

NATIONAL PARKS IN PERIL

THE THREATS OF CLIMATE DISRUPTION

State Fact Sheet: New York and New Jersey

Human disruption of the climate is the greatest threat ever to our national parks.

At risk are nearly every resource and value that make our national parks so special. In *National Parks in Peril*, the Rocky Mountain Climate Organization and the Natural Resources Defense Council identify 25 national parks as having the greatest vulnerabilities to human-caused climate change. In New York and New Jersey, Ellis Island National Monument is among the 25 parks most at risk as human activities change the climate. Ellis Island is vulnerable to higher seas and more storms, more downpours and floods, a loss of cultural resources, and more air pollution. Fire Island National Seashore, Gateway National Recreation Area, and the Statue of Liberty National Monument face similar vulnerabilities.

Many of these impacts are already happening, as human activities—the emission of heat-trapping gases—are now changing the climate. To preserve our national parks for ourselves and future generations, we need to both stop changing the climate and take actions to preserve the resources and values that make our parks special. For detailed recommendations, see the full report, *National Parks in Peril*.

Higher Seas and More Storms

A hotter climate raises sea levels by melting ice from land-based glaciers and ice sheets, which adds more water to the oceans, and by heating water so that it expands in volume, which also pushes sea levels higher. Current estimates are that with a high-emissions future sea level will rise three to four more feet by the end of the century; under a lower-emissions future, the seas are expected to rise about 2.3 feet. A second major risk to coasts and coastal parks comes from stronger coastal storms, including hurricanes. According to a recent U.S. government report, climate models project that further warming of ocean waters will lead to stronger tropical storms

Ellis Island is in danger of being one of our first national parks to be completely lost, and Fire Island, Gateway, and the Statue of Liberty are also vulnerable.

More Downpours and Floods

With a changed climate, more precipitation now comes in downpours. The amount of rain falling in heavy storms increased by 20 percent over the past century, while there has been little change in the amount from light and moderate storms. In its recent report, the U.S. Global Change Research Program says there is at least a 90 percent likelihood that heavy downpours will become even more frequent and intense. With an increase in downpours, flooding also is likely to increase. Virtually all national parks in New Jersey, New York, and elsewhere are at risk, as the forecast is for more downpours everywhere.



To read the full report on the impacts of global warming on national parks, visit www.nrdc.org/policy or www.rockymountainclimate.org

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Loss of Historical and Cultural Resources

By preserving some of the best of our historical and cultural resources—buildings, landscapes, archaeological sites, and artifacts—America’s national parks provide information about the past and provide important links to the present. Many of these resources are at risk from the possible effects of a climate disrupted by human activities.

The entirety of Ellis Island is less than three feet above the current high tide level. The whole national monument, through which passed the arriving ancestors of 40 percent of all living Americans, is in substantial danger of being completely lost to higher seas. Even before being permanently inundated, the historic immigration center could be damaged or destroyed by storm surges. One analysis based just on projected local changes in sea levels (without considering an increase in storm severity) suggests that a 100-year coastal flood in the New York City metropolitan area—the highest coastal flooding now expected to occur once every 100 years—could happen by century’s end every 11 years in a higher-emissions future or every 22 years in a lower-emissions future. Another study says a current 100-year coastal flood in the metro area could occur every 15 to 35 years.

Similarly at risk is the Statue of Liberty, on Liberty Island, like Ellis Island in Upper New York Bay.

More Overcrowding

As temperatures soar with a changed climate, to escape oppressive heat enough people may flock to cooler seashores to overcrowd them. In these parks, the impacts of additional visitation could include less visitor enjoyment and damage to park resources. Overcrowding could be a significant problem particularly for Gateway, with beaches attracting 9.4 million visitors in 2008, and Fire Island.

More Air Pollution

A hotter climate is projected to worsen concentrations of ground-level ozone, a component of smog created when pollutants mix in sunlight. Ground-level ozone has been firmly established to harm people’s health, and the U.S. Environmental Protection Agency has set air quality standards at the levels necessary to prevent adverse health effects.

Based on monitoring with portable equipment, monitoring sites near parks, and other methods, the NPS thinks that Ellis Island in 2005-2007 violated the ozone standard. Because future climate-change driven increases in ozone levels are expected to be greatest where ozone levels already are high, the island is at risk of continued, perhaps worsened, levels of unhealthy air.

For documentation of the sources used for this fact sheet, please see the full report, *National Parks in Peril: The Threats of Climate Disruption*, at www.nrdc.org/policy or www.rockymountainclimate.org or.