Coastal zones set agenda on climate

by Mike Lee - CNS

KEY WEST, Fla. - With the start of hurricane season, meteorologist Matt Strahan regularly scans computer screens for signs of a storm brewing near this famously carefree island.

Strahan figures that few of the people he is there to protect are as worried as he is about a less imminent but far-reaching threat: Global warming is causing the world's oceans to expand, and they gradually could swallow coral reefs such as Key West.

Likewise, rising sea levels could haunt dozens of coastal cities, including San Diego, San Francisco, Boston and New York.

Global warming is expected to increase the frequency and intensity of extreme weather events such as floods, droughts and hurricanes. Rising temperatures likely will damage fisheries, increase heat-related deaths, hasten the spread of infectious diseases and alter where crops can grow.

Government agencies, politicians and activists are slowly ramping up their efforts to adapt to these projected changes. No national program exists to coordinate such a monumental mission, so the work largely has fallen to state and local governments.

Like most of the country, Southern California region has yet to create a comprehensive plan for coping with global warming.

"We are just seeing so many areas at the local level that we probably would need to do some sort of serious rethinking about," said Linda Giannelli Pratt, a climate change expert for the city of San Diego. "It's still a little fuzzy."

Water is a major focal point: securing enough drinking water, improving flood control and dealing with sea levels that many scientists expect will rise 1 foot to 3 feet during the next century.

Solutions may include building floating docks that can rise with ocean levels, extending sea walls, adding stricter rules to protect coral reefs and retreating from the coast through new zoning regulations.

Researchers also are developing drought-resistant crops and urging the public to conserve more water.

"The first thing to realize is that proactive adaptation is going to be far less expensive than reactive adaptation," said Stephen Mulkey, the science adviser to the Century Commission for a Sustainable Florida, a state panel assessing climate change.

"We are going to have to make an upfront investment with imperfect insight."

STARTS HERE

Since at least the early 1990s, U.S. scientists have predicted the need for adapting to climate change. Their warnings didn't gain much traction.

That's partly because of the Bush administration's hesitance to address global warming. Also, some environmentalists believe that focusing on adaptation would undermine efforts to curb pollutants that contribute to climate change.

While it may be possible to stall the worst effects of climate change, the amount of greenhouse gases already in the atmosphere likely will alter Earth's climate for decades.

"We're at the point where we have to do both (mitigation and adaptation)," said Peter Altman, a climate change analyst for the National Environmental Trust in Washington, D.C. "We know that we are going to see more changes and that the U.S. is simply not ready."

In Sacramento, Gov. Arnold Schwarzenegger is pushing to build more reservoirs. Schwarzenegger links his proposal to scientists' predictions that the Sierra snowpack, a major source of drinking water statewide, will diminish in coming years.

In the Legislature, the Assembly passed a bill this month that requires local governments along the coast to consider the impacts of sea level rise when amending their general plans. The legislation is awaiting Senate action.

"If we bury our heads in the sand on this one, we may drown," said Assemblyman John Laird, D-Santa Cruz,

who wrote the bill.

FLORIDA'S CHALLENGE

Few places in North America are more vulnerable to climate shifts than South Florida. The pancake-flat region is perched just a few feet above sea level.

Droughts coupled with rising sea levels increase the chance of saltwater infiltrating and contaminating the state's aquifers.

That's just one of the state's many challenges related to global warming.

For example, warming ocean water has damaged coral reefs, which act as nurseries for the Atlantic's food chain and as a pot of gold for Florida's maritime tourism industry.

The reefs have massive dead zones where once-vibrant undersea gardens are now eerily vacant, said Billy Causey, a federal oceans official based in Florida.

The administration of President Bush recently proposed legislation that calls for better management of the nation's reefs in light of climate change. Congress has yet to embrace the cause.

Across the country from Florida, San Francisco Bay's water level has risen about 7 inches in the past 150 years, said Will Travis, executive director of the San Francisco Bay Conservation and Development Commission.

Like many coastal zones, the Bay Area is susceptible to damage caused by rising water levels. Its shorelines have been extended with dredge spoils, then covered with warehouses, office parks and other buildings.

Potential remedies include extending sea walls in some areas and discouraging development in others.

"We are trying to sort out as a society how ... we get from here to there," Travis said.

GUIDING GOVERNMENT

In Washington state, university researchers have teamed with King County Executive Ron Sims to write a handbook for local governments regarding climate adaptation strategies.

"There is very little guidance on where to find relevant information about the impacts of climate change or how to go about preparing for them," said Amy Snover, assistant director of the University of Washington's Center for Science in the Earth System.

Apart from the handbook, Sims is pushing for far greater use of recycled water. He sees it as a measure against potential drought, even in the famously wet region.

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