

Scientists warn enormous floods may be more likely

By Krista Langlois, High Country News

In the late 1980s, a Japanese scientist named Koji Minoura stumbled on a medieval poem that described a tsunami so large it had swept away a castle and killed a thousand people. Intrigued, Minoura and his team began looking for paleontological evidence of the tsunami beneath rice paddies, and discovered not one but three massive, earthquake-triggered waves that had wracked the Sendai coast over the past three thousand years.

In a 2001 paper, Minoura concluded that the possibility of another tsunami was significant. But Tokyo Electric Power was slow to respond to the science, leaving the Fukushima Daiichi nuclear power plant unprepared for the 15-meter wave that inundated it in 2011. The wave resulted in a \$188 billion natural disaster. More than 20,000 people died.

Earlier this year, when a spillway at the nation's tallest dam in Oroville nearly buckled under the pressure of record rainfall, the consequences of under-estimating flood risks were brought into sharp relief. Dams aren't built to withstand every curveball nature can throw – only the weather events that engineers deem most likely to occur within the dam's lifespan. When many Western dams were built in the mid-20th century, the best science to determine such probabilities came from historical records and stream gauges.

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