

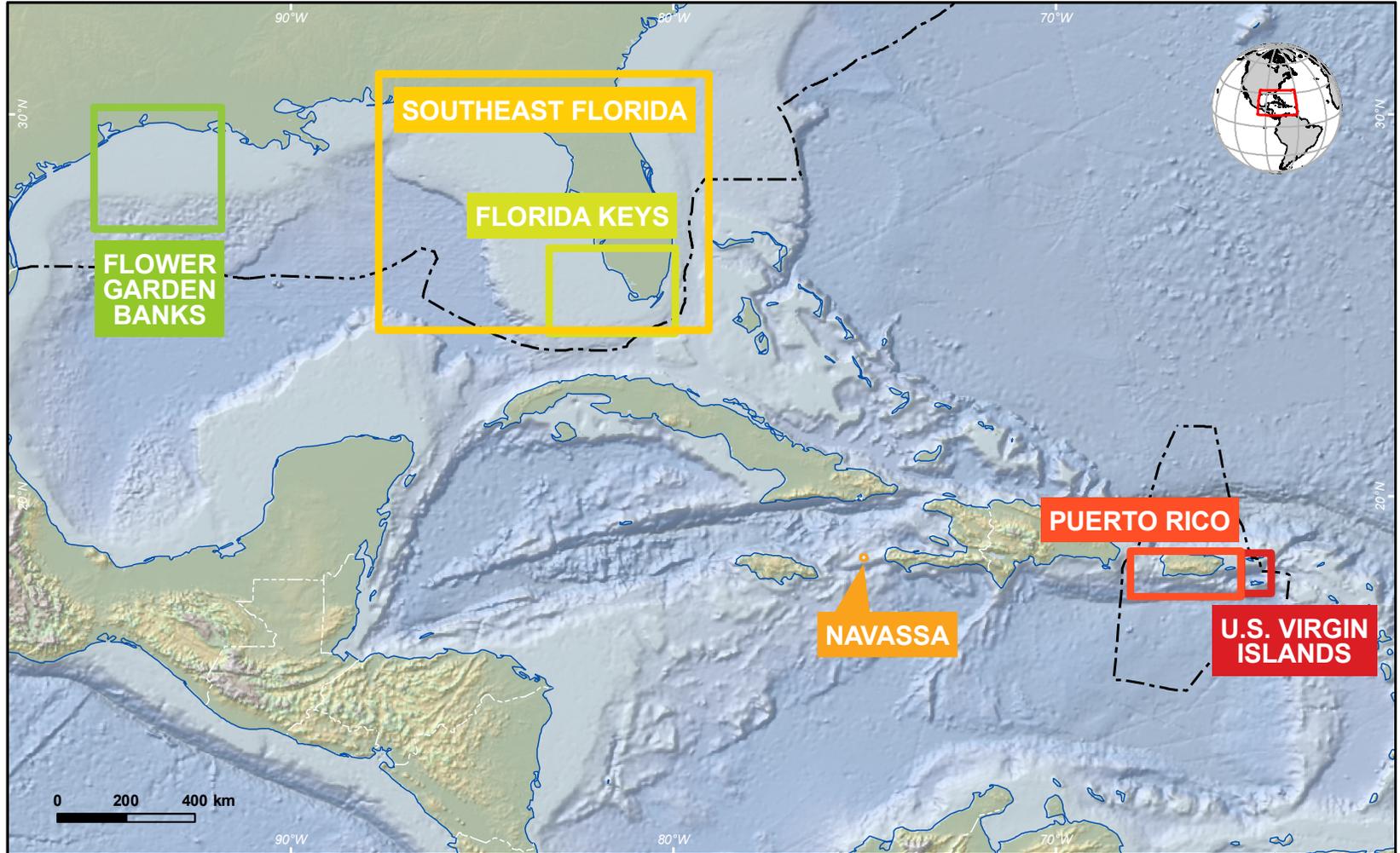
**The State of Coral Reef Ecosystems of the United States and Pacific Freely Associated States: 2008** ↑ The Endangered Species Act listing of two Caribbean corals in the genus *Acropora* will provide additional protections for these threatened species while reauthorization of the Coral Reef Conservation Act of 2000 will provide for the recovery of costs related to damage of reef habitats by vessels. ↑ Increasing use of spatial management tools such as marine protected areas help protect biodiversity and reduce overfishing of reef-related resources. ↑ Social scientists are increasingly exploring the complex relationships between human societies and coral reef ecosystems. ↑ Efforts to map the seafloor and the distribution of habitat types in shallow and moderate depth areas has advanced steadily. ↓ Coral reef ecosystems continue to face numerous stressors from natural and human sources, stressors that appear to be increasing in many jurisdictions. ↓ Scientists are increasingly concerned about the potential effects of climate change on reefs, especially in light of recent mass bleaching and disease events and the emergence of ocean acidification as a global concern. • For more information, please visit <http://cma.nos.noaa.gov/stateofthereefs>. Note: ↑ = positive/improving ↓ = negative/declining

## State of the Reefs: Atlantic/ Caribbean/ Gulf of Mexico

**Flower Garden Banks (FGB):** ↑ Mean fish biomass was 3–8 times greater at the FGB than at monitored sites in the U.S. Caribbean; Nassau groupers were recorded there for the first time in 2006; ↓ Hurricanes Katrina and Rita toppled and destroyed corals at surveyed bank tops, which lie in water depths greater than 16 m (52 ft).

**Southeast Florida:** ↑ Vessel damage incidents in Broward County prompted relocation of the Port Everglades commercial anchorages to reduce reef impacts; ↓ The number of recreational fishers in SE Florida increased between 1996 and 2006, as evidenced by 41,000 additional recreational vessels registered in this period and the 25% increase in the purchases of saltwater fishing licenses; recreational fishing now accounts for more than 75% of finfish landings.

**Florida Keys:** ↑ The 2007 establishment of a no-take Research Natural Area in the Dry Tortugas National Park complements other no-take areas in the Dry Tortugas and Florida Keys National Marine Sanctuary; ↓ Five major hurricanes caused extensive physical damage to reefs and loss of ~300,000 lobster traps.



**Navassa:** ↑ A sociocultural study of Haitian communities that fish at Navassa helped illustrate patterns of resource use and motivations of fishers; ↓ Percent hard coral cover and reef fish biomass both declined between 2002 and 2006.

**Puerto Rico:** ↑ March 2007 revisions to Puerto Rico's fisheries regulations further protect essential fish habitat, regulate fisheries, and establish additional protected areas and closures; ↓ Increases in tourism, recreational boating and recreational fishing continue to compromise coral reef ecosystems and reef-associated fish communities.

**U.S. Virgin Islands:** ↑ Marine Conservation Districts covering 45 km<sup>2</sup> now protect important fish spawning aggregations south of St. Thomas and have increased the mean size and number of some species in St. Thomas but not in St. Croix; ↓ A regional mass coral bleaching event and subsequent coral disease epidemic in 2005-06 reduced overall coral cover by about 50%.

## State of the Reefs: Pacific

**Pacific Remote Island Areas:** ↑ Reef fish biomass continues to be higher here than in any other U.S. jurisdiction; ↓ Past military activities at Wake and Johnston have left a legacy of debris and environmental contaminants in some areas.

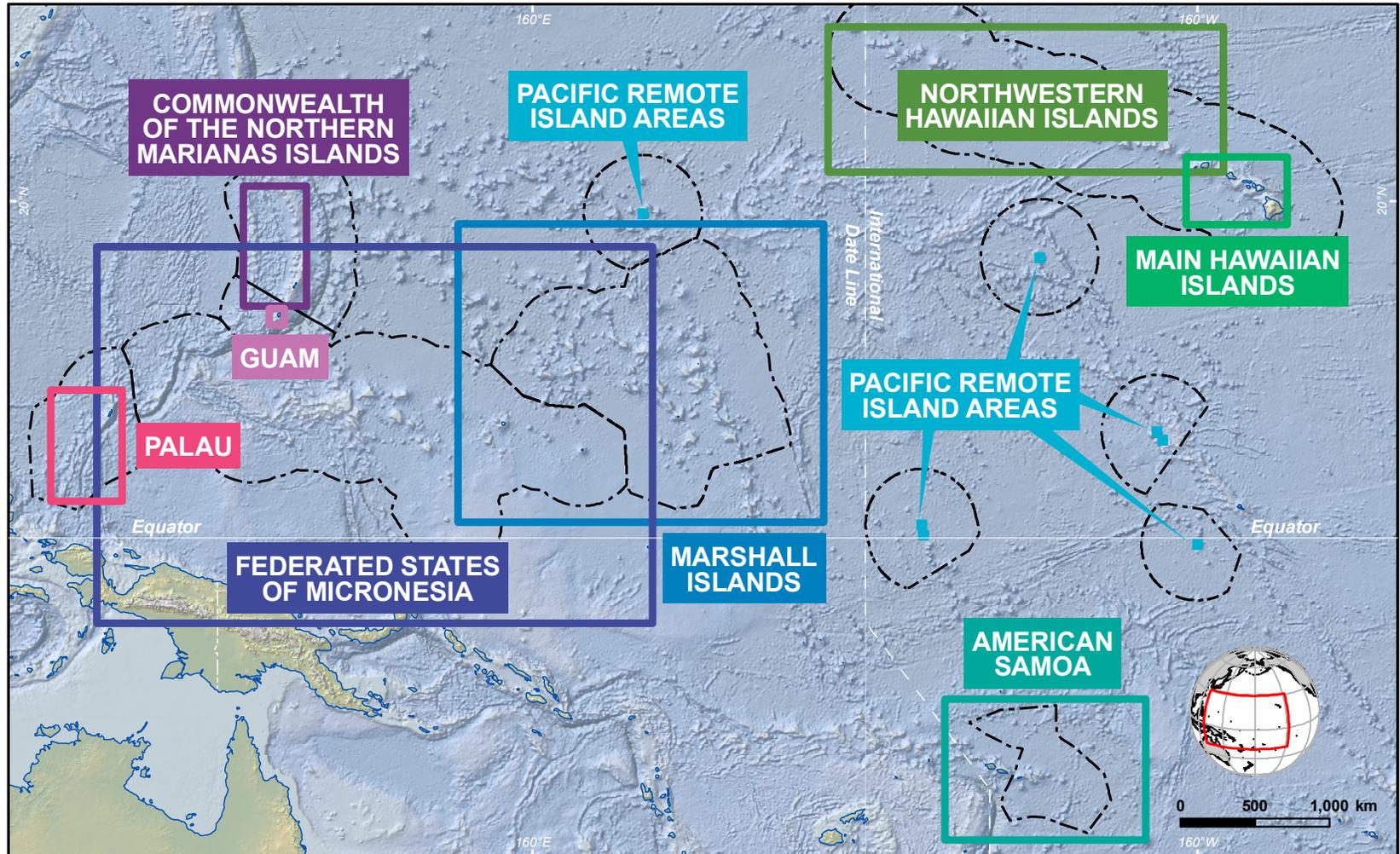
**Northwestern Hawaiian Islands:** ↑ Establishment of the Papahānaumokuākea Marine National Monument in 2006 increased protections for the NWHI's unique predator-dominated ecosystem and the numerous endemic, threatened and endangered species that inhabit this important global biodiversity hotspot; ↓ The impacts of global threats such as marine debris and sea level rise require rapid international action to mitigate threats to this and other remote coral reef ecosystems.

**Main Hawaiian Islands:** ↑ A study of Marine Life Conservation Districts indicates that most effectively conserve biodiversity and fisheries resources and demonstrates that size, habitat quality, and protection from fishing are primary to their success; ↓ The invasion and degradation of new habitats by alien algae remains one of the most pressing threats to Hawaii's reefs.

**CNMI:** ↑ Significant progress toward mapping benthic habitats and bathymetry continues to be made through key partnerships with NOAA; ↓ Projects to control nonpoint source (NPS) pollution in key watersheds lack sufficient funding for implementation, and CNMI's NPS pollution control program was eliminated in 2007.

**Guam:** ↑ Major initiatives have raised public awareness about the importance of reefs and associated resources; ↓ U.S. military plans indicate that an additional 30,000 personnel may be stationed on Guam by 2012, which may intensify threats such as coastal development and runoff, recreational fishing, marine debris, NPS pollution, and tourism and recreation.

**Palau:** ↑ In 2005, Palau initiated the Micronesia Challenge, an ambitious program to effectively protect marine and terrestrial habitats across Micronesia by 2020; ↓ The completion of a road around the island of Babeldaob has resulted in increased runoff and sedimentation through acceleration of development and changes in land use patterns.



**Federated States of Micronesia:** ↑ Additional support for monitoring is building capacity in FSM and providing crucial baseline data to support management; ↓ Several fish species observed in 1986 were not observed during 2006 surveys; this may be due in part to fishing pressure since 70% of fish sold at markets in Kosrae were immature.

**Marshall Islands:** ↑ Initial surveys at remote atolls reveal areas of very high live coral cover and abundant fish populations; ↓ Reefs near densely-populated atolls experience greater threats from fishing, dredging, sewage and solid waste.

**American Samoa:** ↑ In August 2007, American Samoa announced a year-round ban on the capture of all sharks and four species of large reef fish; ↓ Reefs have recently experienced major disturbances from mass coral bleaching, hurricanes, outbreaks of crown-of-thorns sea stars (which eat corals), and extreme low tide events.