WSRN Station Names

What do those oddball codes mean?

Continuously Operating Reference Stations (CORS); whether they are included in the NGS CORS network, are local, scientific, or for navigation systems, typically have a standard 4-character alpha-numeric code. The 4-character code has been incorporated into international data files formats for transfer of static (or streamed) observation data (like Rinex).

WSRN station "HAHD" (NGS CORS) near Howard Hansen Dam

Is this code mandatory and does the code need to be unique? Pretty much, if the station operators want the data to be usable by others and for the static files to be recognizable in most processing software (unless a proprietary format is used). Or, unless a CORS is operated for purely local and internal use (e.g., some agriculture and private stations), the station needs a unique 4-character code. The scientific community has a great interest in each station having unique codes as they keep time series (some have been running for over two decades) from which they can do their ongoing scientific studies on plate tectonics, atmosphere, etc.

It is very important to change a code if a station is moved, and to never use that code again. This is so that data from old stations do not get mixed up with new. If the ARP (antenna reference point) of the mount stays the same, receiver and antennas can be changed and keep an old name. Nearly every WSRN station provides data to CWU (PANGA), USGS (for their earthquake system), JPL, and other scientific institutions.

Is there a master list of station codes, who keeps it, and who decides on what names can be used? The station owners/operators can call a station anything they want, but they have to check to see if a code is already being used – anywhere in the world. There is no central

registry, but we do due diligence on checking some of the lists of science stations around the world. The most complete list is hosted by SOPAC (Scripps Orbit and Permanent Array Center).

How does the WSRN choose station codes? Firstly, we try to find a code that sounds like the location, e.g., "BELI" is in Bellingham. But often codes that come close are already being used, so then we can get a bit creative. We name stations after prominent surveyors (both living and deceased), people who have worked hard to build/support the network, and sometimes the folks who built/sponsored a station insist on a name. Then other times, well, we might find a name that has significance for the locals or celebrates some aspect of the local community. Sometimes it boils down to "we worked our keisters off building this thing, we get to name it"   ;)

Here is list of WSRN stations (decoded):

ANAT - Anatone WA   Straight forward location; at the WSDOT shop there

ARLI - Arlington WA   Arlington WA. Not to confuse with Arlington OR

ARLN - Arlington OR   At an ODOT shop. Not to be confused with Arlington WA

BBAY - Birch Bay WA   At a Birch Bay Water and Sewer Facility

BCES - Esquimalt BC   Defense facility on Vancouver Island, hosted by BC Gov.

BDRY - Boundary Dam WA   Way up by Metaline Falls in the far NE corner of WA

BELI   - Bellingham WA   City of Bellingham facility

BIGD   - Grand Coulee WA   Close to the town, but as there was too much bureaucracy involved in placing one on the grounds of the dam, a local internet provider (called BigDamNet at the time) graciously offered a nice building mount

BILS   - Queets WA   Named for [Bill Strange](#), former chief geodesist at the NGS who passed away in 2009. Bill was a great resource in understanding elements of geodesy during the development of the WSRN.

BLDG - Dayton WA   At the Dayton Elementary School in cooperation with the science faculty. Named after the school "Bulldog" mascot.

Station "BILS" near Queets-Stillwater School

BLYN - Blyn WA   CWU/PANGA. Used only as a backup due to noisy data.

BPKT - Badger Pocket, WA   A science station for Central Washington University (CWU)

BRN3 - Burnaby BC   Operated by a network in Canada; used to be called "BRNB" but then they moved it (twice). Decommissioned July 2020 replaced with BBAY

CATH - Cathlamet WA   WSDOT hosted

CBLV - Bellevue WA   Hosted by the City of Bellevue.

CBRN - Carbonado, WA   At the Carbonado Schools campus

CCPW - Dayton, WA   Columbia County Public Works hosted. Decommissioned 2020, replaced with BLDG

CDAA - Hayden ID   Hosted by Kootenai County near the airport, CDAA replaced KOOT (due to airport construction). Only about 300m NNW of the old station.

CHCM - Chimacum, WA   CWU (PANGA) science site at the city schools compound.

CHEL - Chelan WA   WSDOT hosted at one of their yards

CHLW - Chiliwack BC   Replaced CWAK in June of 2017. Good hockey team eh?

CLEM - Cle Elum WA   At the county maintenance facility in Cle Elum

CNCR - Concrete WA   At a Skagit County facility

COLV - Colville WA   City of Colville hosted

COAN - Renton WA   Named for the long-time Surveying Program Instructor at
Renton Technical College, James A. Coan Jr. who sadly passed away in 2021

COBI - Bainbridge Island WA Hosted at a City of Bainbridge Island facility

COUG - Cougar WA   Cowlitz County PUD hosted. Retired and replace with
MPAQ in 024

COUP - Coupeville WA   Island County hosted. An early station in the network
before there were many receivers designed with network cards to connect. The helpful IT guru
(Stan Bradshaw) there figured out settings for device servers to move the data securely without
undue complexity – his solution has been used by other networks around the world.

CPUD - Wenatchee WA   Chelan PUD hosted   - Retired: see XANE

CRBN - Carbonado WA   At the Carbonado School District office

CPXF - Pack Forest WA   A science station and NGS CORS that predated any real-
time networks in the state. Comms courtesy of Earthscope NOTA (NOTA (NETWORK OF THE
AMERICAS, WHICH INCLUDES STATIONS PREVIOUSLY CALLED 'PBO'))

CROK - Castle Rock WA   Name has nothing to do with those weird sandals. City of Castle Rock and WSDOT hosted. Nearby latte stand serves some mean beans ☺

CSKI - Kent City WA   City of Kent hosted. Named for Larry Cekalski: Larry Cekalski was born in Chicago and made his way to Washington in the late '70s. He started working in the City of Kent Survey Section in 1981 and has played a key role there ever since. He was trained in the era of chain and Lietz T60s and warmed up to new technology only after it proved that it would not lie to him. Then he would embrace it with passion and dig in to the inner workings as the surveyor/scientist that he was. Larry was a primary beta tester of the WSRN in the Kent area and helped to develop the department standards we use today. He loved a good math puzzle, a good joke, and a good pizza all equally. He died Jan 30, 2008, after fighting cancer for 5 months.

CULM - Spada Lake WA. At the Snohomish PUD Culmback Dam

CUSH - Lake Cushman WA   Tacoma Water/Power hosted at the scenic hydro dam.

DEEJ - Amanda Park WA   WSDOT hosted. Named for Daniel Johnson, UW geophysics professor who died tragically with a colleague in a logging truck accident in 2005. Dan, "DJ" or "Deej" worked on the early GPS arrays that would later interface with the WSRN.

DCSD – East Wenatchee   Hosted by Douglas County Sewer District

DMND - Diamond Lake   CWU hosted. A challenging site; 6 years to complete.

DVPT - Davenport WA   Mounted on the county jail, a very secure site

ELSR - Bremerton Airport WA   CWU and WSDOT hosted. Named for Port Orchard surveyor Dave Elser, a well-respected surveyor, CAD wizard and tireless promoter of the profession. Dave lost his battle with cancer in 2004.

ENUM - Enumclaw WA   King County hosted, at the transfer station.

EPHR - Ephrata WA   WSDOT hosted, in town at the WSDOT yard.

FARW - Airway Heights WA   Fairchild AFB

GHCL - Grays Harbor WA   Hoisted by Grays Harbor Community College

GLWD - Glenwood, WA   Holy backwoods Batman! That is a remote place. It took nearly a decade to get reliable comms connections. CWU and WADNR hosted.

Outside the WADNR shop in Glenwood WA

GORG - George, WA   Yep, in the City of George Washington

GOLY - Goldendale WA   At the Goldendale WSDOT shop. When we scouted a site at the Goldendale observatory (NGS CORS) there was no comms (and bureaucracy) option available (at the time) – then we saw a WSDOT shop down the hill and out in the open – bingo!

GRCK - Grouse Creek WA   One of the original 5 sites of the first subnet in eastern WA. CWU and WSDOT established the site and after a few years of challenging comms options it is a very reliable site.

GRMD - Grand Mound WA   A ways out of town at a treatment plant, this is hosted by Thurston County and CWU. Swarms of angry wasps menace us during visits. NGS CORS.

HAHD - Howard Hansen Dam WA   A very challenging install on an unnamed peak overlooking the dam (but with a stunning Mt. Rainier view). CWU set up solar power and a mount, then we have a complex relay of radio jumps that bounce down the hill and valley. Solar array blew over in a storm one winter, and after a long hike in propped it up with logs (later rebuilt). NGS CORS.

INDP - Grangeville ID   NGS CORS at the facilities of the National Forest Service.

JKPR - Jackson Prairie, WA   Jackson Prairie, hosted at a PSE facility

JOBO - Edison, WA   Named for the great local surveyor [Joe Glidden](known fondly on a popular surveying forum as "Jobo") who passed away in 2013. Local farmers were pitching on a new station in the Edison area and graciously agreed to the name for the station.

KENI - Kennewick WA   A City of Kennewick and Benton PUD collaboration

KLSP - Usk WA   At the facilities of the Kalispel Tribe

KLTS - Kahlotus WA   Another challenging install. Originally mounted on the only-school-in-town (then called KAHL). CWU later put a ground mount out by a county road shop. A series of linked radio jumps to the school (later replaced by county comms).

KOOT - Couer D' Alene ID   Hosted by Kootenai County near the airport, KOOT was a real collaborative effort by local surveyors to construct the concrete mount. Retired 04/0924 Replaced with CDAA

LCRS - Lacrosse WA   A remote county shop at the far west of Whitman County.

LINH - Ellensburg WA   At Lind Hall at CWU; a bunch of test antennas up there.

LMID - Toppenish WA   Hosted by several partners at a city water plant. Named for [Leroy Middleton](a very much respected WA surveyor who passed away in 2012. Leroy's classes and book helped many of us pass the riparian rights portion of the license exams.

LRMS - Lind WA   At the Lind-Ritzville Middle School

LSIG - Tolt Dam WA   Near Tolt dam. Named for Larry "Obi Wan" Signani; surveyor, geodesist, educator, and geodetic conscience for the WSRN. If Larry does not approve of the station quality and until he verifies good coordinates a station does not fly.

LTAH - Latah WA   Hosted by Spokane County, a very remote site that was part of the original E WA subnet. Jim McLefresh (Spokane County) researched some very creative means for getting comms out to the site like bouncing signals off mountain tops.

LVNW - Leavenworth WA   Hosted at a City of Leavenworth maintenance facility.

LWCK - Ilwaco WA   Now at the Lewis and Clark Interpretive Center of Cape Disappointment State Park, the station had been in Ilwaco at a port building (IWAC) but was buffeted by high winds and often had comms outages. Moved it a few years back, a tenuous radio shot from the original site caused a lot of heartbreak, but a broadband modem now keeps it up and running quite well.

LWST - Lewiston ID   NGS CORS. Hosted by the City of Lewiston at the airport.

MKAH - Neah Bay, WA   As live comms connections to the NGS CORS are still difficult; tribal GIS folks graciously offered to host this interim station at their forestry building.

MONT - Montesano, WA   Hosted by Grays Harbor County

MLKE - Moses Lake WA   Formerly called MSLK, the antenna was moved to a better location on the new admin building by the City of Moses Lake surveyors several years ago.

MPAQ – Cougar WA   Replaced CUGR, hosted by Cowlitz County PUD. Named for Martin Paquette, tireless instructor of the surveying program at Renton Technical College who retired in 2024 after 33 years there.

MRSD - Paradise WA   USGS station (aka National parks Service station NORA)

MZMA – Mazama WA   At a school in Mazama

NEAH - Neah Bay WA   NGS CORS in Neah Bay. Comms are intermittent, so we do not always have his one in the system.

NINT - North Bend WA   Established by CWU and King County, the antenna is on a solid building that sits on bedrock – the massive Nintendo facility near North Bend

NSTS - North Seattle   At the North Transfer Sation in Wallingford

OCEN - Ocean Shores WA   Hosted by the City of Ocean Shores. NGS CORS.

OKNG - Okanogan WA   At the WSDOT shop just out of town.

OLAR - Olympia Airport   Established by CWU with help from Thurston County, it is at the Olympia Airport and is solar powered.

OLMP - Olympia WA   Smack in the middle of Olympia on a solid city building.

OTLO - Othello WA   Replaces the decommissioned 'OTHL'. OTLO is hosted by the City of Othello

OYLR - Renton WA   Established by one of the 3 original founders of the PRSN (forerunner of the WSRN) Bob Maconie (retired City of Renton Surveyor). The station is a very stable mount on the roof of the city hall. Bob named the station "Oyler" for a city employee who had passed away. Site retired due to radio interference on the roof. See the replacement: COAN

P024 - Wallace ID   NOTA (network of the Americas, previously referred to as 'PBO') station on a mountain top north of Wallace

P025 - Bonner's Ferry ID   One of the stations of NOTA (network of the Americas, previously referred to as 'PBO') and an NGS CORS. Stations with the alphanumeric designations (prefixed by "P" and followed by 3 numbers) are mostly NOTA, The National Science Foundation (NSF) funded the Earthscope initiative of which the Plate Boundary Observatory was a major component. Operated by Unavco in Boulder CO, there are about 1,100 NOTA stations (mainly on the west coast and Alaska). Originally it was a very closed project, but after locals (and WSRN) helped site many of the stations, and the NSF saw a public benefit, access to data was established for many sites. Originally limited to GPS-only, local

collaborators (like the WSRN (funded upgrades to add Glonass. P025 is still GPS only (but we're negotiating the upgrade).

P397 – Naselle WA   NOTA (network of the Americas, previously referred to as 'PBO') on Radar Ridge, west of Naselle.

P401   - Quillayute WA   NOTA (network of the Americas, previously referred to as 'PBO') CORS. Soon to be an NGS CORS.

P402   - Hoh River   NOTA (network of the Americas, previously referred to as 'PBO') CORS. GPS only (for now)

P403   - Sappho WA   NOTA (network of the Americas, previously referred to as 'PBO') CORS. GPS only (for now)

P414   - Ridgefield WA   NOTA (network of the Americas, previously referred to as 'PBO') CORS but built with WSDOT help at the weigh station. A long struggle with comms (now OK) the station was upgraded to add Glonass by the WSRN & WSDOT.

"P414" near Ridgefield

P415   - Raymond WA   NOTA (network of the Americas, previously referred to as 'PBO') and NGS CORS near Raymond

P417   - Pe Ell WA   NOTA (network of the Americas, previously referred to as 'PBO') CORS Station

P418 - Mossyrock WA NOTA (network of the Americas, previously referred to as 'PBO') CORS Station

P418 - Matlock WA NOTA (network of the Americas, previously referred to as 'PBO') CORS Station

P419 – Rocky Ridge WA NOTA (network of the Americas, previously referred to as 'PBO') station west of Lake Cushman

P429 - Cascade Locks NOTA (network of the Americas, previously referred to as 'PBO') CORS station. The station was upgraded to add Glonass by the WSRN & WSDOT. Replaced SKMA on the network when that station retired.

P435 - Little River Road WA NOTA (network of the Americas, previously referred to as 'PBO') CORS Station

P437 - Bayview, WA NOTA (network of the Americas, previously referred to as 'PBO') Station

P442 - Darrington WA Once called DARI, this site was a NOTA (network of the Americas, previously referred to as 'PBO') and Snohomish County collaboration; upgraded to Glonass by WSRN & WSDOT

P444 - Ross Dam WA NOTA (network of the Americas, previously referred to as 'PBO') and Seattle Public Utilities collaboration. Upgraded to add Glonass by SPU; a comms upgrade is in the works.

P446 - Kelso WA NOTA (network of the Americas, previously referred to as 'PBO') NGS CORS near Kelso. It is also an NGS CORS.

P689 - Mt St. Helens WA NOTA (network of the Americas, previously referred to as 'PBO')site WSW of Mt. St. Helens

P692 - Mt St. Helens WA   NOTA (network of the Americas, previously referred to as '
PBO')site west of Mt. St. Helens

P702 - Elk Rock WA   NOTA (network of the Americas, previously referred to as '
PBO')site

PACB – Pacific Beach WA   Hosted by Grays Harbor County at one of their facilities.

PABH Pacific Beach WA   NGS CORS and CWU site, it is now part of the NOTA
(network of the Americas, previously referred to as 'PBO') array. No longer in solution; using
PACB now instead. Only about a mile from the old station.

PDTN - Pendleton OR   Original site was called PNDL but moved to a city
shop and upgraded to add Glonass, it is now an NGS CORS.

PDXA - Portland Airport OR   Portland Airport site on a fire station

PFLD - Paine Field WA   Snohomish County hosted

PKWD - Packwood WA   WSDOT hosted at their yard outside town.

PLMN - Pullman WA   WSDOT hosted at their yard outside town.

PNNL - Washington Harbor WA   NGS CORS at the Pacific Northwest National Laboratory,
co-located with a tide gauge.

POME - Pomeroy WA   WSDOT hosted at their yard outside town.

PRDY - Purdy WA   Contingency site. Hosted by Pierce County PC3N network.

PRSR - Prosser WA   Hosted by Benton County PUD.

PTAA - Port Angeles Airport WA   Hosted at the City airport. NGS CORS

"PTAA", NGS CORS at Port Angeles airport

PTSN - Paterson WA   WSDOT hosted at a local school

PYLP - Puyallup, WA   At the office of a local surveying firm

QMAR - Stevens Pass WA   At a WSDOT shop near the pass. Named for Tony Qamar, UW seismologist who died a tragic auto accident along with colleague Dan Johnson (DEEJ) in 2005. Tony was visionary and established arrays of GPS and other scientific instruments across the state. Tony encouraged us to start the WSRN and established the first stations in the network.

RICH - Richland WA   City of Richland hosted. Retired and replaced with DANP

RKD1 - Oroville, WA   A CWU site, and NGS CORS. Named for Dr. Roy K. Dokka, scientist and educator, Roy established the network in Louisiana and was great resource in development of the WSRN. Roy passed away in 2011.

RMRK - Rimrock, WA   WSDOT hosted at their yard outside town.

ROKY - Graham, WA   At Rocky Ridge Elementary, named for their mascot: Rocky the racoon

RPUB - Republic WA   Hosted at the Ferry County courthouse, this was a challenging site to develop; rough comms, remote location (loooong drive out there). County folks were instrumental in its success.

RYA1 - Hope ID   A project spearheaded by local engineering firm Ruen Yeager (hence the name) make this a community and educational effort. At the elementary school in Hope ID, the kids from the school district were involved along with a lot of local volunteers. CWU provided the hardware.

RYMD - Raymond WA   WSDOT hosted at their yard outside town.

SACH - Saanichton BC   On Vancouver Island, hosted by an adjacent network. Retired, see BCES

SANJ - Friday Harbor WA   Built as an alternative to SC02

SAMM - Issaquah, WA   Hosted by Sammamish Plateau Water at one of their well sites down the hill in Issaquah.

SC02 - Friday Harbor WA   NOTA (network of the Americas, previously referred to as 'PBO') site. Used only as backup due to spotty comms. Now using SANJ.

SC03 - Mount Olympus   Up on the peak, this site was originally established by CWU/UW (plus a helicopter and a lot of hiking). NOTA (network of the Americas, previously referred to as 'PBO').

"SC03" on Mount Olympus

SC04 - Chemainus BC   Contingency site; GPS only

SEQM - Sequim WA   Hosted by a local surveying firm outside town

SKCO - Stevenson, WA   At the Skamania County courthouse (replaced SKMA)

SKPU - Mount Vernon, WA   Hosted by Skagit County PUD. Replaced SKGT. Same location, but on their new building.

SKGT - Mount Vernon WA   Hosted by Skagit Water Utility. Retied, replaced by SKPU

SMAI - West Seattle WA   NGS CORS at an SPU reservoir. One of the original PRSN sites. For some reason in the early days some bureaucrat did not want the original name WSEA (because they did not want anyone to figure out where it might be located…. yep, that makes no sense) so one of the PRSN operators came up with a variation on his daughter's name. ;)

SNDP - Sandpoint ID   In the center of the city.

SNOQ - Hyak WA   WSDOT hosted at their snow shed. CWU installed, it sits up on a rock thumb next to the shed (you can see it from the highway). Even though snow can pile up on the rock over the top of the mount and dome, it performs year-round with few issues.

SPKN - Spokane WA   Hosted by the city at their dump near the airport.

SPRG - Sprague WA   WSDOT hosted at their yard outside town.

SSHO - North Seattle WA   One of the original stations (pre-network) set up in conjunction with CWU and UW at an SPU reservoir. Like SMAI it got named after one of the WSRN operator's son. NGS CORS

STHK - Stehekin WA   The forever station as in it is taking forever to build. The main challenge is that there are few options for internet connectivity up there. If anyone has an idea that might work, we might consider naming it after them ;)

TACO - Tacoma, WA   Hosted by Apex Engineering at their office

TDLS - The Dalles OR   ODOT hosted at their shop near town.

TUMW - Tumwater WA　　　　　　　Hosted by the City of Tumwater

TWSP - Twisp, WA　　　　　　　Replacement for the original station WNTH. Hosted by a local surveying firm that moved their offices to Twisp after fires in recent years.

UFDA - Poulsbo WA　　　　　　　One of the original 4 stations in the PRSN hosted by Kitsap PUD. Site of the famous "flower pot" dome incident; the "KPUD" site once ran for a 4-year straight period without interruption until it was moved to another building and renamed to UFDA ("uffda" or "oofda") to honor the Scandinavian heritage of the area.

VCWA - Vancouver WA　　　　　　Hosted by the City of Vancouver at a police station.

VERN - Mt. Vernon WA　　　　　　Established and hosted by Skagit County, it was originally called "OTIS" (as it was atop the elevator shaft structure on a county building), it was moved slightly to reduce multipath and renamed "VERN" after the town. Backup site.

VRNT - Vernita WA　　　　　　　WSDOT hosted at their yard outside town.

WALA - Walla Walla WA　　　　　WSDOT hosted at the airport outside town.

WEBG - Battleground WA　　　　　WSDOT hosted at their yard outside town. The name has two meanings (by design). It sounds like "West Battleground" (the WSDOT shop is west of town, but the real name is to honor retired geodesist Georg Weber of the BKG (the German version of the NGS). Georg led the development of NTRIP, the communications protocol in your survey controller and used by networks worldwide.

WRCH – West Richland WA　　　　Hosted by the City of West Richland at one of their well sites.

XANE - Wenatchee WA　　　It was Established by CWU and Chelan PUD, the site is near a water tank on a hill west of Wenatchee. For two consecutive years fires nearly engulfed the

antenna (only wires got singed) but the site continues to operate well.

YAKI - Yakima WA   Hosted by the City of Yakima

YCS2 - Yelm, WA   At Fort Stevens Elementary, named for Yelm Community
Schools District 2