

The Arizona Water Science Center has been using survey-grade GPS since the mid 1990's for several large studies, including the Lower Colorado Decree Accounting Project. Center staff continue to learn new ways to use survey-grade GPS in order to increase efficiency, data reliability, and to account for upgrades in technology.

## Survey types/capabilities:

- Real Time Kinematic
- Single-baseline static
- Levelling
- Total Station

## Equipment available:

- 1-Trimble 5700 receiver
- 1-Trimble 5800 receiver
- 2-Trimble R6 receiver/antennas

Survey grade GPS can generally achieve a vertical accuracy between two to five centimeters depending upon control conditions. Time spent at each site can range anywhere from two minutes if using RTK to several hours if using single-baseline static.

## Possible survey-grade GPS projects:

- Stream gage datum
- Monitoring well datum
- Bathymetry
- Stream channel surveys
- Overbank/bankfull elevations for indirect discharge measurements/flood conditions
- Re-establishing survey control following hurricanes, floods, earthquakes, etc.
- Monitoring landslides/glaciers
- Measurements of earth deformation due to geophysical processes such as subsidence
- Monitoring coastal erosion

In addition to data collection, professional post-processing of the collected data can be completed quickly. Training can also be provided to staff on their equipment and software.

