

# A Faultline Runs Through It

## A Look at the Hidden Danger of Dam-Induced Earthquakes

It is well established that large dams can trigger earthquakes. But recent news coverage linking last year's devastating earthquake in China year to the filling of a reservoir sent tremors through the dam-building industry, and sparked controversy over the little-studied phenomenon of "reservoir-induced seismicity" (RIS).

Scientists believe that reservoirs increase pressure on and lubricate faults that have been prevented from slipping by the friction of the rock surfaces. Although scientists are unable to definitively link a particular quake to a dam, many who study the problem recommend abiding by the "precautionary principle" to be on the safe side. One of the world's top experts on RIS, Leonardo Seeber, a seismologist with Columbia University's Lamont-Doherty Earth Observatory, recently told us, "My position is that earthquake hazard needs to be put on the table for a comprehensive evaluation and informed public decision. My experience, however, is that it is often minimized or neglected when public support for a project is sought."

Clarence Allen, a seismologist from the California Institute of Technology, wrote in 1982 that "our degree of understanding of reservoir-induced earthquakes is so minimal that almost no new reservoir anywhere in the world can be declared free of this possible danger," and said that "any new dam that will impound water to depths exceeding 80-100m must be designed with the assumption that a magnitude 6.5 earthquake could occur nearby."

International Rivers is calling for more transparency on this issue, and for thorough seismic assessments aired in the public sphere before more dams are built in earthquake-prone areas. Here we show some of the more prominent incidents of RIS.

