



Ground Water Conditions Throughout Idaho

IWUA Annual Conference

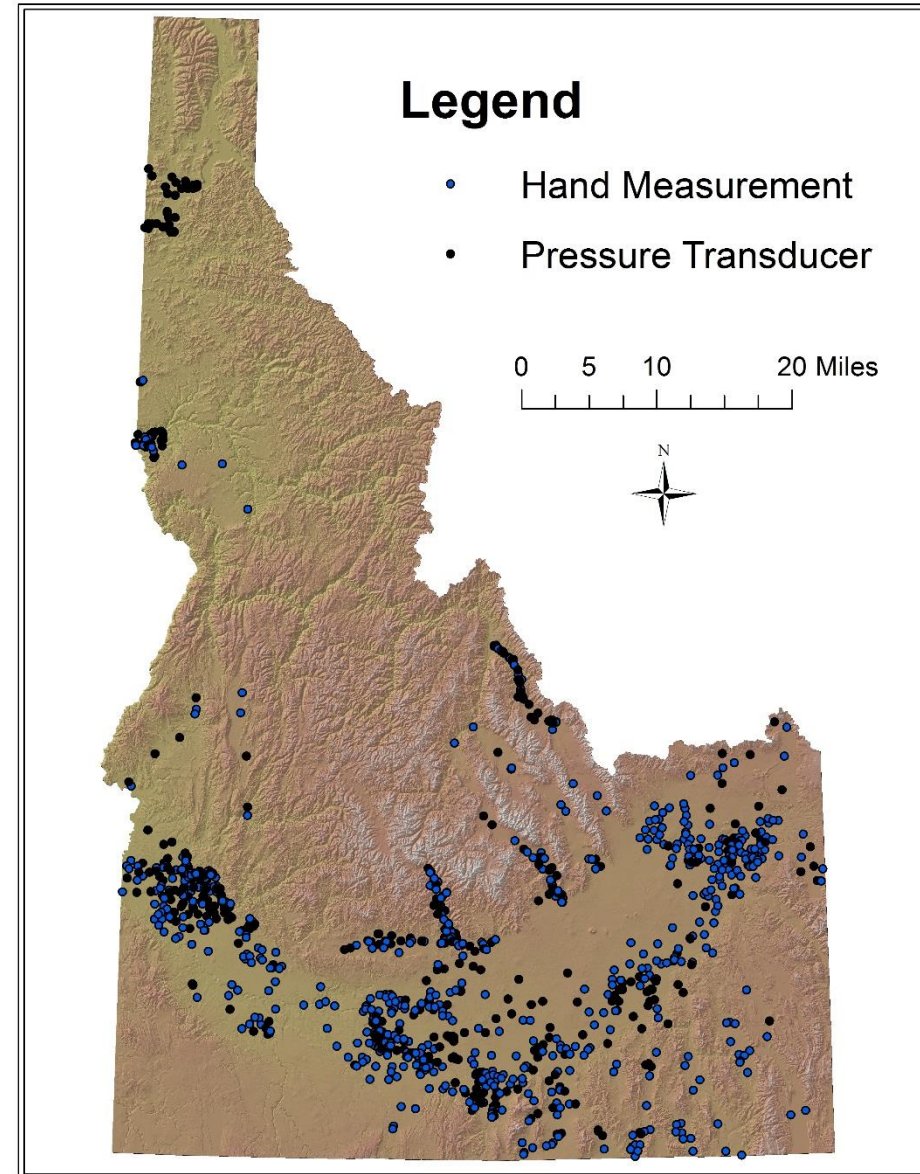
Craig Tesch, P.G.

IDWR

January 21, 2020

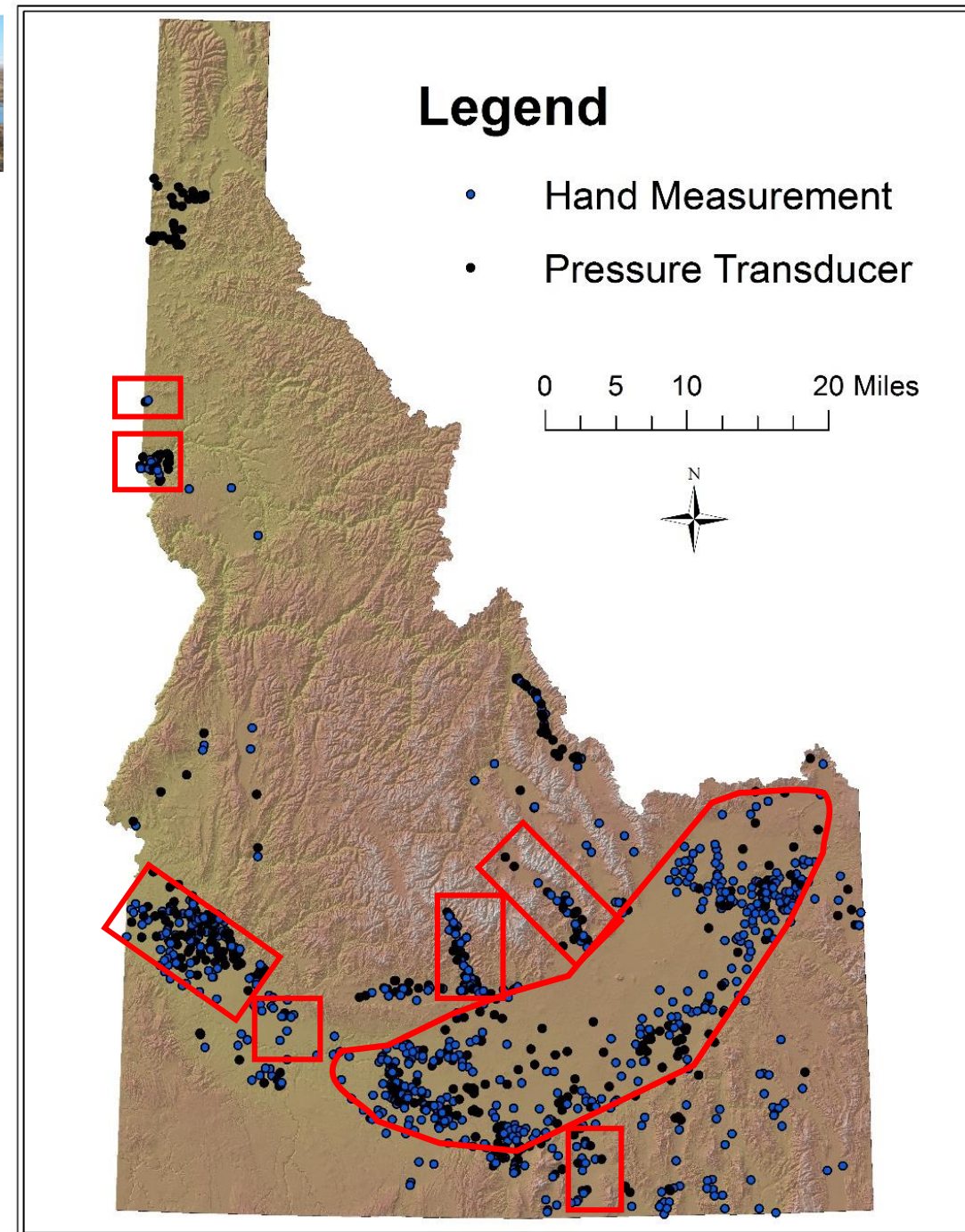
Statewide Ground Water Level Monitoring Program

- IDWR staff measure water levels in over 900 wells annually
 - Physical measurements at all wells
 - Timeframe, pre & post irrigation
 - Pressure transducers in over 500 wells
- Data is processed and served to IDWR's public website
- Provide snapshots of aquifer health



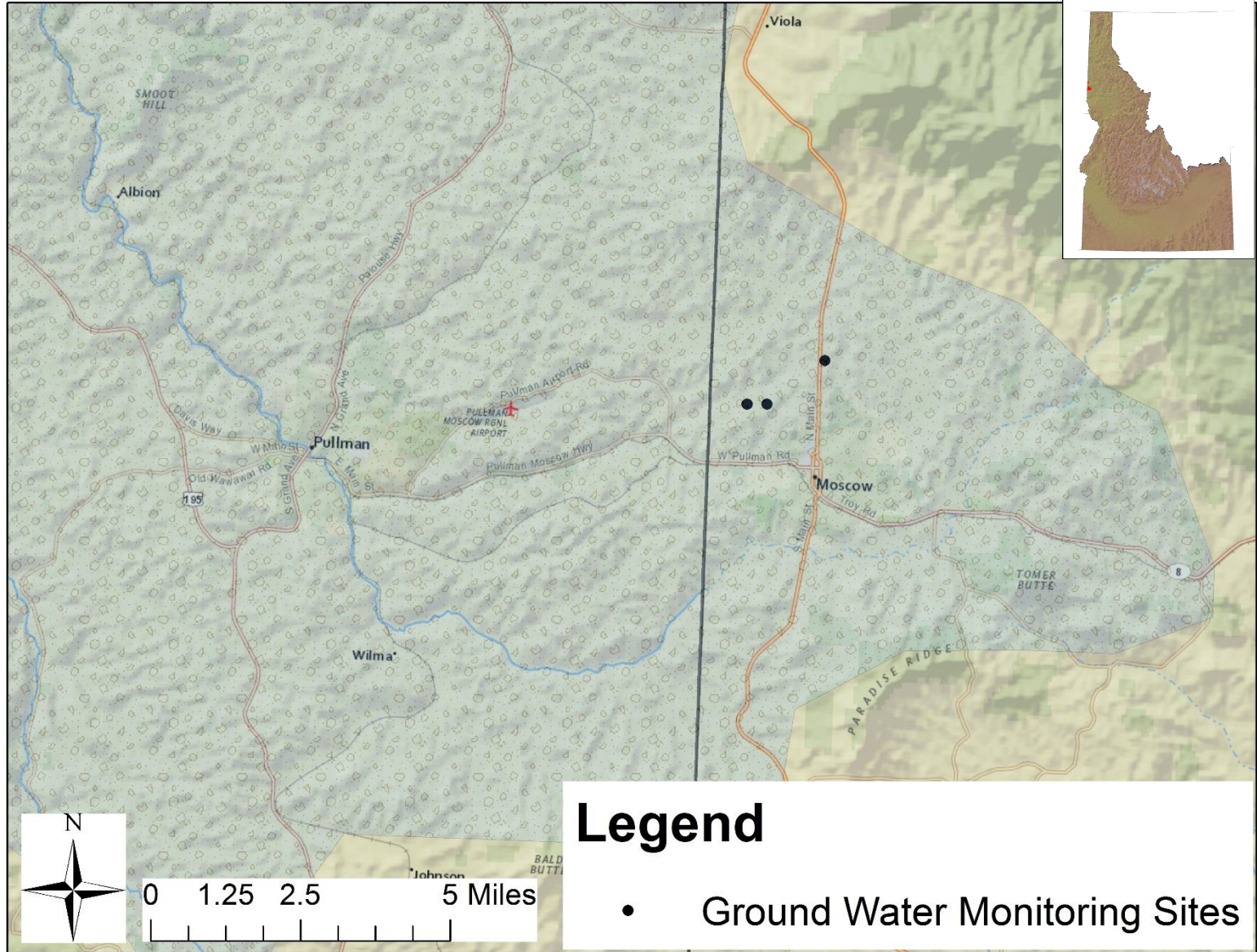
Basin Tour

- Moscow
- Lewiston
- Treasure Valley
- Mountain Home
- Big Wood
- Big Lost
- Raft
- ESPA



Moscow Basin

- Basalt Interstate Aquifer
- Shallow and Deep Systems
- Historical Declines
- ~10 wells monitored

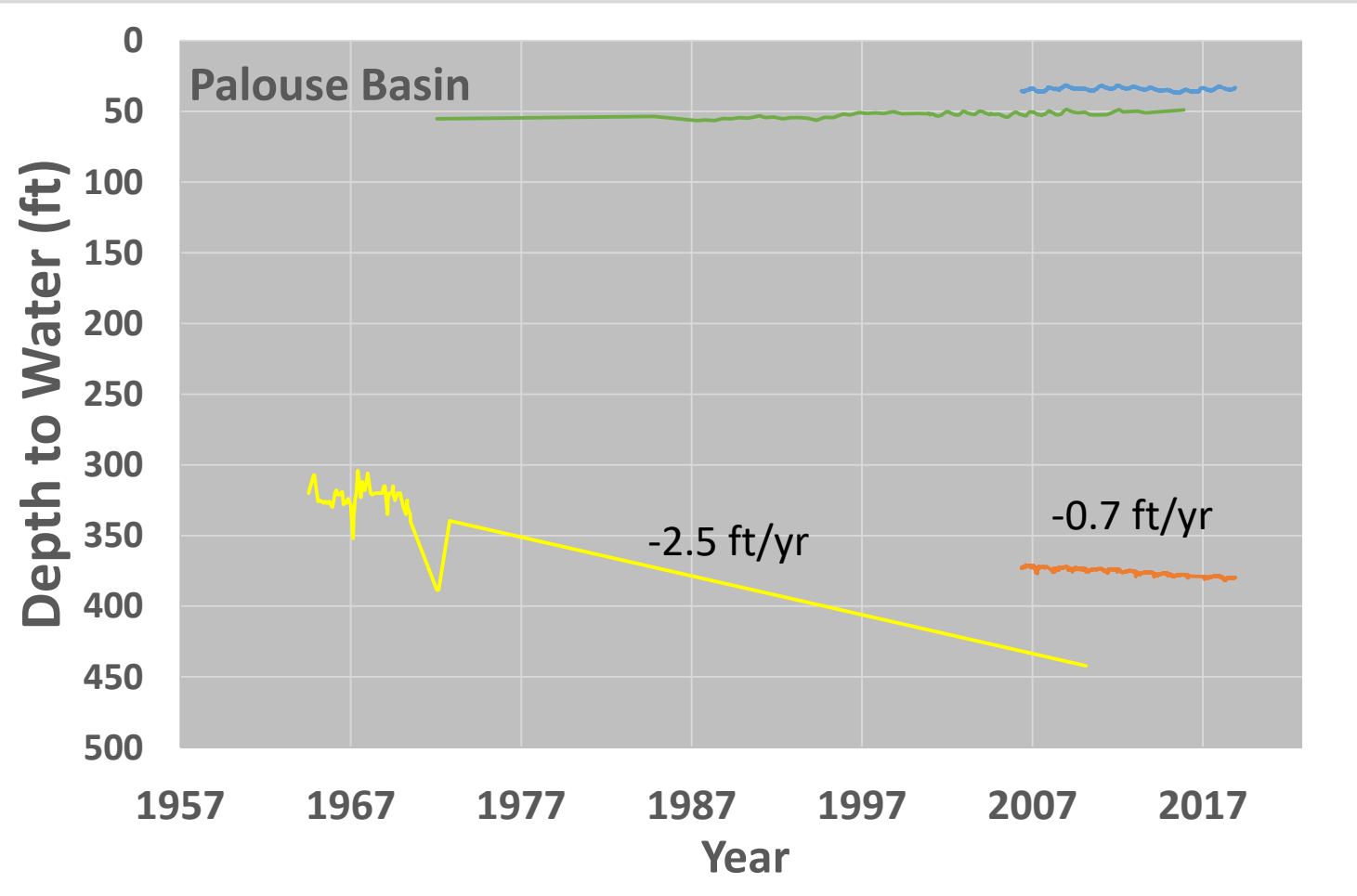
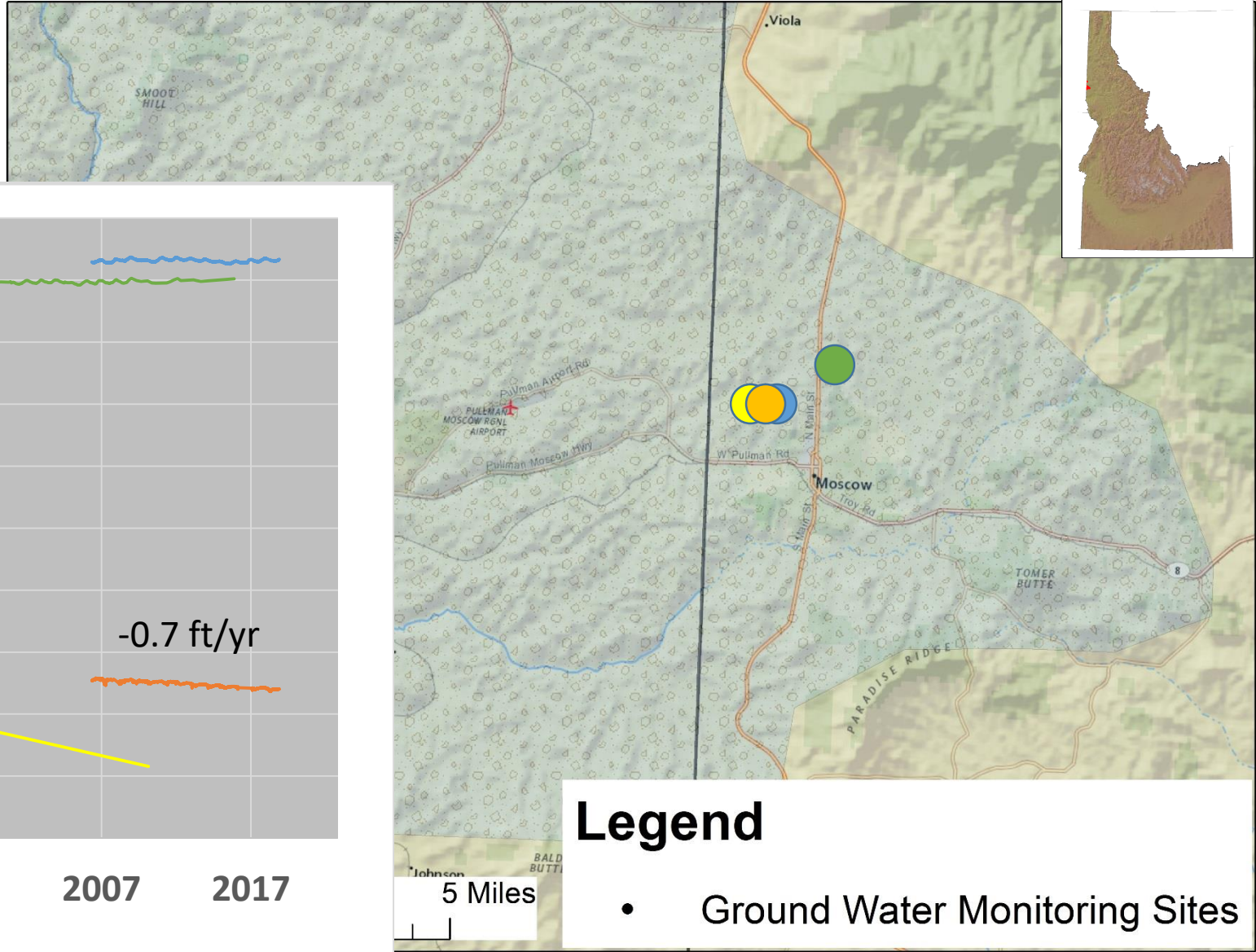


Legend

- Ground Water Monitoring Sites

Moscow Basin

- Basalt Interstate Aquifer

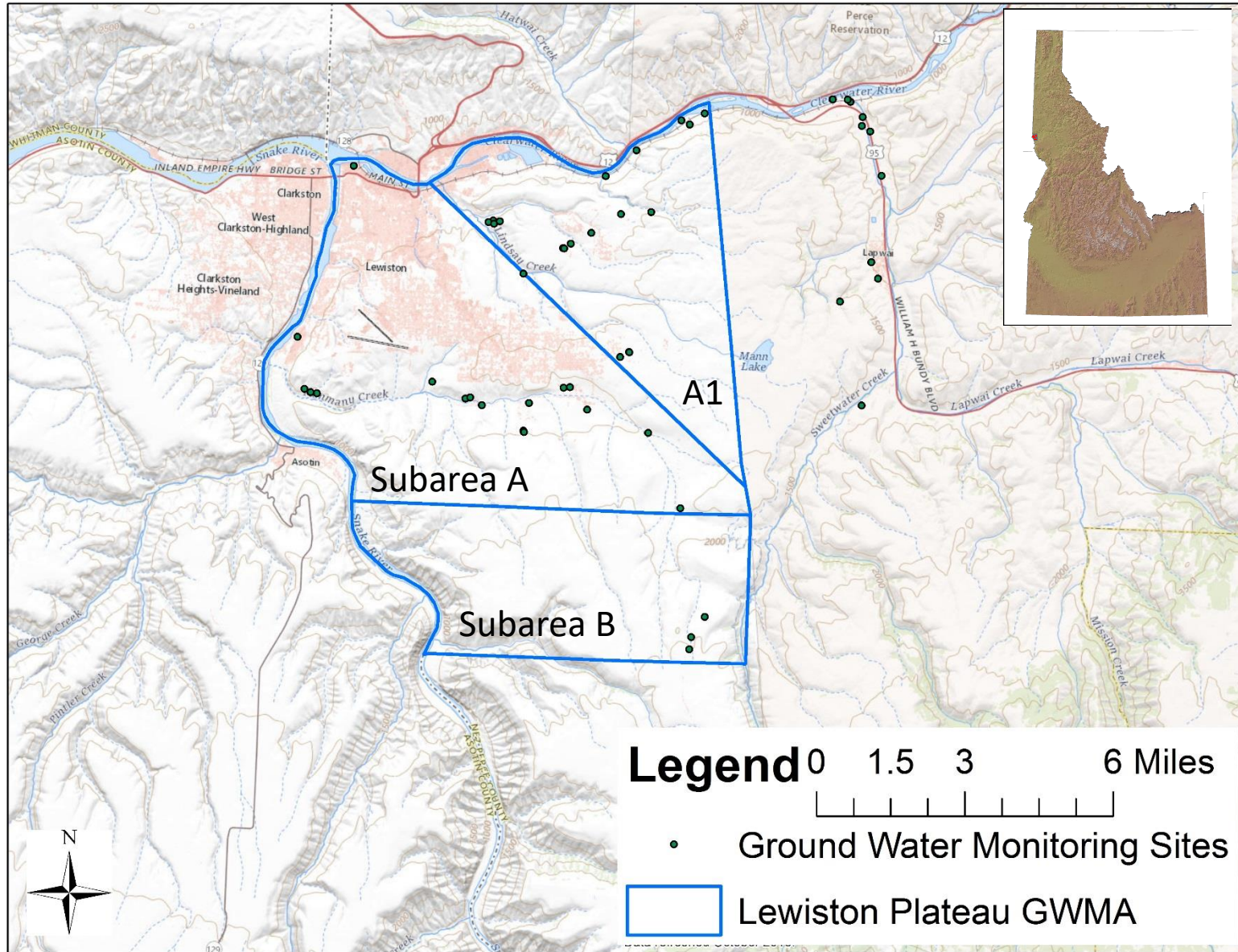


Legend

- Ground Water Monitoring Sites

Lewiston Plateau

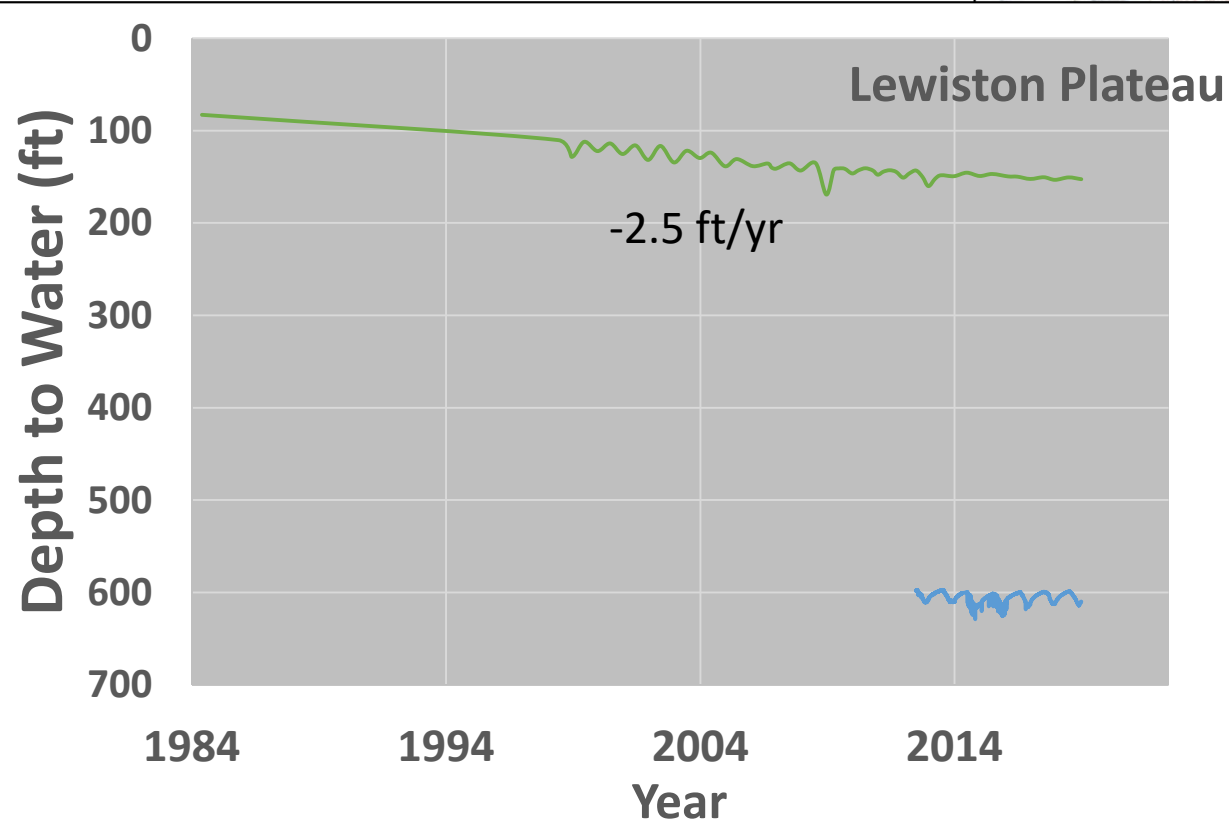
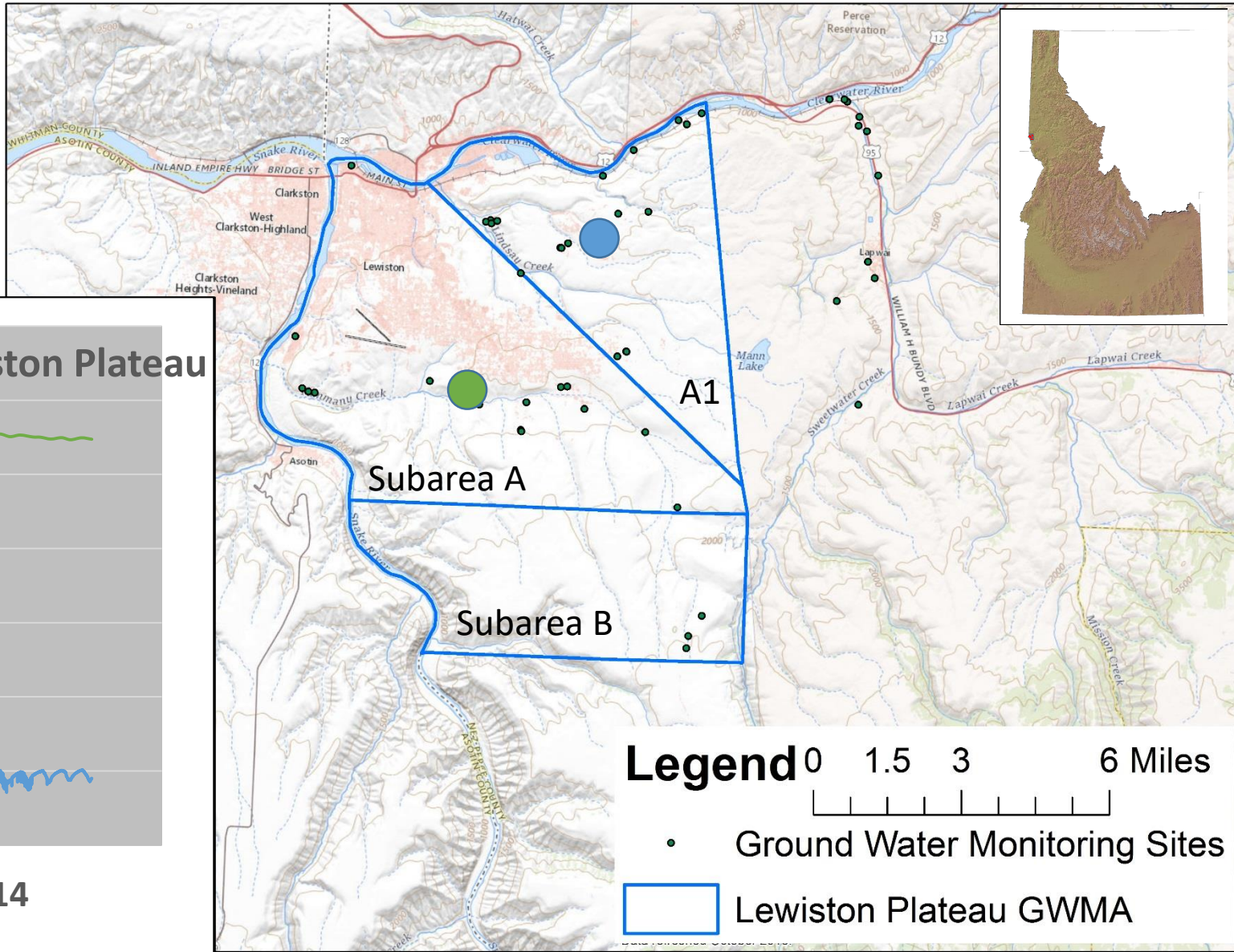
- GWMA (2013)
- Multiple basalt aquifers
- ~60 wells monitored





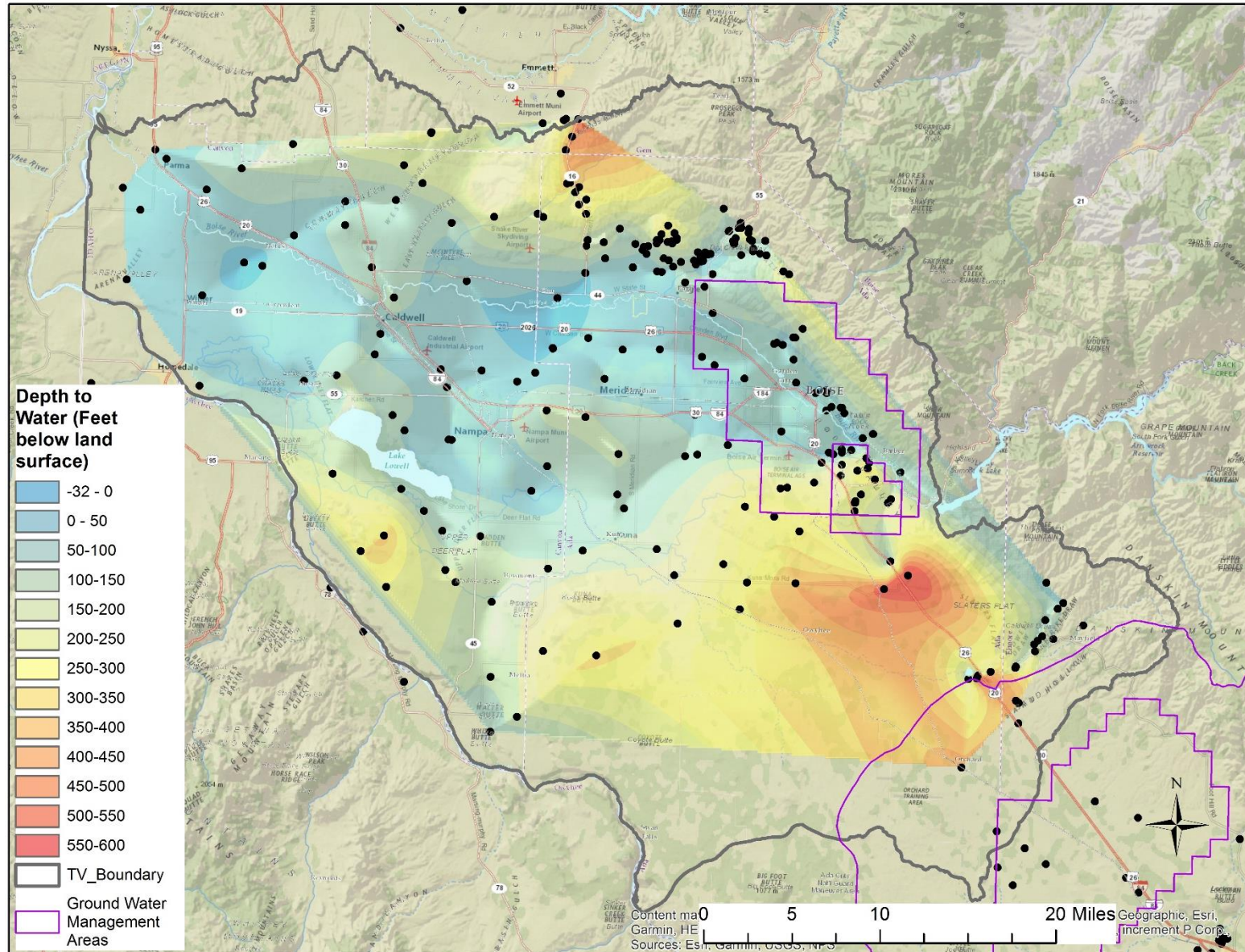
Lewiston Plateau

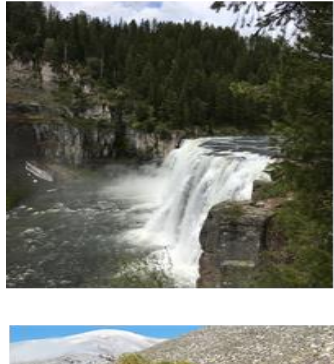
- GWMA (2013)
- Multiple basalt aquifers



Treasure Valley

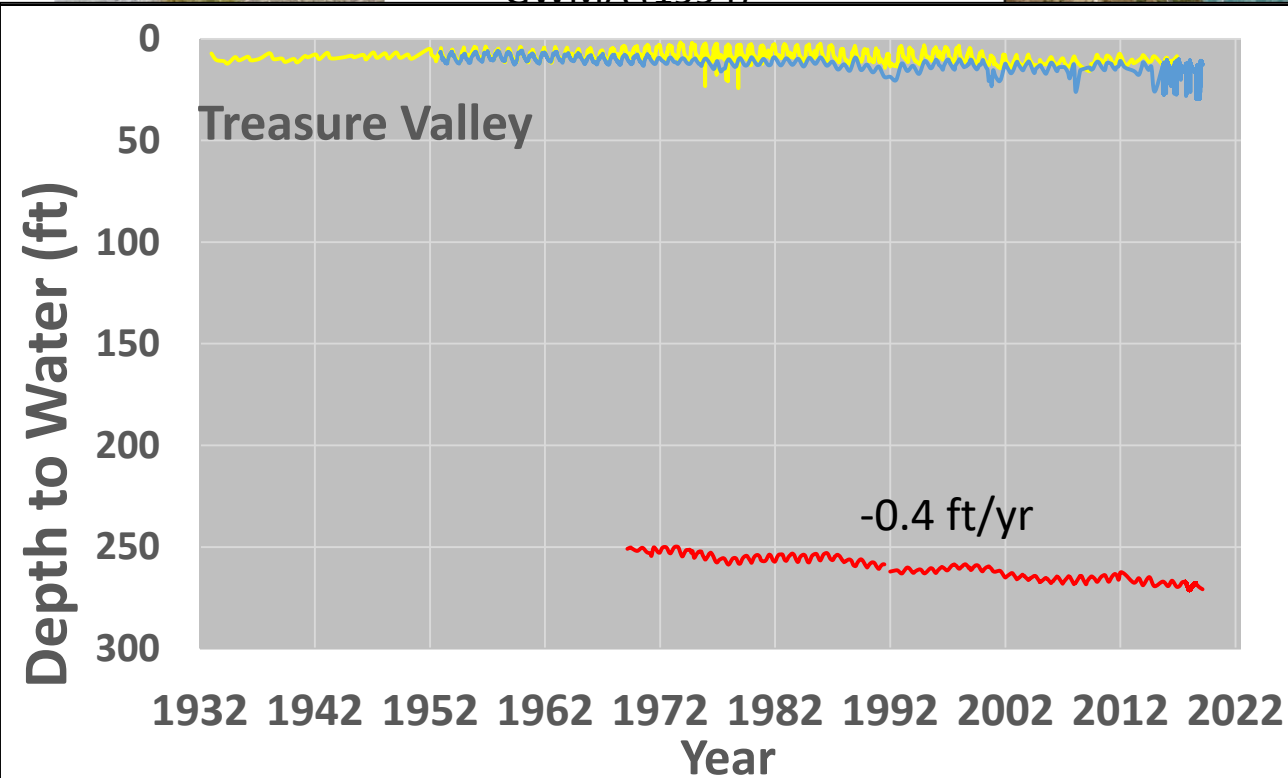
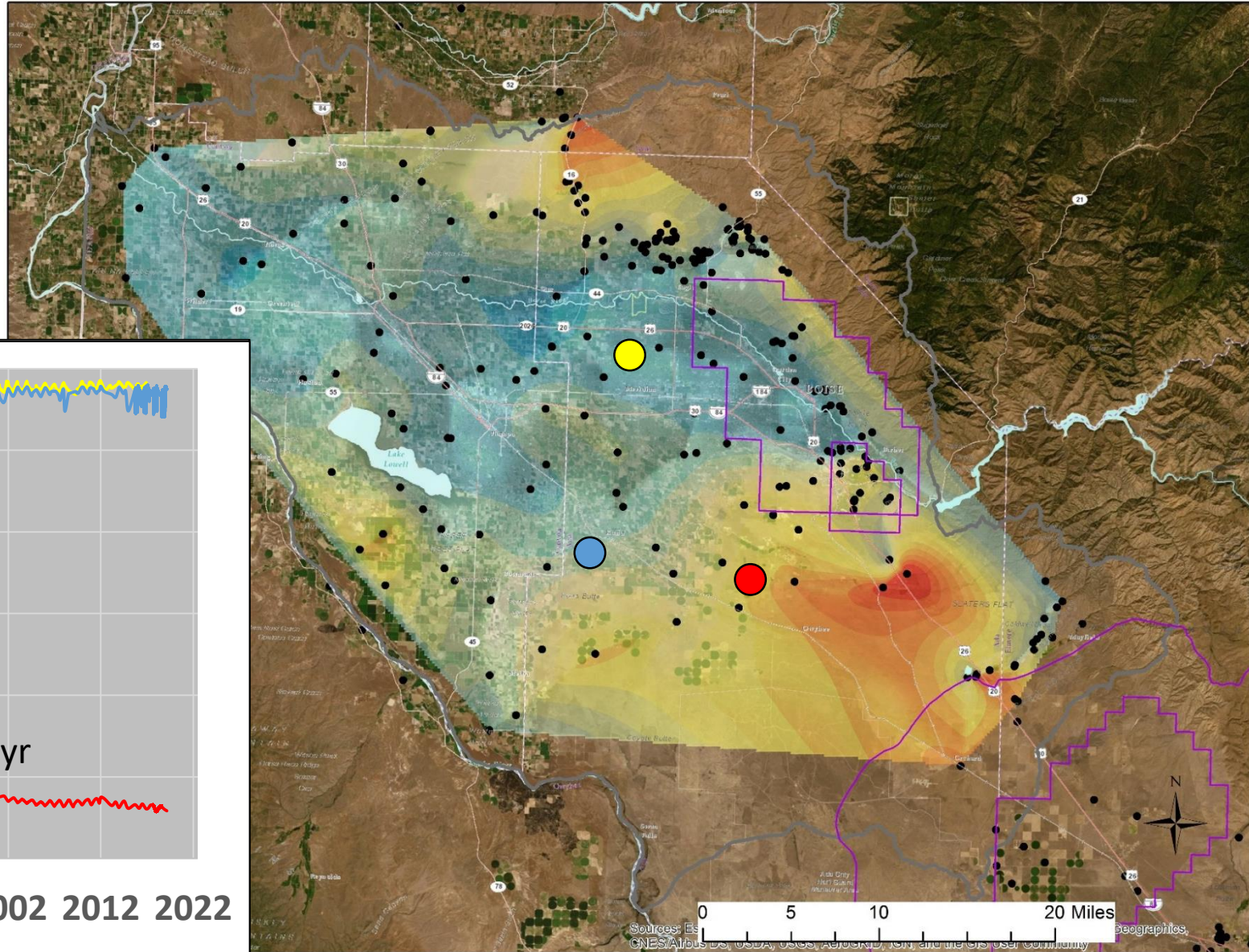
- Boise Front GWMA (1987)
- Southeast Boise GWMA (1994)
- Model development
- Complex sedimentary aquifer system
- ~100 wells monitored





Treasure Valley

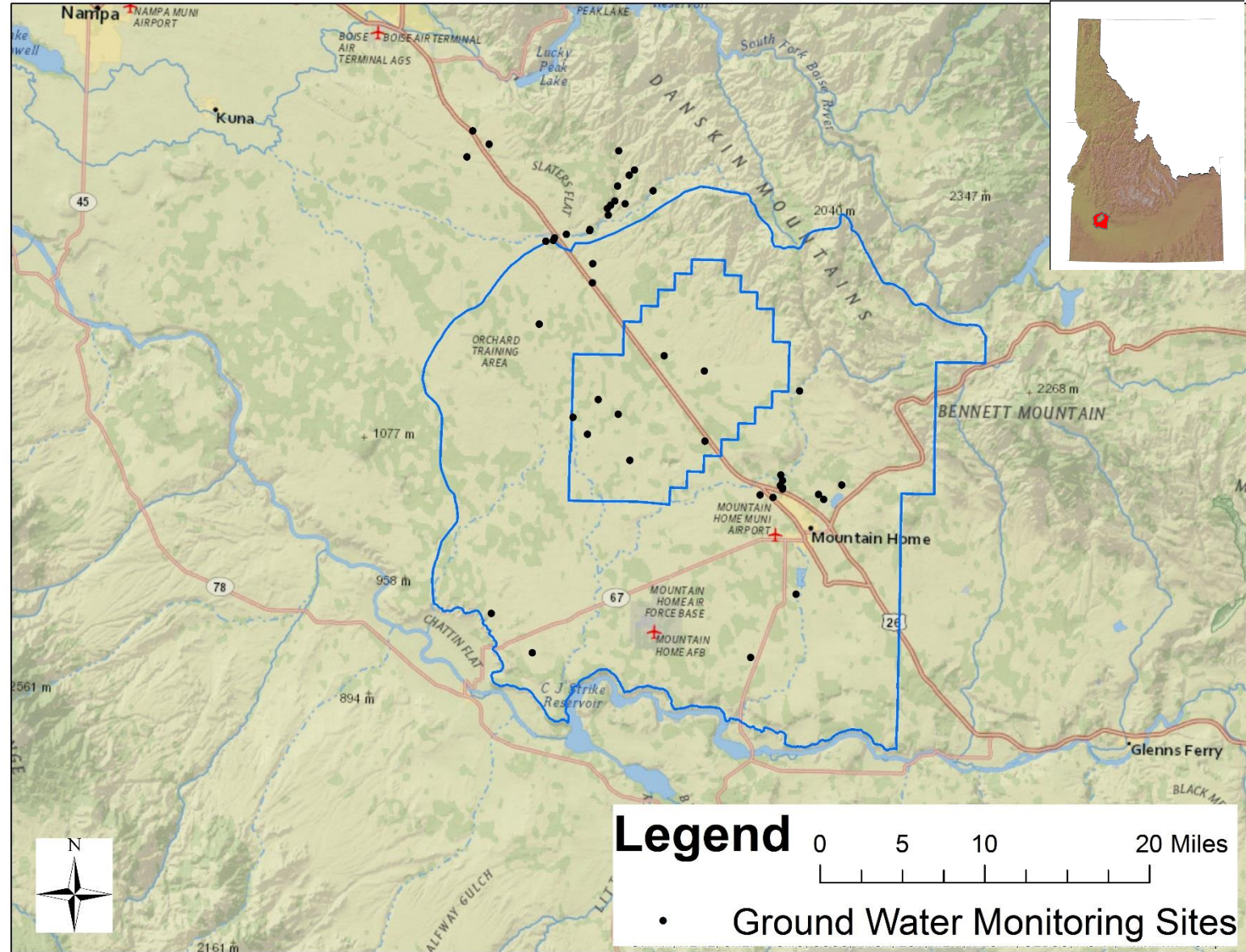
- Boise Front GWMA (1987)
- Southeast Boise GWMA (1994)





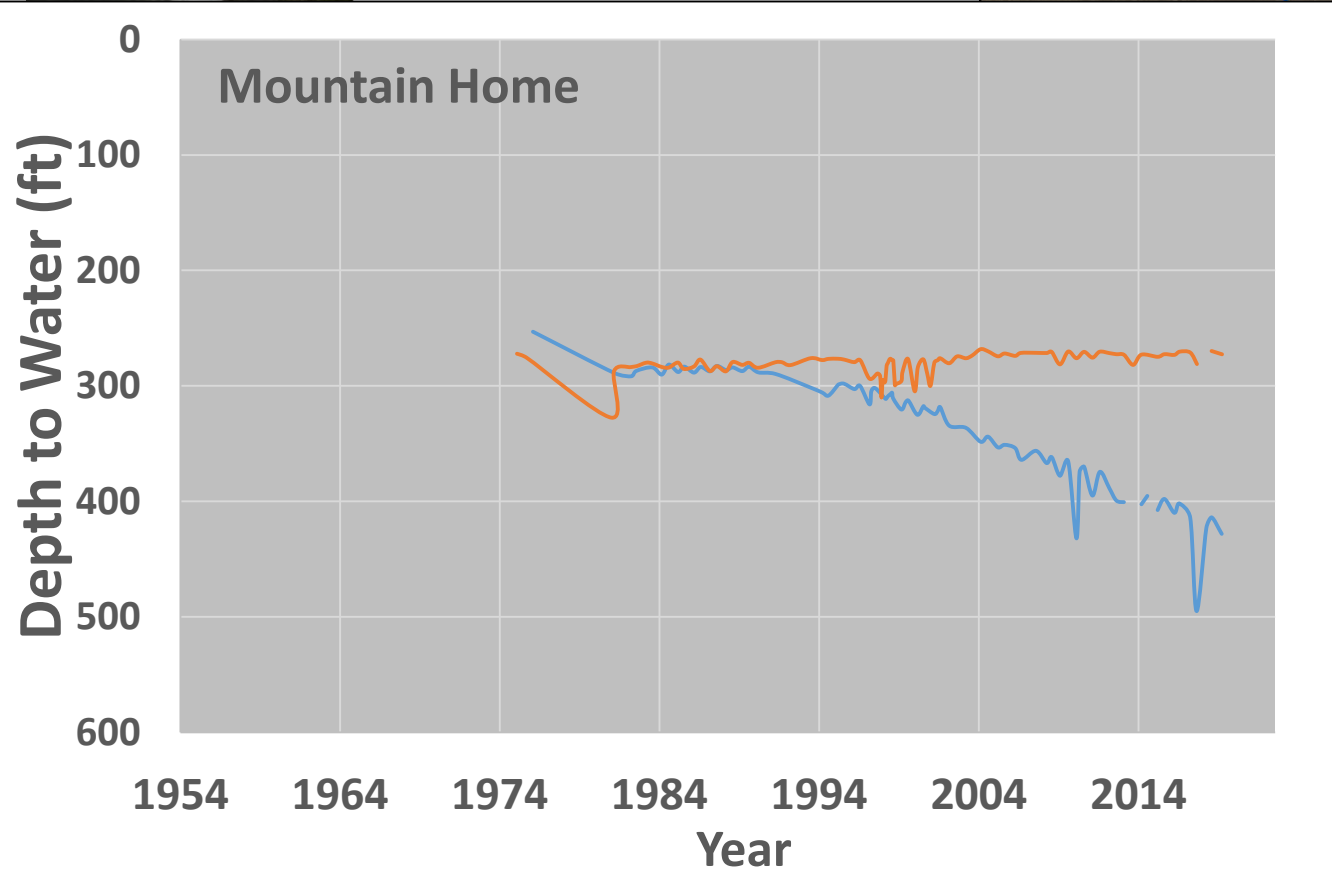
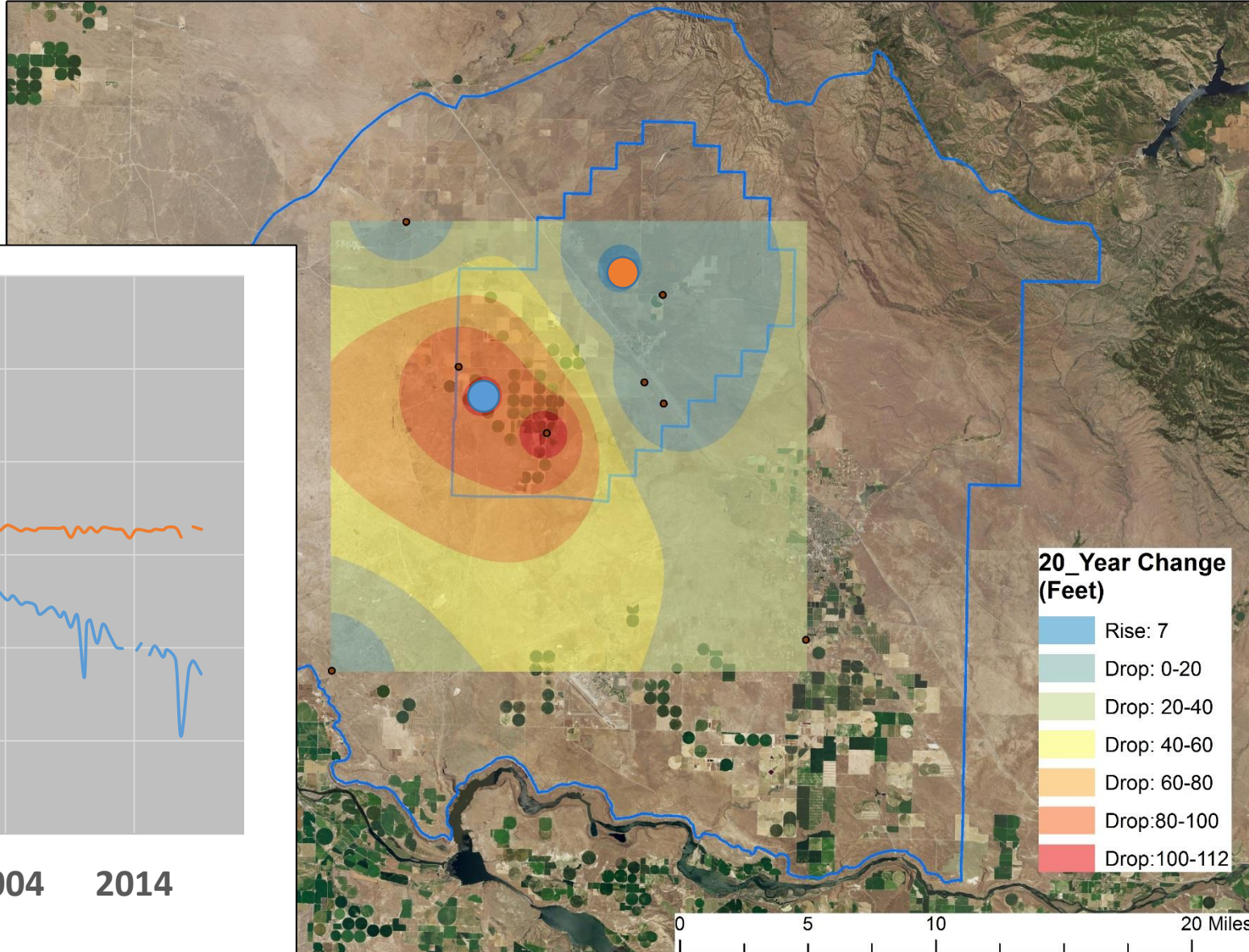
Mountain Home

- Cinder Cone CGWA (1981)
- GWMA (1982)
- Sedimentary/basalt aquifers
- Perched system
- Historically declining water levels
- ~ 35 wells monitored





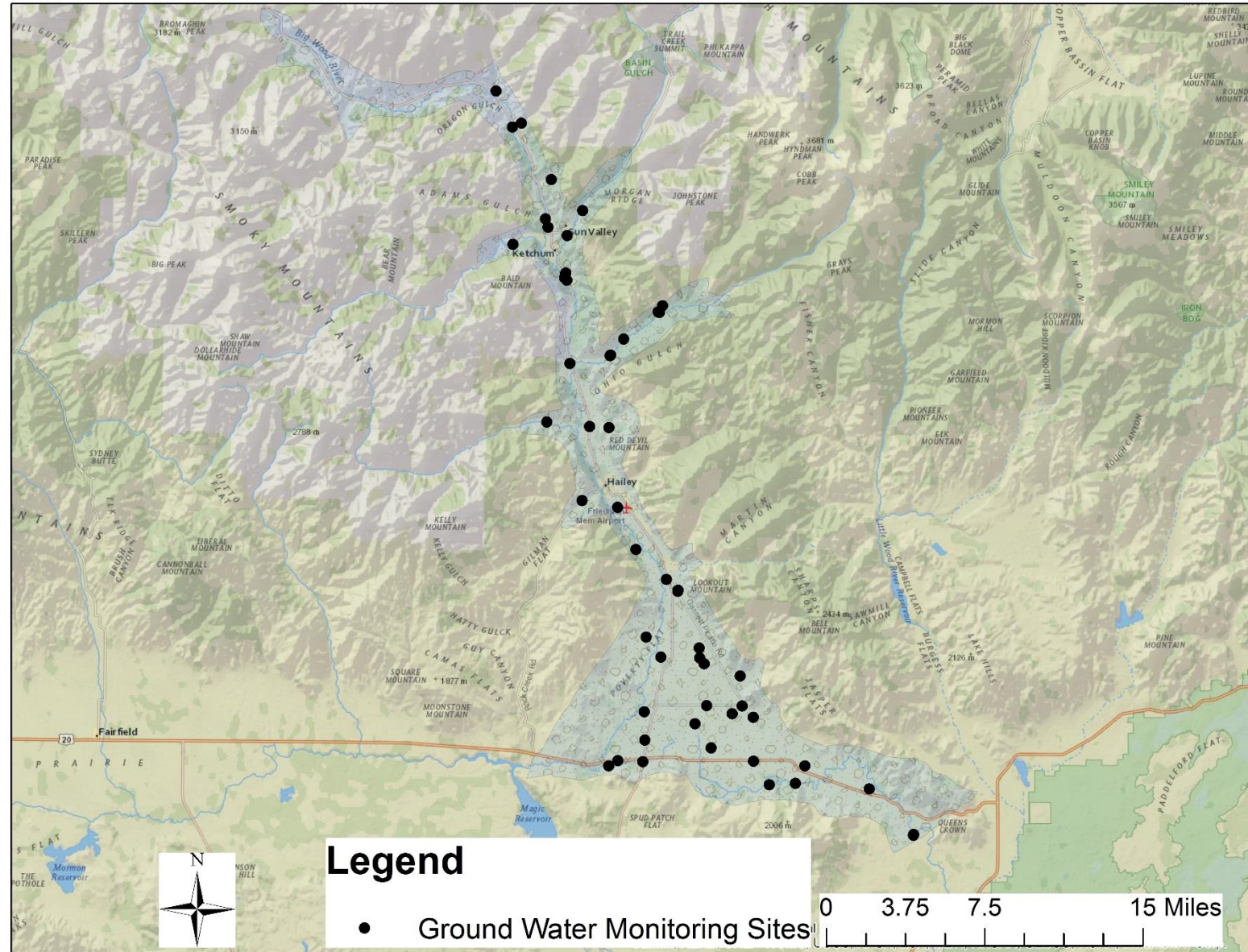
Mountain Home – Change Map





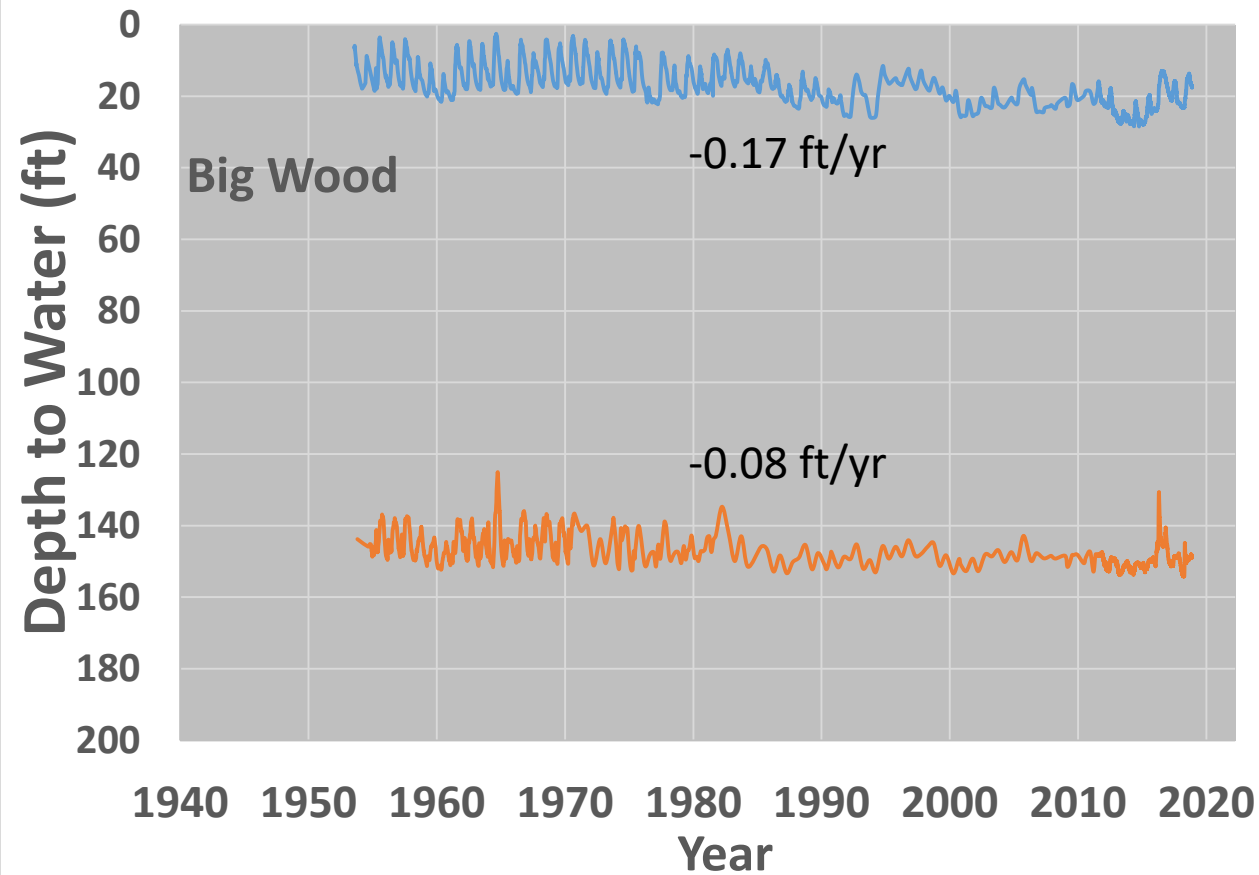
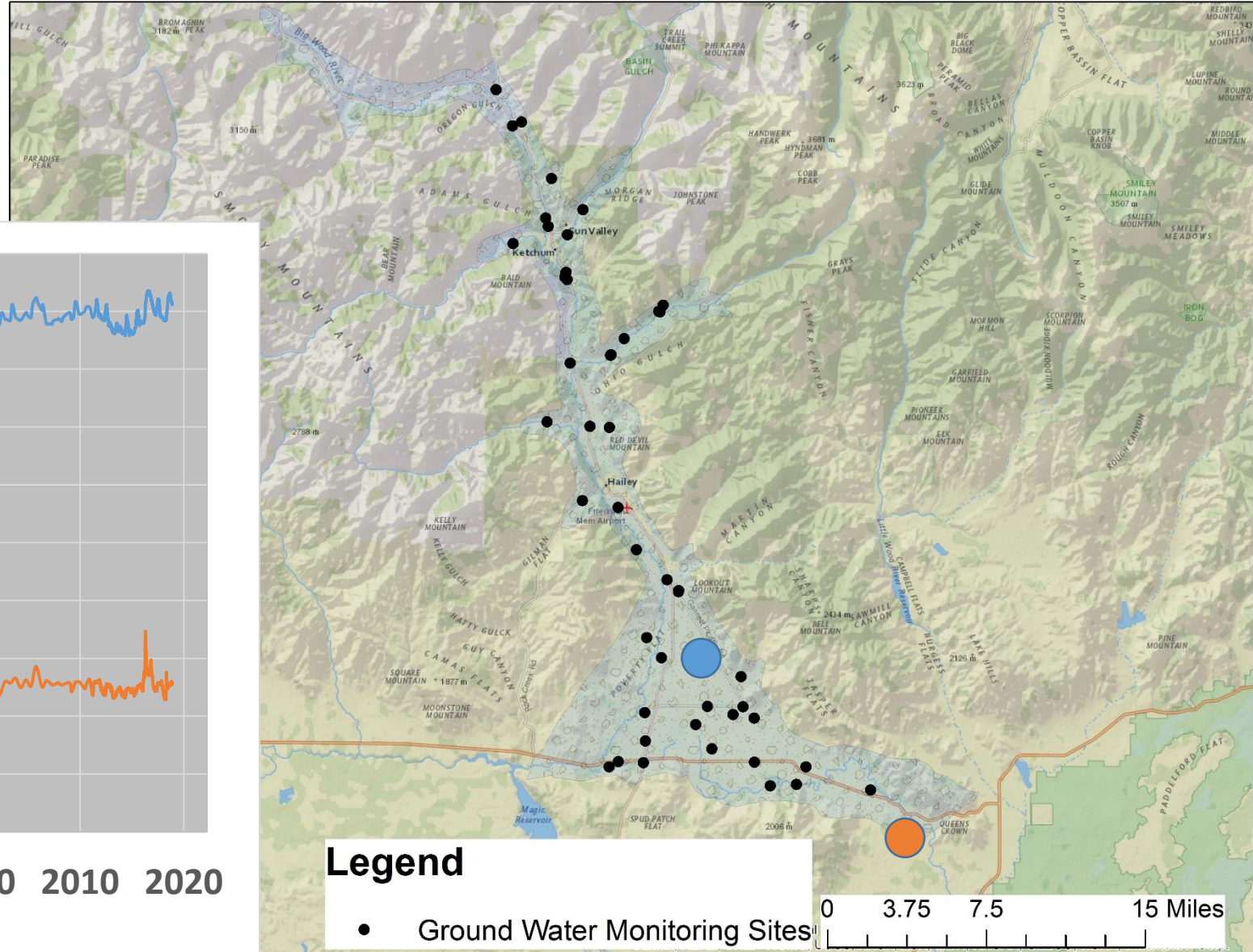
Big Wood

- GWMA (1991, includes Camas Prairie)
- Model Developed (2016)
- ESPA Tributary
- ~ 25 wells monitored





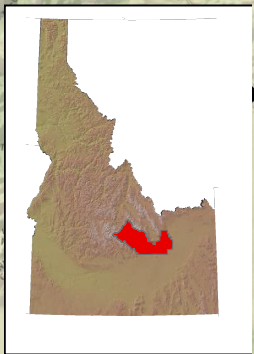
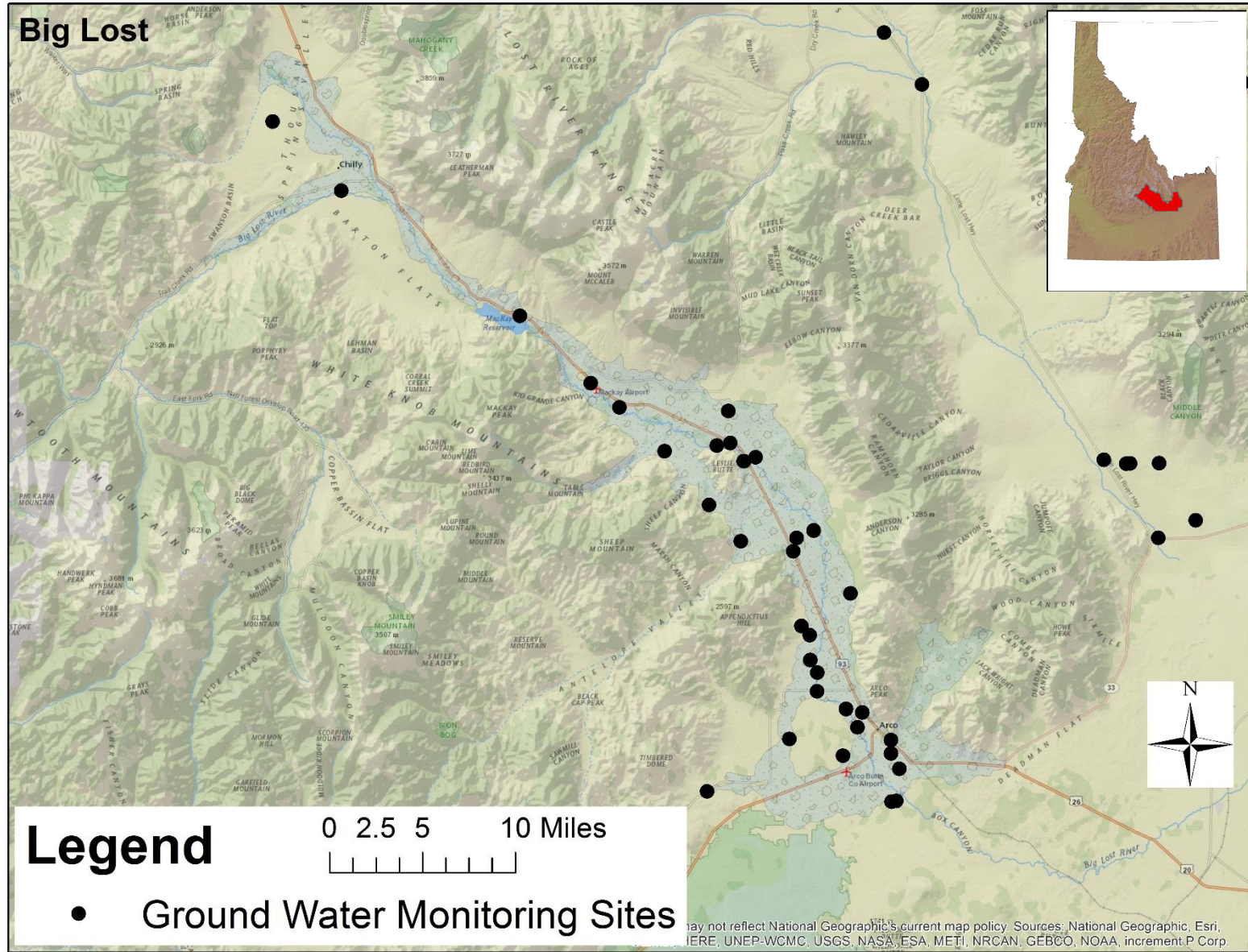
Big Wood - Hydrographs





Big Lost

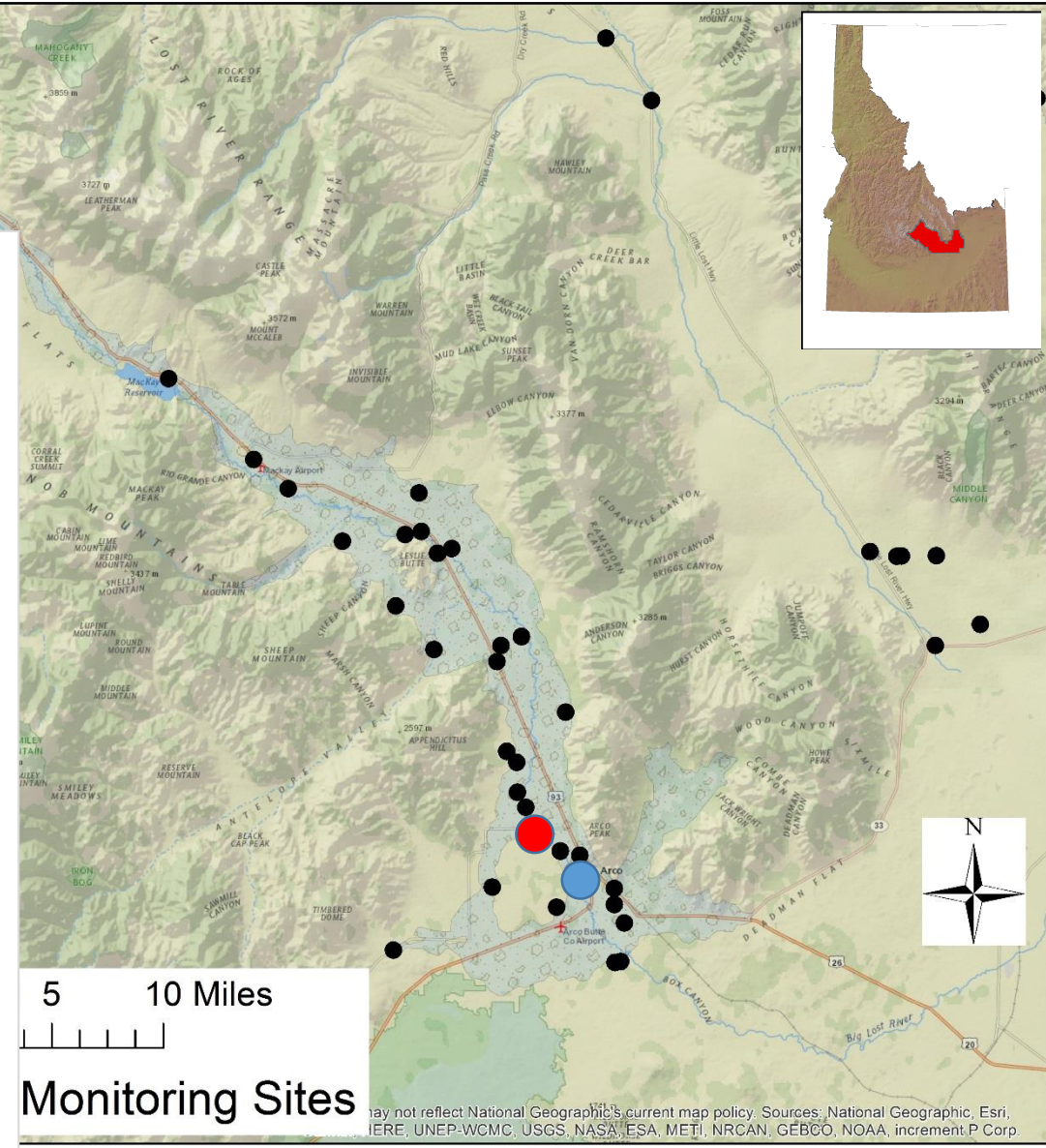
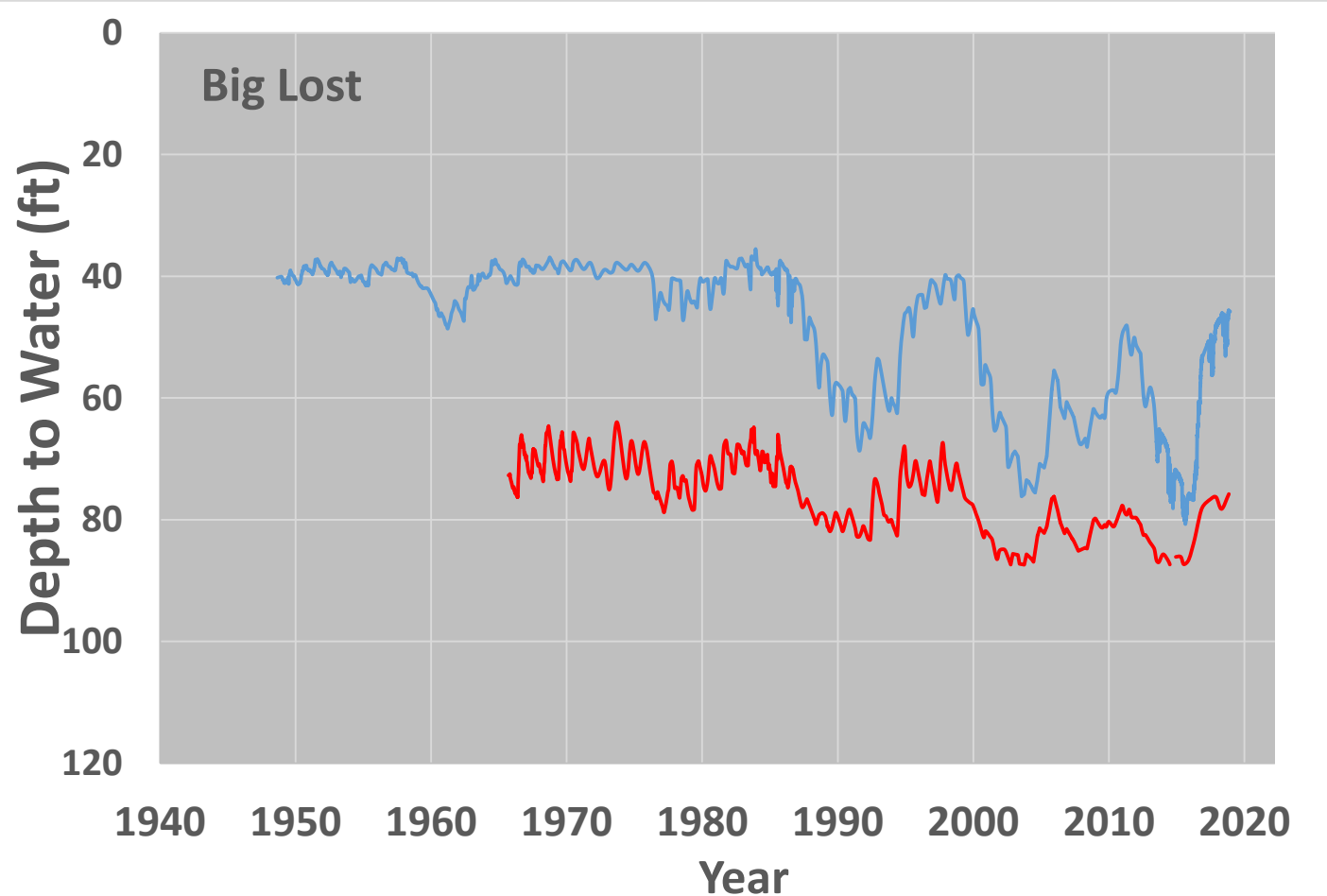
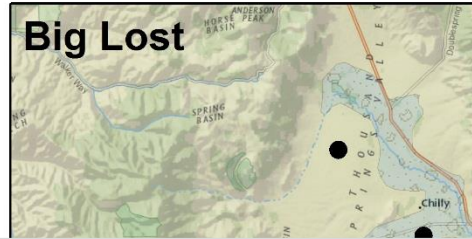
- Significant EPA tributary
- SW/GW Connection
- Contested cases
- Recent and ongoing projects
- ~45 wells monitored



Map not reflect National Geographic's current map policy. Sources: National Geographic, Esri, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.



Big Lost - Hydrographs

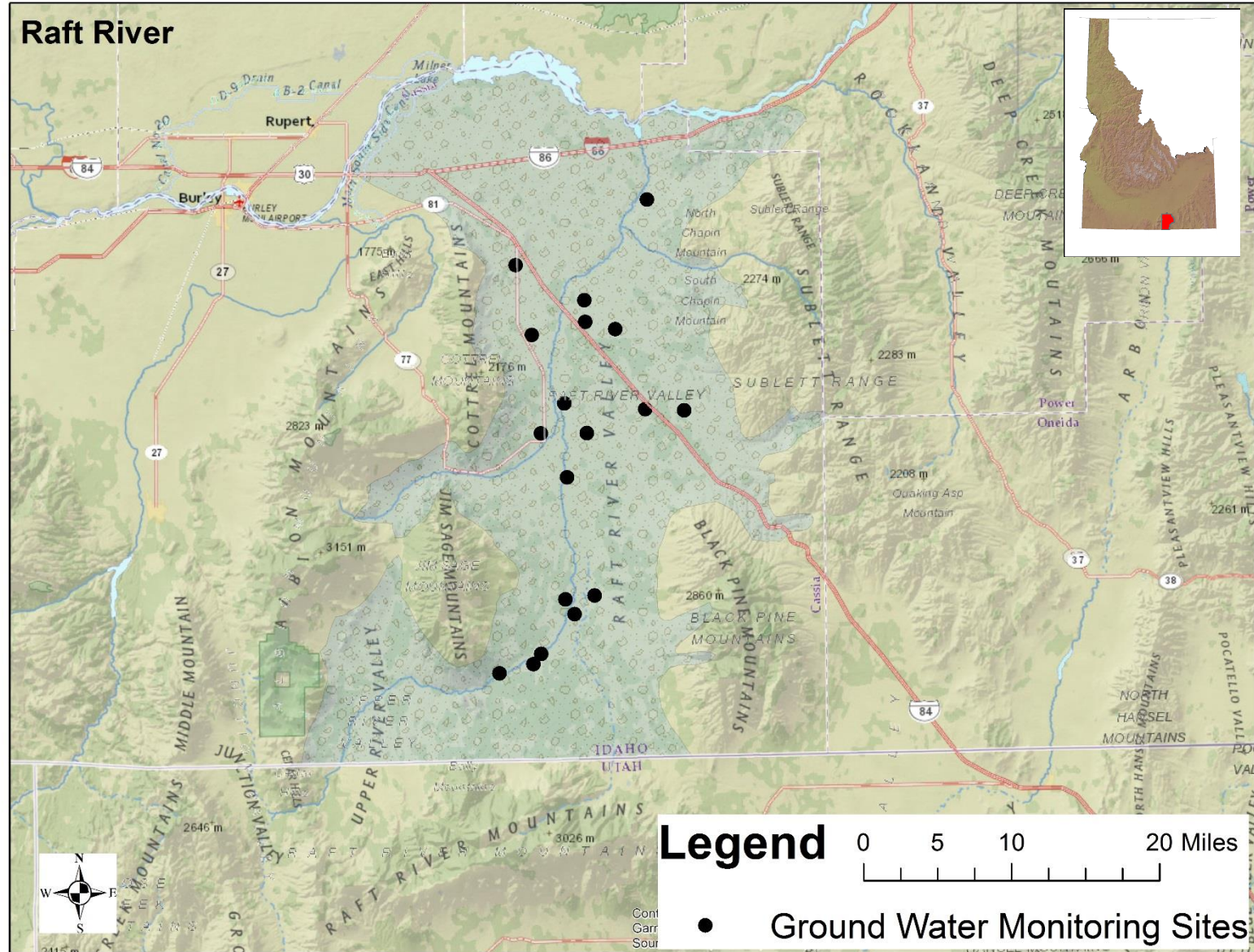


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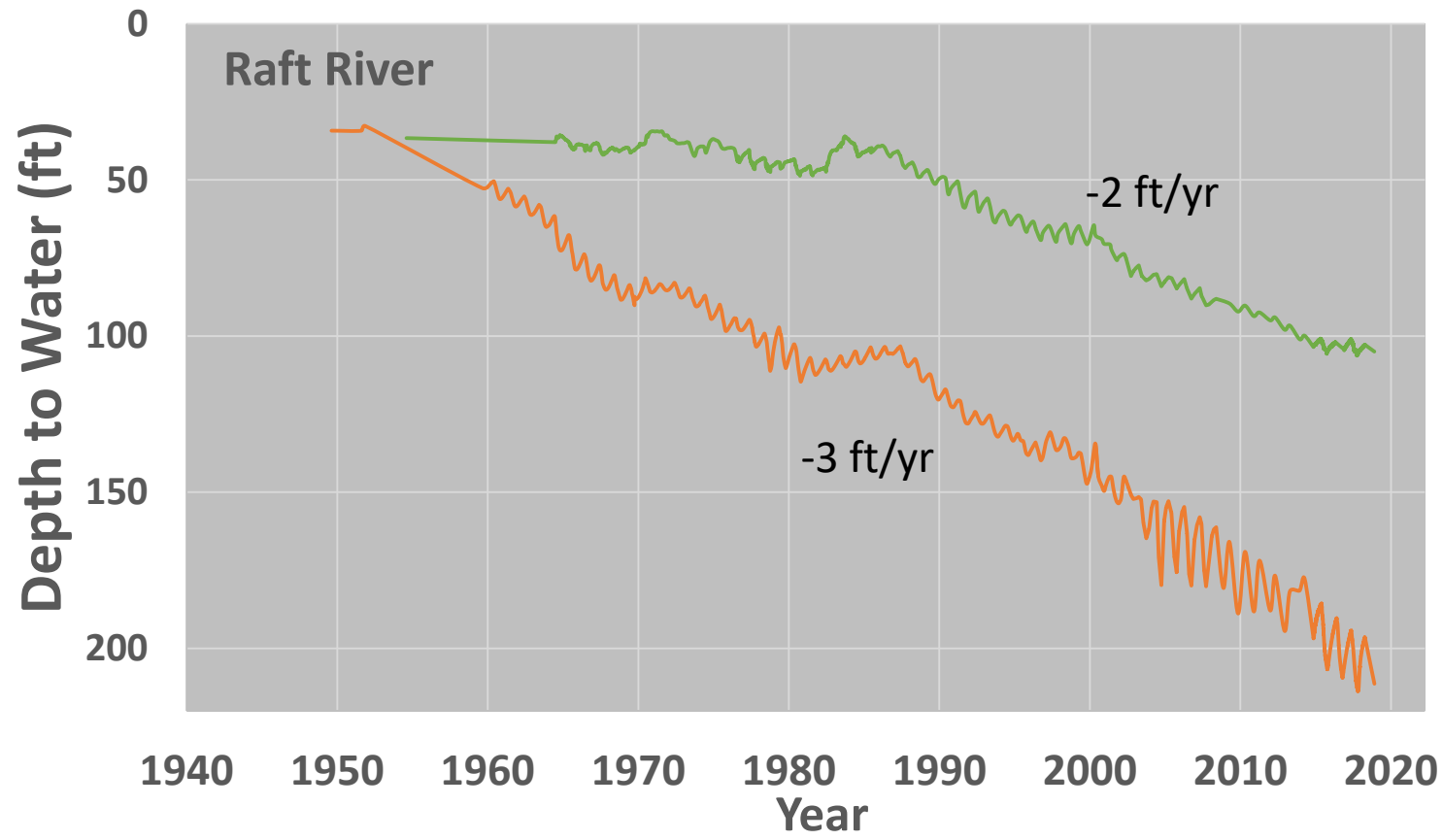
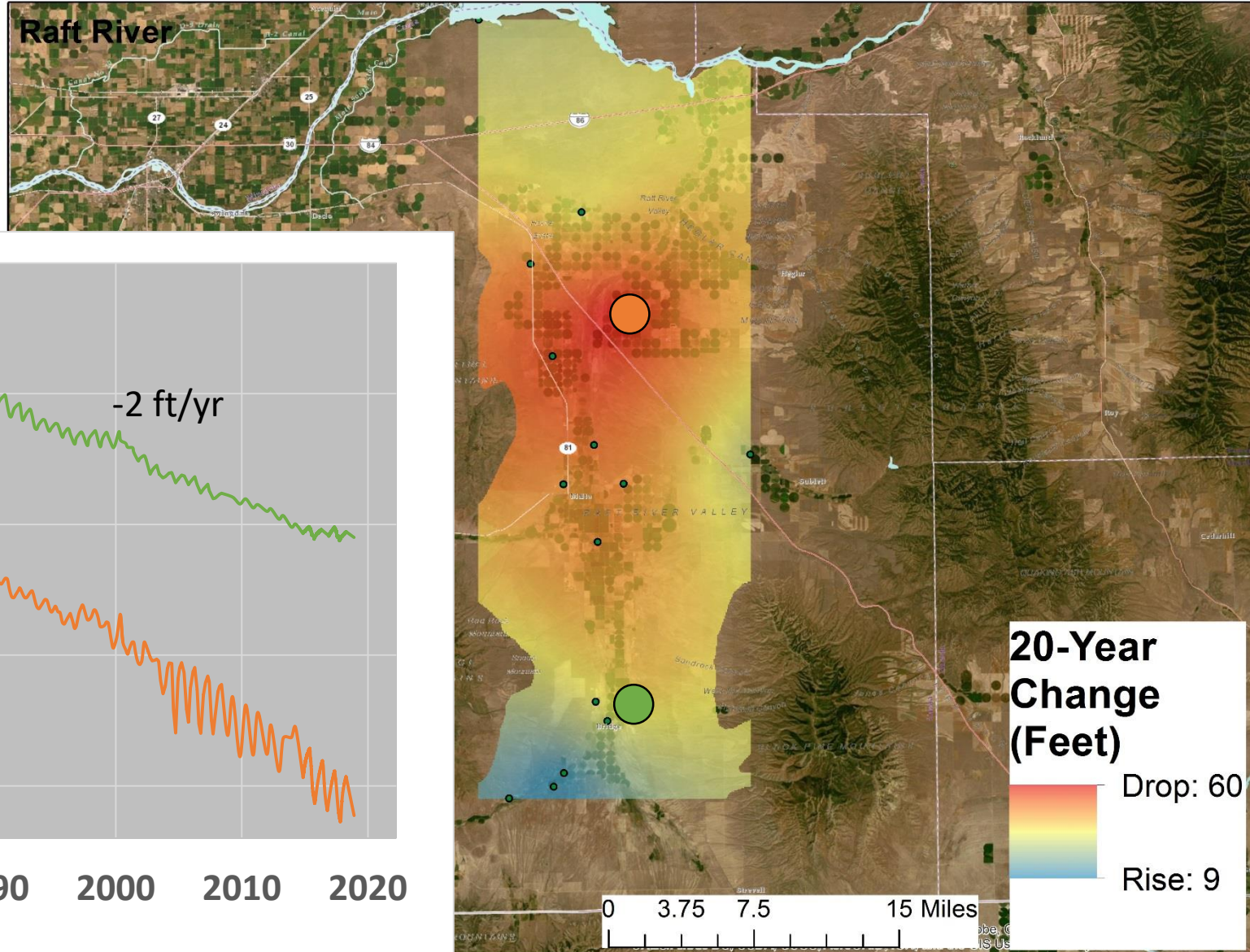
Raft River Basin

- CGWA (1963)
- Sedimentary aquifer
- Limited recharge/significant pumping
- ~25 wells monitored

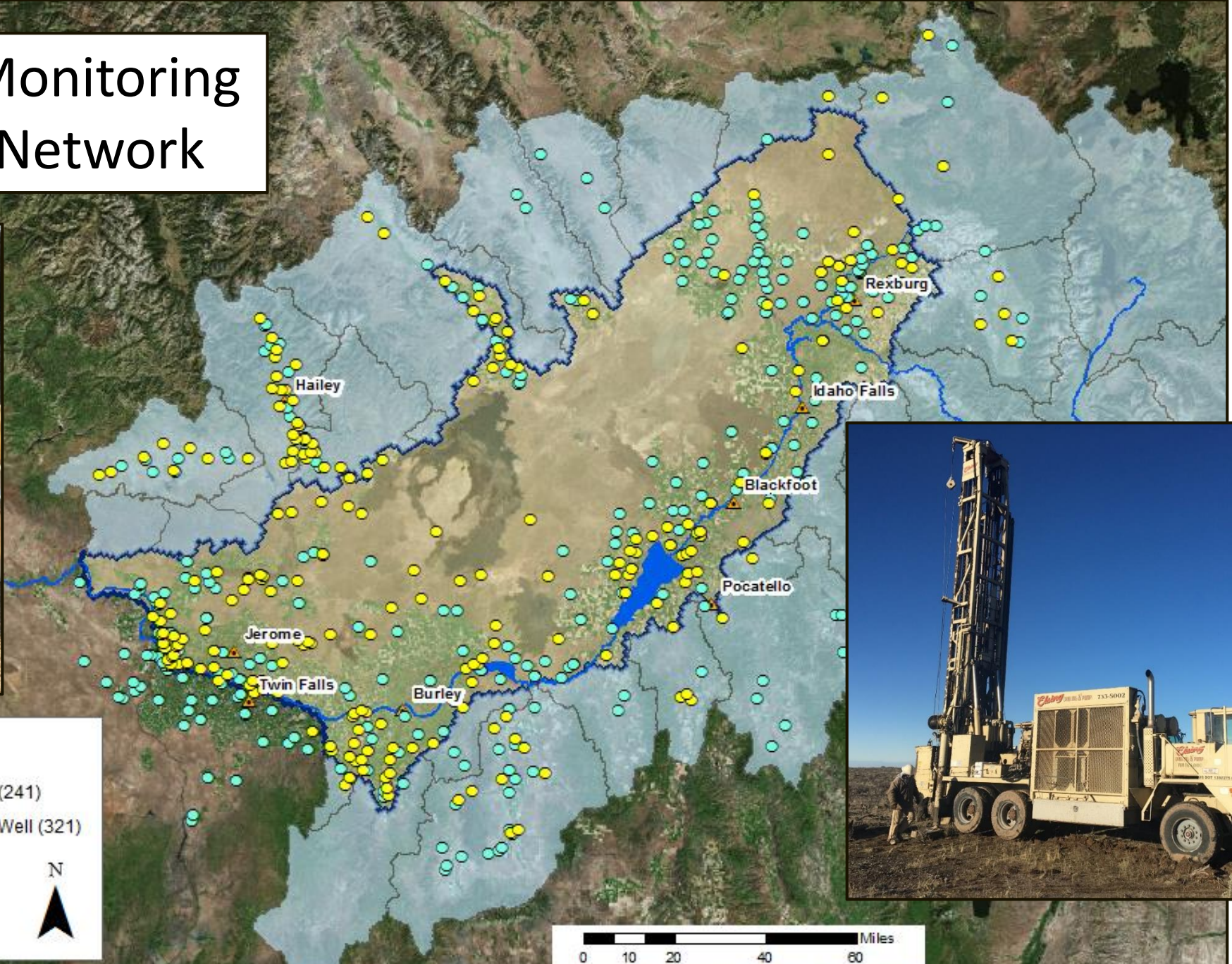




Raft River Basin - Change Map

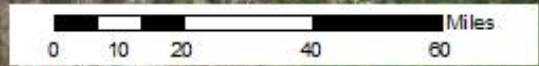


ESPA Monitoring Well Network



Legend

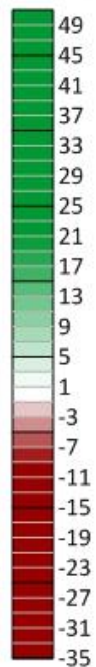
- Instrumented Well (241)
- Non-Instrumented Well (321)
- ▲ City
- ▭ Tributary Basin
- ▭ ESPA Boundary



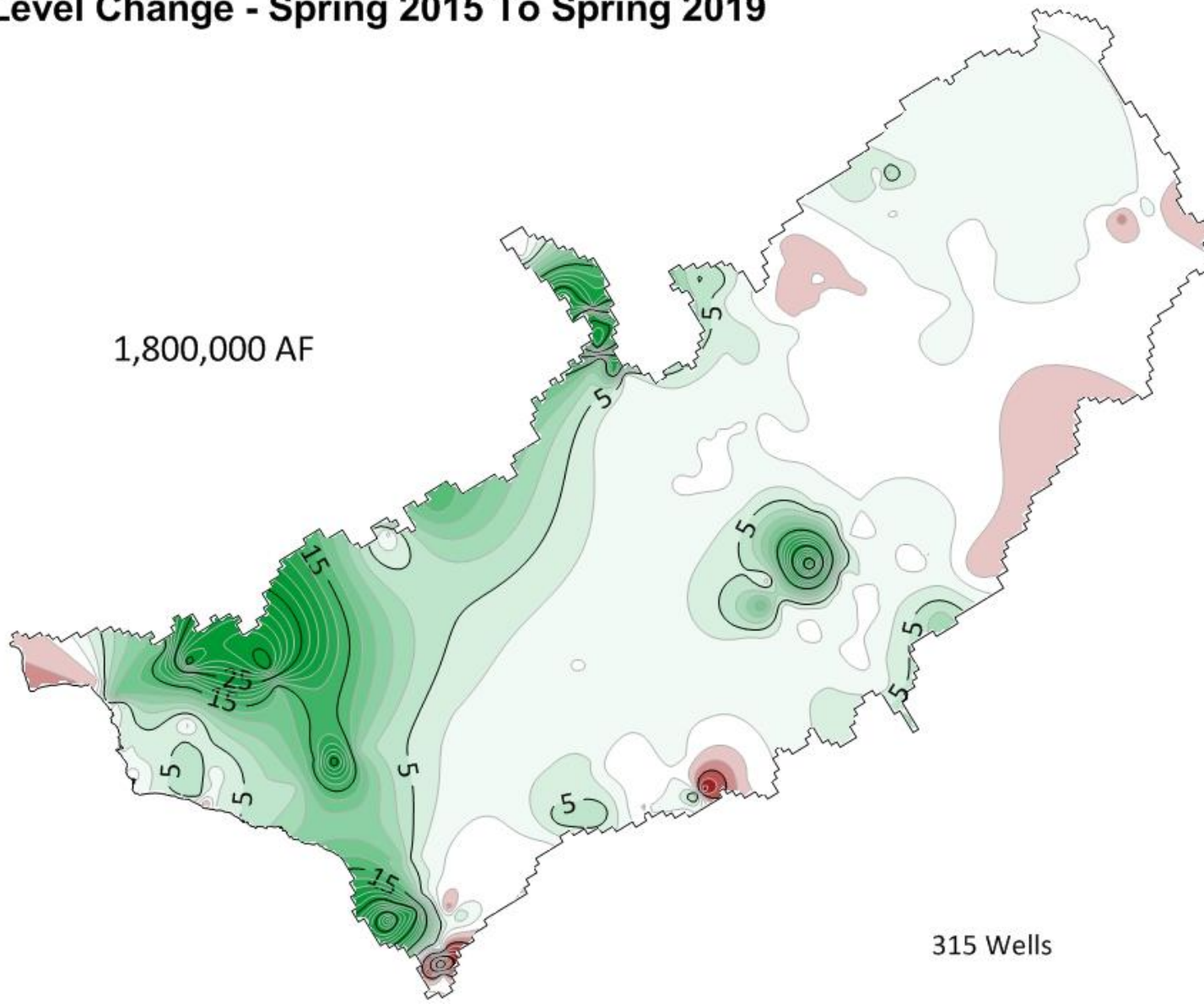
Water Level Change - Spring 2015 To Spring 2019



Water Level Change (ft)



1,800,000 AF

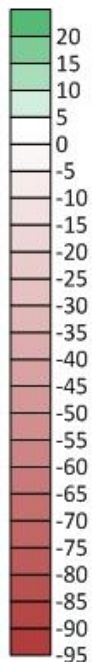


315 Wells

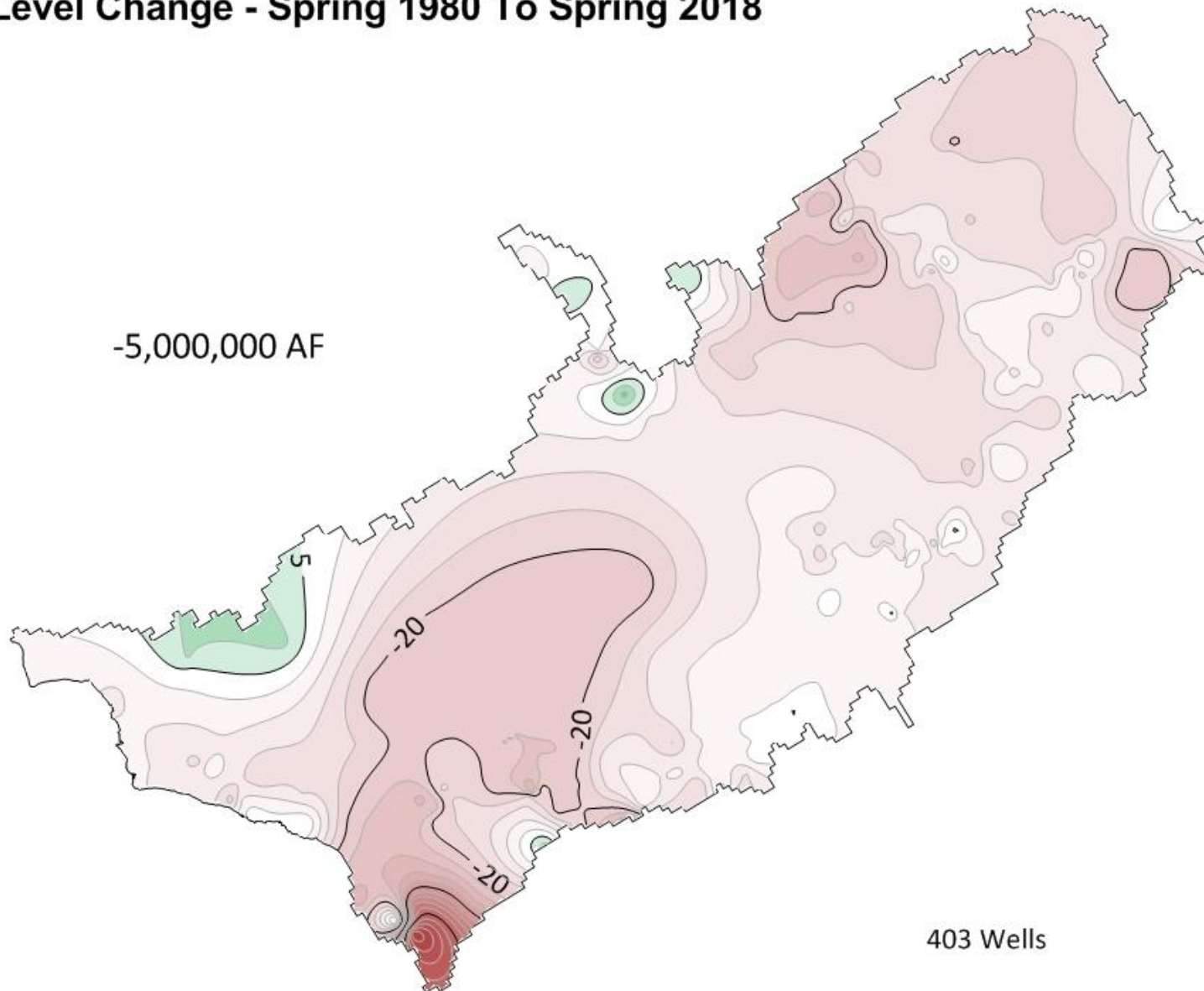
Water Level Change - Spring 1980 To Spring 2018



Water Level Change (ft)



-5,000,000 AF



403 Wells

In Summary...

- CGWAs continue to be problematic
- Lesser declines in parts of other systems
- IDWR will continue monitoring, reporting, and analyzing
- Next: Idaho Water Board Activities

