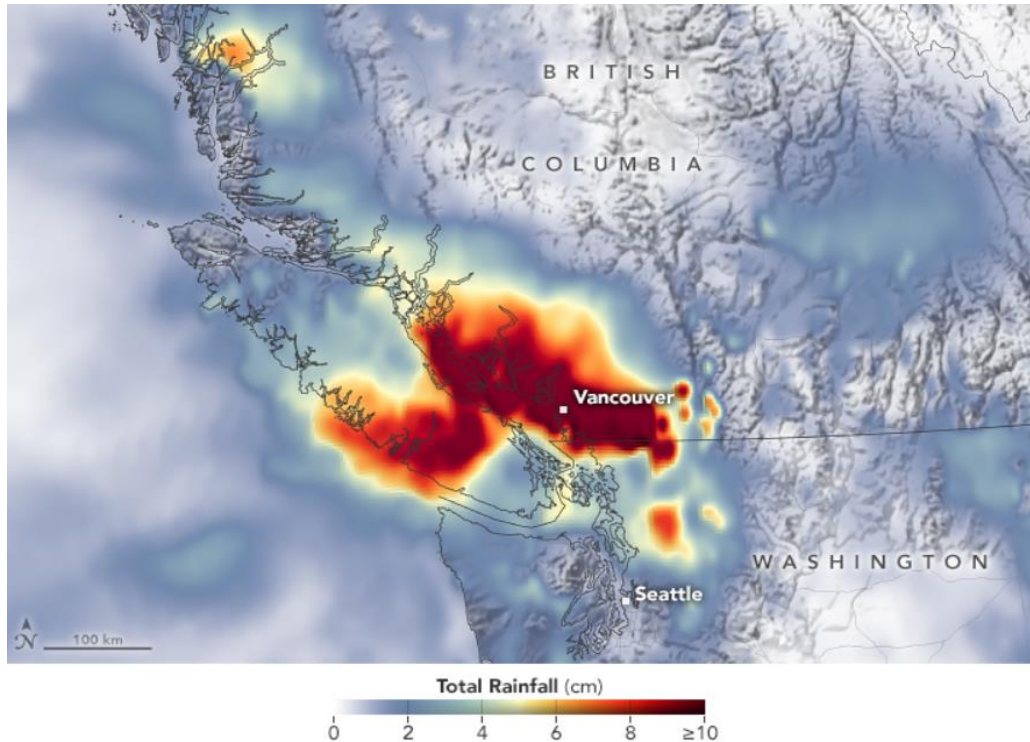




Sumas Nooksack Flooding and Response



Background

On November 14 and 15, 2022, a record 2.8 inches of rain fell in Bellingham, Washington, and surrounding area. Thirteen inches fell in a two-week period. The heavy rain also caused the season's early mountain snowpack to rapidly melt, adding to the freshet volume. Flooding in the Nooksack River basin in Whatcom County forced the evacuation of hundreds of residents and the closure of local schools. Evacuation orders were also issued in parts of Ferndale near the Nooksack river and all road traffic into and out of the Lummi Nation was cut off. In the city of Sumas, an estimated 85 percent of homes were damaged by flooding.

City and county emergency personnel and water and wastewater system operators had little time to prepare for the event. They quickly realized it was much larger than predicted.

Flood Response in Sumas Everson Area

Water and wastewater operators immediately went to work and did not go home for 36 hours, when the waters began to recede. Coordination between Sumas, Everson, and the systems they supply was immediate and effective. Since Sumas flooded and their backup system had problems, Everson's sources were the only ones in the region still producing water. The City of Everson opened a by-pass valve on the emergency intertie between City of Everson and City of Nooksack that allowed Everson to supply the City of Nooksack. Knowledgeable operators, good coordination, and strong local relationships allowed all seven systems in the region to stay

pressurized throughout the flood. Keeping pressure up in water system lines prevents contaminants from entering water lines.

Sumas Rural prepared for flooding by digging out soil from the meter boxes, filling them with pea gravel, and then placing an insulated “plug” over the top to keep them from freezing. The pea gravel does a better job of keeping the meter boxes from being carried away by flood waters and prevents service line breaks.

Big Wins

- ◆ The water lines remained pressurized the entire time the area was flooded.
- ◆ Flood waters receded before systems ran out of water; a longer inundation may have had more significant impacts to the infrastructure.
- ◆ Cellular communications were not disrupted.
- ◆ Citizens turned out in numbers to help rescue individuals from their homes.

Lessons Learned

- ◆ **Yearly maintenance:** very important to exercise valves, flush pipes, spray grass, and put reflectors on valves to see them at night. In situations like this, you know everything is ok and it saves valuable time, reduces stress, and increases confidence.
- ◆ **New operators:** have them walk the system and exercise valves/flush so they learn the system quickly.
- ◆ **Know your partners:** communication between partners was essential to maintaining operations and sharing resources.
- ◆ **Cross training among all departments:** energy, water and wastewater allowed for an effective utilization of staff.
- ◆ **Our community:** turned out to rescue folks from their flooded homes. They were the heart and soul of the flood response. We could not have done it without them.

Looking Ahead

Water operators responded very quickly to the flood event and kept their lines pressurized. Operators feel that flooding in this area is possible in the fall, winter, and spring each year and they need to be prepared for the worst. As a result of this flood, the region hopes to upgrade the emergency generator at Sumas, install telemetry to provide real-time water system data at high ground, and to obtain additional reservoir-70 storage for each of the water systems. This event has also engaged operators to investigate ways to test interties, valves, and ways water can flow from one system to another to increase resiliency in a future emergency.

Other Resources

[Flood Advice for Drinking Water Systems 331-300 \(PDF\)](#)

[Emergency Disinfection of Small Water Systems 331-242 \(PDF\)](#)

[Water Shortage Response Plans for Small Public Water Systems webpage](#)

For more information

[Visit our Publications and Forms webpage.](#)

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