FAQ's - Upgrading from NGVD 29 to NAVD 88

Improving Accuracy of Water Level Data

Q: What is a vertical datum?

A: A vertical datum is a base measurement point from which all subsequent elevation measurements are determined.

Q: What is the National Geodetic Vertical Datum of 1929 (NGVD 29)?

A: Originally called the Sea Level Datum of 1929, it was established by the National Geodetic Survey and it was the first vertical (elevation) datum for an entire continent in the history of the world. With observations that started in the 19th century, a series of 26 tide gauges were recorded for over 19 years to establish Local Mean Sea Level for all of the coasts of the United States.

As technology improved, NGVD 29 was found to have inaccuracies related to currents, wind, temperature, topography of the seabed, barometric pressures, and salinity variations.

Q: What is the North American Vertical Datum of 1988 (NAVD 88)?

A: The North American Vertical Datum of 1988 was established in 1991. It was created to more accurately reflect elevations across North America.

In 1993, the NAVD 88 standard was affirmed as the official vertical datum in the National Spatial Reference System for the United States. A federal mandate requires all government agencies using or producing vertical height information to make the transition to NAVD 88.

Q: Why is the SFWMD upgrading to NAVD 88?

A: Technological advancements incorporated into the NAVD 88 standard created the ability for greater accuracy when measuring water levels. NAVD 88 allows for more precision when determining how much water must be moved from one elevation to another.

Q: What does the upgrade mean for the public and stakeholders?

A: The numerical values that SFWMD associates with the elevation in lakes, canals and other bodies of water will change. Depending on the location within SFWMD's boundaries, measurements of water levels in NAVD 88 will be approximately 0.6 feet to 1.6 feet lower than they are in NGVD 29. For example, the difference between the two measuring standards in Lake Okeechobee is 1.25 feet, so a water level of 12.5 feet NGVD 29 is 11.25 feet NAVD 88.

This variation affects only the numerical value for the elevation point. The volume and depth of water remains the same.

Q: Are water level gauges calibrated to NAVD 88?

A: Yes, all SFWMD staff gauges are now calibrated to the NAVD 88 standard.

Q: Will the District continue to publish data in NGVD 29?

A: Once the upgrade is implemented, SFWMD will publish water elevations in NAVD 88. Information for both datum standards (NAVD 88 and NGVD 29) will continue to be available for a period of time on DBHYDRO, the SFWMD's environmental database for hydrologic, meteorologic, hydrogeologic and water quality data.