

# Earthquake Forecast System based on Seismicity of Japan (EFSSJ)

The primary goal is to establish forecast systems of earthquake occurrence for Japan. Our approach is based on the creation and buildup of methods that can be used for high-resolution earthquake forecasts in space and time through the application of statistics- and physics-based models of earthquakes to Japanese seismicity. In order to achieve the goal, quantitative testing of earthquake forecast models and the development of testing methodology are important parts of our researches. Our web pages are intended to give you an overview of our activities in Japan. For more detailed information, please read our [Extended introduction](#).

This website was last modified: August 2011

[Japanese version website](#)

## What's New

- [The 3rd call for earthquake forecast models](#) opened
- [Workshop on "Earthquake Forecast Systems Based on Seismicity of Japan"](#) done
- [3D earthquake forecast testing experiment in Kanto](#) under construction

## Earthquake forecast testing experiment for Japan

EFSSJ research group in collaboration with Collaboratory for the Study of Earthquake Predictability (CSEP) conducts an earthquake forecast testing experiment for Japan. Main purpose is to evaluate the performance of submitted earthquake forecast models based on different earthquake-generation hypotheses and to better understand the physics and statistics of earthquake occurrence.

- The 1st experiment
  - [Call for earthquake forecast models](#)
  - [Summary of the experiment](#)
- The 2nd experiment
  - [The 2nd call for earthquake forecast models](#)
- The 3rd experiment
  - [The 3rd call for earthquake forecast models](#)
- Report (password protected)
  - September 2010 [Report on prospective evaluation of the 3-month CSEP-Japan earthquake forecasts](#)
- [Results](#) (password protected)
- Participating models
  - [Descriptions](#)
  - [List](#)

## Meetings

- Seismicity Models and Earthquake Probabilities
  - November 2007, Institute of Statistical Mathematics
- [Physics- and Statistical-Based Models of Seismicity and Earthquake Forecasts](#)
  - July 2008, Earthquake Research Institute, University of Tokyo
- Global Collaborative Earthquake Predictability Research
  - [May 2009, Japan Geoscience Union Meeting 2009](#)

- [International Symposium "Toward Constructing Earthquake Forecast Systems for Japan"](#)
  - May 2009, Earthquake Research Institute, University of Tokyo
- [The 3rd SCEC-ERI joint workshop](#)
  - March 2010, Earthquake Research Institute, University of Tokyo
- [2010 Meeting of Earthquake Forecast System based on Seismicity of Japan](#) (in Japanese)
  - March 2010, Earthquake Research Institute, University of Tokyo
- [Global Collaborative Earthquake Predictability Research](#)
  - [May 2010, Japan Geoscience Union Meeting 2010](#)
- [The 2nd 2010 Meeting of Earthquake Forecast System based on Seismicity of Japan](#) (in Japanese)
  - [May 2010, Japan Geoscience Union Meeting 2010](#)
- [International Workshop on Statistical Seismology](#)
  - May 2010, The Institute of Statistical Mathematics
- [Toward constructing earthquake forecast systems based on seismicity of Japan](#)
  - October 2010, Seismological Society of Japan 2010 Annual Meeting, Hiroshima
- [Workshop on "Earthquake Forecast Systems Based on Seismicity of Japan: Toward Constructing Base-line Models of Earthquake Forecasting"](#)
  - November 2010, Kyoto University, Uji Campus
- [Workshop on "Earthquake Forecast Systems Based on Seismicity of Japan"](#)
  - July 2011, Meteorological Research Institute, Tsukuba

## Models & Testing

- [3D earthquake forecast testing experiment in Kanto](#)

## Documents

- K. Z. Nanjo, H. Tsuruoka, S. Toda, N. Hirata (2008) Research on testing earthquake forecasts based on seismicity: Recent trend in Japan and worldwide, Newsletter of Seismological Society of Japan, 20(4), 16-20 (in Japanese). [Download](#), [Web version](#)
- Research group "Earthquake Forecast System based on Seismicity of Japan" (K. Z. Nanjo, N. Hirata, H. Tsuruoka are responsible for the wording of the article) (2009) Earthquake forecast testing experiment for Japan, Newsletter of Seismological Society of Japan, 20(6), 7-10 (in Japanese). [Web version](#)
- K. Z. Nanjo, H. Tsuruoka, N. Hirata, K. Kasahara (2009) Toward constructing earthquake forecast systems: An introduction, [Bussei Kenkyu](#), 93(2), 125-142 (in Japanese).
- K. Z. Nanjo, T. Ishibe, H. Tsuruoka, D. Schorlemmer, Y. Ishigaki, and N. Hirata (2010) Analysis of the Completeness Magnitude and Seismic Network Coverage of Japan, [Bulletin of the Seismological Society of America](#), 100(6), 3261-3268, doi: 10.1785/0120100077.
- N. Hirata, H. Tsuruoka, and K. Z. Nanjo (2010) [Overview of the Collaboratory for the Study of Earthquake Predictability \(CSEP\) in Japan](#), Report of the Coordinating Committee for Earthquake Prediction, 85, 433-436 (in Japanese).
- N. Hirata, H. Tsuruoka, K. Z. Nanjo, S. Yokoi (2011) [Is an earthquake version of weather forecasting possible?](#), [Naifuru](#), 84(3), 2-3 (in Japanese).
- Special Issue of Earth, Planets and Space
  - [Earthquake Forecast Testing Experiment in Japan \(I\)](#)
  - [Earthquake Forecast Testing Experiment in Japan \(II\)](#)

## Links

- [CSEP Testing Center at SCEC](#)
- [CSEP EU Testing Center at ETH](#)
- [RELM](#)
- [Seismicity Seminar at ERI](#) (in Japanese)
- [Statistical Seismology Seminar at Institute of Statistical Mathematics](#)
- [Completeness of Earthquake Catalogs](#)

- [mini-CSEP](#)
- [CORSSA](#)
- [CAWCR](#)
- [Coulomb3](#)
- [Special Issue of Pure And Applied Geophysics: Evison Symposium on Seismogenesis and Earthquake Forecasting](#)
- [Special Issue of Annals of Geophysics: An earthquake forecast experiment in Italy](#)
- [StatSei7,Santorini, Cyclades, Greece, 25-27 May 2011](#)
- [24-Hour Aftershock Forecast Map](#)
- Probabilistic forecast for repeating small earthquakes in 2011 ([Japanese](#), [English](#))

## Contact

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