

# Harnessing nature to manage rising flood risk

May 25 2017

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Credit: FEMA/Walt Jennings

Worldwide, flood risk will continue to rise as cities grow larger and rainstorms become more intense, making conventional engineering insufficient as the sole approach to flood management. "Natural and

Nature-Based Flood Management: A Green Guide" released today by WWF, introduces an integrated framework for flood management, drawing on policy, green infrastructure and conventional engineering to help communities adapt and better manage growing flood risk.

Globally, flooding is the most common disaster risk, accounting for nearly half of all weather-related disasters during the past 20 years. Exposure and vulnerability to flood risks are on the rise: the proportion of the world population living in flood-prone river basins has increased about 114 percent and population exposed to coastal areas has grown 192 percent during the last decade.

"We can't afford to continue to invest in short term solutions that don't take into account how weather patterns, sea levels and land use are changing the nature and severity of flooding," said Anita van Breda, World Wildlife Fund's senior director of environment and disaster. "The traditional approaches we've used to manage flooding in the past – like sea walls and levees – in most cases, won't work in isolation for the types of floods we're likely to experience in the future."

The Flood Green Guide, developed in partnership with the U.S. Agency for International Development Office of U.S. Foreign Disaster Assistance (USAID/OFDA), provides a step-by-step framework for flood managers to understand the factors contributing to [flood risk](#) in their region, and to pull together the appropriate policies, nature based solutions, and traditional engineering to address the problem.

"New roads, tunnels and bridges should not only be able to withstand more severe flooding, but ideally contribute to the community's resilience and safety," said van Breda. "Our framework encourages engineers, flood managers, planners, community members, and policymakers to collaborate around the table from the start to work together addressing multiple objectives."

The guide promotes using non-structural methods such as land use zoning as first step, and then integration of natural and nature-based methods, combined with hard engineering if needed, to manage flood [risk](#). Natural and nature-based methods, like upstream reforestation, green roofs on downstream urban areas and wetland restorations and management can improve the function of - and reduce overall costs associated with - conventional engineering. They also allow communities to reap the co-benefits the environment can provide such as: cleaner water, reduced air temperatures and green space for human recreation while protecting livelihoods such as agriculture and fishing.

"Floods do not recognize national or administrative boundaries," said Sezin Tokar, Senior Hydrometeorological Hazard Advisor for USAID/OFDA. "Any action in one part of the watershed will affect everyone else living in the watershed. That's why an integrated and basin-wide approach is critical to save lives and protect the property of people living near the water."

The guide will be supported by a training curriculum (currently under development), specifically designed for those responsible for [flood risk management](#), including municipal governments, community groups and non-governmental organizations worldwide.

"We need to design and develop systems that can adapt to changing circumstances while also keeping our communities, infrastructure, and environment safe," said van Breda. "The most durable [flood](#) management strategies are locally specific and factor in what's happening in the watershed, both upstream and downstream of individual projects."

**More information:** For more information about the guide or to view the resource library, visit: [envirodm.org/flood-management](http://envirodm.org/flood-management)

Provided by WWF

Citation: Harnessing nature to manage rising flood risk (2017, May 25) retrieved 24 April 2024 from <https://phys.org/news/2017-05-harnessing-nature.html>

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