

The PICCC's Hawaiian Islands Terrestrial Adaptation Initiative

It is clear that climate change will result in cascading impacts to ecosystems, species, and ecosystem services, which will exacerbate current resource challenges for the Hawaiian Islands. Resource managers and conservation planners must address this challenge to their long-term goals by revising current plans and practices with increased attention on potential climate impacts to natural resources, communities, and socioeconomic values to better meet long-term goals.

The PICCC has recently begun a transition to a new approach which will better assist our members in planning and coordination for the impacts of climate change. Through **Adaptation Initiatives** (Als), the PICCC is aiming to better assist planning and coordination efforts by provide the appropriate information, expertise, training, and collaboration opportunities to resource managers or decision-makers, enabling the integration of climate change adaptation in conservation. As opposed to past research-driven efforts to deploy climate change information, PICCC Als will be driven by management needs and developed in conjunction with resource managers in order to help member organizations adapt current decision-making and planning processes to more effectively respond to climate threats.

The Hawaiian Islands Terrestrial Adaptation Initiative, the PICCC's first AI, will integrate two terrestrial Vulnerability Assessments (VAs) that were completed by a team comprised of PICCC staff and other researchers. The first VA estimated the vulnerability of native Hawaiian plants over the 21st century as a result of climate change, while the second revealed the vulnerability of Hawaiian forest birds (see attached factsheets). The results of this research highlight the urgent need for new conservation actions to prevent forest bird and plant extinctions, including the exploration of alternative management strategies.

In implementing the HITAI, we will work with key management and research partners to meet their needs for adaptation planning in the Main Hawaiian Islands. We envision that this will provide resource managers and decision-makers with shared strategies, tools, and information necessary to address current climate change stressors and prepare for significant changes yet to come. We envision the PICCC as acting as the facilitator for these discussions, due to our technical capabilities and understanding of both the scientific and political issues involved in pursuing conservation and recovery actions.

Developing Climate Syntheses in Support of the HITAI



In order to place the HITAI on a firm scientific foundation, the PICCC has contracted with EcoAdapt to develop comprehensive, science-based syntheses of current and projected future climate change and impacts on, and adaptation options for, terrestrial and freshwater resources within each of the main Hawaiian Islands. The goal is to provide resource managers and planners with information that will improve understanding and capacity to reduce climate vulnerabilities. By developing information that is actionable and useful, this project will support the goal of the HITAI to better integrate climate change research and information into resource management and decision-making in Hawai`i.

The project's objectives and activities include:

1. Convening an effective **science-management partnership** through a Stakeholder Advisory Committee comprised of scientists, land and resource managers, and conservation practitioners from federal agencies, state agencies, NGOs, and other partners, to ensure project products meet the decision-making needs of the focal region;

- 2. Identifying the current climate science available and conducting a **needs assessment** to identify existing data, resources, and critical needs and information gaps;
- 3. Developing comprehensive science-based syntheses regarding potential future climate changes and their impacts to terrestrial and freshwater resources of the main Hawaiian Islands, using a thorough review of peer-reviewed data and literature, agency and non-governmental reports and assessments, observed changes, and expert knowledge and opinion. Each selected resource will be assessed for sensitivity and exposure, scoring for overall vulnerability and confidence in order to inform prioritization for conservation actions;
- 4. Convening **on-island workshops** with scientists, managers, conservation practitioners, and others to review the initial products, suggest changes or additions to address key information gaps, and identify adaptation opportunities for minimizing climate-related losses of resources;
- 5. Generating **vulnerability maps** to improve understanding of what climate changes mean for conservation lands and facilitate decision-making by land managers; and
- 6. Developing **final climate vulnerability and adaptation synthesis products** to inform decision-making and a climate-engaged public that can make informed decisions to support the long-term sustainability of biocultural terrestrial and freshwater resources.

HITAI Syntheses Project Timetable: September 2015- September 2017

Tasks and Activities														Mo	nth											
		2015				-	1	lesies.			2016 11 12 13 14 1				Pro-					2017						
1. Stakeholder Advisory Committee	1	2	3	4	5	6	1	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
1.1 Identify and invite members			-	1				1							1				F	1	F	1	1			1
1.2 Project kick-off meeting on		_	-	-	-	-	-	-	-	_					-	_	_		-	-	-	-	_	_		-
island (if possible)																										
1.3 Teleconference meetings			,						, ,																	
2. Needs Assessment				111				-					1		-27			0			22.	-7-				n'
2.1 Create survey and contact list					I		II.	T.												L						
2.2 Conduct needs assessment survey (and interviews if needed)																										
2.3 Analyze results in consultation with the Stakeholder Advisory Committee and identify priority resources							9															12 6				
3. State-of-the-Science Assessment				7)				ý.						Ü.						Ų.	V					j.
3.1 Impacts assessment: catalog and evaluate available datasets and resources																										
3.2 Draft climate impacts synthesis report																										
3.3 Vulnerability assessment: review key literature related to priority resources					Г																					
3.4 Evaluate and rank sensitivity and exposure of resources																										
4. Workshops						-			_	_	_	_	_		_	_				0.0			_			-
4.1 Plan on-Island workshops and identify invitees and partners (2016, 2017)																										
4.2 Conduct and facilitate workshops for feedback on products and adaptation planning																										
5. Vulnerability Maps																100						Ú.	M.			
5.1 Create vulnerability maps														10												
6. Project Completion and Evaluatio	n																									17
6.1 Finalize report and other products (e.g., catalog, maps, 2-page briefings)																										
6.2. Host webinars to discuss project methods and results																										
6.3 Incorporate information generated/collected onto the PICCC Planning Atlas and CAKE																										
6.4 Conduct final project evaluation and wrap-up meeting with PICCC	Ī														T											