

Brendan Crowell Candidate Statement

Being able to serve on the inaugural board for the EarthScope Consortium is a significant honor. Over the past year, I have had a front row seat to the merger process between UNAVCO and IRIS while serving on the UNAVCO Board, the Joint Board, and participating in the governance workshop that will shape the structure of the EarthScope Consortium. The excitement and raw energy within the geophysical community around shaping this once-in-a-career geophysical facility is awe inspiring, and I believe I can help mold this facility in a way the community would be pleased with due to my unique background in both geodesy and seismology. During my entire professional career in the budding field of seismogeodesy, my work has been highly dependent on data from both UNAVCO and IRIS. My primary research focus has been on how to properly utilize high-rate, real-time GNSS data for earthquake and tsunami warning systems. As my career has evolved, I have seen the way we view and utilize real-time GNSS data streams coalesce towards a model that is not dissimilar to the way IRIS pioneered seismic data analysis; I have transitioned to referring to my work as low-frequency non-inertial seismology and GNSS as a 'displacement-meter'. My most significant work is focused on developing the G-FAST geodetic early warning package that is being integrated into both the USGS ShakeAlert system and NOAA's Tsunami Warning Centers, but I am also interested in monitoring strain transients, extracting strong-motion velocities from GNSS observables, monitoring ionospheric perturbations from volcanic eruptions, performing joint inversions of significant earthquakes, expanding real-time GNSS data access around the globe, and dabbling in classical tectonic geodesy. I believe I have the skills necessary to guide the UNAVCO and IRIS communities towards a truly joint venture that faithfully serves the interests of the entire community. While we do not know what the community needs in 10 or 20 years will be, we want to set up the EarthScope Consortium to be agile and nimble enough to react to these needs, enabling the next generation of geophysical researchers to fully leverage the explosion of high-quality open geodetic and seismic data.