



IDAHO
Water Resource Board



ESPA Aquifer Storage Changes – Updated to 2013

Presented by Mike McVay, P.E., P.G.
February 14, 2014

Aquifer Water Balance

$$\text{Inflow} - \text{Outflow} = \Delta\text{Storage}$$

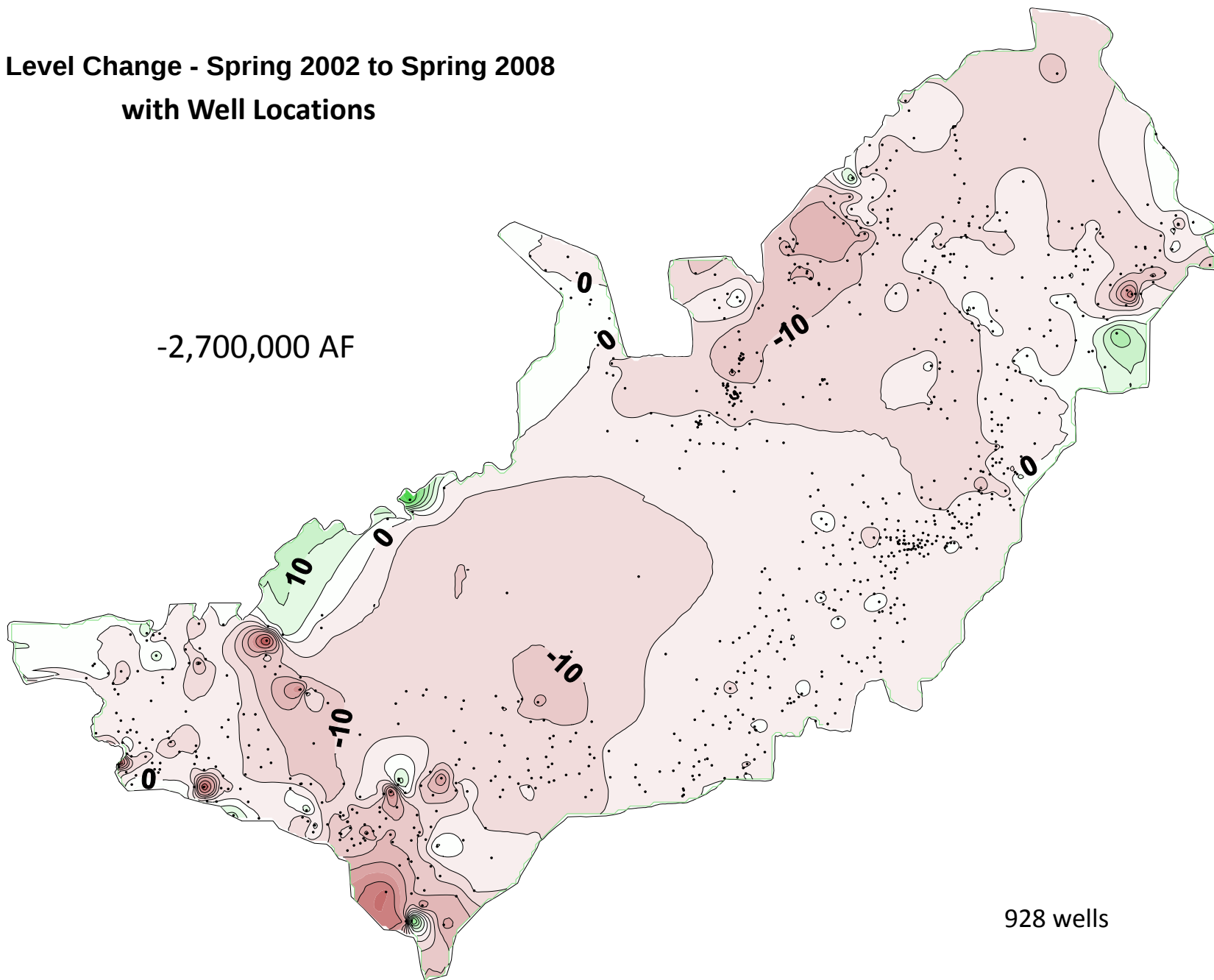
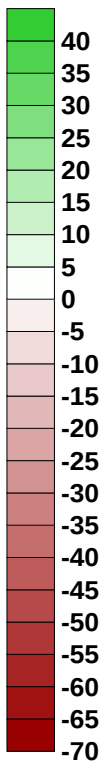
ESPA Inflows = Incidental recharge from SW irrigation, Canal Seepage, Perched River Seepage, Tributary Underflow, Precipitation.

ESPA Outflows = Evapotranspiration, Spring Discharge, Well Pumping

We can use estimates of aquifer storage to generate an aquifer “history.”

Water Level Change - Spring 2002 to Spring 2008 with Well Locations

Water Level
Change (ft)



1265 Wells

Legend

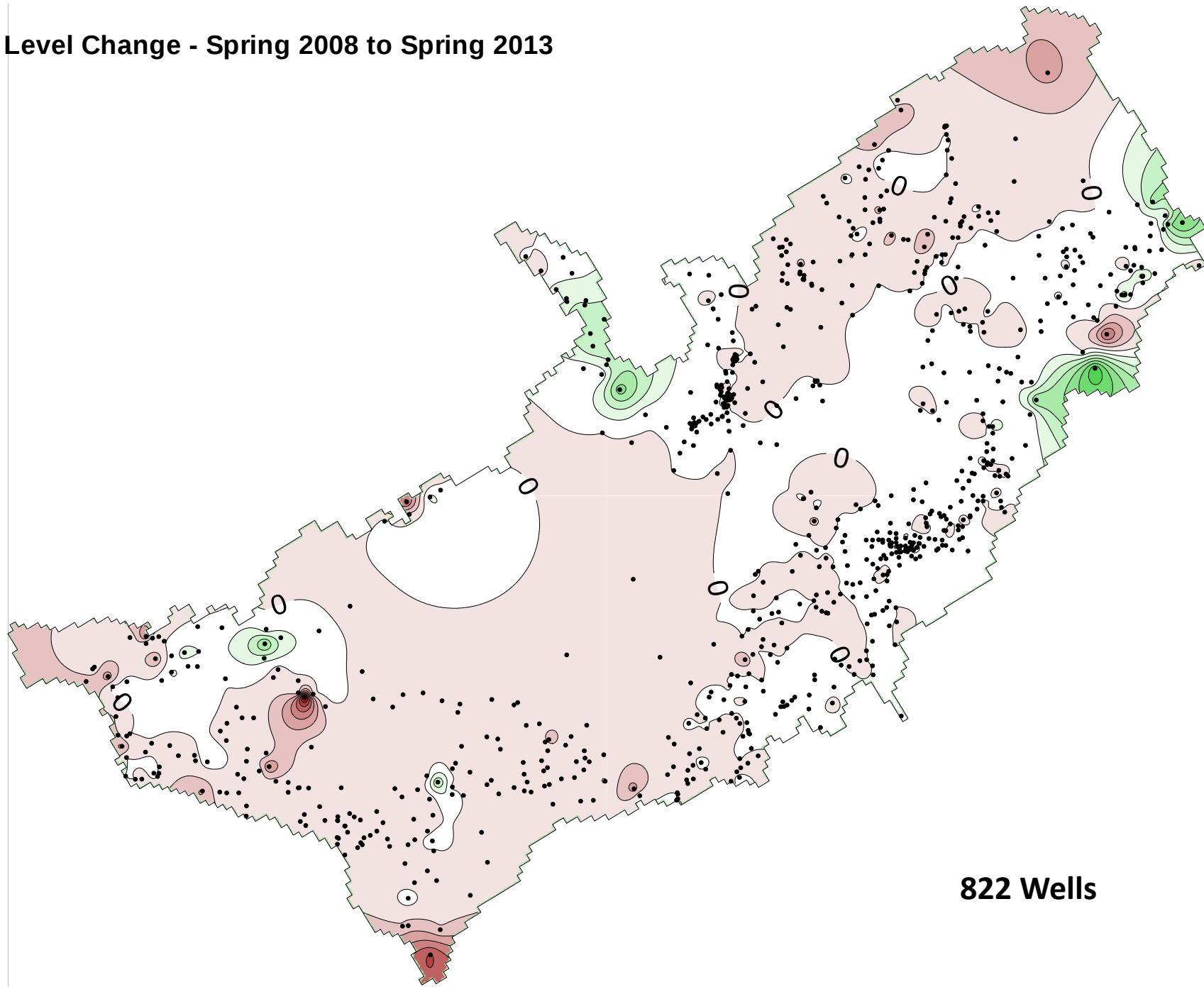
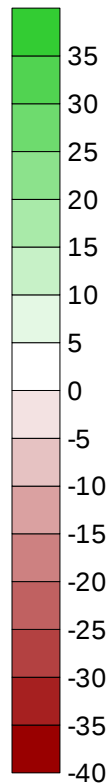
- 2013_Synoptic_Wells
- ESPAM2_ModelGrid_boundary



0 5 10 20 30 Miles

Water Level Change - Spring 2008 to Spring 2013

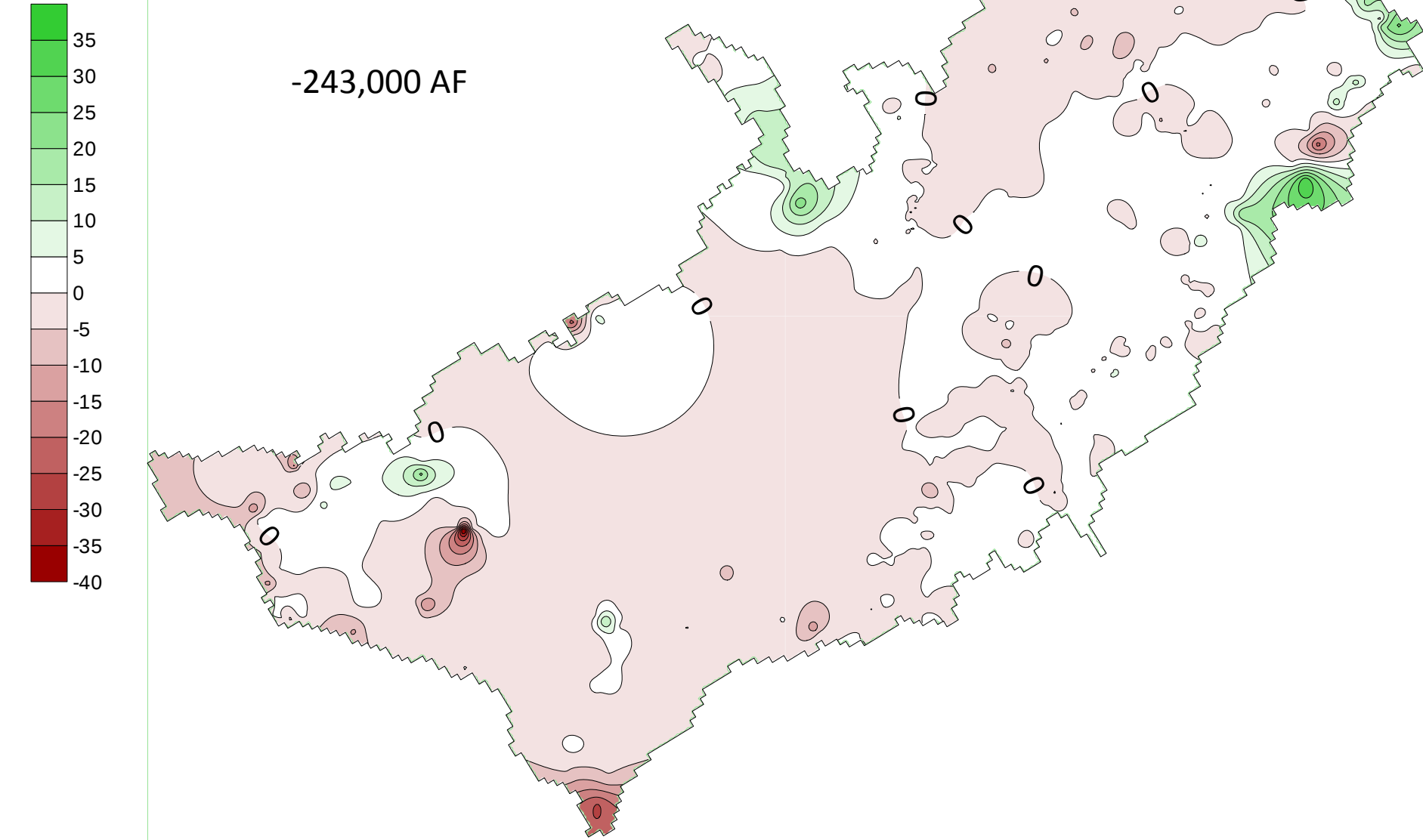
Water Level
Change (ft)



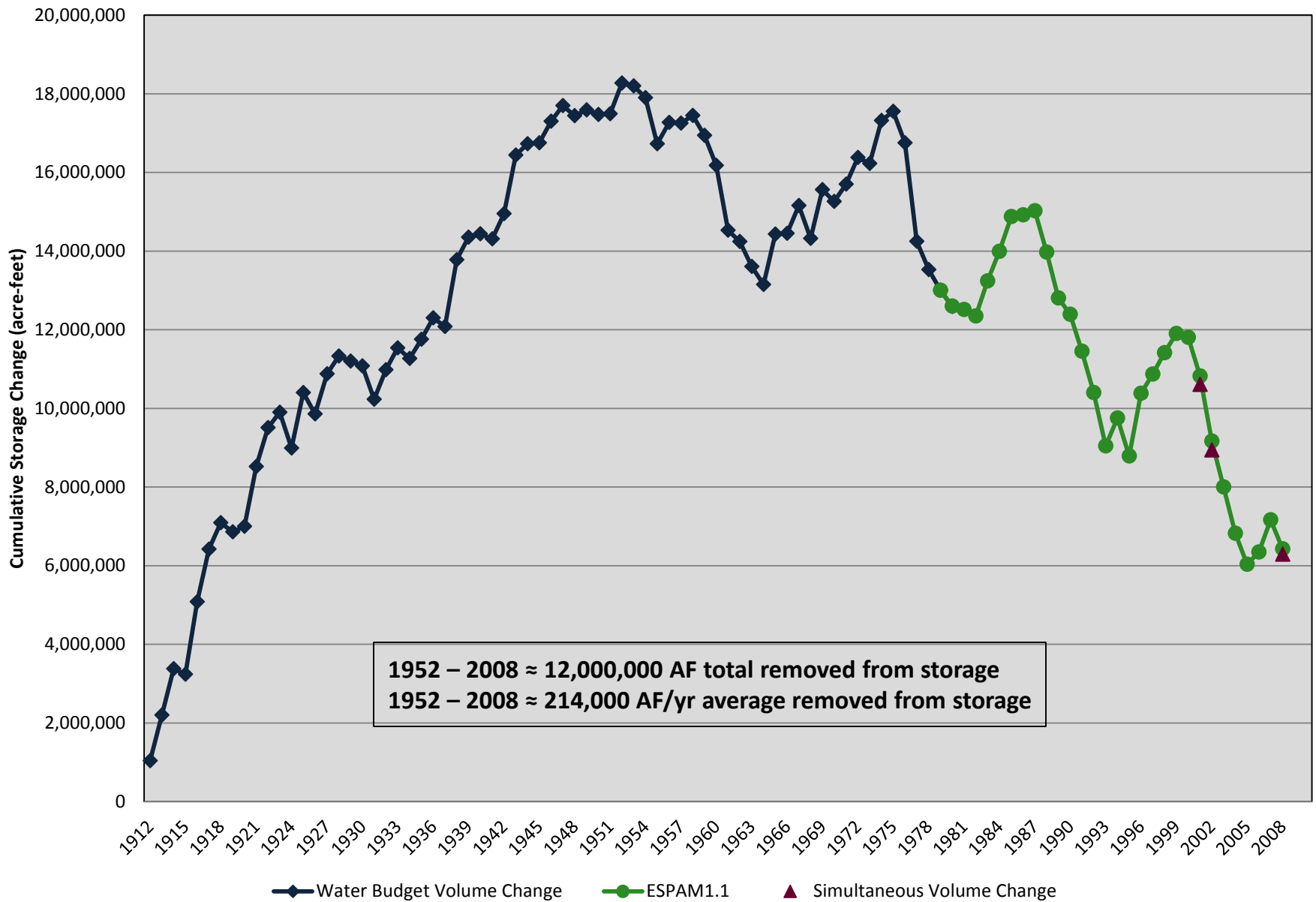
Water Level Change - Spring 2008 to Spring 2013

Water Level
Change (ft)

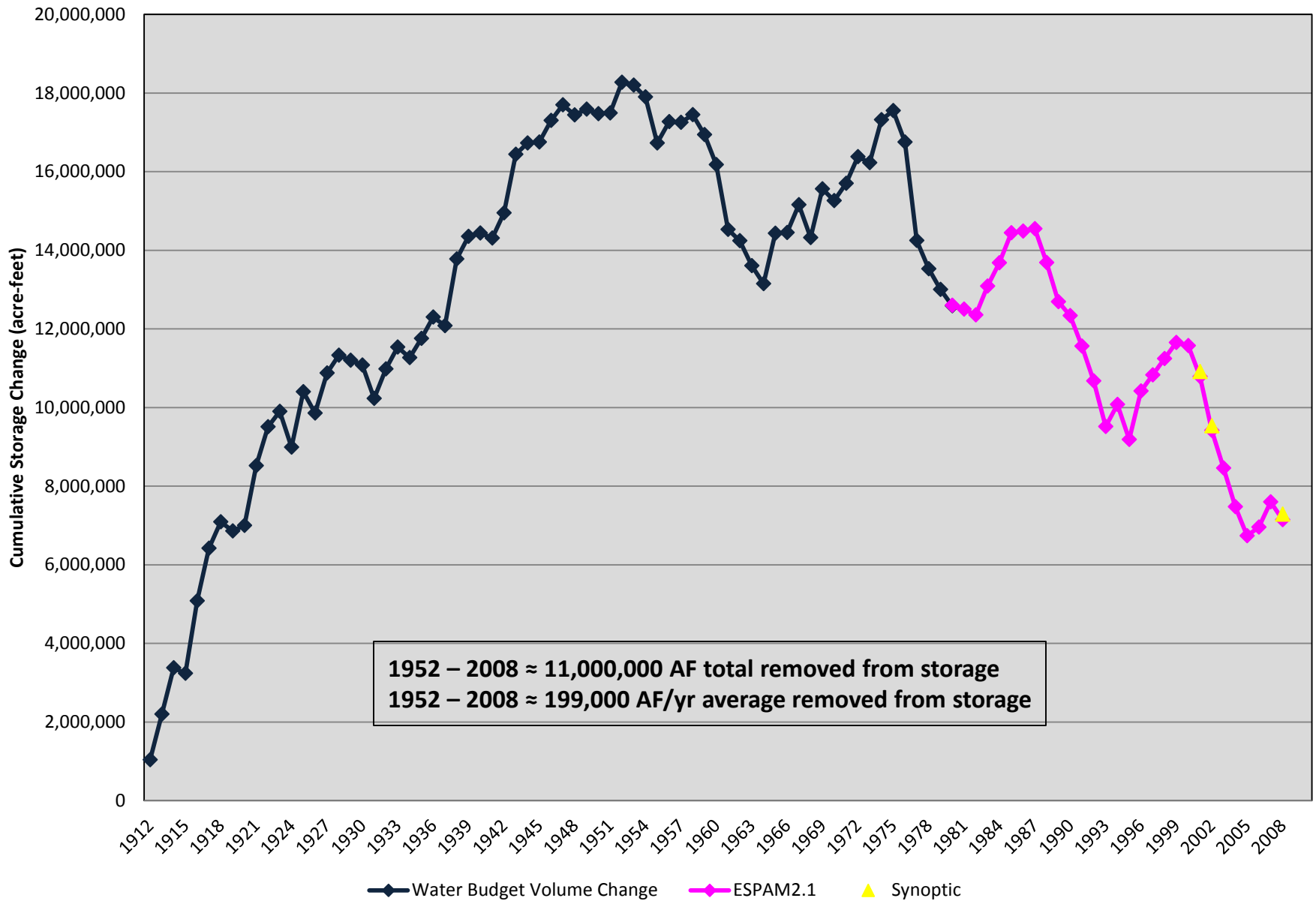
-243,000 AF



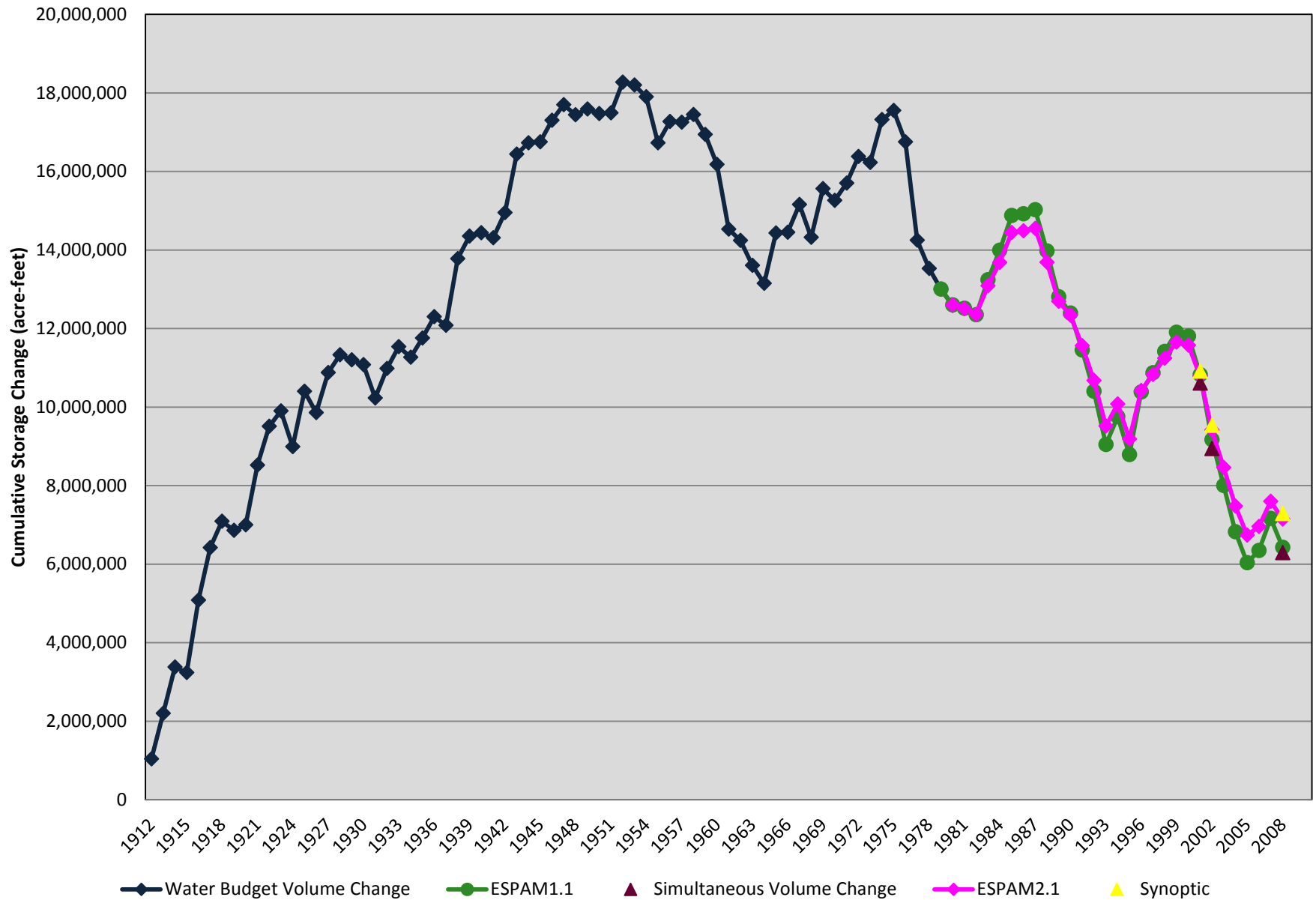
Cumulative Volume Change of Water Stored Within ESPA – ESPAM1.1



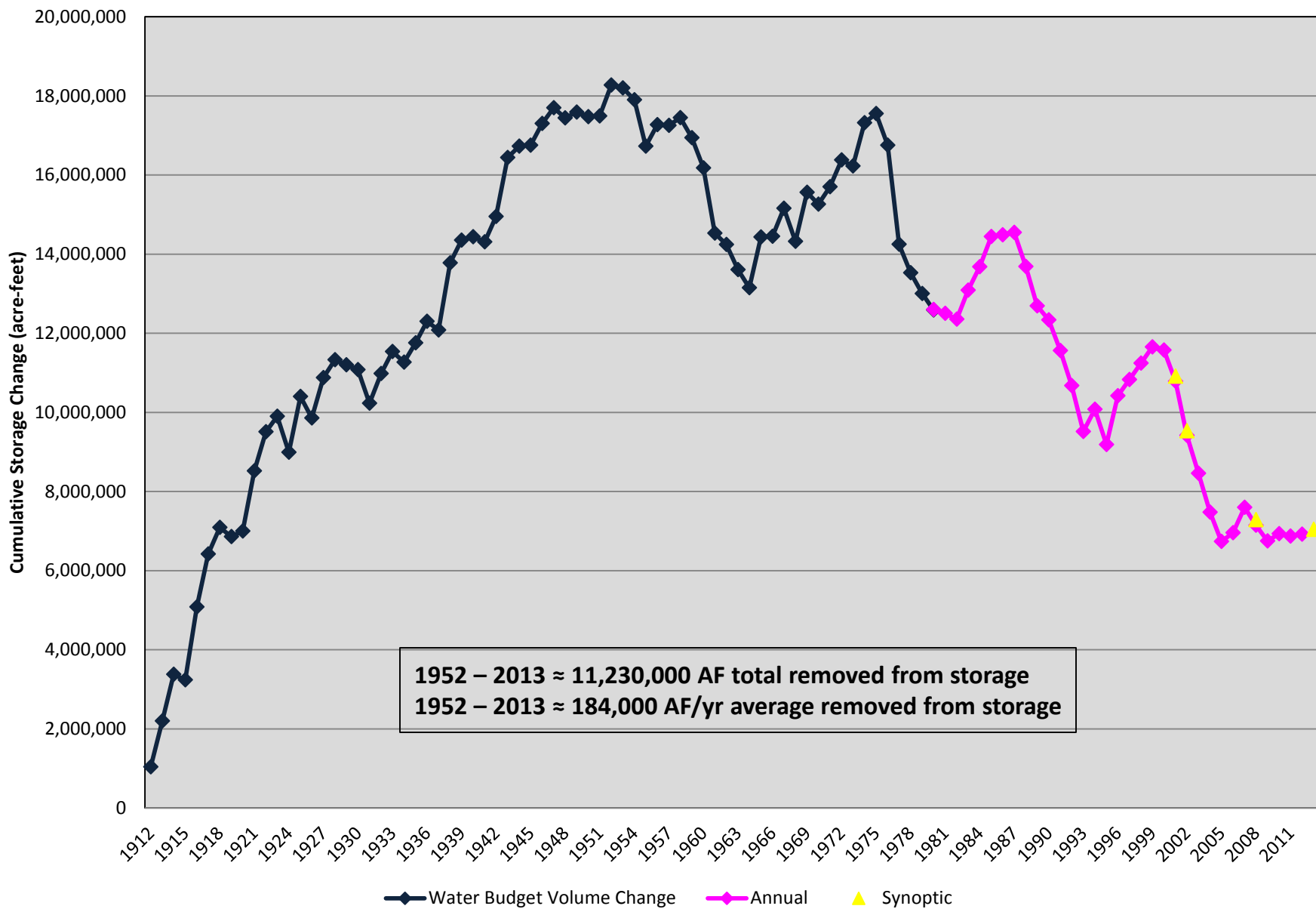
Cumulative Volume Change of Water Stored Within ESPA – ESPAM2.1



Cumulative Volume Change of Water Stored Within ESPA – Compare

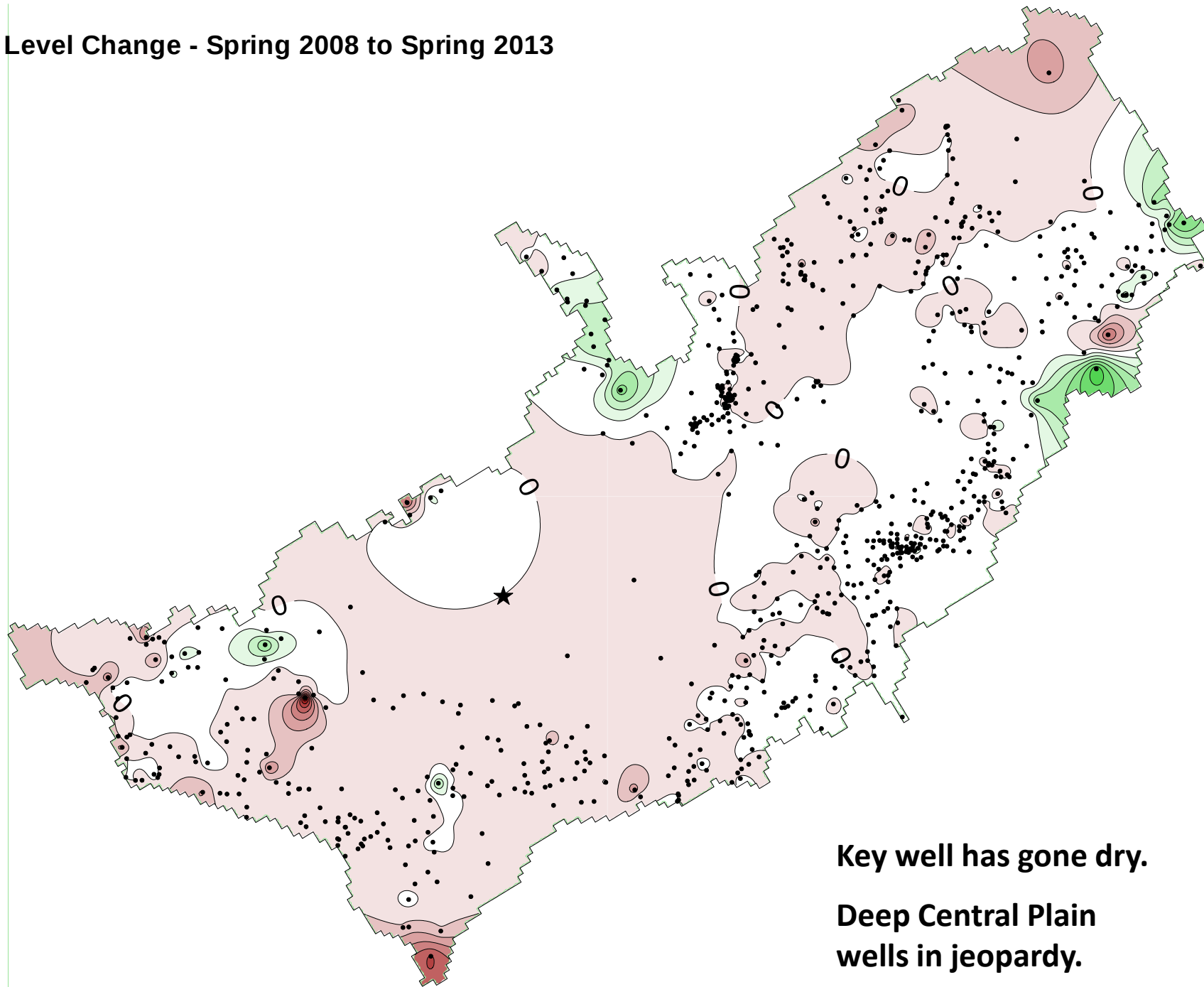
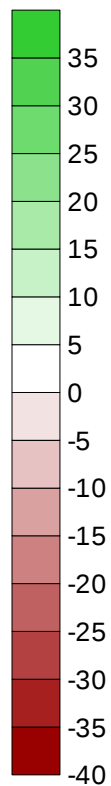


Cumulative Volume Change of Water Stored Within ESPA – ESPAM2.1



Water Level Change - Spring 2008 to Spring 2013

Water Level
Change (ft)



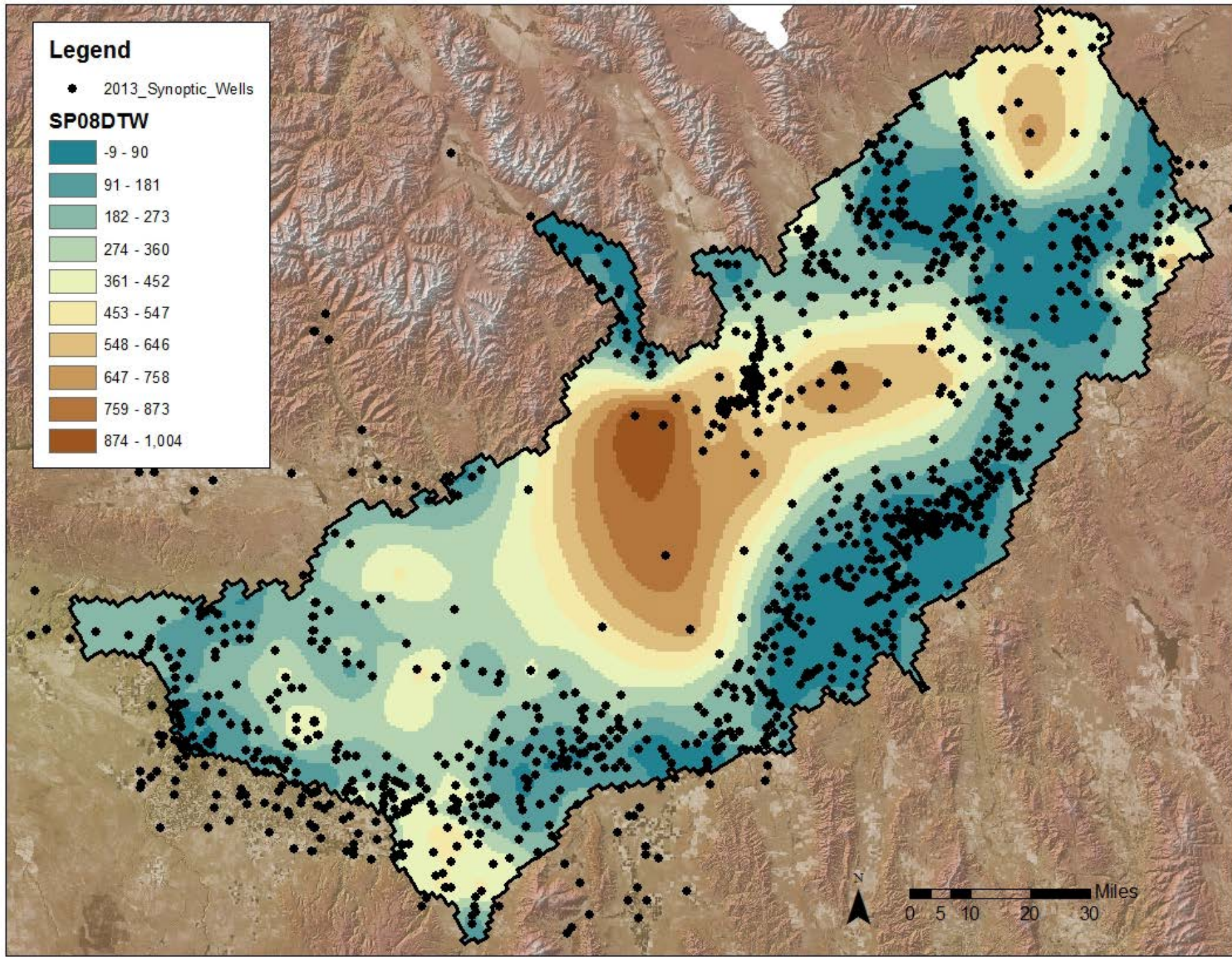
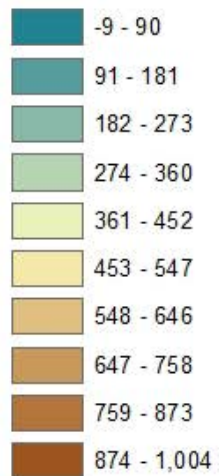
Key well has gone dry.

**Deep Central Plain
wells in jeopardy.**

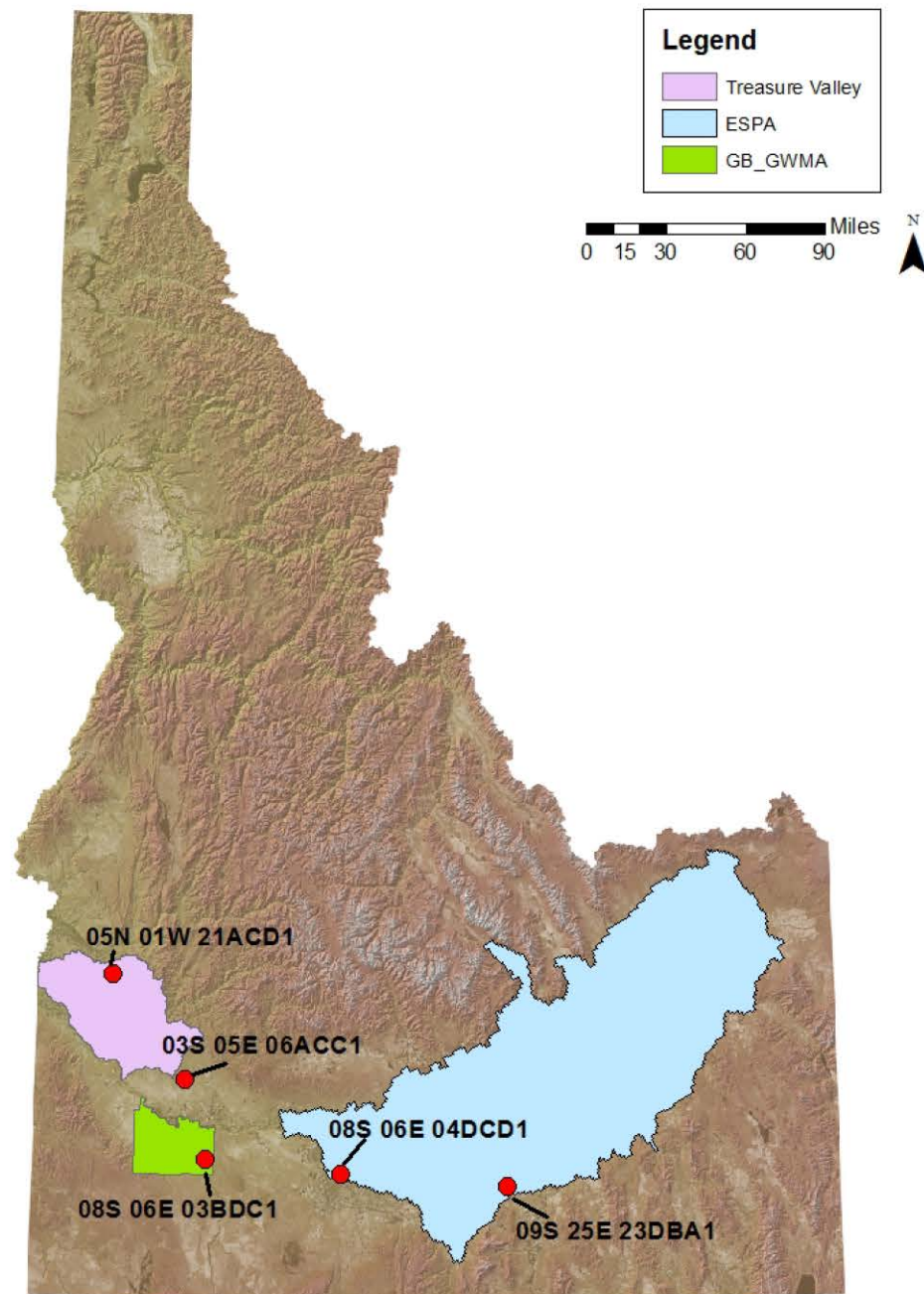
Legend

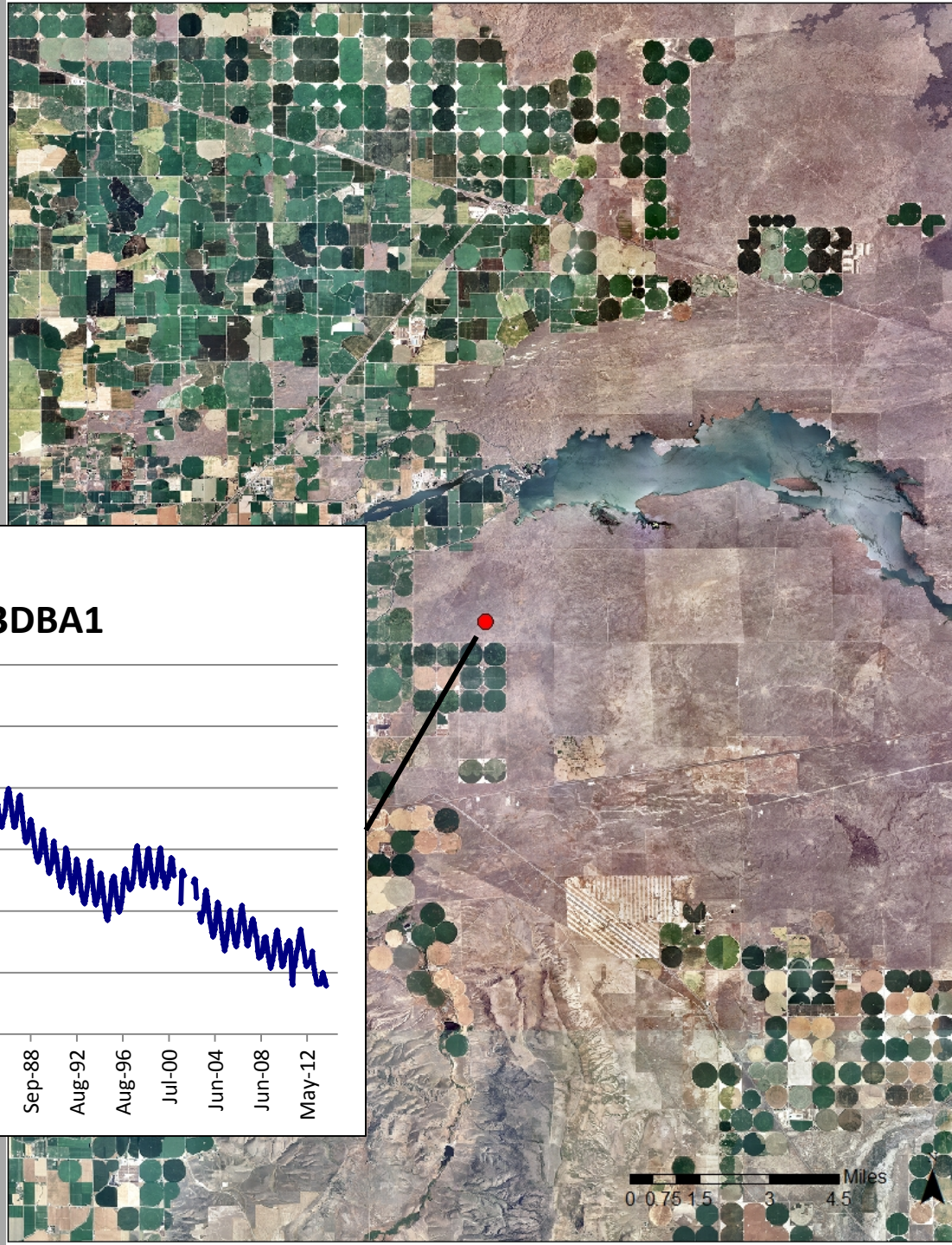
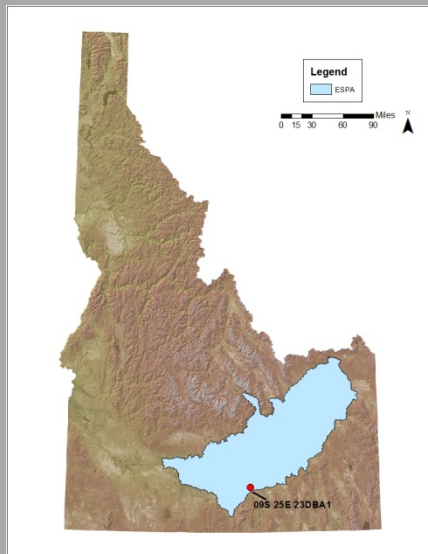
• 2013_Synoptic_Wells

SP08DTW

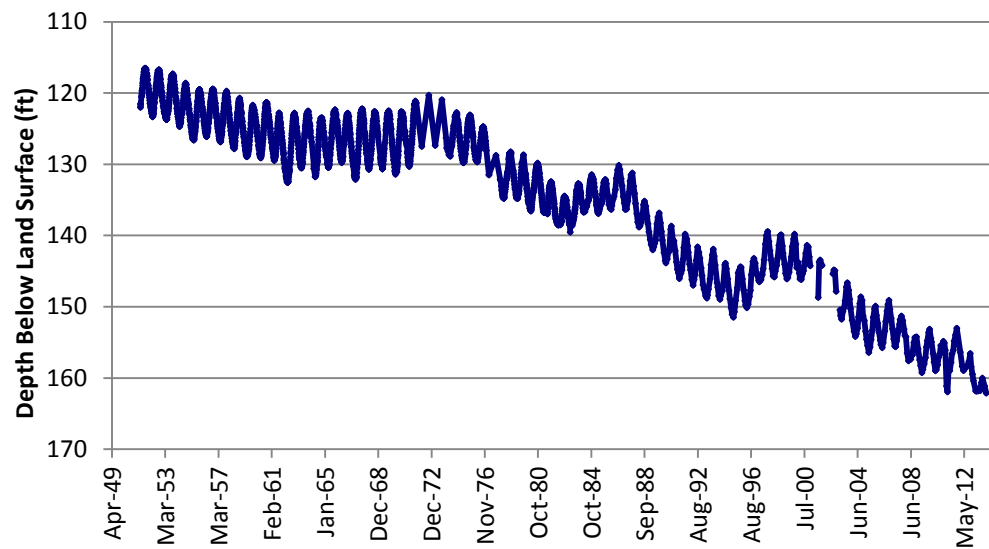


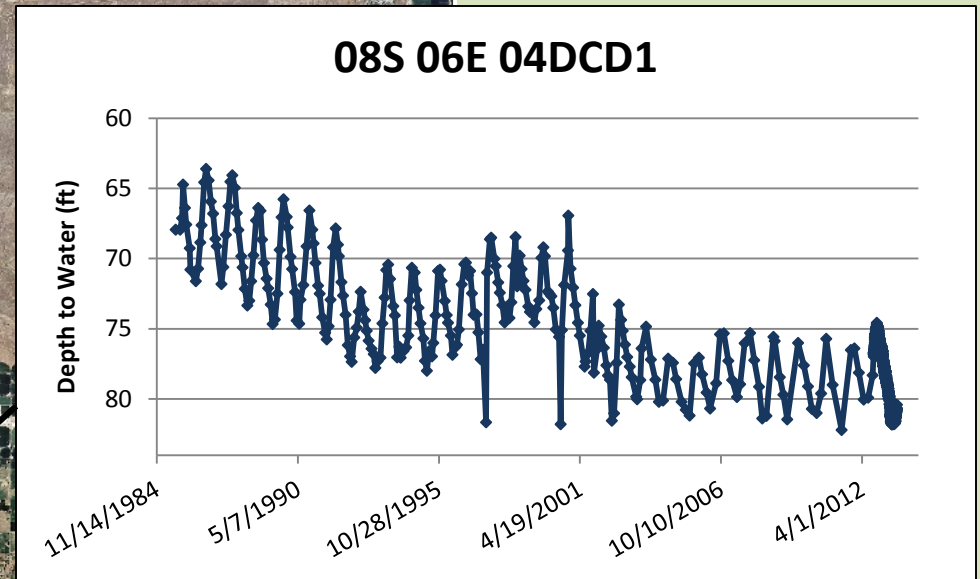
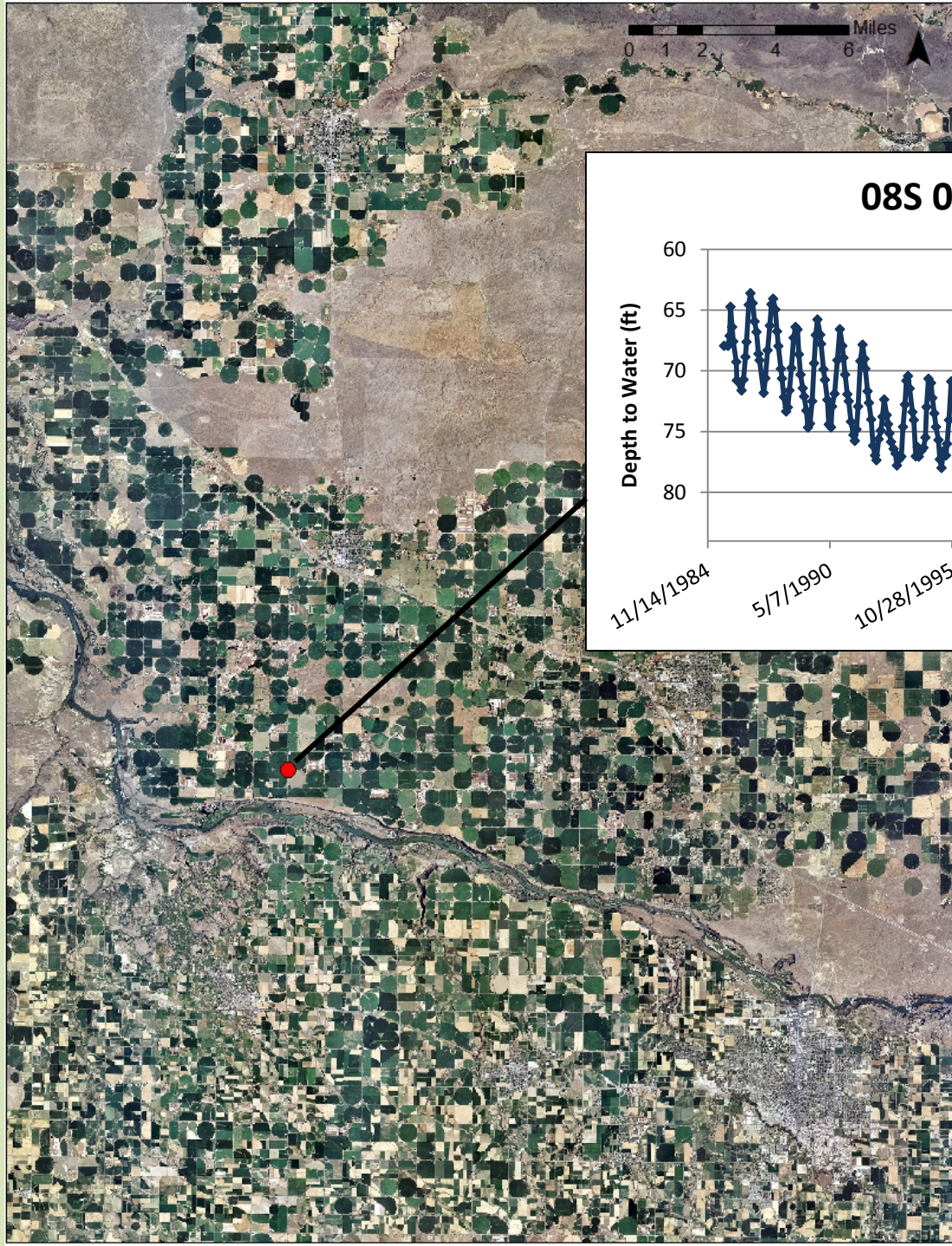
0 5 10 20 30 Miles

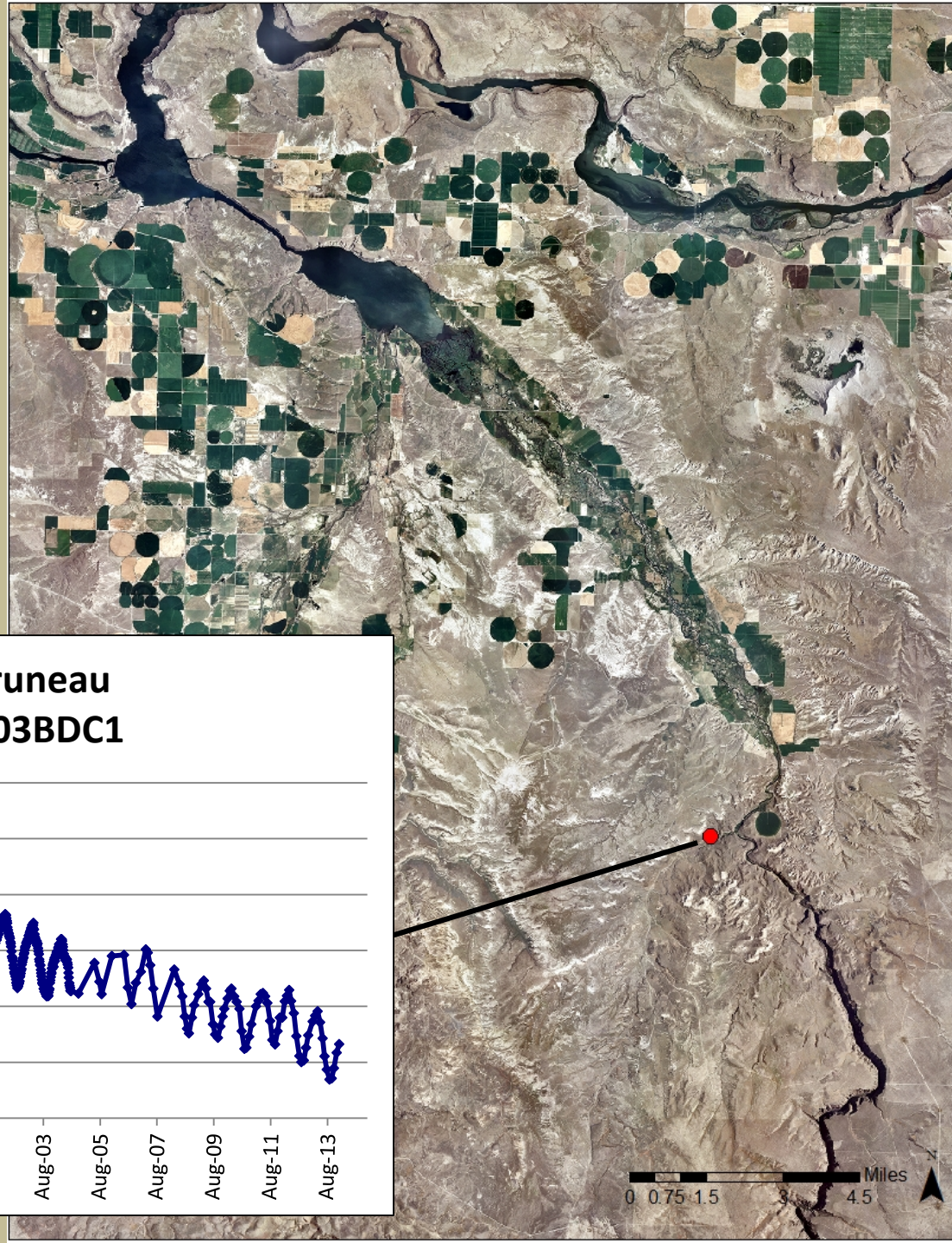
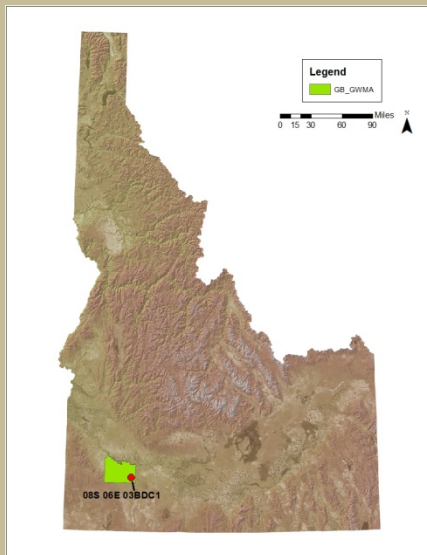




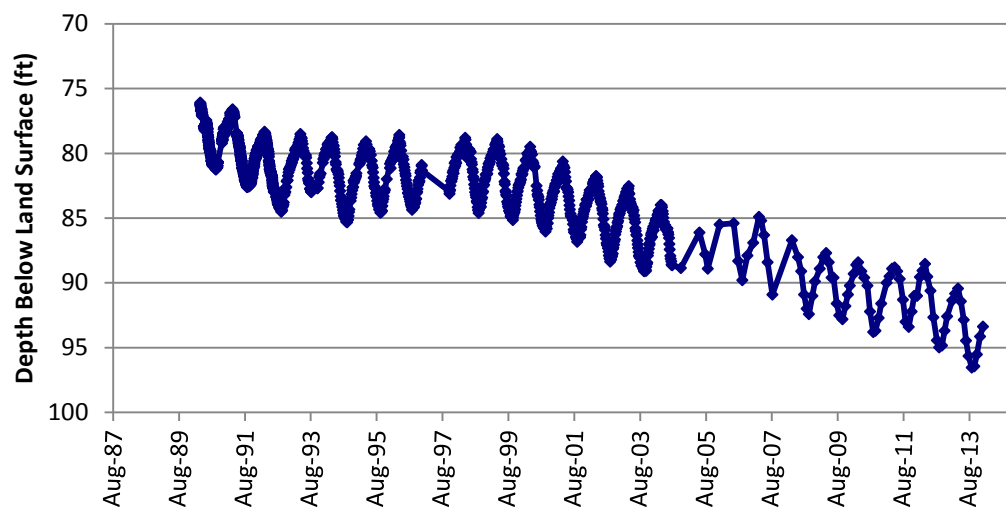
ESPA Well #09S 25E-23DBA1

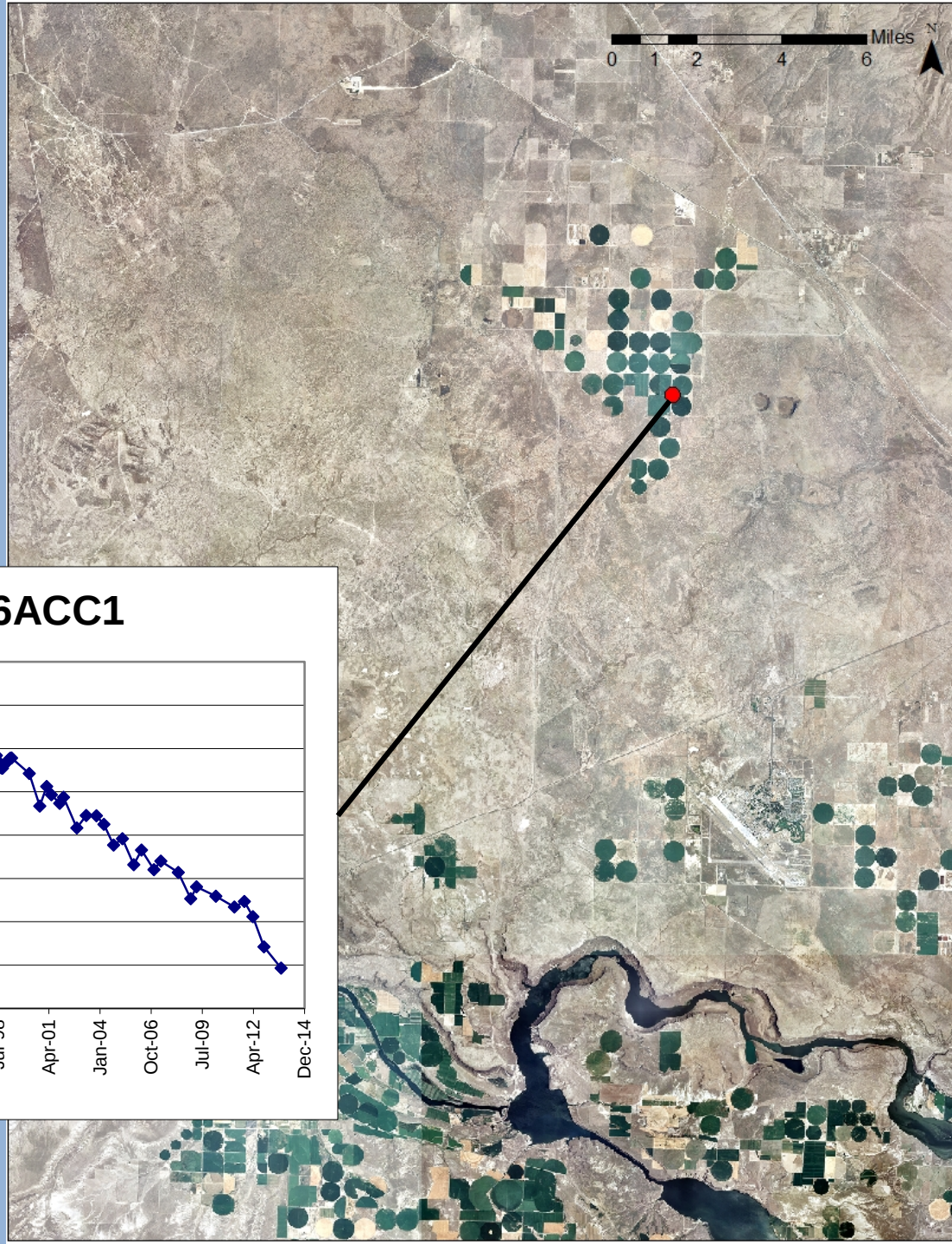
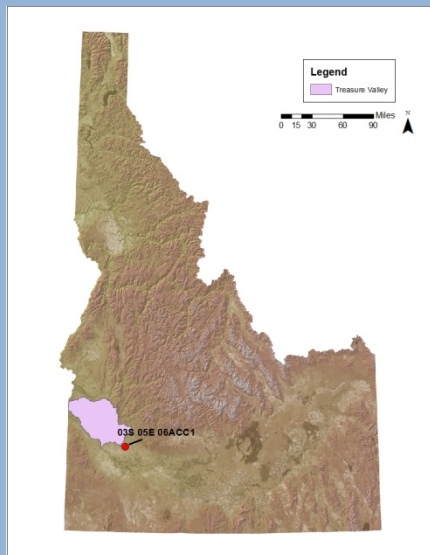




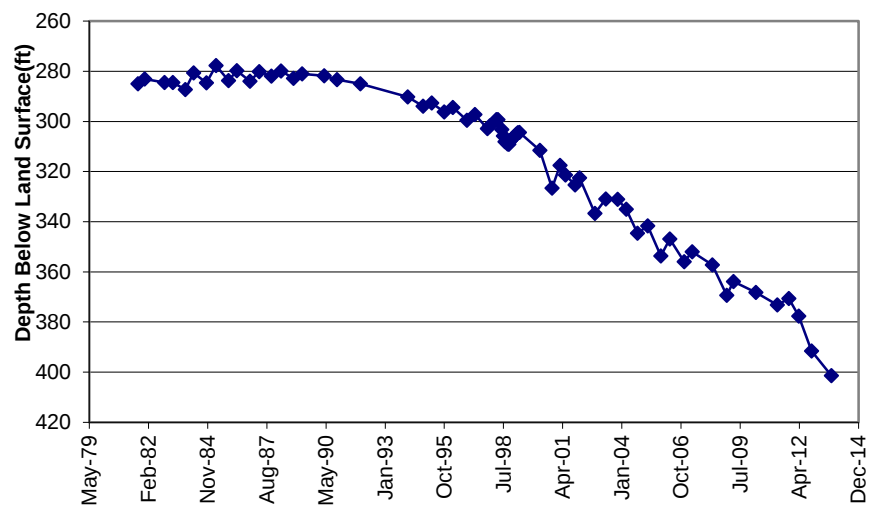


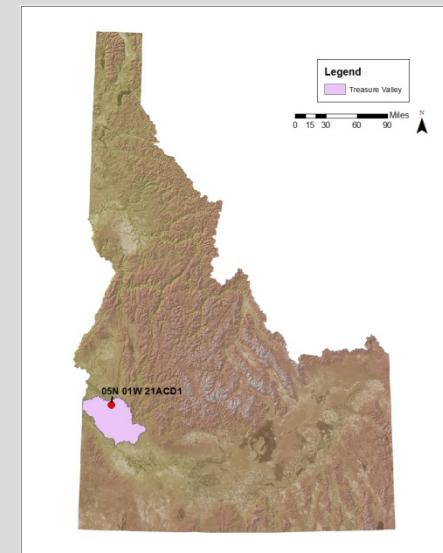
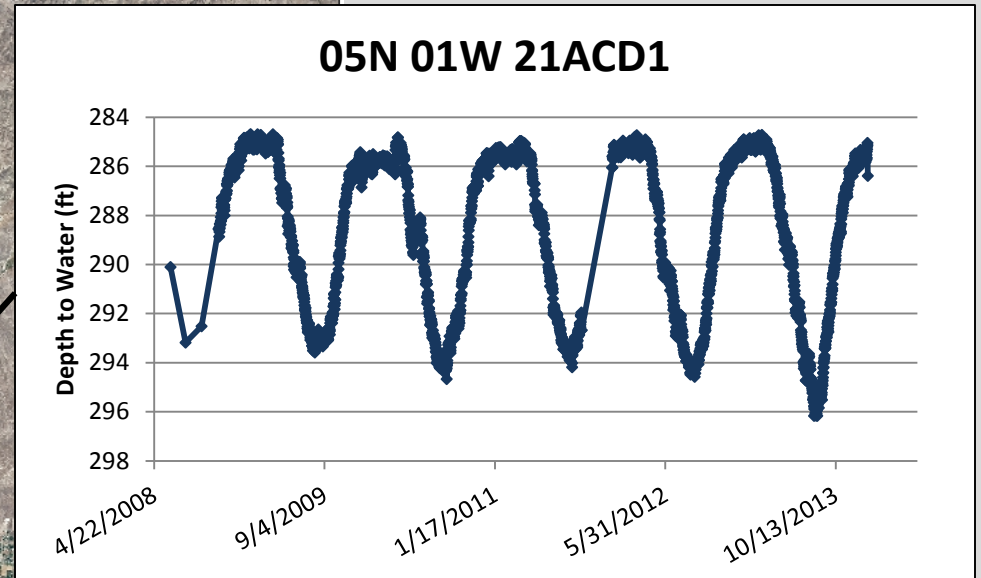
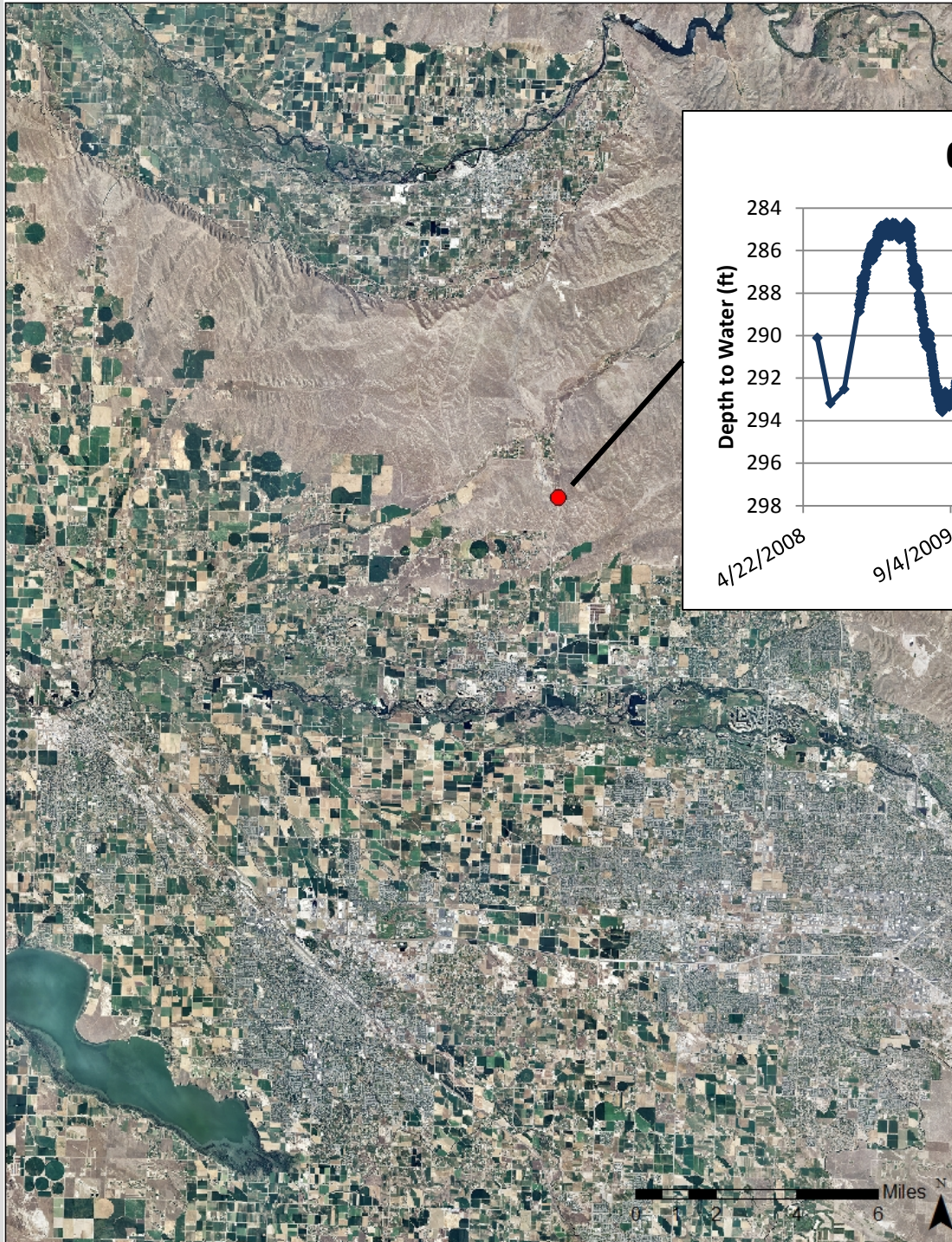
**Grand View-Bruneau
Well #08S 06E-03BDC1**





03S05E-06ACC1





Discussion.