

# Rising Sea Levels Among the Atolls

Terms like sea level rise or Pacific Island atolls remind me of tropical island wallpapers found in most computer screens at work. Those pictures are not from far-off fantasy lands—but rather a short travel by air from Hawaii. Majuro and the rest of the Republic of the Marshall Islands have many pristine tropical island landscapes that are more beautiful in real life than in photos. These, along with Kiribati, the Maldives, and Tuvalu, are the only four atoll nations in the world. Atolls are often found as low-lying ring-shaped islands at the center of the ocean.

With increasing evidence and tide gauges alerting us of climate change, these low-lying areas are most vulnerable to the effects of a rising sea level. With the Majuro Atoll peaking at approximately 10-feet, the phenomenon has profound impacts on the islands. The atolls not equipped with the most sophisticated planning procedures nor the standard Federal Emergency Management Agency (FEMA) flood zone considerations implemented in Hawaii and the rest of the United States. That a number of structures along the shoreline are high above the water underlines their vulnerability. Recent evidence showed sea level inundation in Majuro—in spite of the ocean’s natural reef and the atoll’s calm lagoon supposed to protect against the ocean’s energy.

Lunar cycles succumb Majuro and the rest of the Marshall Islands to extreme tides and flood several times a year. In late February, weekend tides of 1.67 meters aggravated by extreme high tides and la niña caused the base sea level to rise by 15-centimeters. In 2008, a strong low pressure system caused above average swells throughout the region, devastatingly flooding the main urban centers of Majuro and Ebeye. The main road was confronted with strong waves that crashed into houses, forcing 300 people to leave their homes. Communication was very difficult, sourcing tree fuel was impossible, and rocks, corals and garbage were floating everywhere. The coastlines of the Marshall Islands never recovered from massive impacts of sea level rise, and are threatened with the possibility of being completely inundated by the sea if this continues.

The University of Hawaii’s Sea Grant program promotes better understanding, conservation, and use of coastal resources. One of their members has been working with the Marshall Islands EPA on current coastal-related problems that the Marshall Islands are facing. He created a great short video that highlights some of the recent flooding and brings to light some of those issues. The video can be seen at [http://www.youtube.com/watch?v=B4abshci7rY&feature=player\\_embedded](http://www.youtube.com/watch?v=B4abshci7rY&feature=player_embedded)