



STANDS FOR HOUSTON

Johnson Space Center among landmarks threatened by climate change

By Doyle Rice

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Climate change is putting historic and cultural landmarks around the USA at risk, according to a report released Tuesday by the Union of Concerned Scientists (UCS), a non-profit science advocacy organization based in Washington, D.C.

”Sea-level rise, coastal erosion, increased flooding, heavy rains and more frequent large wildfires are damaging archaeological resources, historic buildings and cultural landscapes across the nation,” says the report, “National Landmarks at Risk.”

The report, which was not a peer-reviewed study, includes 30 at-risk locations, including places where the “first Americans” lived, the Spaniards ruled, English colonists landed, slavery rose and fell, and gold prospectors struck it rich.

Locations include the Statue of Liberty; Jamestown, Va.; the Cape Hatteras (N.C.) Lighthouse; and the Kennedy Space Center. The only location in Texas was the Johnson Space Center in Houston, which the report said is threatened by rising seas levels.

”You can almost trace the history of the United States through these sites,” says Adam Markham, director of climate impacts at UCS and report co-author.

Sea levels already have risen 1-2 feet across portions of the East and Gulf Coast, USA TODAY reported last year, and global sea levels will rise about 1 foot to slightly more than 3 feet by 2100, according to this year’s Fifth Assessment Report by the United Nations’ Intergovernmental Panel on Climate Change.

Many at-risk sites are national parks, including Mesa Verde, Bandelier, Cape Hatteras and the Everglades. According to the National Park Service, 96% of park service land is in areas where global warming has been observed in the past century.

Each year, millions of tourists visit national parks and other historic sites, benefiting local and national economies, according to the Environmental and Energy Study Institute. National parks alone generate more than \$27 billion in the economy, according to a USA TODAY analysis last year.

According to the UCS report, one historic site — Jamestown, the first permanent English settlement in the Americas —will likely be underwater by the end of the century.

The Kennedy Space Center and surrounding Cape Canaveral area in Florida, site of the Apollo launch, are threatened by storm surges that regularly breach dunes near the launch pads. Efforts to restore and protect the dunes have been undone by subsequent storms.

In the West, climate change is increasing the risk of large wildfires in places such as California's Sierra Nevada, the report says. Across the region, wildfire season lasts two months longer than in the 1970s.

Cultural resources in the Southwest have been hit by intense, large-scale wildfires that often are followed by flooding.

"During the last decade and a half, massive fires have swept through Mesa Verde National Park and Bandelier National Monument and other southwestern sites, damaging ancient pueblo masonry, petroglyphs and pottery," Markham says.

"This report certainly echoes findings from an array of different peer-review studies and is very consistent with the challenges confronting our national security installations," says J. Marshall Shepherd, a University of Georgia atmospheric scientist who was not involved in the report.

"Remember, most naval facilities, like many of these national treasures, are at or below sea level," Shepherd says.

However, some aren't convinced: "There is a tendency to confuse the impacts of climate with the impacts of human-caused climate change," according to Chip Knappenberger of the Cato Institute, a free-market think tank in Washington.

"This most certainly is taking place in the UCS report. Most of the examples in the report are located in areas where the extremes of the natural climate pose significant threats and expose vulnerabilities," said Knappenberger.