

October 30, 2017 | By Robert Monroe

# Seventy Percent of Climate Pact Signatories Include Oceans in Their Climate Change Action Plans

**Small island countries score highest in new survey; large countries including U.S. do not mention oceans in plans**

On the eve of international climate talks taking place in Bonn, Germany, a new study led by Scripps Institution of Oceanography at the University of California San Diego evaluates the extent to which parties to the historic Paris Agreement on climate have considered the oceans in their plans to address climate change.

The study shows that while many countries include the oceans, a striking number do not.

In 2015, under the terms of the Paris Agreement, nearly 200 countries made commitments to manage climate change through a series of measures known as nationally determined contributions (NDCs). Scripps Oceanography PhD student Natalya Gallo and colleagues created a metric to quantify the extent to which protection of the oceans is addressed in those commitments. The researchers found that 70 percent of the countries that filed their NDCs mention the oceans in their commitments.

Using the metric they created, called a marine focus factor, they found that small island developing states worldwide – from the Seychelles in the Indian Ocean to St. Kitts and Nevis in the Caribbean and Kiribati in the South Pacific – were most concerned with ocean issues in their NDCs.

“The purpose of the analysis is to better understand the current political landscape of how marine issues are recognized in national climate plans and to identify gaps that could be remedied during the subsequent revision of NDCs,” said Gallo.



*Negotiators at a 2015 UNFCCC conference in Bonn, Germany*

Gallo said another goal of the research was to understand what drives the observed differences in marine focus across NDCs. The study tested an array of explanatory variables, including those pertaining to the amount of national marine territory, sea-level rise vulnerabilities, fisheries value, and others, to determine their ability to explain differences in marine focus. The results showed that countries more vulnerable to sea-level rise had a stronger marine focus. Political negotiating affiliation (whether the country is a highly developed country or a small island developing state) is also an important factor.

“Climate negotiators need to understand the role of the oceans in what they are trying to achieve, not only from the standpoint of the impact of emissions on the ocean, but more importantly the role of the oceans in determining the success of actions,” said Scripps Oceanography Director Margaret Leinen, who leads the delegation that represents the University of California at COPs. “This study is a step in the right direction as it allows us to understand how countries are currently considering oceans in their climate plans.”

The language of a country’s nationally determined contribution indicates the main concerns and priorities it has about future consequences of climate change. The researchers found the most common marine concerns related to coastal issues aggravated by climate change. Sea-level rise and beach erosion are prominent among these issues. These impacts received mention in the NDCs of 95 countries. Countries also expressed concern with ocean warming impacts (77 NDCs) and fisheries impacts (72 NDCs) to a lesser extent. In contrast, climate impacts on the ocean such as ocean acidification and ocean deoxygenation received little attention and were rarely included, suggesting limited knowledge about these issues in the climate policy community.

Fifty-nine countries incorporate oceans into their plans to reduce their carbon footprint through measures such as managing coastal mangrove forests and seagrass beds that sequester carbon, and utilizing less energy-intensive maritime transport or fisheries practices. Maintaining healthy marine ecosystems was identified by several countries in their NDCs as a method for adapting to the consequences of climate change. Many developing countries also indicated the need for additional international financing to meet the adaptation and mitigation plans laid out in their climate plans and the need for additional capacity-building for ocean monitoring and climate modeling.

Fourteen coastal countries did not mention oceans at all in their NDCs. Some of these were large countries with substantial coastlines and territorial waters, including the United States, Australia, Brazil, and the Russian Federation. Of the countries that did mention the oceans, only

one, Mauritania, mentioned ocean deoxygenation as an area of concern despite the growing alarm of scientists over the damage that climate-driven oxygen loss will cause to ocean ecosystems.

“For years, people treated climate policy as synonymous with controlling emissions. This study shows that many of the most vulnerable countries are quite focused on the likely impacts of climate change,” said paper co-author David Victor of the UC San Diego School of Global Policy and Strategy.

National delegations created the Paris Agreement at an annual United Nations climate talk known as the Conference of the Parties (COP). Paris was the locale of COP21 in 2015. The Paris Agreement came into force on Nov. 4, 2016. The journal Nature Climate Change will publish the study, “Ocean commitments under the Paris Agreement,” on Oct. 30 just before the start of COP23, which is being held Nov. 7-18 in Bonn, Germany.

“There is rapidly growing interest in the role of the ocean in providing climate solutions, and how this can be reflected in NDCs,” said Scripps biological oceanographer and paper co-author Lisa Levin. “This is evident in multiple side events and workshops planned for COP23 that highlight the importance of the ocean in NDCs going forward. Ocean scientists have a great deal to contribute on this front, in ways that can truly influence future policy.”

Levin will be one of 23 researchers representing Scripps Oceanography and the University of California at COP23. Scripps and the Chile Ministry of Foreign Affairs will co-host “Because the Ocean Matters,” a panel discussion of the challenges of ocean protection and the tools science can provide countries to meet those challenges, on Nov. 11 at the COP23 venue.

Gallo’s research is funded in part by a National Science Foundation Graduate Research Fellowship under Grant No. DGE-1144086.

---

## MEDIA CONTACT

**Robert Monroe**, 858-534-3624, [scrippsnews@ucsd.edu](mailto:scrippsnews@ucsd.edu)

UC San Diego’s Studio Ten 300 offers radio and television connections for media interviews with our faculty, which can be coordinated via [studio@ucsd.edu](mailto:studio@ucsd.edu). To connect with a UC San Diego faculty expert on relevant issues and trending news stories, visit <https://ucsdnews.ucsd.edu/media-resources/faculty-experts>.