

Turning the Tide

Rising seas are taking their toll on more than just marine life ■ MARAH J. HARDT AND ELAINE IANDOLI, BLUE OCEAN INSTITUTE

When President Barack Obama took the oath of office, he inherited enormous challenges. But a disappearing country wasn't one of them. The new **Ocean Planet** president of the Maldives, Mohamed Nasheed, isn't so lucky. A steadily rising tide, due to climate change, is the clear and present danger for his country of approximately 380,000 people, which sits an average of about 3 feet above sea level. It's the greatest threat to national security and human rights Maldivians have ever faced.

Yet, hope — and the chance to help turn this tide — rests with our actions, and our greater understanding of what climate change is really about.

It begins with a recognition that climate change is here, and not only for polar bears and penguins. Like corals and clams, fish and squid, citizens of island nations are suffering the consequences of industrialization half a world away. Climate change is the ultimate manifestation of our intimate connection with the ocean. It's another way to understand the need for a "sea ethic" — an extension of our sense of community from our families and neighbors, to plants and animals on land and species beyond the high-tide line. Climate change demonstrates that



From left: Island nations are the first victims of rising seas; Palauans' food crops, such as these taro plants, cannot grow when salt water washes over farms.

by disturbing the temperature, chemistry and volume of the sea, we threaten not only the health of our favorite dive spots, but also the future existence of dozens of countries and their ancient cultures.

Here's how the connection works: As we burn fossil fuels, released greenhouse gases collect in the atmosphere, trapping heat and increasing global temperature. The ocean absorbs this heat. As the water warms, it expands, causing sea levels to rise. Additional water from melting glaciers raises seas even higher. No one knows exactly how high the water will rise, but recent research reported at the Climate Congress in Copenhagen last March indicated a revised minimum sea level rise of 2.6 feet, and likely more than 3 feet by the year 2100. According to a 2007 report by the Intergovernmental Panel on Climate Change, the sea-level is currently rising at 0.12 inches per year. This might not seem like a lot, but the effects are devastating for low-lying islands.

Above Palau's breathtaking reefs, for example, farmlands that for centuries supported crops are now inundated

with salt water during high tides. Taro plants have turned yellow and died, and fresh groundwater has become brackish, ruining the water and food supply of hundreds of citizens. These same high tides now regularly flood homes too. In the Carteret Islands in Papua New Guinea, high tides wash over the islands — meaning crops can no longer grow. These islands likely will be underwater by

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2015 — a little more than five years from now — forcing the relocation of 1,600 citizens, many this year, to Papua New Guinea's main islands or the autonomous region of Bougainville, neither of which have funds to support this move.

But the problem of rising oceans is broader than physical devastation. Displacement for residents means their loss of independence, sovereignty and identity as a separate people. For them, relocation means cultural annihilation.

Many people consider climate change an "environmental issue," far below terrorism or a weakened economy on the priority list. Some believe it's unaffordable economics. A few of us worry about our favorite dive spots. But for citizens of island nations, climate change is about peace, security and cultural heritage.

Whenever those suffering most are least responsible for their plight, and basic human rights are involved, it becomes a moral issue. That's the message: Climate change is a moral issue. The question is: How can we do the right thing?

First, we can join the efforts of island leaders pushing for dramatic policy that both recognizes the international security threat climate change presents and works to reduce emissions to levels that will prevent a literal paradise-lost scenario. In a true David versus Goliath tale, dozens of countries, led by the Pacific Small Island Developing States (PSIDS), have submitted a draft resolution to the United Nations General Assembly calling for the Security Council create such policies. If approved, the Council could require member states to take action. Writing to

your local congressperson (see visi.com/juan/congress to find your representative) to encourage U.S. support of the resolution is one way to put the pressure on.

Second, we must ensure that the U.S. fights for scientifically sound climate policy at the December U.N. Climate Change Conference in Copenhagen. This includes emission cuts that will stabilize greenhouse gases at safe levels and limit ocean acidification. We can do this by joining active campaigns that are pushing hard for such limits (see What You Can Do for details).

As Maldives President Nasheed recently said: "Copenhagen can be one of two things. It can be an historic event where the world unites against carbon pollution in a collective spirit of cooperation and collaboration. Or, Copenhagen can be a suicide pact."

The need for a sea ethic has never been clearer. We should take action not only because we want to defend our right to dive on spectacular coral reefs, but also because we want to defend the rights of thousands of people to keep their homes, cultures and societies intact. **SD**

Fast Facts: Rising Oceans

The rate of current sea-level rise is as fast as the growth rate of some coral species. This makes it difficult for those corals to remain living near the surface where they receive adequate sunlight and could lead to declining coral health. » The most recently revised estimates of predicted sea-level rise increased the minimum estimates from the 2007 Intergovernmental Panel on Climate Change report by more than double, from 7 inches to more than 2 feet. » Emission targets that will help save small island nations and preserve a frozen Arctic must limit greenhouse-gas concentrations to 350 parts per million (ppm) or below. This will require immediate cuts of up to 80 percent emissions by 2020. » In addition to raising sea levels, too much carbon dioxide in the air also changes ocean chemistry, making seawater more acidic. This negatively affects the health of all water-breathing animals. See recent articles at blueocean.org.

What You Can Do

- 1 American citizens have one of the highest per capita carbon footprints of anyone else on the planet. You can calculate your own carbon footprint and take big steps to reduce your impact at earthlab.com and cleanair-coolplanet.org.
- 2 Join the campaign at 350.org to learn how you can make a difference.
- 3 Tell the government you support climate-change policy at 1sky.org/act-now.
- 4 Support the efforts of organizations helping island communities fight climate change as a national-security and human-rights issue. Visit Islands First (islandsfirst.org), Many Strong Voices (manystrongvoices.org), Climate Law and Policy Project (climatelawpolicy.org) or Blue Ocean Institute (blueocean.org) to lend your support to our efforts. For a comprehensive list of campaigns, visit the U.S. Climate Action Network at usclimatenetwork.org.

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