Delivering science to support sustainability of our ecosystems and island communities

Five guiding science themes:
- Coastal adaptation and planning
- Drought in the Pacific Islands
- Forest conservation in a changing environment
- Core questions for resource managers
- Adaptation and survival in low islands and atolls
PI-CASC sponsors relevant actionable research informing climate adaptation, including:

- Building detailed elevation maps and modeling sea level rise projections across the Pacific to explore inundation and coastal erosional hazards;
- Determining the effects of invasive species on water flow through Hawaiian forests and of drought on soil moisture with changes in rainfall patterns;
- Quantifying historic and current shoreline shifts and the impacts on water quality in estuarine fishponds with rising sea levels;
- Engaging in novel cross-disciplinary projects, such as understanding the effects of climate change on migration of Marshall Islanders, and integrating science with local knowledge in producing a community vulnerability assessment.

PI-CASC promotes active cooperation with local stakeholders:

- The Manager Climate Corps program at the University of Hawai‘i at Hilo builds research partnerships with Hawai‘i Island natural resource managers to develop science products to aid future climate change adaptation. Four stakeholder-driven projects focus on:
  - climate-smart agriculture using invasive albizia trees as sustainable fertilizer;
  - impacts on South Kona fisheries from increasing ocean temperatures;
  - effectiveness of habitat restoration for climate adaptation of Hawaiian honeycreepers;
  - DEM mapping to model watershed erosion for better future management.
- At the University of Guam, PI-CASC is developing, with the Geography Dept., a Geographic Information System (GIS) academic program with a Micronesia-focused curriculum to:
  - provide skilled personnel to improve spacial analysis for natural resource agencies;
  - enhance informed decision-making on sustainability, resilience, and adaptation.

PI-CASC is developing future climate scientists:

- Funding supports undergraduate & graduate research, education, and degree success.
- To date, 22 Bachelor’s, 23 Master’s, and 8 PhDs have been earned; 20 more degrees in progress.
- Students across the consortium have been supported to attend field intensives and other climate adaptation science trainings to gain new skills and build professional contacts.