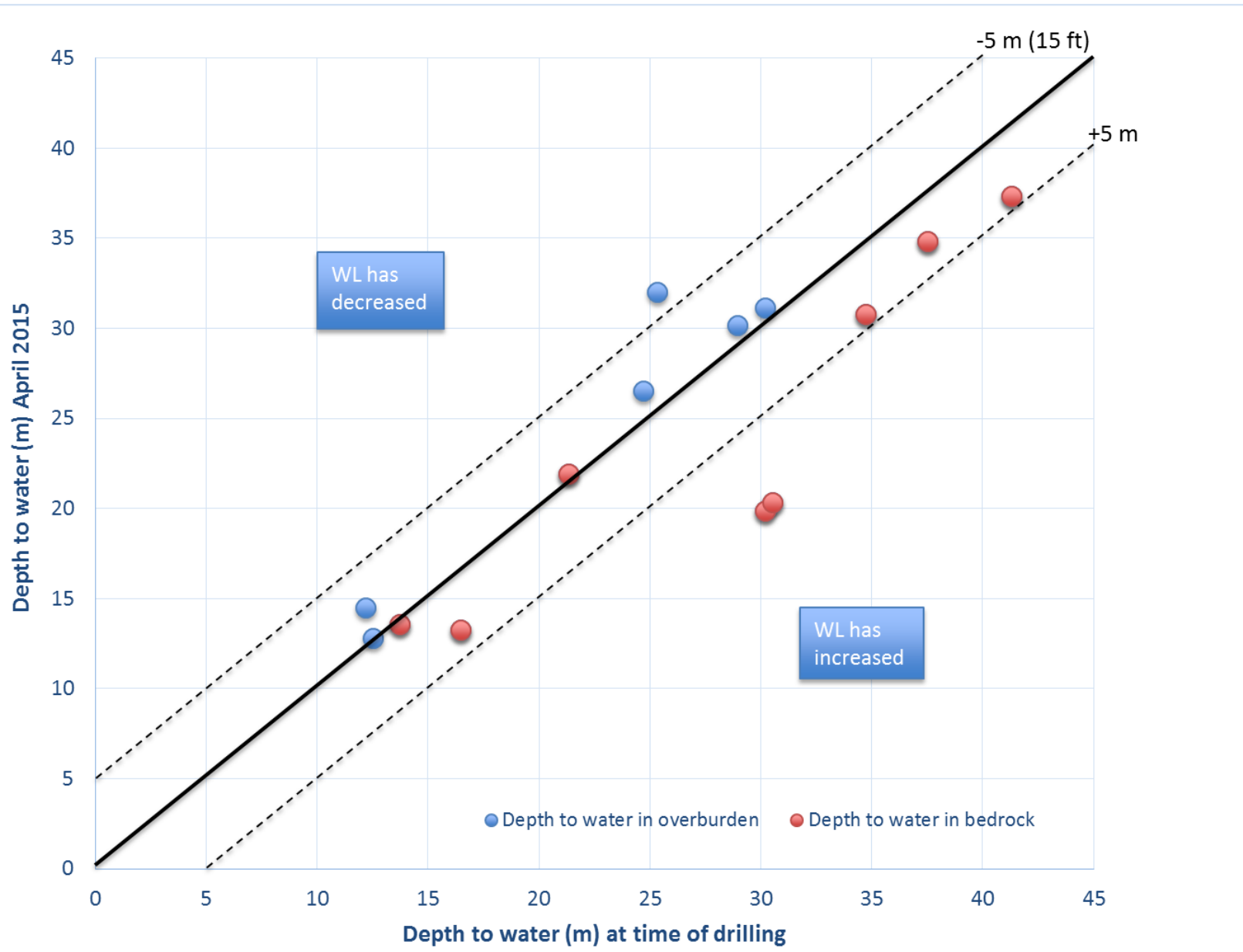


Parker Road monitoring program

April to June 2015; update on data collected so far from the 15 wells
monitored in local area

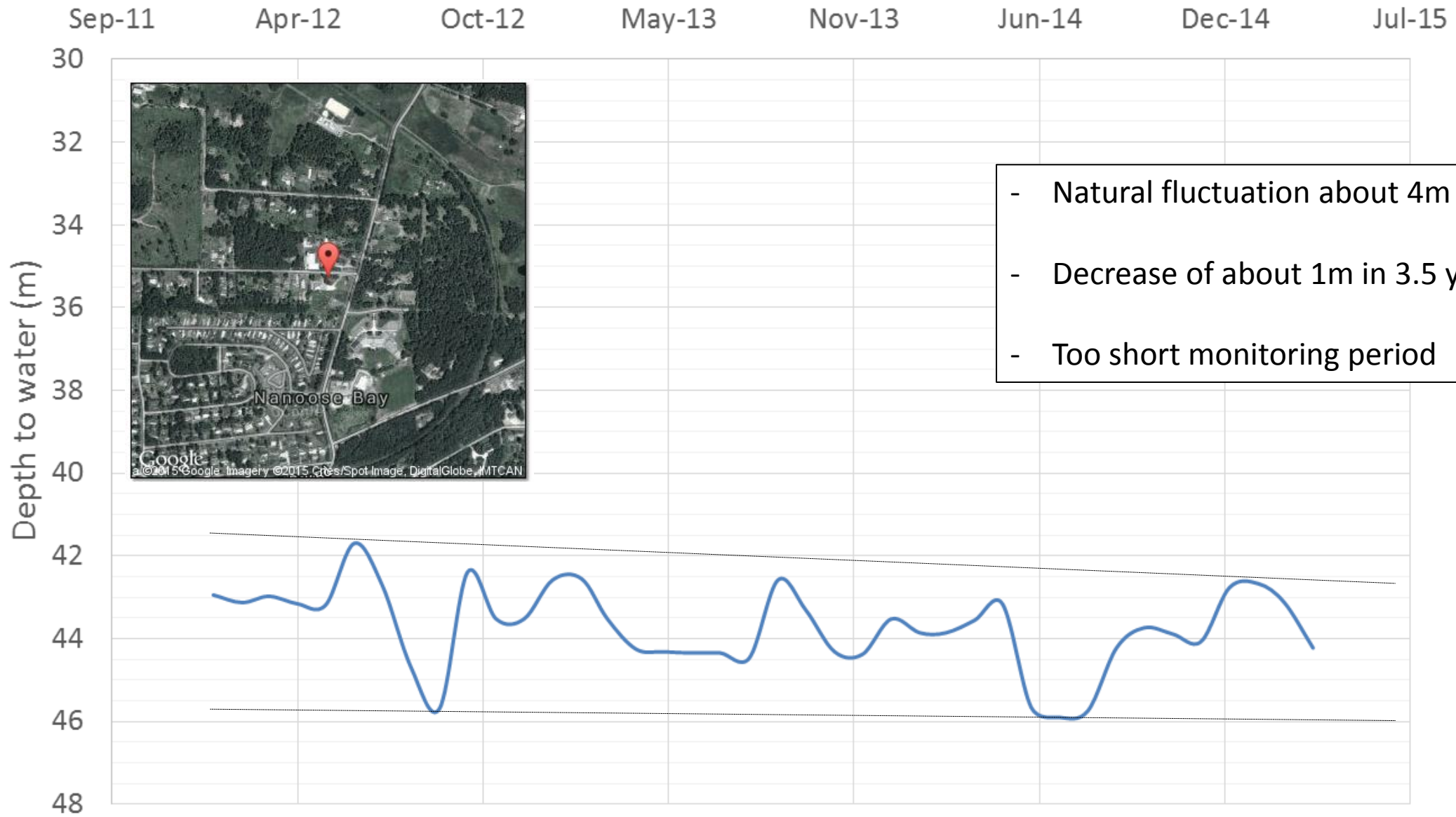
July 6, 2015

Water levels at time of drilling vs. April 2015



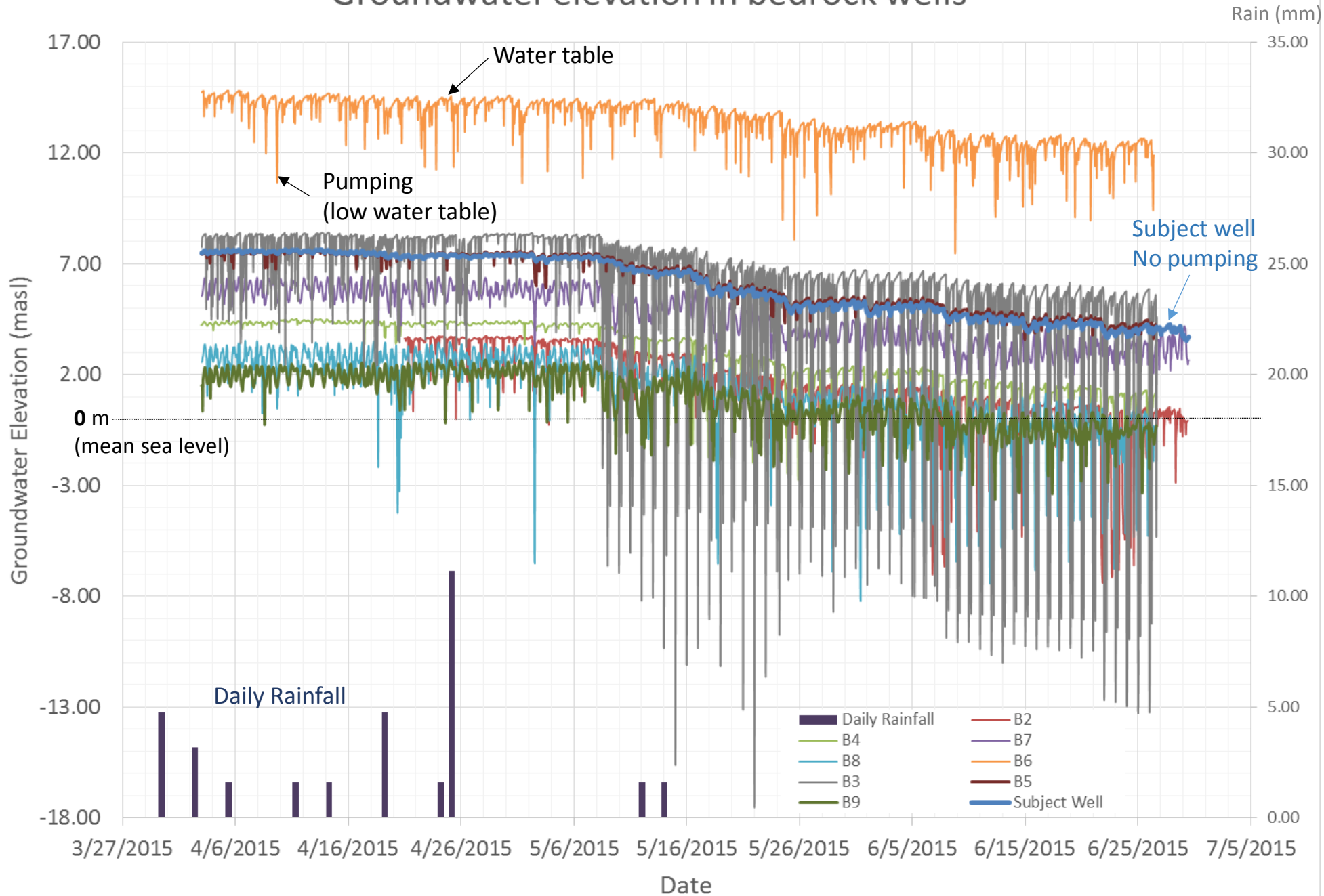
- Water levels have generally decreased in overburden and increased in bedrock
- The differences between water levels stayed within a range of 5m for most of the wells:
 - Different period of the year
 - Variations due to pumping in the well itself
- Other uncertainties:
 - Raw water level estimated by drillers, may not be a “static” level + different reference point

Static level in RDN Obs Well West Bay #3



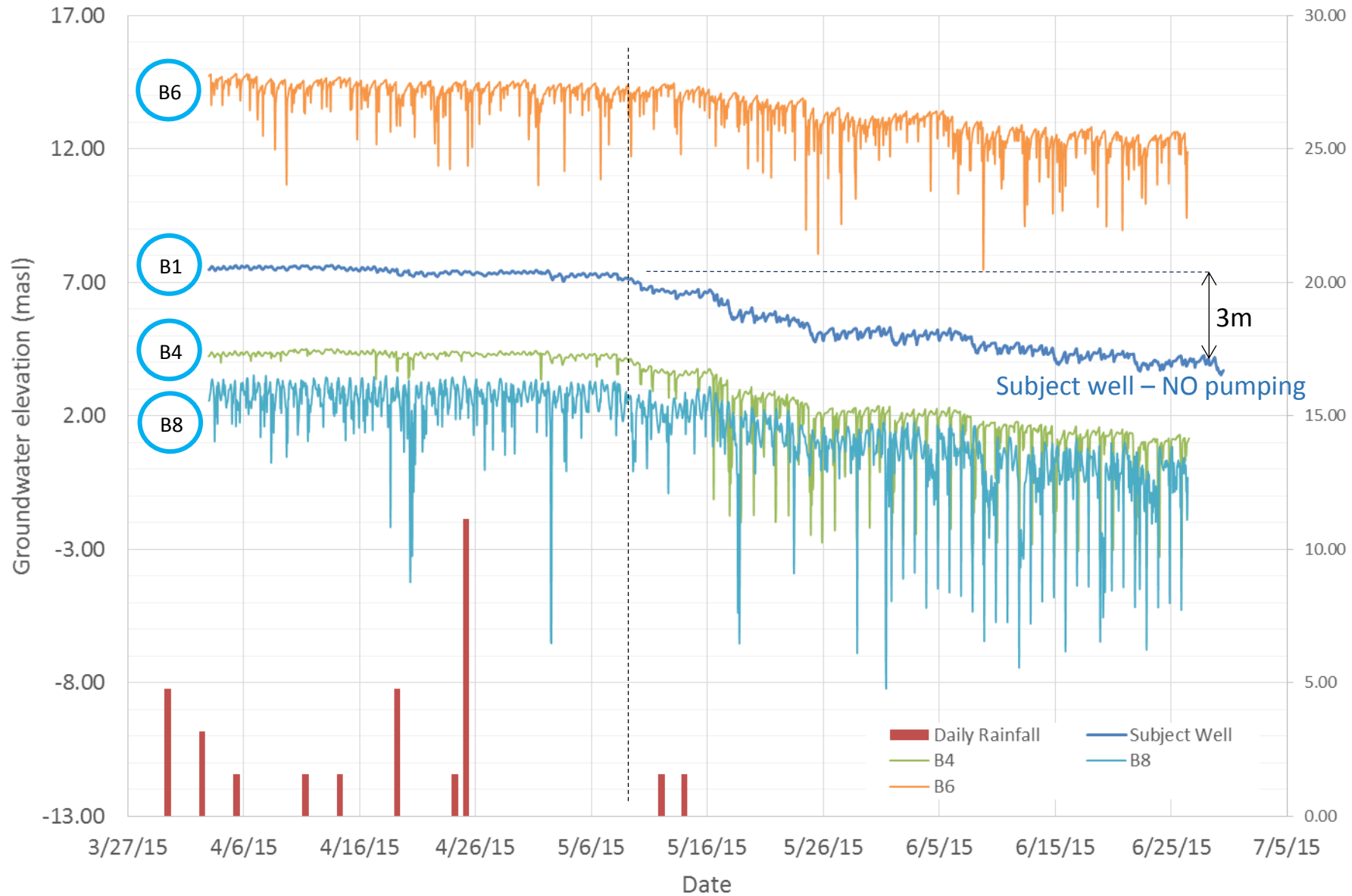
- Natural fluctuation about 4m in overburden
- Decrease of about 1m in 3.5 years
- Too short monitoring period

Groundwater elevation in bedrock wells



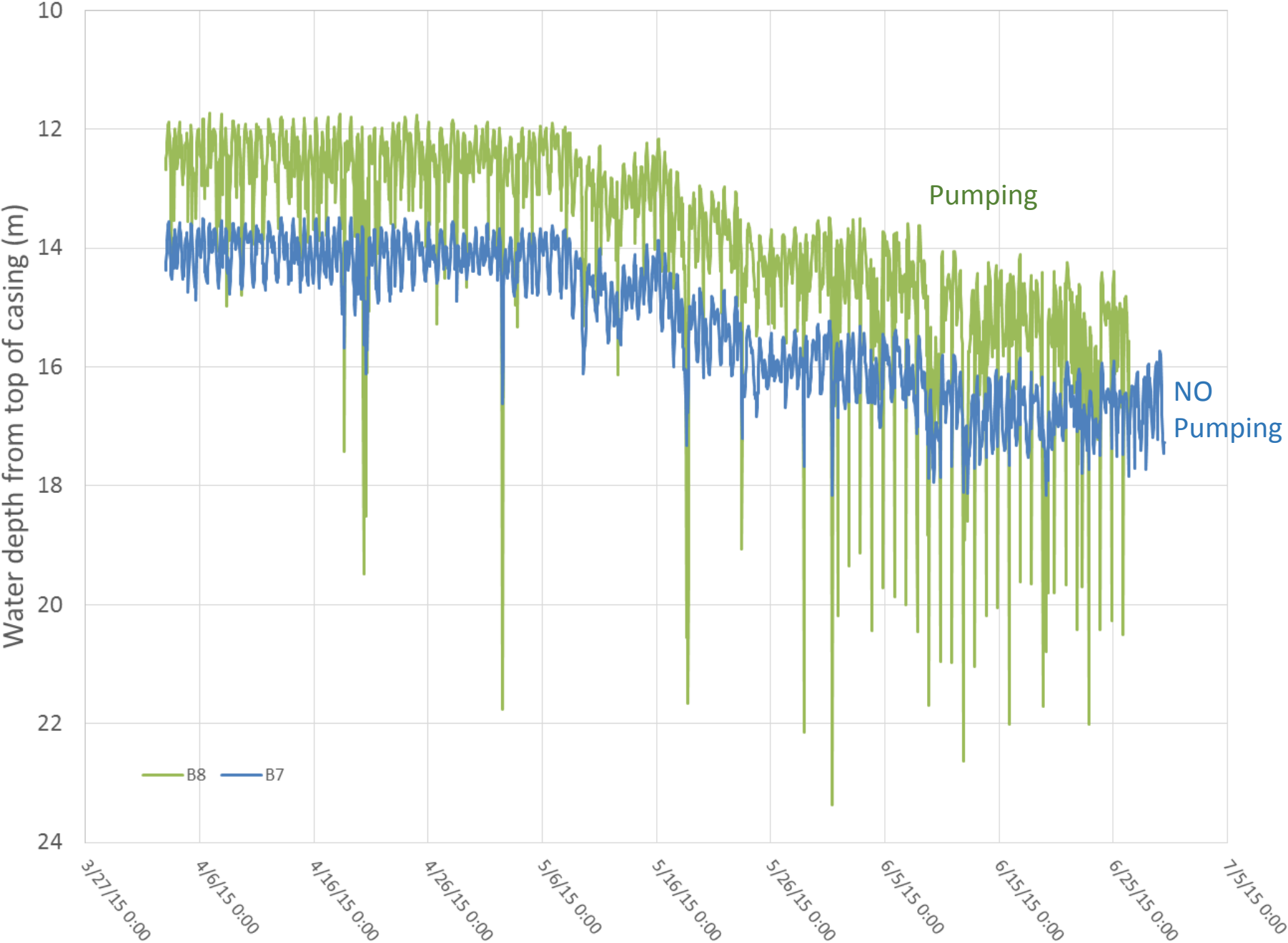
- Pumping in wells result in drop of water level followed by recovery. Fluctuation of WL on a daily basis due to pumping and/or well interference: ex: B6 → 1 to 5 m B3 → up to 24m
- Subject well has NOT been pumped
- Similar trend in water fluctuations for bedrock wells
- Water level is decreasing from May due to dry conditions
- No significant rainfall; it does not seem to affect much the water table fluctuation

Groundwater elevation in bedrock wells

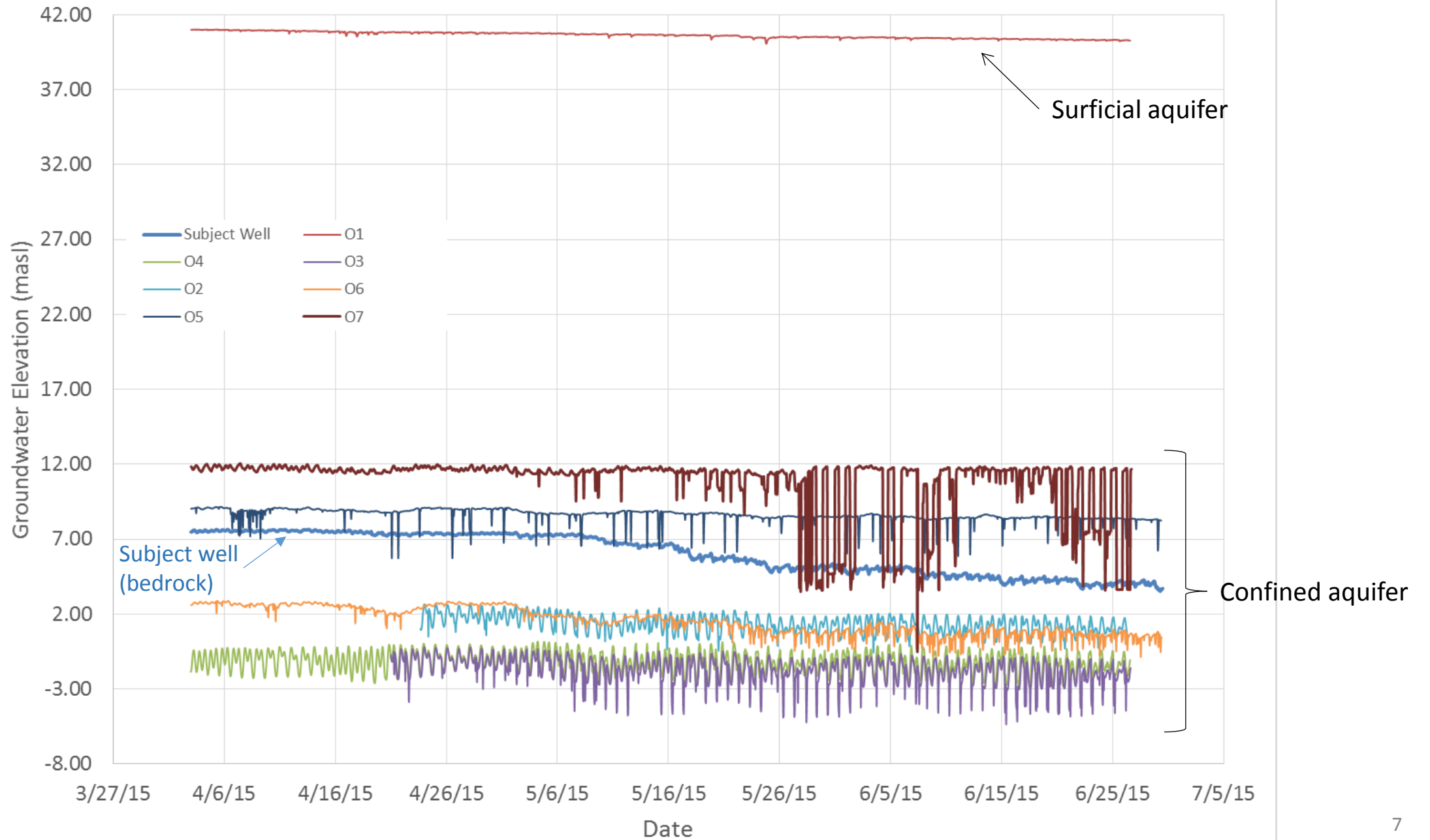


- **3m decrease in WL within 1.5 month**
- Groundwater flow direction: approx. North-West to South-east

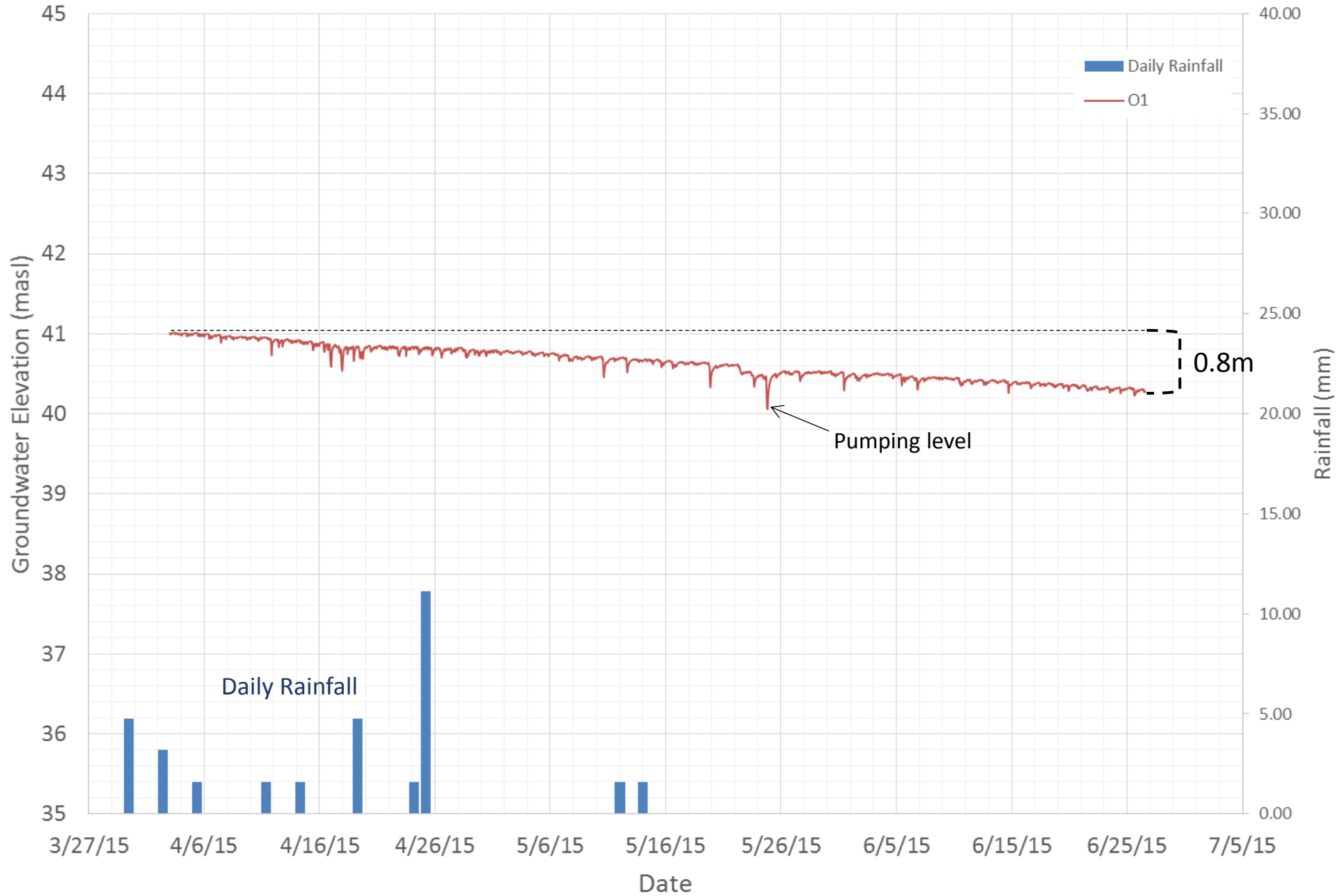
Illustration of well interference



Groundwater elevation in overburden wells

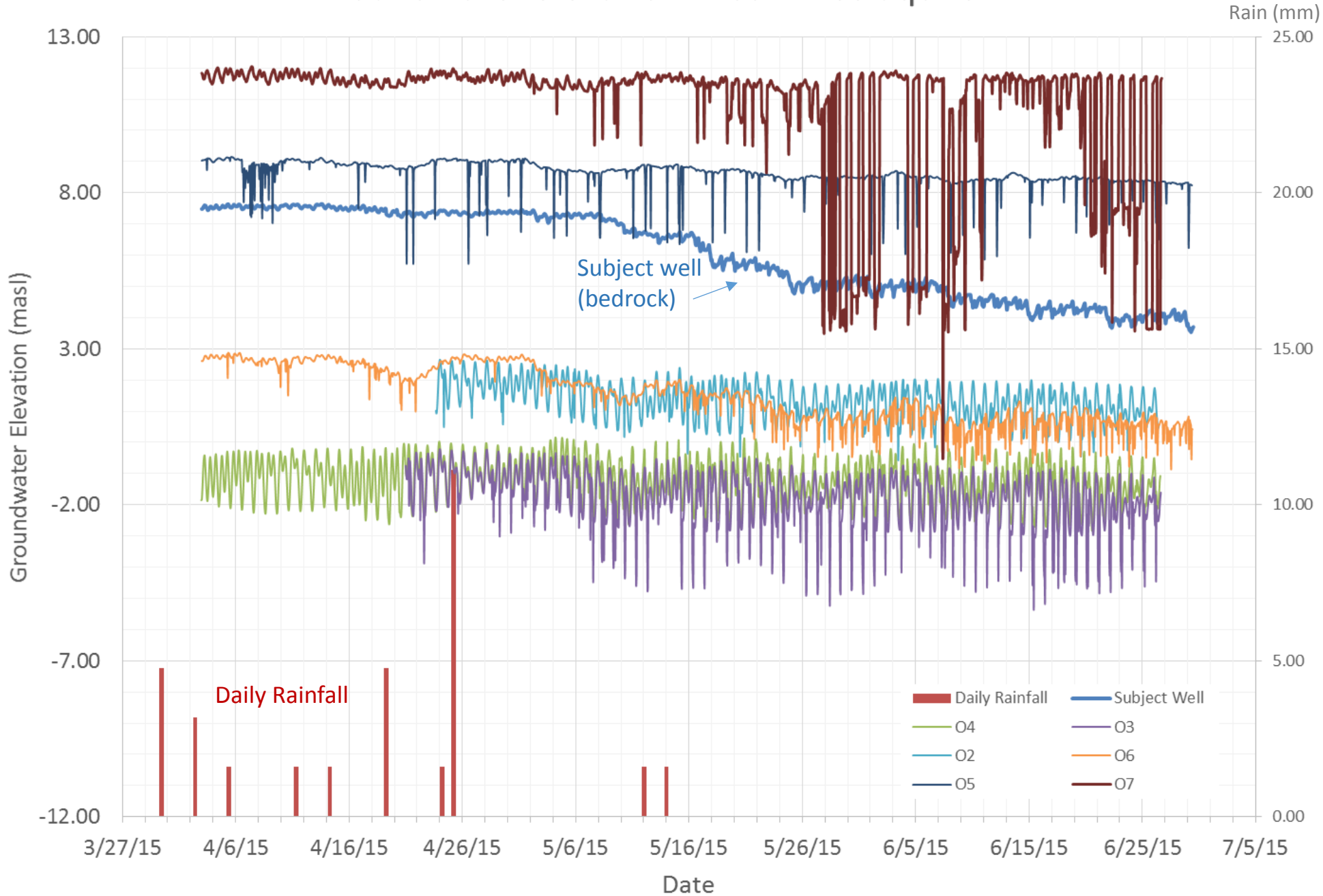


Groundwater elevation in the surficial aquifer



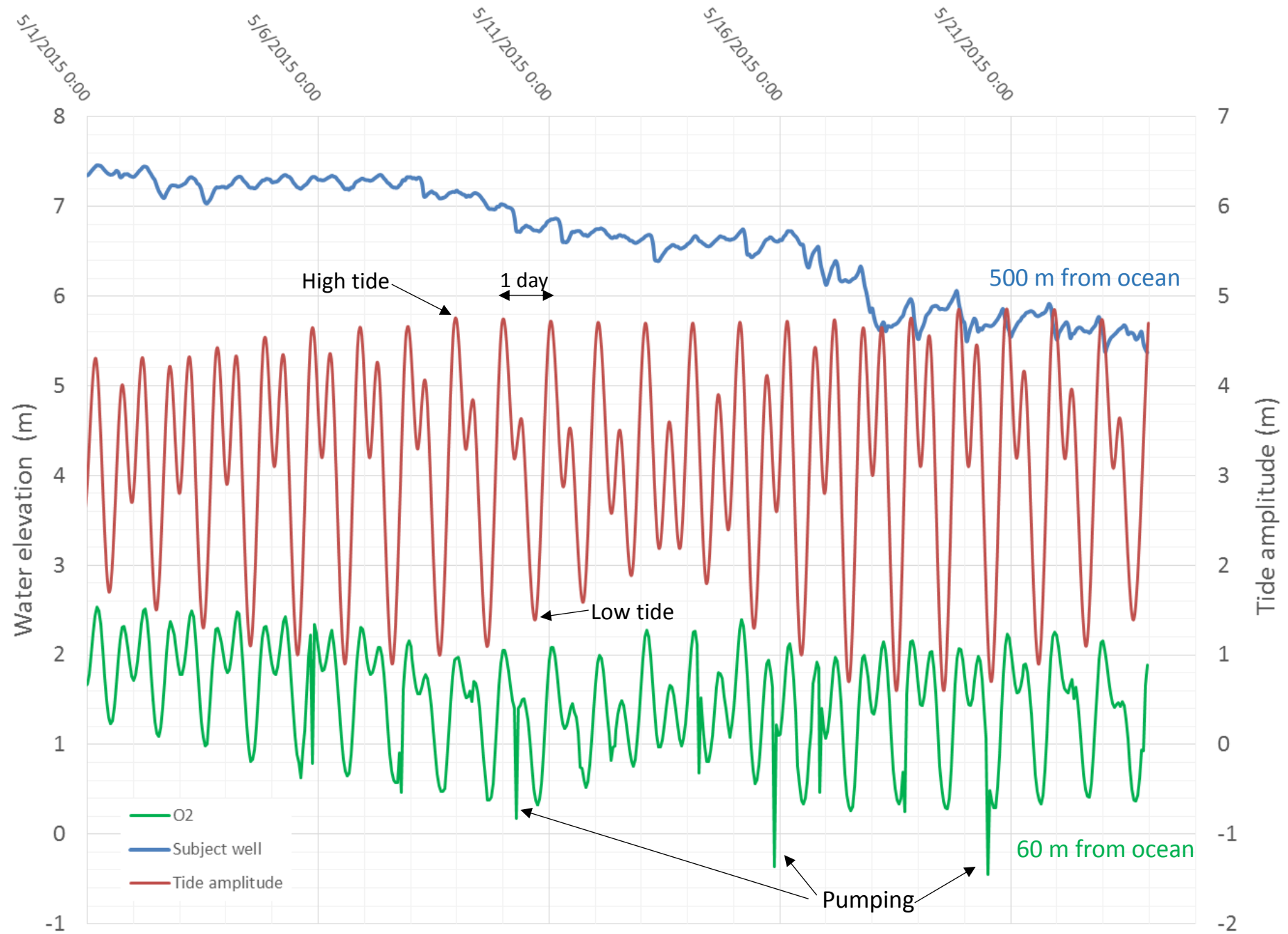
- < 1m decrease in 3 months due to drought
- No identified short term recharge due to rainfall

Groundwater elevation in confined aquifer



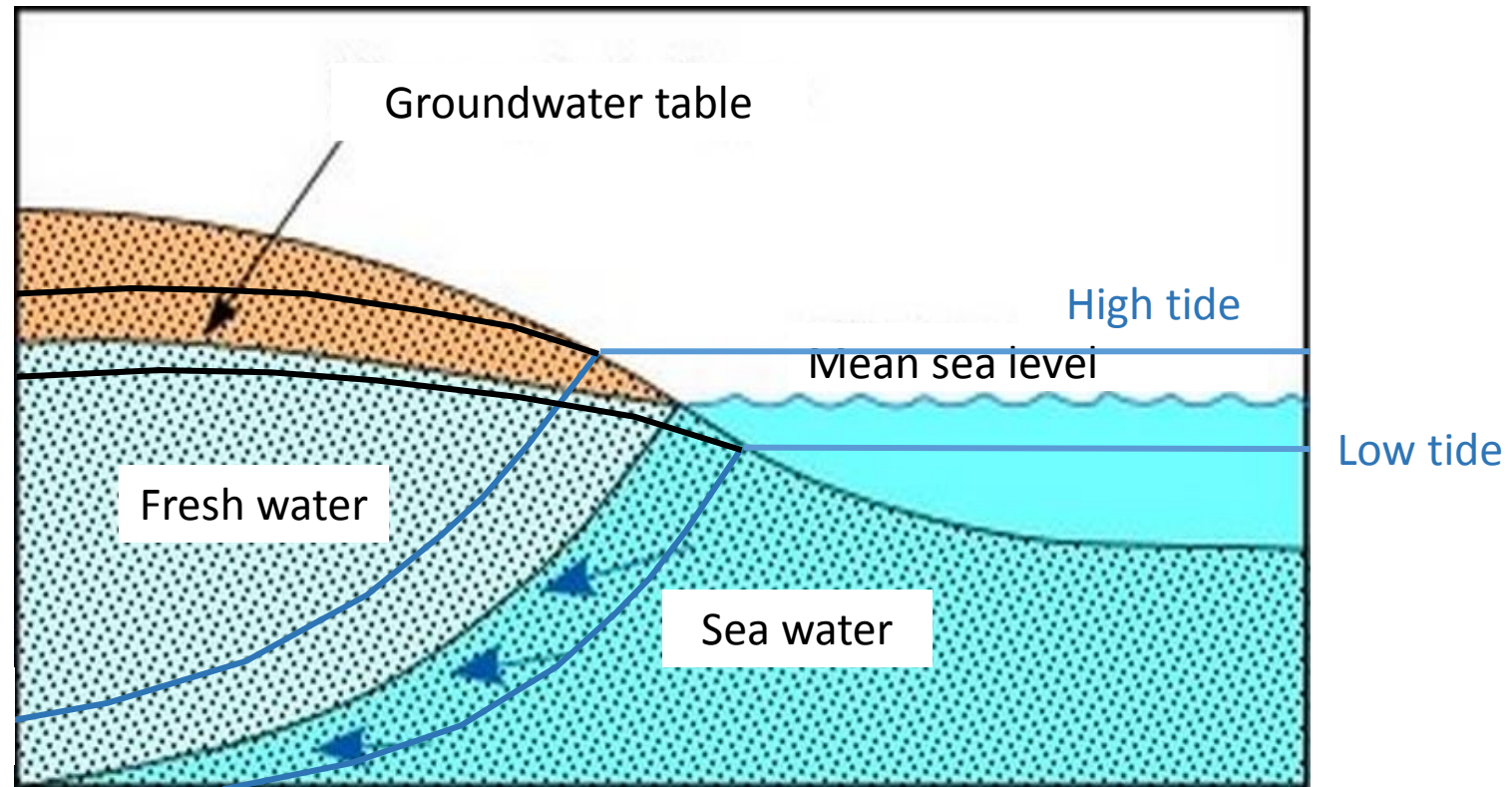
- No effect of the pumping at the farm on other wells in confined overburden aquifer + good recovery
- Generally less than 1m decrease in WL – slight decrease likely due to absence of rain
- Bedrock – 3m decrease – reacts more than overburden to dry weather
- Tidal effect observable in wells located near the ocean

Tidal effect



- Tidal effect decreases with distance from the ocean

Salt water intrusion



Fluctuation of electrical conductivity

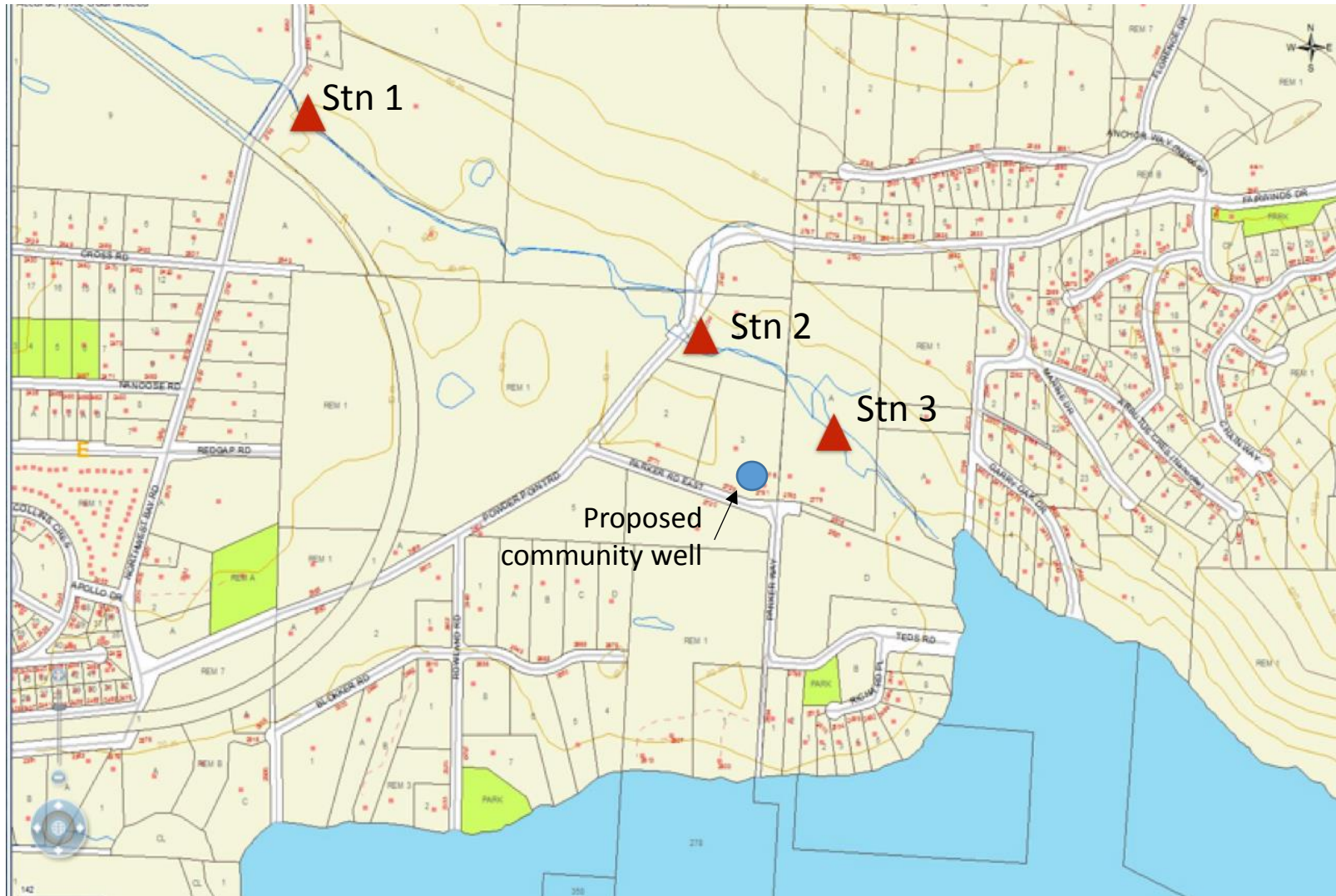


Electrical Conductivity (EC) gives an indication on the salinity of water

EC increases when WL drops due to pumping or general decrease

Drinking water < 1000 uS/cm

Maelstrom Creek monitoring



To evaluate connection with aquifers - river base flow is a criteria for sustainable operation of a well

Maelstrom Creek monitoring

- Reaction to rainfall events (rise in WL)
- WL decreases with absence of rain
- Connection with groundwater to be assessed

