## Scientists defend tsunami warning

Oceanographers say they learned lessons from 2004 Indonesian tsunami



The tsunami from Chile's deadly earthquake hit Japan's main islands and the shores of Russia on Sunday, but the smaller-than-expected waves prompted the lifting of a Pacific-wide alert. Hawaii and other Pacific islands also were spared.

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Map shows some of the quake and tsunami destruction across a long stretch of Chile.

## By Gillian Flaccus



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HONOLULU - The warning was ominous, its predictions dire: Oceanographers issued a bulletin telling Hawaii and other Pacific islands that a killer wave was heading their way with terrifying force and that "urgent action should be taken to protect lives and property."

But the devastating tidal surge predicted after Chile's magnitude 8.8-earthquake never materialized and by Sunday, authorities had lifted the warning after waves half the predicted size tickled the shores of Hawaii and tourists once again jammed beaches and restaurants.

Scientists acknowledged they overstated the threat, but defended their actions, saying they took the proper steps and learned the lessons of the 2004 Indonesian tsunami that killed thousands of people who didn't get enough warning.

"It's a key point to remember that we cannot end the warnings. Failure to warn is not an option for us," said Dai Lin Wang, an oceanographer at the Pacific Tsunami Warning Center in Hawaii. "We cannot have a situation that we thought was no problem and then it's devastating. That just cannot happen."

Hundreds of thousands of people fled shorelines for higher ground Saturday in a panic that circled the Pacific Rim after scientists warned 53 nations and territories that a tsunami had been generated by the massive Chilean guake.

It was the largest-scale evacuation in Hawaii in years, if not decades. Emergency sirens blared throughout the day, the Navy moved ships out of Pearl Harbor, and residents hoarded gasoline, food and water in anticipation of a major disaster. Some supermarkets even placed limits on items like Spam because of the panic buying.

But the monster waves that left Hawaii's sun-drenched beaches empty for hours never appeared — a stark contrast to the tidal surge that killed 230,000 people around the Indian Ocean in 2004 and flattened entire communities.

This time, waves of more than 5 feet were reported in Kahului Bay in Maui and in Hilo, on the eastern coast of Hawaii's Big Island, but did little damage. Predictions of wave height in some areas were off by as much as 50 percent.

In Tonga, where up to 50,000 people fled inland hours ahead of the tsunami, the National Disaster Office had reports of a wave up to 6.5 feet hitting a small northern island, with no indications of damage.

And in Japan, where authorities ordered 400,000 people out of coastal communities, the biggest wave was a 4-foot surge that hit the northern island of Hokkaido, flooding some piers.

Still, scientists offered no apologies for the warning and defended their work, all while worrying that the false alarm could lead to complacency among coastal residents — a disastrous possibility in the earthquake-prone Pacific Rim.

A similar quake in Chile in 1960 created a tsunami that killed about 140 people in Japan. The same surge hit Hawaii and devastated downtown Hilo, on the Big Island, killing 61 residents and wiping out more than 500 homes and businesses.

"If you give too many warnings and none of them materialize, then you lose your credibility," Wang said.
"That's something that we have to deal with and we have to improve."