

Case Study

Conserving and Protecting Global Mangrove Forests

Research Theme: Environment

RESEARCHERS

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THE OVERVIEW

Thriving mangroves are key to the health of nature and effective climate action. They are a critical ecosystem, under significant pressure, providing a host of ecosystem services with an estimated value of US\$25 trillion annually.

Aberystwyth University's Earth Observation and Ecosystem Dynamics Research Group led the scientific development of and technical implementation for mapping and monitoring mangrove forests globally through the Global Mangrove Watch (GMW).

The GMW datasets form the reference mangrove extent for the UN Environment Programme (UNEP), tracking progress towards Sustainable Development Goal (SDG) 6.6.1, which aims to halt degradation and destruction of water-related ecosystems. The GMW mangrove extent maps have also been used by NGOs and governments to monitor mangrove extent, in turn informing mangrove restoration and protection.



THE RESEARCH

Since 2014, AU's Earth Observation and Ecosystem Dynamics Research Group has focused on quantifying, understanding, and addressing local to global environmental change through Earth Observation.

This research led to the Global Mangrove Watch (GMW) datasets, which focus on providing standardised and consistent global mapping of mangrove extent and change for multiple epochs to address a major global data and knowledge gap.

Globalmangrovetwatch.org is a free and openly available online platform that provides the remote sensing data and tools for monitoring mangroves necessary for this. It gives universal access to near real-time information on where and what changes there are to mangroves across the world, and highlights why they are valuable.



THE IMPACT

INFORMING PUBLIC POLICY

The GMW maps show changes in the extent of mangroves through time and have informed public policy and influenced decisions at many levels; internationally, through the UN SDGs, the actions of national governments, including Myanmar, Fiji, and Indonesia, non-governmental organisations including the World Wildlife Fund, Wetlands International and The Nature Conservancy, and Industry, for example, through the Proteus Partnership.

GMW DATASETS SUPPORTED NATIONAL GOVERNMENTS AND NGOS

Many countries have limited capacity to process satellite sensor data. The GMW datasets enabled all countries to benefit from such technologies, by providing up-to-date mapping information to inform their decision-making, which they would not have otherwise had access to.

MONTHLY ALERTS OF MANGROVE LOSS ACROSS THE AFRICAN CONTINENT USED TO MONITOR MANGROVE CHANGES AND TO TRACK SUCCESS IN DECREASING MANGROVE LOSS

From 1 January 2020, AU provided, in collaboration with Wetlands International (WI), monthly alerts of mangrove loss across the African continent. These alerts are being used by WI staff to monitor mangrove changes on the ground and to track their success in decreasing the spatial extent and frequency of mangrove loss.

