Hawaii Invasive Species Council Strategic Planning Webinar:
Incorporating Climate Change in Invasive Species Planning in Hawaii
In partnership with the Pacific Islands Climate Change Cooperative (PICCC)

Participants: Deanna Spooner (PICCC), Lucas Fortini (PICCC) Emily Montgomery (HISC), Regina Ostergaard-Klem (HPU), Julia Parish (OISC), Josh Atwood (HISC), Laura McIntyre (DOH)

Notes:

Introduction to Pacific Islands Climate Change Cooperative (PICCC), Deanna Spooner:

- Part of an international network of cooperative (22) - piccc.net
- Impetus to form in 2009 from DOI – staffed from USFWS, USGS, NPS
- Mission: to assist those who manage native species, island ecosystems and key cultural resources in adapting their management to climate change for the continuing benefit of the people of the Pacific Islands; improve the ability of native island species and ecosystems to accommodate future climate change and related perturbations, and support the long-term protection of key cultural resources by providing useful projections of climate and natural resource change in the Pacific Islands, innovative management options, and a membership that supports coordinated action among institutional and community stakeholders.

Presentation: Preparing for impacts of climate change on invasive plants in Hawaii, Lucas Fortini

- Lucas has been conducting primary internal projects over the past few years
- Project focusing on ecosystem modifying invasive plant species
  - All results and data are sharable
  - Areas available/hospitable increase by 11%, mitigation within these habitats will be increasingly important
  - Need better distribution data for these species
- Extreme weather events are an important pathway of invasive species through strong winds, tidal/wave surges, creating disturbed sites, etc.
- Social context of invasive species: choices that households make for suitable landscape plants, biofuel alternatives, etc.
- Invasive species augment climate impacts: fire risk, watershed yields, damage from extreme events (i.e. Albizia on Big Island)
- Conservation context is very important
- PICCC completed a very comprehensive study of native plants responses to climate change, realizing need to get a better handle on how native species may respond as well
- Management of invasive species is/will be a major component of preparing for climate change, we need to leverage opportunities to increase awareness/ support for this work in the context of adaption and mitigation
- ISCs are very well suited to managing under shifting scenarios

Discussion:

- ISCs tasked this past year with mapping the distribution of Albizia along state highways, more data may become available through these efforts
- Since the distribution of *Tectococcus* for strawberry guava, there should be more distribution data available for this plant
- There are a lot of opportunities for collaboration, i.e. projects and data needs
- DOH Role: primarily concerned with potential health impacts, i.e. mosquitos that carry diseases. They have very limited resources, focus on major airports as points of entry

Current Projects:

- There have not been a lot of projects that integrate invasive species issues with climate change issues. Some projects have acknowledged that the work would increase resiliency
- There is current research (US FWS) relating to mosquitos and different techniques of sterilization/or otherwise modifying to limit range. Climate change could expand mosquito range into critical native bird habitat. This work directly relates to bird vulnerability studies, those models were very reliable because lots of data available and clear links; any degree of warming = major decrease in native bird habitat based on mosquito and avian malaria life cycle
- Would there be human health impacts? More frequent introductions?
- The discussion around avian malaria and mosquitoes is broader than just sterilization – utilizing technology developed through public health research and trying to apply to avian malaria. It's more than just what kind of new technology, but also about how to stop the vectors (ungulates etc.)
- PICC/FS IPF funded a web-based decision support tool for watershed managers - looks at current and future conditions, one layer is invasive species. It is being piloted at Hamakua, Hawaii Island and refined to look at micro scale area and impacts. There could be an opportunity to pilot in other areas
- Pacific RISA (NOAA) – looking at climate modeling and water resources on Maui, newest layer of information is vegetation. Very interested in looking at how invasive species will influence water yields

Gaps/Needs:

- Collaboration on data identification and needs
- From a research perspective: take advantage of low hanging fruit to refine analysis/projections with data that may already be available
- PICCC is developing a data portal, great opportunity for input from ISCs. PCSU projects are required to make all data available. Need to connect Deanna, Patrick, and partners