

Retrospective Testing in the New Zealand Earthquake Forecast Testing Centre

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The New Zealand Earthquake Forecast Testing Centre has been operational for the past two years. It is following the protocol of the Collaboratory for the Study of Earthquake Predictability (CSEP). Here we present an overview of the current status of the center and show the results of retrospective testing of the submitted models. Researchers from around the globe have provided sixteen models for testing within the center, all of which have been retrospectively tested against portions of the NZ historical catalog and are currently undergoing preliminary prospective testing. These models may provide forecasts for time-periods of one-day, three-months, six-months or five-years; many of the models are capable of providing forecasts for more than one time-period. The models explore a range of statistically based ideas such as smoothed seismicity, earthquake clustering and long-term seismicity relations. In this presentation we show the results of retrospective testing of the individual models, and retrospective comparisons within each of the model classes; we also give a status report of the current unofficial prospective testing. Retrospective testing has: 1) highlighted some models which perform more poorly than expected, allowing for additional model development and 2) demonstrated a few difficulties and problems in the CSEP testing protocol. All prospective testing to date is preliminary and results will remain so until catalog completeness problems in 2007 are corrected.

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