

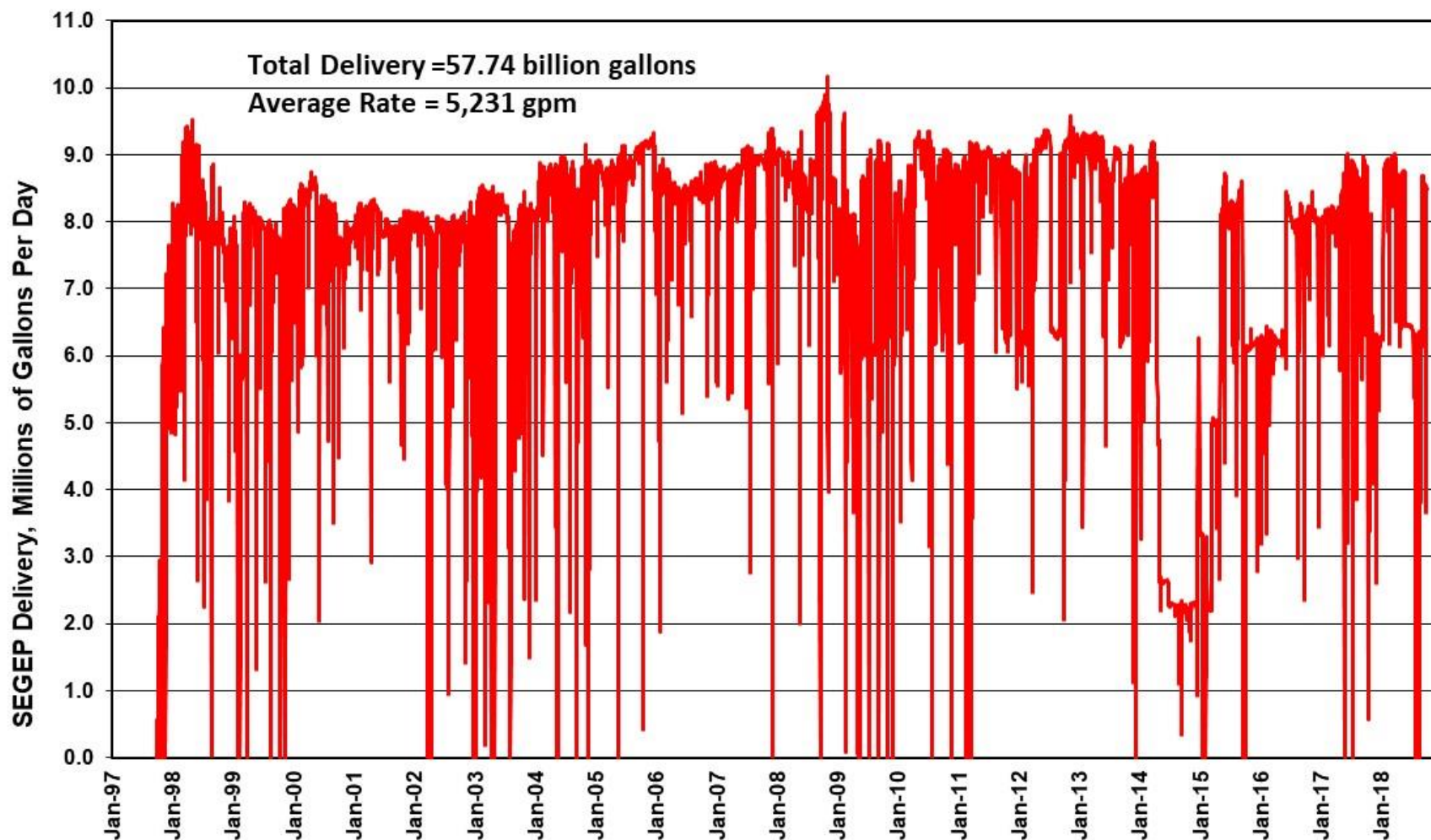


SMAC Report – Fall 2018

Ed Voge
Reservoir Engineer
November 13, 2018

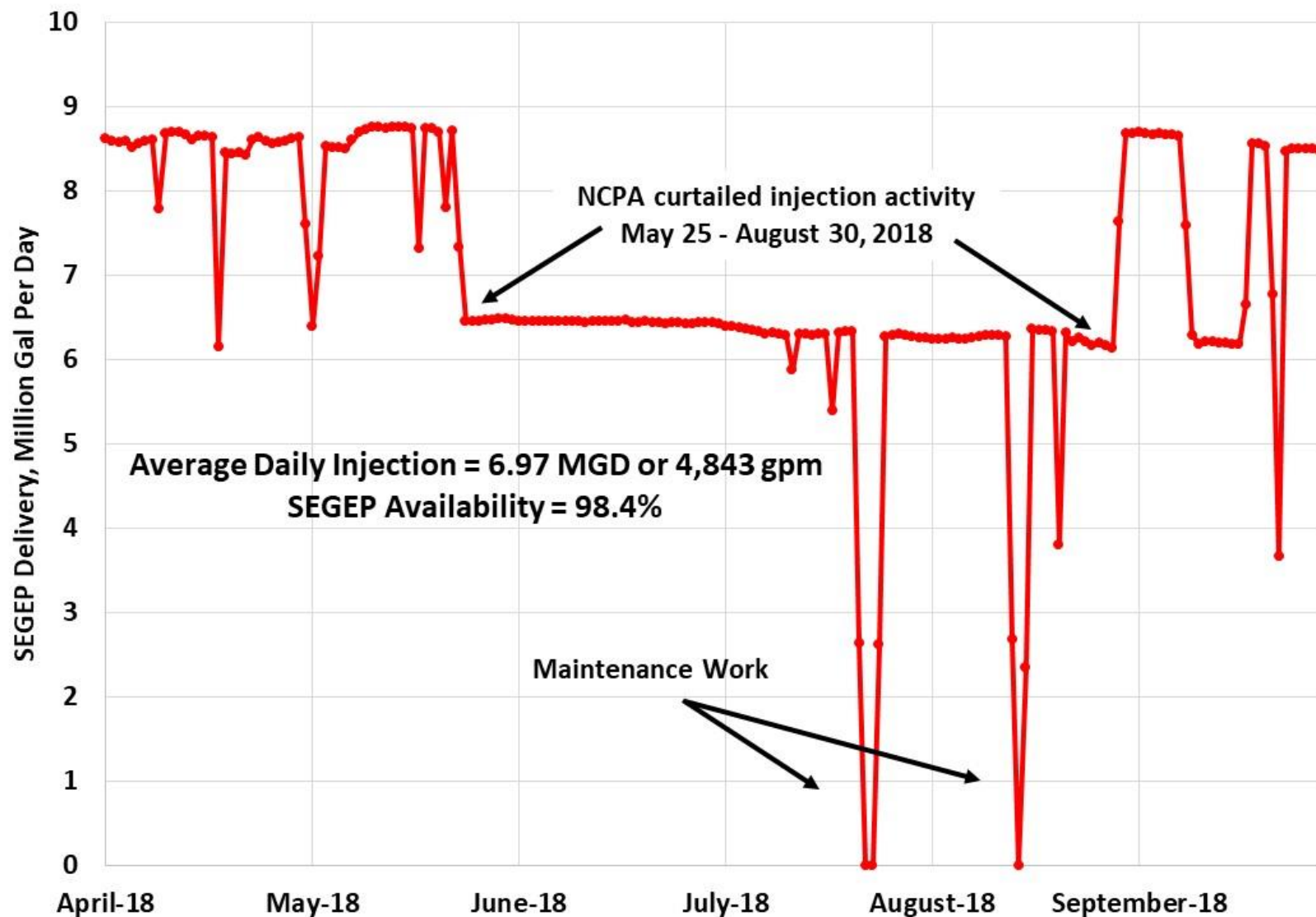


Historical SE Geysers Effluent Pipeline Deliveries to The Geysers
Figure 1



Southeast Geysers Effluent Pipeline Delivery

Figure 2



Southeast Geysers - Historical Seismic Activity

Magnitude > 1.5

Years 2002 - 9/30/2018

Figure 3

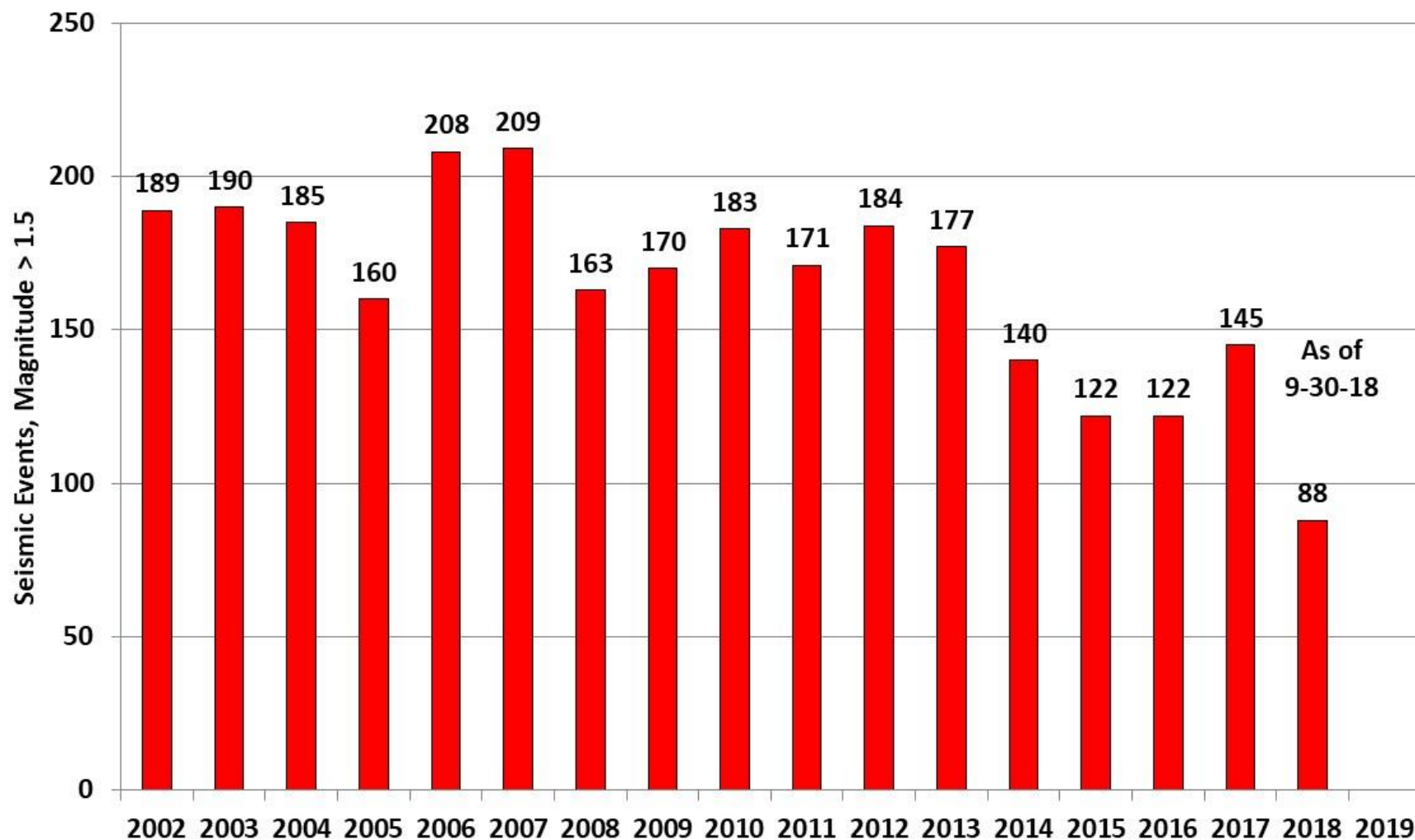
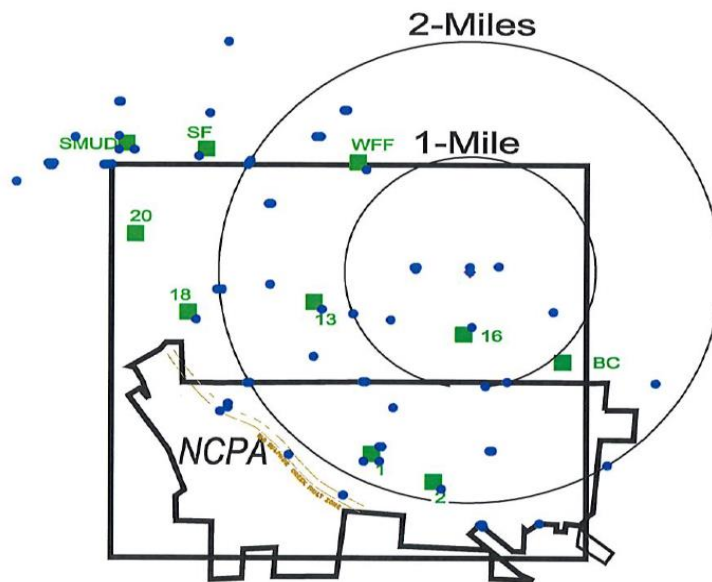


Figure 4



Radial distances are
from Anderson Springs
Strong Motion
Instrument

Apr. 1 - Sept. 30, 2018

Magnitude > 1.5 - 66 Events

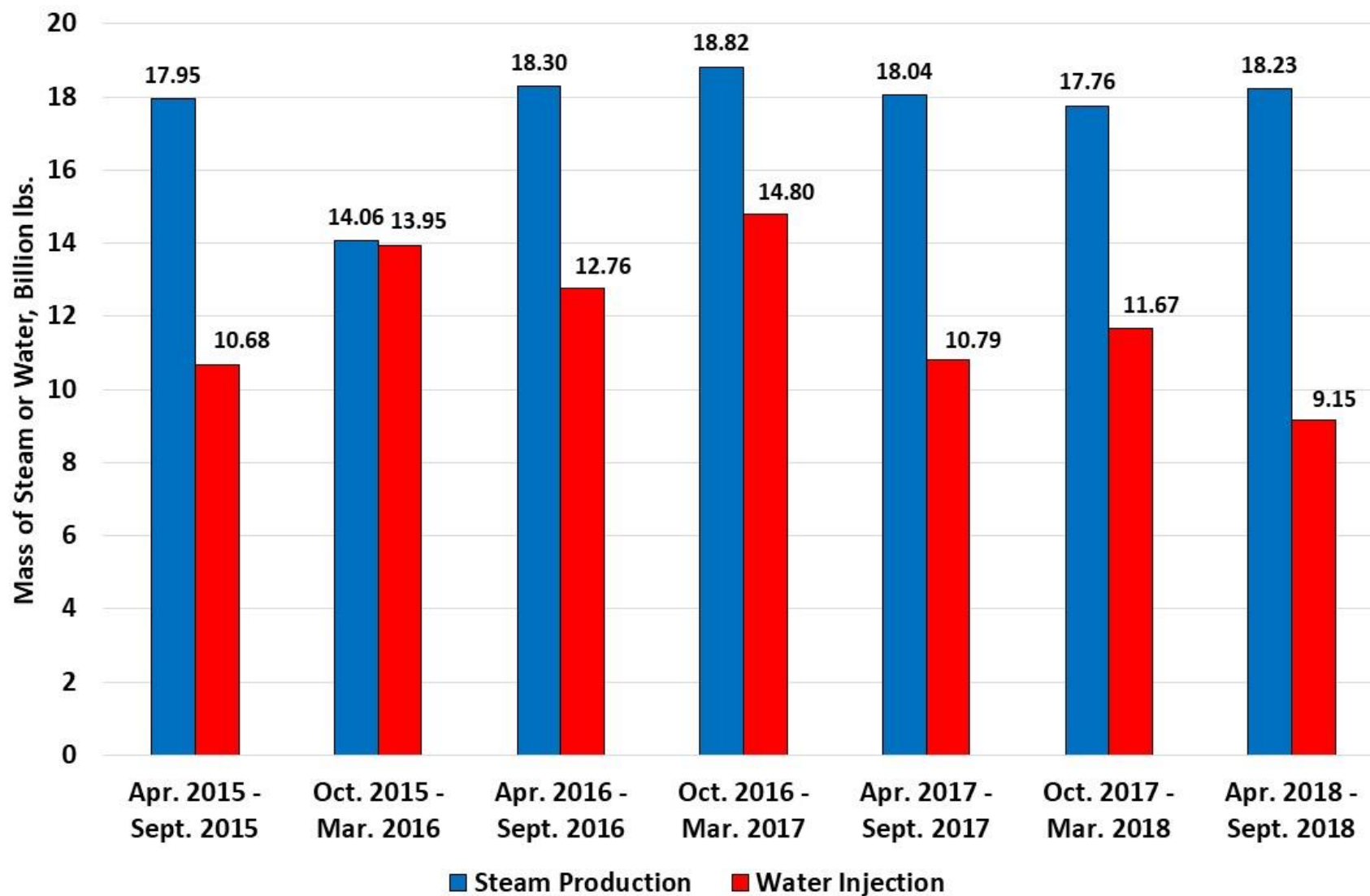
Magnitude > 3.0 - No Events

SOUTH EAST
GEYSERS
SEISMIC STUDY
AREA

SEISMIC EVENTS
REPORTED BY THE USGS
(from U.C. Berkeley Catalog)

SE Geysers Production and Injection

Figure 5

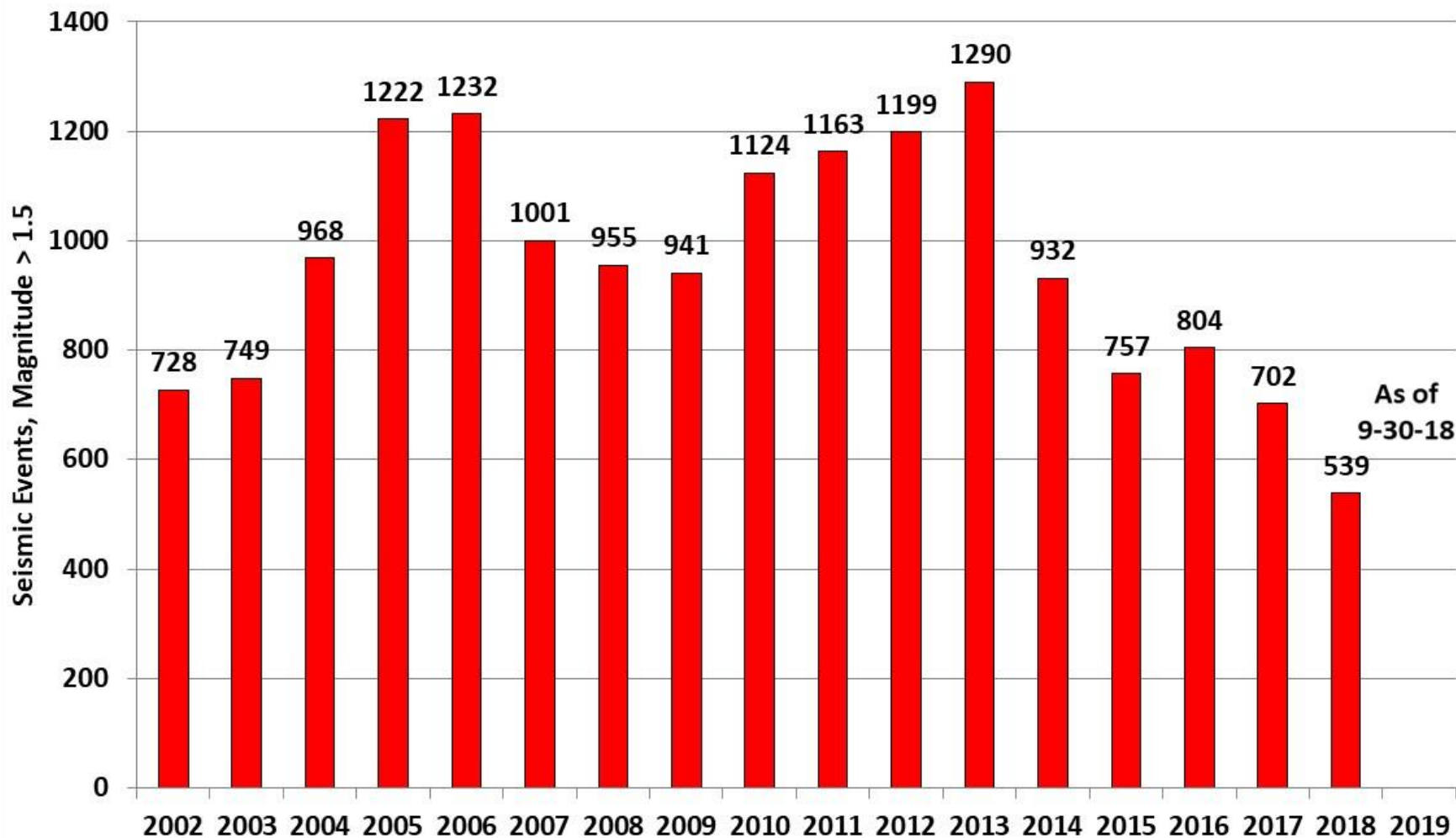


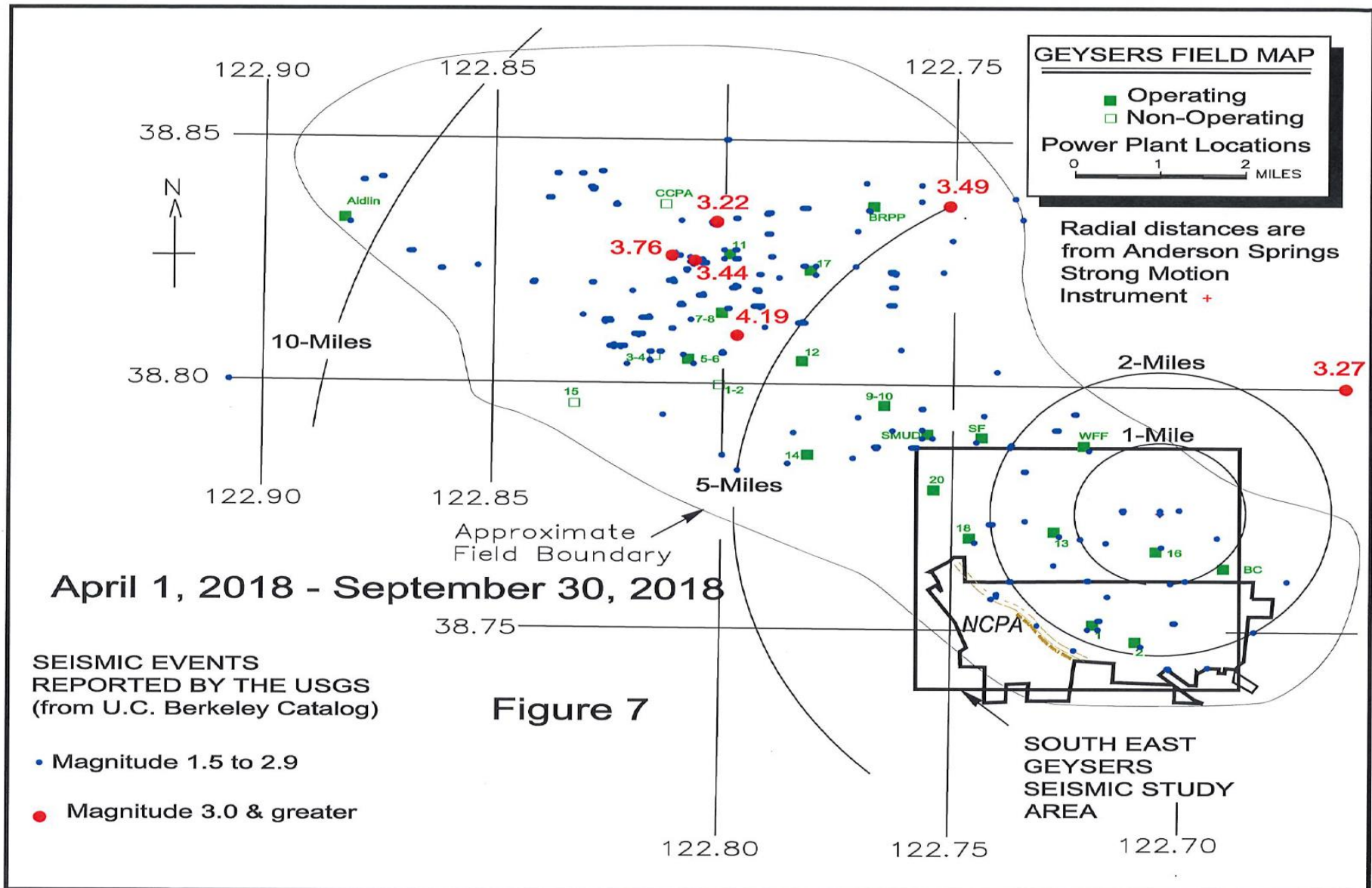
The Geysers (KGRA) - Historical Seismic Activity

Magnitude > 1.5

Years 2002 - 9/30/2018

Figure 6





Summary

- **SEGEP Operation**
 - Injection Rate – 4,843 gpm
 - Pipeline availability - 98.4%
 - Curtailed operation – May 25 – August 30, 2018
- **Southeast Production & Injection**
 - Production – 18.23 Glbs
 - Injection – 9.15 Glbs
- **Seismic Activity – SE Geysers**
 - 66 Events > Magnitude 1.5
 - 0 Events > Magnitude 3.0
- **Seismic Activity – KGRA**
 - 355 Events > Magnitude 1.5
 - 6 Events > Magnitude 3.0
 - Highest Event – Magnitude 4.19