CSEP Progress Report

D. Schorlemmer (SCEC/USC)

CSEP Software

- CSEP 1.0 released
- 3 month release schedule
  - Next release scheduled for 1 January 2008
- Complex system (see Fabian's talk)

CSEP Web-Presentation Concept

3 Websites

- Main CSEP website www.cseptesting.org (static)
- Regional websites (editable)
  - us.cseptesting.org
  - nz.cseptesting.org
  - europe/italy.cseptesting.org?
- Result pages us.cseptesting.org/ScecResults (restricted)
  - Other results can also be presented there
  - We will add more result visualization (e.g., maps)

CSEP Working Groups

Data (Chair: Schorlemmer)
- Working together with ANSS
- Review Process of work in Italy

Model

Global (Chair: Jackson)
- First steps taken

Cyberinfrastructure
- Software review meeting on 19 November 2007 at USC

Testing
- Meeting planned after the Evison Symposium

Grid-based Testing

- Standard testing schema as developed for RELM
- Large storage demands of current likelihood tests (RELM Tests)
- Rhoades & Schorlemmer are working on optimized version of likelihood tests
  - Reduce storage of random numbers
  - Implementation planned for version 1.1 or 1.2
- Jackson, Kagan, & Schorlemmer are working on modified likelihood tests
  - Include different probability distributions
  - Allows for including uncertainties in forecast generation

Alarm-based Testing

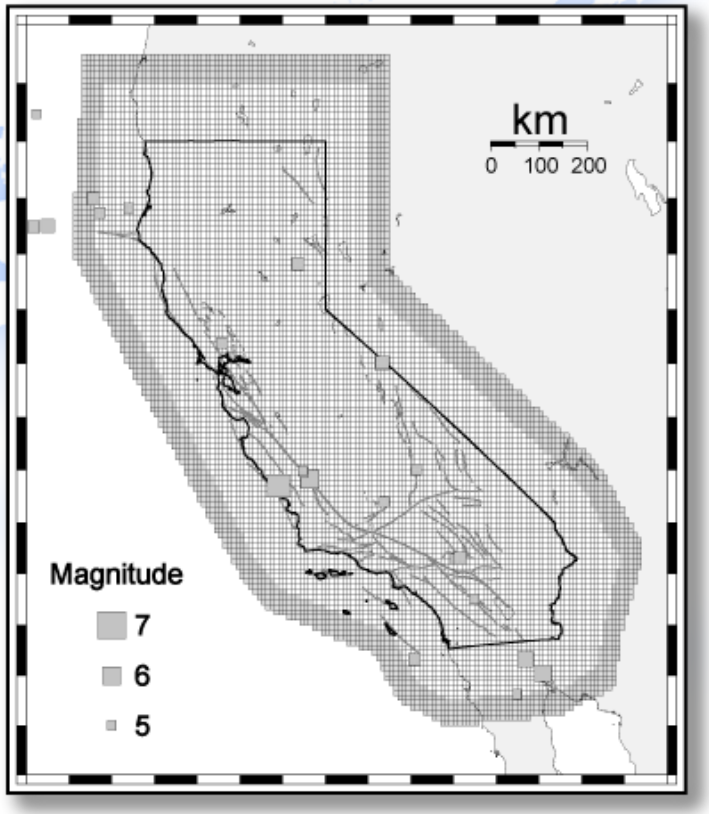
- Different methods exist (Molchan, ROC, etc.)
- CSEP is planning to introduce the ASS (Area Skill Score) testing during 2008 (Zechar & Jordan)
- Comparison of results with likelihood testing

Fault-based Testing

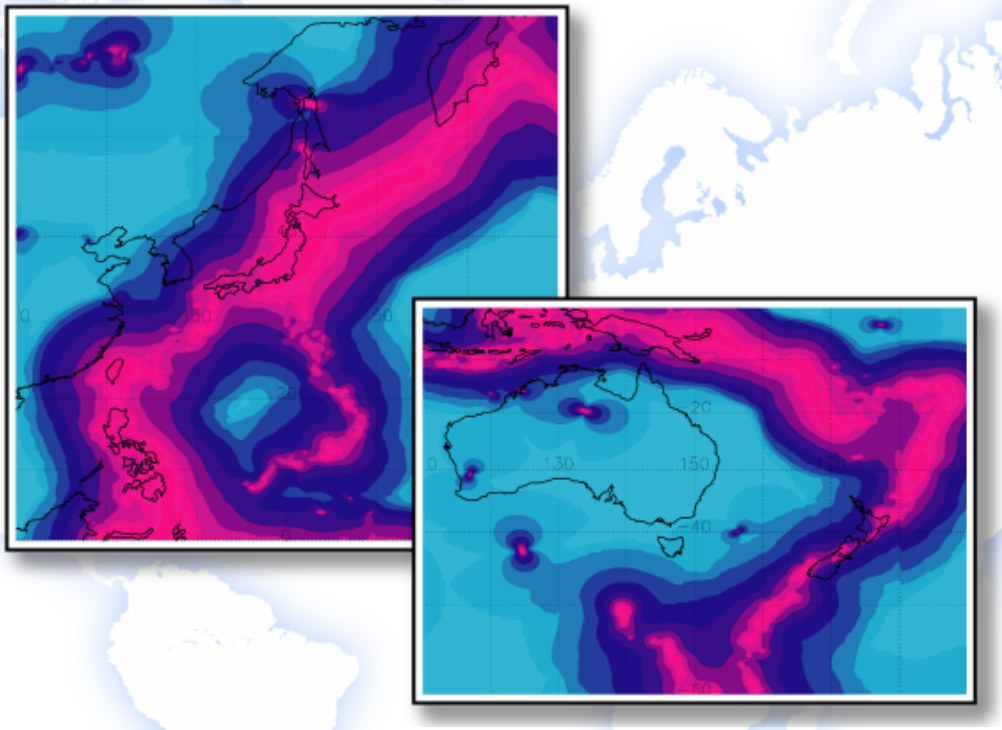
- Meeting held in April at USC
- No appropriate authorized data source identified
  - How to determine the ruptured fault?
  - How to determine the affected fault segments?
  - What about earthquake off known faults?
- Grid-based testing with focal mechanism information
  - SCEC community fault model
- Jackson, Kagan, and Schorlemmer are assessing possible earthquake data sources
- No implementation plans yet

California

- Operational since 1.9.2007
- Current models
  - 5-year RELM
  - 1-day STEP & ETAS
- Upcoming models
  - EEPAS (Rhoades)
  - PPE (Rhoades)
  - ETAS (Werner)
  - Cellular Seismology (Kafka)
  - STEP Java (Gerstenberger)

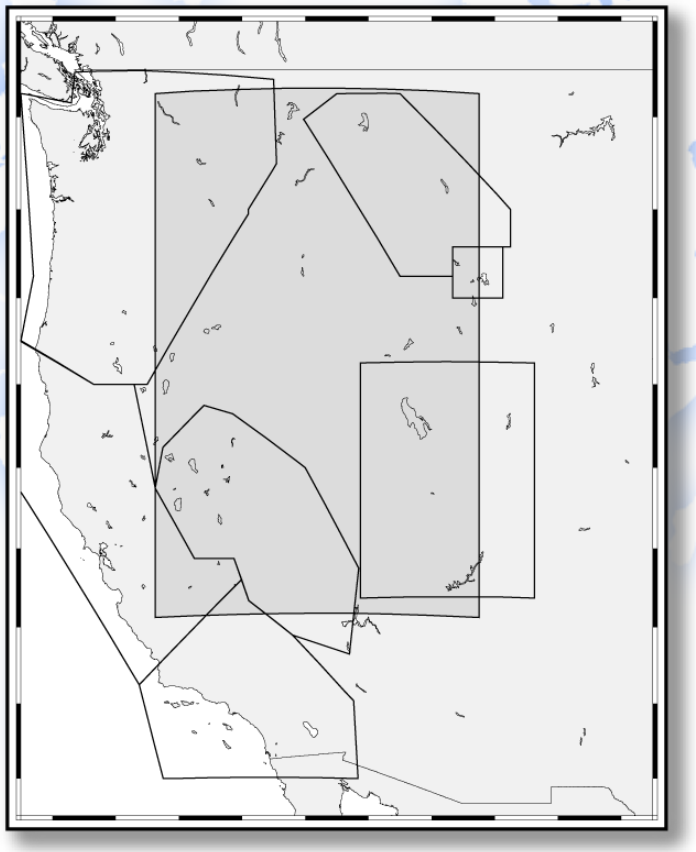


Western Pacific



- Covers >90% of worldwide seismicy
- Testbed for global testing
- Testbed for Global CMT catalog
- Implementation in 2008

Basin & Range



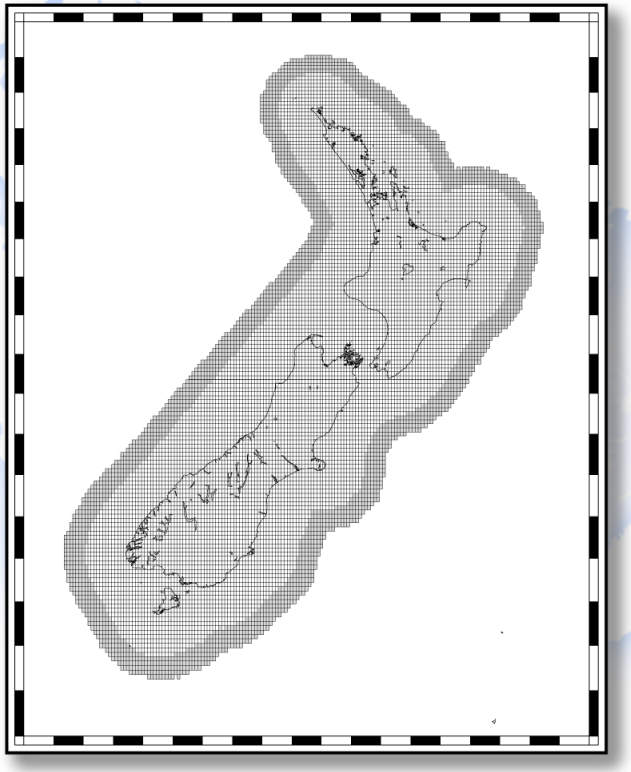
- Meeting held in April at USC
- Area covered by 7 networks
- ANSS does not provide sufficient data quality
- No models available
- Not likely to happen

New Zealand

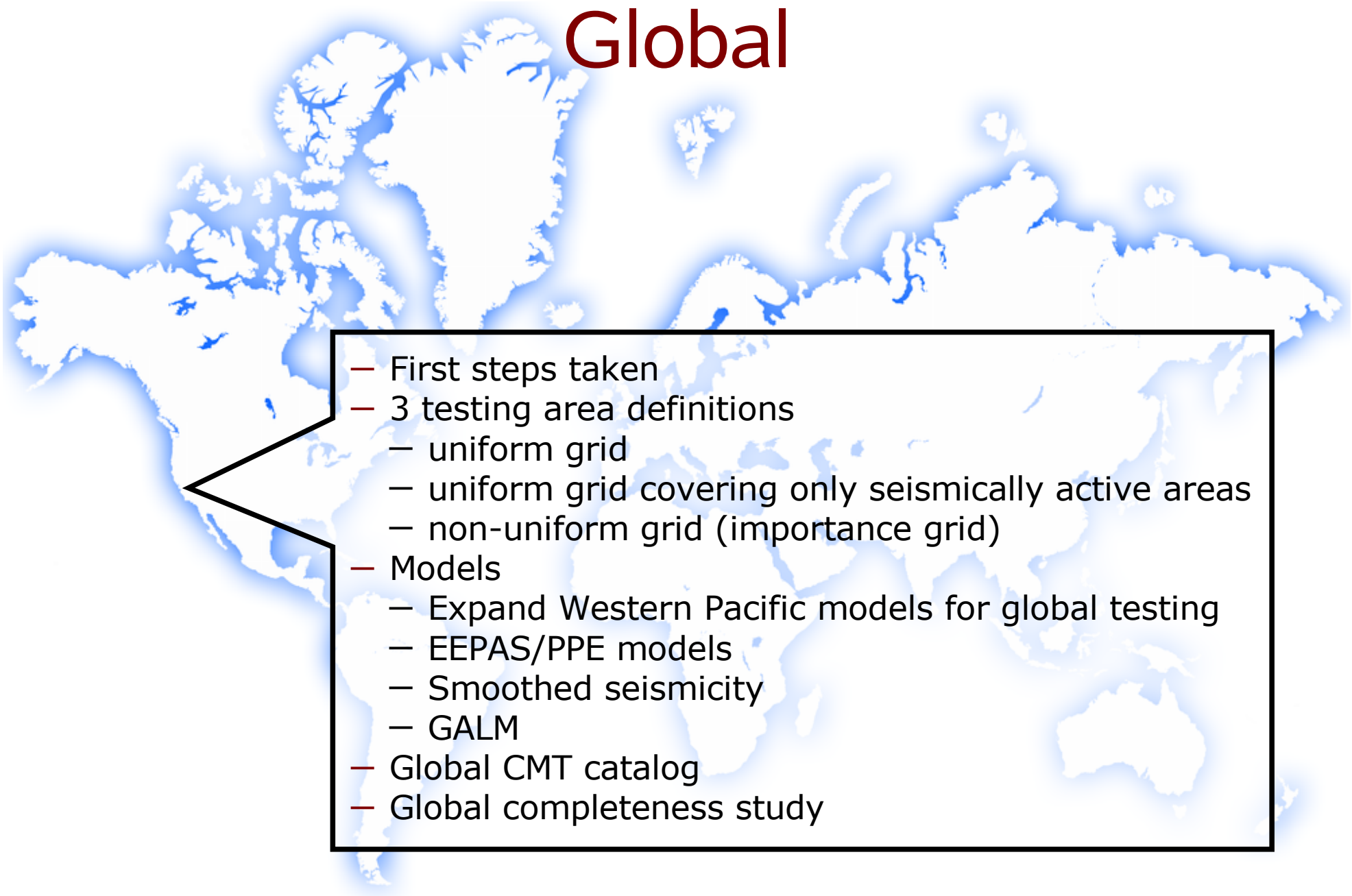
- Testing area defined
- Catalog including location parameter uncertainties
- Assumed overall completeness at M=4
- Declustering (same method as used in national hazard assessment)

- RELM Tests (N-, L-, and R-Test)
- New tests under development

- Models
  - 4 5-year models
  - 4 3-month models
  - 4 1-day models

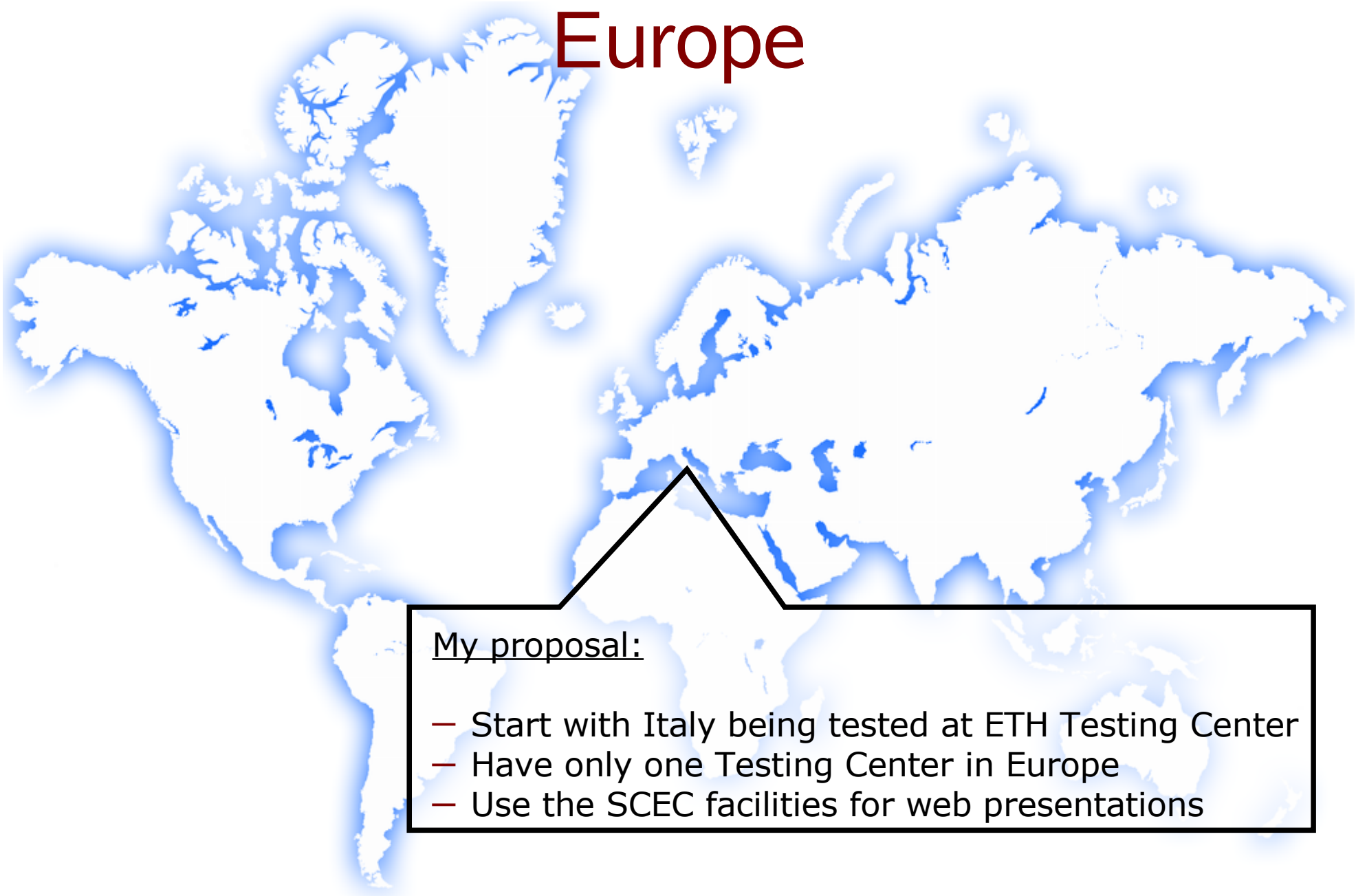


Global



- First steps taken
- 3 testing area definitions
  - uniform grid
  - uniform grid covering only seismically active areas
  - non-uniform grid (importance grid)
- Models
  - Expand Western Pacific models for global testing
  - EEPAS/PPE models
  - Smoothed seismicity
  - GALM
- Global CMT catalog
- Global completeness study

Europe



My proposal:

- Start with Italy being tested at ETH Testing Center
- Have only one Testing Center in Europe
- Use the SCEC facilities for web presentations