

WSRN Station Names

What do those oddball codes mean?

Continuously Operating Reference Stations (CORS); whether they are included in the NGS CORS network, or 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 useable by others and for the static files to be recognizable in most processing software (unless a proprietary format is used). 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	Pending NGS CORS. Not to confuse with Arlington OR
ARLN Arlington OR	At an ODOT shop. Not to be confused with Arlington WA
BDRY Boundary Dam WA	Way up by Metaline Falls
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.



Station "BILS" near Queets-Stillwater School

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).
CATH Cathlamet WA	WSDOT hosted
CBLV Bellevue WA	A new station established by the City of Bellevue (and upgrade of an old station on city hall)
CCPW Dayton, WA	Columbia County Public Works hosted.
CHCM Chimacum, WA	CWU (PANGA) science site at the city school
CHEL Chelan WA	WSDOT hosted at one of their yards
CHLW Chiliwack BC	Replaced CWAK in June of 2017. Good hockey team eh?
CNCR Concrete WA	One of two Skagit County sites connected to the WSRN
COLV Colville WA	City of Colville hosted
COUG Cougar WA	Cowlitz County & WSDOT hosted. Refurbishing in 2017
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

CPXF Pack Forest WA A science station and NGS CORS that predated any real-time networks in the state. Comms courtesy of Pierce County PC3N RTN.

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.

CSTL Castlegar BC Contingency station (if TRA1 is down). Adjacent network hosted. Way up there eh?

CUSH Lake Cushman WA Tacoma Power (Tacoma Public Utilities) and WSDOT 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.

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 dump.

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

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

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.

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

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). NGS CORS.

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. Pending NGS CORS



Station “KOOT”

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

LINH Ellensburg WA On 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.

LNGB Longbranch WA Hosted by Pierce County for their PC3N network.

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.

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 a few years back, a tenuous radio shot from the original site caused a lot of heartbreak, but a modem sponsored by a surveying firm keeps it up and running quite well.

LWST Lewiston ID NGS CORS. Hosted by the City of Lewiston at the airport. A great site, there were ongoing comms issues; the hosts with the City of Lewiston got used to driving out to the site to “jiggle the handle” to fix the connections.

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

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

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

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.
OTHL Othello WA	Graciously hosted by the IT folks for the city schools
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.
P025 Bonner's Ferry ID	One of the CORS of the Plate Boundary Observatory (PBO) and an NGS CORS. Stations with the alphanumeric designations (prefixed by "P" and followed by 3 numbers) are mostly PBO. 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 PBO 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).
P401 Quillayute WA	PBO CORS. GPS only (for now)
P402 Hoh River	PBO CORS. GPS only (for now)
P403 Sappho WA	PBO CORS. GPS only (for now)
P414 Ridgefield WA	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

- P429** Cascade Locks PBO CORS station. The station was upgraded to add Glonass by the WSRN & WSDOT. Replaced SKMA on the network when that station retired.
- P437** Bayview, WA Contingency site. PBO CORS. GPS only (for now)
- P442** Darrington WA Once called DARI, this site was a PBO and Snohomish County collaboration; upgraded to Glonass by WSRN & WSDOT
- P444** Ross Dam WA PBO and Seattle Public Utilities collaboration. Upgraded to add Glonass by SPU; a comms upgrade is in the works.
- P689** Mt St. Helens WA PBO site WSW of Mt .St. Helens
- PABH** Pacific Beach WA NGS CORS and CWU site, it is now part of the PBO array.
- 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.

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

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

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.

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.

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

SC02 Friday Harbor WA A long time CWU/UW site at the UW lab across the bay from town, the site was recently upgraded to add Glonass by the WSRN.

SC03 Mount Olympus Up on the peak, this site originally established by CWU/UW (plus a helicopter and a lot of hiking).



“SC03” on Mount Olympus

SC04 Chemainus BC Contingency site; GPS only

SEQM Sequim WA Hosted by a local surveying firm outside town

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 daughters name ;)

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, it has been submitted to become an NGS CORS.

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 works 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.

THUN Thun Field WA Contingency site. Hosted by Pierce County PC3N network.

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.

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 lead the development of NTRIP, the communications protocol in your survey controller and used by networks worldwide.



Station “XANE”, barely spared by the 2015 fires.

XANE Wenatchee WA 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 (wires go singed) but the site continues to operate well. Named by the CPUD lead on the project for his son.

YAKI Yakima WA Hosted by the City of Yakima

YELM Yelm WA Contingency site. Hosted by Pierce County PC3N network.