

Lucia S. Barbato

Associate Director, Center for Geospatial Technology
Texas Tech University
Lubbock, Texas

Lucia Barbato is the Associate Director of the Center for Geospatial Technology (CGST) at Texas Tech University. After earning her M.A. in geography at UCLA, Ms. Barbato was employed at Esri in Redlands, CA where she served as the manager of the environmental market and later as the manager of the Esri Authorized Teaching Program. She currently teaches advanced GIS courses in the Department of Geosciences at Texas Tech and she holds credentials as a GISP, Esri Certified Instructor, and Esri Desktop Associate. Ms. Barbato also served as a GISCorps volunteer in Mississippi for the Hurricane Katrina relief effort

Since coming to Texas Tech in 1999 Ms. Barbato has been involved in a wide variety of research projects mostly focused on the southern Great Plains and the depletion of the Ogallala (High Plains) Aquifer. With support from the U.S.D.A. Ogallala Aquifer Program her research has focused on mapping changes in the saturated thickness of the aquifer and analyzing changes groundwater storage and water availability. As part of this research Ms. Barbato was responsible for the development of a groundwater geodatabase for Texas and the development of an on-line groundwater atlas. The on-line atlas provides interactive maps of available water, saturated thickness, saturated thickness change and the projected usable lifetime of the aquifer.

In addition to the development of the aquifer geodatabase Ms. Barbato has also been involved in a number of related research projects. Working with the U.S.F.W.S. National Wetlands Inventory she was responsible for the development of a regional playa lakes geodatabase covering west Texas, Oklahoma and New Mexico. Ms. Barbato has also been involved in an NSF project to investigate societal attitudes concerning water scarcity and work for the Texas Alliance for Water Conservation to evaluate water use under different agricultural systems. Locally Ms. Barbato is currently developing a spatial data infrastructure for the North Plains Water District in Texas to manage water production and the infrastructure required to track water resources in the region.

Over the past several years Ms. Barbato has also been involved in research with the U.S.D.A Farm Service Agency to investigate the effects of the Conservation Reserve Program on the Ogallala Aquifer in Texas. Most recently this research has been expanded to include the full extent of the Ogallala Aquifer in the eight state region of the Great Plains. The collaborators on this project include Drs. Kevin Mulligan and Ken Rainwater at Texas Tech, Dr. Loren Smith at Oklahoma State University and Virginia McGuire of the U.S. Geological Survey.