

Upgrade Streamgage Datums—Chehalis River Basin

Gages Group Meeting, 9/20/2017

Presented by the USGS:

Mark Mastin, Data Chief

Ken Frasl, Field Office Chief



Streamflow Gages

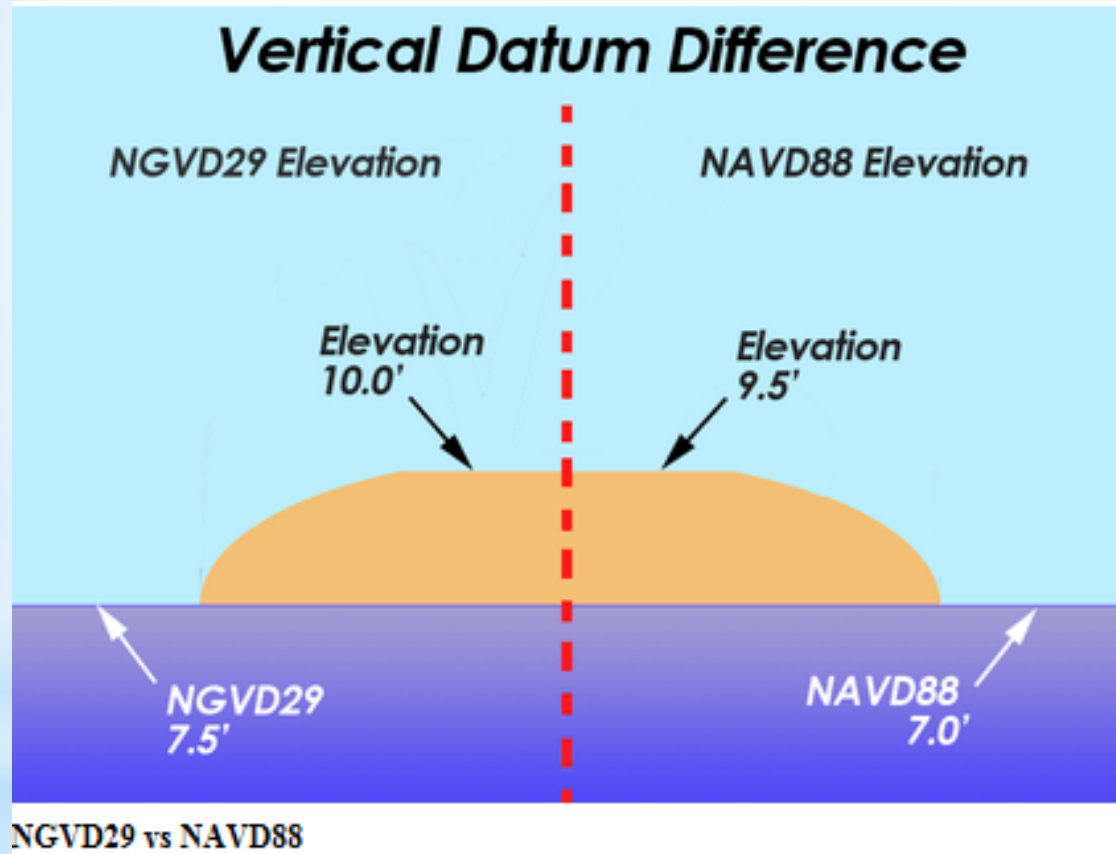


Wire-weight gage

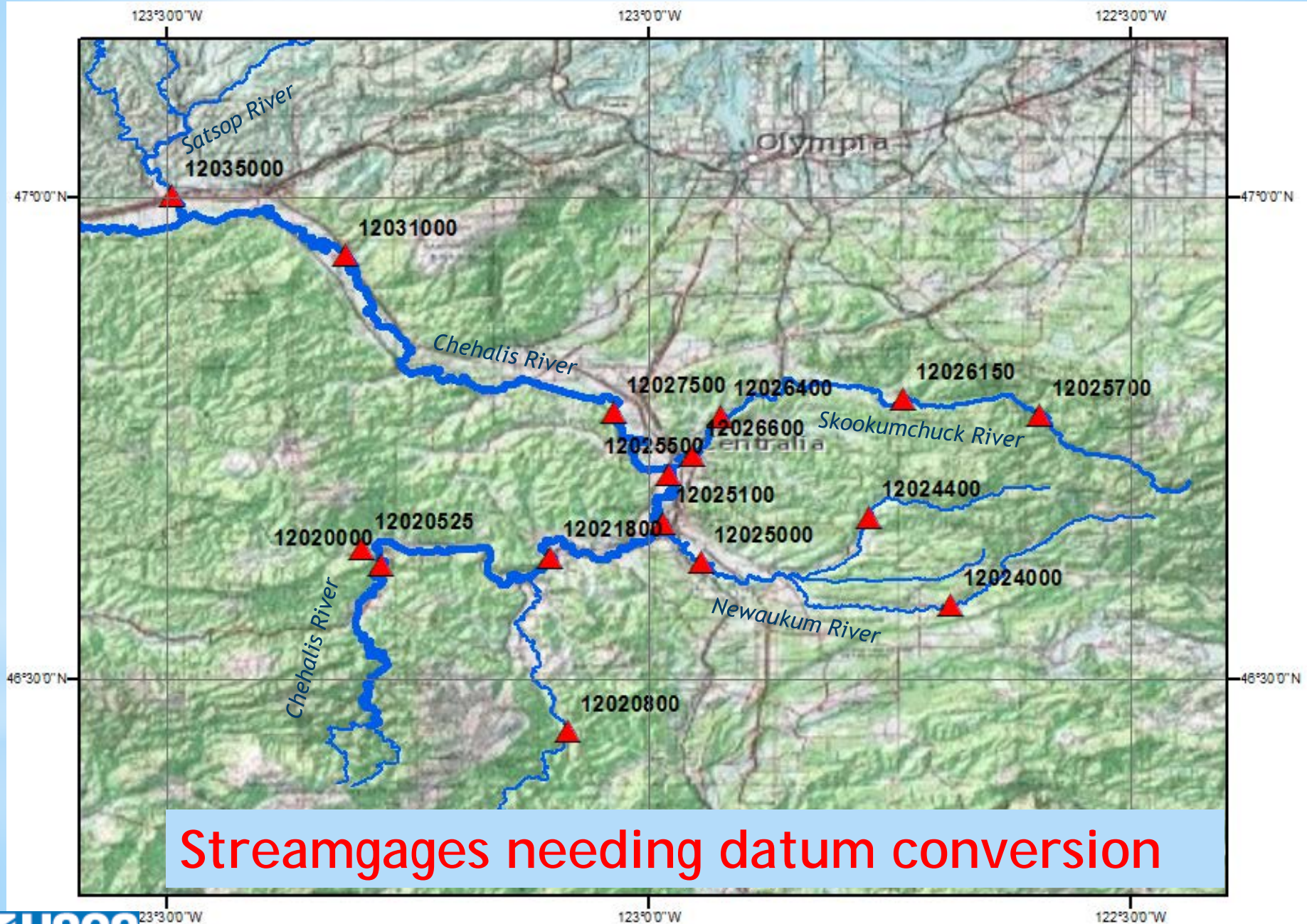


Staff gage

Vertical Datums



USGS Station No.	Station Name	Current Datum	Probable Conversion Method
12020000	Chehalis River near Doty	Arbitrary	GPS
12020525	Elk Creek below Deer Creek near Doty	NGVD 29	GPS
12020800	South Fork Chehalis River near Wildwood	NGVD 29	Levels
12021800	Chehalis River near Adna	NGVD 29	Levels
12024000	South Fork Newaukum River near Onalaska	NGVD 29	GPS
12024400	North Fork Newaukum River above Bear Creek near Forest	NGVD 29	GPS
12025000	Newaukum River near Chehalis	NGVD 29	VERTCON
12025100	Chehalis River at Wastewater Treatment Plant at Chehalis	NGVD 29	Levels
12025500	Chehalis River at Centralia	NGVD 29	VERTCON
12025700	Skookumchuck River near Vail	NGVD 29	GPS
12026150	Skookumchuck River below Bloody Run Creek near Centralia	NGVD 29	Levels
12026400	Skookumchuck River near Bucoda	NGVD 29	VERTCON
12026600	Skookumchuck River at Centralia	NGVD 29	Levels
12027500	Chehalis River near Grand Mound	NGVD 29	VERTCON
12031000	Chehalis River at Porter	NGVD 29	Levels
12035000	Satsop River near Satsop	NGVD 29	Levels



Streamgages needing datum conversion

See file dsdata.pdf for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.12.2

1 National Geodetic Survey, Retrieval Date = JULY 21, 2017

SC0210 *****

SC0210 DESIGNATION - EX 9

SC0210 PID - SC0210

SC0210 STATE/COUNTY- WA/LEWIS

SC0210 COUNTRY - US

SC0210 USGS QUAD - CENTRALIA (1993)

SC0210

SC0210 *CURRENT SURVEY CONTROL

SC0210

SC0210* NAD 83(1986) POSITION- 46 39 41.5 (N) 122 58 09.4 (W) HD_HELD2

SC0210* NAVD 88 ORTHO HEIGHT - 57.642 (meters) 189.11 (feet) ADJUSTED

SC0210

SC0210 GEOID HEIGHT - -21.438 (meters) GEOID12B

SC0210 DYNAMIC HEIGHT - 57.649 (meters) 189.14 (feet) COMP

SC0210 MODELED GRAVITY - 980,731.8 (mgal) NAVD 88

SC0210

SC0210 VERT ORDER - FIRST CLASS II

SC0210

SC0210.The horizontal coordinates were established by autonomous hand held GPS

SC0210.observations and have an estimated accuracy of +/- 10 meters.

SC0210.

SC0210.The orthometric height was determined by differential leveling and

SC0210.adjusted by the NATIONAL GEODETIC SURVEY

SC0210.in June 1991.

SC0210

SC0210.Significant digits in the geoid height do not necessarily reflect accuracy.

SC0210.GEOID12B height accuracy estimate available here.

SC0210

SC0210.Photographs are available for this station.

SC0210

SC0210.The dynamic height is computed by dividing the NAVD 88

SC0210.geopotential number by the normal gravity value computed on the

SC0210.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

SC0210.degrees latitude (g = 980.6199 gals.).

SC0210

SC0210.The modeled gravity was interpolated from observed gravity values.

SC0210

SC0210; North East Units Estimated Accuracy

SC0210;SPC WA S - 150,587. 311,061. MT (+/- 10 meters HH2 GPS)

SC0210

SC0210_U.S. NATIONAL GRID SPATIAL ADDRESS: 10TES0235067552(NAD 83)

SC0210

SC0210 SUPERSEDED SURVEY CONTROL

SC0210

SC0210 NGVD 29 (??/??/??) 56.61 (m) 185.7 (f) RESET 3

SC0210 NGVD 29 (05/16/90) 56.601 (m) 185.70 (f) ADJUSTED 1 2

SC0210

NAVD 88 = 189.11 ft

NAVD 88 - NGVD 29 = 3.41 ft

VERTCON Difference = 3.406 ft

NGVD 29 = 185.70 ft

DATASHEETS Data Sheet Retrieval
The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.12.2

1 National Geodetic Survey, Retrieval Date = JULY 21, 2017

SC0708 *****

SC0708 DESIGNATION - TIDAL 1

SC0708 PID - SC0708

SC0708 STATE/COUNTY- WA/GRAYS HARBOR

SC0708 COUNTRY - US

SC0708 USGS QUAD - MONTESANO (1993)

SC0708

SC0708 *CURRENT SURVEY CONTROL

SC0708

SC0708* NAD 83(1986) POSITION- 46 58 04. (N) 123 36 31. (W) SCALED

SC0708* NAVD 88 ORTHO HEIGHT - 5.510 (meters) 18.08 (feet) ADJUSTED

SC0708

SC0708 GEOID HEIGHT - -22.471 (meters) GEOID12B

SC0708 DYNAMIC HEIGHT - 5.511 (meters) 18.08 (feet) COMP

SC0708 MODELED GRAVITY - 980,766.6 (mgal) NAVD 88

SC0708

SC0708 VERT ORDER - FIRST CLASS I

SC0708

SC0708.The horizontal coordinates were scaled from a topographic map and have

SC0708.an estimated accuracy of +/- 6 seconds.

SC0708.

SC0708.The orthometric height was determined by differential leveling and

SC0708.adjusted by the NATIONAL GEODETIC SURVEY

SC0708.in June 1991.

SC0708

SC0708.Significant digits in the geoid height do not necessarily reflect accuracy.

SC0708.GEOID12B height accuracy estimate available here.

SC0708

SC0708.The dynamic height is computed by dividing the NAVD 88

SC0708.geopotential number by the normal gravity value computed on the

SC0708.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

SC0708.degrees latitude (g = 980.6199 gals.).

SC0708

SC0708.The modeled gravity was interpolated from observed gravity values.

SC0708

SC0708; North East Units Estimated Accuracy

SC0708;SPC WA S - 186,310. 264,140. MT (+/- 180 meters Scaled)

SC0708

SC0708_U.S. NATIONAL GRID SPATIAL ADDRESS: 10TDT543017(NAD 83)

SC0708

SC0708 SUPERSEDED SURVEY CONTROL

SC0708

SC0708 NGVD 29 (??/??/92) 4.496 (m) 14.75 (f) ADJ UNCH 1 1

SC0708

NAVD 88 = 18.08 ft

NAVD 88 - NGVD 29 = 3.33 ft

VERTCON Difference = 3.465 ft

NGVD 29 = 14.75 ft

Tasks

1. Survey Bench Marks, and Reference Marks
2. Adjust all discharge measurements to the new gage heights
3. Create new stage-discharge ratings for gage heights at the new datum
4. Notify the National Weather Service, 90 days prior to resetting the gages.
5. Reset gages and add stage-discharge rating to record processor

Timelines

		2017				2018				
TASKS		SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY
1.	Survey									
2.	Adj. Q Meas.									
3.	New Ratings									
4.	90-day NWS									
5.	Reset gages									

Questions?

