

## Hawaii should prepare for sea level rises

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Coastal hazards threaten Hawaii's economy, safety and way of life. Many of Hawaii's famed beaches and coastal resources -- the lifeblood of our local communities and tourism industry -- are seriously threatened by worsening coastal erosion, flooding, hurricane intensity and sea-level rise. Low-lying places like Mapunapuna already experience flooding during high tides, intensified by heavy rains. Climate change impacts make these problems worse.



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Last month, the United Nations Climate Change Conference in Durban, South Africa, finished without establishing binding international commitments for reducing the greenhouse gas emissions that cause climate change. Policymakers at all levels of government now face added pressure and social responsibility to develop strategies for adapting to climate change impacts.

Hawaii has been a leader in addressing climate change by mandating reduced climate emissions and promoting renewable energy and energy efficiency. The state can likewise spearhead climate change adaptation initiatives by adopting a "no regrets" approach to addressing coastal hazards. We can address existing coastal hazards by factoring future hazard increases -- caused by climate change and sea-level rise -- into planning and decision-making.

How much sea-level rise should we prepare for? Sea levels in Hawaii have been rising for the past century, and rates are expected to accelerate with continued climate change. Research indicates the global mean sea level may rise between 1 and 3 feet or more during this century. California is planning for 4.6 feet of sea-level rise by 2100.

### BRIEFING ON TUESDAY

ICAP will present its latest findings on climate change law and policy to the state Legislature at 1 p.m. Tuesday in room 325 at the state Capitol. The briefing will include presentations by the UH School of Ocean and Earth Science and Technology, the National Oceanic and Atmospheric Administration, and the state Office of Planning on climate science, impacts and proposed legislation.

Researchers at the University of Hawaii are creating maps to identify vulnerable areas based on 1-, 2-, and 3-foot sea-level rise scenarios for the state's entire coastline. The U.S. Army Corps of Engineers requires designs for coastal projects to include similar sea-level rise projections. Using the best-available science, Hawaii state and local decision-makers can begin planning for a sea-level rise of approximately 1 foot by 2050 and 3 feet by 2100.

How do we prepare for sea-level rise? The UH Center for Island Climate Adaptation and Policy (ICAP) recently published "Sea-Level Rise and Coastal Land Use in Hawaii: A Policy Tool Kit for State and Local Governments." The study highlights the importance of adopting a sea-level rise planning benchmark, expanding climate research, and designating an agency to lead adaptation efforts. The study also describes 24 policy tools for preparing for sea-level rise. A few of these tools can be implemented immediately:

» Shoreline construction setbacks: Replace the state maximum setback of 40 feet with setbacks that incorporate not only variable rates of shoreline erosion and the lifespan of structures, as Maui and Kauai counties have already done,

but also sea-level rise due to climate change. This would build resiliency to current and future coastal erosion by keeping development at a safe and scientifically based distance from the shoreline.

» Capital improvement programs: Require state agencies to consider a range of sea-level rise scenarios when siting and designing capital improvement programs, similar to the Army Corps' method for its civil works programs. This would promote public safety and efficient use of taxpayer dollars.

» Mandatory real estate disclosures: For coastal real property sales, require disclosure of available site-specific erosion and sea-level rise information (i.e., data and maps). This market-based approach would allow prospective buyers to better weigh the costs and benefits of obtaining property located in hazardous areas.

These measures are important first steps in safeguarding public health and safety as well as Hawaii's environmental and economic interests from the impacts of climate change and sea-level rise, both now and in the future.

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