Seminar on Submarine Groundwater Discharge
GG 711 Special Topics: CRN 78772 (3 credits)
Wednesdays 2:30-5:00, POST 703 and/or 723

Professor Craig R. Glenn, POST 720A, 956-2200; glenn@soest.hawaii.edu

THIS COURSE IS OPEN TO GRADUATES AND UNDERGRADUATES

Course Description: As the title of this course implies, the major focus of this class is Submarine Groundwater Discharge (SGD), but in reality the purpose of this course is to introduce and cover the wide spectrum of processes that involve the origin, cycling, fate and impacts of all marine and fresh waters that eventually end up blending and discharging into the sea. To that end, this course is thus a Seminar, and each week will feature a new specialist guest speaker to learn from and discuss ideas with. Examples of topics covered include how seemingly “invisible” SGD is detected and measured by tracer techniques and remote sensing (satellite, aircraft, drone, subsurface electrical resistivity), the roles of climate and precipitation changes, how groundwater models are conceived and constructed and applied, circulation within coastal aquifers, the consequences of climate change and sea level rise/coastal flooding, the socio-economics of SGD, the legacy and survival of Hawaiian fishponds and anchialine ponds, impacts due to agriculture, wastewater, and many other sources of pollution, and impacts on coastal ecology and food chains, including harmful algal blooms and both deleterious as well as sustaining effects on limu-algae and our coral reefs. While the discussions and concepts are universal, many will draw insights directly from within Hawai‘i.

Assigned readings are distributed before each talk to familiarize students with the topic. Invited speaker's PowerPoint presentations are posted on Laulima and the talks will be videotaped and available online. When applicable, some talks will coincide with WWRC Seminars. The one session per week seminar provides ample time for in-depth yet leisurely personal discussions with each speaker. The course grade is based on class participation and turning in a class journal at the end of the semester. Contact Craig Glenn if you would like a sampling of speakers and topics from past years.
Course Learning Outcomes:
1) Improve critical thinking
2) Gain qualitative and quantitative data interpretation skills, particularly as related to the environment and environmental impacts of groundwater and submarine groundwater discharge systems.
3) Learn applications of field and laboratory techniques in the study of groundwater and submarine groundwater discharge.
4) Classroom discussions and presentations improve effective communication.

Disability Access:
If you have a disability and related access needs the Department will make every effort to assist and support you. For confidential services students are encouraged to contact the Office for Students with Disabilities (known as “Kokua”), Room 013 of Queen Lili‘uokalani Center for Student Services: Email: kokua@hawaii.edu URL: ww.hawaii.edu/kokua.