperature and Clothing</td>
<td>MetEd Module (web link)</td>
<td>Keawe (2014: 12-33)</td>
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<td>W3: 1/27</td>
<td>Activity/Experience – Clothing of the Pacific Islands</td>
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<tr>
<td>W4: 2/5</td>
<td>Precipitation Across the Pacific</td>
<td>Current Precipitation Maps &amp; Satellite Data (Real Time Images)</td>
<td>Kamae (2005: DVD 60 min)</td>
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<tr>
<td>W4: 2/7</td>
<td>Activity/Experience – Ice Breaker and Class Bonding</td>
<td></td>
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<tr>
<td>W5: 2/10</td>
<td>Pressure and Wind</td>
<td>MetEd Module (web link)</td>
<td>Alameda (1997: 10-13); Alokeaunu (1866: Newspaper)</td>
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<tr>
<td>W5: 2/14</td>
<td>Activity/Experience – Hawaiian Navigation</td>
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<tr>
<td>W6: 2/17</td>
<td>HOLIDAY – President’s Day – No Class</td>
<td></td>
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<tr>
<td>W6: 2/19</td>
<td>Local Winds</td>
<td>Caviedes (2001: 234-249)</td>
<td>Ka Nupepa Kuokoa (1869)</td>
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<tr>
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<td>Historical Impacts of North Pacific Storms</td>
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<td>Activity/Experience – Poetry Writing in the Style of Pukui and Kauraka</td>
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<tr>
<td>W8: 3/6</td>
<td>NO CLASS – Dr. Griswold at at Meeting</td>
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<tr>
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<td>Activity/Experience – In-Class &quot;Lightning&quot; and &quot;Hail&quot;</td>
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<tr>
<td>W10: 3/16</td>
<td>Spring Break – No Class</td>
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<td>W10: 3/18</td>
<td>Spring Break – No Class</td>
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<tr>
<td>W10: 3/20</td>
<td>Spring Break – No Class</td>
<td></td>
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</tbody>
</table>

Hairama (1871)
Reading Materials for Course

References: Native Hawaiian Voice


Aloikeanu, D. A. K. (1866) *Na Makani*, *Ke Au Okoa*, 7 May. (*Hawaiian Newspaper Clipping*)

Ami (1860) He Mele no ka Haku Hawai. *Ka Hae Hawaii*, 25 July. (*Chant about Thunder for Prince Albert*)

Kalanikauikeaoul, printed in Hawaiian Language Newspaper


*Ka Nupepa Kuokoa*. 18 December 1869, pg. 3. (*Hawaiian Newspaper Clipping*)

*Ka Nupepa Kuokoa*. 4 April 1971, pg. 2. (*Hawaiian Newspaper Clipping – stormy weather*)

*Ke Koo o Hawaii*. 29 August 1883, pg. 5. (*Hawaiian Newspaper Clipping*)


Lili‘oukalani, Queen (1878) *Alhoa ‘Oe Lyrics*


ATMO 102 Syllabus for Spring 2020       Page 5
Maikunu, J. H. (1862) *Ka Nupepa Kuokoa*, 22 February. (*Hawaiian Newspaper Clipping*)


Poliwela, D. W. (1862) “Na Makani”, *Ka Hoku o ka Pakipika*, 1 May. (*Hawaiian Newspaper Clipping*)


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ATMO 102 – Pacific Climates and Cultures

Instructor: Jennifer Griswold
Email: smalljen@hawaii.edu
Office Hours: TBA

Class Times: Mon-Wed-Fri 11:30-12:20
Class Location: HIG 311
Course Web address: http://jenniferdsmallphd.com/ATMO_102.html

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<tr>
<td>Discussion Questions</td>
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<td>25%</td>
</tr>
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<td>50</td>
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</tr>
<tr>
<td>Final Paper/Project &amp; Presentation</td>
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<tr>
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<td><strong>400</strong></td>
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16. Identify the ways in which optical effects (e.g. rainbows) are incorporated into HAP mythologies.
17. Describe how the general climate and micro climates of the various Pacific Islands impacted agriculture.
18. Identify the ways in which HAP cultures will be impacted by climate change and sea level rise.

Atmospheric and Environmental Science SLOs
1. Demonstrate a familiarity with the basic vocabulary of meteorology.
2. Demonstrate a familiarity with the geographic location of Hawaii and the Pacific Islands.
3. Describe how temperature changes horizontally and vertically in the atmosphere.
4. Describe and explain the origin, composition, structure, and behaviors of the earth's atmosphere.
5. Understand and analyze important environmental problems related to the Pacific atmosphere.
6. Critically examine the phenomena of the Solar and Terrestrial Radiation and understanding the energy transfer by radiation, conduction, convection, and evapotranspiration and explain the factors that determine the distribution of solar energy over the Earth's surface and describe global patterns of temperature.
7. Understand and critically examine the atmospheric phenomena of temperature, moisture conditions, atmospheric stability, forms of condensation and precipitation, air pressure and winds, circulation of the atmosphere, role of air masses, and weather patterns.
8. Describe the major cloud types and explain the phenomena of rainfall, fog, snow, sleet, and frost.
9. Define a cold and warm front and explain the processes leading to the formation of each and also explain the formation of cyclones and anticyclones, tornadoes, hurricanes and typhoons.
10. Understand and describe the formation of thunderstorms, lightning and thunder.
11. Describe and analyze the changing climate in the past, present and future
12. Understand the impact that people have on the atmospheric environment.
13. Differentiate between global warming and the greenhouse effect.
14. Describe the phenomenon of El Nino-Southern Oscillation and the impacts it has on global precipitation and cloud patterns.
15. Describe various types of atmospheric optical phenomena including rainbows, mirages, halos, crepuscular rays, sun dogs, sun pillars, corona and glories.
16. Understand the various impacts and mitigation strategies for climate change and sea level rise in the Pacific region.

**Lecture Topic Schedule and Reading Assignments**

All reading material will be provided in PDF format through Laulima and the Class Website. Page assignments are subject to change as is schedule for field trips! Activities, Experiences, and Field Trips and Holidays are Shaded. Readings that are *italicized* are not required, but are suggested reading.

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<thead>
<tr>
<th>Week &amp; Day</th>
<th>Topic</th>
<th>Weather Readings</th>
<th>Native Voice Readings</th>
</tr>
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<tbody>
<tr>
<td>W3: 1/27</td>
<td>Activity/Experience – Clothing of the Pacific Islands</td>
<td></td>
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</tr>
<tr>
<td>W4: 2/5</td>
<td>Precipitation Across the Pacific</td>
<td>Current Precipitation Maps &amp; Satellite Data (Real Time Images)</td>
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</tr>
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<td>Kauraka (1987: 52); Fanshawe (2001); Kane (1997: 96-101)</td>
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</tr>
<tr>
<td>W5: 2/10</td>
<td>Pressure and Wind</td>
<td>MetEd Module (web link)</td>
<td>Alamedia (1997: 10-13); Alokeano (1866: Newspaper)</td>
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<td>W6: 2/17</td>
<td>HOLIDAY – President’s Day– No Class</td>
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<td>Spring Break – No Class</td>
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ATMO 102 Syllabus for Spring 2020   Page 4
Reading Materials for Course

References: Native Hawaiian Voice


Aloikeanu, D. A. K. (1866) "Na Makani", *Ke Au Okoa*, 7 May. (*Hawaiian Newspaper Clipping*)

Ami (1860) He Mele no ka Haku Hawai. *Ka Hae Hawaii*, 25 July. (*Chant about Thunder for Prince Albert*

Kalani kau keoul, printed in Hawaiian Language Newspaper


Hairama, D. U. (1871) *Ka Nupepa Kuokoa*, 26 August (*Letter to Hawaiian Language Newspaper about Hail*


*Ka Nupepa Kuokoa*. 18 December 1869, pg. 3. (*Hawaiian Newspaper Clipping*)

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MetEd Modules (2014) [https://www.meted.ucar.edu/index.php](https://www.meted.ucar.edu/index.php), University Corporation for Atmospheric Research.


Instructor: Jennifer Griswold
Email: smalljen@hawaii.edu
Office Hours: TBA

Class Times: Mon-Wed-Fri 11:30-12:20
Class Location: HIG 311
Course Web address: http://jenniferdsmallphd.com/ATMO_102.html

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<tr>
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<tbody>
<tr>
<td>Discussion Questions</td>
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<tr>
<td>4 Assignments</td>
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<tr>
<td>In class Discussion/Activities/Attendance</td>
<td>50</td>
</tr>
<tr>
<td>Final Paper/Project &amp; Presentation</td>
<td>150</td>
</tr>
<tr>
<td>Total</td>
<td>400</td>
</tr>
</tbody>
</table>

Adjustment of letter grade: One can receive an upward adjustment of letter grade for a number of reasons (e.g. very strong improvement during the semester, notable participation during class, exceptional effort). Under no circumstances will a reduction in letter grade be given, and these adjustments are made after the normal grades are assigned and therefore affect no one else’s letter grade.

Dropping the Course
You are responsible for managing your courses. If you need to drop without a “W” grade make sure you know the appropriate deadlines. This is your responsibility. If you miss the general drop date you will need a signature from me on the “Drop Form” if you drop the class after that date.

General Learning Objectives for Hawaiian, Asian, & Pacific Issue Classes
At the end of a course that fulfills the Hawaiian, Asian, and Pacific Issues Focus requirement, students will be able to:

HLO1: Explain the intersection of Native Hawaiian issues with Asian and/or Pacific Island issues.
HLO2: Analyze issues using the conceptual and ethical frameworks and practices of the cultural perspectives, values, and world views of the Indigenous peoples of Hawai’i, and the Pacific and/or Asia.
HLO3: Integrate the histories, cultures, beliefs, arts, social, political, economic, or technological processes in their analysis of Hawai’i, and the Pacific and/or Asia.
HLO4: Demonstrate respect and empathy as defined by the Indigenous peoples of Hawai’i and the pacific and/or Asia in interpersonal and intergroup relationships.

Hallmarks of Hawaiian, Asian, & Pacific Issues Classes
To fulfill the Hawaiian, Asian, and Pacific Issues Focus requirement, at least two-thirds of a class must satisfy the following Hallmarks:

H1. The content should reflect the intersection of Asian and/or Pacific Island cultures with Native Hawaiian culture.
H2. A course can use any disciplinary or multi-disciplinary approach provided that a component of the course uses assignments or practica that encourage learning that comes from the cultural perspectives, values, and world views rooted in the experience of peoples indigenous to Hawai'i, the Pacific, and Asia.

Grade Structure

<table>
<thead>
<tr>
<th>Letter</th>
<th>Percentage</th>
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<tr>
<td>A</td>
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<tr>
<td>A-</td>
<td>90.00-93.49</td>
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<td>B+</td>
<td>86.50-89.99</td>
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<tr>
<td>B</td>
<td>83.50-86.49</td>
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<tr>
<td>B-</td>
<td>80.00-83.49</td>
</tr>
<tr>
<td>C+</td>
<td>76.50-79.99</td>
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<tr>
<td>C</td>
<td>73.50-76.49</td>
</tr>
<tr>
<td>C-</td>
<td>70.00-73.49</td>
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<td>D+</td>
<td>66.50-69.99</td>
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<tr>
<td>D</td>
<td>63.50-66.49</td>
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<tr>
<td>D-</td>
<td>60.00-63.49</td>
</tr>
<tr>
<td>F</td>
<td>59.99 and below</td>
</tr>
</tbody>
</table>
H3. A course should include at least one topic that is crucial to an understanding of the histories, or cultures, or beliefs, or the arts, or the societal, or political, or economic, or technological processes of these regions; for example, the relationships of societal structures to the natural environment.

H4. A course should involve an in-depth analysis or understanding of the issues being studied in the hope of fostering multi-cultural respect and understanding.

Student Learning Objectives (SLOs): Upon completion of the course, the student should be able to:

* NOTE: “HAP” represents Hawaiian, Asian and Pacific.

**Pacific Island Culture and Environment SLOs**
1. Identify key differences and similarities between Hawaiian and other Pacific Island Cultures.
2. Identify impacts of weather and climate on clothing style and development over time.
3. Describe their mythological representation of weather phenomena for a variety of Island peoples.
4. Describe the way in which clouds and cloud formation are represented in HAP mythologies.
5. Describe how precipitation type, timing, and patterns are related to cultural events and agriculture.
6. Describe the how weather phenomena are incorporated in the various dance forms of the Pacific Islands.
7. Identify examples of weather phenomena as represented in music, songs and chants.
8. Identify regional wind patterns and how they relate to the location of HAP cultures.
9. Describe the impact of weather on place names and wind names.
10. Describe the way in weather and ocean currents are related to inter-island travel in the Pacific.
11. Describe how the ocean currents and wave shape/types played a role in the development of surfing.
12. Describe the historical and current implication of El Niño events in the Pacific.
13. Be able to generalize how storms and other large weather events are depicted by HAP cultures.
14. Understand and critically examine the social impacts typhoons and hurricanes in HAP cultures.
15. Describe air pollution concerns for the peoples of HAP cultures in the past and present.
16. Identify the ways in which optical effects (e.g. rainbows) are incorporated into HAP mythologies.
17. Describe how the general climate and micro climates of the various Pacific Islands impacted agriculture.
18. Identify the ways in which HAP cultures will be impacted by climate change and sea level rise.

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1. Demonstrate a familiarity with the basic vocabulary of meteorology.
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<tr>
<td>W4: 2/5</td>
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<td>Current Precipitation Maps &amp; Satellite Data (Real Time Images)</td>
<td>Kame (2005: DVD 60 min)</td>
</tr>
<tr>
<td>W4: 2/7</td>
<td>Activity/Experience – Ice Breaker and Class Bonding</td>
<td>(Hawaiian Music or other)</td>
<td>Kanahele (2012: xli-xl; 438-441)</td>
</tr>
<tr>
<td>W5: 2/10</td>
<td>Pressure and Wind</td>
<td>MetEd Module (web link)</td>
<td>Alameda (1997: 10-13); Alokea (1866: Newspaper)</td>
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<td>HOLIDAY – President’s Day– No Class</td>
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<td>W10: 3/18</td>
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<tr>
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<tr>
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<td>Activity/Experience – Visit Honolulu NWS to learn about Hawaiian Hurricane Tracking</td>
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<td>W12: 4/3</td>
<td>Activity/Experience – TBA</td>
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<td>W13: 4/8</td>
<td>Rainbows, Mirages and Cultural Contexts</td>
<td>Weather 2010 (weblink)</td>
<td>Thurm Nakuina 1907</td>
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<td>Holiday – Good Friday – No Class</td>
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<td>W14: 4/17</td>
<td>Activity/Experience: Mapping Hawai‘i’s Climate Zones</td>
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<td>W15: 4/24</td>
<td>Activity/Experience – How to open a Coconut with a rock!</td>
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<tr>
<td>W16: 5/1</td>
<td>Activity/Experience – Saving the World from Climate Change</td>
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<tr>
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<td>PRRESENTATIONS</td>
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<tr>
<td>W17: 5/6</td>
<td>PRESENTATIONS – TURN IN FINAL PAPER DURING LAST CLASS</td>
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Office Hours: TBA

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<tr>
<td><strong>Total</strong></td>
<td><strong>400</strong></td>
</tr>
</tbody>
</table>

**Adjustment of letter grade:** One can receive an **upward** adjustment of letter grade for a number of reasons (e.g. very strong improvement during the semester, notable participation during class, exceptional effort). Under no circumstances will a reduction in letter grade be given, and these adjustments are made after the normal grades are assigned and therefore affect no one else’s letter grade.

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You are responsible for managing your courses. If you need to drop without a “W” grade make sure you know the appropriate deadlines. This is your responsibility. If you miss the general drop date you will need a signature from me on the “Drop Form” if you drop the class after that date.

**General Learning Objectives for Hawaiian, Asian, & Pacific Issue Classes**

At the end of a course that fulfills the Hawaiian, Asian, and Pacific Issues Focus requirement, students will be able to:

- **HLO1:** Explain the intersection of Native Hawaiian issues with Asian and/or Pacific Island issues.
- **HLO2:** Analyze issues using the conceptual and ethical frameworks and practices of the cultural perspectives, values, and world views of the Indigenous peoples of Hawai‘i, and the Pacific and/or Asia.
- **HLO3:** Integrate the histories, cultures, beliefs, arts, social, political, economic, or technological processes in their analysis of Hawai‘i, and the Pacific and/or Asia.
- **HLO4:** Demonstrate respect and empathy as defined by the Indigenous peoples of Hawai‘i and the Pacific and/or Asia in interpersonal and intergroup relationships.

**Hallmarks of Hawaiian, Asian, & Pacific Issues Classes**

To fulfill the Hawaiian, Asian, and Pacific Issues Focus requirement, at least two-thirds of a class must satisfy the following Hallmarks:

- **H1.** The content should reflect the intersection of Asian and/or Pacific Island cultures with Native Hawaiian culture.
- **H2.** A course can use any disciplinary or multi-disciplinary approach provided that a component of the course uses assignments or practica that encourage learning that comes from the cultural perspectives, values, and world views rooted in the experience of peoples indigenous to Hawai‘i, the Pacific, and Asia.

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**Grade Structure**

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<thead>
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<th>Letter</th>
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<td>A-</td>
<td>90.00-93.49</td>
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<td>B</td>
<td>83.50-86.49</td>
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<td>80.00-83.49</td>
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<tr>
<td>C+</td>
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</tr>
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<td>C</td>
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<td>60.00-63.49</td>
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<tr>
<td>F</td>
<td>59.99 and below</td>
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</table>
**H3.** A course should include at least one topic that is crucial to an understanding of the histories, or cultures, or beliefs, or the arts, or the societal, or political, or economic, or technological processes of these regions; for example, the relationships of societal structures to the natural environment.

**H4.** A course should involve an in-depth analysis or understanding of the issues being studied in the hope of fostering multi-cultural respect and understanding.

**Student Learning Objectives (SLOs): Upon completion of the course, the student should be able to:**

*NOTE: “HAP” represents Hawaiian, Asian and Pacific.*

**Pacific Island Culture and Environment SLOs**
1. Identify key differences and similarities between Hawaiian and other Pacific Island Cultures.
2. Identify impacts of weather and climate on clothing style and development over time.
3. Describe they mythical representation of weather phenomena for a variety of Island peoples.
4. Describe the way in which clouds and cloud formation are represented in HAP mythologies
5. Describe how precipitation type, timing, and patterns are related to cultural events and agriculture.
6. Describe the how weather phenomena are incorporated into the various dance forms of the Pacific Islands.
7. Identify examples of weather phenomena as represented in music, songs and chants.
8. Identify regional wind patterns and how they relate to the location of HAP cultures.
9. Describe the impact of weather on place names and wind names.
10. Describe the way in which islands are related to inter-island travel in the Pacific.
11. Describe how the ocean currents and wave shape/types played a role in the development of surfing.
12. Describe the historical and current implication of El Niño events in the Pacific.
13. Be able to generalize how storms and other large weather events are depicted by HAP cultures.
14. Understand and critically examine the social impacts typhoons and hurricanes in HAP cultures.
15. Describe air pollution concerns for the peoples of HAP cultures in the past and present.
16. Identify the ways in which optical effects (e.g. rainbows) are incorporated into HAP mythologies.
17. Describe how the general climate and micro climates of the various Pacific Islands impacted agriculture.
18. Identify the ways in which HAP cultures will be impacted by climate change and sea level rise.

**Atmospheric and Environmental Science SLOs**
1. Demonstrate a familiarity with the basic vocabulary of meteorology.
2. Demonstrate a familiarity with the geographic location of Hawaii and the Pacific Islands.
3. Describe how temperature changes horizontally and vertically in the atmosphere.
4. Describe and explain the origin, composition, structure, and behaviors of the earth's atmosphere.
5. Understand and analyze important environmental problems related to the Pacific atmosphere.
6. Critically examine the phenomena of the Solar and Terrestrial Radiation and understanding the energy transfer by radiation, conduction, convection, and evapotranspiration and explain the factors that determine the distribution of solar energy over the Earth's surface and describe global patterns of temperature.
7. Understand and critically examine the atmospheric phenomena of temperature, moisture conditions, atmospheric stability, forms of condensation and precipitation, air pressure and winds, circulation of the atmosphere, role of air masses, and weather patterns.
8. Describe the major cloud types and explain the phenomena of rainfall, fog, snow, sleet, and frost.
9. Define a cold and warm front and explain the processes leading to the formation of each and also explain the formation of cyclones and anticyclones, tornadoes, hurricanes and typhoons.
10. Understand and describe the formation of thunderstorms, lightning and thunder.
11. Describe and analyze the changing climate in the past, present and future
12. Understand the impact that people have on the atmospheric environment.
13. Differentiate between global warming and the greenhouse effect.
14. Describe the phenomenon of El Nino-Southern Oscillation and the impacts it has on global precipitation and cloud patterns.
15. Describe various types of atmospheric optical phenomena including rainbows, mirages, halos, crepuscular rays, sun dogs, sun pillars, corona and glories.
16. Understand the various impacts and mitigation strategies for climate change and sea level rise in the Pacific region.

**Lecture Topic Schedule and Reading Assignments**

All reading material will be provided in PDF format through Laulima and the Class Website. Page assignments are subject to change as is schedule for field trips! Activities, Experiences, and Field Trips and Holidays are shaded. Readings that are italicized are not required, but are suggested reading.

<table>
<thead>
<tr>
<th>Week &amp; Day</th>
<th>Topic</th>
<th>Weather Readings</th>
<th>Native Voice Readings</th>
</tr>
</thead>
<tbody>
<tr>
<td>W1: 1/17</td>
<td>Activity/Experience – Ice Breaker and Class Bonding</td>
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<tr>
<td>W2: 1/20</td>
<td>HOLIDAY – Martin Luther King Jr. Day – No Class</td>
<td></td>
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<tr>
<td>W3: 1/27</td>
<td>Activity/Experience – Clothing of the Pacific Islands</td>
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<td>W4: 2/7</td>
<td>Activity/Experience – TBD (Hawaiian Music or other)</td>
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<tr>
<td>W5: 2/14</td>
<td>Activity/Experience – Hawaiian Navigation</td>
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<td></td>
</tr>
<tr>
<td>W6: 2/17</td>
<td>HOLIDAY – President’s Day – No Class</td>
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<td>W6: 2/19</td>
<td>Local Winds</td>
<td>Cavedes (2001: 234-249)</td>
<td>Ka Nupepa Kuokoa (1869)</td>
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<td>W7: 2/26</td>
<td>Historical Impacts of North Pacific Storms</td>
<td>Nakuna (2005: TBD)</td>
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<tr>
<td>W7: 2/28</td>
<td>Activity/Experience – Poetry Writing in the Style of Pukui and Kauraka</td>
<td></td>
<td></td>
</tr>
<tr>
<td>W8: 3/6</td>
<td>NO CLASS – Dr. Griswold at at Meeting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>W9: 3/13</td>
<td>Activity/Experience – In-Class “Lightning” and “Hail”</td>
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<td>W10: 3/16</td>
<td>Spring Break – No Class</td>
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<td>W10: 3/18</td>
<td>Spring Break – No Class</td>
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<td></td>
</tr>
<tr>
<td>W10: 3/20</td>
<td>Spring Break – No Class</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Reading Materials for Course

References: Native Hawaiian Voice

Aloikeanu, D. A. K. (1866) “Na Makani”, *Ke Au Okoa*, 7 May. (*Hawaiian Newspaper Clipping*
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Kalanikaukeoul, printed in Hawaiian Language Newspaper)

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Lili‘oukalani, Queen (1878) *Alhoa ‘Oe Lyrics*
Maikunu, J. H. (1862) *Ka Nupepa Kuokoa*, 22 February. (*Hawaiian Newspaper Clipping*)


Poliwela, D. W. (1862) “Na Makani”, *Ka Hoku o ka Pakipika*, 1 May. (*Hawaiian Newspaper Clipping*)


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**Guest UH Manoa Faculty Speakers - Native Hawaiian Voice, Science, & Culture (Planned, May be Modified)**

Ka‘eo (Thomas) Duarte – Hydrology and Water Management

Rick Kaponowaiwaiola Barboza from Hui Ku Maoli Ola – Botany and Native Plants and Agriculture

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**References: Asian and Pacific Island Voice**


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**References: Intersection of Native Hawaiian, Asian and Pacific Island Cultures**


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* Hawaiian language newspaper clippings are obtained through the outstanding effort of the Hawaiian Language Newspaper Translation Project, UH Sea Grant, http://seagrant.soest.hawaii.edu/Hawaiian-language-newspaper-translation-project. Also, the majority of newspaper clippings are taken from coursework lesson plans produced by Steven Businger, Sara DaSilva, Kapōmaika‘i Stone, Iasona Ellinwood, Pauline W. U. Chiin available through Kahua Aʻo (*http://manoa.hawaii.edu/kahuaao/atmospheric_sciences.html*).

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**Note that “Intersection” Readings as annotated here are ones that meet the intersection requirement by themselves. Throughout the course, the combination of readings covering similar topics in Hawaiian, Asian, and Pacific Cultures provide the “Intersection” required by the HAP focus.**

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**Atmospheric and Environmental Science References**


ATMO 102 – Pacific Climates and Cultures

Instructor: Jennifer Griswold
Email: smalljen@hawaii.edu
Office Hours: TBA

Class Times: Mon-Wed-Fri 11:30-12:20
Class Location: HIG 311
Course Web address: http://jenniferdsmallphd.com/ATMO_102.html

Course Description
This course is designed to give you an overview of the interface between the observed Weather and Climate of the Pacific Island region and the past and future the culture of the peoples of the Pacific Islands. You will learn about the Earth’s atmosphere, temperature, precipitation, winds, storm systems, hurricanes, tornadoes, air pollution, weather and agriculture, rainbows, and climate change. As we learn about each weather or climate topic we will view these natural phenomena through the cultural lenses of the native peoples of the Pacific region through the historical writings and poetry, music, dance and films of Native Hawaiian and Indigenous Pacific Islanders. You will also participate in activities and in-class experiences that will allow you to experience some of the cultural aspects (e.g. hula, poetry, etc.) each week of the course.

Basic Course and Classroom Conduct
1. Cell phones/iPods/etc. will remain off while in class or you will be asked to leave class.
2. Dropping the class is your responsibility. If you forget to drop the class formally, you will receive an F grade.
3. Cheating will result in a failing class grade.

Attendance Policy – 50 points (includes in class discussion and activities)
Attendance is mandatory and will be taken each class and counts towards your grade. Students not in attendance on the first day will be dropped as a “no-show” if there are waitlisted students. Due to in-class presentations and presentations by quest speakers and performers it is imperative that you attend class. If your excused absence prevents you from turning in an assignment on its due date then you must turn in the work at the beginning of the next class you attend.

Reading Assignments and Discussion Questions
In order to succeed in this class, reading should be considered an ongoing homework assignment. Completing reading assignments will prepare you for assignments and projects. There is no one book that is ideal for this type of cross discipline course. Therefore, all reading will be presented as pdf files on Laulima and on the class website.

In-Class Activities, Extra Credit, Surveys and Review Sessions
Throughout the course you will be asked for input regarding the various topics. You will need to participate during in-class activities and extra credit challenges that will take place throughout the semester. You will be expected to turn in proof of attendance (filling out worksheets or completing activities) to get participation credit.

Extra Credit -- ** There will be no extra credit offered to any individuals. No exceptions. **
I may give out extra credit work, but if I do, it will be available for all students in the class.
Grading
Grading will not necessarily be “on a curve.” There is no expectation of what
the average grade should be, nor what the grade distribution should look like.
If everyone were to demonstrate outstanding understanding of all the material,
then everyone deserves a grade of A (and I would be very happy to give each
one of them)! I therefore encourage you to discuss the course material with
each other to get the most out of the class.

Note: the points and percentages given are approximations and may vary slightly

<table>
<thead>
<tr>
<th>Total Points</th>
<th>Percentage</th>
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<tr>
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<td>4 Assignments</td>
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<tr>
<td>In class Discussion/Activities/Attendance</td>
<td>50</td>
</tr>
<tr>
<td>Final Paper/Project &amp; Presentation</td>
<td>150</td>
</tr>
<tr>
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<td>400</td>
</tr>
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<tbody>
<tr>
<td>W1: 1/17</td>
<td>Intro to Islands</td>
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<td></td>
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<td>W2: 1/20</td>
<td>HOLIDAY – Martin Luther King Jr. Day – No Class</td>
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<td>W3: 1/27</td>
<td>Activity/Experience – Clothing of the Pacific Islands</td>
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<td>W4: 2/7</td>
<td>Activity/Experience – TBD (Hawaiian Music or other)</td>
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<td>Activity/Experience – Hawaiian Navigation</td>
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<td>W6: 2/17</td>
<td>HOLIDAY – President’s Day– No Class</td>
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<td>W7: 2/26</td>
<td>Historical Impacts of North Pacific Storms</td>
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<td>W7: 2/28</td>
<td>Activity/Experience – Poetry Writing in the Style of Pukui and Kauraka</td>
<td></td>
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<td>W8: 3/4</td>
<td>Hawaiian and Pacific Island Currents &amp; Waves</td>
<td>Kane (1976: TBD)</td>
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<td>W8: 3/6</td>
<td>NO CLASS – Dr. Griswold at at Meeting</td>
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<td>W9: 3/13</td>
<td>Activity/Experience – In-Class “Lightning” and “Hail”</td>
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<td>W10: 3/20</td>
<td>Spring Break – No Class</td>
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</table>
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- Ami (1860) He Mele no ka Haku Hawai. *Ka Hae Hawaii*, 25 July. (*Chant about Thunder for Prince Albert)
- Kalanikaukaouel, printed in Hawaiian Language Newspaper
- *Ka Nupepa Kuokoa*. 18 December 1869, pg. 3. (*Hawaiian Newspaper Clipping*)
- *Ka Nupepa Kuokoa*. 4 April 1971, pg. 2. (*Hawaiian Newspaper Clipping – stormy weather*)
- *Ke Koo o Hawaii*. 29 August 1883, pg. 5. (*Hawaiian Newspaper Clipping*)
- Lili’oukalani, Queen (1878) *Alhoa ‘Oe Lyrics*

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### W11: 5/6

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<tr>
<th>Presentations</th>
<th>Activity/Experience – Visit Honolulu NWS to learn about Hawaiian Hurricane Tracking</th>
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<tr>
<td>W11: 5/27</td>
<td>Case Studies of Historical and Recent Hurricanes and Typhoons</td>
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<tr>
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<tr>
<td>W12: 4/30</td>
<td>Air Pollution and Quality – City vs. Remote</td>
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<td>Pacific Air Pollution: Vog, Fires &amp; Nuclear Tests</td>
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<td>Activity/Experience – TBA</td>
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<td>W13: 4/6</td>
<td>Atmospheric Optical Phenomena</td>
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<td>W13: 4/8</td>
<td>Rainbows, Mirages and Cultural Contexts</td>
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<td>Holiday – Good Friday – No Class</td>
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<tr>
<td>W14: 4/13</td>
<td>Hawaiian Climate Types</td>
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<td>W14: 4/15</td>
<td>Pacific Island Climate Types</td>
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<td>W14: 4/17</td>
<td>Activity/Experience – Mapping Hawai’i’s Climate Zones</td>
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<td>W15: 4/20</td>
<td>Climate, Agriculture &amp; History</td>
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<td>W15: 4/24</td>
<td>Activity/Experience – Saving the World from Climate Change</td>
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<td>W16: 4/27</td>
<td>Sea Level Rise – Impacts &amp; Mitigation in Pacific</td>
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<tr>
<td>W16: 4/29</td>
<td>Sea Level Rise – Impacts &amp; Mitigation in Hawaii</td>
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<td>W16: 5/1</td>
<td>Activity/Experience – How to open a Coconut with a rock!</td>
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<td>W17: 5/4</td>
<td>PRRESENTATIONS – TBA</td>
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<tr>
<td>W17: 5/6</td>
<td>PRESENTATIONS – TURN IN FINAL PAPER DURING LAST CLASS</td>
</tr>
</tbody>
</table>

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### ATMO 102 Syllabus for Spring 2020  Page 5
Maikunu, J. H. (1862) *Ka Nupepa Kuokoa*, 22 February. (*Hawaiian Newspaper Clipping*)


Poliwela, D. W. (1862) “Na Makani”, *Ka Hoku o ka Pakipika*, 1 May. (*Hawaiian Newspaper Clipping*)


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**Guest UH Manoa Faculty Speakers - Native Hawaiian Voice, Science, & Culture (Planned, May be Modified)**

Ka’eo (Thomas) Duarte – Hydrology and Water Management

Rick Kaponowaiwaiola Barboza from Hui Ku Maoli Ola – Botany and Native Plants and Agriculture

---

**References: Asian and Pacific Island Voice**


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**References: Intersection of Native Hawaiian, Asian and Pacific Island Cultures **


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* Hawaiian language newspaper clippings are obtained through the outstanding effort of the Hawaiian Language Newspaper Translation Project, UH Sea Grant, http://seagrant.soest.hawaii.edu/Hawaiian-language-newspaper-translation-project. Also, the majority of newspaper clippings are taken from coursework lesson plans produced by Steven Businger, Sara DaSilva, Kapōmaika‘i Stone, Isasona Ellinwood, Pauline W. U. Chiin available through Kahua A‘o (http://manoa.hawaii.edu/kahuaao/atmospheric_sciences.html)

** Note that “Intersection” Readings as annotated here are ones that meet the intersection requirement by themselves. Throughout the course, the combination of readings covering similar topics in Hawaiian, Asian, and Pacific Cultures provide the “Intersection” required by the HAP focus.

---

**Atmospheric and Environmental Science References**


MetEd Modules (2014) [https://www.meted.ucar.edu/index.php](https://www.meted.ucar.edu/index.php), University Corporation for Atmospheric Research.


ATMO 102 – Pacific Climates and Cultures

Instructor: Jennifer Griswold
Email: smalljen@hawaii.edu
Office Hours: TBA

Class Times: Mon-Wed-Fri 11:30-12:20
Class Location: HIG 311
Course Web address: http://jenniferdsmallphd.com/ATMO_102.html

Course Description
This course is designed to give you an overview of the interface between the observed Weather and Climate of the Pacific Island region and the past and future the culture of the peoples of the Pacific Islands. You will learn about the Earth’s atmosphere, temperature, precipitation, winds, storm systems, hurricanes, tornadoes, air pollution, weather and agriculture, rainbows, and climate change. As we learn about each weather or climate topic we will view these natural phenomena through the cultural lenses of the native peoples of the Pacific region through the historical writings and poetry, music, dance and films of Native Hawaiian and Indigenous Pacific Islanders. You will also participate in activities and in-class experiences that will allow you to experience some of the cultural aspects (e.g. hula, poetry, etc.) each week of the course.

Basic Course and Classroom Conduct
1. Cell phones/iPods/etc. will remain off while in class or you will be asked to leave class.
2. Dropping the class is your responsibility. If you forget to drop the class formally, you will receive an F grade.
3. Cheating will result in a failing class grade.

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Attendance is mandatory and will be taken each class and counts towards your grade. Students not in attendance on the first day will be dropped as a “no-show” if there are waitlisted students. Due to in-class presentations and presentations by guest speakers and performers it is imperative that you attend class. If your excused absence prevents you from turning in an assignment on its due date then you must turn in the work at the beginning of the next class you attend.

Reading Assignments and Discussion Questions
In order to succeed in this class, reading should be considered an ongoing homework assignment. Completing reading assignments will prepare you for assignments and projects. There is no one book that is ideal for this type of cross discipline course. Therefore, all reading will be presented as pdf files on Laulima and on the class website.

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Throughout the course you will be asked for input regarding the various topics. You will need to participate during in-class activities and extra credit challenges that will take place throughout the semester. You will be expected to turn in proof of attendance (filling out worksheets or completing activities) to get participation credit.

Extra Credit -- ** There will be no extra credit offered to any individuals. No exceptions. **
I may give out extra credit work, but if I do, it will be available for all students in the class.
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Grading will not necessarily be “on a curve.” There is no expectation of what the average grade should be, nor what the grade distribution should look like. If everyone were to demonstrate outstanding understanding of all the material, then everyone deserves a grade of A (and I would be very happy to give each one of them)! I therefore encourage you to discuss the course material with each other to get the most out of the class.

Note: the points and percentages given are approximations and may vary slightly

<table>
<thead>
<tr>
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<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discussion Questions</td>
<td>100</td>
</tr>
<tr>
<td>4 Assignments</td>
<td>100</td>
</tr>
<tr>
<td>In class Discussion/Activities/Attendance</td>
<td>50</td>
</tr>
<tr>
<td>Final Paper/Project &amp; Presentation</td>
<td>150</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>400</strong></td>
</tr>
</tbody>
</table>

Adjustment of letter grade: One can receive an upward adjustment of letter grade for a number of reasons (e.g. very strong improvement during the semester, notable participation during class, exceptional effort). Under no circumstances will a reduction in letter grade be given, and these adjustments are made after the normal grades are assigned and therefore affect no one else’s letter grade.

Dropping the Course
You are responsible for managing your courses. If you need to drop without a “W” grade make sure you know the appropriate deadlines. This is your responsibility. If you miss the general drop date you will need a signature from me on the “Drop Form” if you drop the class after that date.

General Learning Objectives for Hawaiian, Asian, & Pacific Issue Classes
At the end of a course that fulfills the Hawaiian, Asian, and Pacific Issues Focus requirement, students will be able to:

**HLO1:** Explain the intersection of Native Hawaiian issues with Asian and/or Pacific Island issues.

**HLO2:** Analyze issues using the conceptual and ethical frameworks and practices of the cultural perspectives, values, and world views of the Indigenous peoples of Hawai‘i, and the Pacific and/or Asia.

**HLO3:** Integrate the histories, cultures, beliefs, arts, social, political, economic, or technological processes in their analysis of Hawai‘i, and the Pacific and/or Asia.

**HLO4:** Demonstrate respect and empathy as defined by the Indigenous peoples of Hawai‘i and the pacific and/or Asia in interpersonal and intergroup relationships.

Hallmarks of Hawaiian, Asian, & Pacific Issues Classes
To fulfill the Hawaiian, Asian, and Pacific Issues Focus requirement, at least two-thirds of a class must satisfy the following Hallmarks:

**H1:** The content should reflect the intersection of Asian and/or Pacific Island cultures with Native Hawaiian culture.

**H2:** A course can use any disciplinary or multi-disciplinary approach provided that a component of the course uses assignments or practica that encourage learning that comes from the cultural perspectives, values, and world views rooted in the experience of peoples indigenous to Hawai‘i, the Pacific, and Asia.

Grade Structure

<table>
<thead>
<tr>
<th>Letter</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A</td>
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<tr>
<td>A-</td>
<td>90.00-93.49</td>
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<td>B+</td>
<td>86.50-89.99</td>
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<tr>
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<td>83.50-86.49</td>
</tr>
<tr>
<td>B-</td>
<td>80.00-83.49</td>
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<tr>
<td>C+</td>
<td>76.50-79.99</td>
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<tr>
<td>C</td>
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<td>60.00-63.49</td>
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<tr>
<td>F</td>
<td>59.99 and below</td>
</tr>
</tbody>
</table>
H3. A course should include at least one topic that is crucial to an understanding of the histories, or cultures, or beliefs, or the arts, or the societal, or political, or economic, or technological processes of these regions; for example, the relationships of societal structures to the natural environment.

H4. A course should involve an in-depth analysis or understanding of the issues being studied in the hope of fostering multi-cultural respect and understanding.

Student Learning Objectives (SLOs): Upon completion of the course, the student should be able to:
* NOTE: “HAP” represents Hawaiian, Asian and Pacific.

Pacific Island Culture and Environment SLOs
1. Identify key differences and similarities between Hawaiian and other Pacific Island Cultures.
2. Identify impacts of weather and climate on clothing style and development over time.
3. Describe they mythological representation of weather phenomena for a variety of Island peoples.
4. Describe the way in which clouds and cloud formation are represented in HAP mythologies.
5. Describe how precipitation type, timing, and patterns are related to cultural events and agriculture.
6. Describe the how weather phenomena are incorporated in to the various dance forms of the Pacific Islands.
7. Identify examples of weather phenomena as represented in music, songs and chants.
8. Identify regional wind patterns and how they relate to the location of HAP cultures.
9. Describe the impact of weather on place names and wind names.
10. Describe the way in weather and ocean currents are related to inter-island travel in the pacific.
11. Describe how the ocean currents and wave shape/types played a role in the development of surfing.
12. Describe the historical and current implication of El Niño events in the Pacific.
13. Be able to generalize how storms and other large weather events are depicted by HAP cultures.
14. Understand and critically examine the social impacts typhoons and hurricanes in HAP cultures.
15. Describe air pollution concerns for the peoples of HAP cultures in the past and present.
16. Identify the ways in which optical effects (e.g. rainbows) are incorporated into HAP mythologies.
17. Describe how the general climate and micro climates of the various Pacific Islands impacted agriculture.
18. Identify the ways in which HAP cultures will be impacted by climate change and sea level rise.

Atmospheric and Environmental Science SLOs
1. Demonstrate a familiarity with the basic vocabulary of meteorology.
2. Demonstrate a familiarity with the geographic location of Hawaii and the Pacific Islands.
3. Describe how temperature changes horizontally and vertically in the atmosphere.
4. Describe and explain the origin, composition, structure, and behaviors of the earth's atmosphere.
5. Understand and analyze important environmental problems related to the Pacific atmosphere.
6. Critically examine the phenomena of the Solar and Terrestrial Radiation and understanding the energy transfer by radiation, conduction, convection, and evapotranspiration and explain the factors that determine the distribution of solar energy over the Earth's surface and describe global patterns of temperature.
7. Understand and critically examine the atmospheric phenomena of temperature, moisture conditions, atmospheric stability, forms of condensation and precipitation, air pressure and winds, circulation of the atmosphere, role of air masses, and weather patterns.
8. Describe the major cloud types and explain the phenomena of rainfall, fog, snow, sleet, and frost.
9. Define a cold and warm front and explain the processes leading to the formation of each and also explain the formation of cyclones and anticyclones, tornadoes, hurricanes and typhoons.
10. Understand and describe the formation of thunderstorms, lightning and thunder.
11. Describe and analyze the changing climate in the past, present and future.
12. Understand the impact that people have on the atmospheric environment.
13. Differentiate between global warming and the greenhouse effect.
14. Describe the phenomenon of El Nino-Southern Oscillation and the impacts it has on global precipitation and cloud patterns.
15. Describe various types of atmospheric optical phenomena including rainbows, mirages, halos, crepuscular rays, sun dogs, sun pillars, corona and glories.
16. Understand the various impacts and mitigation strategies for climate change and sea level rise in the Pacific region.

**Lecture Topic Schedule and Reading Assignments**

All reading material will be provided in PDF format through Laulima and the Class Website. Page assignments are subject to change as is schedule for field trips! Activities, Experiences, and Field Trips and Holidays are Shaded. Readings that are *italicized* are not required, but are suggested reading.

<table>
<thead>
<tr>
<th>Week &amp; Day</th>
<th>Topic</th>
<th>Weather Readings</th>
<th>Native Voice Readings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Intro to Islands</td>
<td>Andrade (2008: 1-23)</td>
<td>Malo/Emerson (1951: 9-16)</td>
</tr>
<tr>
<td>W4: 2/5</td>
<td>Precipitation Across the Pacific</td>
<td>Current Precipitation Maps &amp; Satellite Data (Real Time Images)</td>
<td>Kamae (2005: DVD 60 min)</td>
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<tr>
<td>W4: 2/7</td>
<td>Activity/Experience – TBD (Hawaiian Music or other)</td>
<td>Kauraka (1987: 52); Fanshawe (2001); Kanahele (2012: xii-xliv: 438-441)</td>
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<tr>
<td>W5: 2/10</td>
<td>Pressure and Wind</td>
<td>MetEd Module (web link)</td>
<td>Alameda (1997: 10-13); Alokeaunu (1866: Newspaper)</td>
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<tr>
<td>W6: 2/17</td>
<td>HOLIDAY – President’s Day – No Class</td>
<td>Kuapu‘u (1902: pg1)</td>
<td>Poliwela (1862: Newspaper)</td>
</tr>
<tr>
<td>W7: 2/28</td>
<td>Activity/Experience – Poetry Writing in the Style of Pukui and Kauraka</td>
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<td></td>
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<tr>
<td>W8: 3/6</td>
<td>NO CLASS – Dr. Griswold at at Meeting</td>
<td></td>
<td>Clark (2011: 19-37)</td>
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<td>W9: 3/13</td>
<td>Activity/Experience – In-Class “Lightning” and “Hail”</td>
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<td></td>
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<tr>
<td>W10: 3/16</td>
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<tr>
<td>W10: 3/20</td>
<td>Spring Break – No Class</td>
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<td></td>
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</table>

ATMO 102 Syllabus for Spring 2020  Page 4
Reading Materials for Course

References: Native Hawaiian Voice


Aloikeau, D. A. K. (1866) "Na Makani", *Ke Au Okoa*, 7 May. (*Hawaiian Newspaper Clipping*)

Ami (1860) He Mele no ka Haku Hawai. *Ka Hae Hawaii*, 25 July. (*Chant about Thunder for Prince Albert*)

Kalanikaukeoul, printed in *Hawaiian Language Newspaper*)


*Ka Nupepa Kuokoa*. 18 December 1869, pg. 3. (*Hawaiian Newspaper Clipping*)

*Ka Nupepa Kuokoa*. 4 April 1971, pg. 2. (*Hawaiian Newspaper Clipping – stormy weather*)

*Ke Koo o Hawaii*. 29 August 1883, pg. 5. (*Hawaiian Newspaper Clipping*)


Lili‘oukalani, Queen (1878) *Alhoa ‘Oe Lyrics*

Maikunu, J. H. (1862) *Ka Nupepa Kuokoa*, 22 February. (*Hawaiian Newspaper Clipping*)


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Email: smalljen@hawaii.edu  
Office Hours: TBA

Class Times: Mon-Wed-Fri 11:30-12:20  
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Course Web address: http://jenniferdsmallphd.com/ATMO_102.html

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7. Understand and critically examine the atmospheric phenomena of temperature, moisture conditions, atmospheric stability, forms of condensation and precipitation, air pressure and winds, circulation of the atmosphere, role of air masses, and weather patterns.
8. Describe the major cloud types and explain the phenomena of rainfall, fog, snow, sleet, and frost.
9. Define a cold and warm front and explain the processes leading to the formation of each and also explain the formation of cyclones and anticyclones, tornadoes, hurricanes and typhoons.
10. Understand and describe the formation of thunderstorms, lightning and thunder.
11. Describe and analyze the changing climate in the past, present and future.
12. Understand the impact that people have on the atmospheric environment.
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### Lecture Topic Schedule and Reading Assignments

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<tr>
<td>W1: 1/13</td>
<td>Welcome and Course Topics/Description</td>
</tr>
<tr>
<td>W1: 1/17</td>
<td>Activity/Experience – Ice Breaker and Class Bonding</td>
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<td>W2: 1/20</td>
<td>Activity/Experience – Clothing of the Pacific Islands</td>
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<td>W2: 1/22</td>
<td>Temperature and Clothing</td>
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<tr>
<td>W2: 1/24</td>
<td>Pacific Natural Environment</td>
</tr>
<tr>
<td>W3: 1/27</td>
<td>Activity/Experience – Clothing of the Pacific Islands</td>
</tr>
<tr>
<td>W3: 1/29</td>
<td>Rising Air, Humidity &amp; Clouds</td>
</tr>
<tr>
<td>W3: 1/31</td>
<td>Pacific Ocean Clouds and Island Effects</td>
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<tr>
<td>W4: 2/3</td>
<td>Precipitation Processes and Types</td>
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<tr>
<td>W4: 2/5</td>
<td>Precipitation Across the Pacific</td>
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<tr>
<td>W4: 2/7</td>
<td>Activity/Experience – TBD (Hawaiian Music or other)</td>
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<td>Pressure and Wind</td>
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<td>W5: 2/12</td>
<td>Global and Pacific Regional Patterns</td>
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<td>W5: 2/14</td>
<td>Activity/Experience – Hawaiian Navigation</td>
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<td>W6: 2/19</td>
<td>Local Winds</td>
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<tr>
<td>W6: 2/21</td>
<td>Hawaiian and Pacific Island Winds and Travel</td>
</tr>
<tr>
<td>W7: 2/24</td>
<td>Fronts and Mid-Latitude Storm Systems</td>
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</tr>
<tr>
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<td>Ocean Currents and Waves</td>
</tr>
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<td>Hawaiian and Pacific Currents &amp; Waves</td>
</tr>
<tr>
<td>W8: 3/6</td>
<td>NO CLASS – Dr. Griswold at at Meeting</td>
</tr>
<tr>
<td>W9: 3/9</td>
<td>Thunderstorms &amp; Tornadoes: Global vs. Pacific</td>
</tr>
<tr>
<td>W9: 3/11</td>
<td>Severe Weather in the Pacific</td>
</tr>
<tr>
<td>W9: 3/13</td>
<td>Activity/Experience – In-Class “Lightning” and “Hail”</td>
</tr>
<tr>
<td>W10: 3/16</td>
<td>Spring Break – No Class</td>
</tr>
<tr>
<td>W10: 3/18</td>
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<tr>
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<td>Hurricane and Typhoon Formation</td>
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#### References: Native Hawaiian Voice

- Aloikeanu, D. A. K. (1866) "Na Makani", *Ke Au Okoa*, 7 May. (*Hawaiian Newspaper Clipping*)
- Ami (1860) He Mele no ka Haku Hawai. *Ka Hae Hawaii*, 25 July. (*Chant about Thunder for Prince Albert Kulanikaukeoual, printed in Hawaiian Language Newspaper*)
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MetEd Modules (2014) [https://www.meted.ucar.edu/index.php](https://www.meted.ucar.edu/index.php), University Corporation for Atmospheric Research.


ATMO 102 – Pacific Climates and Cultures

Instructor: Jennifer Griswold
Email: smalljen@hawaii.edu
Office Hours: TBA

Class Times: Mon-Wed-Fri 11:30-12:20
Class Location: HIG 311
Course Web address: http://jenniferdsmallphd.com/ATMO_102.html

Course Description
This course is designed to give you an overview of the interface between the observed Weather and Climate of the Pacific Island region and the past and future the culture of the peoples of the Pacific Islands. You will learn about the Earth’s atmosphere, temperature, precipitation, winds, storm systems, hurricanes, tornadoes, air pollution, weather and agriculture, rainbows, and climate change. As we learn about each weather or climate topic we will view these natural phenomena through the cultural lenses of the native peoples of the Pacific region through the historical writings and poetry, music, dance and films of Native Hawaiian and Indigenous Pacific Islanders. You will also participate in activities and in-class experiences that will allow you to experience some of the cultural aspects (e.g. hula, poetry, etc.) each week of the course.

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You are responsible for managing your courses. If you need to drop without a “W” grade make sure you know the appropriate deadlines. This is your responsibility. If you miss the general drop date you will need a signature from me on the “Drop Form” if you drop the class after that date.

General Learning Objectives for Hawaiian, Asian, & Pacific Issue Classes
At the end of a course that fulfills the Hawaiian, Asian, and Pacific Issues Focus requirement, students will be able to:

- **HLO1**: Explain the intersection of Native Hawaiian issues with Asian and/or Pacific Island issues.
- **HLO2**: Analyze issues using the conceptual and ethical frameworks and practices of the cultural perspectives, values, and world views of the Indigenous peoples of Hawai‘i, and the Pacific and/or Asia.
- **HLO3**: Integrate the histories, cultures, beliefs, arts, social, political, economic, or technological processes in their analysis of Hawai‘i, and the Pacific and/or Asia.
- **HLO4**: Demonstrate respect and empathy as defined by the Indigenous peoples of Hawai‘i and the Pacific and/or Asia in interpersonal and intergroup relationships.

Hallmarks of Hawaiian, Asian, & Pacific Issues Classes
To fulfill the Hawaiian, Asian, and Pacific Issues Focus requirement, at least two-thirds of a class must satisfy the following Hallmarks:

- **H1**: The content should reflect the intersection of Asian and/or Pacific Island cultures with Native Hawaiian culture.
- **H2**: A course can use any disciplinary or multi-disciplinary approach provided that a component of the course uses assignments or practica that encourage learning that comes from the cultural perspectives, values, and world views rooted in the experience of peoples indigenous to Hawai‘i, the Pacific, and Asia.
H3. A course should include at least one topic that is crucial to an understanding of the histories, or cultures, or beliefs, or the arts, or the societal, or political, or economic, or technological processes of these regions; for example, the relationships of societal structures to the natural environment.

H4. A course should involve an in-depth analysis or understanding of the issues being studied in the hope of fostering multi-cultural respect and understanding.

Student Learning Objectives (SLOs): Upon completion of the course, the student should be able to:

*NOTE: “HAP” represents Hawaiian, Asian and Pacific.

**Pacific Island Culture and Environment SLOs**
1. Identify key differences and similarities between Hawaiian and other Pacific Island Cultures.
2. Identify impacts of weather and climate on clothing style and development over time.
3. Describe their mythological representation of weather phenomena for a variety of Island peoples.
4. Describe the way in which clouds and cloud formation are represented in HAP mythologies.
5. Describe how precipitation type, timing, and patterns are related to cultural events and agriculture.
6. Describe the how weather phenomena are incorporated into the various dance forms of the Pacific Islands.
7. Identify examples of weather phenomena as represented in music, songs and chants.
8. Identify regional wind patterns and how they relate to the location of HAP cultures.
9. Describe the impact of weather on place names and wind names.
10. Describe the way in which weather and ocean currents are related to inter-island travel in the Pacific.
11. Describe how the ocean currents and wave shape/types played a role in the development of surfing.
12. Describe the historical and current implication of El Niño events in the Pacific.
13. Be able to generalize how storms and other large weather events are depicted by HAP cultures.
14. Understand and critically examine the social impacts typhoons and hurricanes in HAP cultures.
15. Describe air pollution concerns for the peoples of HAP cultures in the past and present.
16. Identify the ways in which optical effects (e.g. rainbows) are incorporated into HAP mythologies.
17. Describe how the general climate and micro climates of the various Pacific Islands impacted agriculture.
18. Identify the ways in which HAP cultures will be impacted by climate change and sea level rise.

**Atmospheric and Environmental Science SLOs**
1. Demonstrate a familiarity with the basic vocabulary of meteorology.
2. Demonstrate a familiarity with the geographic location of Hawaii and the Pacific Islands.
3. Describe how temperature changes horizontally and vertically in the atmosphere.
4. Describe and explain the origin, composition, structure, and behaviors of the earth's atmosphere.
5. Understand and analyze important environmental problems related to the Pacific atmosphere.
6. Critically examine the phenomena of the Solar and Terrestrial Radiation and understanding the energy transfer by radiation, conduction, convection, and evapotranspiration and explain the factors that determine the distribution of solar energy over the Earth's surface and describe global patterns of temperature.
7. Understand and critically examine the atmospheric phenomena of temperature, moisture conditions, atmospheric stability, forms of condensation and precipitation, air pressure and winds, circulation of the atmosphere, role of air masses, and weather patterns.
8. Describe the major cloud types and explain the phenomena of rainfall, fog, snow, sleet, and frost.
9. Define a cold and warm front and explain the processes leading to the formation of each and also explain the formation of cyclones and anticyclones, tornadoes, hurricanes and typhoons.
10. Understand and describe the formation of thunderstorms, lightning and thunder.
11. Describe and analyze the changing climate in the past, present and future.
12. Understand the impact that people have on the atmospheric environment.
13. Differentiate between global warming and the greenhouse effect.
14. Describe the phenomenon of El Niño-Southern Oscillation and the impacts it has on global precipitation and cloud patterns.
15. Describe various types of atmospheric optical phenomena including rainbows, mirages, halos, crepuscular rays, sun dogs, sun pillars, corona and glories.
16. Understand the various impacts and mitigation strategies for climate change and sea level rise in the Pacific region.

Lecture Topic Schedule and Reading Assignments
All reading material will be provided in PDF format through Laulima and the Class Website. Page assignments are subject to change as is schedule for field trips! Activities, Experiences, and Field Trips and Holidays are shaded. Readings that are italicized are not required, but are suggested reading.

<table>
<thead>
<tr>
<th>Week &amp; Day</th>
<th>Topic</th>
<th>Weather Readings</th>
<th>Native Voice Readings</th>
</tr>
</thead>
<tbody>
<tr>
<td>W1: 1/17</td>
<td>Intro to Islands</td>
<td></td>
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<tr>
<td>W2: 1/20</td>
<td>HOLIDAY – Martin Luther King Jr. Day – No Class</td>
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<tr>
<td>W3: 1/27</td>
<td>Activity/Experience – Clothing of the Pacific Islands</td>
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<td>W4: 2/7</td>
<td>Activity/Experience – TBD (Hawaiian Music or other)</td>
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<td>W5: 2/14</td>
<td>Activity/Experience – Hawaiian Navigation</td>
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<tr>
<td>W6: 2/17</td>
<td>HOLIDAY – President’s Day– No Class</td>
<td></td>
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<tr>
<td>W7: 2/26</td>
<td>Historical Impacts of North Pacific Storms</td>
<td>Nakau (2005: TBD)</td>
<td></td>
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<tr>
<td>W7: 2/28</td>
<td>Activity/Experience – Poetry Writing in the Style of Pukui and Kaukahele</td>
<td></td>
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<tr>
<td>W8: 3/4</td>
<td>Hawaiian and Pacific Island Currents &amp; Waves</td>
<td>Kane (1976: TBD)</td>
<td></td>
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<tr>
<td>W8: 3/6</td>
<td>NO CLASS – Dr. Griswold at at Meeting</td>
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<td>W9: 3/13</td>
<td>Activity/Experience – &quot;In-Class &quot;Lightning&quot; and &quot;Hail&quot;</td>
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<td>W10: 3/16</td>
<td>Spring Break – No Class</td>
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<td>W10: 3/18</td>
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<td></td>
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<tr>
<td>W11: 3/27</td>
<td>Activity/Experience – Visit Honolulu NWS to learn about Hawaiian Hurricane Tracking</td>
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<td>W12: 4/3</td>
<td>Activity/Experience – TBA</td>
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<tr>
<td>W13: 4/8</td>
<td>Rainbows, Mirages and Cultural Contexts</td>
<td>Weather 2010 (weblink)</td>
<td>Thurm Nakuina 1907</td>
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<tr>
<td>W13: 4/10</td>
<td>Holiday – Good Friday – No Class</td>
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<tr>
<td>W14: 4/17</td>
<td>Activity/Experience: Mapping Hawaii’s Climate Zones</td>
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<td>W15: 4/24</td>
<td>Activity/Experience – Saving the World from Climate Change</td>
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<td>W16: 5/1</td>
<td>Activity/Experience – How to open a Coconut with a rock!</td>
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<tr>
<td>W17: 5/4</td>
<td>PRESENTATIONS</td>
<td></td>
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<tr>
<td>W17: 5/6</td>
<td>PRESENTATIONS – TURN IN FINAL PAPER DURING LAST CLASS</td>
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Email: smalljen@hawaii.edu  
Office Hours: TBA

Class Times: Mon-Wed-Fri 11:30-12:20  
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Course Web address: http://jenniferdsmallphd.com/ATMO_102.html

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5. Understand and analyze important environmental problems related to the Pacific atmosphere.
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7. Understand and critically examine the atmospheric phenomena of temperature, moisture conditions, atmospheric stability, forms of condensation and precipitation, air pressure and winds, circulation of the atmosphere, role of air masses, and weather patterns.
8. Describe the major cloud types and explain the phenomena of rainfall, fog, snow, sleet, and frost.
9. Define a cold and warm front and explain the processes leading to the formation of each and also explain the formation of cyclones and anticyclones, tornadoes, hurricanes and typhoons.
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13. Differentiate between global warming and the greenhouse effect.
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15. Describe various types of atmospheric optical phenomena including rainbows, mirages, halos, crepuscular rays, sun dogs, sun pillars, corona and glories.
16. Understand the various impacts and mitigation strategies for climate change and sea level rise in the Pacific region.

Lecture Topic Schedule and Reading Assignments
All reading material will be provided in PDF format through Laulima and the Class Website. Page assignments are subject to change as is schedule for field trips! Activities, Experiences, and Field Trips and Holidays are Shaded. Readings that are italicized are not required, but are suggested reading.

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<th>Weather Readings</th>
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</thead>
<tbody>
<tr>
<td>W1: 1/17</td>
<td>Intro to Islands</td>
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<tr>
<td>W2: 1/20</td>
<td>HOLIDAY – Martin Luther King Jr. Day – No Class</td>
<td></td>
<td></td>
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<tr>
<td>W3: 1/27</td>
<td>Activity/Experience – Clothing of the Pacific Islands</td>
<td></td>
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<td>Activity/Experience – Hawaiian Navigation</td>
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Kuapu‘u, S. K. (1902) Home Rula Republik, 15 March 1902, pg.1. (*Hawaiian Newspaper Clipping
Lili‘oukalani, Queen (1878) Alhoa ‘Oe Lyrics
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**References: Asian and Pacific Island Voice**


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---

**Atmospheric and Environmental Science References**


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* ATMO 102 Syllabus for Spring 2020  
* Page 6


MetEd Modules (2014) [https://www.meted.ucar.edu/index.php](https://www.meted.ucar.edu/index.php), University Corporation for Atmospheric Research.


Instructor: Jennifer Griswold  
Email: smalljen@hawaii.edu 
Office Hours: TBA

Class Times: Mon-Wed-Fri 11:30-12:20  
Class Location: HIG 311  
Course Web address: http://jenniferdsmallphd.com/ATMO_102.html

Course Description  
This course is designed to give you an overview of the interface between the observed Weather and Climate of the Pacific Island region and the past and future the culture of the peoples of the Pacific Islands. You will learn about the Earth’s atmosphere, temperature, precipitation, winds, storm systems, hurricanes, tornadoes, air pollution, weather and agriculture, rainbows, and climate change. As we learn about each weather or climate topic we will view these natural phenomena through the cultural lenses of the native peoples of the Pacific region through the historical writings and poetry, music, dance and films of Native Hawaiian and Indigenous Pacific Islanders. You will also participate in activities and in-class experiences that will allow you to experience some of the cultural aspects (e.g. hula, poetry, etc.) each week of the course.

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Throughout the course you will be asked for input regarding the various topics. You will need to participate during in-class activities and extra credit challenges that will take place throughout the semester. You will be expected to turn in proof of attendance (filling out worksheets or completing activities) to get participation credit.

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Dropping the Course

You are responsible for managing your courses. If you need to drop without a “W” grade make sure you know the appropriate deadlines. This is your responsibility. If you miss the general drop date you will need a signature from me on the “Drop Form” if you drop the class after that date.

General Learning Objectives for Hawaiian, Asian, & Pacific Issue Classes

At the end of a course that fulfills the Hawaiian, Asian, and Pacific Issues Focus requirement, students will be able to:

_HLO1:_ Explain the intersection of Native Hawaiian issues with Asian and/or Pacific Island issues.

_HLO2:_ Analyze issues using the conceptual and ethical frameworks and practices of the cultural perspectives, values, and world views of the Indigenous peoples of Hawai‘i, and the Pacific and/or Asia.

_HLO3:_ Integrate the histories, cultures, beliefs, arts, social, political, economic, or technological processes in their analysis of Hawai‘i, and the Pacific and/or Asia.

_HLO4:_ Demonstrate respect and empathy as defined by the Indigenous peoples of Hawai‘i and the pacific and/or Asia in interpersonal and intergroup relationships.

Hallmarks of Hawaiian, Asian, & Pacific Issues Classes

To fulfill the Hawaiian, Asian, and Pacific Issues Focus requirement, at least two-thirds of a class must satisfy the following Hallmarks:

_H1._ The content should reflect the intersection of Asian and/or Pacific Island cultures with Native Hawaiian culture.

_H2._ A course can use any disciplinary or multi-disciplinary approach provided that a component of the course uses assignments or practica that encourage learning that comes from the cultural perspectives, values, and world views rooted in the experience of peoples indigenous to Hawai‘i, the Pacific, and Asia.
H3. A course should include at least one topic that is crucial to an understanding of the histories, or cultures, or beliefs, or the arts, or the societal, or political, or economic, or technological processes of these regions; for example, the relationships of societal structures to the natural environment.

H4. A course should involve an in-depth analysis or understanding of the issues being studied in the hope of fostering multi-cultural respect and understanding.

Student Learning Objectives (SLOs): Upon completion of the course, the student should be able to:

* NOTE: “HAP” represents Hawaiian, Asian and Pacific.

Pacific Island Culture and Environment SLOs
1. Identify key differences and similarities between Hawaiian and other Pacific Island Cultures.
2. Identify impacts of weather and climate on clothing style and development over time.
3. Describe their mythological representation of weather phenomena for a variety of Island peoples.
4. Describe the way in which clouds and cloud formation are represented in HAP mythologies.
5. Describe how precipitation type, timing, and patterns are related to cultural events and agriculture.
6. Describe how weather phenomena are incorporated into the various dance forms of the Pacific Islands.
7. Identify examples of weather phenomena as represented in music, songs and chants.
8. Identify regional wind patterns and how they relate to the location of HAP cultures.
9. Describe the impact of weather on place names and wind names.
10. Describe the way in which weather and ocean currents are related to inter-island travel in the Pacific.
11. Describe how the ocean currents and wave shape/types played a role in the development of surfing.
12. Describe the historical and current implications of El Niño events in the Pacific.
13. Be able to generalize how storms and other large weather events are depicted by HAP cultures.
14. Understand and critically examine the social impacts of typhoons and hurricanes in HAP cultures.
15. Describe air pollution concerns for the peoples of HAP cultures in the past and present.
16. Identify the ways in which optical effects (e.g. rainbows) are incorporated into HAP mythologies.
17. Describe how the general climate and microclimates of the various Pacific Islands impacted agriculture.
18. Identify the ways in which HAP cultures will be impacted by climate change and sea level rise.

Atmospheric and Environmental Science SLOs
1. Demonstrate a familiarity with the basic vocabulary of meteorology.
2. Demonstrate a familiarity with the geographic location of Hawaii and the Pacific Islands.
3. Describe how temperature changes horizontally and vertically in the atmosphere.
4. Describe and explain the origin, composition, structure, and behaviors of the earth's atmosphere.
5. Understand and analyze important environmental problems related to the Pacific atmosphere.
6. Critically examine the phenomena of the Solar and Terrestrial Radiation and understanding the energy transfer by radiation, conduction, convection, and evapotranspiration and explain the factors that determine the distribution of solar energy over the Earth's surface and describe global patterns of temperature.
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11. Describe and analyze the changing climate in the past, present and future.
12. Understand the impact that people have on the atmospheric environment.
13. Differentiate between global warming and the greenhouse effect.
14. Describe the phenomenon of El Nino-Southern Oscillation and the impacts it has on global precipitation and cloud patterns.
15. Describe various types of atmospheric optical phenomena including rainbows, mirages, halos, crepuscular rays, sun dogs, sun pillars, corona and glories.
16. Understand the various impacts and mitigation strategies for climate change and sea level rise in the Pacific region.

Lecture Topic Schedule and Reading Assignments
All reading material will be provided in PDF format through Laulima and the Class Website. Page assignments are subject to change as is schedule for field trips! Activities, Experiences, and Field Trips and Holidays are Shaded. Readings that are italicized are not required, but are suggested reading.

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<tbody>
<tr>
<td>W2: 1/22</td>
<td>Temperature and Clothing</td>
<td>MetEd Module (web link)</td>
<td>Hiroa (1924: 25-47)</td>
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<tr>
<td>W3: 1/27</td>
<td>Activity/Experience – Clothing of the Pacific Islands</td>
<td></td>
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<tr>
<td>W4: 2/5</td>
<td>Precipitation Across the Pacific</td>
<td>Current Precipitation Maps &amp; Satellite Data (Real Time Images)</td>
<td>Kamae (2005: DVD 60 min)</td>
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<tr>
<td>W4: 2/7</td>
<td>Activity/Experience – TBD (Hawaiian Music or other)</td>
<td>Kauraka (1987: 52); Fanshawe (2001); Kanahele (2012: xli-xliv: 438-441)</td>
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<tr>
<td>W5: 2/10</td>
<td>Pressure and Wind</td>
<td>MetEd Module (web link)</td>
<td>Alamedia (1997: 10-13); Alokeana (1866: Newspaper)</td>
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<td>W6: 2/17</td>
<td>HOLIDAY – President’s Day– No Class</td>
<td></td>
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<td>W6: 2/19</td>
<td>Local Winds</td>
<td>Cavedes (2001: 234-249)</td>
<td>Ka Nupea Kuokoa (1869)</td>
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<td>W6: 2/21</td>
<td>Hawaiian and Pacific Island Winds and Travel</td>
<td>Kuapu'u (1902: pg1)</td>
<td>Poliwela (1862: Newspaper)</td>
</tr>
<tr>
<td>W7: 2/26</td>
<td>Historical Impacts of North Pacific Storms</td>
<td>Nakuna (2005: TBD)</td>
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<td>Activity/Experience – Poetry Writing in the Style of Pukui and Kauraka</td>
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ATMO 102 Syllabus for Spring 2020  Page 4
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**Atmospheric and Environmental Science References**


**ATMO 102 – Pacific Climates and Cultures**

**Instructor:** Jennifer Griswold  
Email: smalljen@hawaii.edu  
Office Hours: TBA

Class Times: Mon-Wed-Fri 11:30-12:20  
Class Location: HIG 311  
Course Web address: http://jenniferdsmallphd.com/ATMO_102.html

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16. Identify examples of weather phenomena as represented in music, songs and chants.
17. Describe how climate and micro climates of the various Pacific Islands impacted agriculture.
18. Identify the ways in which HAP cultures will be impacted by climate change and sea level rise.

**Atmospheric and Environmental Science SLOs**

1. Demonstrate a familiarity with the basic vocabulary of meteorology.
2. Demonstrate a familiarity with the geographic location of Hawaii and the Pacific Islands.
3. Describe how temperature changes horizontally and vertically in the atmosphere.
4. Describe and explain the origin, composition, structure, and behaviors of the earth's atmosphere.
5. Understand and analyze important environmental problems related to the Pacific atmosphere.
6. Critically examine the phenomena of the Solar and Terrestrial Radiation and understanding the energy transfer by radiation, conduction, convection, and evapotranspiration and explain the factors that determine the distribution of solar energy over the Earth's surface and describe global patterns of temperature.
7. Understand and critically examine the atmospheric phenomena of temperature, moisture conditions, atmospheric stability, forms of condensation and precipitation, air pressure and winds, circulation of the atmosphere, role of air masses, and weather patterns.
8. Describe the major cloud types and explain the phenomena of rainfall, fog, snow, sleet, and frost.
9. Define a cold and warm front and explain the processes leading to the formation of each and also explain the formation of cyclones and anticyclones, tornadoes, hurricanes and typhoons.
10. Understand and describe the formation of thunderstorms, lightning and thunder.
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15. Describe various types of atmospheric optical phenomena including rainbows, mirages, halos, crepuscular rays, sun dogs, sun pillars, corona and glories.
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Lecture Topic Schedule and Reading Assignments
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<td>W3: 1/27</td>
<td>Activity/Experience – Clothing of the Pacific Islands</td>
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<td>W3: 1/31</td>
<td>Pacific Ocean Clouds and Island Effects</td>
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<td>W4: 2/7</td>
<td>Activity/Experience – TBD (Hawaiian Music or other)</td>
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<td>Activity/Experience – Hawaiian Navigation</td>
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<td>W6: 2/17</td>
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<td>W6: 2/19</td>
<td>Local Winds</td>
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<td>W7: 2/24</td>
<td>Fronts and Mid-Latitude Storm Systems</td>
<td>Weather 2010 (weblink)</td>
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<td>Historical Impacts of North Pacific Storms</td>
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Instructor: Jennifer Griswold  
Email: smalljen@hawaii.edu  
Office Hours: TBA  

Class Times: Mon-Wed-Fri 11:30-12:20  
Class Location: HIG 311  
Course Web address: http://jenniferdsmallphd.com/ATMO_102.html  

Course Description  
This course is designed to give you an overview of the interface between the observed Weather and Climate of the Pacific Island region and the past and future the culture of the peoples of the Pacific Islands. You will learn about the Earth’s atmosphere, temperature, precipitation, winds, storm systems, hurricanes, tornadoes, air pollution, weather and agriculture, rainbows, and climate change. As we learn about each weather or climate topic we will view these natural phenomena through the cultural lenses of the native peoples of the Pacific region through the historical writings and poetry, music, dance and films of Native Hawaiian and Indigenous Pacific Islanders. You will also participate in activities and in-class experiences that will allow you to experience some of the cultural aspects (e.g. hula, poetry, etc.) each week of the course.  

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Throughout the course you will be asked for input regarding the various topics. You will need to participate during in-class activities and extra credit challenges that will take place throughout the semester. You will be expected to turn in proof of attendance (filling out worksheets or completing activities) to get participation credit.  

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General Learning Objectives for Hawaiian, Asian, & Pacific Issue Classes
At the end of a course that fulfills the Hawaiian, Asian, and Pacific Issues Focus requirement, students will be able to:

- **HLO1:** Explain the intersection of Native Hawaiian issues with Asian and/or Pacific Island issues.
- **HLO2:** Analyze issues using the conceptual and ethical frameworks and practices of the cultural perspectives, values, and world views of the Indigenous peoples of Hawai’i, and the Pacific and/or Asia.
- **HLO3:** Integrate the histories, cultures, beliefs, arts, social, political, economic, or technological processes in their analysis of Hawai’i, and the Pacific and/or Asia.
- **HLO4:** Demonstrate respect and empathy as defined by the Indigenous peoples of Hawai’i and the pacific and/or Asia in interpersonal and intergroup relationships.

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To fulfill the Hawaiian, Asian, and Pacific Issues Focus requirement, at least two-thirds of a class must satisfy the following Hallmarks:

- **H1.** The content should reflect the intersection of Asian and/or Pacific Island cultures with Native Hawaiian culture.
- **H2.** A course can use any disciplinary or multi-disciplinary approach provided that a component of the course uses assignments or practica that encourage learning that comes from the cultural perspectives, values, and world views rooted in the experience of peoples indigenous to Hawai’i, the Pacific, and Asia.
H3. A course should include at least one topic that is crucial to an understanding of the histories, or cultures, or beliefs, or the arts, or the societal, or political, or economic, or technological processes of these regions; for example, the relationships of societal structures to the natural environment.

H4. A course should involve an in-depth analysis or understanding of the issues being studied in the hope of fostering multi-cultural respect and understanding.

**Student Learning Objectives (SLOs): Upon completion of the course, the student should be able to:**

*NOTE: “HAP” represents Hawaiian, Asian and Pacific.*

**Pacific Island Culture and Environment SLOs**
1. Identify key differences and similarities between Hawaiian and other Pacific Island Cultures.
2. Identify impacts of weather and climate on clothing style and development over time.
3. Describe they mythological representation of weather phenomena for a variety of Island peoples.
4. Describe the way in which clouds and cloud formation are represented in HAP mythologies.
5. Describe how precipitation type, timing, and patterns are related to cultural events and agriculture.
6. Describe the how weather phenomena are incorporated in to the various dance forms of the Pacific Islands.
7. Identify examples of weather phenomena as represented in music, songs and chants.
8. Identify regional wind patterns and how they relate to the location of HAP cultures.
9. Describe the impact of weather on place names and wind names.
10. Describe the way in which weather and ocean currents are related to inter-island travel in the Pacific.
11. Describe how the ocean currents and wave shape/types played a role in the development of surfing.
12. Describe the historical and current implication of El Niño events in the Pacific.
13. Be able to generalize how storms and other large weather events are depicted by HAP cultures.
14. Understand and critically examine the social impacts typhoons and hurricanes in HAP cultures.
15. Describe air pollution concerns for the peoples of HAP cultures in the past and present.
16. Identify the ways in which optical effects (e.g. rainbows) are incorporated into HAP mythologies.
17. Describe how the general climate and micro climates of the various Pacific Islands impacted agriculture.
18. Identify the ways in which HAP cultures will be impacted by climate change and sea level rise.

**Atmospheric and Environmental Science SLOs**
1. Demonstrate a familiarity with the basic vocabulary of meteorology.
2. Demonstrate a familiarity with the geographic location of Hawaii and the Pacific Islands.
3. Describe how temperature changes horizontally and vertically in the atmosphere.
4. Describe and explain the origin, composition, structure, and behaviors of the earth's atmosphere.
5. Understand and analyze important environmental problems related to the Pacific atmosphere.
6. Critically examine the phenomena of the Solar and Terrestrial Radiation and understanding the energy transfer by radiation, conduction, convection, and evapotranspiration and explain the factors that determine the distribution of solar energy over the Earth's surface and describe global patterns of temperature.
7. Understand and critically examine the atmospheric phenomena of temperature, moisture conditions, atmospheric stability, forms of condensation and precipitation, air pressure and winds, circulation of the atmosphere, role of air masses, and weather patterns.
8. Describe the major cloud types and explain the phenomena of rainfall, fog, snow, sleet, and frost.
9. Define a cold and warm front and explain the processes leading to the formation of each and also explain the formation of cyclones and anticyclones, tornadoes, hurricanes and typhoons.
10. Understand and describe the formation of thunderstorms, lightning and thunder.
11. Describe and analyze the changing climate in the past, present and future.
12. Understand the impact that people have on the atmospheric environment.
13. Differentiate between global warming and the greenhouse effect.
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### Lecture Topic Schedule and Reading Assignments

All reading material will be provided in PDF format through Laulima and the Class Website. Page assignments are subject to change as is schedule for field trips! Activities, Experiences, and Field Trips and Holidays are Shaded. Readings that are *italicized* are not required, but are suggested reading.

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<td>Activity/Experience – Ice Breaker and Class Bonding</td>
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<td>W5: 2/10</td>
<td>Pressure and Wind</td>
<td>MetEd Module (web link)</td>
<td>Alameda (1997: 10-13); Aholoana (1866: Newspaper)</td>
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<tr>
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<td>Activity/Experience – Hawaiian Navigation</td>
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<td>W8: 3/4</td>
<td>Hawaiian and Pacific Island Currents &amp; Waves</td>
<td>Kane (1976: TBD)</td>
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<td>NO CLASS – Dr. Griswold at at Meeting</td>
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**ATMO 102 Syllabus for Spring 2020 Page 5**
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6. Describe how weather phenomena are incorporated into the various dance forms of the Pacific Islands.
7. Identify examples of weather phenomena as represented in music, songs, and chants.
8. Identify regional wind patterns and how they relate to the location of HAP cultures.
9. Describe the impact of weather on place names and wind names.
10. Describe the way in which weather and ocean currents are related to inter-island travel in the Pacific.
11. Describe how the ocean currents and wave shape/types played a role in the development of surfing.
12. Describe the historical and current implication of El Niño events in the Pacific.
13. Be able to generalize how storms and other large weather events are depicted by HAP cultures.
14. Understand and critically examine the social impacts of typhoons and hurricanes in HAP cultures.
15. Describe air pollution concerns for the peoples of HAP cultures in the past and present.
16. Identify the ways in which optical effects (e.g. rainbows) are incorporated into HAP mythologies.
17. Describe how the general climate and microclimates of the various Pacific Islands impacted agriculture.
18. Identify the ways in which HAP cultures will be impacted by climate change and sea level rise.

**Atmospheric and Environmental Science SLOs**
1. Demonstrate a familiarity with the basic vocabulary of meteorology.
2. Demonstrate a familiarity with the geographic location of Hawaii and the Pacific Islands.
3. Describe how temperature changes horizontally and vertically in the atmosphere.
4. Describe and explain the origin, composition, structure, and behaviors of the earth's atmosphere.
5. Understand and analyze important environmental problems related to the Pacific atmosphere.
6. Critically examine the phenomena of the Solar and Terrestrial Radiation and understanding the energy transfer by radiation, conduction, convection, and evapotranspiration and explain the factors that determine the distribution of solar energy over the Earth's surface and describe global patterns of temperature.
7. Understand and critically examine the atmospheric phenomena of temperature, moisture conditions, atmospheric stability, forms of condensation and precipitation, air pressure and winds, circulation of the atmosphere, role of air masses, and weather patterns.
8. Describe the major cloud types and explain the phenomena of rainfall, fog, snow, sleet, and frost.
9. Define a cold and warm front and explain the processes leading to the formation of each and also explain the formation of cyclones and anticyclones, tornadoes, hurricanes, and typhoons.
10. Understand and describe the formation of thunderstorms, lightning, and thunder.
11. Describe and analyze the changing climate in the past, present, and future.
12. Understand the impact that people have on the atmospheric environment.
13. Differentiate between global warming and the greenhouse effect.
14. Describe the phenomenon of El Nino-Southern Oscillation and the impacts it has on global precipitation and cloud patterns.
15. Describe various types of atmospheric optical phenomena including rainbows, mirages, halos, crepuscular rays, sun dogs, sun pillars, corona and glories.
16. Understand the various impacts and mitigation strategies for climate change and sea level rise in the Pacific region.

**Lecture Topic Schedule and Reading Assignments**

All reading material will be provided in PDF format through Laulima and the Class Website. Page assignments are subject to change as is schedule for field trips! Activities, Experiences, and Field Trips and Holidays are Shaded. Readings that are *italicized* are not required, but are suggested reading.

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<thead>
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<th>Topic</th>
<th>Weather Readings</th>
<th>Native Voice Readings</th>
</tr>
</thead>
<tbody>
<tr>
<td>W2: 1/22</td>
<td>Temperature and Clothing</td>
<td>MetEd Module (web link)</td>
<td>Keawe (1902: pg1)</td>
</tr>
<tr>
<td>W3: 1/27</td>
<td>Activity/Experience – Clothing of the Pacific Islands</td>
<td>MetEd Module (web link)</td>
<td>Poliwe'a (1862: Newspaper)</td>
</tr>
<tr>
<td>W4: 2/7</td>
<td>Activity/Experience – TBD (Hawaiian Music or other)</td>
<td>Kanahele (2012: xli-xlix; 438-441)</td>
<td>(1866: Newspaper)</td>
</tr>
<tr>
<td>W7: 2/28</td>
<td>Activity/Experience – Poetry Writing in the Style of Pukui and Kauraka</td>
<td></td>
<td></td>
</tr>
<tr>
<td>W8: 3/6</td>
<td>NO CLASS – Dr. Griswold at at Meeting</td>
<td>Kuapu’u (1902: pg1)</td>
<td>Clark (2011: 19-37)</td>
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<tr>
<td>W9: 3/13</td>
<td>Activity/Experience – In-Class “Lightning” and “Hail”</td>
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<tr>
<td>W10: 3/16</td>
<td>Spring Break – No Class</td>
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</tr>
<tr>
<td>W10: 3/18</td>
<td>Spring Break – No Class</td>
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</tr>
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ATMO 102 Syllabus for Spring 2020  Page 4
<table>
<thead>
<tr>
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<th>Activity/Experience</th>
<th>Reading Materials for Course</th>
<th>References: Native Hawaiian Voice</th>
</tr>
</thead>
<tbody>
<tr>
<td>W11: 3/27</td>
<td>Activity/Experience – Visit Honolulu NWS to learn about Hawaiian Hurricane Tracking</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>W16: 5/1</td>
<td>Activity/Experience – How to open a Coconut with a rock!</td>
<td></td>
<td></td>
</tr>
<tr>
<td>W17: 5/4</td>
<td>Activity/Experience – Saving the World from Climate Change</td>
<td></td>
<td></td>
</tr>
<tr>
<td>W17: 5/6</td>
<td>PRESENTATIONS</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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**References: Native Hawaiian Voice**


Aloikeanu, D. A. K. (1866) “Na Makani”, *Ke Au Okoa*, 7 May. (*Hawaiian Newspaper Clipping*)

Ami (1860) He Mele no ka Haku Hawai. *Ka Hae Hawaii*, 25 July. (*Chant about Thunder for Prince Albert*)

Kalanikauaeoul, printed in Hawaiian Language Newspaper)


*Ka Nupepa Kuokoa*. 18 December 1869, pg. 3. (*Hawaiian Newspaper Clipping*)

*Ka Nupepa Kuokoa*. 4 April 1971, pg. 2. (*Hawaiian Newspaper Clipping – stormy weather*)

*Ke Koo o Hawaii*. 29 August 1883, pg. 5. (*Hawaiian Newspaper Clipping*)


Lili‘oukalani, Queen (1878) *Alhoa ‘Oe Lyrics*


**Atmo 102 Syllabus for Spring 2020 Page 5**
Maikunu, J. H. (1862) *Ka Nupepa Kuokoa*, 22 February. (*Hawaiian Newspaper Clipping*)


Poliwela, D. W. (1862) “Na Makani”, *Ka Hoku o ka Pakipika*, 1 May. (*Hawaiian Newspaper Clipping*)


**Guest UH Manoa Faculty Speakers - Native Hawaiian Voice, Science, & Culture (Planned, May be Modified)**

Ka‘eo (Thomas) Duarte – Hydrology and Water Management

Rick Kaponowaiwaiola Barboza from Hui Ku Maoli Ola – Botany and Native Plants and Agriculture

**References: Asian and Pacific Island Voice**


**References: Intersection of Native Hawaiian, Asian and Pacific Island Cultures**


* Hawaiian language newspaper clippings are obtained through the outstanding effort of the Hawaiian Language Newspaper Translation Project, UH Sea Grant, http://seagrant.soest.hawaii.edu/Hawaiian-language-newspaper-translation-project. Also, the majority of newspaper clippings are taken from coursework lesson plans produced by Steven Businger, Sara DaSilva, Kapōmaika’i Stone, Iasona Ellinwood, Pauline W. U. Chiin available through Kahua A’o (http://manoa.hawaii.edu/kahuaao/atmospheric_sciences.html)

** Note that “Intersection” Readings as annotated here are ones that meet the intersection requirement by themselves. Throughout the course, the combination of readings covering similar topics in Hawaiian, Asian, and Pacific Cultures provide the “Intersection” required by the HAP focus.

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Note: the points and percentages given are approximations and may vary slightly

<table>
<thead>
<tr>
<th>Total Points</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Discussion Questions 100</td>
<td>25%</td>
</tr>
<tr>
<td>4 Assignments 100</td>
<td>25%</td>
</tr>
<tr>
<td>In class Discussion/Activities/Attendance 50</td>
<td>12.5%</td>
</tr>
<tr>
<td>Final Paper/Project &amp; Presentation 150</td>
<td>37.5%</td>
</tr>
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<td>Total 400</td>
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Dropping the Course
You are responsible for managing your courses. If you need to drop without a “W” grade make sure you know the appropriate deadlines. This is your responsibility. If you miss the general drop date you will need a signature from me on the “Drop Form” if you drop the class after that date.

General Learning Objectives for Hawaiian, Asian, & Pacific Issue Classes
At the end of a course that fulfills the Hawaiian, Asian, and Pacific Issues Focus requirement, students will be able to:

- **HLO1**: Explain the intersection of Native Hawaiian issues with Asian and/or Pacific Island issues.
- **HLO2**: Analyze issues using the conceptual and ethical frameworks and practices of the cultural perspectives, values, and world views of the Indigenous peoples of Hawai’i, and the Pacific and/or Asia.
- **HLO3**: Integrate the histories, cultures, beliefs, arts, social, political, economic, or technological processes in their analysis of Hawai’i, and the Pacific and/or Asia.
- **HLO4**: Demonstrate respect and empathy as defined by the Indigenous peoples of Hawai’i and the pacific and/or Asia in interpersonal and intergroup relationships.

Hallmarks of Hawaiian, Asian, & Pacific Issues Classes
To fulfill the Hawaiian, Asian, and Pacific Issues Focus requirement, at least two-thirds of a class must satisfy the following Hallmarks:

- **H1**: The content should reflect the intersection of Asian and/or Pacific Island cultures with Native Hawaiian culture.
- **H2**: A course can use any disciplinary or multi-disciplinary approach provided that a component of the course uses assignments or practica that encourage learning that comes from the cultural perspectives, values, and world views rooted in the experience of peoples indigenous to Hawai’i, the Pacific, and Asia.
H3. A course should include at least one topic that is crucial to an understanding of the histories, or cultures, or beliefs, or the arts, or the societal, or political, or economic, or technological processes of these regions; for example, the relationships of societal structures to the natural environment.

H4. A course should involve an in-depth analysis or understanding of the issues being studied in the hope of fostering multi-cultural respect and understanding.

Student Learning Objectives (SLOs): Upon completion of the course, the student should be able to:

*NOTE: “HAP” represents Hawaiian, Asian and Pacific.

Pacific Island Culture and Environment SLOs
1. Identify key differences and similarities between Hawaiian and other Pacific Island Cultures.
2. Identify impacts of weather and climate on clothing style and development over time.
3. Describe they mythological representation of weather phenomena for a variety of Island peoples.
4. Describe the way in which clouds and cloud formation are represented in HAP mythologies
5. Describe how precipitation type, timing, and patterns are related to cultural events and agriculture.
6. Describe the how weather phenomena are incorporated in to the various dance forms of the Pacific Islands.
7. Identify examples of weather phenomena as represented in music, songs and chants.
8. Identify regional wind patterns and how they relate to the location of HAP cultures.
9. Describe the impact of weather on place names and wind names.
10. Describe the way in weather and ocean currents are related to inter-island travel in the pacific.
11. Describe how the ocean currents and wave shape/types played a role in the development of surfing.
12. Describe the historical and current implication of El Niño events in the Pacific.
13. Be able to generalize how storms and other large weather events are depicted by HAP cultures.
14. Understand and critically examine the social impacts typhoons and hurricanes in HAP cultures.
15. Describe air pollution concerns for the peoples of HAP cultures in the past and present.
16. Identify the ways in which optical effects (e.g. rainbows) are incorporated into HAP mythologies.
17. Describe how the general climate and micro climates of the various Pacific Islands impacted agriculture.
18. Identify the ways in which HAP cultures will be impacted by climate change and sea level rise.

Atmospheric and Environmental Science SLOs
1. Demonstrate a familiarity with the basic vocabulary of meteorology.
2. Demonstrate a familiarity with the geographic location of Hawaii and the Pacific Islands.
3. Describe how temperature changes horizontally and vertically in the atmosphere.
4. Describe and explain the origin, composition, structure, and behaviors of the earth's atmosphere.
5. Understand and analyze important environmental problems related to the Pacific atmosphere.
6. Critically examine the phenomena of the Solar and Terrestrial Radiation and understanding the energy transfer by radiation, conduction, convection, and evapotranspiration and explain the factors that determine the distribution of solar energy over the Earth's surface and describe global patterns of temperature.
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**Lecture Topic Schedule and Reading Assignments**

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<td>W5: 2/14</td>
<td>Activity/Experience – Hawaiian Navigation</td>
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<tr>
<td>W6: 2/17</td>
<td>HOLIDAY – President’s Day– No Class</td>
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<tr>
<td>W7: 2/28</td>
<td>Activity/Experience – Poetry Writing in the Style of Pukui and Kauka</td>
<td></td>
<td></td>
</tr>
<tr>
<td>W8: 3/6</td>
<td>NO CLASS – Dr. Griswold at Meeting</td>
<td></td>
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<tr>
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<td>Activity/Experience – In-Class “Lightning” and “Hail”</td>
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<td>W10: 3/18</td>
<td>Spring Break – No Class</td>
<td></td>
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<tr>
<td>W10: 3/20</td>
<td>Spring Break – No Class</td>
<td></td>
<td></td>
</tr>
<tr>
<td>W11: 3/27</td>
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<tr>
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<td>W15: 4/24</td>
<td>Activity/Experience – How to open a Coconut with a rock!</td>
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<td>W17: 5/4</td>
<td>PRESENTATIONS</td>
<td></td>
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<tr>
<td>W17: 5/6</td>
<td>PRESENTATIONS – TURN IN FINAL PAPER DURING LAST CLASS</td>
<td></td>
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**Reading Materials for Course**

**References: Native Hawaiian Voice**

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**Activity/Experience:**

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ATMO 102 – Pacific Climates and Cultures

Instructor: Jennifer Griswold
Email: smalljen@hawaii.edu
Office Hours: TBA

Class Times: Mon-Wed-Fri 11:30-12:20
Class Location: HIG 311
Course Web address: http://jenniferdsmallphd.com/ATMO_102.html

Course Description
This course is designed to give you an overview of the interface between the observed Weather and Climate of the Pacific Island region and the past and future the culture of the peoples of the Pacific Islands. You will learn about the Earth’s atmosphere, temperature, precipitation, winds, storm systems, hurricanes, tornadoes, air pollution, weather and agriculture, rainbows, and climate change. As we learn about each weather or climate topic we will view these natural phenomena through the cultural lenses of the native peoples of the Pacific region through the historical writings and poetry, music, dance and films of Native Hawaiian and Indigenous Pacific Islanders. You will also participate in activities and in-class experiences that will allow you to experience some of the cultural aspects (e.g. hula, poetry, etc.) each week of the course.

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ATMO 102 Syllabus for Spring 2020   Page 1
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<td>100</td>
<td>25%</td>
</tr>
<tr>
<td>4 Assignments</td>
<td>100</td>
<td>25%</td>
</tr>
<tr>
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<td>50</td>
<td>12.5%</td>
</tr>
<tr>
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Adjustment of letter grade: One can receive an upward adjustment of letter grade for a number of reasons (e.g. very strong improvement during the semester, notable participation during class, exceptional effort). Under no circumstances will a reduction in letter grade be given, and these adjustments are made after the normal grades are assigned and therefore affect no one else’s letter grade.

Dropping the Course
You are responsible for managing your courses. If you need to drop without a “W” grade make sure you know the appropriate deadlines. This is your responsibility. If you miss the general drop date you will need a signature from me on the “Drop Form” if you drop the class after that date.

General Learning Objectives for Hawaiian, Asian, & Pacific Issue Classes
At the end of a course that fulfills the Hawaiian, Asian, and Pacific Issues Focus requirement, students will be able to:

**HLO1:** Explain the intersection of Native Hawaiian issues with Asian and/or Pacific Island issues.

**HLO2:** Analyze issues using the conceptual and ethical frameworks and practices of the cultural perspectives, values, and world views of the Indigenous peoples of Hawai‘i, and the Pacific and/or Asia.

**HLO3:** Integrate the histories, cultures, beliefs, arts, social, political, economic, or technological processes in their analysis of Hawai‘i, and the Pacific and/or Asia.

**HLO4:** Demonstrate respect and empathy as defined by the Indigenous peoples of Hawai‘i and the pacific and/or Asia in interpersonal and intergroup relationships.

Hallmarks of Hawaiian, Asian, & Pacific Issues Classes
To fulfill the Hawaiian, Asian, and Pacific Issues Focus requirement, at least two-thirds of a class must satisfy the following Hallmarks:

**H1.** The content should reflect the intersection of Asian and/or Pacific Island cultures with Native Hawaiian culture.

**H2.** A course can use any disciplinary or multi-disciplinary approach provided that a component of the course uses assignments or practica that encourage learning that comes from the cultural perspectives, values, and world views rooted in the experience of peoples indigenous to Hawai‘i, the Pacific, and Asia.
**H3.** A course should include at least one topic that is crucial to an understanding of the histories, or cultures, or beliefs, or the arts, or the societal, or political, or economic, or technological processes of these regions; for example, the relationships of societal structures to the natural environment.

**H4.** A course should involve an in-depth analysis or understanding of the issues being studied in the hope of fostering multi-cultural respect and understanding.

**Student Learning Objectives (SLOs):** Upon completion of the course, the student should be able to:

* NOTE: “HAP” represents Hawaiian, Asian and Pacific.

**Pacific Island Culture and Environment SLOs**

1. Identify key differences and similarities between Hawaiian and other Pacific Island Cultures.
2. Identify impacts of weather and climate on clothing style and development over time.
3. Describe their mythological representation of weather phenomena for a variety of Island peoples.
4. Describe the way in which clouds and cloud formation are represented in HAP mythologies.
5. Describe how precipitation type, timing, and patterns are related to cultural events and agriculture.
6. Describe the how weather phenomena are incorporated into the various dance forms of the Pacific Islands.
7. Identify examples of weather phenomena as represented in music, songs and chants.
8. Describe the way in which clouds and cloud formation are represented in HAP mythologies.
9. Describe the impact of weather on place names and wind names.
10. Describe the way in which regional wind patterns and how they relate to the location of HAP cultures.
11. Describe the way in which ocean currents and wave shape/types played a role in the development of surfing.
12. Describe the historical and current implication of El Niño events in the Pacific.
13. Be able to generalize how storms and other large weather events are depicted by HAP cultures.
14. Understand and critically examine the social impacts typhoons and hurricanes in HAP cultures.
15. Describe air pollution concerns for the peoples of HAP cultures in the past and present.
16. Identify the ways in which optical effects (e.g. rainbows) are incorporated into HAP mythologies.
17. Describe how the general climate and micro climates of the various Pacific Islands impacted agriculture.
18. Identify the ways in which HAP cultures will be impacted by climate change and sea level rise.

**Atmospheric and Environmental Science SLOs**

1. Demonstrate a familiarity with the basic vocabulary of meteorology.
2. Demonstrate a familiarity with the geographic location of Hawaii and the Pacific Islands.
3. Describe how temperature changes horizontally and vertically in the atmosphere.
4. Describe and explain the origin, composition, structure, and behaviors of the earth's atmosphere.
5. Understand and analyze important environmental problems related to the Pacific atmosphere.
6. Critically examine the phenomena of the Solar and Terrestrial Radiation and understanding the energy transfer by radiation, conduction, convection, and evapotranspiration and explain the factors that determine the distribution of solar energy over the Earth's surface and describe global patterns of temperature.
7. Understand and critically examine the atmospheric phenomena of temperature, moisture conditions, atmospheric stability, forms of condensation and precipitation, air pressure and winds, circulation of the atmosphere, role of air masses, and weather patterns.
8. Describe the major cloud types and explain the phenomena of rainfall, fog, snow, sleet, and frost.
9. Define a cold and warm front and explain the processes leading to the formation of each and also explain the formation of cyclones and anticyclones, tornadoes, hurricanes and typhoons.
10. Understand and describe the formation of thunderstorms, lightning and thunder.
11. Describe and analyze the changing climate in the past, present and future.
12. Understand the impact that people have on the atmospheric environment.
13. Differentiate between global warming and the greenhouse effect.
14. Describe the phenomenon of El Niño-Southern Oscillation and the impacts it has on global precipitation and cloud patterns.
15. Describe various types of atmospheric optical phenomena including rainbows, mirages, halos, crepuscular rays, sun dogs, sun pillars, corona and glories.
16. Understand the various impacts and mitigation strategies for climate change and sea level rise in the Pacific region.

**Lecture Topic Schedule and Reading Assignments**

All reading material will be provided in PDF format through Laulima and the Class Website. Page assignments are subject to change as is schedule for field trips! Activities, Experiences, and Field Trips and Holidays are Shaded. Readings that are *italicized* are not required, but are suggested reading.

<table>
<thead>
<tr>
<th>Week &amp; Day</th>
<th>Topic</th>
<th>Weather Readings</th>
<th>Native Voice Readings</th>
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</thead>
<tbody>
<tr>
<td>W1: 1/17</td>
<td>Activity/Experience – Ice Breaker and Class Bonding</td>
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<tr>
<td>W2: 1/20</td>
<td>HOLIDAY – Martin Luther King Jr. Day – No Class</td>
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<tr>
<td>W2: 1/22</td>
<td>Temperature and Clothing</td>
<td>MetEd Module (web link)</td>
<td>Keawe (2014: 12-33)</td>
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<tr>
<td>W3: 1/27</td>
<td>Activity/Experience – Clothing of the Pacific Islands</td>
<td></td>
<td>Hiroa (1924: 25-47)</td>
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<tr>
<td>W4: 2/5</td>
<td>Precipitation Across the Pacific</td>
<td>Current Precipitation Maps &amp; Satellite Data (Real Time Images)</td>
<td>Kamae (2005: DVD 60 min)</td>
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<tr>
<td>W4: 2/7</td>
<td>Activity/Experience – TBD (Hawaiian Music or other)</td>
<td></td>
<td>Kanahele (2012: xli-xliv: 438-441)</td>
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<tr>
<td>W5: 2/10</td>
<td>Pressure and Wind</td>
<td>MetEd Module (web link)</td>
<td>Alameda (1997: 10-13); Alokeanu (1866: Newspaper)</td>
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<tr>
<td>W6: 2/17</td>
<td>HOLIDAY – President’s Day – No Class</td>
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<td>W6: 2/19</td>
<td>Local Winds</td>
<td>Caviedes (2001: 234-249)</td>
<td>Ka Nupepa Kuokoa (1869)</td>
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<td>Kane (1997: 96-101)</td>
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<tr>
<td>W7: 2/26</td>
<td>Historical Impacts of North Pacific Storms</td>
<td>Nakina (2005: TBD)</td>
<td>Kauraka (1987: 52); Fanahawe (2001);</td>
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<tr>
<td>W7: 2/28</td>
<td>Activity/Experience – Poetry Writing in the Style of Pukui and Kauraka</td>
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<tr>
<td>W8: 3/6</td>
<td>NO CLASS – Dr. Griswold at at Meeting</td>
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<td>Clark (2011: 19-37)</td>
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<td>W9: 3/13</td>
<td>Activity/Experience – In-Class “Lightning” and “Hail”</td>
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<td>W10: 3/16</td>
<td>Spring Break – No Class</td>
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<tr>
<td>W10: 3/18</td>
<td>Spring Break – No Class</td>
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<tr>
<td>W10: 3/20</td>
<td>Spring Break – No Class</td>
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<tr>
<td>W11: 3/23</td>
<td>Hurricane and Typhoon Formation</td>
<td>Weather 2010 (weblink)</td>
<td>O’Malley (1993: 1-5); Hairama (1871)</td>
</tr>
</tbody>
</table>
Reading Materials for Course

References: Native Hawaiian Voice


Aloikeanu, D. A. K. (1866) "Na Makani", *Ke Au Okoa*, 7 May. (*Hawaiian Newspaper Clipping*)

Ami (1860) He Mele no ka Haku Hawai. *Ka Hae Hawai*, 25 July. (*Chant about Thunder for Prince Albert – Kalanikaukeoul, printed in Hawaiian Language Newspaper*)


*Ka Nupepa Kuokoa*. 18 December 1869, pg. 3. (*Hawaiian Newspaper Clipping*)

*Ka Nupepa Kuokoa*. 4 April 1971, pg. 2. (*Hawaiian Newspaper Clipping – stormy weather*)

*Ke Koo o Hawaii*. 29 August 1883, pg. 5. (*Hawaiian Newspaper Clipping*)


Lili‘oukalani, Queen (1878) *Alhoa ‘Oe Lyrics*


ATMO 102 Syllabus for Spring 2020 Page 5
Maikunu, J. H. (1862) *Ka Nupepa Kuokoa*, 22 February. (*Hawaiian Newspaper Clipping*)


Poliwela, D. W. (1862) “Na Makani”, *Ka Hoku o ka Pakipika*, 1 May. (*Hawaiian Newspaper Clipping*)


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**Guest UH Manoa Faculty Speakers - Native Hawaiian Voice, Science, & Culture (Planned, May be Modified)**

Ka’eo (Thomas) Duarte – Hydrology and Water Management

Rick Kaponowaiwaiola Barboza from Hui Ku Maoli Ola – Botany and Native Plants and Agriculture

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**References: Asian and Pacific Island Voice**


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**References: Intersection of Native Hawaiian, Asian and Pacific Island Cultures**


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* Hawaiian language newspaper clippings are obtained through the outstanding effort of the Hawaiian Language Newspaper Translation Project, UH Sea Grant, http://seagrant.soest.hawaii.edu/Hawaiian-language-newspaper-translation-project. Also, the majority of newspaper clippings are taken from coursework lesson plans produced by Steven Businger, Sara DaSilva, Kapōmaika‘i Stone, Iasona Ellinwood, Pauline W. U. Chiin available through Kahua A’o (http://manoa.hawaii.edu/kahuaao/atmospheric_sciences.html)

** Note that “Intersection” Readings as annotated here are ones that meet the intersection requirement by themselves. Throughout the course, the combination of readings covering similar topics in Hawaiian, Asian, and Pacific Cultures provide the “Intersection” required by the HAP focus.

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**Atmospheric and Environmental Science References**


MetEd Modules (2014) [https://www.meted.ucar.edu/index.php](https://www.meted.ucar.edu/index.php), University Corporation for Atmospheric Research.