

Scientists create model of monster 'Frankenstorm'

January 24 2010, By ALICIA CHANG , AP Science Writer

(AP) -- Think the recent wild weather that hammered California was bad? Experts are imagining far worse.

As torrential rains pelted wildfire-stripped hillsides and flooded highways, a team of scientists hunkered down at the California Institute of Technology to work on a "Frankenstorm" scenario - a mother lode wintry blast that could potentially sock the Golden State.

The hypothetical but plausible [storm](#) would be similar to the 1861-1862 extreme floods that temporarily moved the state capital from Sacramento to San Francisco and forced the then-governor to attend his inauguration by rowboat.

The scenario "is much larger than anything in living memory," said project manager Dale Cox with the U.S. Geological Survey.

In the scenario, the storm system forms in the Pacific and slams into the West Coast with hurricane-force winds, hitting Southern California the hardest. After more than a week of ferocious weather, the system stalls for a few days. Another storm brews offshore and this time pummels Northern California.

Such a monster storm could unleash as much as 8 feet of rain over three weeks in some areas, said research meteorologist Martin Ralph with the National Oceanic and Atmospheric Administration, who is part of the project.

It makes the latest Pacific storm system look like a drop in the bucket. A weeklong siege of storms walloped California, flooding coasts and roads, spawning tornados and forcing the evacuation of about 2,000 homes below fire-scarred mountains for fear of mudslides. The National Weather Service said the storms dumped up to a foot in the mountains northwest of Los Angeles in a week.

Weather experts say West Coast storms could get more frequent and severe with [climate change](#). Last fall, a team of federal, state and academic experts was formed to tackle what would happen if a series of powerful storms lashed at the state for 23 days. The scenario is expected to be completed this summer and will be used in a statewide disaster drill next year.

Ironically, the team had scheduled meetings at Caltech to learn about the fictional storm's impact to dams, sewage treatment plants, transportation and the electrical grid. About a dozen canceled due to the storms.

"They had to deal with the real thing," said chief scientist Lucy Jones of the USGS.

The next step is to estimate economic damages as well as the risk of landslides and coastal erosion and impact to infrastructure and the environment.

Several scientists on storm watch were involved in the 2008 planning of a mock "Big One" on the San Andreas Fault that was incorporated into an earthquake preparedness drill.

The Great Flood of 1861-1862 was believed to be the most powerful and longest series of storms in state history, lasting a month and causing severe flooding.

The Sacramento and San Joaquin valleys were water-logged and spontaneous lakes popped up in the Mojave Desert and Los Angeles basin. Nearly a third of the young state's taxable land was destroyed.

Since there are few meteorological records available on the 1861-1862 events, scientists stitched together data from two recent storms to create "Frankenstorm."

More information: USGS Multi-Hazards

Demonstration Project:

<http://urbanearth.gps.caltech.edu>

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