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K-12 Geoscience Workshops and Freshman Field Camp: TxKORP Outreach [Abstract]

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The Texas Karst Outreach and Research Program (TxKORP) was founded in fall 2011 at Stephen F. Austin State University (SFASU). It is dedicated to advancing karst science by promoting cave and karst research and public education in the greater Texas region, while furthering best-management practices for environmental, economic and natural resource sustainability of karst and pseudokarst terrains through characterization and management of water and mineral resources. TxKORP developed three outreach programs during its first year of activity: 1) SFA Geo-Days; 2) SFA Hydrodays; 3) SFA Cave Camp. SFA Geo-Days and SFA Hydrodays are offered as one-day workshops at SFASU for middle school students in East Texas, while SFA Cave Camp is a one week field-based workshop conducted in Central Texas for freshmen entering SFASU.

SFA Geo-Days and Hydrodays introduce young students to mineral and water resources through laboratory modules and simple experiments, in order to stimulate interest in geosciences amongst students in East Texas. SFA Cave Camp provides incoming freshmen an opportunity to study the complex, interdisciplinary field of natural sciences through field-based activities at Colorado Bend State Park, with a specific emphasis on cave and karst resources in Ellenburger carbonates. SFA Cave Camp activities include: 1) geochemical characterization of spring-fed fluvial systems with portable meters and titration analyses; 2) hydrological characterization of the Colorado River through stream gauging; 3) depositional characterization of Ordovician carbonates through stratigraphic analyses; 4) speleogenetic evolution of central Texas caves through cave survey and investigation; 5) geomorphic evolution through karren analyses; 6) ecological zonation of central Texas flora and fauna through upland and riparian zone comparison. SFA Cave Camp provides a unique opportunity that gives pre-college students an opportunity to participate in scientific investigations prior to formal classroom instruction, theoretically increasing student retention and performance by providing them with practical field experiences.