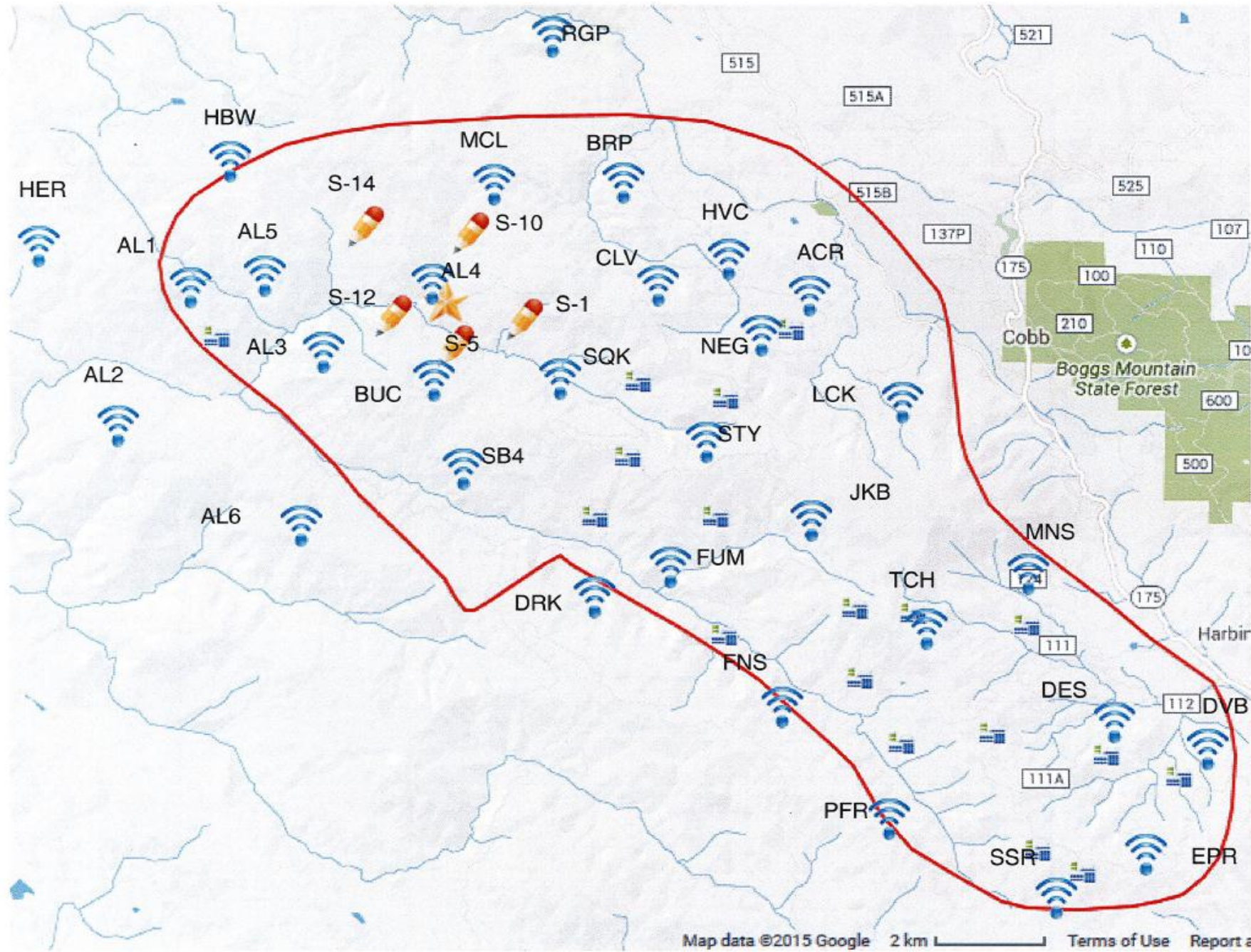
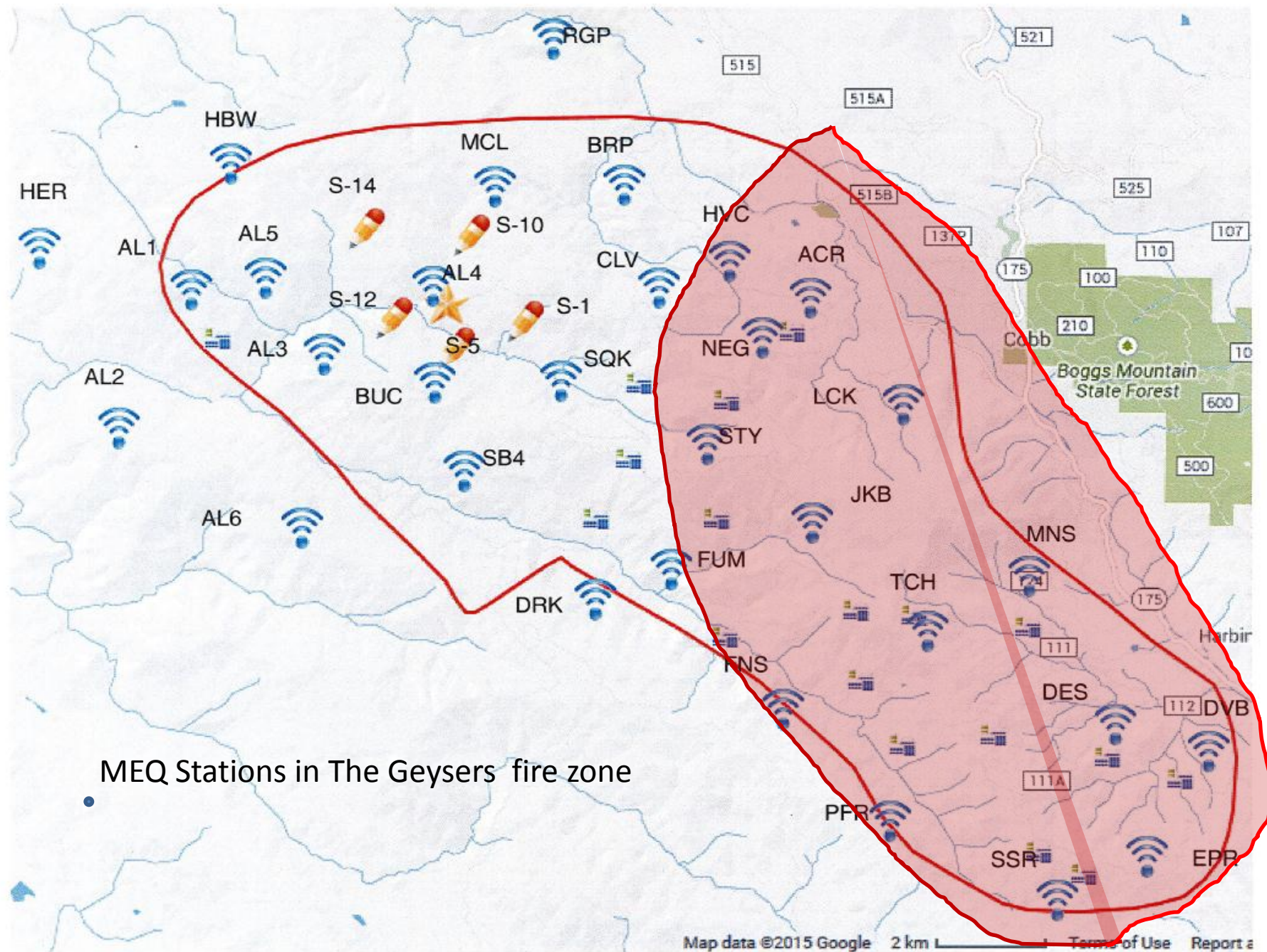


LBNL Summary

- Impact of Valley fire on operations
- Developments in induced seismicity





Fire Summary

- Stations in the SE Geysers most affected
- Stations in the NE mostly unaffected or with minor damage
- The collection points (Socrates Mine Rd container, Radio Repeater and Microwave Repeater from Adlin) and communications to the GAC were not connected to the computer at the GAC.
- Calpine's fiber loop which the MEQ system uses to send data to the central computer, has been damaged.
- The most critical link to get the MEQ system back up and recording earthquakes is the network connections from the collection points to the computer in the GAC.
- The GAC computer has a network connection to the web and could not send event data to LBNL.
- The USGS computer was not booting due to a disk drive failure. It was replaced by LBNL on Nov 10, 2005 and is up and running
- The damage to Calpine's fiber loop seems considerable.
- The loop will be down for an extended period so we put computers at the collection points to record events from the sites received at each.
 - Essentially we have two independent arrays running (North and SE)
 - These events will be reprocessed later using all sites available to improve locations.
 - Currently at least 95% of the sites are running with computers at the collection points.













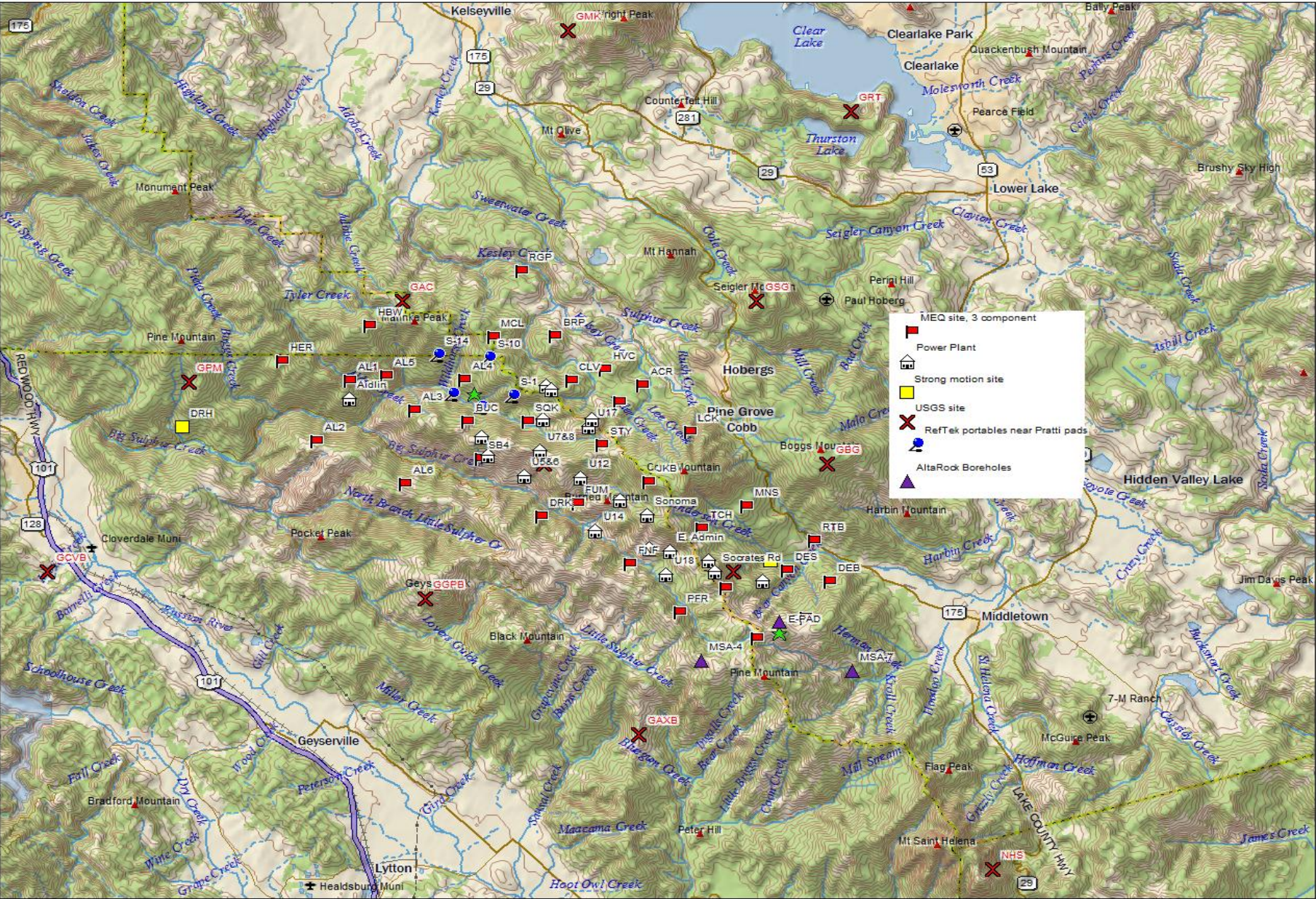












Fire Summary (as of Nov 15, 2015)

- All sites (except strong motion sites in Anderson springs and Cobb) are now recording data
 - Two separate arrays
 - “Normal” operations will depend on resumption of power and communication lines
- LBNL is working with Calpine and the USGS to resume strong motion data collection

Induced Seismicity Summary

- An Increase EQs in the mid content from oil and gas operations has prompted an effort to create a “best practices” for oil and gas operators to follow (suggested)
- Follows a similar logic as Geothermal best practices
- Came out in Sept of 2015

Potential Injection-Induced Seismicity Associated with Oil & Gas Development:

A Primer on Technical and Regulatory Considerations
Informing Risk Management and Mitigation