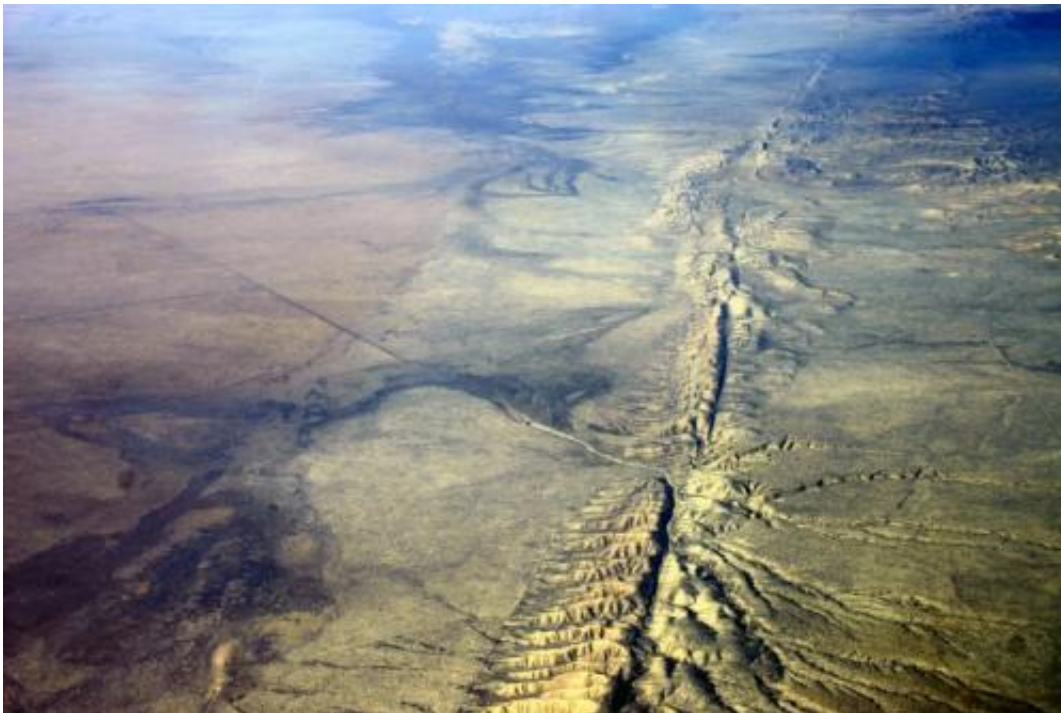


Experts defend operational earthquake forecasting, counter critiques

September 1 2014



Aerial photo of the San Andreas Fault in the Carrizo Plain, northwest of Los Angeles. Credit: Wikipedia.

Experts defend operational earthquake forecasting (OEF) in an editorial published in the *Seismological Research Letters* (SRL), arguing the importance of public communication as part of a suite of activities intended to improve public safety and mitigate damage from earthquakes. In a related article, Italian scientists detail the first official

OEF system in Italy.

What is known about the probability of an [earthquake](#) on a specific fault varies over time, influenced largely by local seismic activity. OEF is the timely dissemination of authoritative scientific information about earthquake probabilities to the public and policymakers.

After the 2009 L'Aquila earthquake, Italian authorities established the International Commission on Earthquake Forecasting (ICEF), led by Thomas H. Jordan, director of the Southern California Earthquake Center, former president of the Seismological Society of America (SSA) and lead author of the SRL editorial. The commission issued a comprehensive report, published in 2011, which outlined OEF as one component of a larger system for guiding actions to mitigate earthquake risk, based on scientific information about the earthquake threat.

In this editorial, the authors respond to recent critiques suggesting that OEF is ineffective, distracting and dangerous. Citing results from ongoing OEF fieldwork in New Zealand, Italy and the United States, the authors emphasize the utility of OEF information in aiding policy makers and the public in reducing the risk from earthquakes.

"Although we cannot reliably predict large earthquakes with high probability, we do know that earthquake probabilities can change with time by factors of 100 or more. In our view, people deserve all the information that seismology can provide to help them make decisions about working and living with the earthquake threat," said Jordan.

Concerns that short-term forecasts would cause panic, or lead to user fatigue and inaction, underestimate the general public's ability to identify authoritative sources of information and make appropriate individual decisions, say the authors. While they acknowledge that communicating OEF uncertainties may be difficult, they conclude that "not

communicating is hardly an option."

More information: "The Establishment of an Operational Earthquake Forecasting System in Italy," by Warner Marzocchi, A.M Lombardi, E. Casarotti of Istituto Nazionale di Geofisica e Vulcanologia. [DOI: 10.1785/0220130219](https://doi.org/10.1785/0220130219)

"Operational Earthquake Forecasting Can Enhance Earthquake Preparedness," Thomas H. Jordan, University of Southern California and director of the Southern California Earthquake Center; Warner Marzocchi, Istituto Nazionale di Geofisica e Vulcanologia; Andrew Michael, U.S. Geological Survey; and M. Gerstenberger, GNS Science in New Zealand. [DOI: 10.1785/0220140143](https://doi.org/10.1785/0220140143)

Provided by Seismological Society of America

Citation: Experts defend operational earthquake forecasting, counter critiques (2014, September 1) retrieved 28 April 2024 from <https://phys.org/news/2014-09-experts-defend-earthquake-counter.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.