

PROJECT UPDATES – April 2016

Summary – Since Governor Abbott signed HB 2 into law on June 22, 2015, project personnel at the Bureau and UT-Austin, SMU, and Texas A&M University have been working to create the foundation for a successful, integrated program. Effort thus far has focused on several main areas: acquisition, recruitment, partnership, research, and outreach – some of which are described below in greater detail.

Acquisition:

- The proposed general locations of permanent seismic stations have been determined and the process of identifying suitable sites and contracting with landowners is in progress.
- Scouting and testing of proposed permanent station sites began with sites in far west Texas.
- Seismometer equipment for the permanent and portable network stations began arriving at the Bureau. This equipment will be tested and calibrated before field deployment.

Recruitment:

- A new seismology technician (to be named soon) will join the Bureau June 1st to assist with earthquake location analysis using permanent and portable station data from TexNet and data from other sources.
- Ms. Bissett Young, a seismology technician, will also join the Bureau on June 1st to assist with site assessment and station installation for permanent and portable stations.
- Post Doc Oner Sufri joined the SMU North Texas Earthquake Studies Group to assist Heather DeShon in her research on seismicity in the Fort Worth Basin.

Partnership:

- The Governor's Technical Advisory Committee informally met on March 14th at the Bureau of Economic Geology to begin its organization process and hear background technical presentations on TexNet and CISR.
- The TexNet Manager and CISR representatives met with AT&T to discuss partnership, network communications services, and potential costs for the cellular data services required for permanent and temporary sites.
- Heather DeShon visited the UT Institute for Geophysics and the Bureau to present results of earthquake studies being conducted at SMU, and to participate in TexNet and CISR planning.
- Dan Hill and Akhil Datta-Gupta from the Texas A&M University Department of Petroleum Engineering visited the Bureau to discuss potential research collaborations focused on reservoir modeling.

Research:

- CISR Researchers Z. Fan, P. Eichhubl, and J. Gale published the paper *Geomechanical analysis of fluid injection and seismic fault slip for the M_w4.8 Timpson, Texas, earthquake sequence* in the Journal of Geophysical Research <http://dx.doi.org/10.1002/2016JB012821>. The research uses computational reservoir modeling approaches to investigate the plausibility that injection and fault reactivation are related. The article received media coverage from the following: Texas Tribune, Dallas Observer, and NGI's Shale Daily.

Outreach:

- A. Savvaidis and coauthors presented *TexNet: A new, integrated seismic monitoring program in Texas* at the annual meeting of the Seismological Society of America in Reno, NV.
- P. Eichhubl and coauthors presented *Geomechanical analysis of fluid injection and seismic fault slip for the M4.8 Timpson, Texas, earthquake* at the annual meeting of the Seismological Society of America in Reno, NV.
- C. Frohlich presented *Human-caused earthquakes in Texas* at the IRIS TRC Teachers Workshop in Austin.
- P. Hennings presented *The Texas Seismicity Initiative* at the TRC Science Project Directors Meeting in Austin.