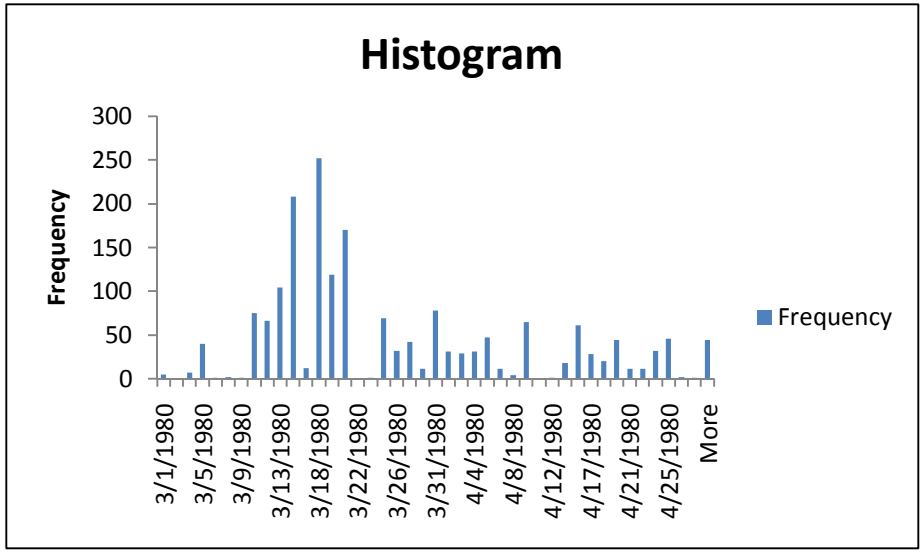
ESPA Synoptic Water Level Measurements

Mike McVay

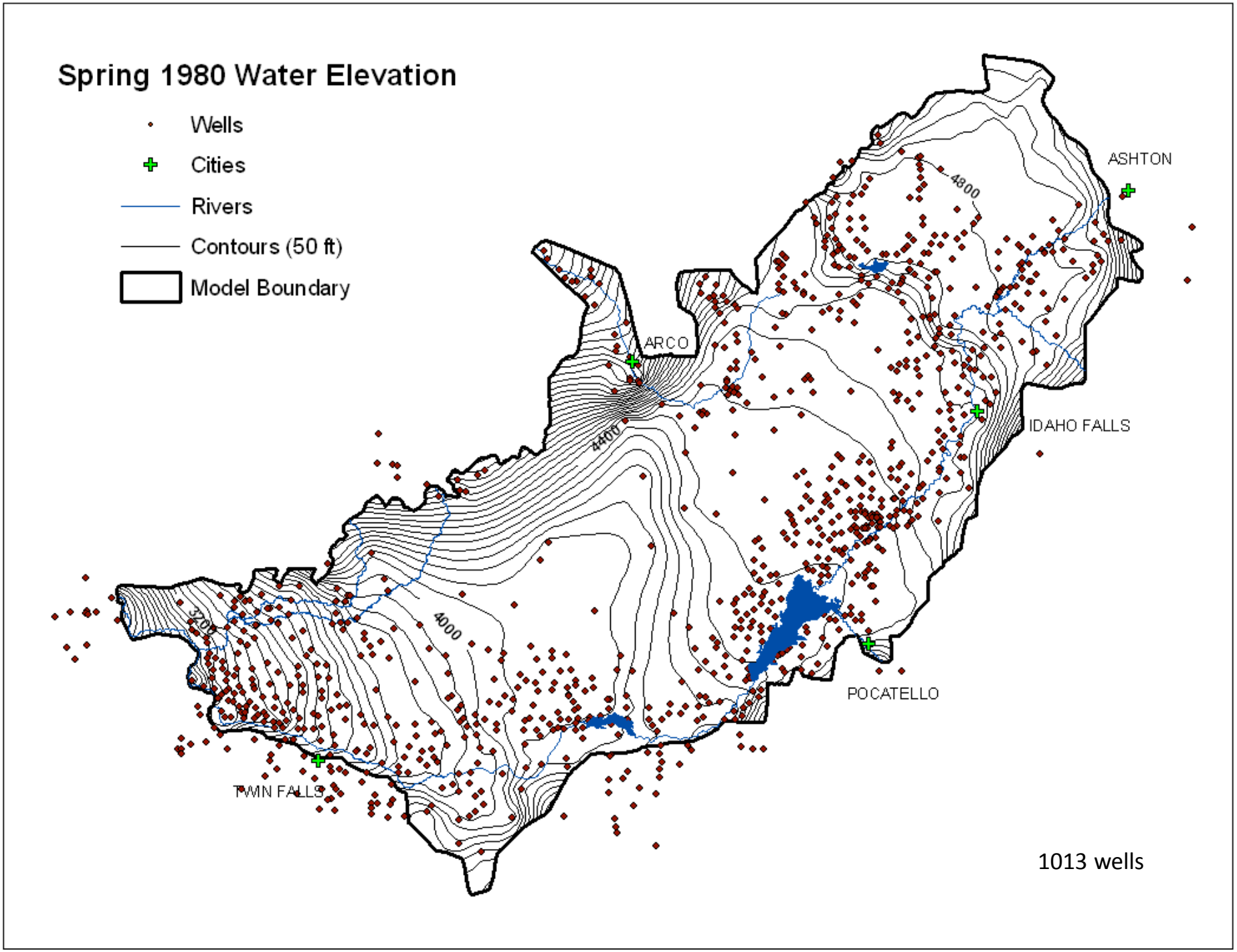
9/14/2010

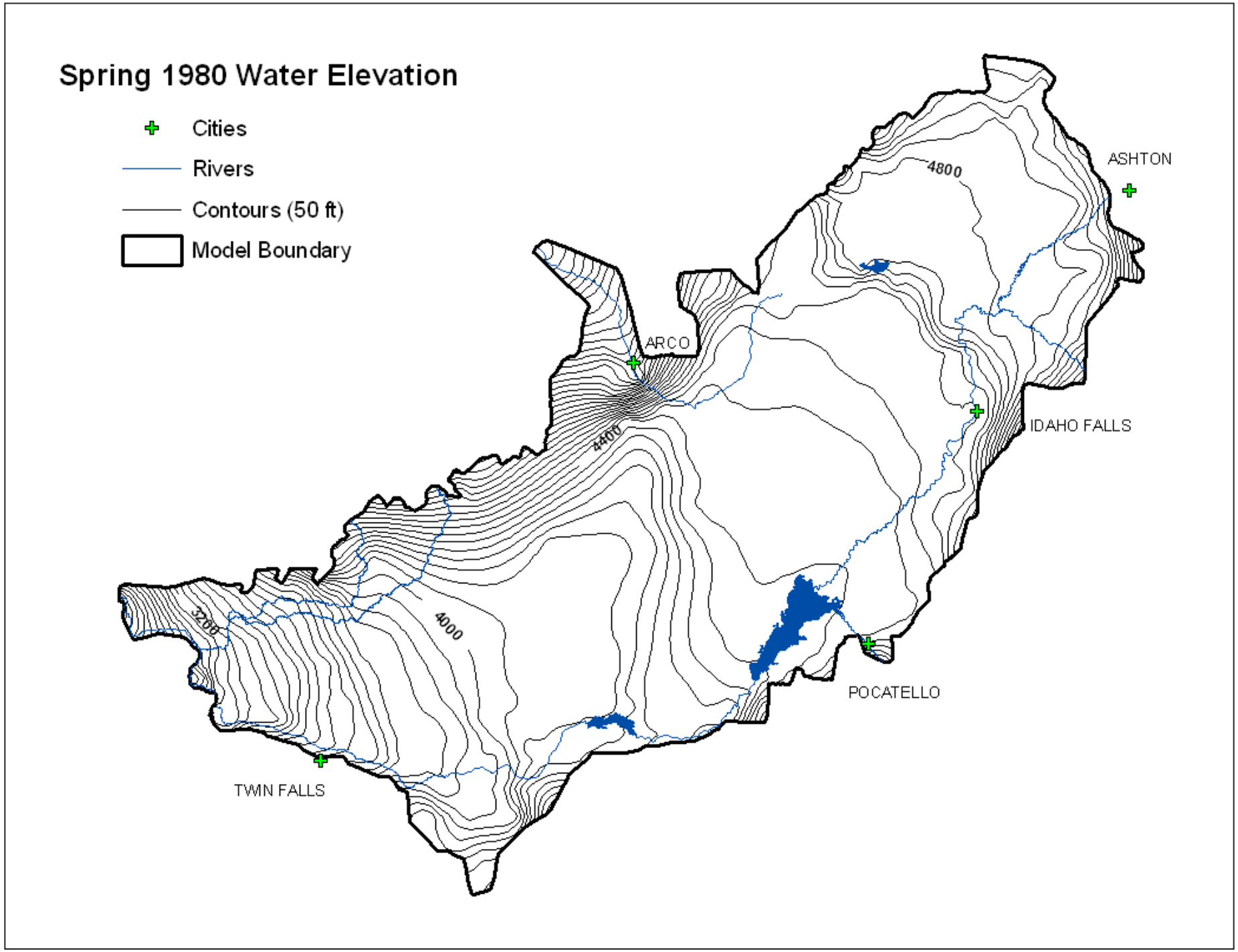
How to Choose Synoptic Water Level Data

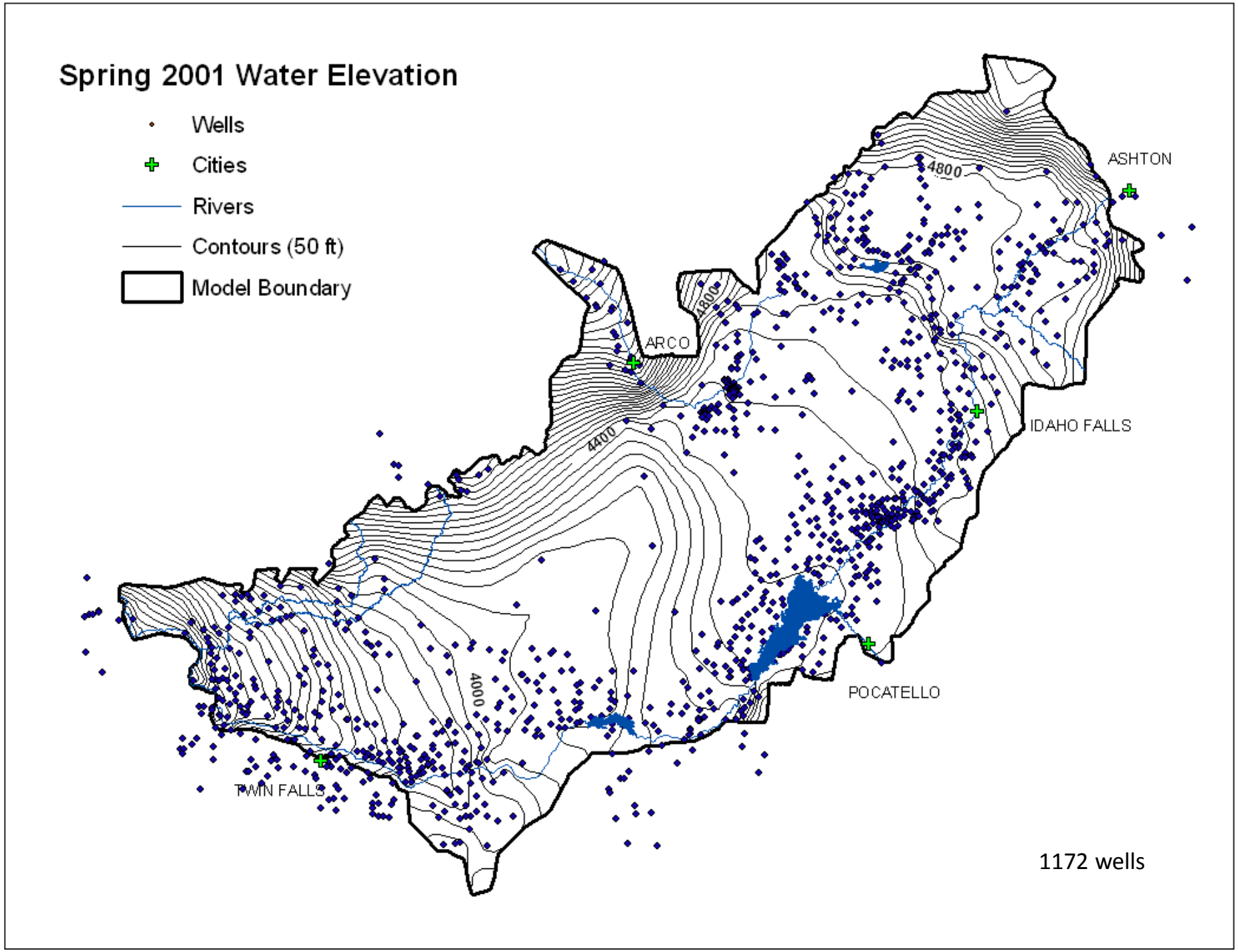


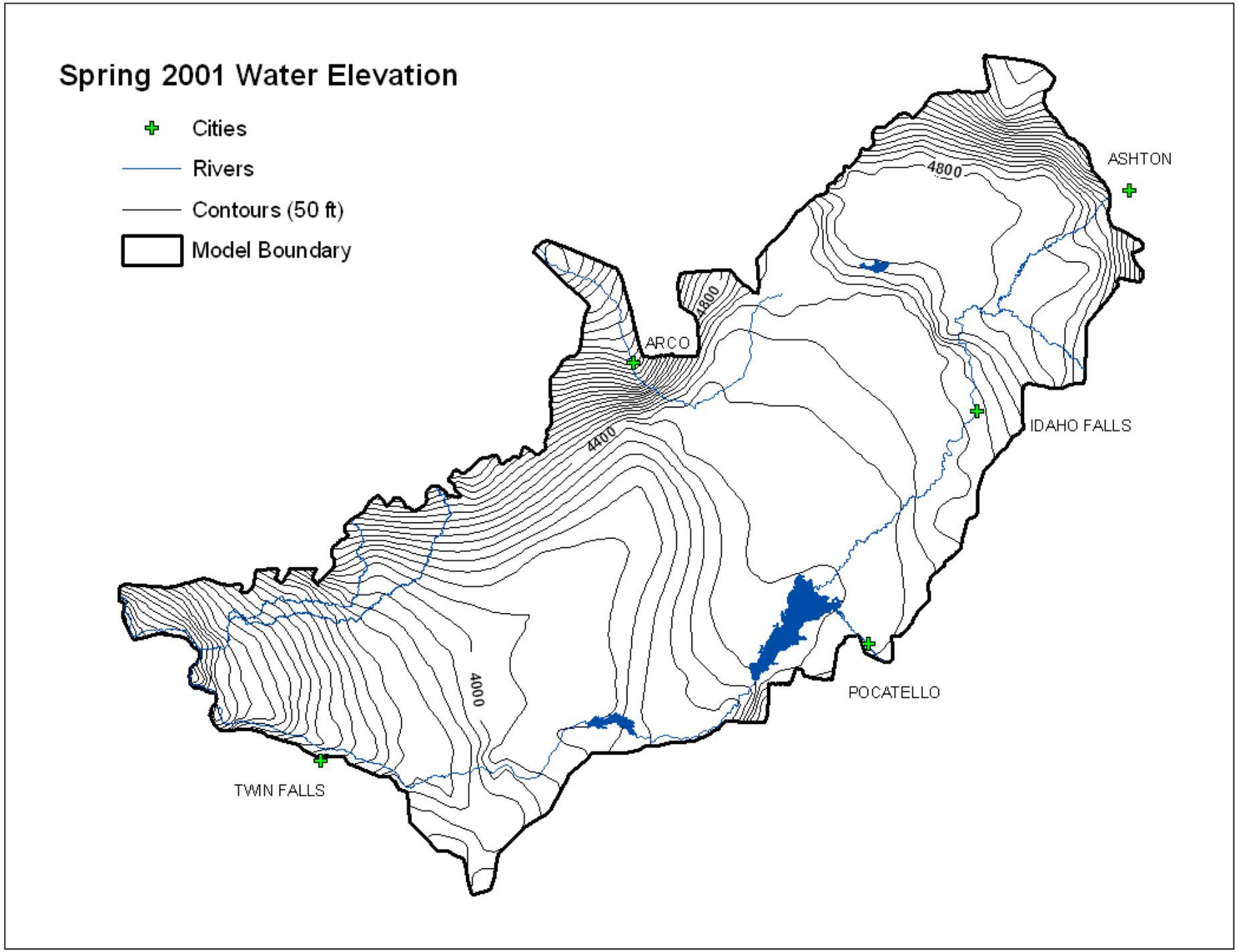
1. Query database for general time period.
   1. Date ranges set for 1980 – 2002.
2. Choose dates closest to median date.
   1. Unless other information dictates another date (pumping, foreign substance, etc.)
3. Use 10m NED and surveyed elevations to calculate water level from DTW measurements.
4. Remove perched or otherwise inappropriate wells.
   1. Perched
   2. Not in regional aquifer
   3. Pumping
5. Contour data and look for problems.
6. Iterate until satisfied.

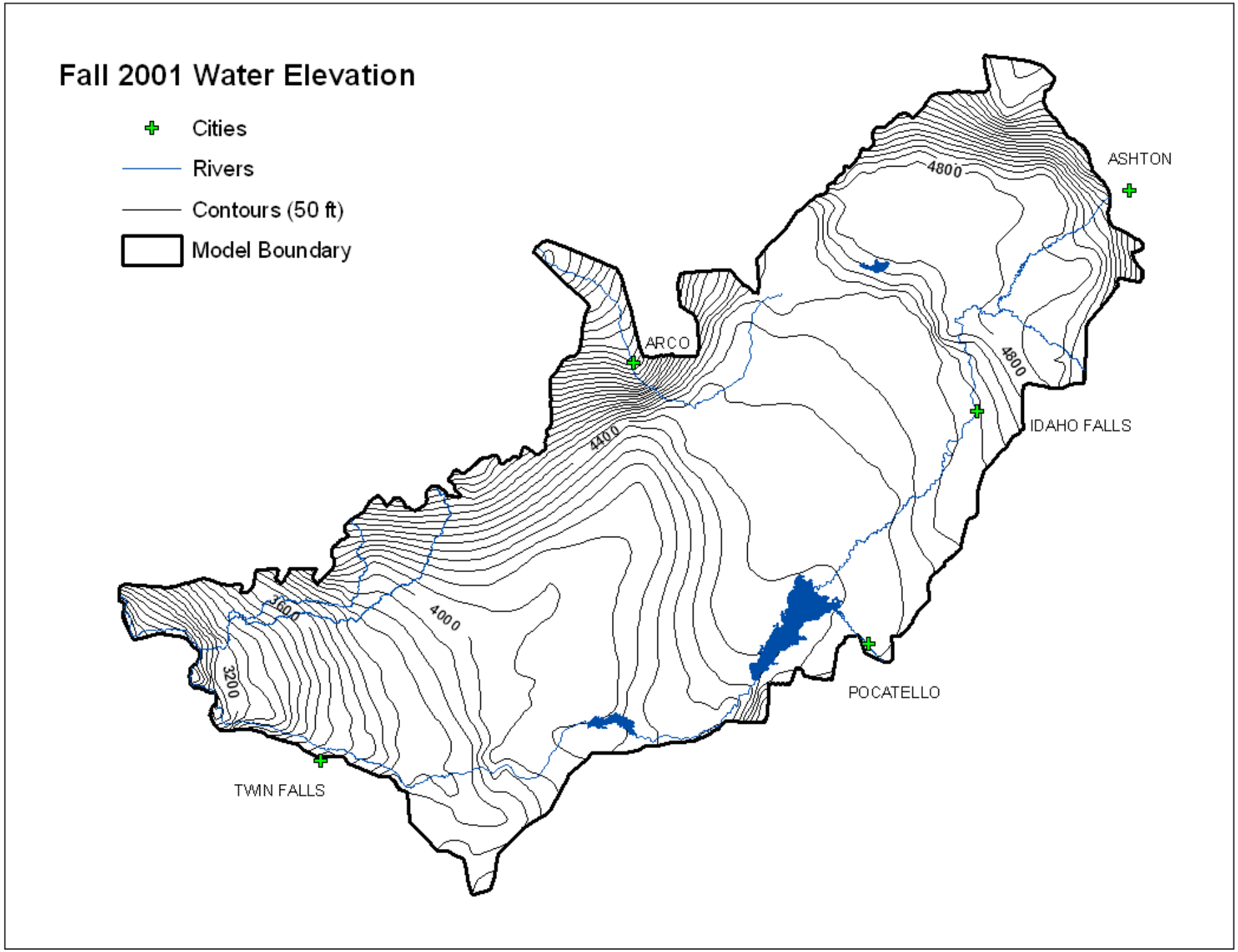
DATE_CHOICE | 1980_ALL_DATA | 1980_ALL_LOG | 1980_DATA_USE | 1980_USABLE_LOG | 1980_ELEV | 1980_remove

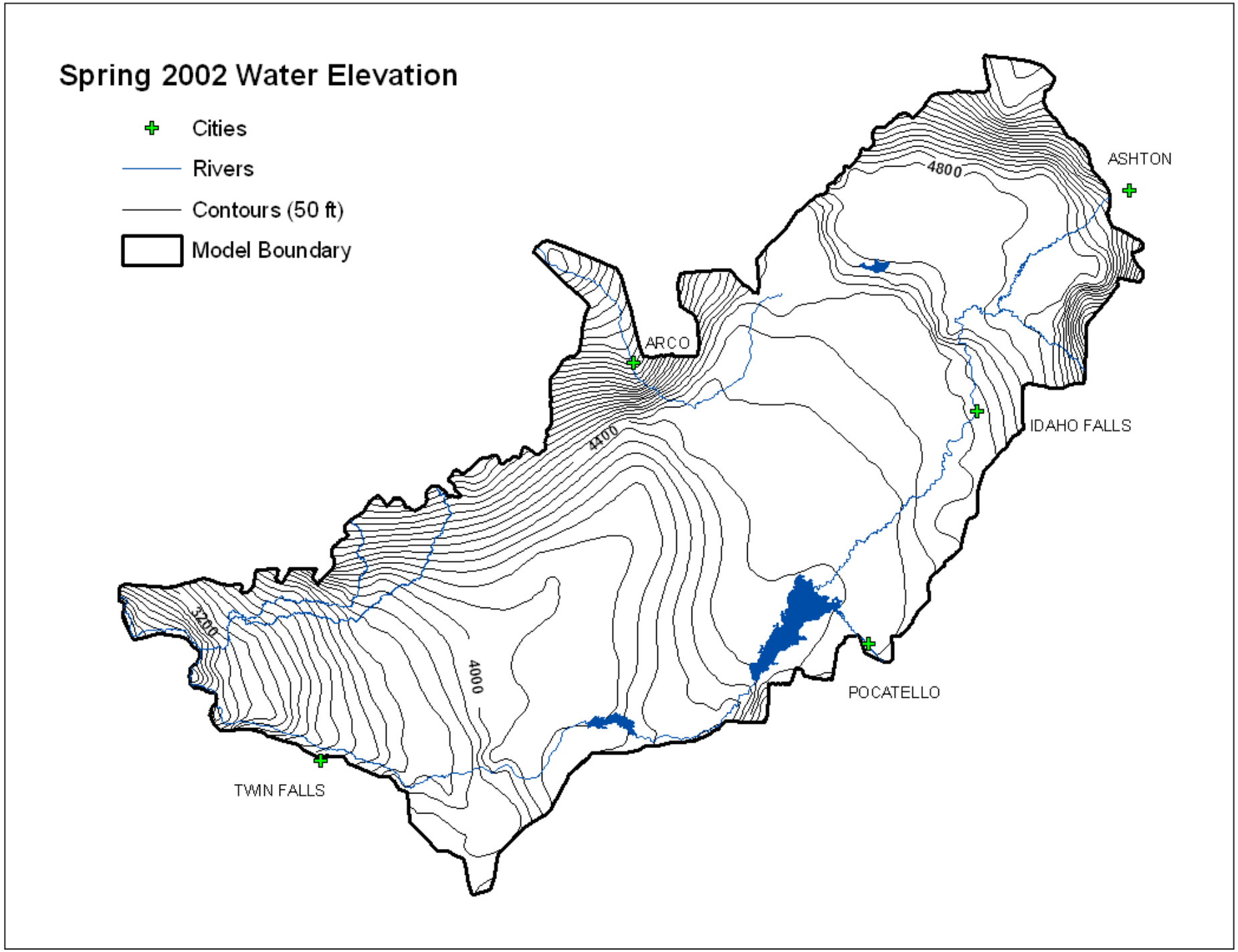

Spring 1980 Water Elevation
Wells
Cities
Rivers
Contours (50 ft)
Model Boundary
ASHTON
4800
ARCO
4400
IDAHO FALLS
4000
3200
POCATELLO
TWIN FALLS
1013 wells

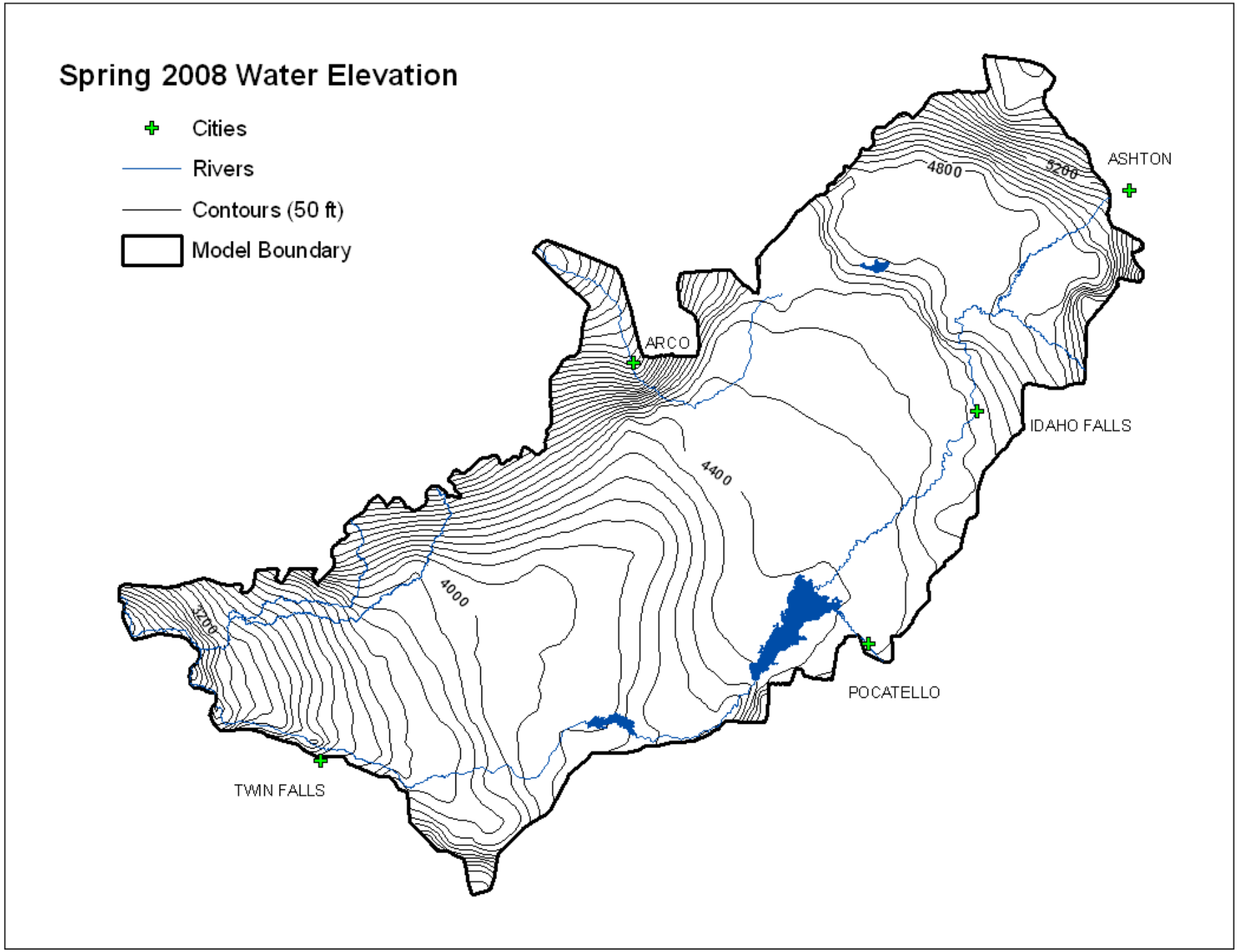

Spring 1980 Water Elevation
Cities
Rivers
Contours (50 ft)
Model Boundary
ASHTON
4800
ARCO
4400
IDAHO FALLS
4000
3200
POCATELLO
TWIN FALLS

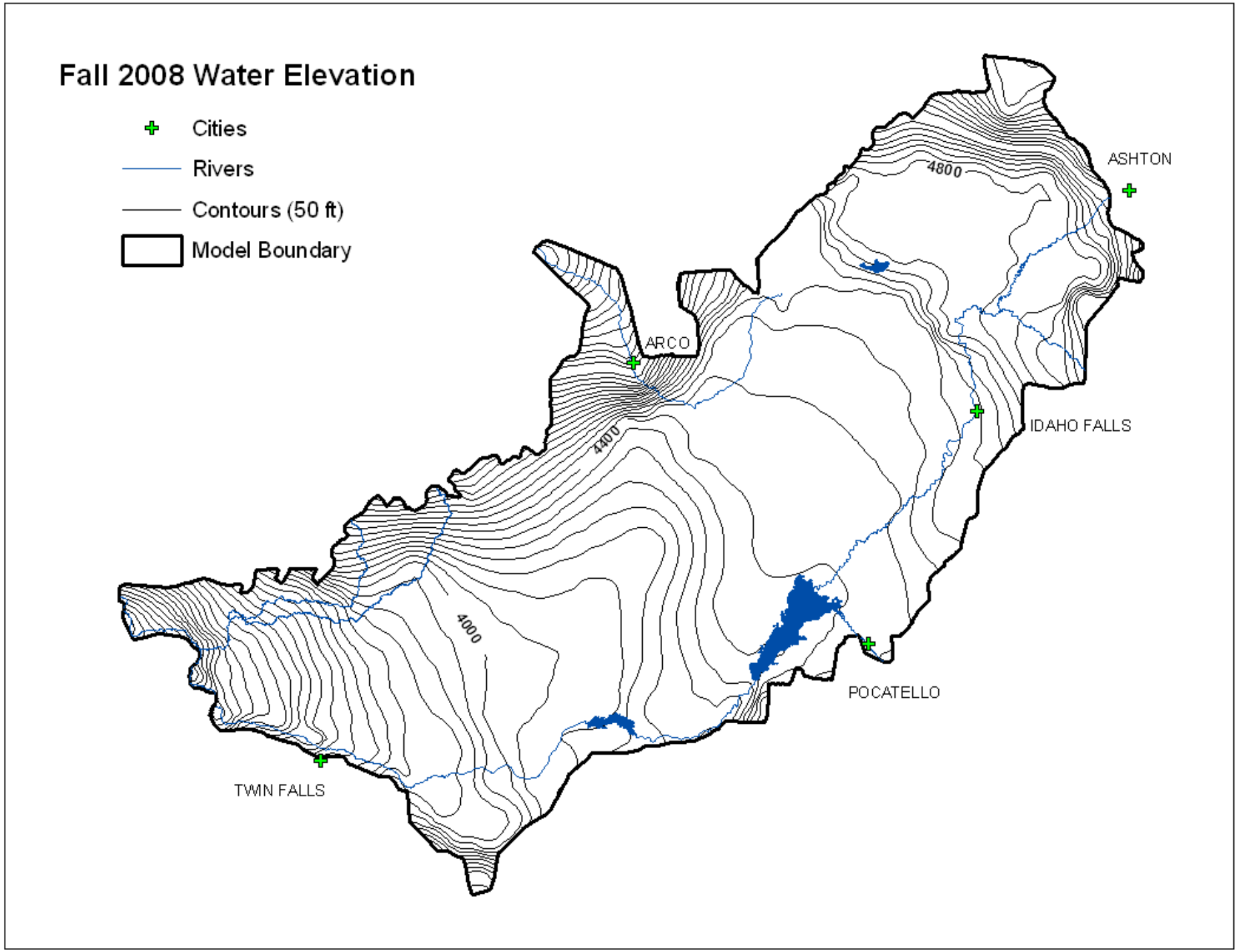

Spring 2001 Water Elevation
Wells
Cities
Rivers
Contours (50 ft)
Model Boundary
ASHTON
4800
ARCO
4800
4400
IDAHO FALLS
4000
POCATELLO
TWIN FALLS
1172 wells


Spring 2001 Water Elevation
Cities
Rivers
Contours (50 ft)
Model Boundary
ASHTON
4800
4800
ARCO
4400
IDAHO FALLS
4000
POCATELLO
TWIN FALLS

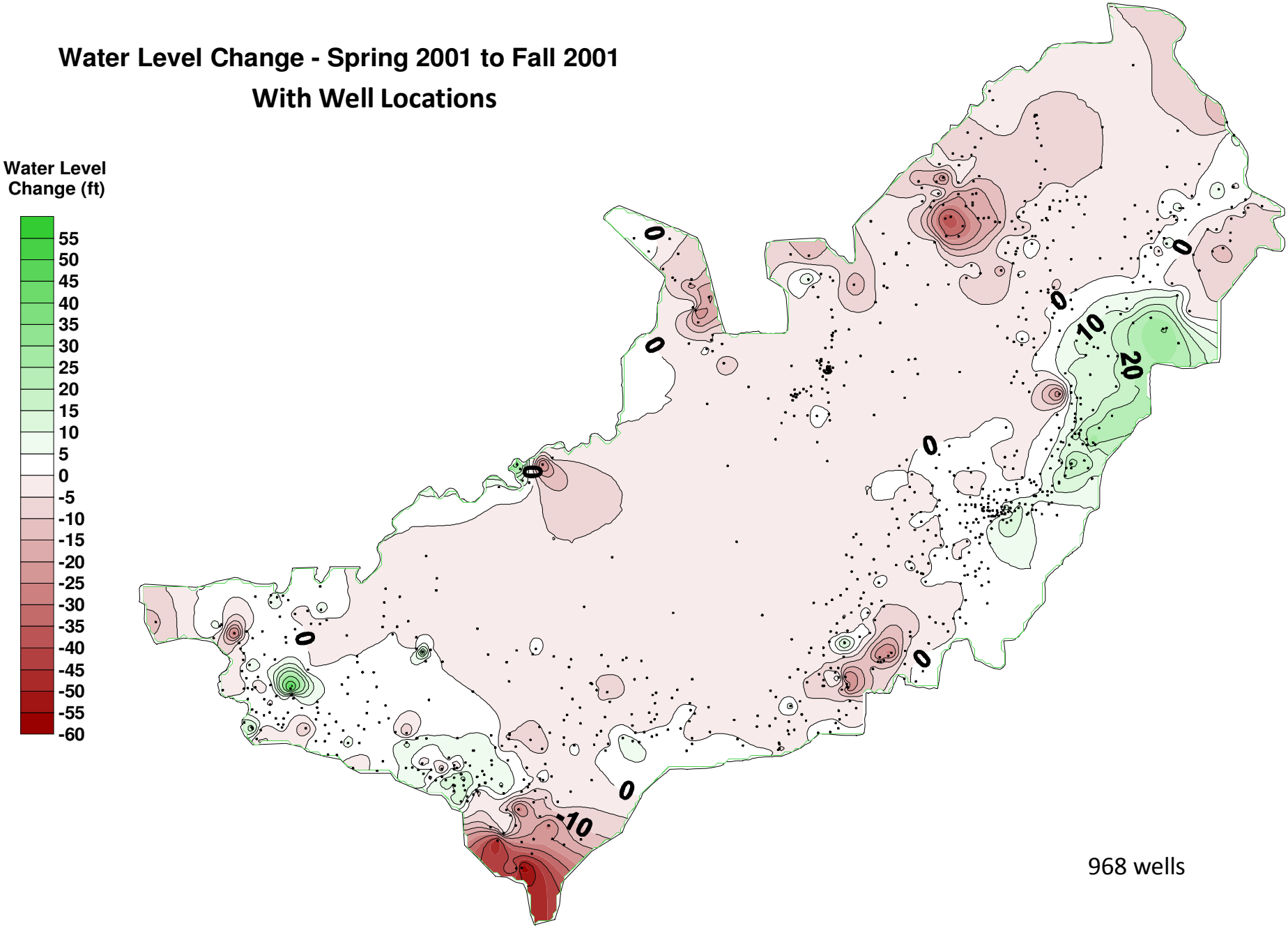

Fall 2001 Water Elevation
Cities
Rivers
Contours (50 ft)
Model Boundary
ASHTON
ARCO
IDAHO FALLS
POCATELLO
TWIN FALLS
4800
4800
4400
4000
3600
3200


Spring 2002 Water Elevation
Cities
Rivers
Contours (50 ft)
Model Boundary
ASHTON
4800
ARCO
4400
IDAHO FALLS
3200
4000
POCATELLO
TWIN FALLS

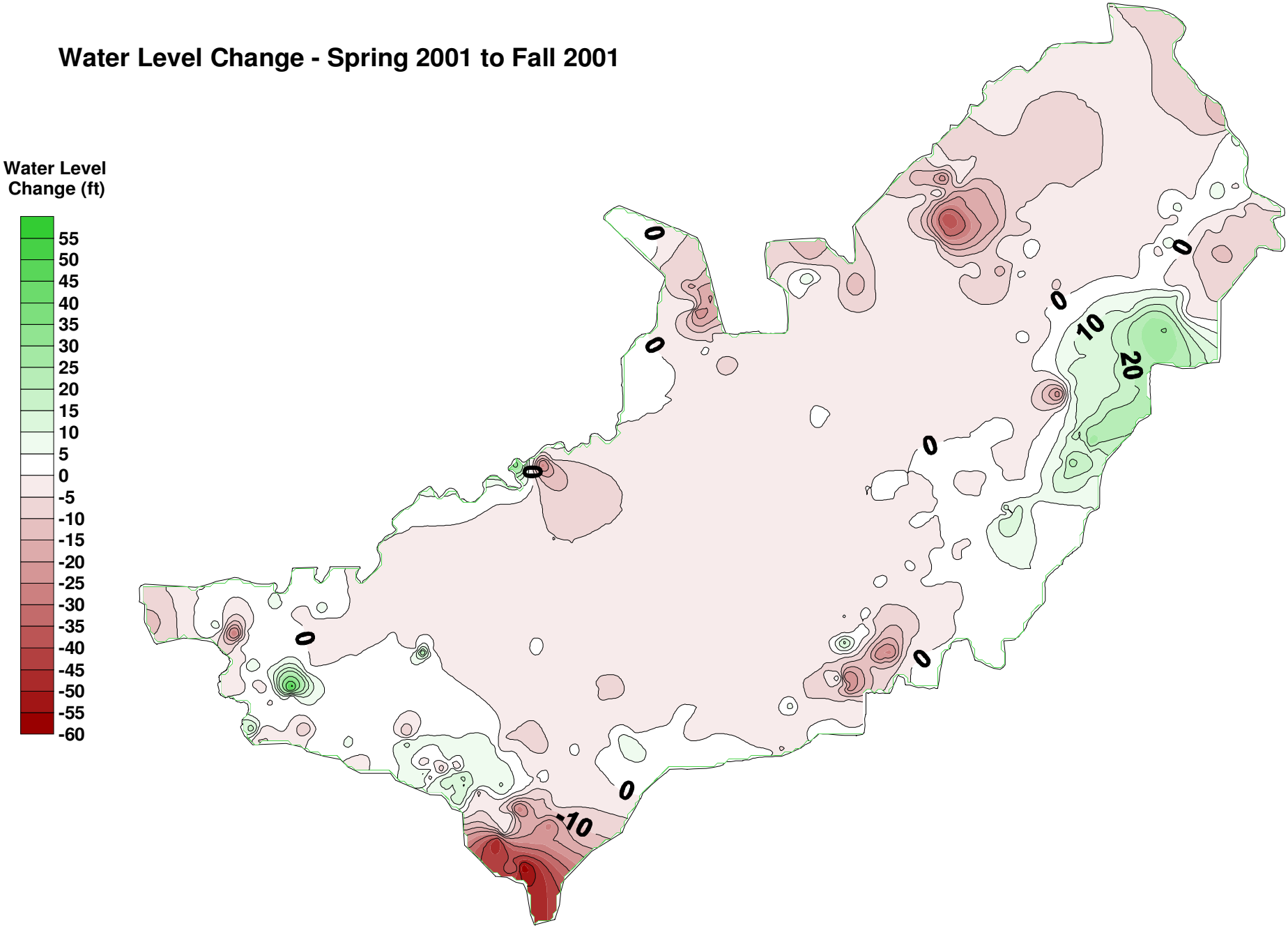

Spring 2008 Water Elevation
Cities
Rivers
Contours (50 ft)
Model Boundary
ASHTON
IDAHO FALLS
ARCO
POCATELLO
TWIN FALLS
5200
4800
4400
4000
3200


Fall 2008 Water Elevation
Cities
Rivers
Contours (50 ft)
Model Boundary
ASHTON
4800
ARCO
4400
IDAHO FALLS
4000
POCATELLO
TWIN FALLS

Water Level Change - Spring 2001 to Fall 2001
With Well Locations

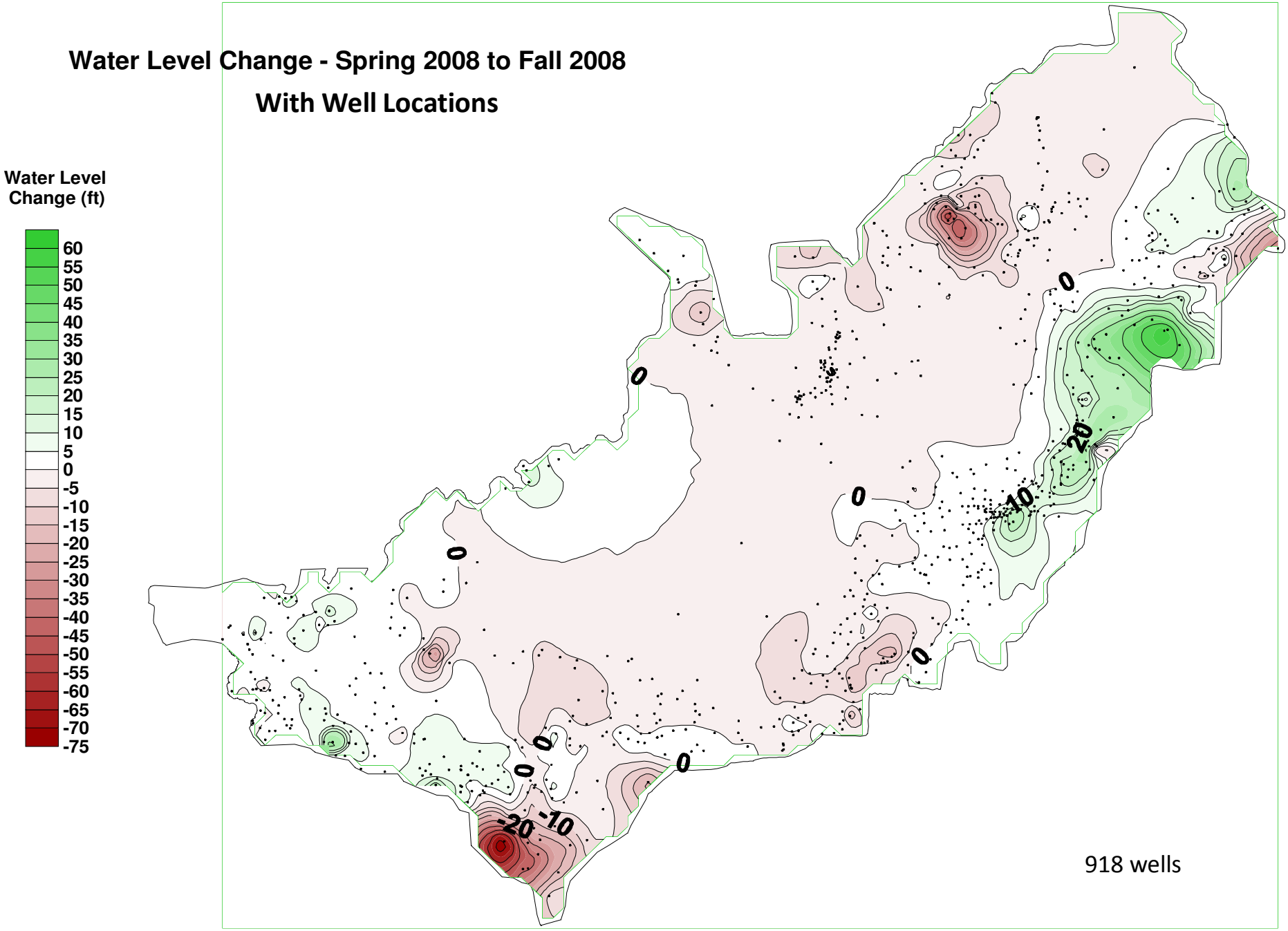


Water Level Change - Spring 2001 to Fall 2001

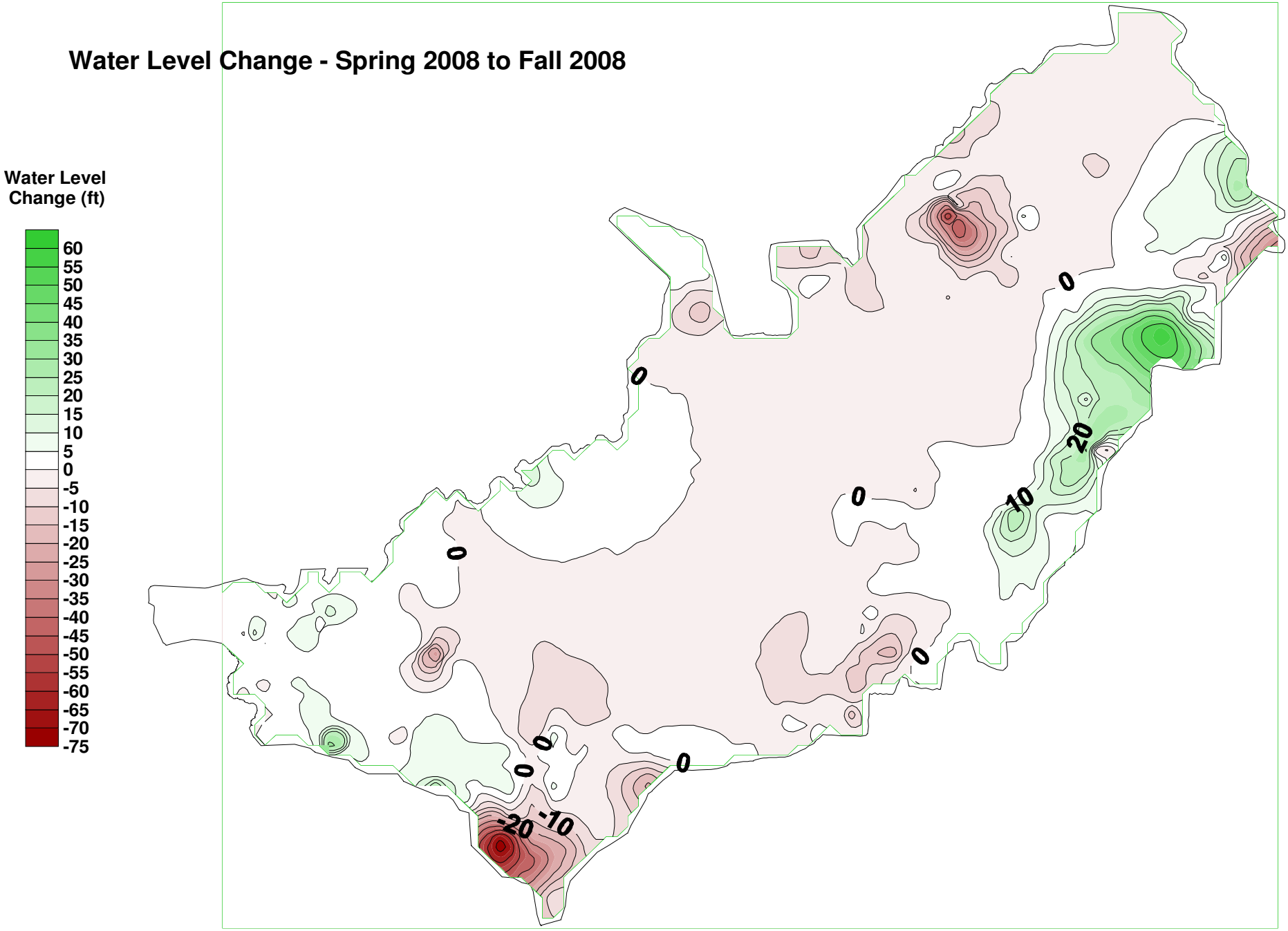


Water Level Change - Spring 2008 to Fall 2008

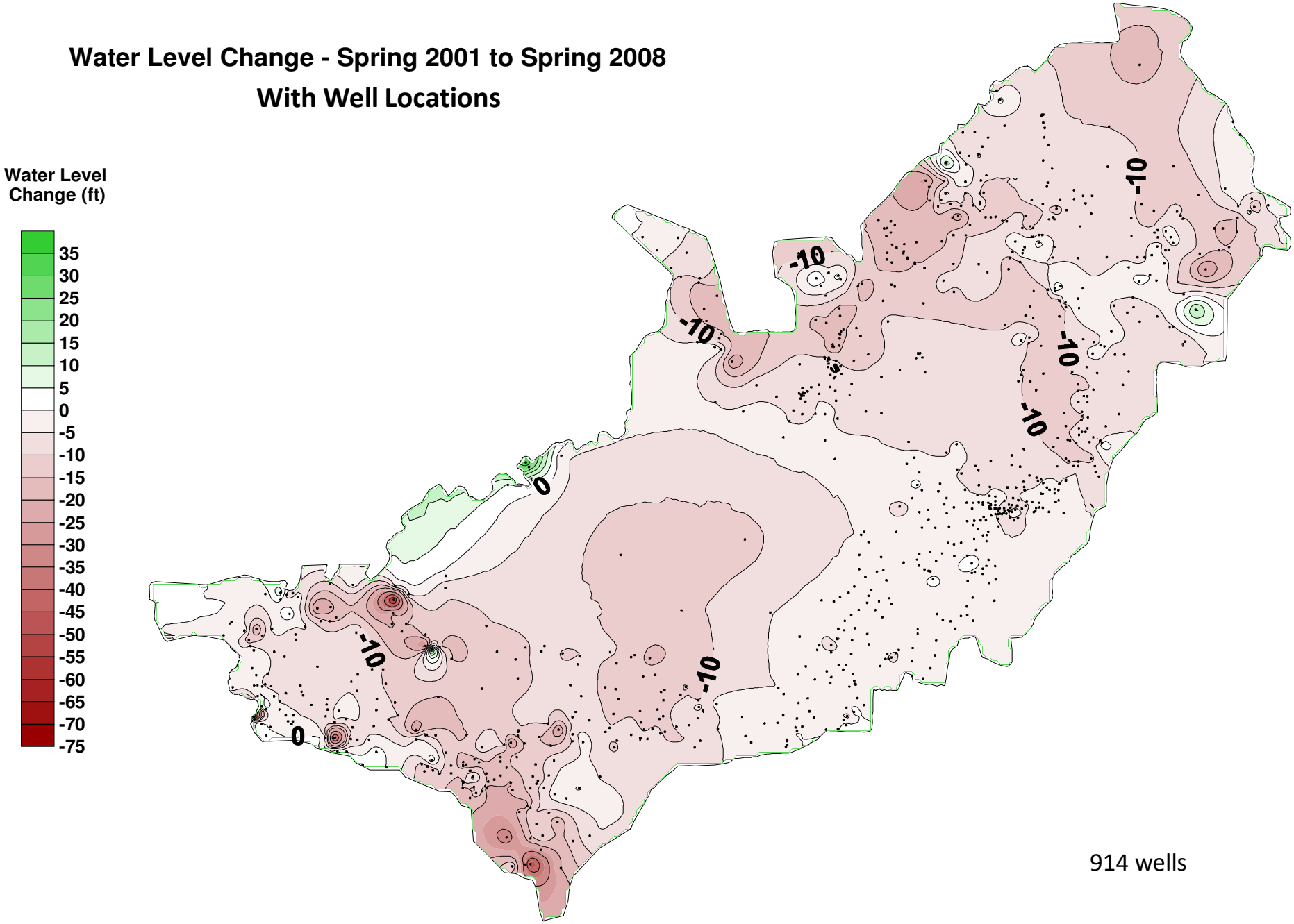
With Well Locations



Water Level Change - Spring 2008 to Fall 2008

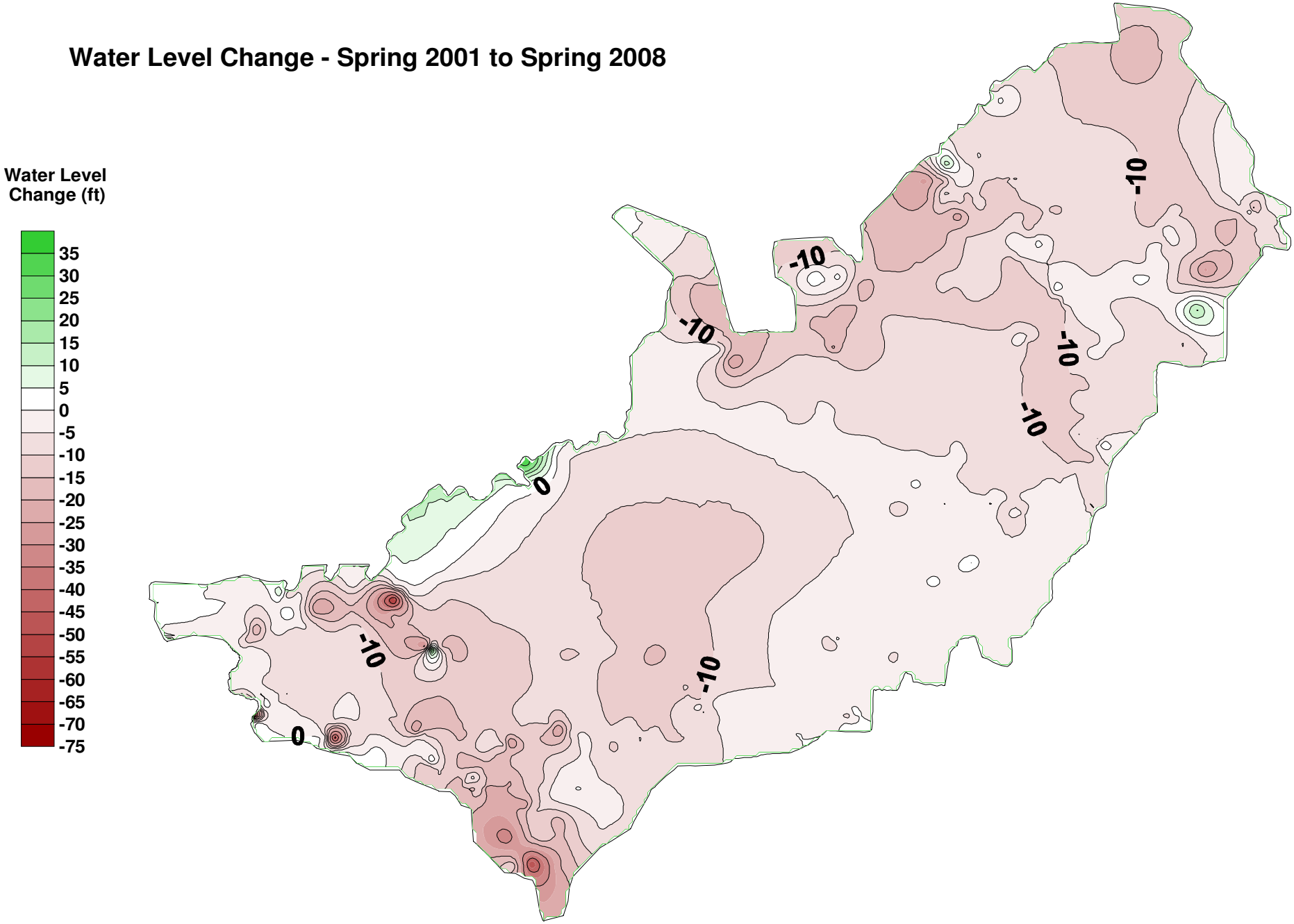


Water Level Change - Spring 2001 to Spring 2008
With Well Locations

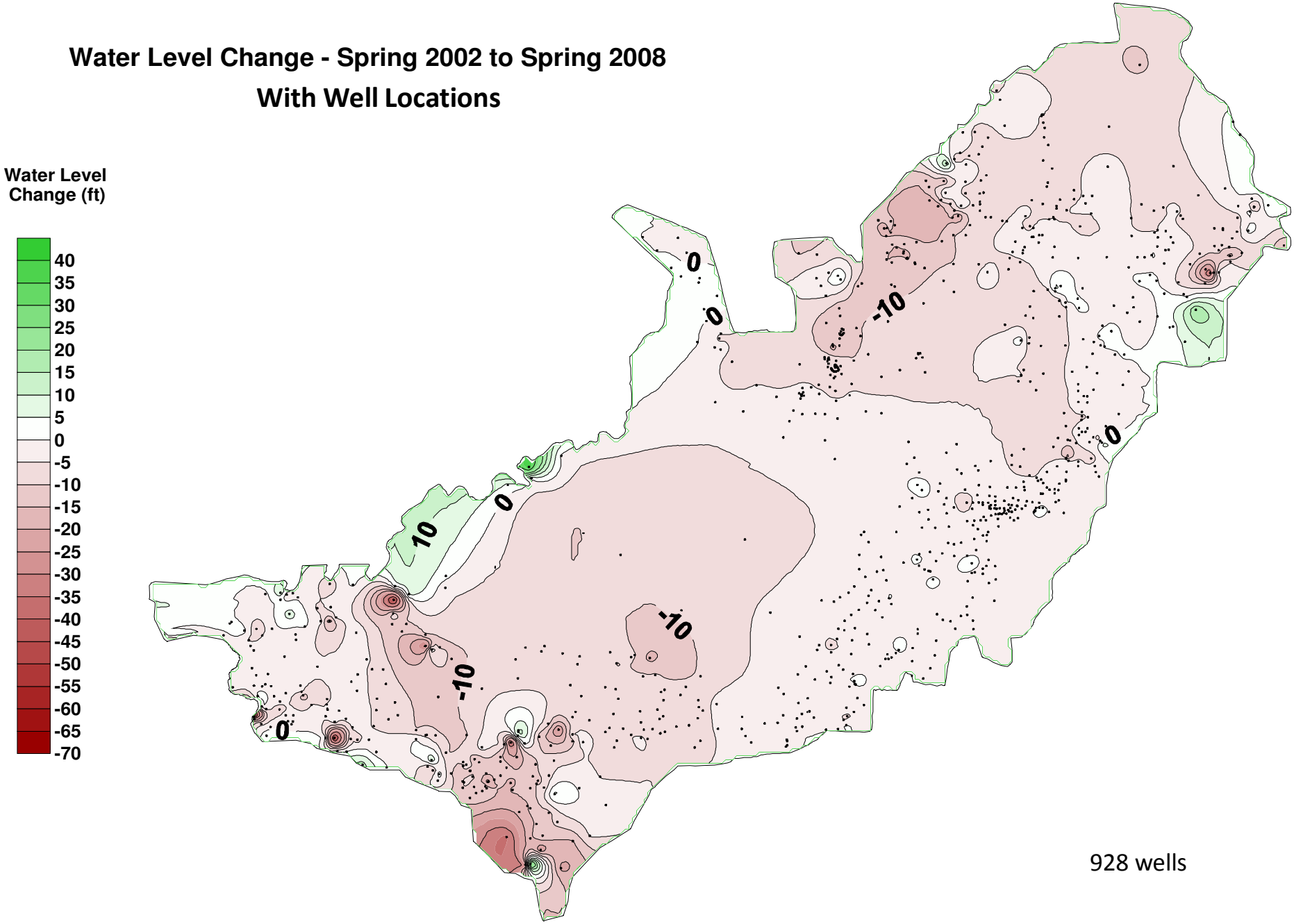


914 wells

Water Level Change - Spring 2001 to Spring 2008

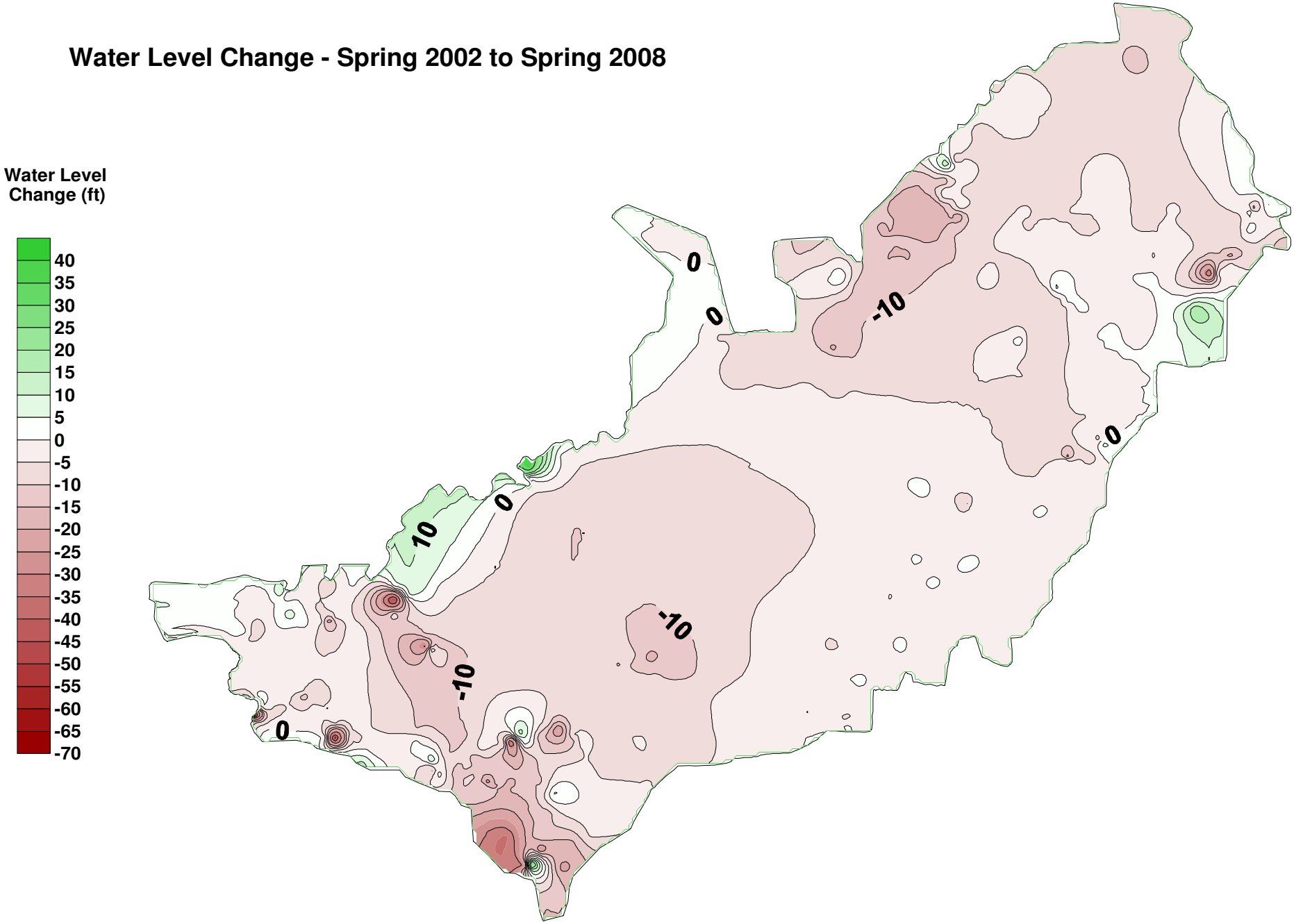


Water Level Change - Spring 2002 to Spring 2008
With Well Locations

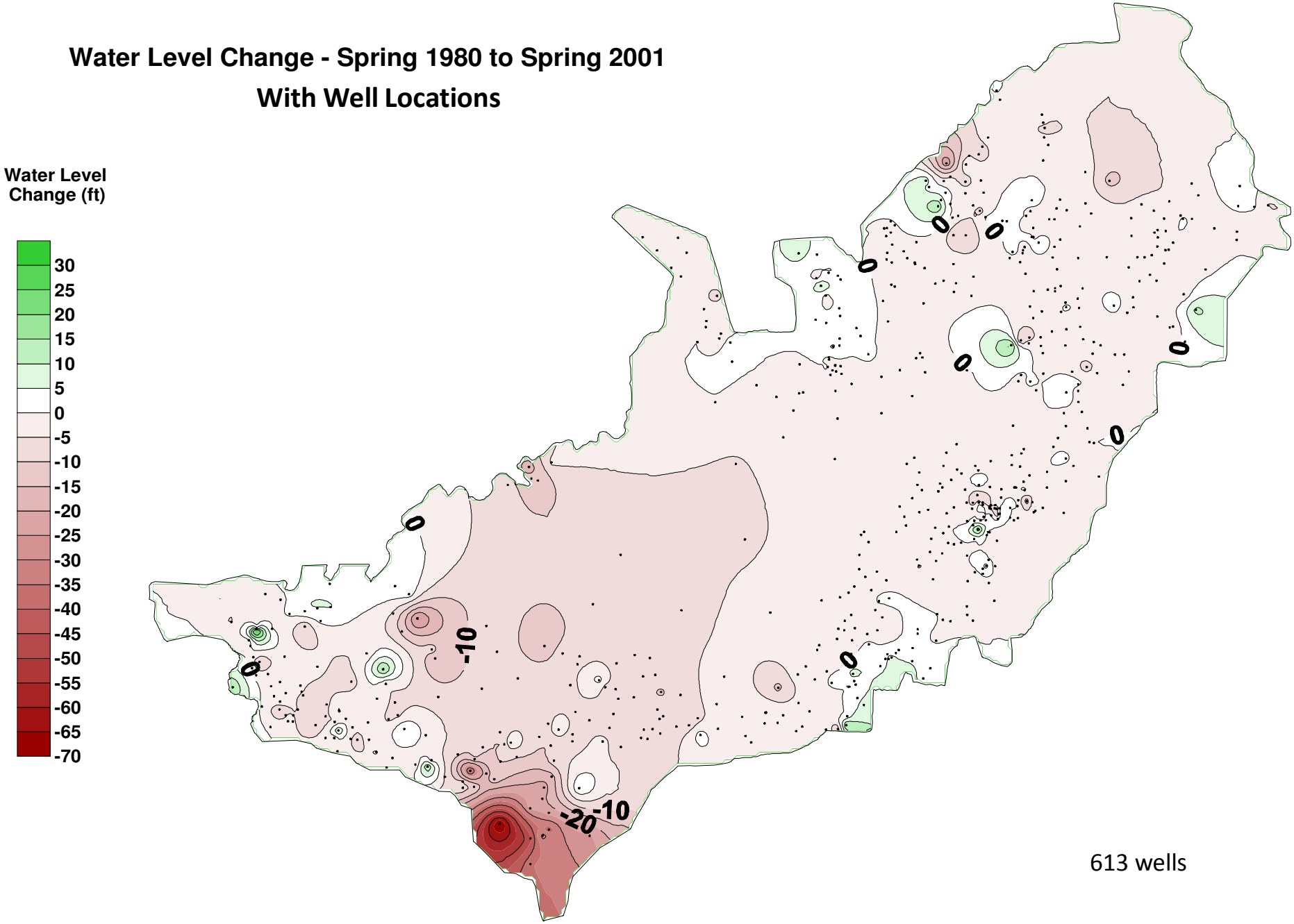


928 wells

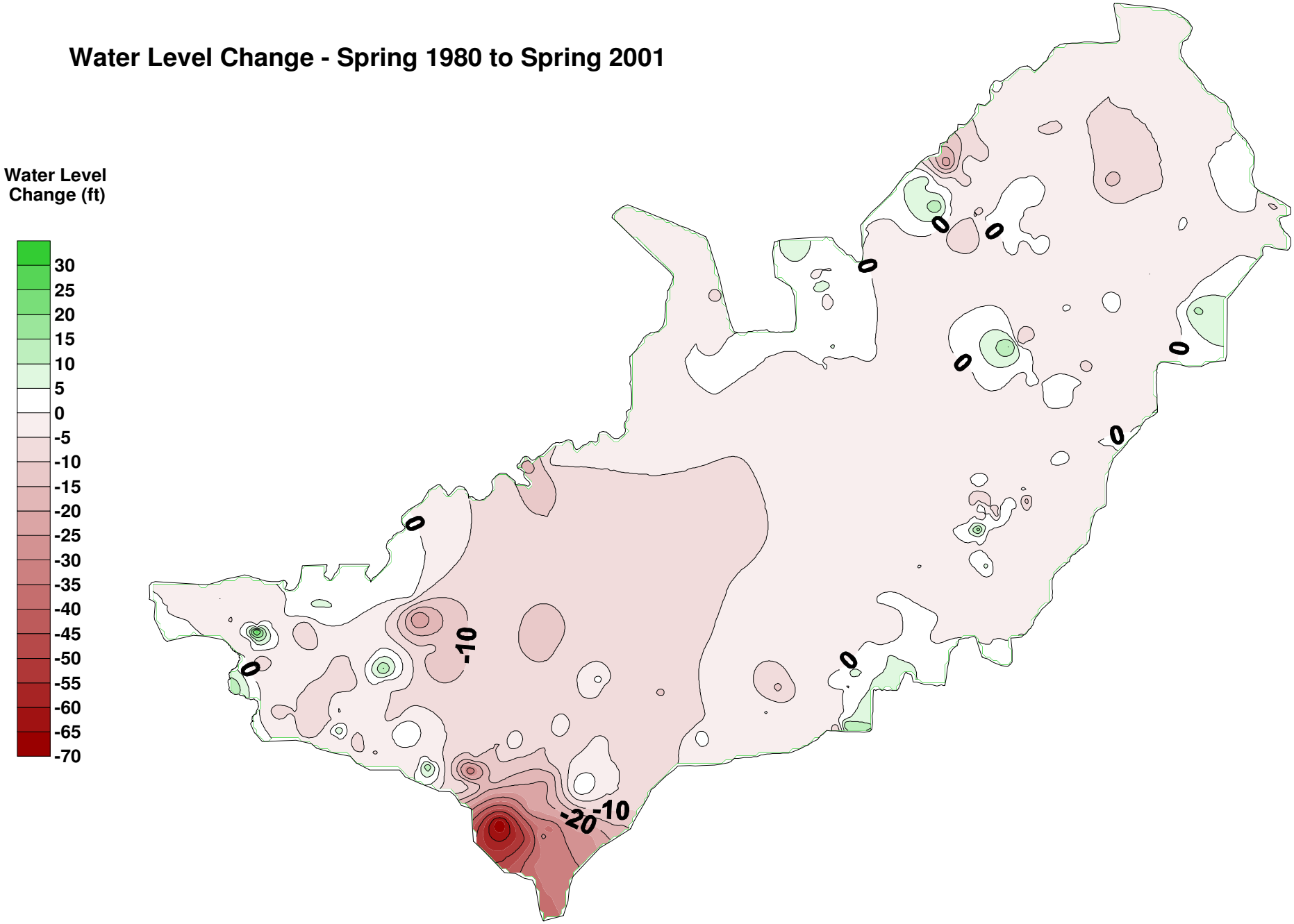
Water Level Change - Spring 2002 to Spring 2008

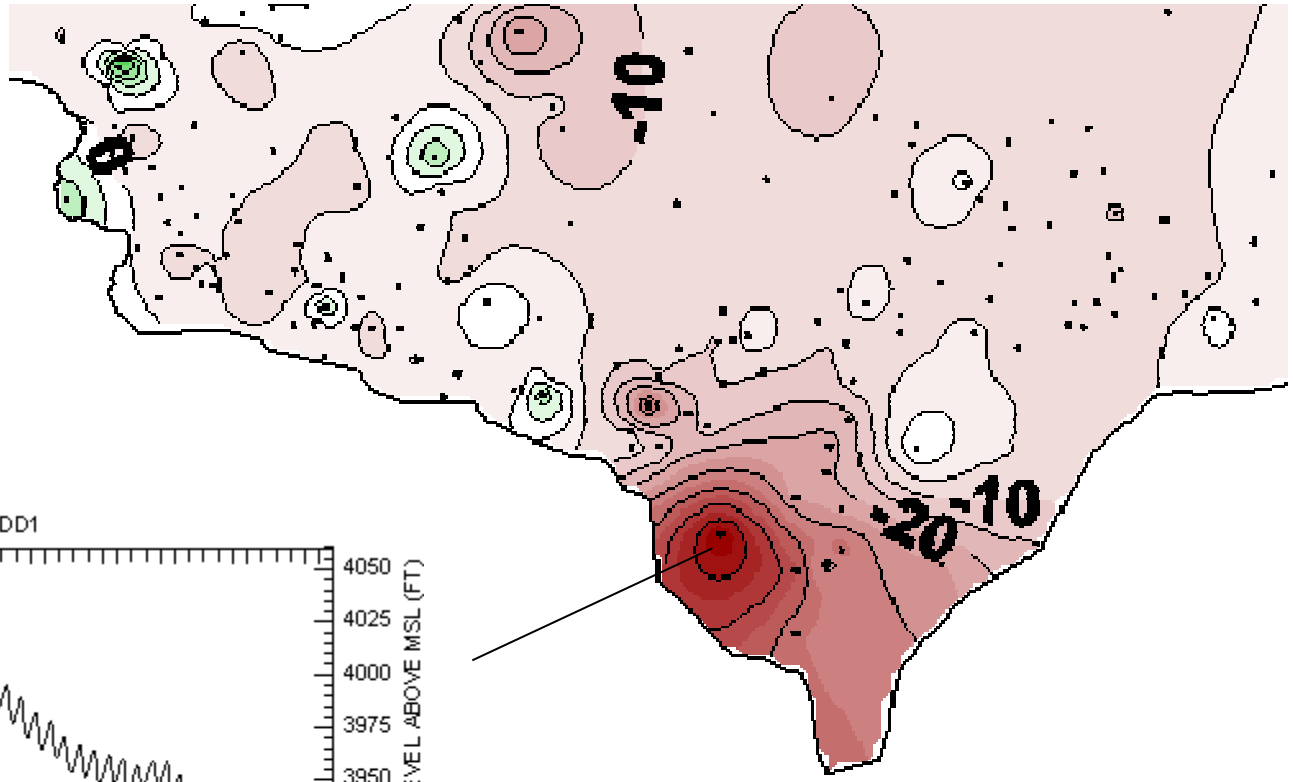


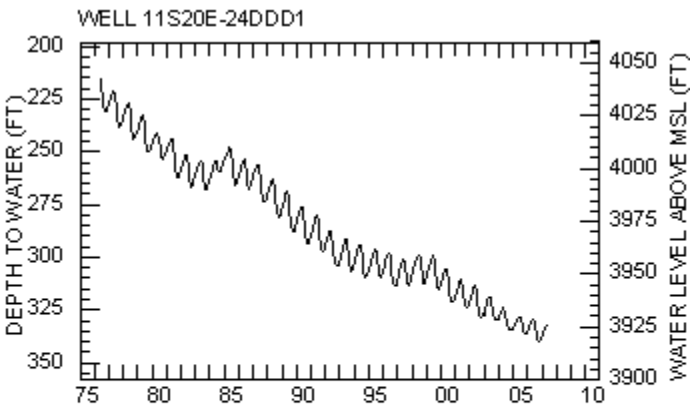
Water Level Change - Spring 1980 to Spring 2001
With Well Locations



Water Level Change - Spring 1980 to Spring 2001

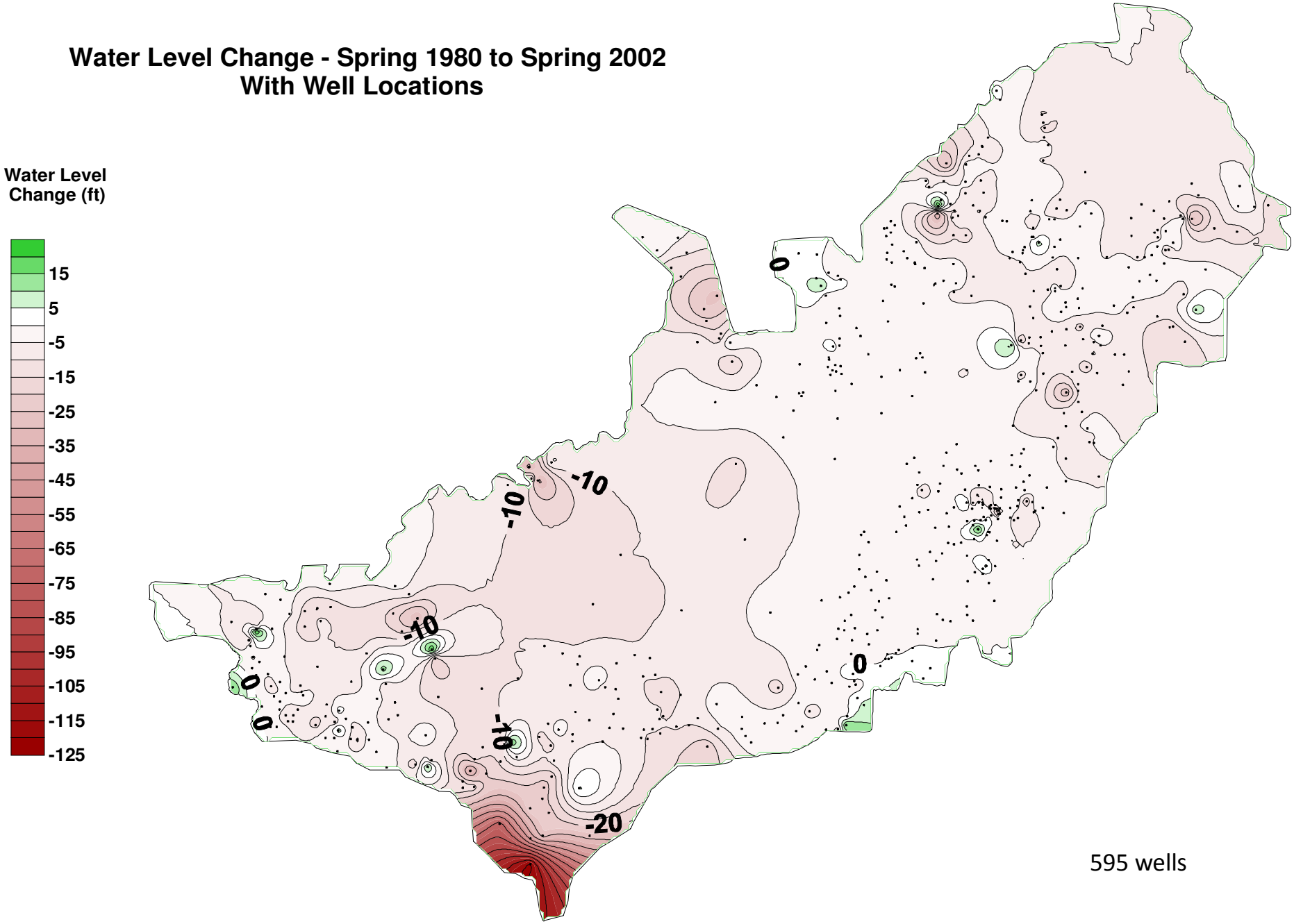




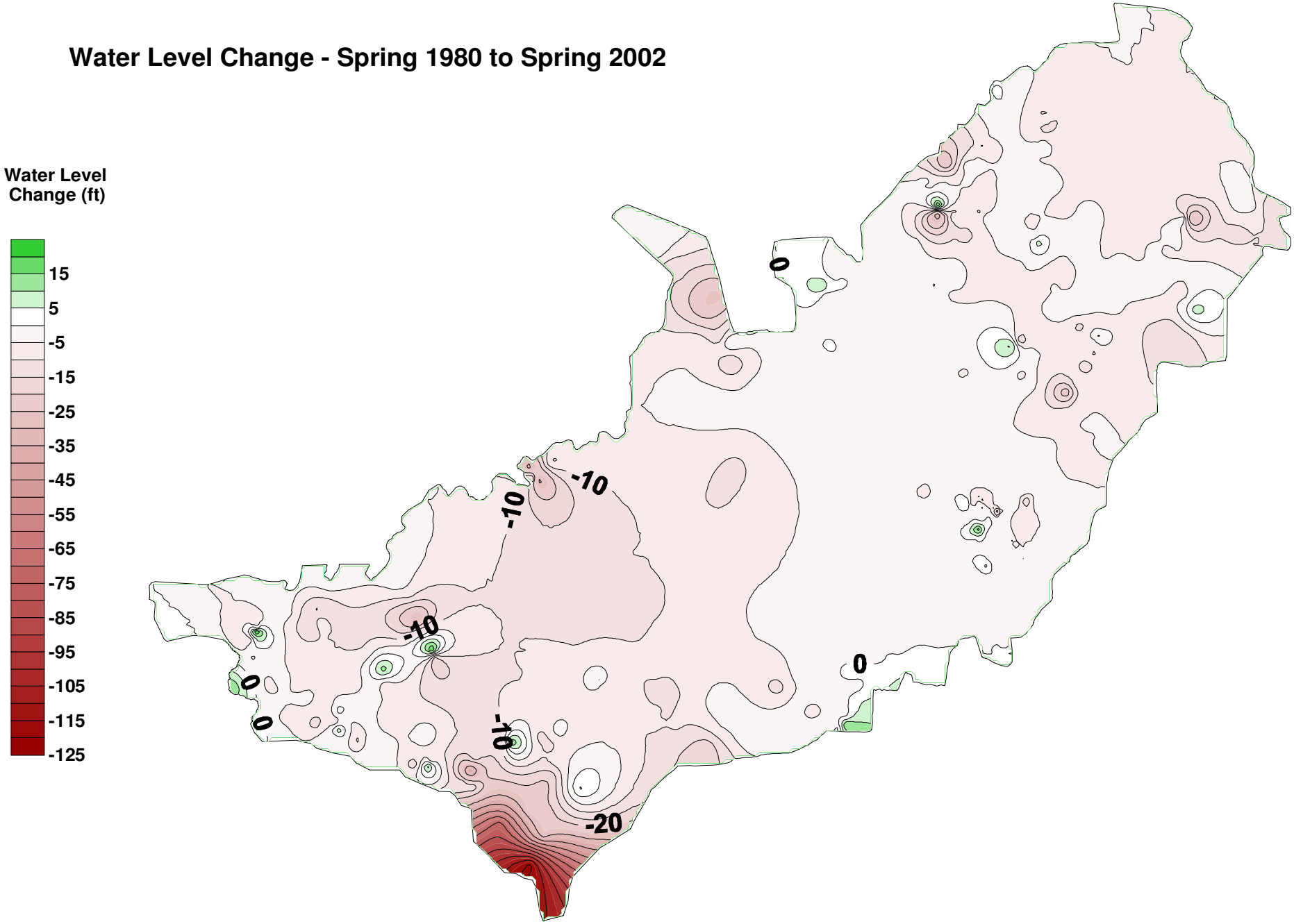


TD = 1030 ft.
WO = 4-1030 ft.

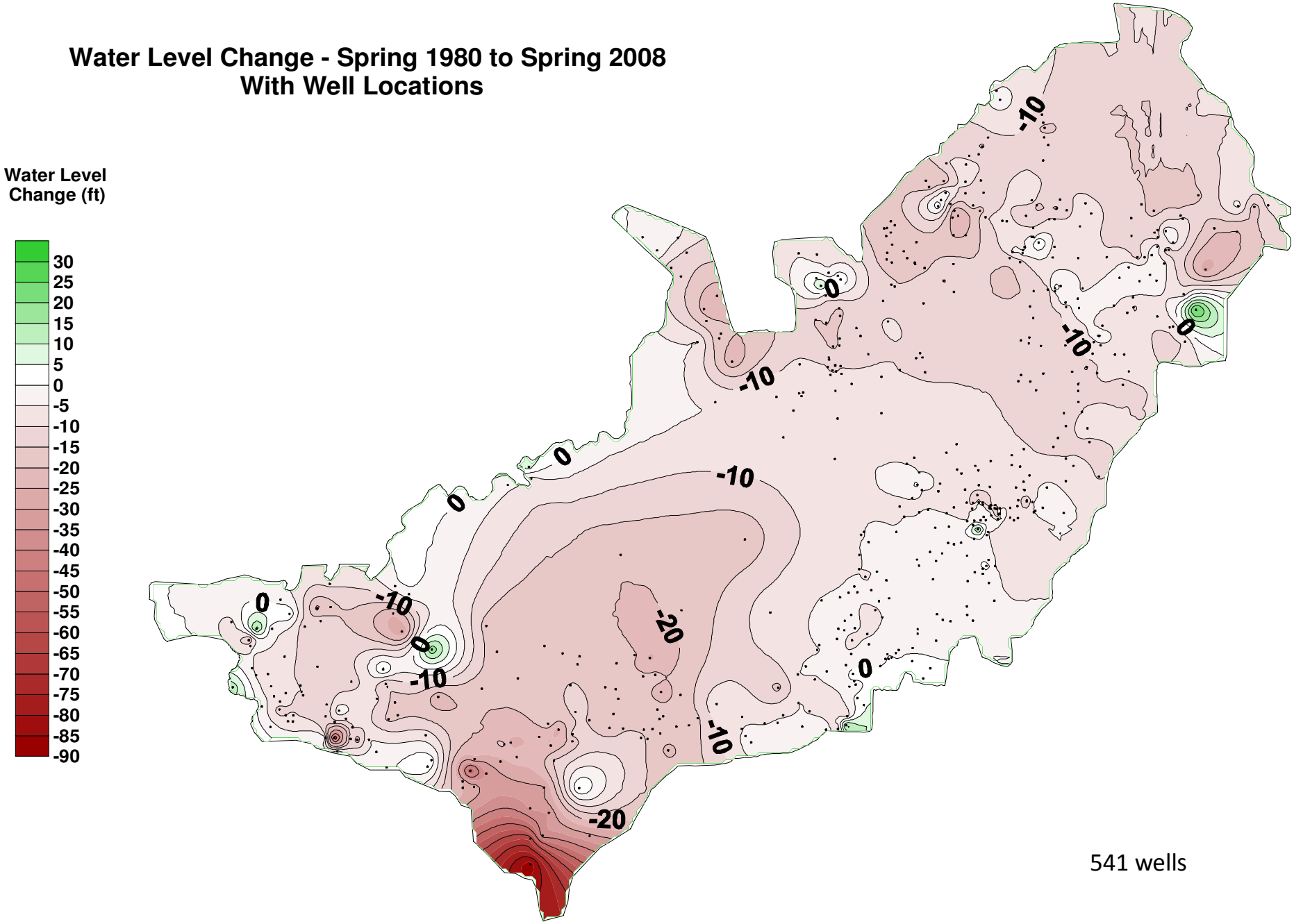
Water Level Change - Spring 1980 to Spring 2002
With Well Locations



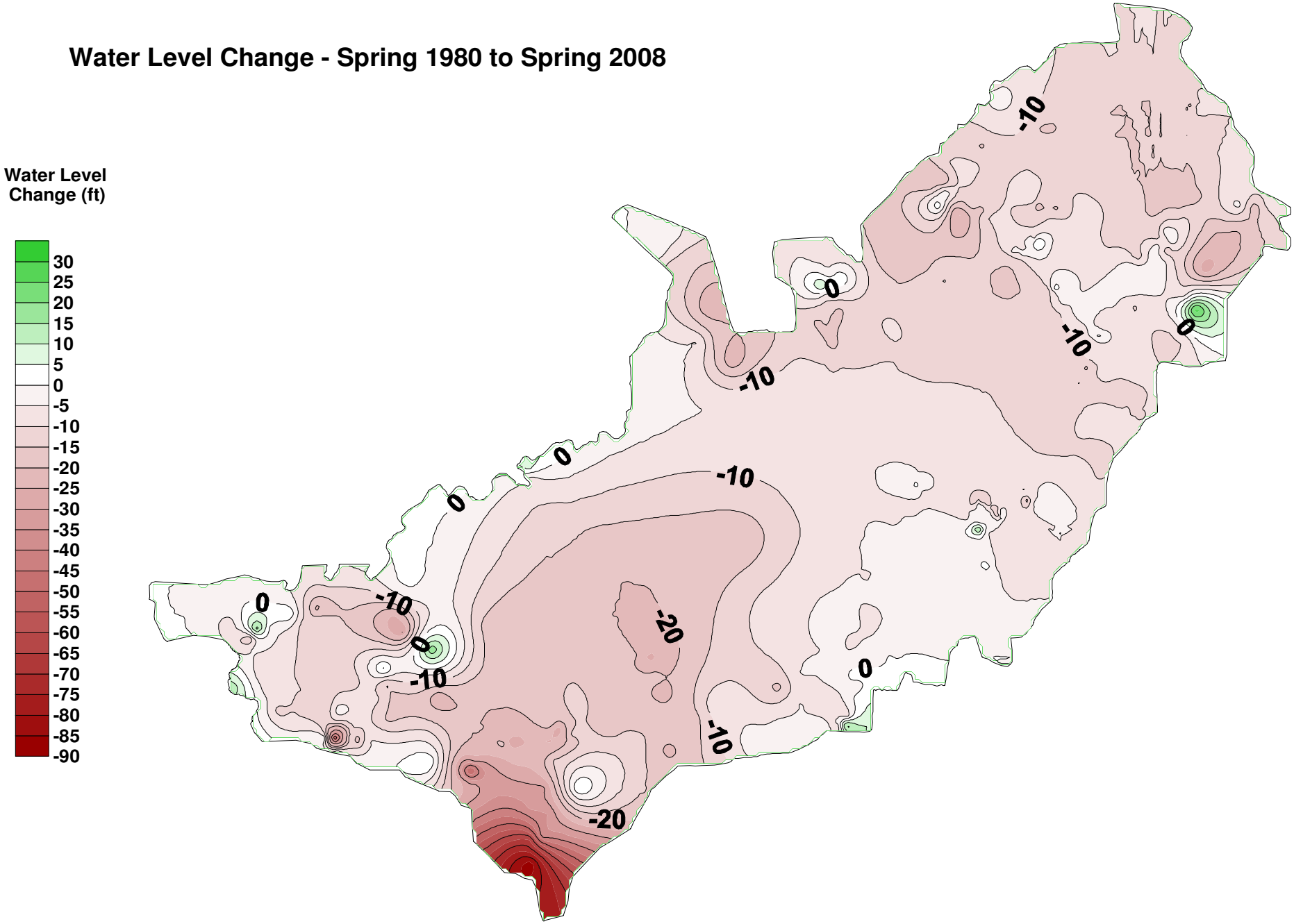
Water Level Change - Spring 1980 to Spring 2002

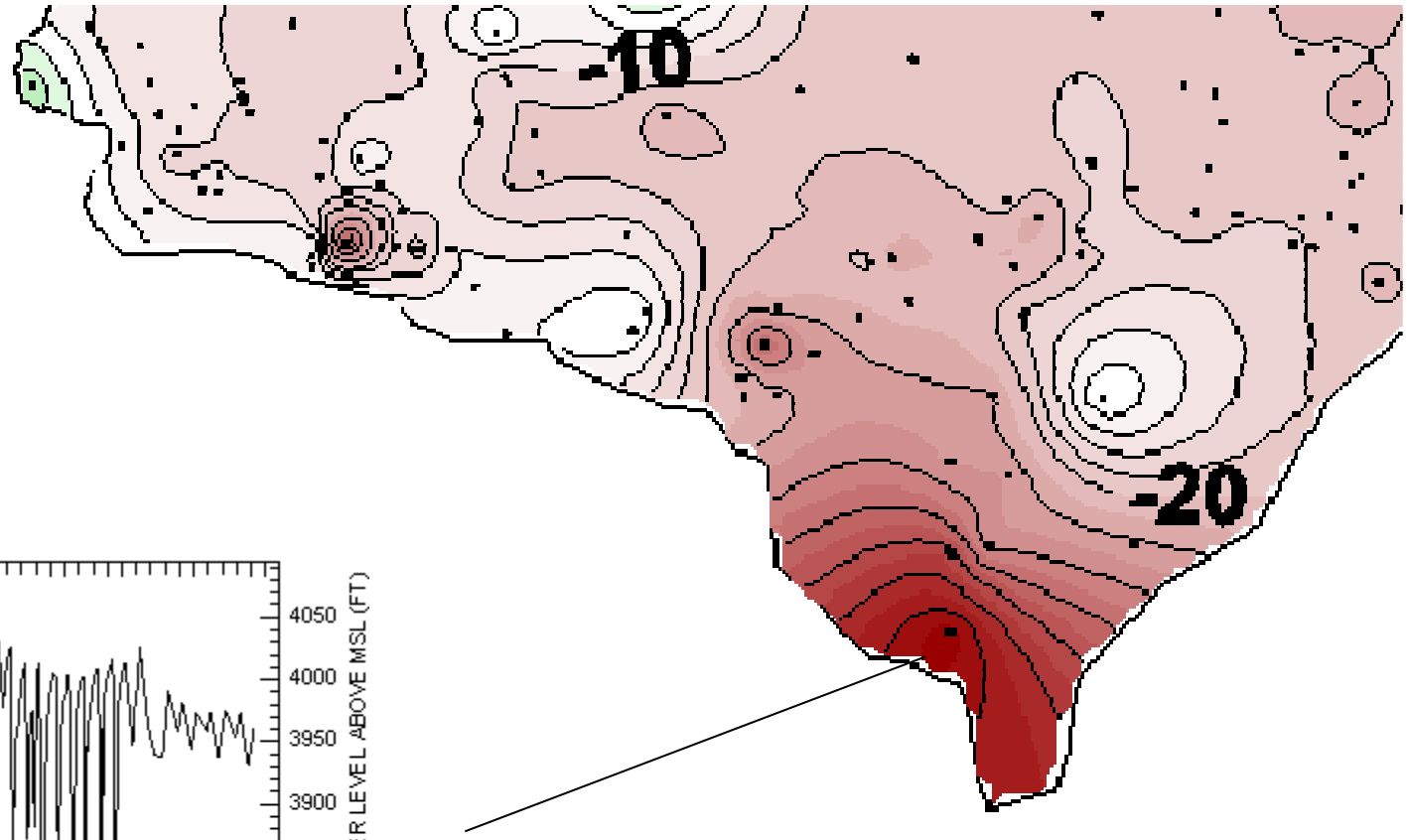


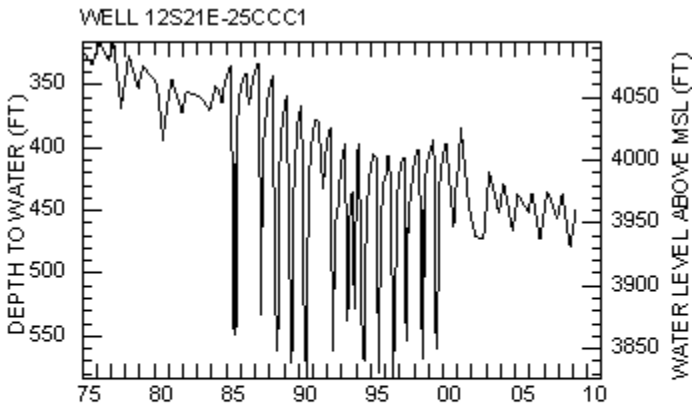
Water Level Change - Spring 1980 to Spring 2008
With Well Locations



Water Level Change - Spring 1980 to Spring 2008

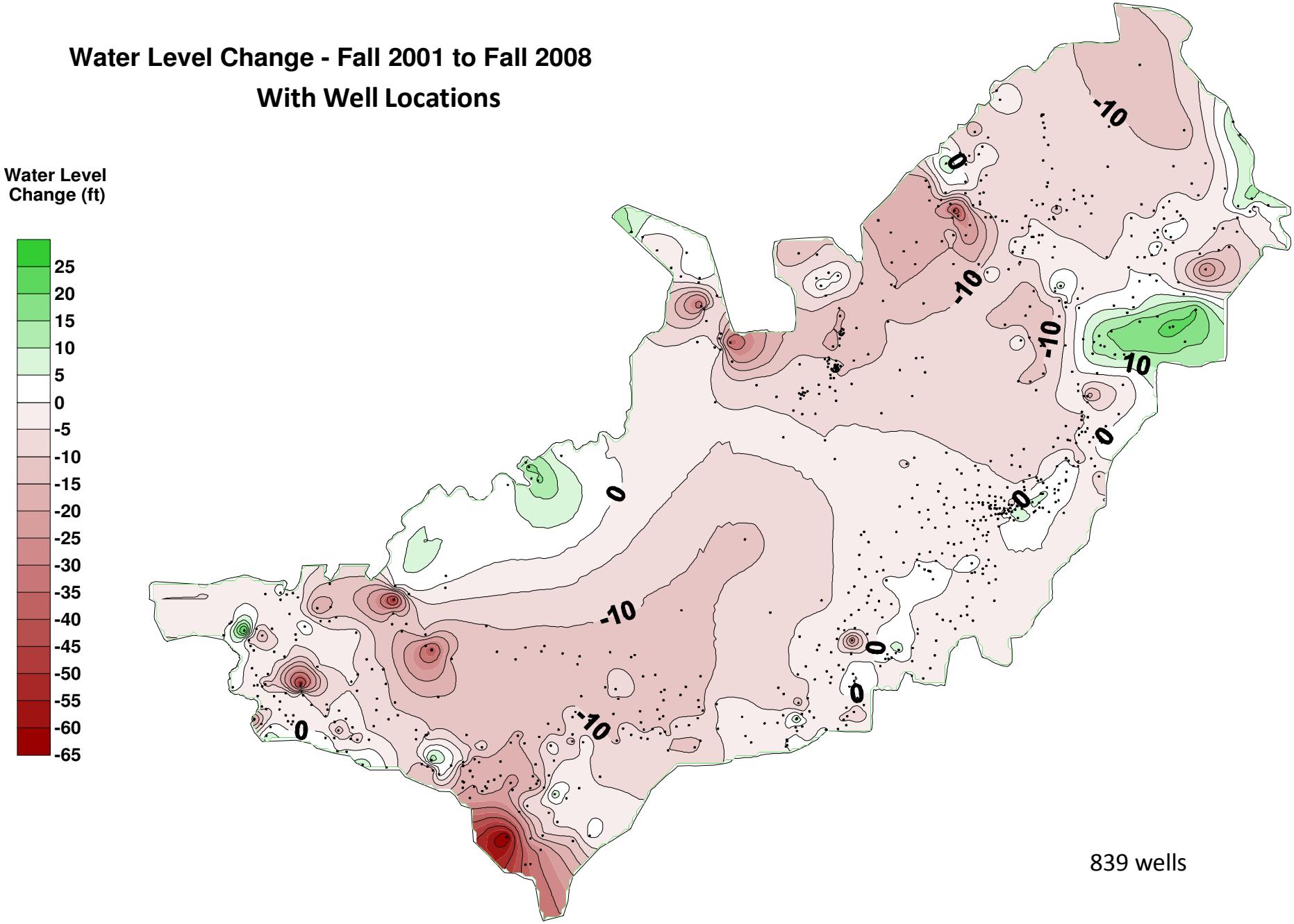




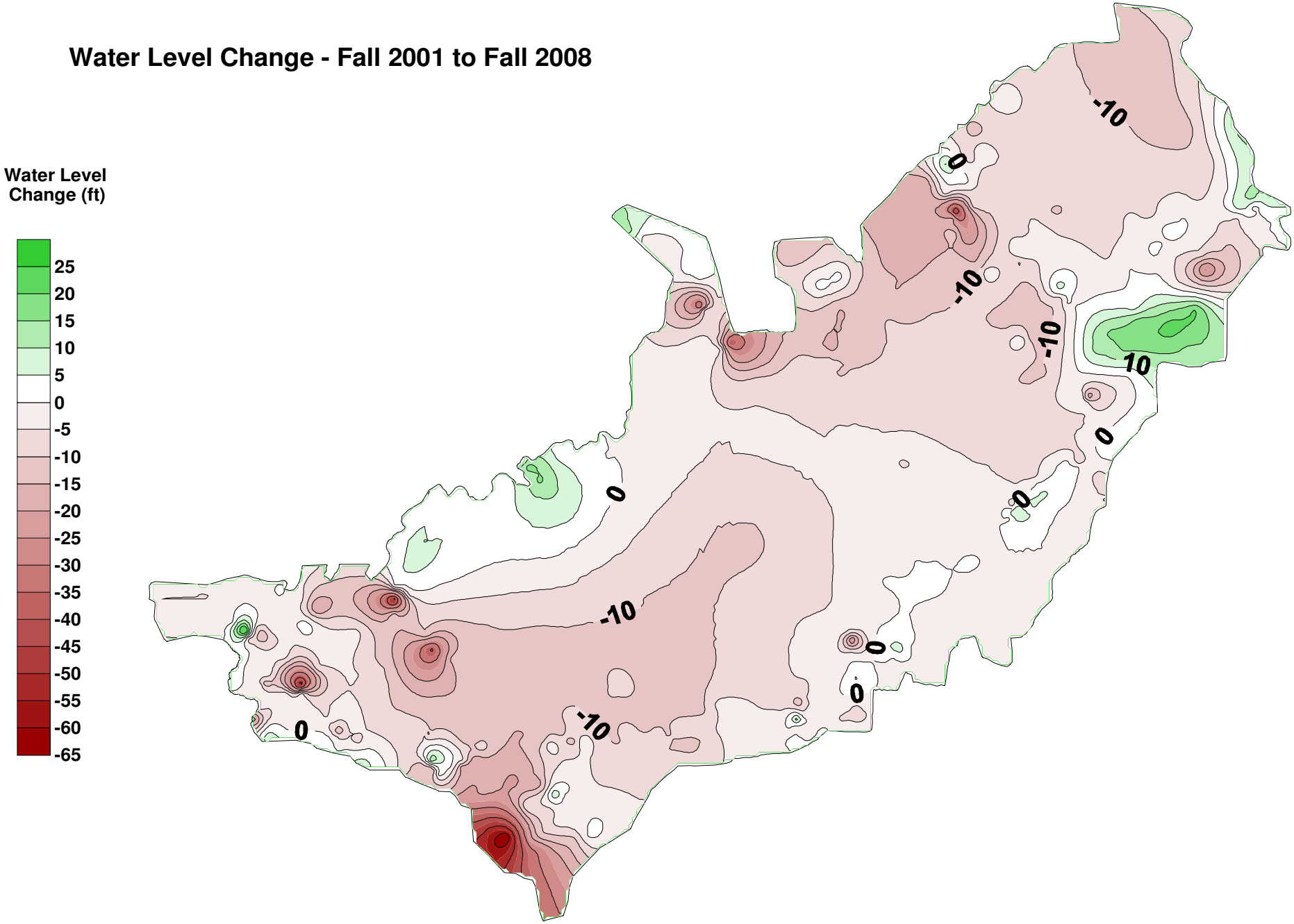


TD = 1870 ft.
WO = 188-1870 ft.

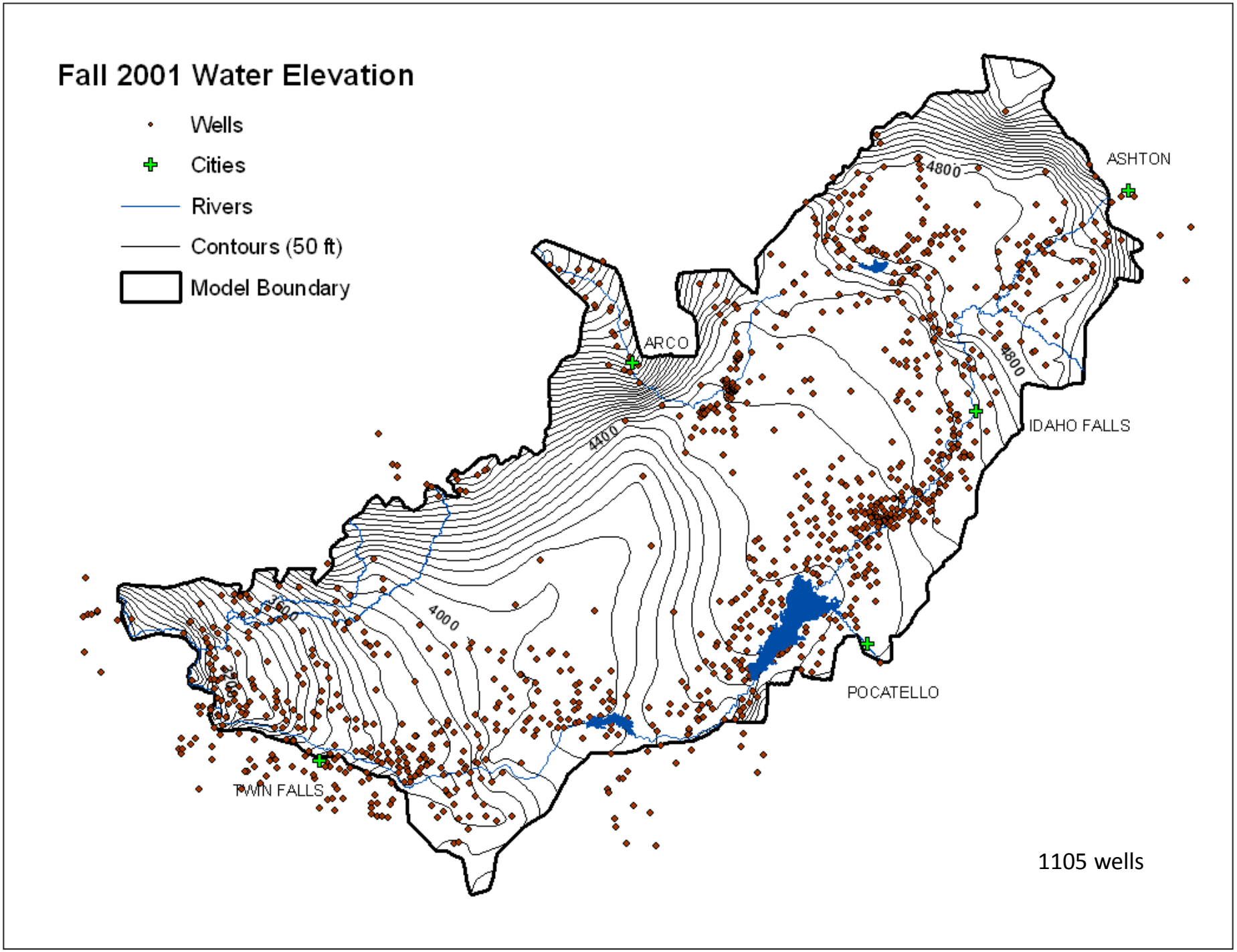
Water Level Change - Fall 2001 to Fall 2008
With Well Locations

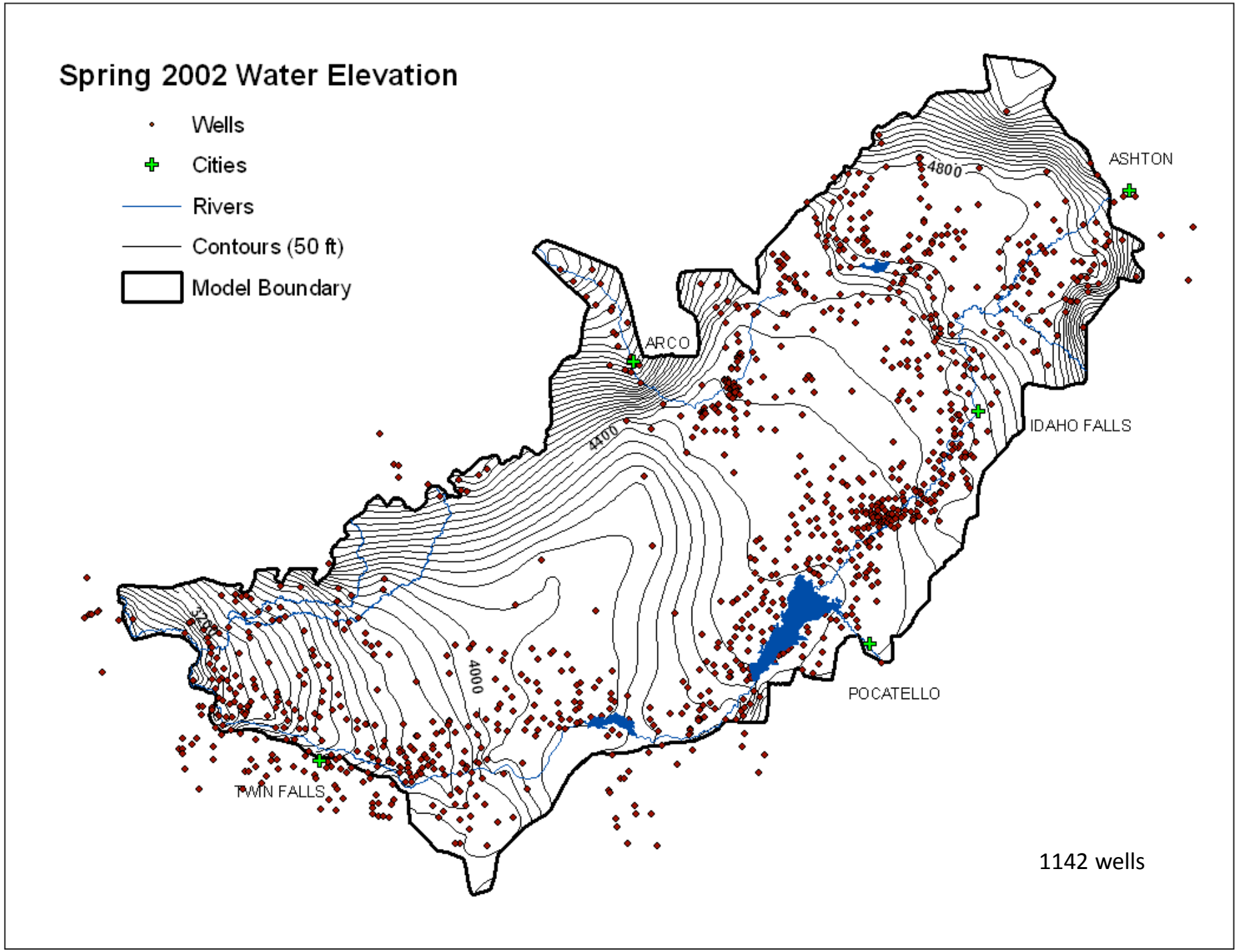


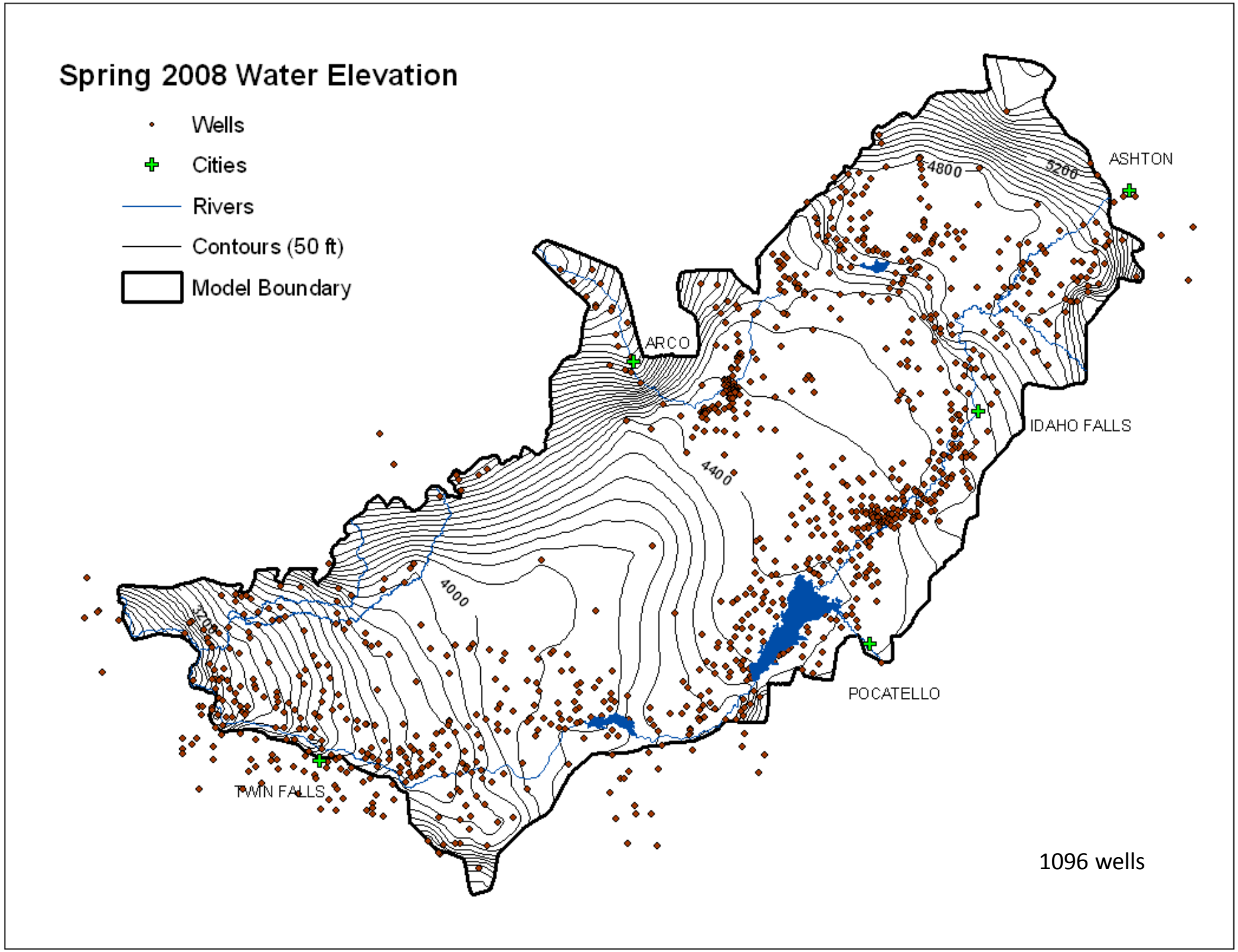
Water Level Change - Fall 2001 to Fall 2008

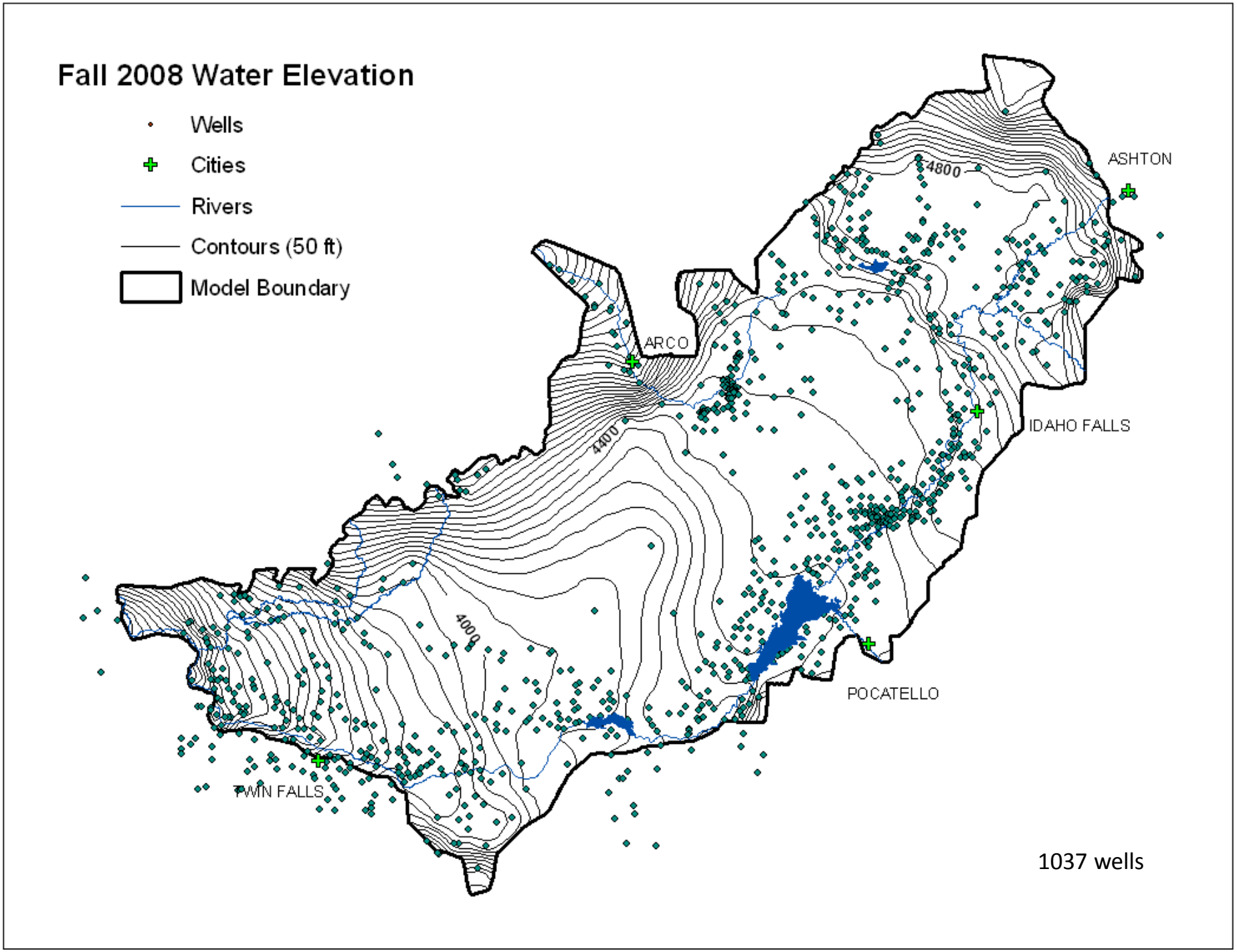


Any Questions?


Fall 2001 Water Elevation
Wells
Cities
Rivers
Contours (50 ft)
Model Boundary
ASHTON
ARCO
IDAHO FALLS
POCATELLO
TWIN FALLS
4800
4800
4400
4000
3600
3200
1105 wells


Spring 2002 Water Elevation
Wells
Cities
Rivers
Contours (50 ft)
Model Boundary
ASHTON
4800
ARCO
4400
IDAHO FALLS
4000
POCATELLO
TWIN FALLS
1142 wells


Spring 2008 Water Elevation
Wells
Cities
Rivers
Contours (50 ft)
Model Boundary
ASHTON
IDAHO FALLS
ARCO
POCATELLO
TWIN FALLS
4800
5200
4400
4000
3200
1096 wells


Fall 2008 Water Elevation
Wells
Cities
Rivers
Contours (50 ft)
Model Boundary
ASHTON
4800
ARCO
4400
IDAHO FALLS
4000
POCATELLO
TWIN FALLS
1037 wells