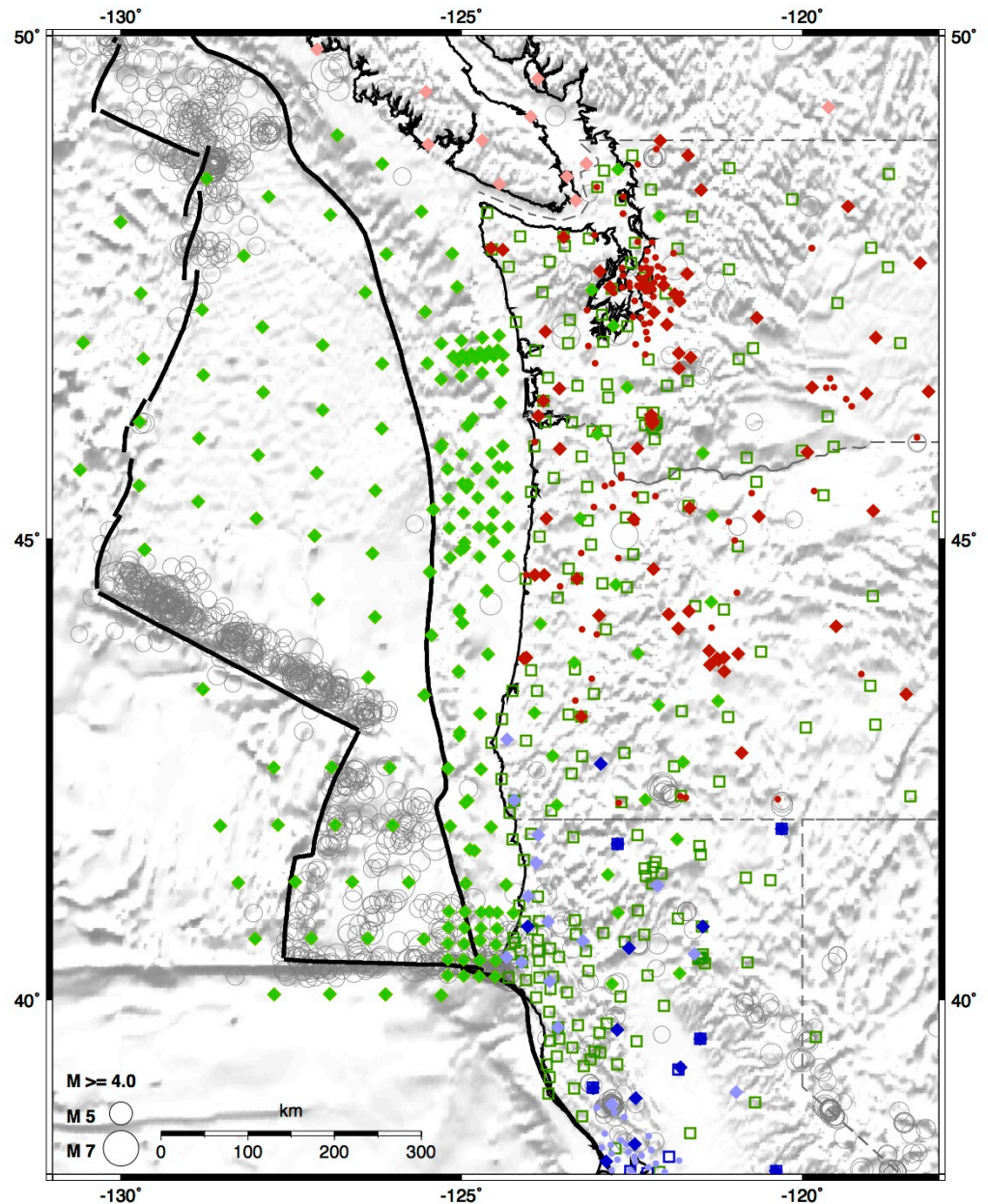


Cascadia Initiative

Geophysical Data Sources

Richard Allen
UC Berkeley



GPS data

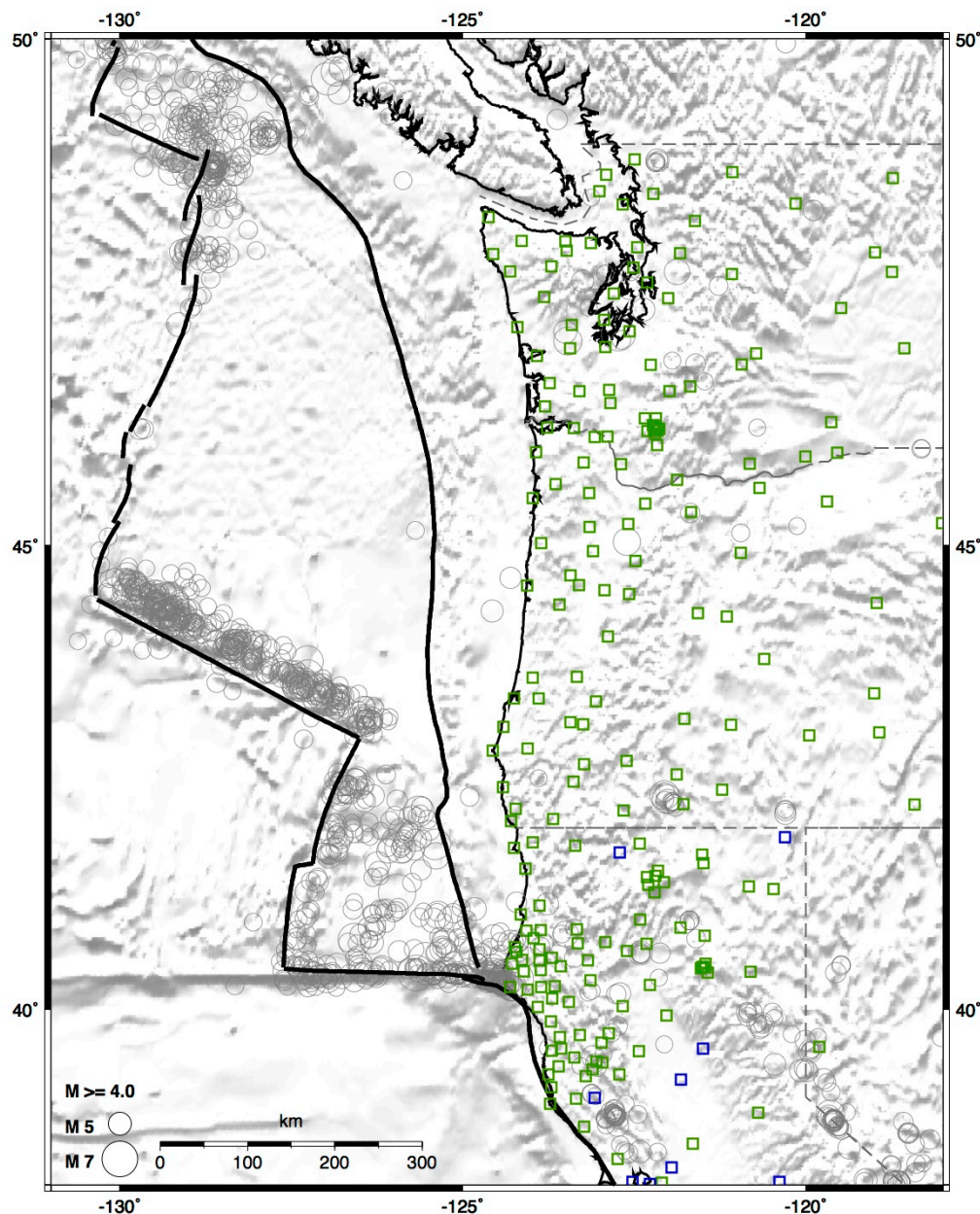
Green

240+ PBO GPS sites

- High sample rate (1 Hz)
- Realtime to UNAVCO
- Raw realtime data available
(email rtgps@unavco.org)
- Daily positions also

PANGA

- Realtime processing of ~50 PBO sites
- Displacement timeseries available from
Tim Melbourne
- Data from additional PANGA stations available also



Seismic data

Broadband velocity

Green

CI – Offshore

- Reference array
(4 yrs at each site)
- Plate crossing
(2 yrs at each site)
- Focused arrays
(1 or 2 yrs at each site)

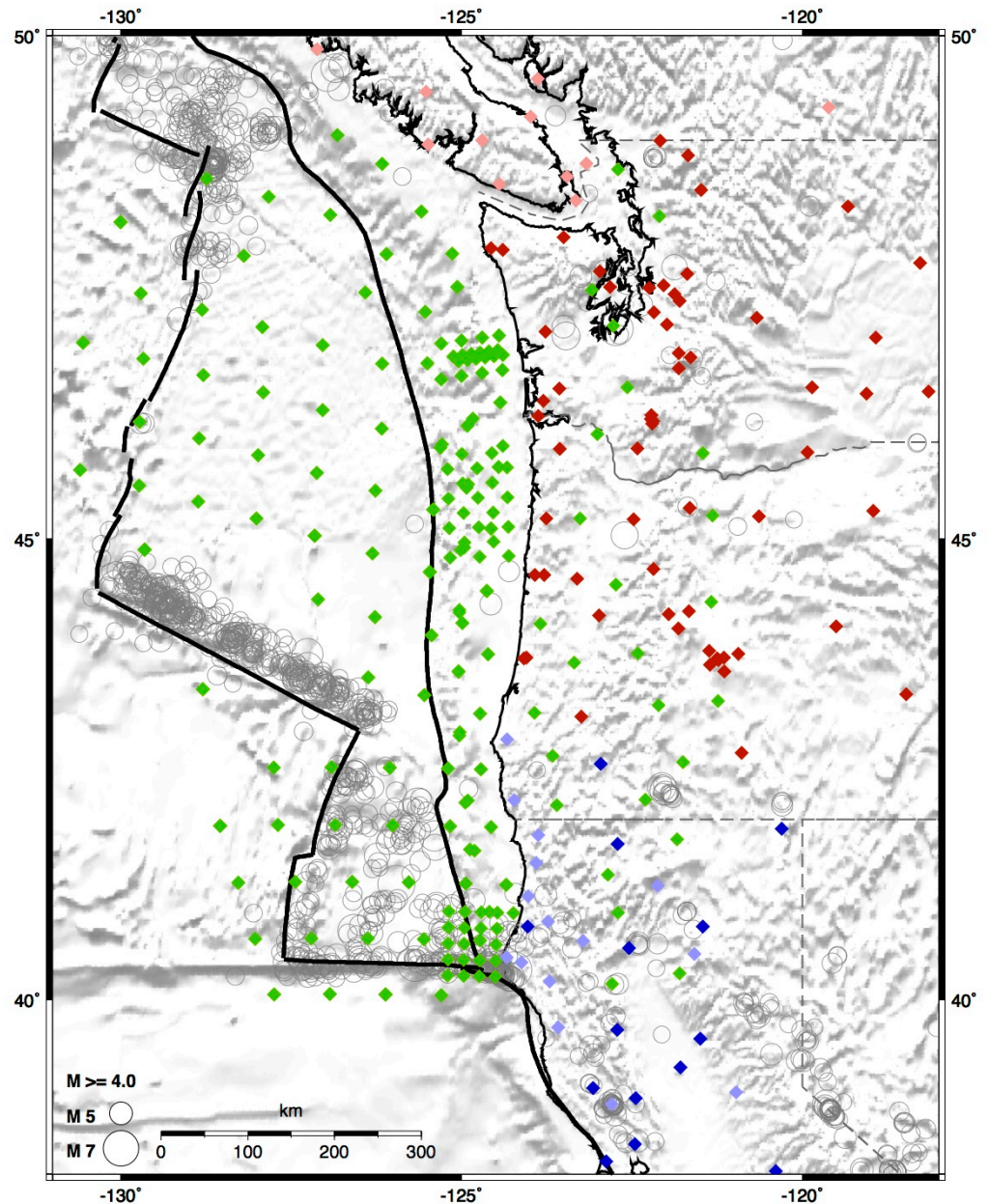
Data: IRIS DMC

Green

CI – Onshore

- TA redeployment
27 stations – project duration

Data: IRIS DMC



Seismic data

Broadband velocity

Salmon

Canadian Network

- ~11 stations (on map)

Data: ???

Red

Pacific Northwest
Seismic Network

- ~65 stations

Data: IRIS DMC

Blue

Northern CA networks

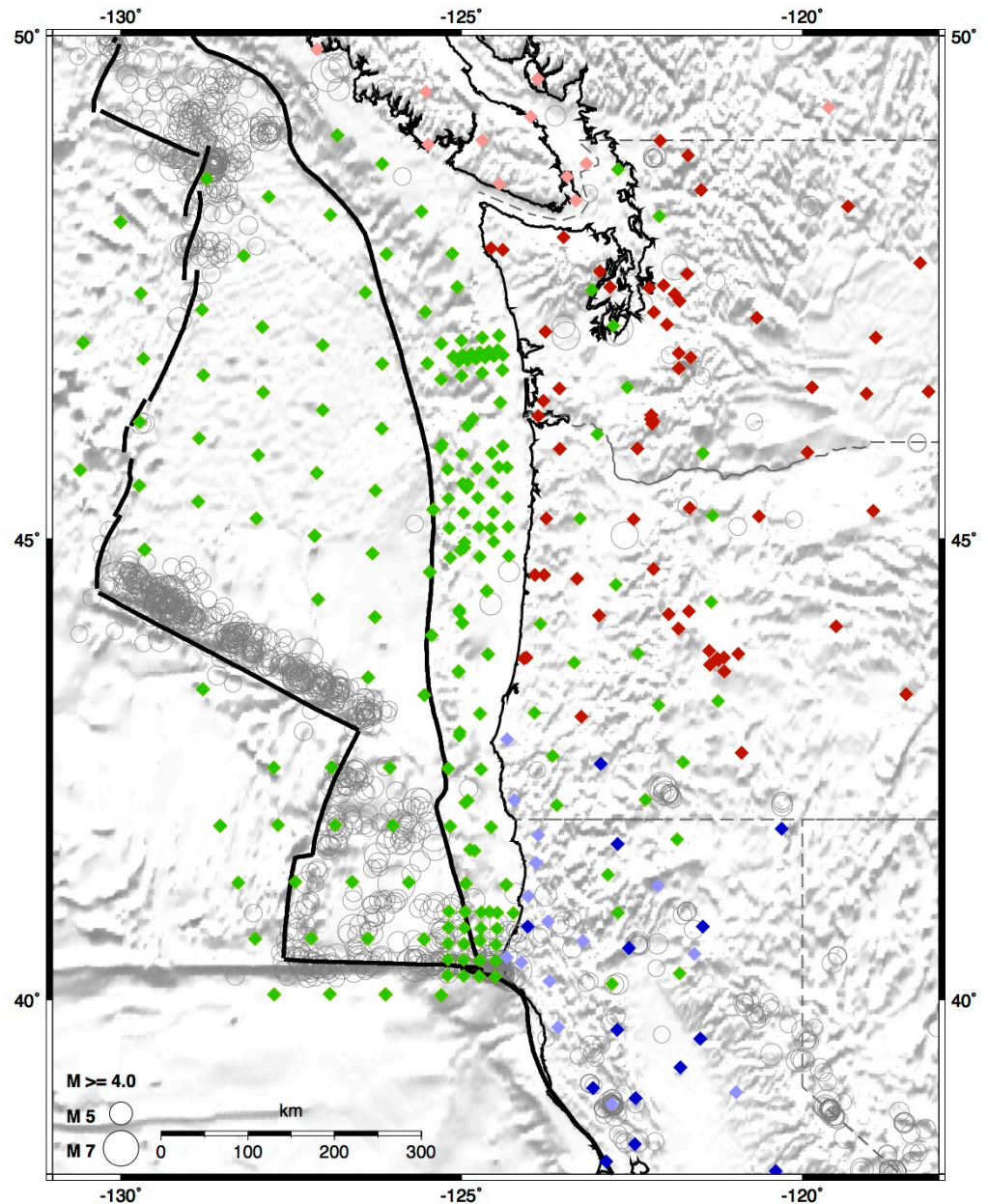
- NC/USGS network

~15 stations (on map)

- BK/UC Berkeley network

~15 stations (on map)

Data: NCEDC – UC Berkeley



Seismic data

Strong motion

Red

Pacific Northwest
Seismic Network

- ~130 stations

Data: IRIS DMC

Green

CI – Onshore

- TA redeployment

27 stations – project duration

Data: IRIS DMC

Blue

Northern CA networks

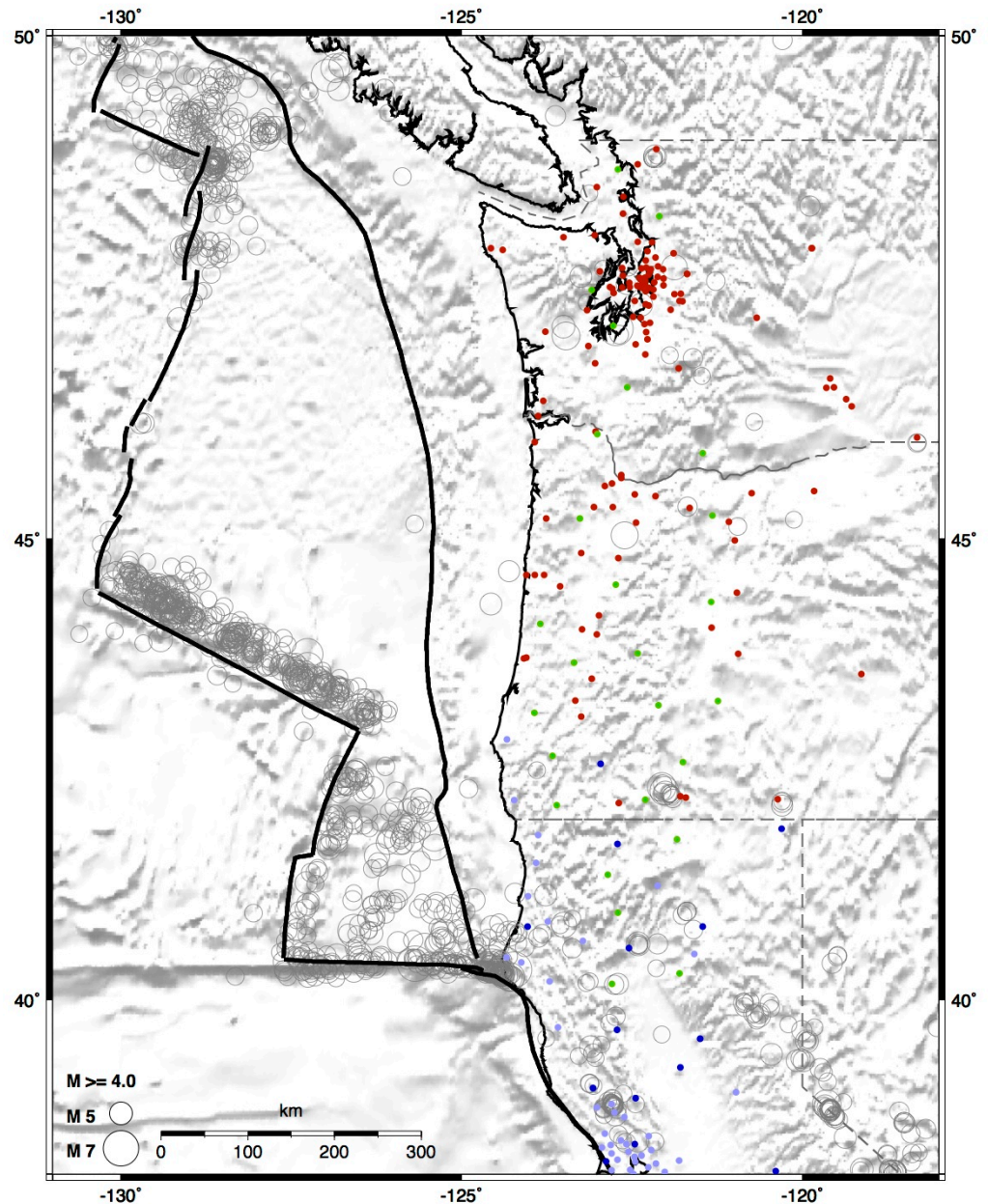
- NC/USGS network

~50 stations (on map)

- BK/UC Berkeley network

~15 stations (on map)

Data: NCEDC – UC Berkeley



Seismic data

Broadband + Strong motion

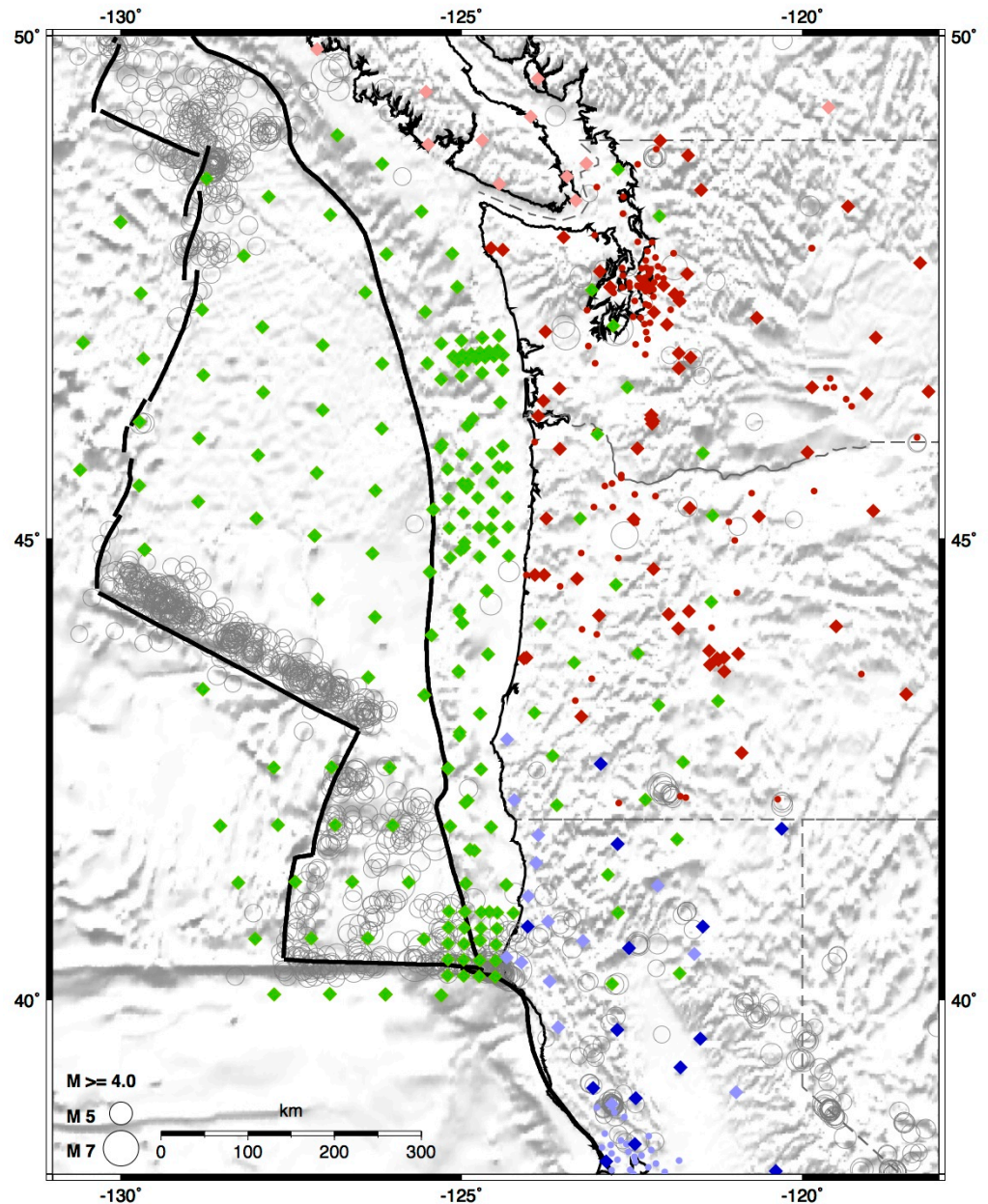
Getting seismic data for
the whole region

This will be a challenge

Can use NetDC to request
all data for the CI virtual
network

- "breakfast" era technology
- Newer technologies need to be extended

Watch out: **Highly
variable data quality!**

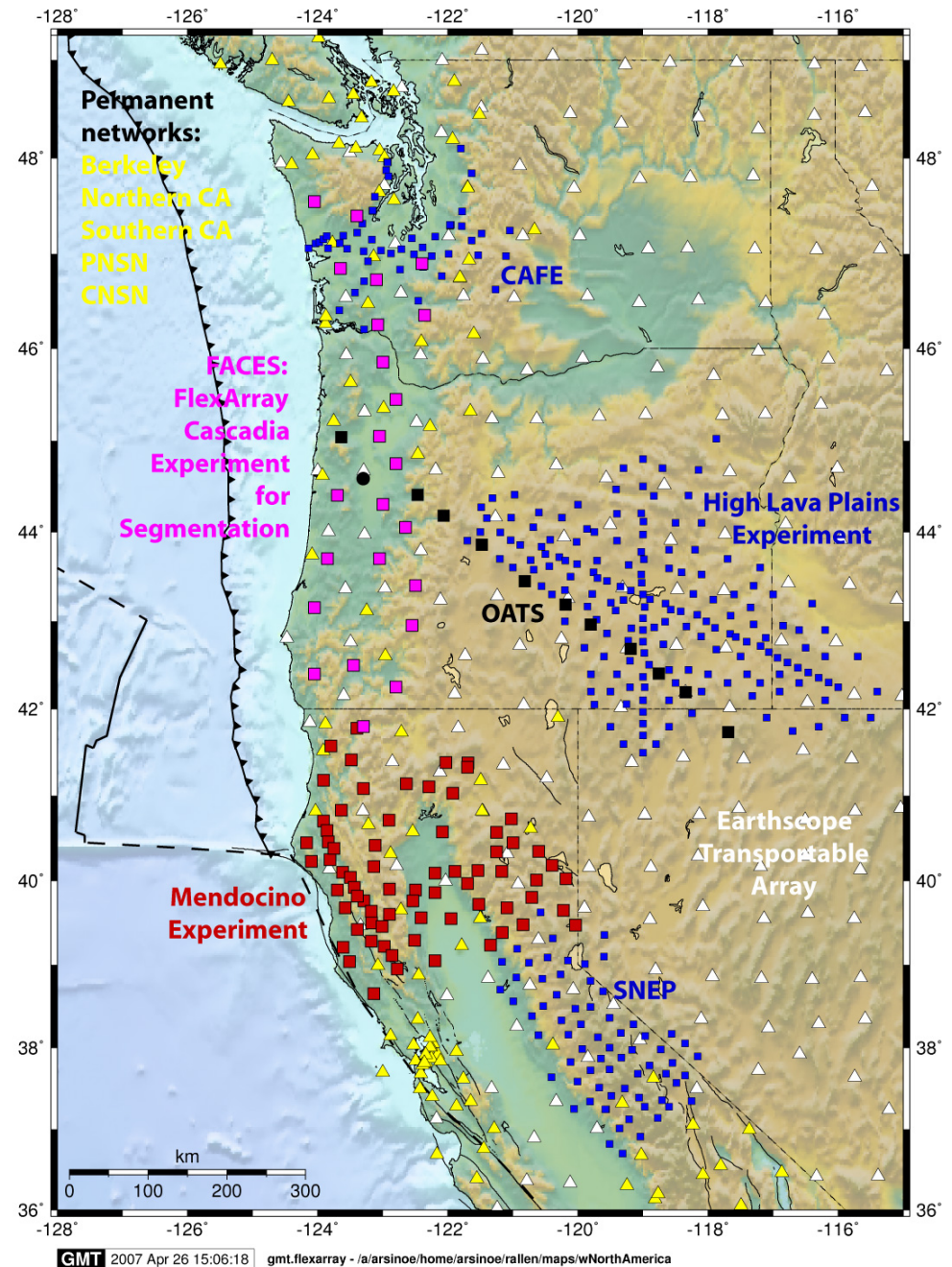


Don't forget the "Old" data

Previous Earthscope deployments in Cascadia

- TA (white)
- FA: CAFÉ
- FA: FACES
- FA: High Lava Plains
- FA: Mendocino
- FA: SNEP

All now openly available
at IRIS DMC



Higher order data products

Little (new) planned so far...

Regional networks...

Earthquake catalogs

- PNSN catalog
- NC catalog
- ➔ Integrated ANSS catalog

Moment tensors

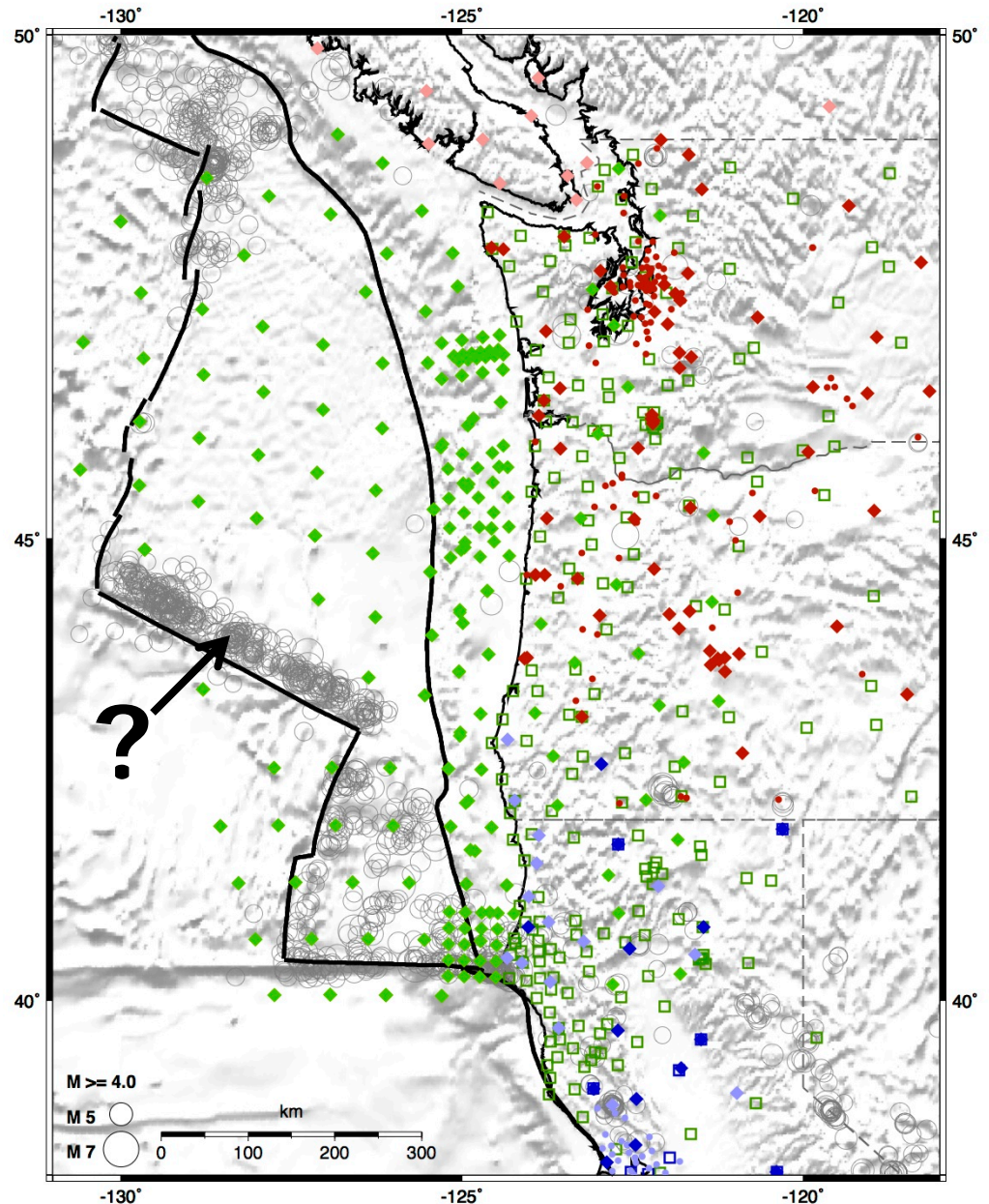
- NC + PNSN

Other focus sites

- Tremor
- Repeating earthquakes
- Slow earthquakes
- etc...

Cascadia Initiative

- Integrated processing/catalogs would be great
- Nothing funded yet
- Proposal deadlines soon



NSF 12-014

Dear Colleague Letter

Clarification of the proposal submission process for the Cascadia Initiative (CI)

Three types of proposals

1. Data QC and metadata generation proposals for the offshore OBS data
2. Derived onshore/offshore data products
3. Science proposals to make use of the CI data (onshore and offshore) to address a variety of questions

Where to submit

Type 1:

- submit to MGG – proposals were submitted Feb 2012

Type 2:

- land studies only → Earthscope (July)
- land and sea → GeoPRISMS (July)
- involving OBS data → MGG (Feb/Aug)

Type 3:

- land studies only → Earthscope
- land and sea not expected at NSF until late 2012/early 2012