

CSEP Discussion

How adequate is CSEP's infrastructure for evaluating OEF models?

Italian OEF Needs:

- 1. CSEP forecasts are for 1-day and 3month
– (Italian OEF uses 1 week forecasts)**
- 2. Need to compare results using the official
and real-time catalog**
- 3. Need to test ensemble models**
- 4. Need to strength the testing phase –
(maybe a major restyling is needed)**

NZ OEF Requirements

- **Longer forecast time periods**
- **Longer lag-times**
- **More retrospective testing**
- **Better results communications strategies**

UCERF OEF Requirements

- **Catalog including uncertainties**
- **Probability of missed events**
- **Association between event and fault**

USGS DELF Strategy Needs:

- Define user needs and uses**
- Define roles of organizations**
- Develop integrated program that includes R&D and needed products and integration into ANSS**
- Make OEF algorithms testable**
- Develop vetting methods for forecasts**
- Begin operational capabilities with improved network integration**
- Fully integrated OEF system for calculation and production within ANSS**

- 1. CSEP currently runs forecasts, then evaluates results**
- 2. CSEP models currently uses only seismicity as input parameters to forecasts**
- 3. CSEP currently runs prospective forecasts, doesn't hindcast forecasts**
- 4. CSEP currently runs forecasts using "stable" earthquake catalogs, 1 month behind real-time**
- 5. CSEP contains forecast models to ensures reproducibility of results**

- 1. CSEP runs on single computer server, and is configured to complete one day of forecasts and evaluation within 24 hours, so it doesn't get behind**
- 2. CSEP archives results "forever"**
- 3. CSEP reprocess evaluations if problems in catalog, processing, or evaluation tests are discovered**
- 4. CSEP processing is distributed between 4 test centers, California, NZ, ETH, Japan**