



DEPARTMENT OF LAND AND NATURAL RESOURCES

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ANTICIPATED “KING TIDES” MERIT WATCHFUL PREPARATION, OPPORTUNITY FOR ‘CITIZEN SCIENCE’ OBSERVATIONS

HONOLULU -- An observable phenomenon this weekend on shorelines and low-lying areas in Hawaii heralds the arrival of the highest ‘king tides’ of the year, that will occur over a couple days around May 26, June 23, and July 21. The Hawaii Sea Grant Center for Coastal and Climate Science and Resilience, and Pacific Islands Ocean Observing System together at the University of Hawaii have been tracking unusual high tide levels and are advising that the state will likely continue to experience unusually high tide levels throughout the summer.

The tides are further elevated by a few unusual compounding factors that include:

- Ocean eddies with high centers moving through the islands;
- Global sea-level rise due to climate change
- Wave action, including potential summer swells or storm surge.

State and County emergency managers most recently met with UH and Sea Grant climate researchers for an informational briefing on May 19 to better understand how long these potential flooding events might last and what their potential impacts may be.

The Department of Land and Natural Resources (DLNR) as a major coastal landowner, is concerned with possible impacts of the higher sea levels, such as:

- Localized coastal erosion problems;
- High-wave run-up and overwash, particularly with a south swell coinciding with high tides this weekend; and
- Temporary ‘nuisance flooding’ in low-lying areas and storm drains.

Impacts anticipated this weekend are likely to be greatest on shorelines exposed to south swells that have experienced flooding or erosion in the past. Flooding impacts in June and July will be greatest if king tides coincide with a high wave event, storm, and/or rain. The high tides may back-up storm drains in low-lying coastal areas.

To help the community prepare and respond, DLNR joins with Sea Grant to recommend that landowners in low-lying shoreline areas or near waterways consider moving to higher ground any electronics, vehicles or other valuable from basements or yards.

Problems with localized flooding and increased currents around harbors could occur this weekend, particularly on south and west shores. The Division of Boating and Ocean Recreation encourages boaters to monitor their vessels to ensure mooring lines don't get too tight, and to beware of overwash around boat ramps at high tide. Canoe clubs should secure or move canoes on the beach. Boating officials are not anticipating any impacts to state boating facilities as the tides are not expected overtop piers.

Marine biologist Skippy Hau, with the Maui Division of Aquatic Resources (DAR), says, "This weekend it's too early in the season for turtle nesting to be impacted. The nesting season will begin in June and at that time biologists and volunteers will be monitoring the beaches for any signs of turtle nesting. Timing is critical -- high tides could threaten nestlings as they emerge from the nest."

Dr. Kim Peyton, estuaries and coastal habitat research scientist in DAR, notes that "King tides bring unusually high water levels, resulting in local flooding that can leave schools of juvenile fishes to die on roads, parking lots and other hard structures. When waves smash up against these hard structures, the deafening noise underwater can degrade habitat quality for juvenile fish in these altered estuaries.

She adds, "Under typical conditions, high tides hold back stream flow to the coast, then at low tides this wall of ocean water recedes and streams flood out into the ocean. King tides create a bigger wall of ocean water, meaning these tides can hold back streams to a greater degree and potentially cause streams to flood their banks even without rain in the mountains. Local current patterns in streams and bays may change temporally as the sharp shoulders of the King tides raise and lower water levels."

Shoreline fishponds could possibly experience damage from high tides combined with unusual ocean swells.

DLNR is the state coordinating agency for the National Flood Insurance Program (NFIP) in Hawaii. It's recommended that persons with properties in low-lying that may be affected by the King Tides take mitigative actions to protect their properties (i.e. use of sandbags to protect the structure or elevating personal property). If not already covered by flood insurance, talk to your insurance agent about protecting your home or business against flooding. Keep in mind, there is a 30 day wait period for a policy to take effect so don't delay.

The Hawaii Sea Grant Center for Coastal and Climate Science and Resilience is asking island residents to help document high water levels and related impacts through the Hawaii and Pacific Islands King Tides "Citizen Science" project by submitting photos online through the program's smartphone app or website. For information and tide prediction charts, go to: <http://ccsr.seagrant.soest.hawaii.edu/king-tides>

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