

Report on the ANSS NetOps XIII Workshop January 17-18, 2024 Vancouver, WA

The thirteenth ANSS NetOps Workshop, NetOpsXIII, was a hybrid meeting hosted by the Cascades Volcano Observatory (CVO) in an icy Vancouver, WA over two full days January 17 and 18, 2024. There were 134 people registered for the workshop and in-person attendance was limited to 50. 40 different organizations were represented by the participants with a productive collaboration between earthquake and volcano monitoring staff (different offices of USGS were counted as different organizations, e.g. USGS-Menlo and USGS-Pasadena are counted separately). A winter storm with freezing rain resulted in numerous cancelled flights and hazardous driving on-site for the first day of the workshop. We appreciate the dedication and resiliency of our hosts and the participants who made NetOpsXIII a success despite the difficulties. As a result, there were only 29 in-person attendees with about 70-80 on-line at any given time.

The workshop began with a “State of the Union” that provided a brief standardized snapshot by FDSN network code of station counts and types, hardware in use, and network challenges. Day 1 continued with a discussion on Power budgets and management, and telemetry was the focus for the afternoon. The morning of Day 2 included discussions on Dataloggers, reducing data gaps and latency, then equipment life cycles. Afternoon topics included a discussion on Safety and Best Practices followed by training opportunities and needs. The workshop concluded with system-wide needs and messages to management that inform the following observations and recommendations from the participants in no particular order.

1. Staffing was a universal theme during the “state of the union” which is exacerbated by endemic low salaries in academia and government.
2. Other obstacles commonly mentioned during the “state of the union” included telemetry, weather ice/snow, remoteness, geographic size, travel, limited staff, EEW (build out takes time away from maintenance).
3. Dataloggers should be immune to minor fluctuations in external power supplies to help avoid artifacts in data. For example:
 - a. <https://service.iris.edu/irisws/timeseries/1/query?net=UW&sta=SNI2&loc=--&cha=HHZ&demean&lpfilter=.1&start=2017-11-27T00:00:00&end=2017-12-07T00:00:00&output=plot>
 - b. <https://service.iris.edu/irisws/timeseries/1/query?net=UW&sta=SNI2&loc=--&cha=HHZ&demean&lpfilter=.1&start=2018-02-01T00:00:00&end=2018-02-07T00:00:00&output=plot>
4. Telemetry routing, particularly dynamic routing, requires expertise beyond many network IT staff. A shared resource for networking expertise would be useful.
5. Training needs vary widely across regions. The complete list is lengthy and posted with the presentations from the workshop. Some examples common across networks include
 - a. First aid and CPR
 - b. Tower climbing
 - c. Shop safety
 - d. Mikrotik/wireless routers and networking

- e. SIS metadata training
 - f. Outreach and scientific products
 - g. Outward training examples – look to other organizations like NWS/NOAA programs
 - h. A common repository of training materials and resources
6. More time to perform a job correctly and safely rather than rushing.
 7. Need more technicians
 8. Clearer view of future, particularly with respect to budgeting, to allow sufficient time for preparation, planning, and engineering. Deadlines are often too short and feel rushed.
 9. A common repository of documentation (a perennial guest of messages to management and devilishly difficult to implement).
 10. A netops stack exchange, slack group, or similar.
 11. Faster process for hiring staff--less red tape.
 12. Recognize tech staff for the hard work they do.
 13. More feedback from weekly highlights; recognition of a job well done.
 14. Everyone is “fleet of foot” – figuring things out on the fly, jacks-of-all-trades; important to look for this quality in new hires

There were also several suggestions for future NetOps.

1. More NetOps (a perennial guest of NetOps workshop reports)
2. Focused ½ day zoom NetOps
3. Too short, should be three full days, too rushed
4. Longer breaks are good for discussion
5. A whole network NetOps (not just field or IT, combine them). Withers note, NetOpsI was a whole network NetOps and the participants strongly advised to break it up, particularly for the benefit of smaller networks with less compartmentalization.
6. Financial support for the NetOps venue
7. A big meeting every other year or a smaller one every year
8. Allow people to submit specific questions to help get solutions at the workshop
9. Don’t have the meeting in winter in Vancouver during an ice storm.
10. Stress the importance of meeting in-person. Online misses the social aspect, in-depth discussions, and relationship building.
11. Breakout sessions to explore topics more deeply
12. Catered lunch is less disruptive to the meeting and discussions
13. Name tags
14. Better communication about upcoming NetOps
15. Wider input on agenda

Information about the workshop is available at <http://www.ceri.memphis.edu/people/mwithers/NetOpsXIII/>. This includes the meeting agenda, this report and available presentations used during the workshop. It also includes Amberlee Darold’s notes that have contact information for people with knowledge on specific items of interest and technical topics covered during the workshop.

A temporary email list ceri_netops@memphis.edu was used for workshop logistics and is purged after each workshop. The permanent ANSS netops email list is hosted by CISN and we encourage all ANSS technical staff to take advantage of it:
<https://mail.cisn.org/mailman/listinfo/anss-netops>.