

# Posthole deployments by



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# Long-term monitoring sites

designed for robustness and maintainability

- Three different outdoor site styles
- Digging holes
- The PVC posthole vault
- Performance?

# Swing set, desert, and post&power style



# Digging holes

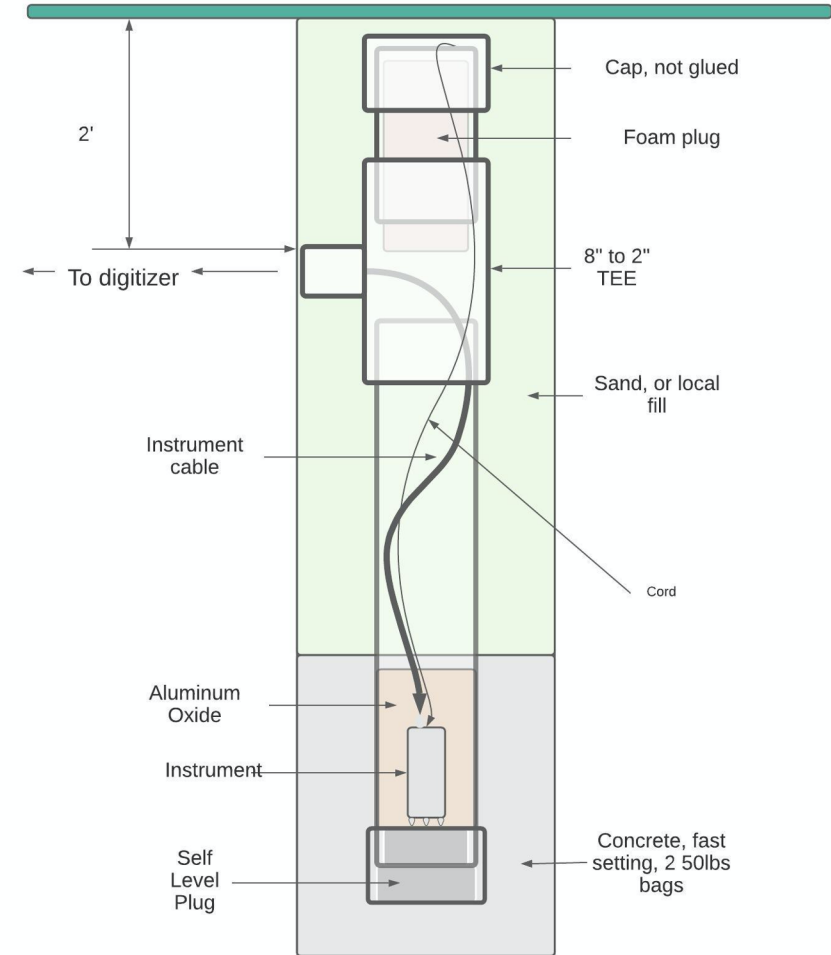


# A PVC Vault

- Nearly equal seismic response to direct burial method
- Ability to extract and replace sensors without having to remove soil
- 100% electrical isolation between earth and the sensor casing.

## PNSN PVC Post Hole Vault

20200124



# Steps

1. Pour quick setting concrete into hole
2. Orient and position the PVC vault (T attached, top still open)
3. Let settle
4. Fill in dirt around the pipe



# Steps - continued

5. Pour self-leveling cement into PVC vault
6. Let cure, 24 hours
7. Position instrument
8. Surround sensor with aluminium oxide 60 grit.
9. Put in foam plug and cap vault, bury with local dirt



What about performance?

All our postholes contain Trillium Compact 120s PH sensors, many also a Titan PH (Trillium Cascadia package)



 Trillium  
Cascadia





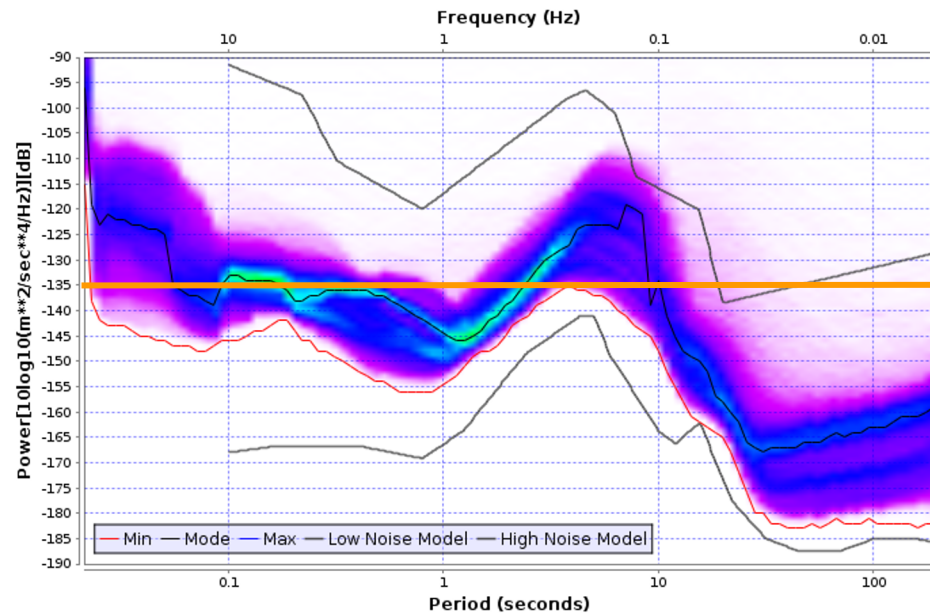
# UW.CCRK (TA.E07A)



TA-style vault, CMG-3T 120s → Posthole  
Trillium Cascadia → very comparable

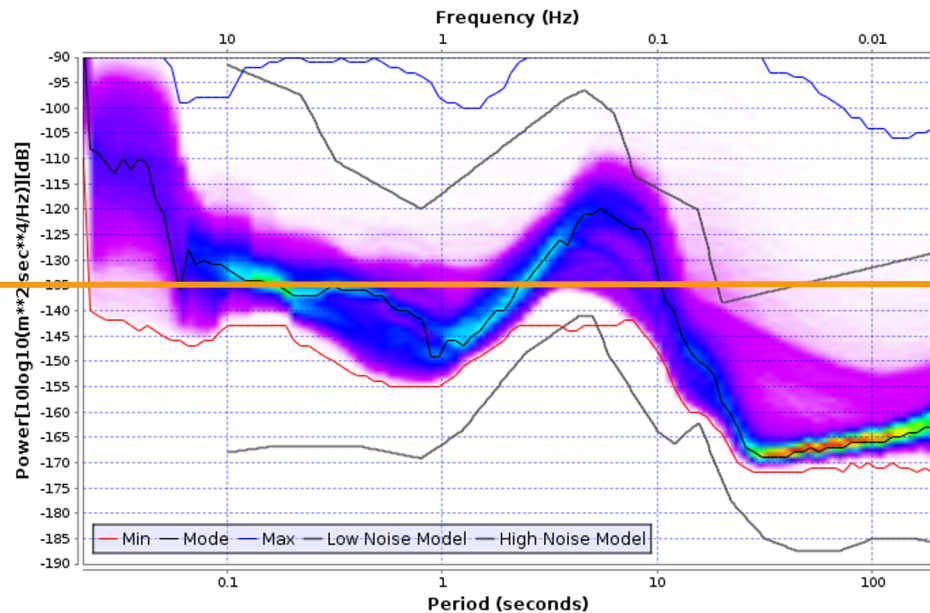
## UW.CCRK.--.HHZ.M

2015-01-01T00:00:00 - 2016-01-26T23:59:59

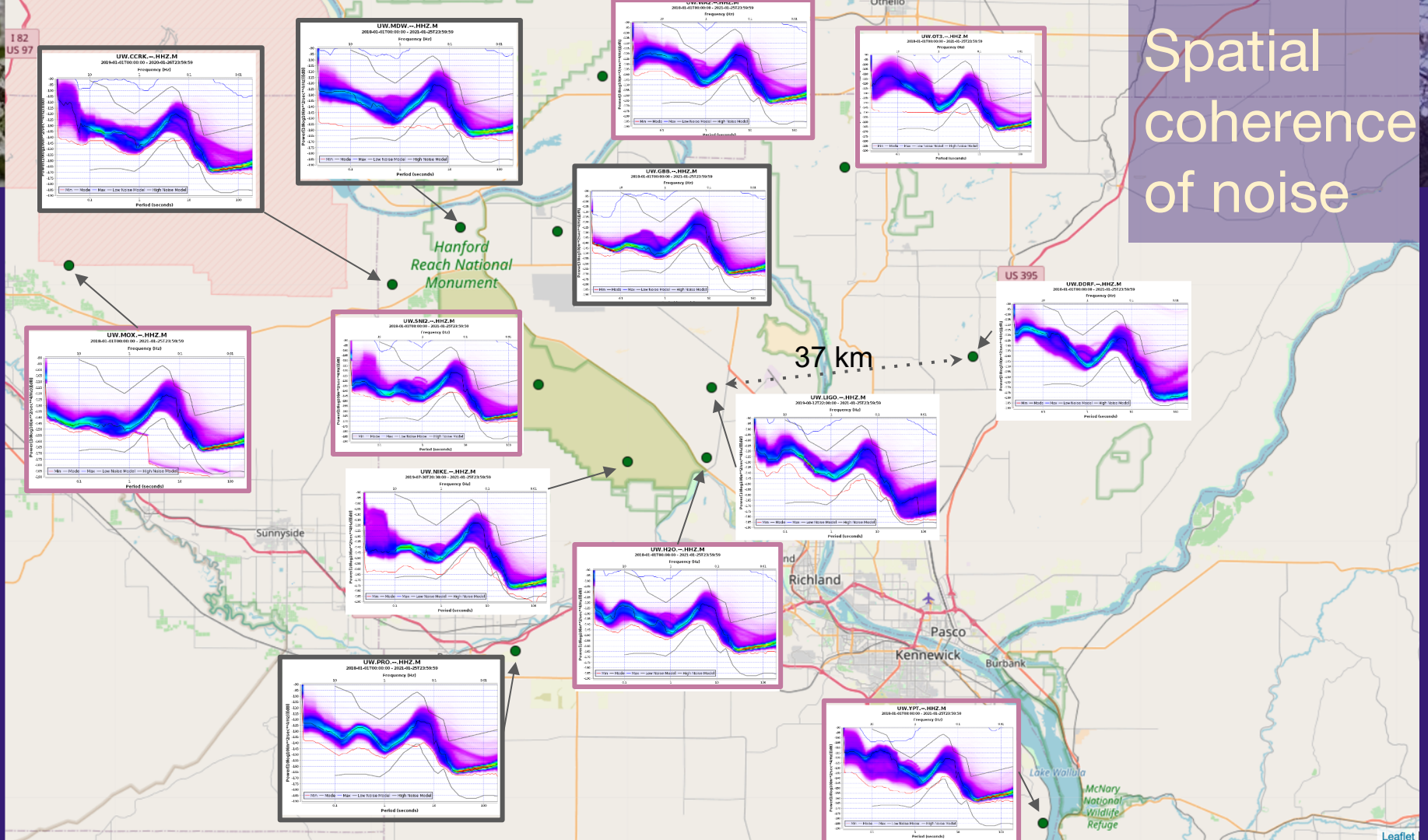


## UW.CCRK.--.HHZ.M

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# Spatial coherence of noise

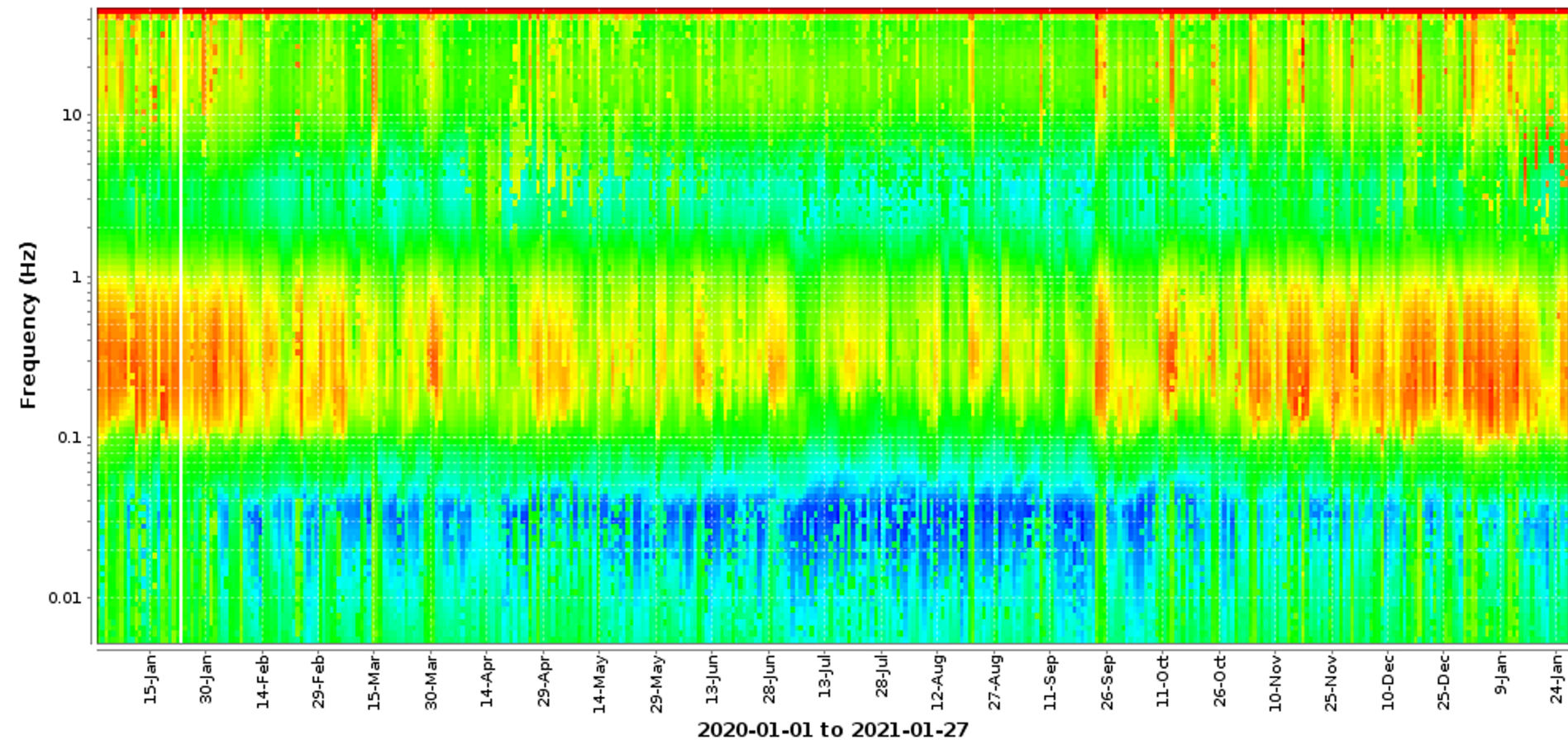


I 82  
US 97

# Noise spectrum over a year near Forks, WA

-190  -90 [dB]

UW.FORK..HHE.M







## To sum up:

- We are happy with the PVC vault
- We have not yet done a careful analysis of the performance of our new posthole sites
- Noise and local earthquakes are well-recorded by all our posthole and other broadband sites, as long as the sensor is functioning well