

## PROJECT UPDATES — October 2016

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**Summary** — Since Governor Abbott authorized funding for TexNet, project personnel at the Bureau, along with our UT-Austin, SMU, and TAMU research partners, have been working to create the foundation for a successful program. Below we provide updates on network installation and operation, seismicity in Texas, research, and outreach.

### Network Installation and Operation:

- New website summarizing seismometer deployments: <http://www.beg.utexas.edu/texnet/operations-status>
- Data are now streaming to the TexNet Hub from nine portable stations recently installed in the DFW area.
- TexNet is now supporting SMU's maintenance of their DFW seismic network and data archiving to IRIS, and updating their catalog.
- Nanometrics has finished delivery of 100% of the TexNet equipment.
- Eighteen of the planned 22 permanent seismic station sites have been finalized and are now in the phase of landowner contracting.

### Synopsis of Recent Seismicity in Texas:

- Oct 27, M2.9 northeast of Snyder. This area will be the focus of a TexNet portable deployment in 2017.

### Research:

- SMU completed preparation of focal mechanisms for the 2013-2016 SMU DFW earthquake catalog, continued research on earthquake source processes with a focus on stress drop and moment calculations for the DFW area, and continued research on seismic velocity imaging of the Azle earthquake sequence using ambient noise tomography combined with local earthquake data.
- To support the 3D geomodeling project for the Fort Worth Basin, well log analyses are underway for 105 wells extending into Cambrian intervals and, in many cases, Precambrian basement. The top of the Ellenburger Group has been picked from well logs and are being incorporated into the new 3D geomodel. Formation top correlations are in progress for the additional 70 injection wells to be incorporated into the model.
- Characterization continued for injection rates and volumes for all well types for the entire Fort Worth Basin for all injection intervals, including a special focus on local Ordovician injection intervals in a five-county area in the eastern part of the basin.
- Phases 1 and 2 of the Earthquake Hazard and Risk Social Science survey project are in progress. Phase 2 includes surveying and interviewing oil and gas regulatory agencies leadership. The results of this study will help us better understand the knowledge needs, misperceptions, and gaps regarding induced seismicity, and better develop training tools and opportunities.

### Outreach:

- The TexNet Technical Advisory Committee has been provided with a draft version of the "Report on House Bill 2 (2016–17) Seismic Monitoring and Research in Texas" for review.
- Peter Hennings presented "Geology and Seismicity" at The Academy of Medicine, Engineering & Science of Texas (TAMEST) Shale Task Force forum (<http://www.tamest.org/shaletaskforce/shale-task-force-presentations>).