

# GLOBAL MANGROVE WATCH:

## Harnessing technology to protect and restore mangroves



Mangrove map © Global Mangrove Watch; Woman with mangrove seedling © Tim Calver

### The Idea

Located where the land meets the sea, mangroves serve as nature's insurance policy against climate change by providing a natural barrier to storm surges, flooding and erosion. They filter our air and water, provide habitat for marine life and regulate our climate, storing carbon in concentrations up to five times higher than rainforests. Every year, mangroves sequester billions of tons of carbon—enough to offset 1 billion barrels of oil.

Despite the many benefits they provide, the world's mangroves are highly threatened and poorly protected. In response, The Nature Conservancy, Wetlands International and other organizations developed Global Mangrove Watch, an innovative partnership that deploys technology and science to map real-time trends in mangrove loss and develop targeted protection plans. Global Mangrove Watch will help coastal governments protect, manage and restore millions of hectares of mangroves and secure the many benefits—including healthier fisheries, cleaner water, safer shorelines and better livelihoods—that mangroves provide.

### The Urgency

Mangrove forests once lined huge stretches of tropical and subtropical coastlines around the world, covering more than 32 million hectares. Today, they are one of the most endangered ecosystems on Earth, with more than 50% already cut down for fuel and timber or to clear the way for coastal development, agriculture and aquaculture. At the current rate of destruction, all unprotected mangroves could be gone in the next 100 years.

Without easily accessible, up-to-date information on mangrove conditions and threats, governments and conservation groups are finding it difficult to plan effective mangrove conservation and restoration efforts. Many threats are not addressed at all because they take place in remote locations, out of sight of government authorities. At the same time, mangroves receive less attention than other threatened ecosystems, such as rainforests and reefs, due to a lack of awareness about the benefits they provide to people and nature.

## The Opportunity

Remote sensing data can play a major role in changing the fate of the world's rapidly declining mangrove forests. Satellite images and maps are powerful tools to communicate mangrove threats and values, offering an opportunity to raise the profile of this important ecosystem in policies for climate and development and to provide critical information to help prioritize, plan and monitor conservation action.

With support from the Oak Foundation and the COMON Foundation, The Nature Conservancy and Wetlands International worked with Aberystwyth University, NASA, JAXA and other partners to test a beta version of the Global Mangrove Watch platform, populating it with standard mangrove distribution and monitoring information, carbon values and other data. Now we are ready to fully launch Global Mangrove Watch as an interactive platform and communications tool that will bring users together to:

- 1. INTEGRATE DATA:** We will combine existing and new datasets so that policymakers, conservationists and scientists have easy access to data that provides a complete picture of global mangrove coverage and threats.
- 2. RAISE AWARENESS:** We will promote mangroves' benefits, flag key threats and mobilize a community of funders, decision makers and NGOs to address emerging conservation challenges.
- 3. INFORM POLICIES:** By filling in critical information gaps, we will boost policies and investment in mangrove conservation at the national and international levels.
- 4. SUPPORT CONSERVATION:** The site will play a key role in on-the-ground conservation projects by providing real-time information about specific mangrove values and threats.
- 5. PROTECT COASTLINES:** By protecting mangroves, we will safeguard coastal communities and beaches and provide habitat for fish and livelihoods for people.

By developing and promoting the Global Mangrove Watch platform, we will also:

- **Enable rapid responses to illegal mangrove conversion** by providing park managers with a source of automated satellite information
- **Provide annual threat maps** to help policy makers and practitioners track emerging threats and prioritize conservation efforts, including high-resolution 3D information on topography, soil conditions and hydrology
- **Illustrate real-time trends in mangrove forest loss** and communicate threats and conservation solutions
- **Support the Global Mangrove Alliance**, a larger effort to increase global mangrove habitat by 20% over current levels by 2030

We will conduct a soft launch of the Global Mangrove Watch platform in late summer 2020, with an official launch in October 2020.

## Contact

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## Our Partners

