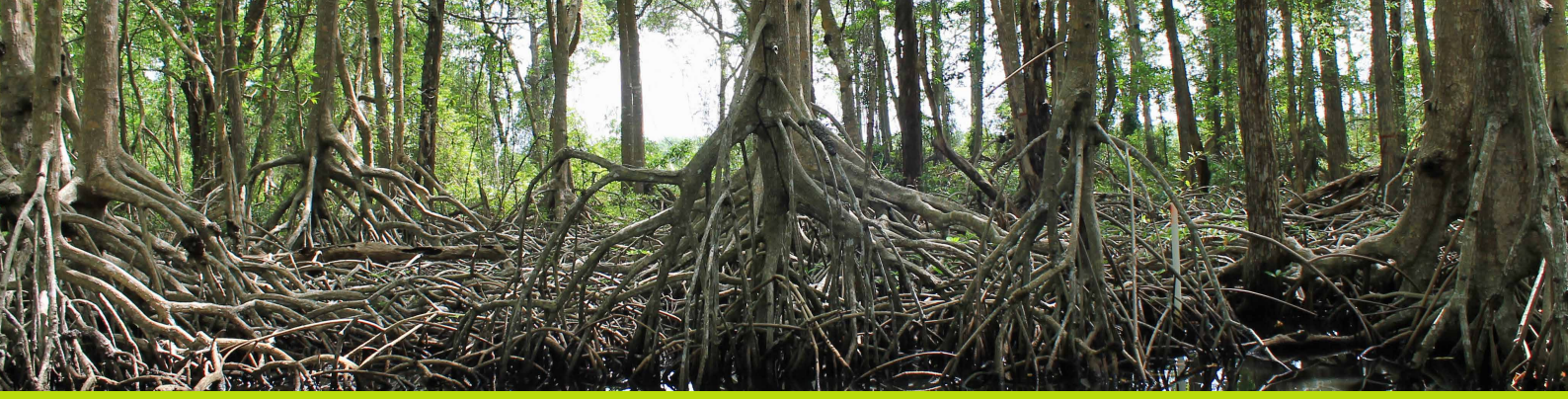


SWAMP

Sustainable Wetlands Adaptation and Mitigation Program

What is SWAMP?

Carbon rich tropical wetlands (mangroves and peatlands) store more carbon per unit area than upland tropical rain forests or other wetland types. Deforestation of these wetlands is of immediate ecological and socio-economic concern, already leading to major greenhouse gas (GHG) emissions, increased vulnerability of communities to storm surges, threatened food and health security, and the loss of biodiversity. They are also high priority for inclusion in climate change adaptation and mitigation activities throughout the world but are not well studied or understood. The Sustainable Wetlands Adaptation and Mitigation Program (SWAMP) is a collaborative effort between the Center for International Forestry Research (CIFOR), USDA Forest Service (USFS), and the US Agency for International Development (USAID). SWAMP seeks to provide critical information on tropical wetland ecosystem values, how to more effectively conserve and restore them, and to increase awareness of the tremendous potential role these ecosystems can play in climate change mitigation and adaptation.

Results from SWAMP demonstrate that carbon stocks in these ecosystems are among the highest of any wetland or forest and land cover change in these ecosystems results in significant emissions of GHG. However, most countries do not have sufficient information to include wetlands in their national reports nor to develop plans for conserving or restoring wetlands as a strategy to avoid GHG emissions. SWAMP scientists collaborate with government, academic, and non-governmental partners around the world to better understand the carbon dynamics in these ecosystems and to support country-led efforts to reduce GHG emissions from mangrove and peatland ecosystems.

Eddy covariance tower for intensive carbon monitoring over palm (*Maruritia flexuosa*) dominated peatlands, Quistococha, Iquitos, Peru. Photo: Lizardo Fachín/IIAP

Sustainable Wetlands Adaptation and Mitigation Program (SWAMP)

Impact: Enhanced wetland management in SWAMP countries for climate change adaptation and mitigation

	RESEARCH	PRACTICE	POLICY
Outcome	Scientific analysis, research and knowledge product are accessed and shared	Operationalization of improved evidence-based management practices	Improved integration of enhanced wetland management into national development agendas
Output	Demand-driven scientific research, analysis, knowledge products and publications are undertaken/developed	Support models, methods and tools, developed and available	Increased capacity and awareness of government policy/decision makers
	Database available in public domain catalyzing useful exchange	Capacity building supported for practitioners	Increased Government policy/decision maker engagement in dialogues pertaining to the global agenda and relevant for national contexts
	Capacity building supported for enhancing scientific research and analysis		

Goal and objectives

The overarching goal of SWAMP is to provide decision-makers with credible scientific information needed to make sound decisions relating to the role of tropical wetlands in climate change adaptation and mitigation strategies.

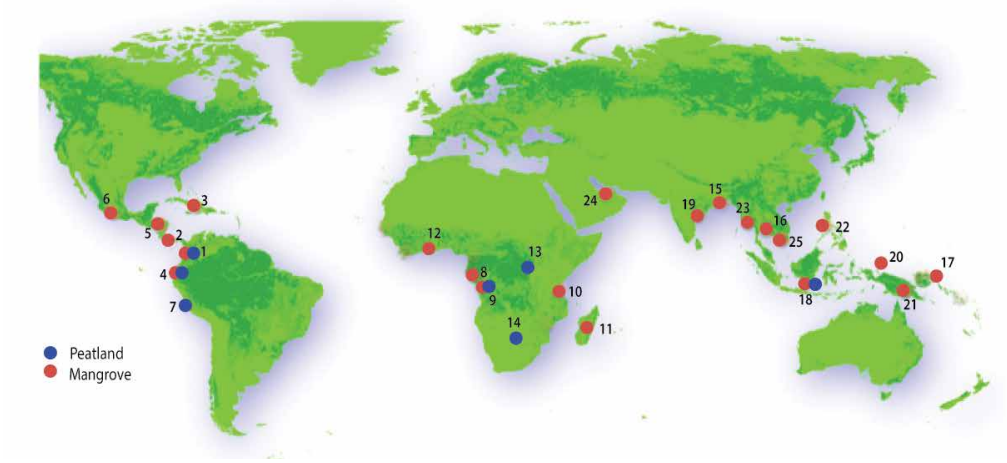
SWAMP goals and objectives respond to a variety of national and international interests, and have evolved through extensive consultation processes with stakeholders at different levels. SWAMP key objectives include:

- Generate and share new knowledge based on scientific research and analysis.
- Develop ecosystem carbon dynamics modelling tools for tropical wetlands to improve evidence-based management practices.
- Scale up measurements to landscape-, province-, or country-scales, incorporating remotely sensed spatially explicit land use/land cover data.
- Quantify and define roles of tropical wetland ecosystems in climate change adaptation and mitigation, and develop potential scenarios for their inclusion in climate change strategies.
- Build capacity and responsiveness of communities through dialogues.
- Build scientific capacity through research and technical transfer activities related to carbon and GHG accounting, and ecosystem conservation and restoration.
- Foster engagement and outreach activities, and develop products that are user-friendly and adaptable for various user-environments.

SWAMP activities are guided by the SWAMP Logic Model which has three components – research, practice and policy.

Where we work

SWAMP is global in its geographic scope, covering the tropical regions of Asia-Pacific, Africa, and South and Central America, and the Caribbean. SWAMP and SWAMP-leveraged studies have provided opportunities for data gathering and capacity building in 25 countries, and is preparing to work with more partners in several other countries in the future.



1. Colombia
2. Costa Rica
3. Dominican Republic
4. Ecuador
5. Honduras
6. Mexico
7. Peru
8. Cameroon
9. Republic of Congo
10. Tanzania
11. Madagascar
12. Ghana
13. Democratic Republic of Congo
14. Botswana
15. Bangladesh
16. Cambodia
17. Federated States of Micronesia
18. Indonesia
19. India
20. Republic of Palau
21. Papua New Guinea
22. Philippines
23. Thailand
24. United Arab Emirates
25. Vietnam


Photo: Rupesh Bhomia/CIFOR

What we do

SWAMP has been a major force in increasing our understanding of the carbon stocks and emissions arising from land use of mangroves and tropical peatlands. Support from USAID has served as a global platform and has attracted very significant investments in applied research in many tropical nations utilizing SWAMP methodologies and protocols.

Communication about wetlands (mangroves and tropical peatlands) and climate change has been a major focus of SWAMP including:

- Publications in high-impact journals
- Co-authorship of the Intergovernmental Panel on Climate Change (IPCC) Guidelines on GHG emissions arising from wetlands and participation as negotiators at United Nations Framework Convention on Climate Change (UNFCCC) meetings/sessions
- Symposia in 2014, 2017, and 2019 International Union of Forest Research Organizations (IUFRO) World Congress, to share the results of SWAMP research activities
- Presentations in major regional and international workshops, side events and briefings targeted for decision makers
- Training on the SWAMP Protocol for carbon stock assessment to around 30 agencies in various countries
- Technical training and capacity building on the 2013 IPCC Wetlands Supplement, FREL Diagnostic and Uncertainty Analysis for the Asia Pacific Government officials.
- Organizing tropical wetlands symposium at the annual Society of Wetlands Scientists (SWS) meeting held in June, 2021, where SWAMP research was showcased.

SWAMP in national and global wetland agenda

SWAMP research activities have actively informed science-based climate change policy through training and capacity building events, and by offering support in effecting policy changes pertaining to Nationally Determined Contributions (NDC), Reducing Emissions from Deforestation and Degradation (REDD+), Forest Reference Emission Levels (FREL), the sustainable management of forests, and more effective conservation, restoration, and enhancement of forest carbon stocks. SWAMP scientists and research activities contribute to the global process of climate change response including active contribution in Conference of the Parties United Nations Framework Convention on Climate Change (COP UNFCCC) as observers and in writing, reviewing, and revising the 2013 IPCC Wetlands Supplement.

Our partners

The conceptualization and implementation of activities under SWAMP were drawn from the expertise of CIFOR, USDA Forest Service (USFS), and their respective partners (e.g. Michigan Tech University). USFS contributes scientific expertise and practical knowledge of land management, and the agency's Office of International Programs maintains ongoing engagement and coordination with US Agency for International Development (USAID) Missions and US Embassies in countries where SWAMP activities occur. USFS and CIFOR work closely with both USAID and US Department of State, and seek to link other related bilateral and regional efforts to SWAMP wherever possible. This partnership reinforces the long-term impact of SWAMP and establishes linkages to ongoing development assistance and policy initiatives supported by the US Government.

For more information about SWAMP activities and/or discuss possible collaboration, please contact:

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More information about SWAMP can be found at **https://www2.cifor.org/swamp/**