EarthScope Alaska Transportable Array: Transition and Conclusion

Robert W. Busby, Robert L. Woodward, Kasey Aderhold, Ryan Bierma, Doug Bloomquist, Jeremy Miner, Molly Staats, John Soderquist (IRIS), Frank L. Vernon (UCSD)

The Alaska Transportable Array (Alaska TA) is a network of 281 autonomous, telemetered, seismic stations installed at a dense grid spacing of ~85 km across Alaska and western Canada. Supported by the National Science Foundation (NSF) as part of the EarthScope Program, this network was installed between 2013-2017 to record earthquakes and map Earth's structure beneath the North American plate. Station locations for the Alaska TA were selected for complementary coverage relative to the existing seismic networks of the Alaska Earthquake Center (AEC), the Alaska Volcano Observatory (AVO), and the National Tsunami Warning Center. A subset of 43 Alaska TA stations in central, southern, and southeastern Alaska have been adopted and transferred to the AEC for long-term operation. A subset of 9 stations will be transferred to the AVO, and an additional 9 stations installed at permanent research facilities will be transferred to other entities. An NSF Dear Colleague Letter (19-048) encourages proposals for further repurposing the Alaska TA for environmental observations in the Arctic. Successful proposals may facilitate further station transfers. All transfers include an NSF stipulation that seismic data will be archived and made available through the IRIS Data Management Center.

At the direction of NSF, telemetry will end for most stations on 1 May 2020 except for 45 northern stations. All data collection will end 30 September 2020. Station removals will begin in the 2020 field season and, depending on the number of transitions, extend into 2021 field season. The high data return and quiet posthole emplacement of the Alaska TA improves on the Lower 48 TA station performance, enabling a myriad of research applications both targeted and discovery-based, operational and academic, and across a range of disciplines.

