

The Impacts of Climate Change on South Carolina Military Installations

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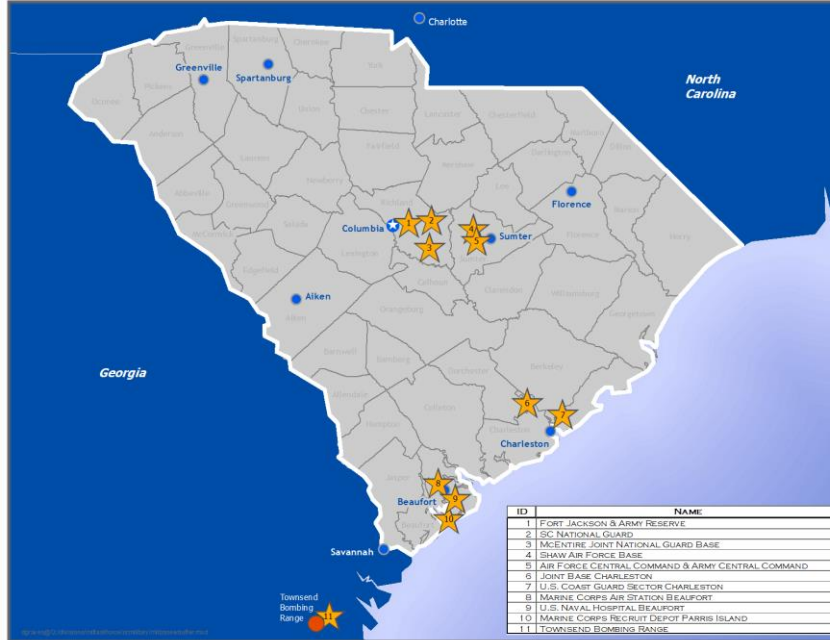
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"I've taken two briefs in the last eight months on what I consider our most critical vulnerability, and that's Parris Island, South Carolina... I've come to the conclusion in my own mind that it's not today – we don't have to build a sea wall today. But we have to consider one, and we're monitoring it every day as we watch that. Because you remember that started out as a marsh and a little bit of an island. So marshes turn into seawater, and land turns into marsh." - General Glenn Walters, USMC, Assistant Commandant of the Marine Corps

Rising Sea Levels: Risk to Readiness, Military Infrastructure, and Missions

- **Flooding frequency is on the rise:** At present, tidal flooding affects low-lying areas on Parris Island around 10 times annually; by 2050, these areas may be underwater more than one third of the year.
- **More infrastructure will be impacted:** In the next 20 years, rising sea levels will potentially impact the land connections between the installation and the mainland as well as transit routes within the installation. And by 2100, three quarters of the island would be inundated daily by high tides.
- **Disruption of military missions:** By 2050, the training mission will begin to face significant impacts from flood events. Training ranges, the urban operations training area, parade decks, and barracks will face flooding several times during the year. Parts of several ranges will be lost completely by the latter half of this century, and access to the southern part of the base may be cut off completely.

Extreme Weather: More Frequent, More Damaging, and More Missions at Home

- **The impact of extreme weather is growing in scale:** Hurricanes and other extreme weather is becoming more frequent and more intense, South Carolina's coastal and inland military facilities will be effected. Delays in training due to flooding or extreme heat can carry secondary costs to unit readiness and have the potential to disrupt the flow of new personnel into vital positions throughout the force.
- **Increasing costs to military infrastructure:** Extreme rainfall at Fort Jackson in 2015 caused almost \$5 million worth of damage to its ranges, roads, training infrastructure and facilities, disrupted power, potable water and sewer systems, and substantively inhibited unit training in the days and weeks after.
- **Storm surges:** Both MCAS Beaufort and Parris Island are exposed to storm surges. Currently 90 percent of Parris Island is exposed to 5-10 feet of flooding from just a Category 1 hurricane. By the end of the century, a Category 4 storm would flood 90 percent of Parris Island and the third of MCAS Beaufort with more than 20 feet of water
- **Inland infrastructure risks:** As hurricanes and extreme storm events become more frequent and more intense, even inland locations such as Shaw Air Force Base and Columbia will be susceptible to flooding (as experienced after Hurricane Joaquin in 2015) severe enough to require assistance from the South Carolina National Guard, which its leadership anticipates will be called upon to respond more frequently.
- **Military leaders get it:** "We've always had hurricanes. But now there's a lot more water in them, we're fighting a different kind of storm." - Major General Robert Livingston, Adjutant General



HIGHLIGHT: U.S. Marine Corps Recruit Depot Parris Island - A Critical Vulnerability for the Marine Corps



U.S. Marine Corps Recruit Depot Parris Island Map illustrates 2050 predicted average daily sea level rise, with an annual high tide event.

Source: "Military Expert Panel Report: Sea Level Rise and the U.S. Military's Mission, 2nd Edition," *The Center for Climate and Security*, page 41



U.S. Marine Corps Recruit Depot Parris Island Map illustrates 2070 predicted average daily sea level rise, with an annual high tide event.

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