

As stewards of some of south Florida's most unique natural areas, Everglades, Biscayne, and Dry Tortugas National Parks and Big Cypress National Preserve play an important role in conservation. Together, they protect over 2.4 million acres of habitat and harbor more than 14 endangered species. While scientists remain uncertain about how the effects of climate change will manifest, their research suggests that low-lying south Florida and its extraordinary ecosystems are vulnerable. The United Nations Intergovernmental Panel on Climate Change (IPCC) predicts a 7- to 23-in rise in sea level in 95 years due to the expansion of warming seawater and the contributions of melting glaciers. Low-lying coastal regions will be particularly susceptible to inundation. Most of Dry Tortugas and Biscayne National Parks, and two-thirds of Everglades National Park, have an elevation lower than 3 ft. According to the IPCC, sea surface temperature may increase 2 to 5 degrees F by 2100. In 2005, the same warm waters that triggered Hurricanes Katrina and Wilma badly damaged coral reefs in the eastern Caribbean, including coral reefs in the Florida Keys. Higher sea surface temperatures have also been linked to seagrass die-offs and could fuel algal blooms. Some scientists expect that in the future, as ocean temperatures continue to rise, hurricanes will be more frequent and intense. Others are reluctant to attribute recent trends in hurricane frequency and intensity to warming seawater without additional data. One thing is certain, when intense hurricanes do occur, storm surge flooding will be exacerbated by sea level rise, placing both natural ecosystems and man-made facilities at even greater risk. The National Park Service is tracking what climate scientists are predicting, anticipating how ecosystems will respond, and planning ahead for climate change.