

CHARLES H. FLETCHER, III

CURRENT POSITION

Associate Dean for Academic Affairs and Professor of Earth Sciences
Vice-Chair, Honolulu Climate Change Commission
School of Ocean and Earth Science and Technology (SOEST)
University of Hawai'i at Mānoa, 1680 East-West Road, Honolulu, HI 96822
(808) 956-2582 ph, (808) 294-0386 cell; fletcher@soest.Hawai'i.edu

EDUCATION

University of Delaware, PhD (1986)
University of Delaware, MS (1982)
Albion College, BA (1979)

RESEARCH ACTIVITIES

Anthropogenic sea level rise & Climate change science; Pacific island climate change adaptation; Atoll reef island geo-history, Evolution, & Prospects; Coastal processes & hazards; Paleoclimatology; Reef paleoecology & Geo-history; Carbonate architecture, depositional environments & Sedimentology; Coastal Zone Management.

RESEARCH GRANTS (examples)

01/01/2017 – Current 17 awards; TOTAL \$1,980,258
2017 Simulating the Impacts of Sea Level Rise on Majuro Atoll Using a Digital Elevation Model and Delivery to the Marshall Islands Government (\$88,254), Dept. Interior, USGS
2018 Updating the Hawaii Historical Shoreline Database: Modeling Past, Present, and Future Shoreline Change in Order to Empower Coastal Zone Management Agencies to Assess and Analyze Shoreline Management Policies for Greater Coastal Resilience (\$225,000), Dept. Commerce, NOAA
2019 Applied Marine Research to Support Management of Papahānaumokuākea Marine National Monument (\$419,286), Dept. Interior, USFW

SELECTED CONSULTANCIES

2019-Current Asian Development Bank; Resilient Atoll Nations in Productive Oceans: High level dialogue and knowledge sharing event, Kurumba Resort, Maldives. 27-29 August, 2019
2019-Current Board of Advisors, First Insurance Co. of Hawaii, Honolulu, HI
2016-2018 Board Water Supply, Honolulu, Impacts of Climate Change on Honolulu Water Supplies and Planning Strategies for Mitigation
2016-2018 Office of Planning, Hawai'i DBEDT, Report Assessing the Feasibility and Implications of Managed Retreat Strategies for Vulnerable Coastal Areas in Hawai'i.
2011-2013 DOT, Oahu Metropolitan Planning Organization, Transportation Asset Climate Change Risk Assessment, Island of Oahu, HI.
2008-2009 DOT, Hawai'i Island Commercial Harbor Master Plan, Harbors Division.

INSTRUCTION

GG101 - Dynamic Earth (every semester)
GG420/620 – Beaches, Reefs, and Climate Change; Coastal Geology (spring semesters)

EMPLOYMENT HISTORY

2010 - present Associate Dean for Academic Affairs – SOEST (retaining the title Professor)
2004 - 2010 Chairperson, Department of Geology and Geophysics, UH Manoa
1997 – present Professor, Department of Geology and Geophysics, UH Manoa
1993 - 1996 Associate Professor, University of Hawai'i
1991 - 1992 Assistant Professor, University of Hawai'i
1986 - 1990 Assistant Professor, West Chester State University (PA)

AWARDS

2018 O'ahu Surf rider Foundation, John Kelly Lifetime Achievement Award
2018 Pacific Risk Management Ohana (Primo) PRiMO Leadership Award

2011	UH Mānoa Chancellor's Citation for Meritorious Teaching
2011	U.S. Environmental Protection Agency, Environmental Achievement Award in Climate Science
2006	Hung Wo and Elizabeth Lau Ching Foundation Award for Faculty Service to the Community
2004	UH Manoa Chancellor's Office "Leading Researcher at UHM"
2002	Fellow, The Geological Society of America
2001	UH Mānoa Chancellor's Citation for Meritorious Teaching
2001	Robert W. Clopton Award for Outstanding Service to the Community, University Hawai'i Regents
2001	Board of Land and Natural Resources, Resolution in Recognition of Distinguished Public Service

SYNERGISTIC ACTIVITIES

2019	Sea Level Rise Learning Trip – Joined team of 10 City of Honolulu and State of Hawai'i department heads on 1 week excursion to Miami, Miami Beach, Charleston and Boston to meet with key agencies to exchange best practices in adapting to sea level rise.
2019-2020	Invited Speaker, <i>Climate Change: Connecting the Dots</i> , Punahou School, San Francisco University High School, Blue Oak School, New Roads School, Mark Day School
2019	Keynote Speaker, Resilient Atoll Nations in Productive Oceans, Male', Maldives
2019	Keynote Speaker, California Association Independent Schools, Annual Conference, Santa Barbara
2019	Keynote Speaker, Republic of the Marshall Islands, 3rd National Dialog on Climate Change, Ebeye.
2018	Keynote Speaker, Republic of the Marshall Islands, 2nd National Dialog on Climate Change, Majuro.
2017-2019	Design Team, University of Hawai'i at Mānoa Administrative Re-organization. Team Lead: 1) Office of Research, Graduate Education, and Scholarship; 2) Office of Climate, Equity, and Conflict Resolution.
2018	Vice-Chair, Honolulu Climate Change Commission: https://www.resilientoahu.org/about-the-commission/
2017	Waikiki Beach Community Advisory Committee, Waikiki Beach SIDA
2017	Expert Working Group, Resilient Hawai'ian Communities Initiative (PICCC)
2016-2017	Lead Author, USAPI Regional Team for the US Fourth National Climate Assessment
2016-2017	Planning Team, City and County of Honolulu, Most Resilient City
2015-present	Hawai'i OP, DLNR – Interagency Climate Change Adaptation Committee
2011-present	Board of Directors, "Water for Life" NSF, Water and climate among US Pacific Islands
2011	NOAA – Papahānaumokuākea Climate Change Working Group
2010	NOAA - Pacific Islands Regional Climate Assessment Core Team
2010	Hawai'i Tourism Authority, Climate Change Working Group
2009-present	Hawai'i Lifeguard Association, Board of Trustees
2008-2018	MOU, DLNR-OCCL "Coastal Lands Data Center"
2007-present	Ocean Resources Management Plan Working Group, DBEDT
2007-2012	Legacy Land Conservation Commission, Department of Land and Natural Resources
2005-2008	State Shoreline Working Group, Hawai'i Department of Land and Natural Resources
2003-2004	National Research Council, Committee on National Needs for Coastal Mapping and Charting

GRADUATE STUDENTS - PRINCIPAL ADVISOR

1. In progress, Anna Mikkelson (MS) High frequency shoreline changes, Kuhio Beach, Waikiki, Hawai'i.
2. In progress, Kammie Tavares (MS) Back-shore land use and projected hardening under three SLR scenarios.
3. In progress, Kristian MacDonald (MS) Remote sensing detection of shoreline change in Hawai'i.
4. 2019, Shellie Habel (PhD) Groundwater inundation modeling associated with sea level rise
5. 2019, Haunani Kane (PhD) Holocene sea level rise in the Pacific
6. 2016, Shellie Habel (MS) Groundwater inundation associated with sea level rise
7. 2014, Haunani Kane (MS) Climate change impacts on coastal wetlands
8. 2013, Brad Romine (PhD) Coastal change in the Hawaiian Islands
9. 2013, Tiffany Anderson, (PhD) Modeling shoreline change (w/ N. Frazer)
10. 2009, Chris Bochicchio, (MS) Windward sediment resources
11. 2008, Brad Romine, (MS) Coastal change on southeast Oahu
12. 2007, Sean Vitousek, (MS) Modeling hazard inundation in Hawai'ian littoral cells
13. 2005, Chris Conger (MS) Carbonate shelf substrate variability.
14. 2004, Ayesha Genz (MS) Polynomial forecasting of shoreline position.
15. 2003, Mary Engels (MS) Environmental controls on reef accretion history.
16. 2002, Dolan Eversole (MS) Kaanapali, Maui shoreline variability this century.
17. 2002, Tara Miller (MS) Sedimentology and shoreline variability at Waikiki, Oahu.

18. 2002, John Rooney (PhD) Littoral processes, sediment budget & shoreline history of Maui.
19. 2001, Eric Grossman (PhD) Hawai'i sea-level history and reef development.
20. 2001, Ebitari E. Isoun (MS) Multispectral mapping of reef habitat variability.
21. 2001, Zoe Norcross (MS) Large-scale alongshore meanders on a carbonate beach.
22. 2000, Jodi Harney (PhD) The carbonate sediment factory.
23. 2000, Clark Sherman (PhD) Accretion and diagenesis of a submerged Pleistocene reef.
24. 1999, Scott Calhoun (PhD) A sediment budget for Hanalei Bay, Kauai.
25. 1998, Melanie Coyne (MS) Historical shoreline mapping.
26. 1997, Eric Grossman (MS) Kapapa Stand of the sea: sea level in Hawai'i 5000 BP to present.
27. 1996, Rob Mullane (MS) Beach loss on Oahu.
28. 1995, Scott Calhoun (MS) Geologic History of Hanalei Coastal Plain
29. 1991, Jennifer van Pelt (MS) West Chester University, Wetland record of sea level movement

POST-DOCTORAL SCHOLARS

1. Dr. Tiffany Anderson – Modeling Shoreline Evolution, 2013-current
2. Dr. Brad Romine – Shoreline Evolution on a Reef-fronted Volcanic island, 2013-2014
3. Dr. Clark Sherman – Drowned Quaternary Reefs Architecture in Hawai'i, 2000-2003
4. Dr. Eric Grossman – Holocene Reef Evolution in Hawai'i, 2001-2002
5. Dr. Jodi Harney – Carbonate Reef Sediment Production, 2000-2002
6. Dr. Scot Calhoun – Coastal Sediment Budget Hanalei Bay, 1998-2000

PUBLICATIONS <http://www.soest.Hawaii.edu/coasts/publications/index.html>

1. Keener, V., D. Helweg, S. Asam, S. Balwani, M. Burkett, C. Fletcher, T. Giambelluca, Z. Grecni, M. Nobrega-Olivera, J. Polovina, and G. Tribble, 2018: Hawai'i and U.S.-Affiliated Pacific Islands. In *Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II* [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA. doi: [10.7930/NCA4.2018.CH27](https://doi.org/10.7930/NCA4.2018.CH27)
2. Anderson, T.R. et al. (2018) Modeling multiple sea level rise stresses reveals up to twice the land at risk compared to strictly passive flooding methods. *Scientific Reports* (open access): <https://www.nature.com/articles/s41598-018-32658-x>
3. Habel, S., Fletcher, C.H., Rotzoll, K., El-Kadi, A., Oki, D.S. (2019) Comparison of a Simple Hydrostatic and a Data-Intensive 3D Numerical Modeling Method of Simulating Sea-Level Rise Induced Groundwater Inundation for Honolulu, Hawai'i, USA
1. Summers, A. et al. (2018) Failure to protect beaches under slowly rising sea level. *Climatic Change*: <https://link.springer.com/article/10.1007/s10584-018-2327-7>; open access
2. Fletcher, C.H. (2018) *Climate Change: What the science tells us*, 2nd Ed., J. Wiley & Sons, NY, 265p.
3. Fletcher, C.H. (2017) *Physical Geology: The Science of Earth*, 3rd Ed., J. Wiley and Sons, NY, 678p.
4. Kane, H. H.*, Fletcher, C. H., Cochrane, E. E., Mitrovica, J. X., Habel, S. *, Barbee, M. 2017. Coastal plain stratigraphy records tectonic, environmental, and human habitability changes related to sea-level drawdown, 'Upolu, Sāmoa. *Quaternary Research* (2017), 87, 246–257 doi:10.1017/qua.2017.2
5. Habel, S., Fletcher, C.H., Rotzoll, K. and El-Kadi, A. 2017. Development of a model to simulate groundwater inundation induced by sea-level rise and high tides in Honolulu, Hawai'i. *Water Research*. ISSN 0043-135.<http://dx.doi.org/10.1016/j.watres.2017.02.035>
6. Vitousek*, S., Barnard, B.L., Fletcher, C.H., Frazer, L.N., Erikson, L. & Storlazzi C.D. 2017. Doubling of coastal flooding frequency within decades due to sea-level rise. *Nature Scientific Reports* 7: 1399 DOI:10.1038/s41598-017-01362-7
7. Spirandelli, D.J., Anderson, T.R., Porro, R., and Fletcher, C.H. 2016. Improving Adaptation Planning for Future Sea-Level Rise: Understanding Uncertainty and Risks Using a Probability-Based Shoreline Model. *Journal of Planning and Research* 1-14. DOI: [10.1177/0739456X16657160](https://doi.org/10.1177/0739456X16657160)

8. Habel*, S., Fletcher, C. H., Barbee, M., Anderson*, T. R. 2016. The influence of seasonal patterns on a beach nourishment project in a complex reef environment. *Coastal Engineering: Volume 116*, Pages 67–76 <http://dx.doi.org/10.1016/j.coastaleng.2016.06.006>
9. Romine*, B.M., Fletcher, C.H., Frazer, L.N., and Anderson*, T.R., 2016. Beach erosion under rising sea-level modulated by coastal geomorphology and sediment availability on carbonate reef-fringed island coasts. *Sedimentology*. DOI 10.1111/sed.12264
10. Fletcher C.H. (2016) *Climate Change Booklets for the USAPI*. Pacific Islands Climate Education Partnership. NSF Grant #1239733
11. Cochrane, E., Kane, H., Fletcher, C., Horrocks, M., Mills, J., Barbee, M. Morrison A., Matavai Tautunu, M., 2015. Lack of suitable coastal plains likely influenced Lapita (~2800 cal BP) settlement of Samoa: Evidence from SE Upolu. *The Holocene*, DOI: 10.1177/0959683615596841
12. Anderson, T.R., Fletcher, C.H., Barbee, M.M., Frazer, L.N., and Romine, B.M. 2015. Doubling of coastal erosion under rising sea level by mid-century in Hawai'i. *Natural Hazards*. DOI 10.1007/s11069-015-1698-6
13. Kane H H, Fletcher C H, Frazer L N, Anderson T, Barbee, M. 2015. Modeling sea-level rise vulnerability of coastal environments using ranked management concerns. *Climate Change*. DOI 10.1007/s10584-015-1377-3
14. Anderson, T.R., Frazer, L.N., and Fletcher, C.H., 2015. Long-term shoreline change at Kailua, Hawai'i, using regularized single transect. *Journal of Coastal Research*. West Palm Beach (Florida), ISSN 0749-0208. <http://dx.doi.org/10.2112/JCOASTRES-D-13-00202.1>
15. Kane H H, Fletcher C H, Frazer N, Barbee, M. (2015) Critical elevation levels for flooding due to sea-level rise. *Regional Environmental Change*. DOI 10.1007/s10113-014-0725-6
16. Sherman, C.E., Fletcher, C.H., Rubin, K.H., Simmons, K.R., and Adey, W.H., 2014. Sea-level and reef accretion history of Marine Oxygen Isotope Stage 7 and late Stage 5 based on age and facies of submerged late Pleistocene reefs, Oahu, Hawai'i. *Quaternary Research* 81: 138-150
17. Anderson, T.R. and Frazer, L.N., 2013. Toward Parsimony in Shoreline Change Prediction (III): B-splines and noise handling, *Journal of Coastal Research*.
18. Romine, B.M., Fletcher, C.H., Barbee, M.M., Anderson, T.R., and Frazer, L.N., 2013. Are beach erosion rates and sea-level rise related in Hawai'i?. *Global and Planetary Change*, 108: 149-157
19. Cooper, H.M., Chen, Q., Fletcher, C.H., and Barbee, M.M., 2013. Assessing vulnerability due to sea-level rise in Maui, Hawai'i using LiDAR remote sensing and GIS. *Climate Change*, 116:547-563, 16 p.
20. Cooper, H.M., Fletcher, C.H., Chen, Q. and Barbee, M.M., 2013. Sea-level rise vulnerability mapping for adaptation decisions using LiDAR DEMs. *Progress in Physical Geography*, 001-22, 22 p.
21. Rotzoll, K. and Fletcher, C., 2012, Assessment of groundwater inundation by sea level rise; *Nature Climate Change*, 3, 477-481, DOI:10.1038/NCLIMATE1725
22. Fletcher, C.H., Romine, B.M., Genz, A.S., Barbee, M.M., Dyer, M., Anderson, T.R., Lim, S.C., Vitousek, S., Bochicchio, C., and Richmond, B.M., 2012, National assessment of shoreline change: Historical shoreline change in the Hawaiian Islands: U.S. Geological Survey Open-File Report 2011–1051, 55 p.
23. Haunani H. Kane, Charles H. Fletcher, Bradley M. Romine, Tiffany R. Anderson, Neil L. Frazer, and Matthew M. Barbee (2012) Vulnerability Assessment of Hawai'i's Cultural Assets Attributable to Erosion Using Shoreline Trend Analysis Techniques. *Journal of Coastal Research*, West Palm Beach, (Florida). 28(3), 533-539. ISSN 0749-0208
24. Romine, B.M., Fletcher, C.H., Genz, A.S., Barbee, M.M., Dyer, Matthew, Anderson, T.R., Lim, S.C., Vitousek, Sean, Bochicchio, Christopher, and Richmond, B.M., 2012, National Assessment of Shoreline Change: A GIS compilation of vector shorelines and associated shoreline change data for the sandy shorelines of Kauai, Oahu, and Maui, Hawai'i: U.S. Geological Survey Open-File Report 2011-1009.
25. Romine, B.M. and Fletcher, C.H., 2012. A summary of historical shoreline changes on beaches of Kauai, Oahu, and Maui; Hawai'i. *Journal of Coastal Research*. West Palm Beach (Florida), ISSN 0749-0208.
26. Romine, B.M. and Fletcher, C.H. 2012, Armoring on Eroding Coasts Leads to Beach Narrowing and Loss on Oahu, Hawai'i, in *Pitfalls of Shoreline Stabilization: Selected Case Studies*, J.A.G. Cooper, G. Andrew and O.H. Pilkey

(eds.), Coastal Research Library 3, DOI 10.1007/978-94-007-4123-2_10, Springer Science and Business Media, Dordrecht, Netherlands.

27. Ostrander, C.E., Seim, H., Smith, E., Studer, B., Luscher-Aissauoi, A., and Fletcher, C., 2011 Contributions of the U.S. integrated ocean observing system to national and regional coastal hazards and resource information, tools, and services, *Marine Technology Journal*, v. 45, no. 1, p. 29-38.
28. Fletcher, C.H., and Richmond, B.M., 2010, Climate change in the Federated States of Micronesia: Food and water security, climate risk management, and adaptive strategies. Report of Findings, 32p., Sea Grant College of Hawai'i: http://seagrant.soest.Hawai'i.edu/climate-change-federated-states-of_micronesia.
29. Fletcher, C.H. (2010) *Physical Geology: The Science of Earth*, J. Wiley and Sons, Pub., NY, 679p.
30. Fletcher, C.H., Boyd, R., Neal, W.J., Tice, V. (2010) *Living on the Shores of Hawai'i: Natural Hazards, the Environment, and our Communities*, UH Press, 371p.
31. Fletcher, C.H. (2010) *Hawai'i's Changing Climate*, Briefing Sheet (2010). University of Hawai'i Sea Grant College Program, Center for Island Climate Adaptation and Policy, Honolulu, 7p.
32. Anderson, T.R., Frazer, L.N., Fletcher, C.H. (2009) Transient and persistent shoreline change from a storm. *Geophysical Research letters*, v. 37, L08401 and AUX MATERIALS
33. Bochicchio, C., Fletcher, C.H., Dyer, M., Smith, T. (2009) Reef-top sediment bodies: Windward Oahu, Hawai'i. *Pacific Science*, vol. 63, no. 1:61-82.
34. Conger, C.L., Fletcher, C.H., Hochberg, E.J., Frazer, N., Rooney, J.J., (2009). Remote sensing of sand distribution patterns across an insular shelf: Oahu, Hawai'i. *Marine Geology*, vol. 267, no. 3-4: 175-190.
35. Fletcher, C.H. (2009) Sea level by the end of the 21st century: A review. *Shore and Beach*, v. 77, no. 4, pp. 1-9.
36. Fletcher, C.H., Fiersten, E.J. (2009) Hawai'i, in *The Worlds Coastal Landforms*, Bird, E.C.F. (ed.), Chapter 1.16, Springer Verlag, Heidelberg.
37. Fletcher, C.H., Richmond, B.M. (2009) Climate Change in the Federated States of Micronesia. *Ka Pili Kai*, Fall, 31.3, p. 3-5.
38. Frazer, L.N., Anderson, T.R., Fletcher, C.H. (2009) Modeling storms improves estimates of long-term shoreline change. *Geophysical Research Letters*, v. 36, L20404.
39. Frazer, L.N., Genz, A.S., and Fletcher, C.H. (2009) Toward parsimony in shoreline change prediction (I): Basis function methods. *Journal of Coastal Research*, vol. 25, no. 2: 366-379.
40. Genz, A.S., Frazer, L.N., and Fletcher, C.H. (2009) Toward parsimony in shoreline change prediction (II): Applying basis function methods to real and synthetic data. *Journal of Coastal Research*, vol. 25, no. 2: 380-392.
41. Romine, B.M., Fletcher, C.H., Frazer, L.N., Genz, A.S., Barbee, M.M., and Lim, S.C. (2009) Historical shoreline change, southeast Oahu, Hawai'i: Applying polynomial models to calculate shoreline change rates. *Journal of Coastal Research*, vol. 24, no. 6: 1236-1253.
42. Engels, M.S., Fletcher, C.H., Field, M., Conger, C.L., Bochicchio, C. (2008) Demise of reef-flat carbonate accumulation with late Holocene sea-level fall: evidence from Molokai, Hawai'i. *Coral Reefs*.
43. Fletcher, C.H., Bochicchio, C., Conger, C.L., Engels, M., Feirstein, E.J., Grossman, Grigg, R., E.E., Harney, J.N., Rooney, J.J., Sherman, C.E., Vitousek, S., Rubin, K., Murray-Wallace, C.V. (2008) *Geology of Hawai'i Reefs*. Chapter 11 in "Coral Reefs of the U.S.A.", Springer, p. 435-488.
44. Norcross, Z., Fletcher, C.H., Barbee, M., Genz, A.S., and Romine, B. (2008) Bringing sea-level rise into long range planning considerations on Maui, Hawai'i. *Proceedings: Solution to Coastal Disaster 2008*, Oahu, Hawai'i, April 13-16, p. 107-116.
45. Romine, B., Fletcher, C.H., Genz, A.S., Barbee, M., Lim, S.-C., Dyer, M. and Vinson, A. (2008) Measuring historical shoreline change, applying new polynomial change models: southeast Oahu, Hawai'i. *Proceedings: Solution to Coastal Disaster 2008*, Oahu, Hawai'i, April 13-16, p. 668-678.

46. Rooney J, Wessel P, Hoeke R, Weiss J, Baker J, Parrish F, Fletcher CH, Chojnacki J, Garcia M, Brainard R, Vroom P (2008) Geology and geomorphology of coral reefs in the northwestern Hawai'ian Islands. In: Riegl BM, Dodge RE (eds) Coral Reefs of the USA. Coral Reefs of the World, Vol 1, Springer, pp. 515-567
47. Vitousek, S. and Fletcher, C.H. (2008) Maximum annually recurring wave heights in Hawai'i. *Pacific Science*, vol. 62, no. 4: 541-553.
48. Vitousek, S., Fletcher, C.H. and Barbee, M. (2008) A practical approach to mapping extreme wave inundation: consequences of sea-level rise and coastal erosion. Proceedings: Solution to Coastal Disaster 2008, Oahu, Hawai'i, April 13-16, p. 85-96
49. Genz, A.S., Fletcher, C.H., Dunn, R.A., Frazer, L.N., and Rooney, J.J. (2007) The predictive accuracy of shoreline change rate methods and alongshore beach variation on Maui, Hawai'i. *Journal of Coastal Research*, 23(1), p. 87-105.
50. Genz, A.S., L. Neil Frazer, Charles H. Fletcher, 2007, Improving statistical validity in calculating erosion hazards from historical shorelines. Proceedings, Coastal Sediments '07, New Orleans, ASCE, May 13-17, p. 1799-1812.
51. Vitousek, S., Fletcher, C.H., Merrifield, M.A., Pawlak, G., and Storlazzi, C., 2007, Model scenarios of shoreline change at Kaanapali Beach, Maui, Hawai'i: Seasonal and extreme events. Proceedings, Coastal Sediments '07, New Orleans, ASCE, May 13-17, p. 1227-1240.
52. Conger, Christopher L., Eric J. Hochberg, Charles H. Fletcher, III, and Marlin J. Atkinson (2006) A new method of decorrelating remote sensing color bands from bathymetry in optically shallow waters. *IEEE Transactions on Geoscience and Remote Sensing*. 44(6): 1655-1660
53. Conger, C.L., Fletcher, C.H., Barbee, M., (2005) Artificial neural network classification of sand in all visible submarine and subaerial regions of a digital image. *Journal of Coastal Research*, 21.6, p. 1173-1177.
54. Fletcher, C.H., Murray-Wallace, C., Glenn, C., Popp, B., Sherman, C. (2005) Age and origin of late quaternary eolianite, Kaiehu Point (Moomomi), Molokai, Hawai'i. *Journal of Coastal Research*, SI 42, p. 97-112.
55. Rooney, J.J.B., and Fletcher, C.H. (2005) Shoreline change and Pacific climatic oscillations in Kihei, Maui, Hawai'i. *Journal of Coastal Research*, v. 21.3, p. 535-547.
56. Rooney, J.J.R., Fletcher, C.H., Grossman, E.E., Engels, M., Field, M.E. (2004) El Nino influence on Holocene reef accretion in Hawai'i. *Pacific Science*, v. 58, no. 2, p. 305-324.
57. Engels, M.S., Fletcher, C.H., Field, M.E., Storlazzi, C.D., Grossman, E.E., Rooney, J.J.B., Conger, C.L., and Glenn, C. (2004) Holocene reef accretion: Southwest Molokai, Hawai'i, U.S.A., *Journal of Sedimentary Research*, v. 74, no. 2, p. 255-269.
58. Grossman, E.E. and Fletcher, C.H. (2004) Holocene reef development where wave energy reduces accommodation space, Kailua Bay, Windward Oahu, Hawai'i, U.S.A., *Journal of Sedimentary Research*, v. 74, no. 1, p. 49-63.
59. Fierstein, E., and Fletcher, C.H. (2004) Hawai'i's coastline: Chapter for the world's coastline, ed. Eric Bird, (44p.) <http://www.wkap.nl/subjects/TWCO>
60. Fletcher, C., Rooney, J., Barbee, M., Lim, S.-C., and Richmond, B. (2003) Mapping shoreline change using digital orthophotogrammetry on Maui, Hawai'i. *Journal of Coastal Research*, Special Issue No. 38, p. 106-124.
61. Rooney, J., Fletcher, C.H., Barbee, M., Eversole, D., Lim, S.C., Richmond, B.M., and Gibbs, A., (2003) Dynamics of sandy shorelines in Maui, Hawai'i: Consequences and causes. *Coastal Sediments*, '03.
62. Harney, J.N., and Fletcher, C.H. (2003) A budget of carbonate framework and sediment production, Kailua Bay, Oahu, Hawai'i. *Journal of Sedimentary Research*, v. 73, no. 6, p. 856-868.
63. Norcross, Z., Fletcher, C.H., Rooney, J.J.R., Eversole, D., and Miller, T.L., 2003. Hawai'ian beaches dominated by longshore transport. Proceedings, Coastal Sediments '03, Clearwater, Florida, May 18-23, 2003.
64. Eversole, D. and Fletcher, C.H. (2003) Longshore sediment transport rates on a reef-fronted beach: Field data and empirical models, Kaanapali Beach, Hawai'i: *Journal of Coastal Research*, v. 19, p. 649-663.
65. Miller, T.L. and Fletcher, C.H. (2003) Waikiki: Historical analysis of an engineered shoreline. *Journal of Coastal Research*, v. 19.4, p. 1026-1043.

66. Harney, J.N. and Fletcher, C.H. (2003) Modeling biogenic sediment production on carbonate coasts. *Coastal Sediments '03*.
67. Isoun, E., Fletcher, C.H., Frazer, N., and Gradie, J. (2003) Multi-spectral mapping of reef bathymetry and coral cover; Kailua Bay, Hawai'i. *Coral Reefs*, v. 22, p. 68-82.
68. Fletcher, C.H. and Murray-Wallace, C., Eds. (2002) Coastal environmental change during sea level highstands: Special Issue, 12 papers, *Sedimentary Geology*.
69. Fletcher, C.H., Grossman, E.E., Richmond, B.M., Gibbs, A.E. (2002) Atlas of natural hazards in the Hawai'ian coastal zone. U.S. Geological Survey, Denver, CO, Geologic Investigations Series I-2761, 182p. <http://geopubs.wr.usgs.gov/i-map/i2761/>
70. Norcross, Z.M., Fletcher, C.H., and Merrifield, M. (2002) Annual and interannual changes on a reef-fringed pocket beach: Kailua Bay, Hawai'i. *Marine Geology* 190, p. 553-580.
71. Calhoun, R.S., C.H. Fletcher, and J.N. Harney (2002) A budget of marine and terrigenous sediments, Hanalei Bay, Kauai, Hawai'ian Islands. *Sedimentary Geology*, 150, 1-2, 61-87.
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