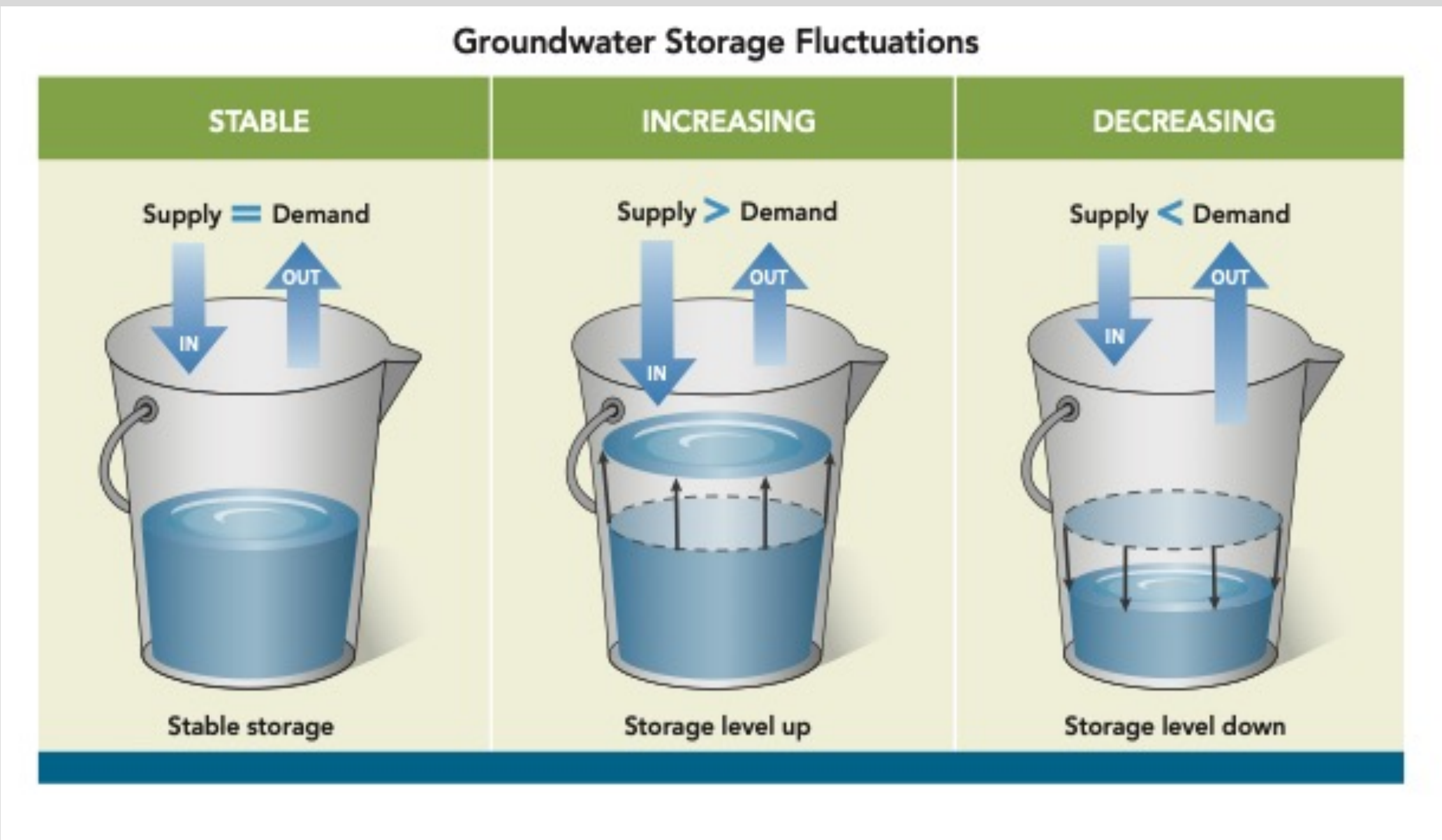


# SUSTAINABILITY INDICATOR: GROUNDWATER LEVELS AND GROUNDWATER STORAGE

## WHAT THEY MEAN FOR SIERRA VALLEY

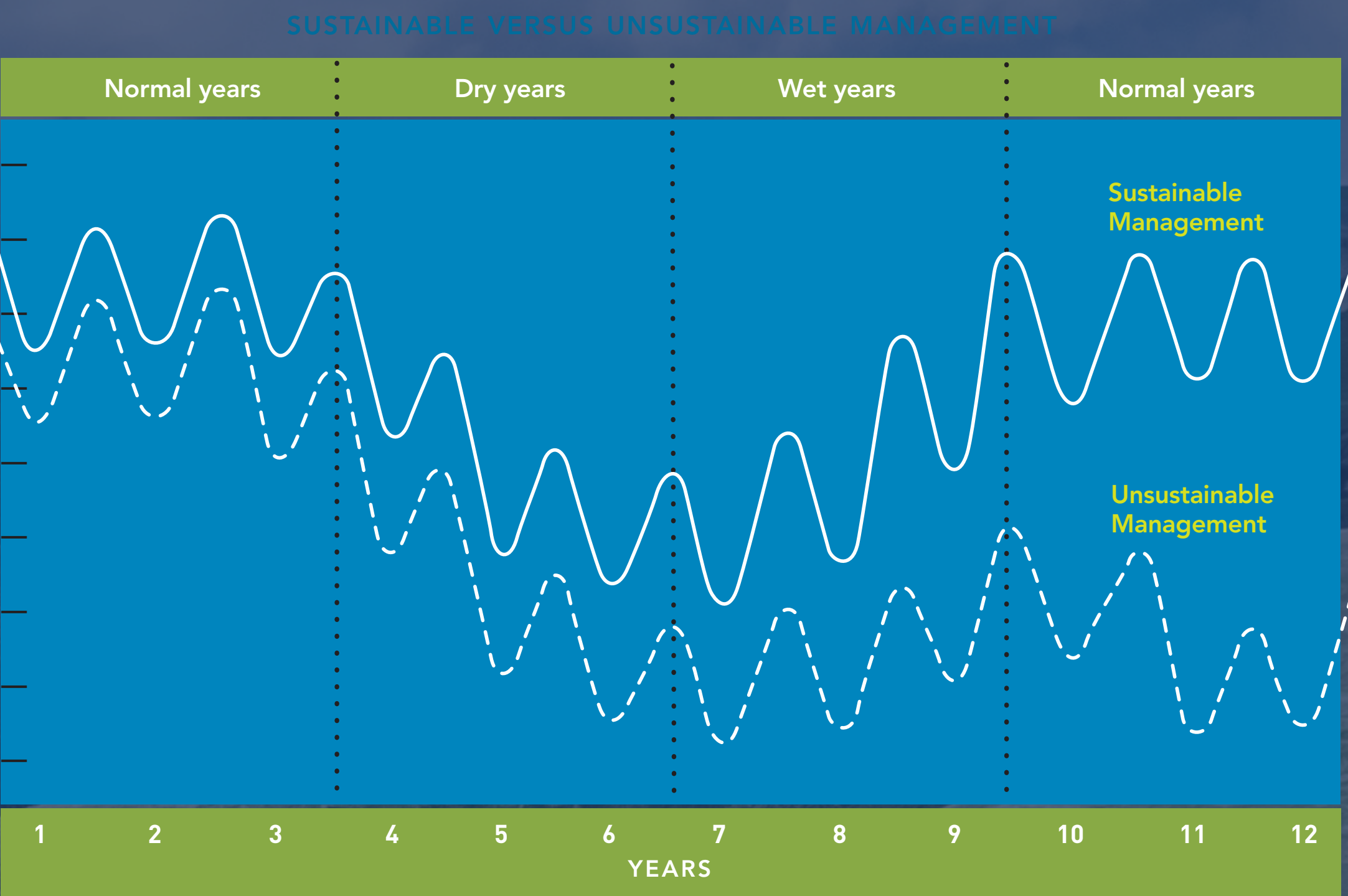
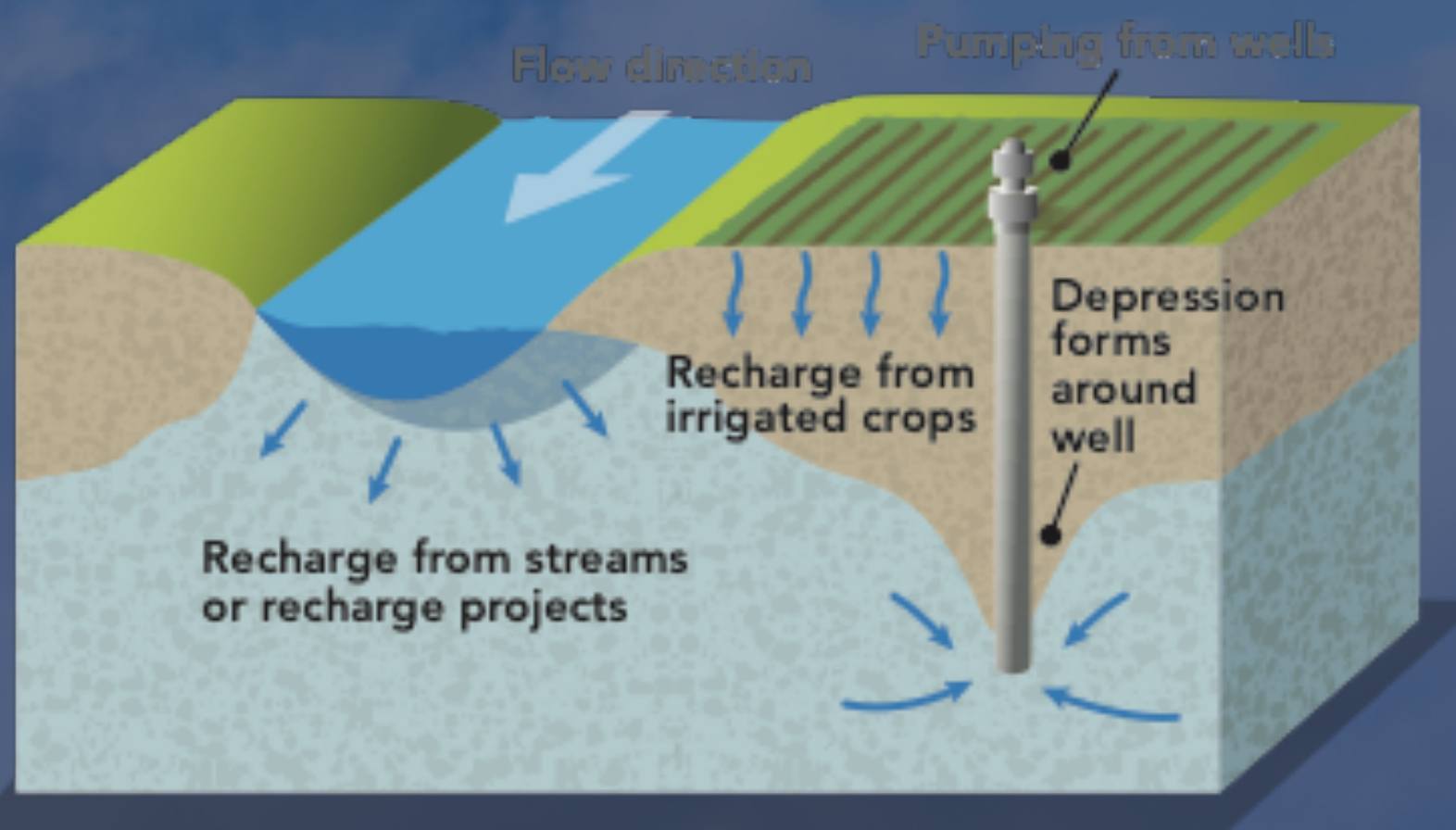
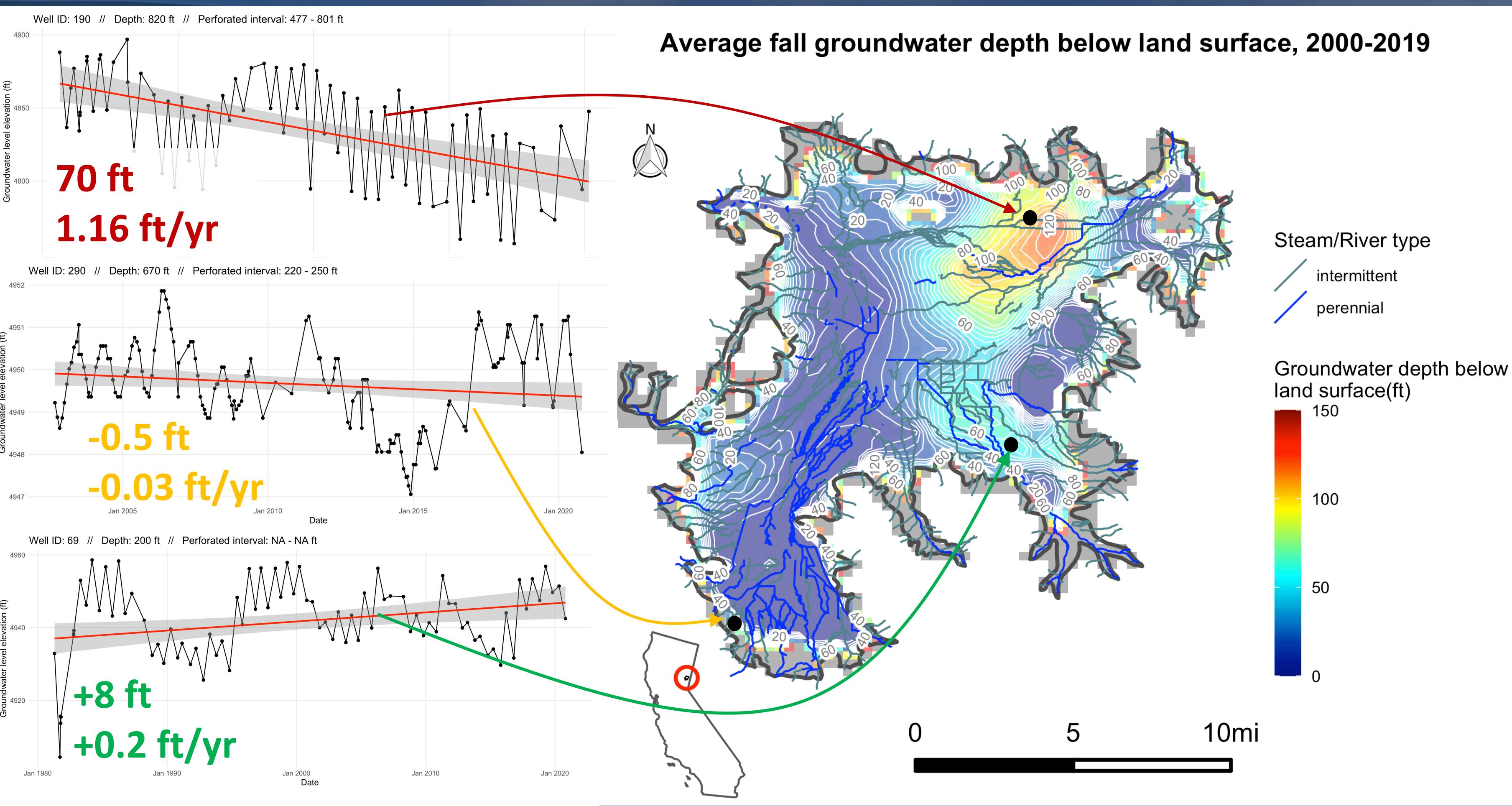
When more water is pumped out of a groundwater basin than is recharged, groundwater levels drop. If overpumping persists, it can create a number of undesirable results including water levels dropping below the pumps, water having to be pumped from deeper in the ground, and wells running dry. These issues translate to increased costs and maintenance for well owners, including well rehabilitation/redevelopment, pump lowering, well component replacement (e.g., from reduced well lifespan due to corrosion of well casings and screens, wear and tear on well pump motors, and reduced well efficiency), increased energy use to pump water from deeper in the ground, or even well replacement.

The primary effect or undesirable result of reduced groundwater storage in Sierra Valley would be the reduced reliability of groundwater supplies. Since most water users in Sierra Valley depend on groundwater supplies, most water users would be affected. The effect would be most significant when surface water supplies are limited due to drought, regulatory restrictions, natural disasters, or other causes. Groundwater Levels are also used as an indicator of Undesirable Results for Reduction of Groundwater Storage.



## CURRENT CONDITIONS IN SIERRA VALLEY

As shown below, Groundwater Levels in the Basin are generally decreasing. Preliminary analyses indicate the basin has experienced a slight net reduction in Groundwater Storage capacity.



## PROPOSED SUSTAINABLE MANAGEMENT CRITERIA (SMC)

The GSP for Sierra Valley will specify sustainable management criteria (SMC) for groundwater levels and groundwater storage. The SMC are currently under development. An example SMC may be:

*Undesirable Results for Chronic Lowering of Groundwater Levels would be experienced in the Basin if and when groundwater levels decline below the established Minimum Thresholds in 25% or more of the 20 Representative Monitoring Wells for more than two (2) consecutive non-drought years.*

## APPROACHES TO ADDRESSING UNDESIRABLE RESULTS

Lowering of groundwater levels may be addressed by managing the amount of pumping (reducing demand) or groundwater recharge projects (increasing supply). Impacts of climate change will also be considered. A monitoring network will be established to track groundwater level at key locations within the basin with the purpose of assessing the success of modified well and pumping operations and other actions.

## WHAT DO YOU THINK...

Are long-term declining water levels and storage of concern to you?

Do you know of any wells that went dry in 2015 because of the extended drought?

Do you have a well you would allow to be monitored for groundwater levels?

GSAs:

