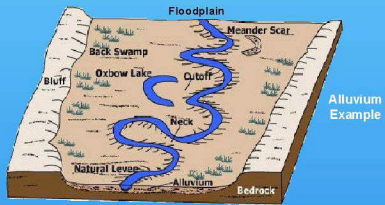


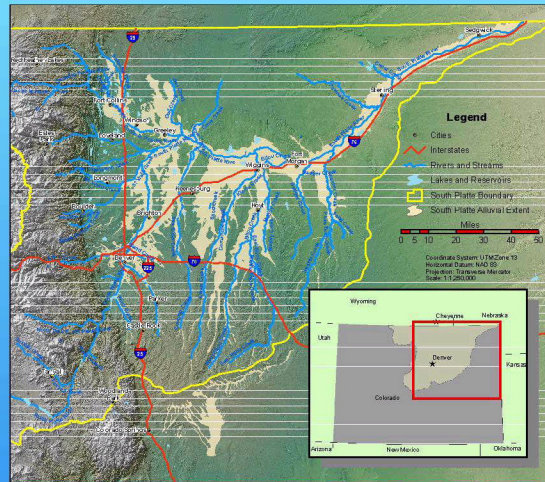
# South Platte Decision Support System - Alluvial Aquifer

## What is Alluvium?

The South Platte River Alluvium consists of sand, gravel, silt and clay deposited from running water. The alluvium is constrained by topographic features (bluffs) and underlying bedrock. The alluvium has many features, such as oxbows and levees, which are the result of natural river channel meandering over time.



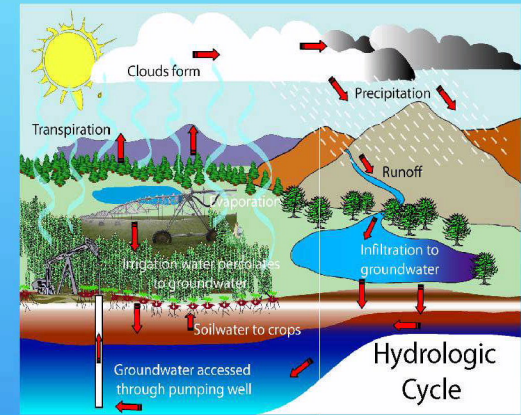
The South Platte River is continually suspending and depositing alluvium along its length. Where river flow is rapid, more alluvial material is suspended and transported than is deposited. When river flow is low or slow, more materials are deposited than suspended and transported.



## About the Poster

The map on the left displays the alluvial extent of the South Platte River Basin, draped on a colorized hill shaded digital elevation model. Displayed graphics are all products of the South Platte Decision Support System (SPDSS).

For more information visit: <http://cdss.state.co.us>

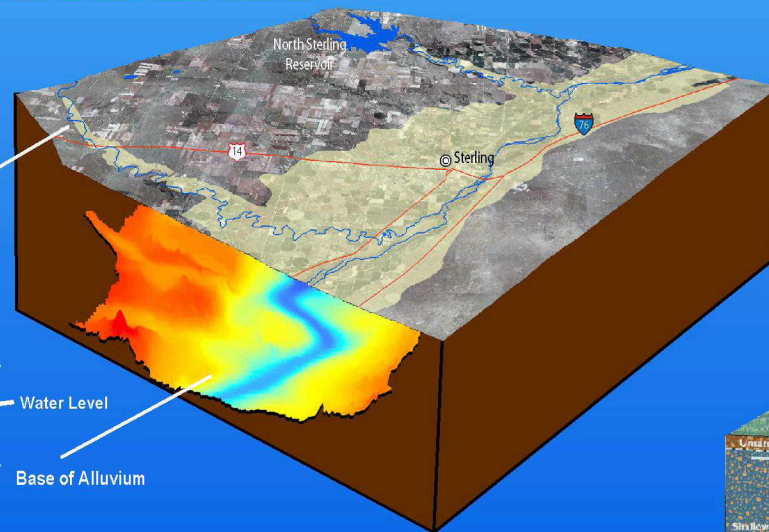
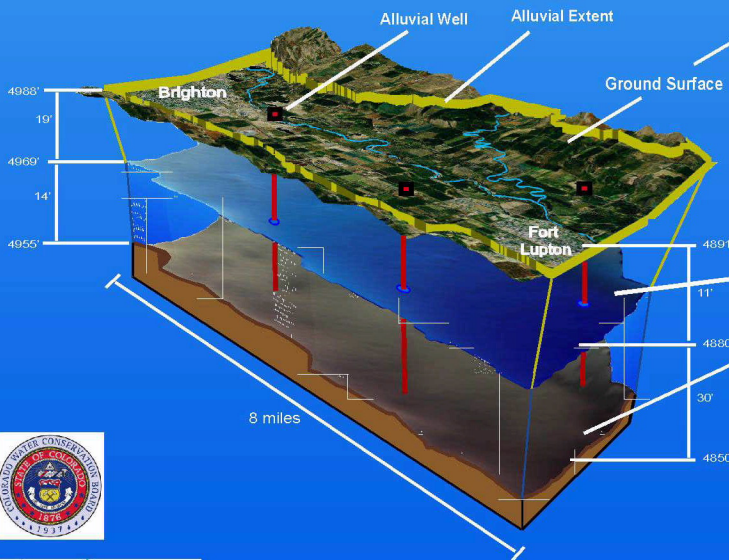


## Alluvium Recharge

The alluvial aquifer is recharged through the natural processes of the Hydrologic Cycle.

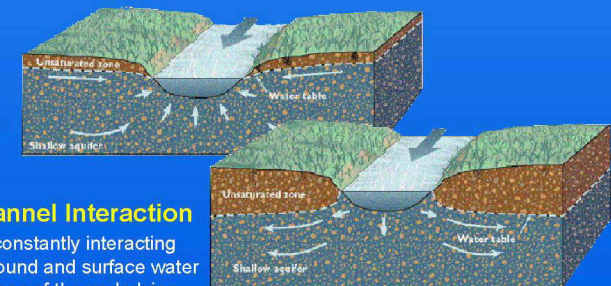
## How is the Alluvial Aquifer Measured and Monitored?

The alluvial aquifer is monitored through pumping and specific capacity tests with laboratory geotechnical analysis and visual estimates of soil and rock types. Laboratory testing of permeability (effective porosity) relates to the amount of interconnected groundwater space available.



## How deep is the Alluvium?

In the South Platte, alluvial deposits are generally thin (average 36 feet deep). Alluvial deposits thicken over time and form a continuous underground aquifer network that is a major groundwater resource, with wells accessing this water up to 75 feet deep. The graphic above displays a section of the alluvial basin near the town of Sterling. The section is vertically exaggerated 10 times (VE:10x). Displayed on the left is a section of the South Platte alluvium near the town of Brighton with a vertical exaggeration (VE: 15x).



## River Channel Interaction

Rivers are constantly interacting between ground and surface water at the interface of the underlying alluvium. The river can gain water if the groundwater flows into the river and can lose water by groundwater flowing out of the streambed into the underlying aquifer. Water level variations impact the availability of groundwater for multiple purposes including irrigation and wells.

