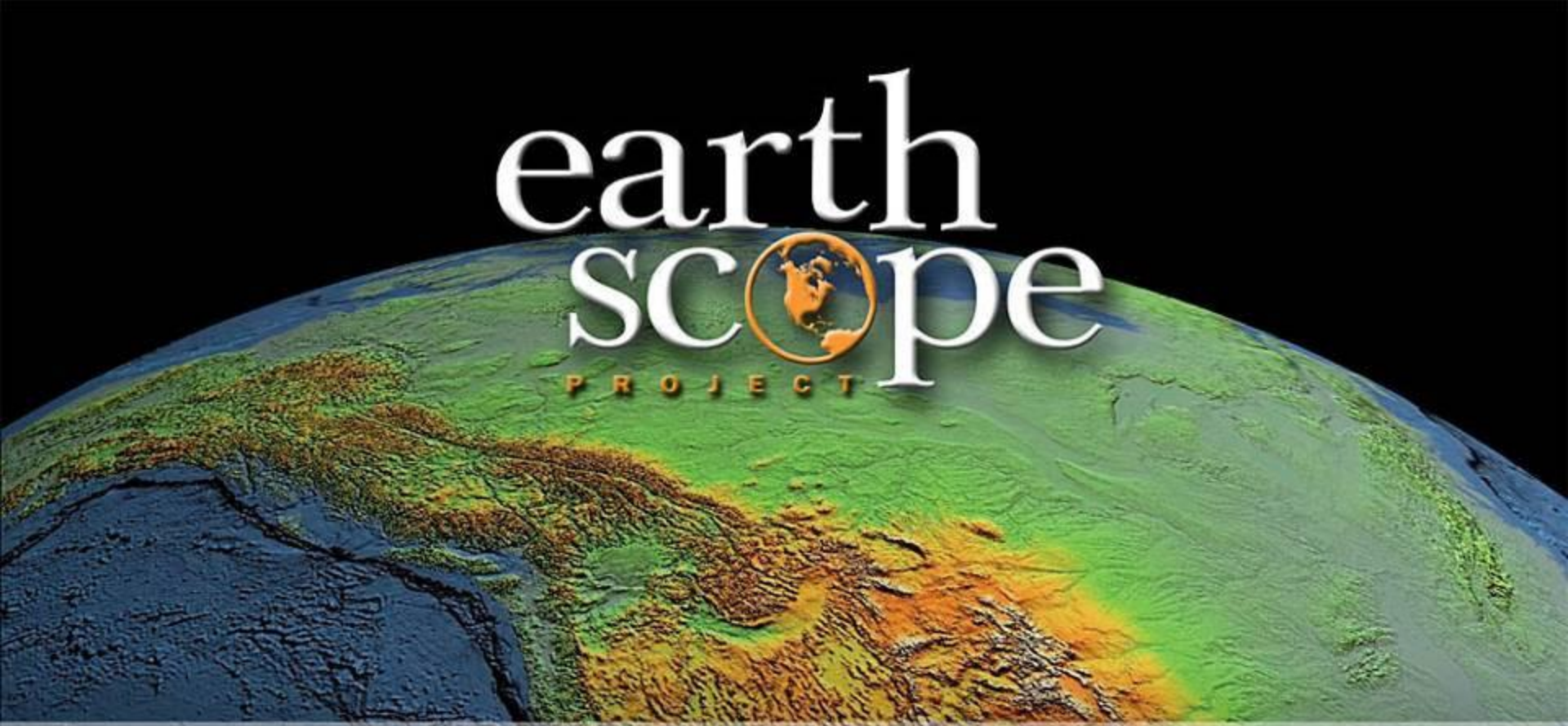


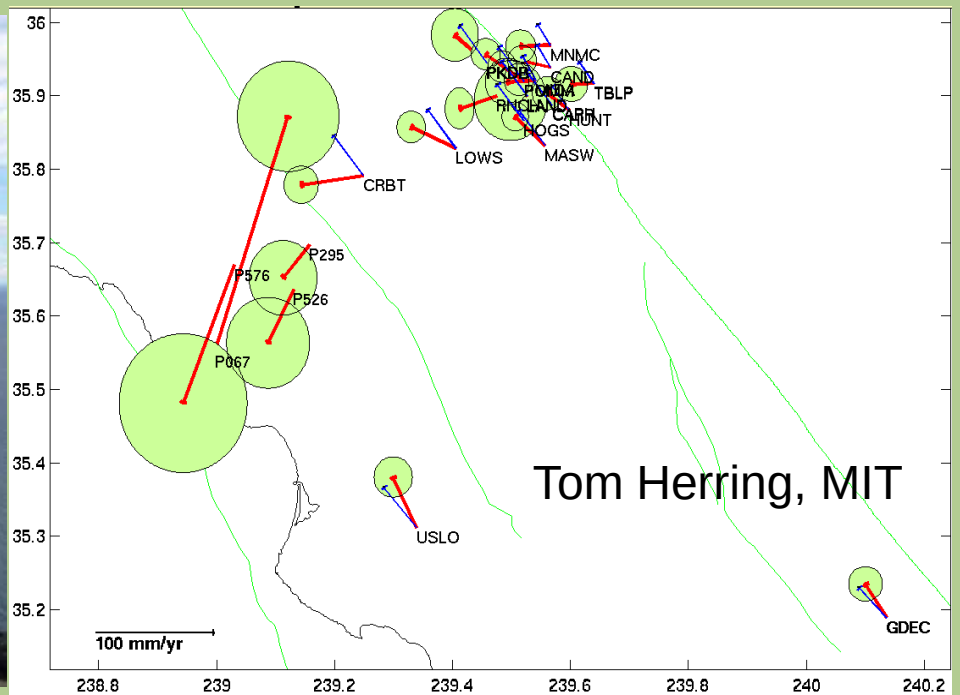
EarthScope Plate Boundary Observatory Status Update

Greg Anderson
PBO Data Products Manager

CORS Users Forum, Fort Worth, TX
26 September 2006

Topics

- What is the Plate Boundary Observatory?
- Network operations/construction status
- Data management
- Web tools
- Real-time progress/plans



What is PBO?

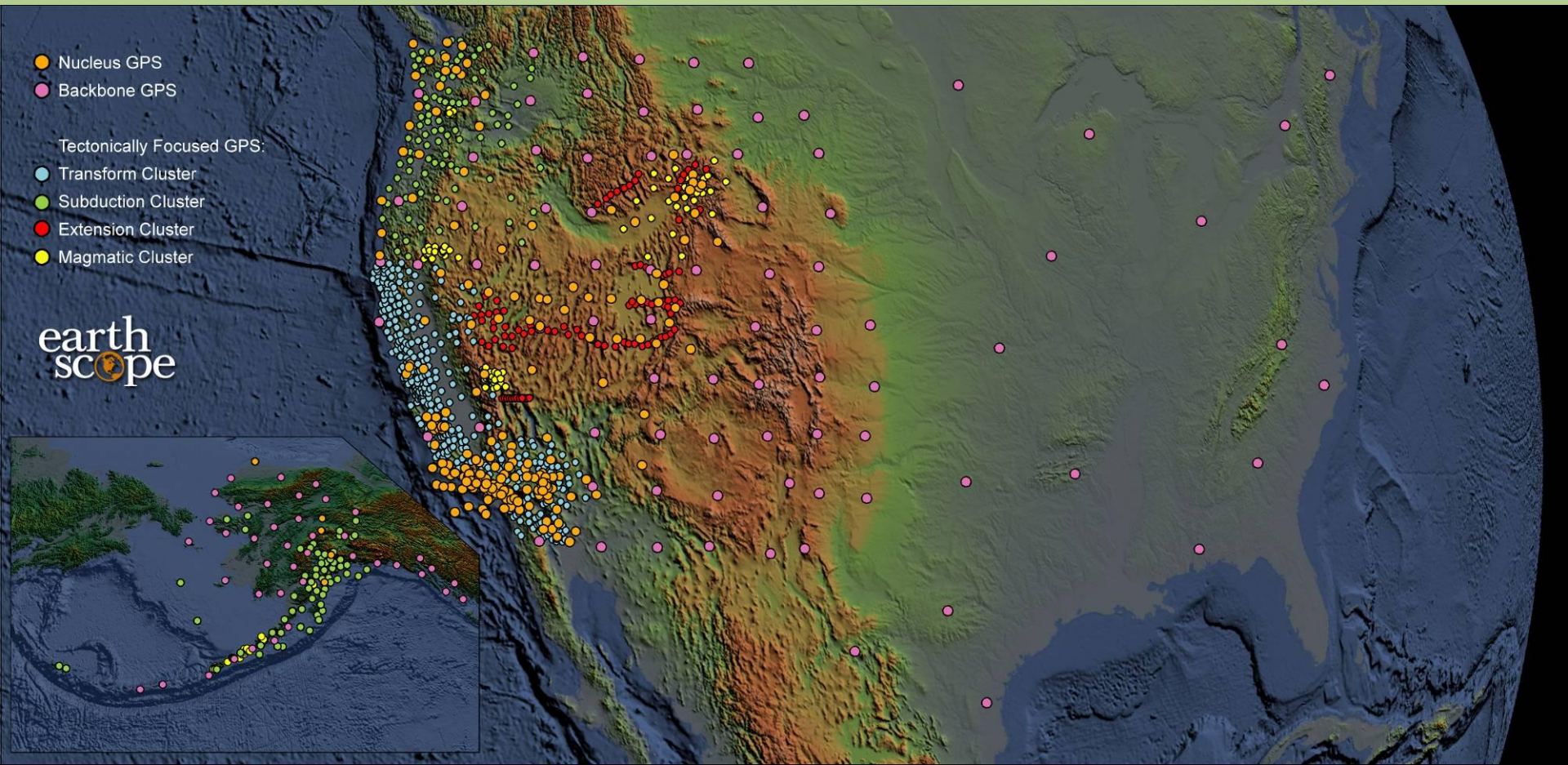
- Geodetic component of EarthScope, installed and operated by UNAVCO and funded by the National Science Foundation.

- Install & run large network to study:
  - Earthquake processes & seismic hazards
  - Magmatic processes & volcanic hazards
  - Active deformation & tectonics
  - Continental geodynamics

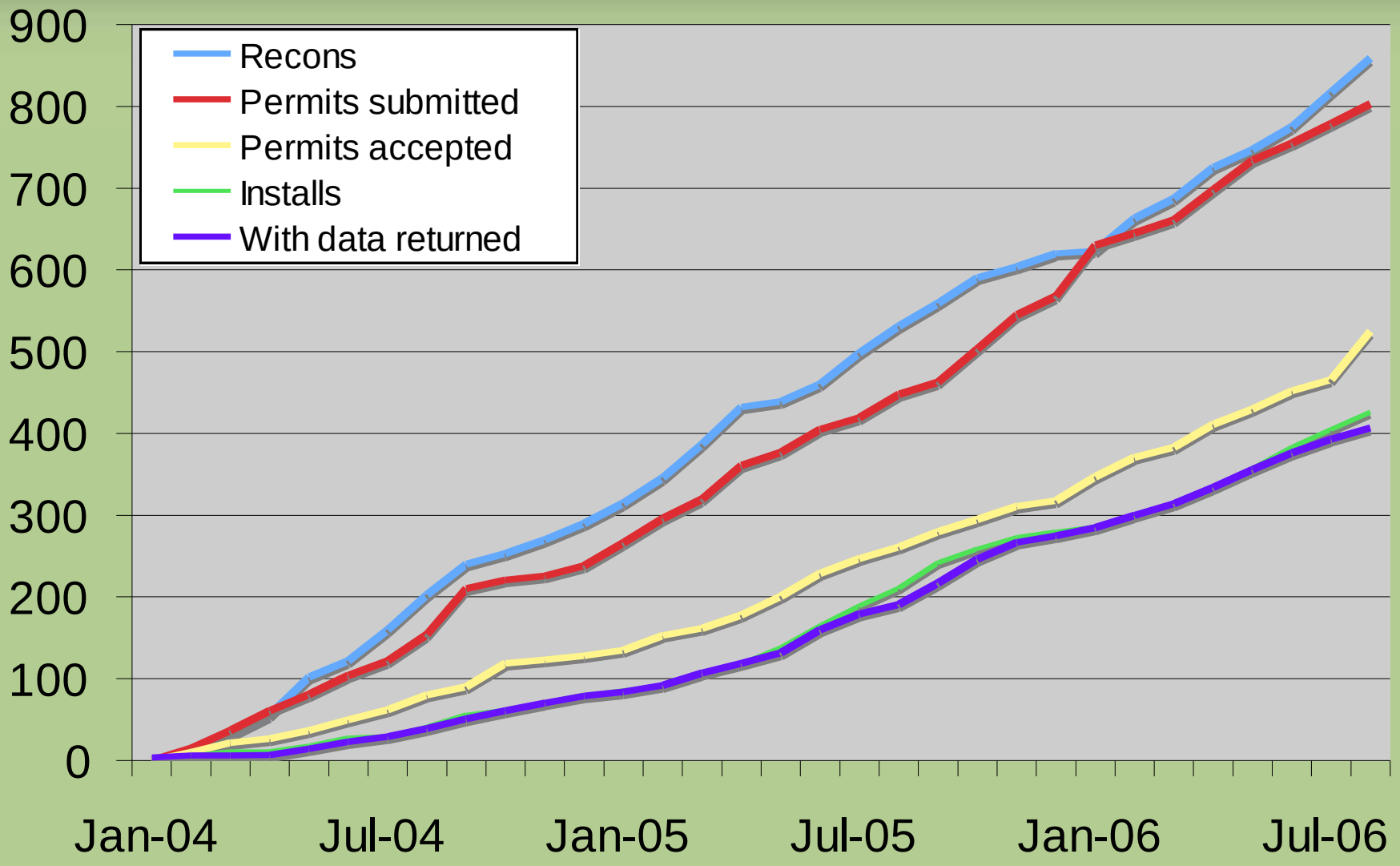
PBO GPS Network

852 new stations **209 existing** stations

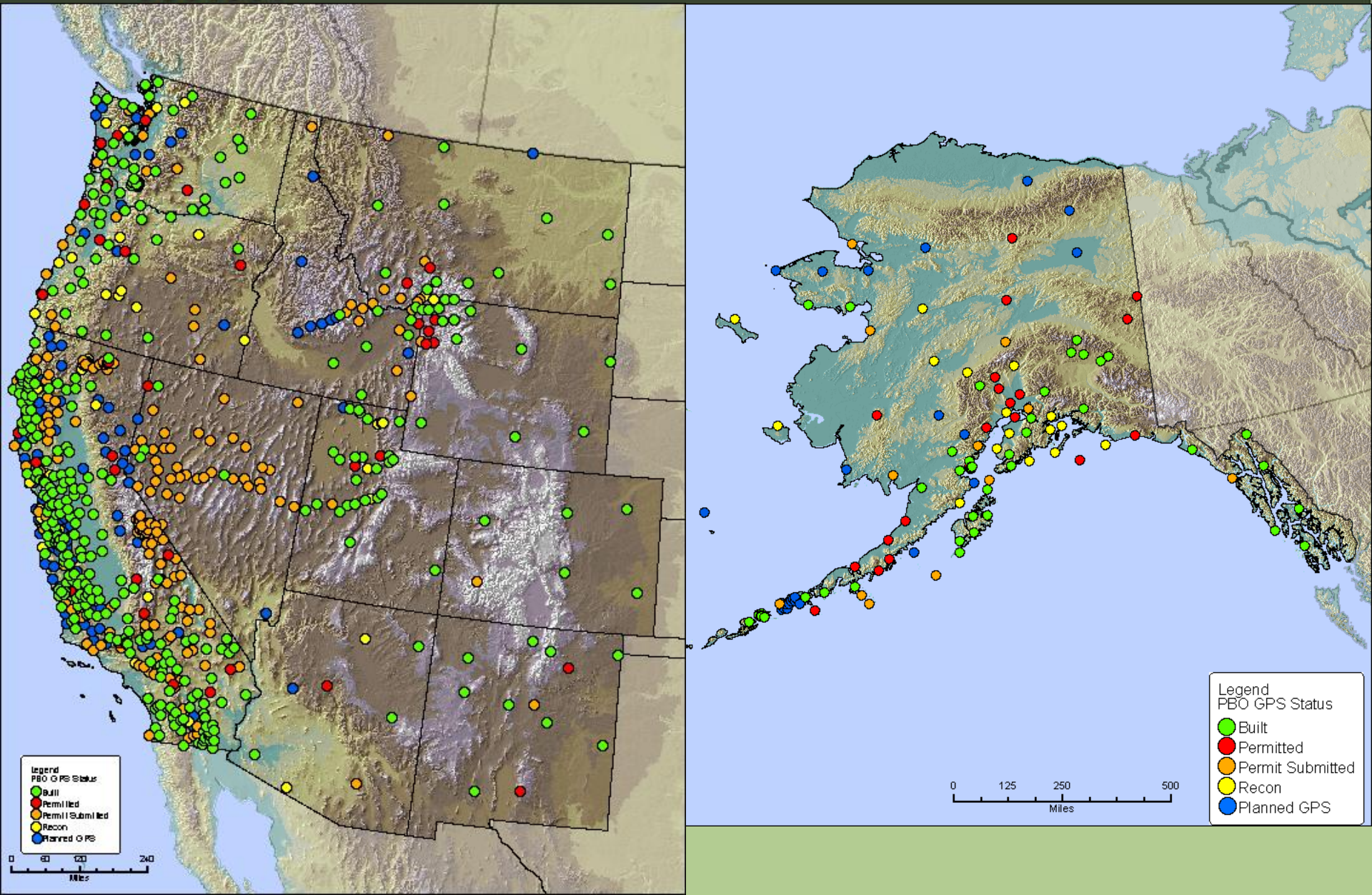
100 survey-mode receivers



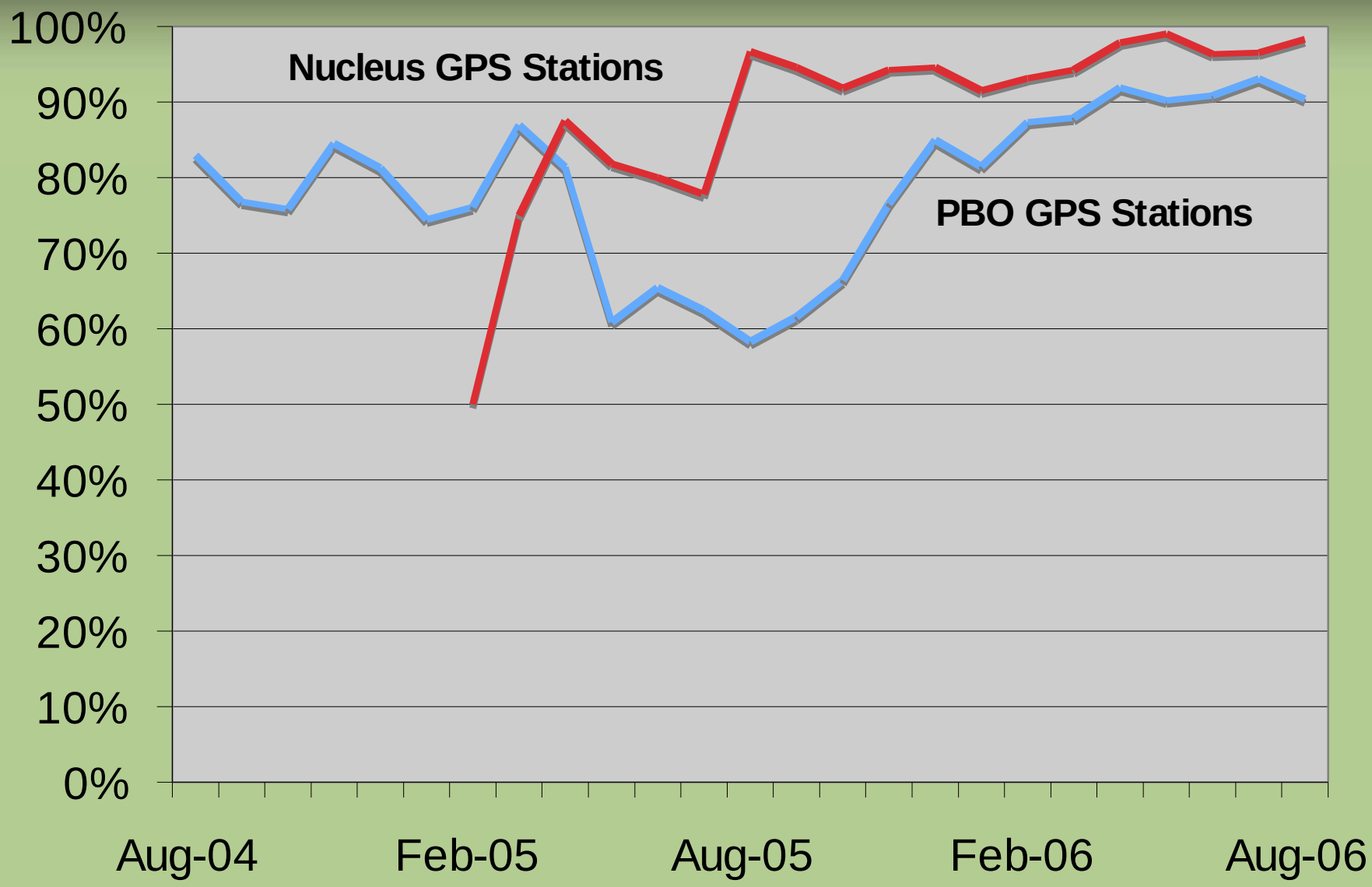
PBO GPS: Halfway Done



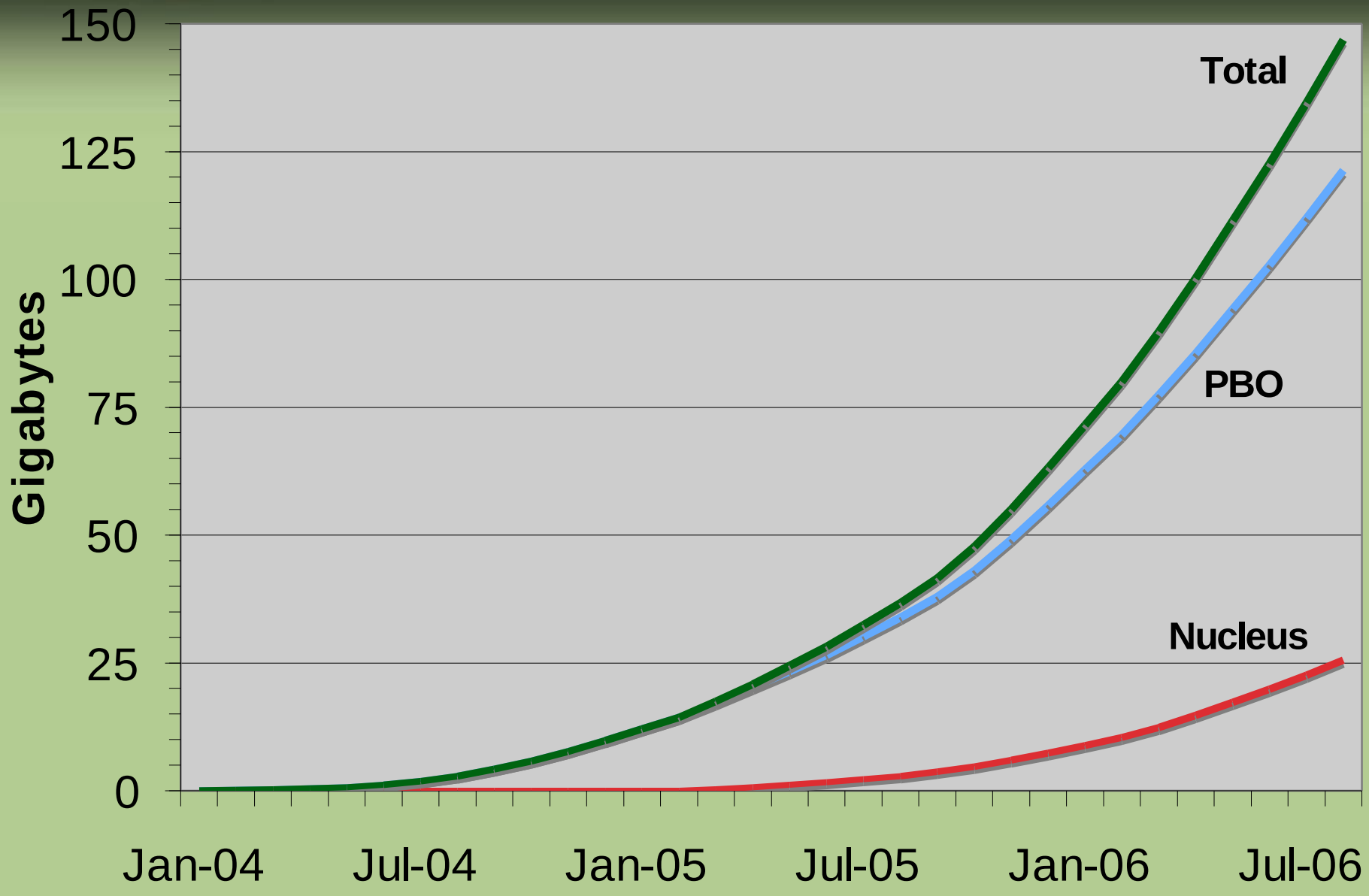
PBO GPS: Halfway Done



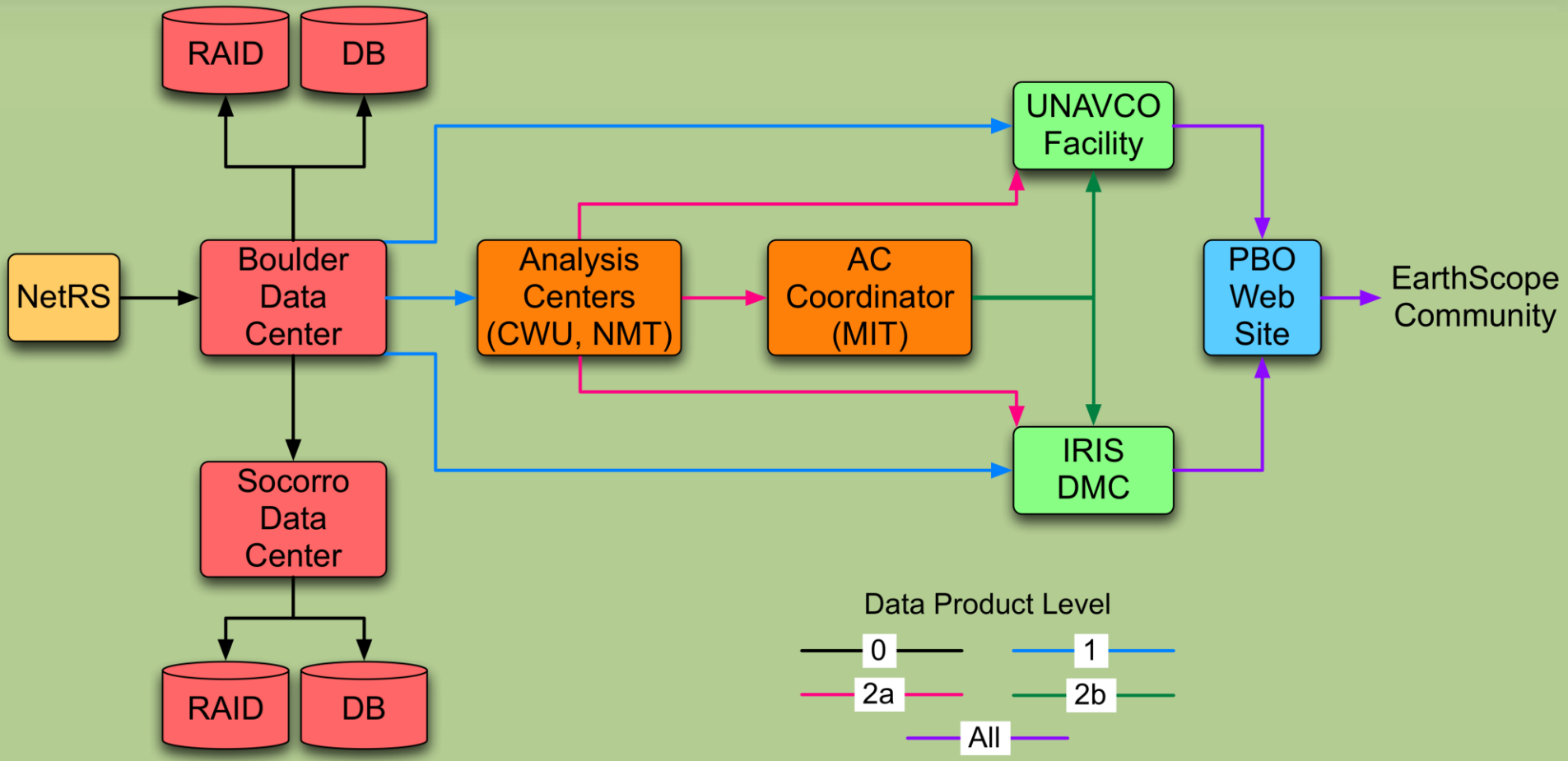
GPS Operational %



Raw GPS Data Volume



Current GPS Data Flow



PBO GPS Data Products

Less

Processed

More

Level 0 (at least daily)

- 15-sec raw, routine download
- 5-sps raw, triggered download
- Survey-mode raw files

Level 1 (automated QC @ PBO HQ)

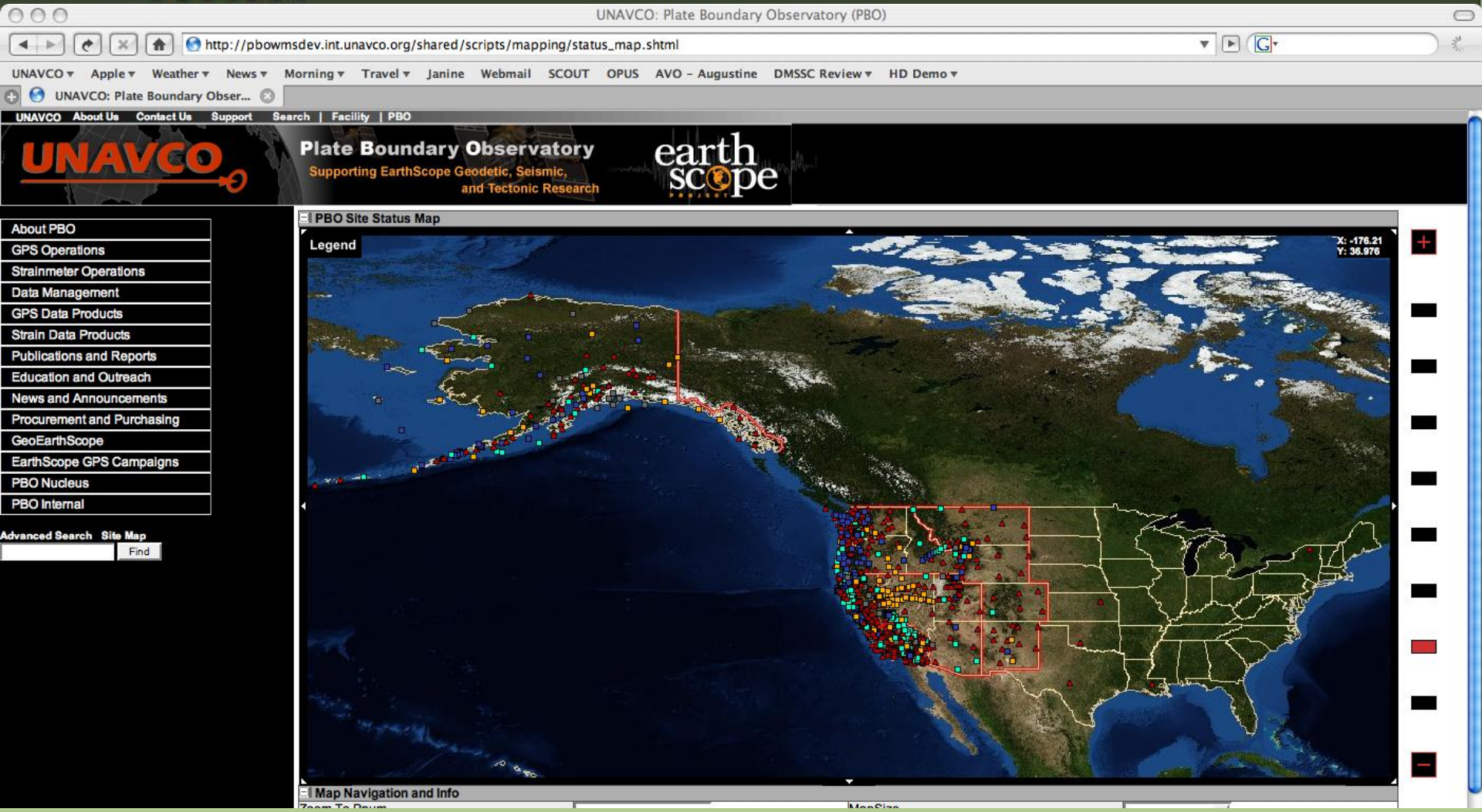
- 15-sec, 5-sps, survey-mode RINEX

Level 2 (1-, 15-day and 1-yr latencies)

- Individual AC position solution
- Individual AC processing input and output files
- Combined position & velocity solutions & time series (ACC)
- Combined baseline time series (ACC)
- Coseismic offsets (ACC)

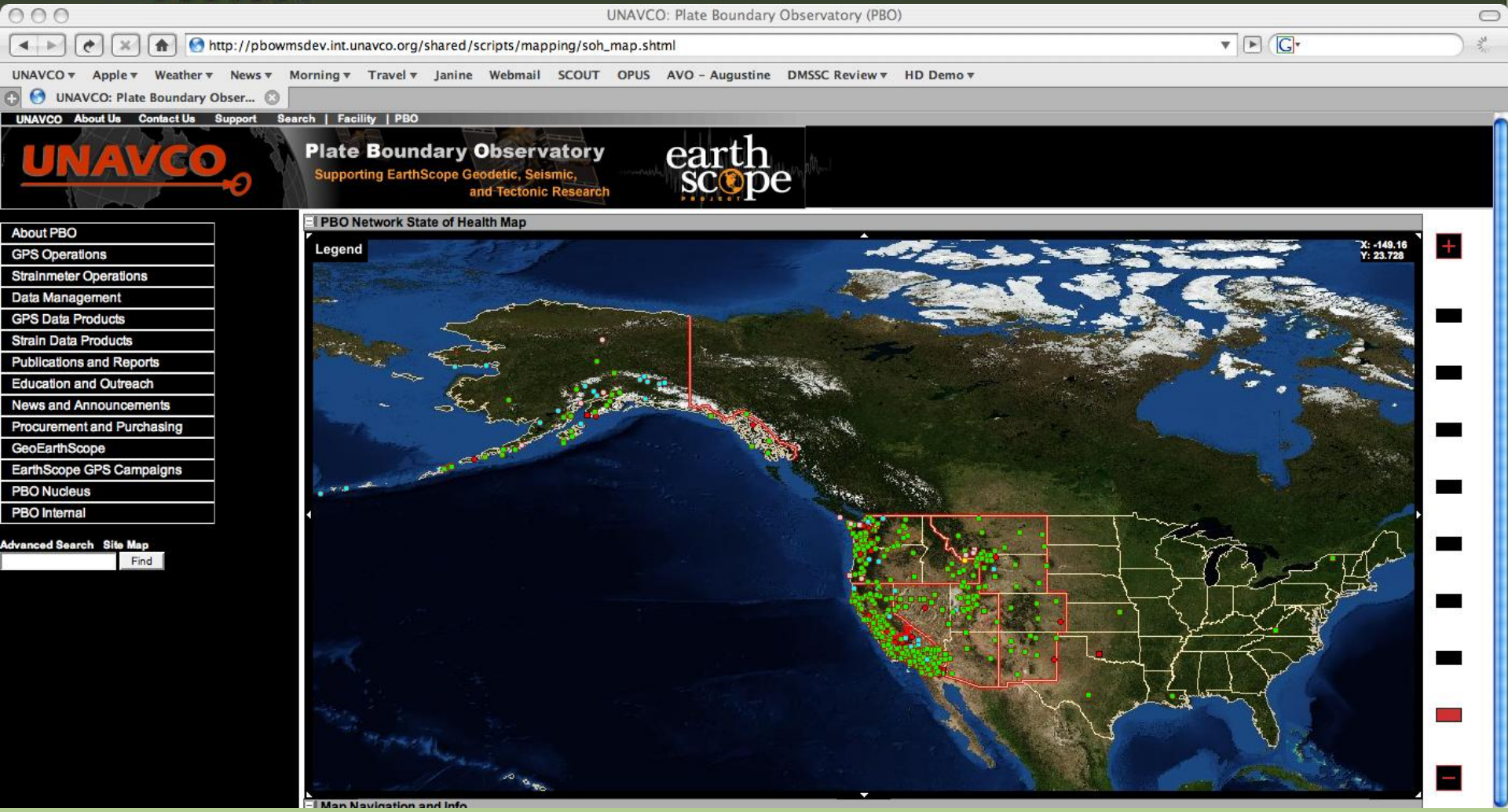
Archived at UNAVCO Facility, IRIS DMC

Which stations are built/planned?



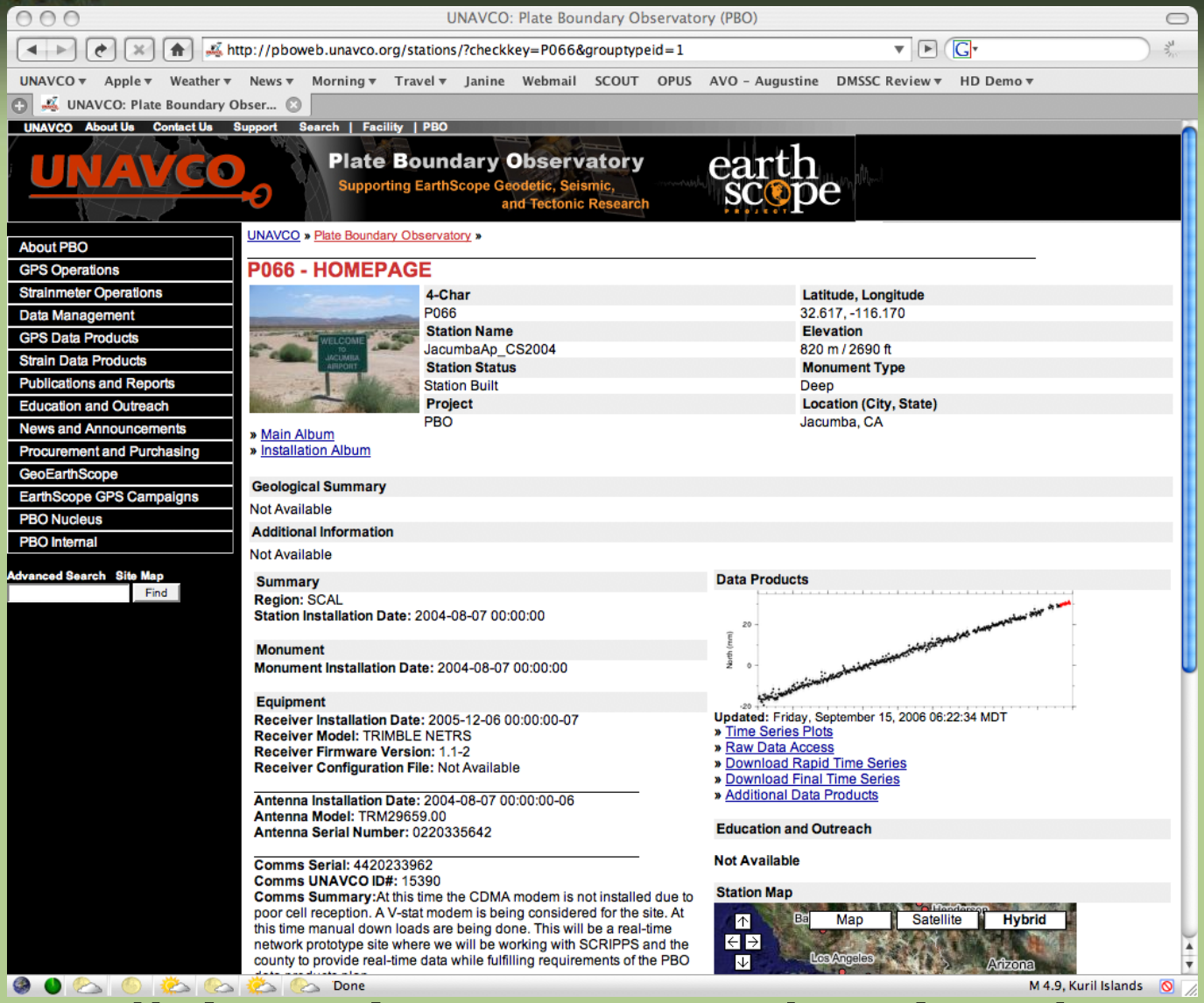
http://pboweb.unavco.org/status_map

Which stations are operating?



http://pboweb.unavco.org/soh_map

Tell me more about station X

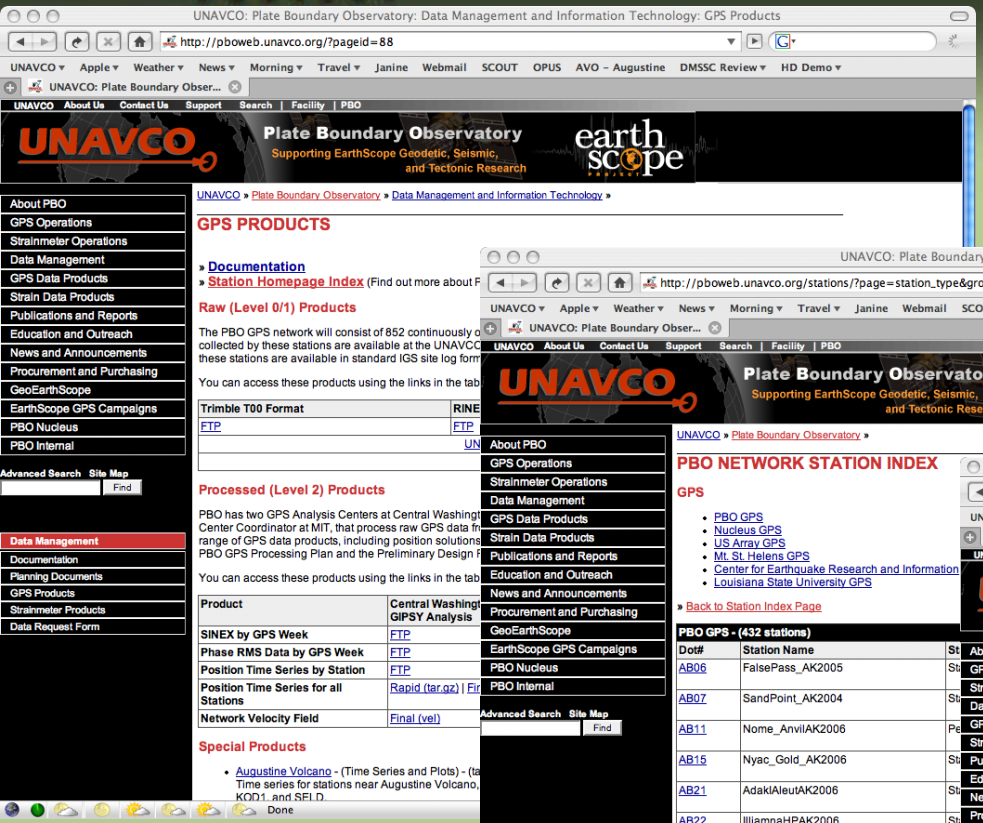


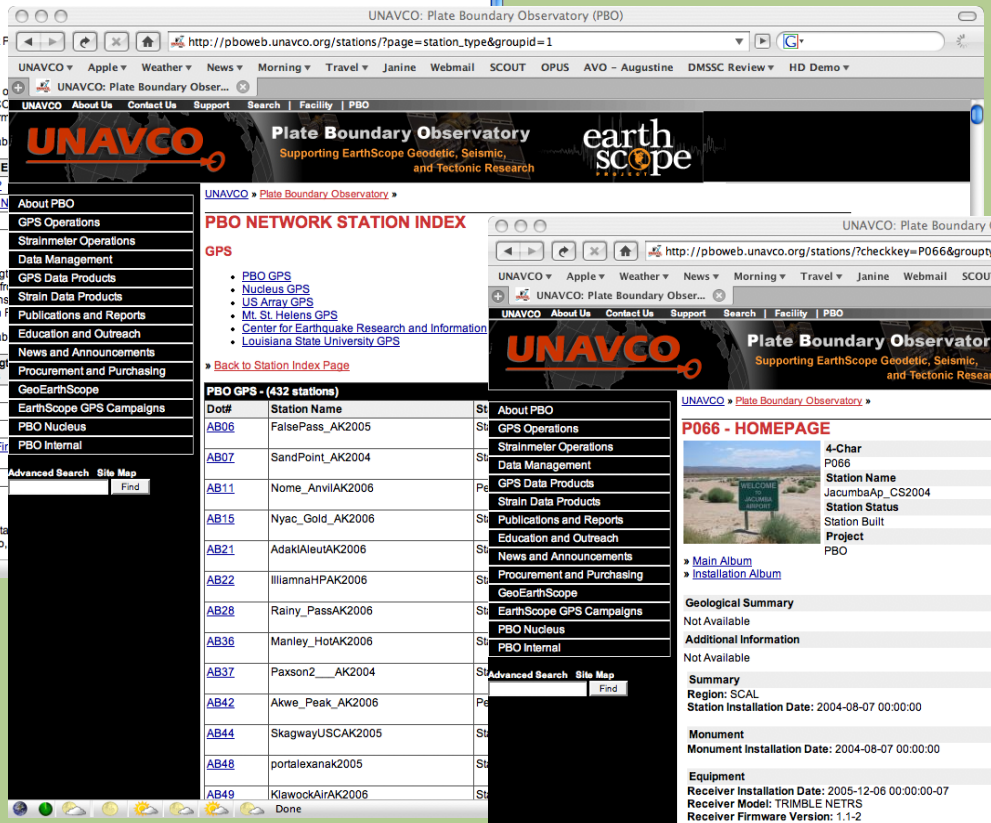
http://pboweb.unavco.org/stations/P067

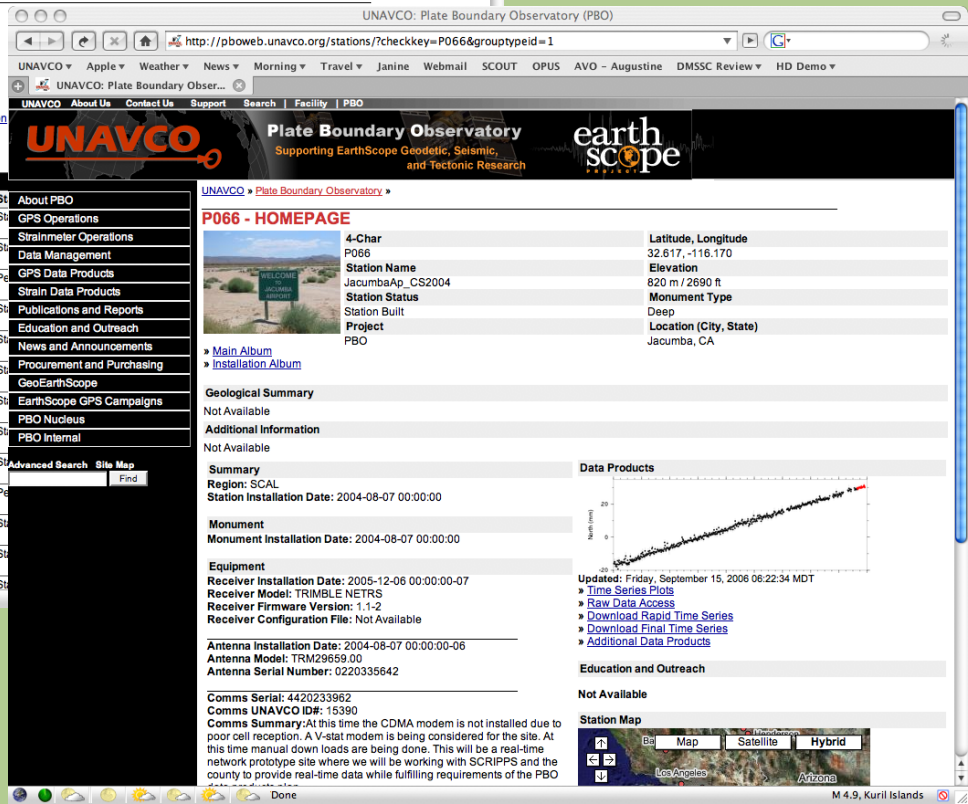
How do I get data?

pboweb.unavco.org/gps_data

pboweb.unavco.org/stations/gps

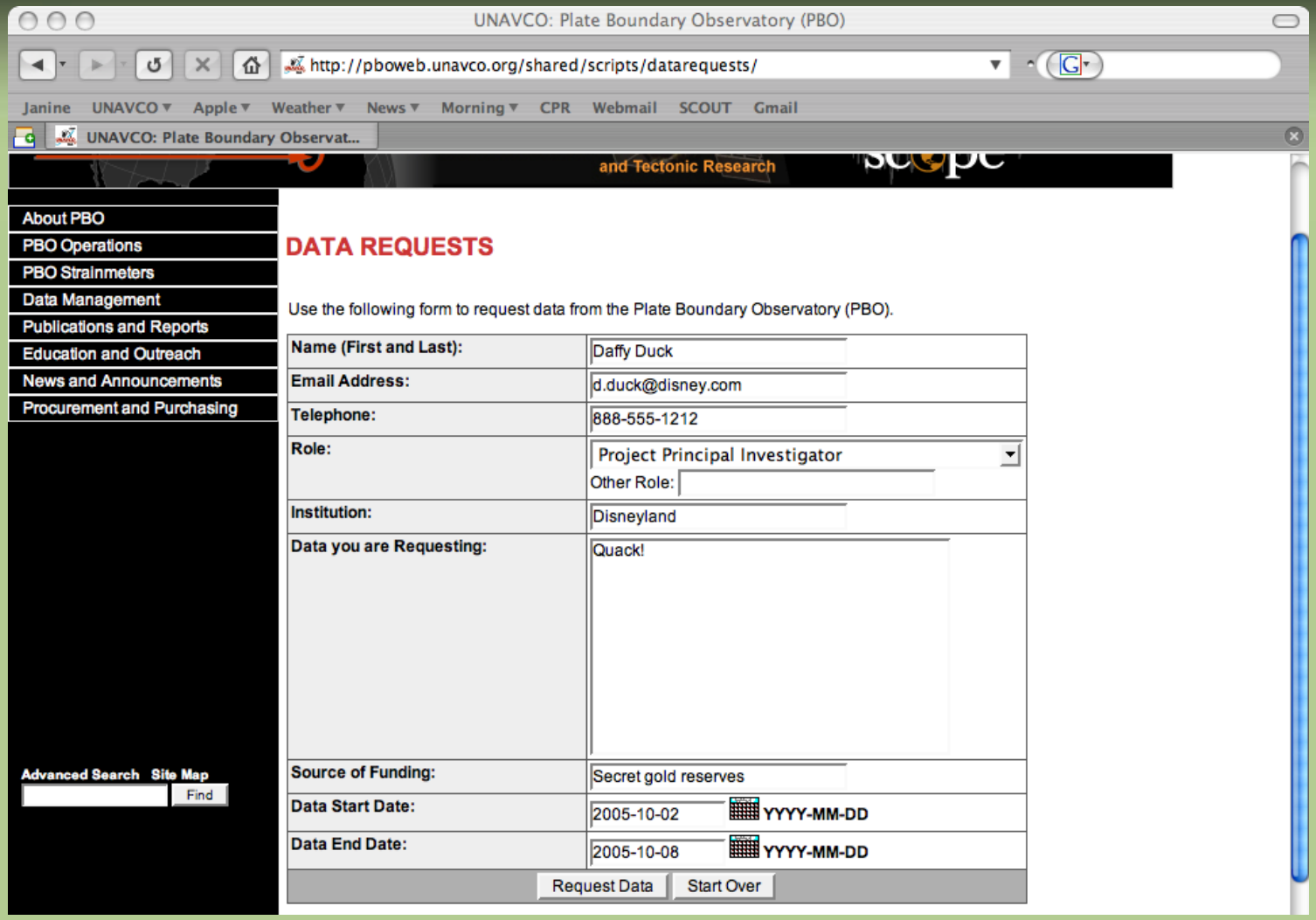






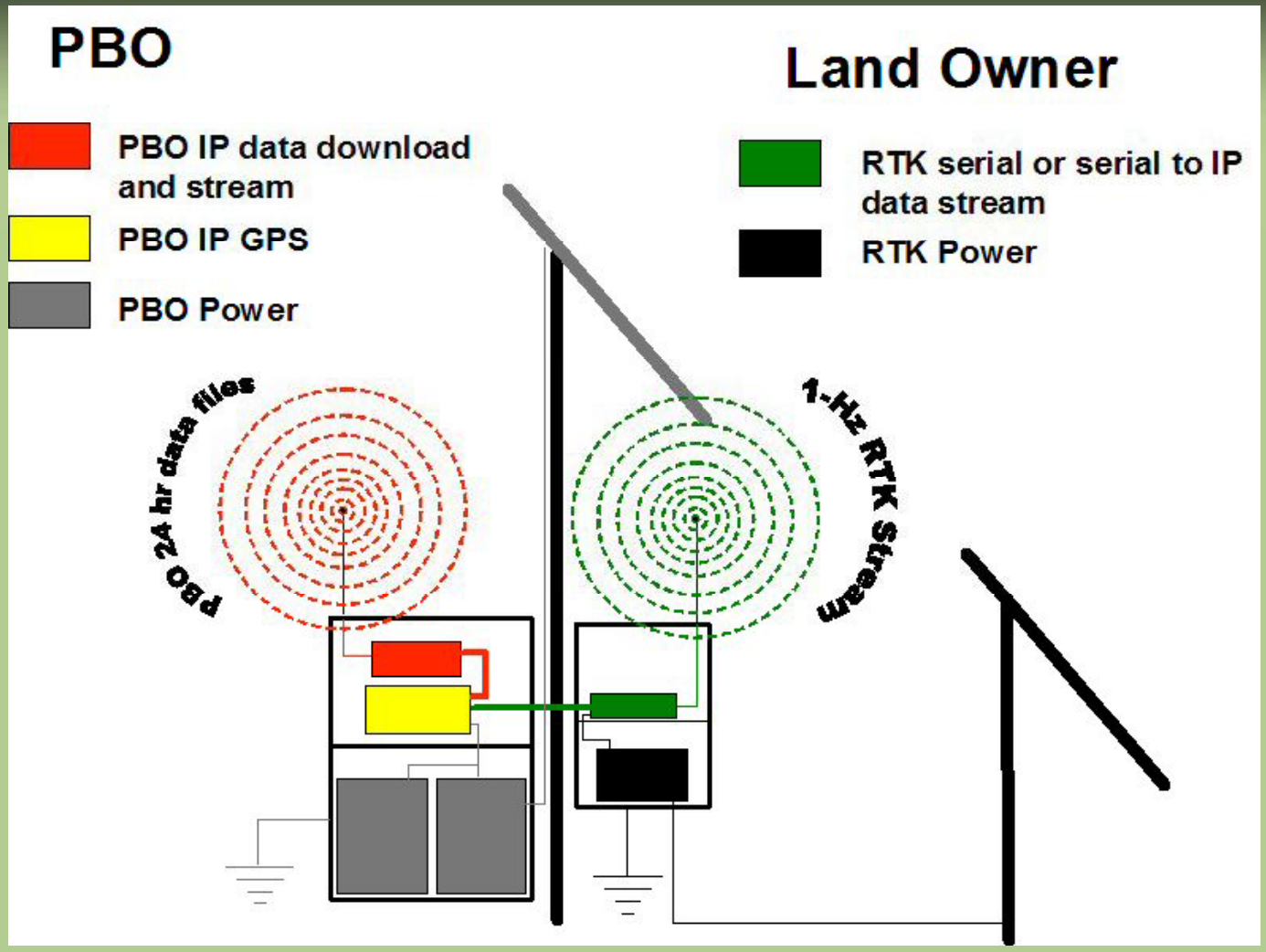
pboweb.unavco.org/stations/XXXX

Special Data Request Tool



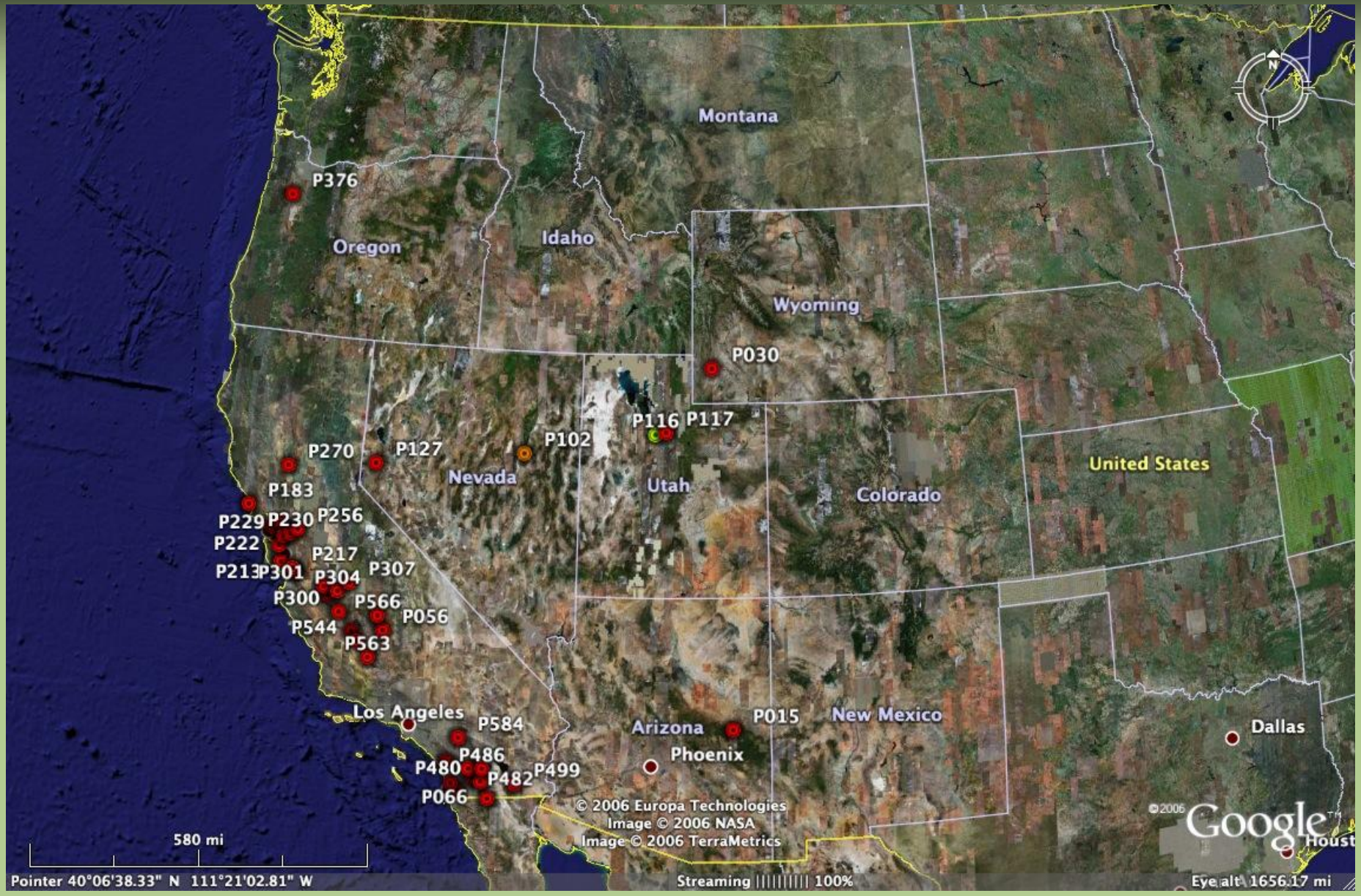
http://pboweb.unavco.org/data_request

PBO RTK for Landowners

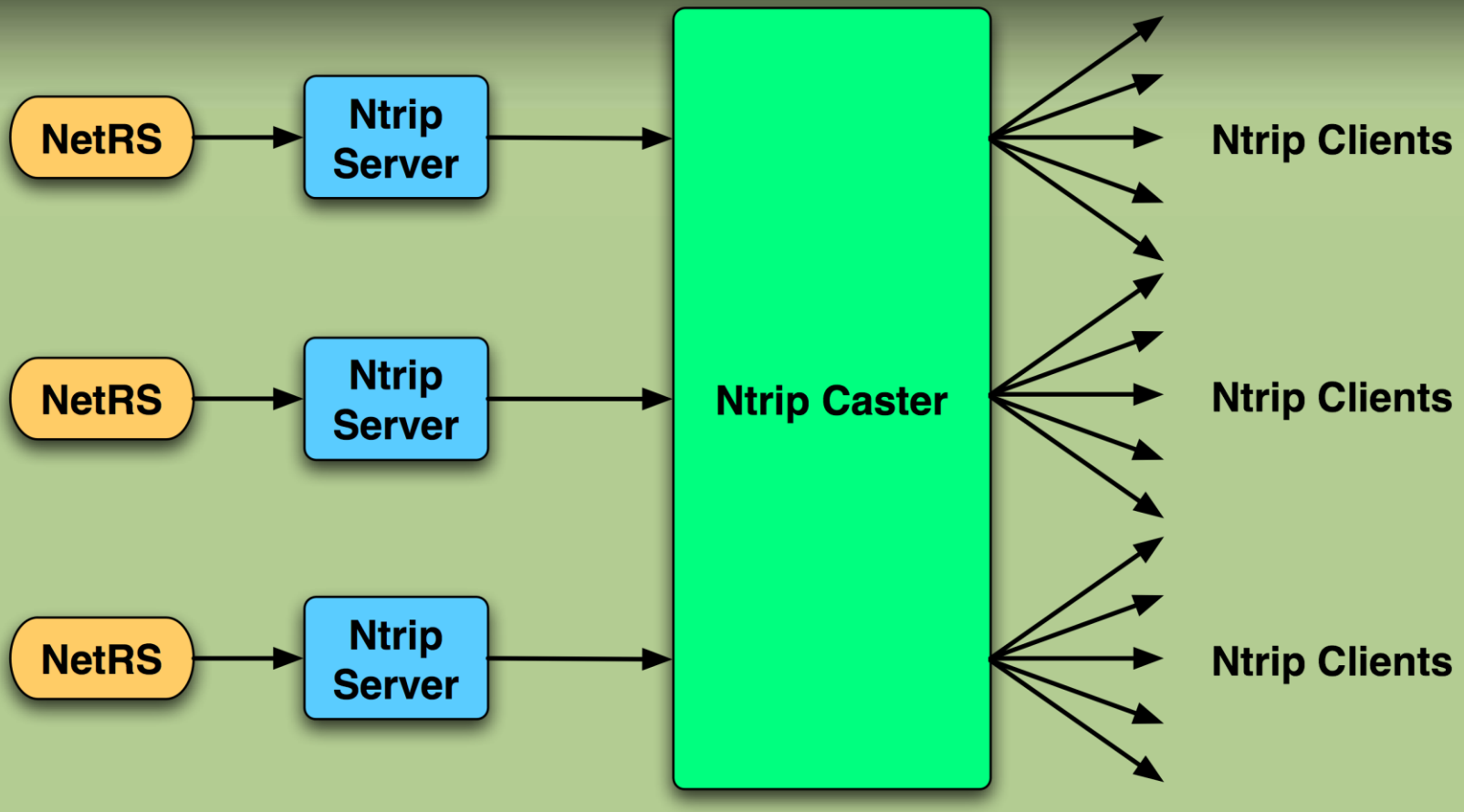


Generally, PBO can provide access to RTK feeds for landowner Request during permitting process

RTK Stations (Planned/Active)



IP-based real-time via Ntrip



Prototype testing with interested groups

Contact me at anderson@unavco.org or 303-381-7555

Summary

- PBO is geodetic component of EarthScope project
- Network Operations Status
  - Half of 852 new CGPS have been installed
  - Typically, 90+% operational
- Data Management Status
  - 96% of stations have returned data
  - ~150 GB raw data (Jan 2004-present) available
  - Special data requests: http://pboweb.unavco.org/data_request
- Real-Time Data Progress & Plans
  - RTK feeds now available to landowners, 40 active/planned
  - Prototype Ntrip IP-based real-time system available for testers

For more information…

http://pboweb.unavco.org

www.earthscope.org