[PS]The STATEMAP Program in Oklahoma*

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Abstract

STATEMAP is a program in which state geological surveys compete for matching funds from the U.S. Geological Survey for geological mapping. The goal of the program is to develop a geologic framework in areas of important economic, social, or scientific interest to individual states. Oklahoma's STATEMAP plan consists of (1) detailed mapping at 1:24,000 (7.5') scale in and around urban areas that will help define potential hazards, soil types, aggregate resources, and groundwater aquifers; and (2) regional mapping at 1:100,000 scale across the entire state. These areas are currently covered by good to poor mapping, all of which need to be compiled, field checked, corrected, and digitized onto a standardized topographic base. The 1:100,000 scale geologic maps will be used in the compilation of a new 1:500,000 scale geologic map of Oklahoma. Individual geologic maps produced by the STATEMAP program are published as Oklahoma Geologic Quadrangle maps. To date, mapping of the Oklahoma City Metro Area has been completed, and twenty-five 7.5' and two 1:100,000 scale maps have been produced for this area. Mapping of the Tulsa Metro Area is in progress, with fourteen 7.5' quadrangles produced so far. Five 7.5' quadrangles remain to be mapped in the Tulsa Metro Area. Sixteen 1:100,000 scale quadrangles that cover much of the western part of Oklahoma have been completed; Pauls Valley is the most recent quadrangle to be completed. Mapping of the Ardmore and the Oklahoma part of the Gainesville 1:100,000 scale quadrangles is in progress.

The STATEMAP Program in Oklahoma

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Abstract

STATEMAP is a program in which state geological surveys compete for matching funds from the U.S. Geological Survey for geological mapping. The goal of the program is to develop a geologic framework in areas of important economic, social, or scientific interest to individual states. Oklahoma's STATEMAP plan consists of two goals:

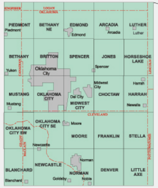
(1) Detailed mapping at 1:24,000 scale in and around concentrated urban areas and their expanding suburbs that will help define potential hazards, soil types, aggregate resources and groundwater aquifers.

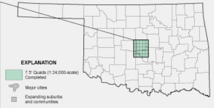
(2) Regional mapping at 1:100,000 scale across the entire state. These areas are currently covered by good to poor mapping, all of which need to be compiled, field checked, corrected, and digitized onto a standardized topographic base. The 1:100,000 scale geologic maps will be used in the compilation of a new 1:500,000 scale geologic map of Oklahoma.

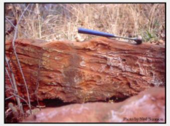
Individual geologic maps produced by the STATEMAP Program are published as Oklahoma Geologic Quadrangle Maps. Maps produced through the STATEMAP program are available for free download on the Oklahoma Geological Survey website (http://ogs.ou.edu). Paper copies are available through Print-on-demand.

Oklahoma City Metro Area

The Oklahoma City Metro Area was mapped through the STATEMAP program between 1997-2002. This mapping produced twenty-five 7.5' quadrangles and two 1:100,000 scale quadrangles.






Climbing ripples, Hennessy Formation
Fairmont 7.5' Quadrangle

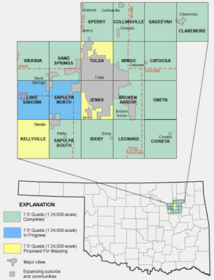
Tulsa Metro Area

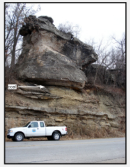
Since 2003, the Oklahoma Geological Survey has been mapping the geology of the Tulsa Metro Area at a scale of 1:24,000. The purpose is to map at a significant level of detail to aid in the economic, social, and environmental development of Oklahoma's second largest metropolitan area.

Fourteen 7.5' quadrangles have been produced so far in the Tulsa Metro Area. Five 7.5' quadrangles remain to be completed. Mapping for the Sapulpa North and Lake Sahoma quadrangles has been completed, and the maps will be published upon digitization. The Kellyville and Jenks quadrangles will be mapped in 2012, and the final quadrangle, Tulsa, will be mapped the following year.


Soft sediment deformation, Seminole Formation
Sapulpa North 7.5' Quadrangle


Coal, Seminole Formation
Sapulpa North 7.5' Quadrangle




Hogshooter Formation above thin coal
Coffeyville Formation below Hogshooter
Sapulpa North 7.5' Quadrangle


Soft sediment deformation,
Nellie Bly Formation
Lake Sahoma 7.5' Quadrangle

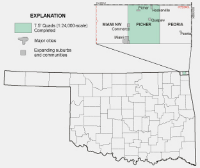

Trails and ripples, Nellie Bly Formation
Lake Sahoma 7.5' Quadrangle

Tar Creek Area

The Tar Creek area is located in the northeastern part of Oklahoma and is part of the historical Tri-State Mining District. The area was mined extensivley for zinc and lead and became a U.S. Superfund Site in 1983. The EPA's site clean-up is ongoing.

In 2006, the Picher 7.5' quadrangle was mapped by Tom Stanley and Ken Luza as part of the STATEMAP program. Mapping of the adjacent Miami NW and Peoria 7.5' quadrangles is planned as well.

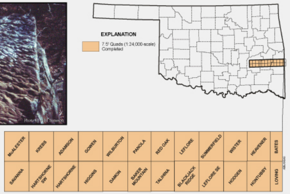
Chat pile
Picher 7.5' Quadrangle



Ouachita Mountains

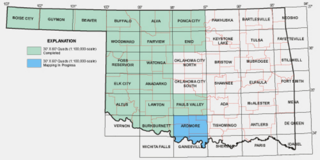
The northern part of the Ouachita Mountains was mapped for the COGEOMAP program, a precursor to STATEMAP, from 1984-1993 and for STATEMAP from 1993-1996. This mapping produced twenty-two 7.5' quadrangles, which are currently available only as author-prepared black-and-white photocopies. Next year, Neil Suneson, who worked on the original mapping of the Ouachita Mountains, and G. Russell Standridge, GIS specialist, will work together to develop digital forms of these maps.


Flute casts in 6' thick sandstone
Damon 7.5' Quadrangle



30' X 60' Quadrangles

Sixteen 1:100,000 scale quadrangles that cover much of the western part of Oklahoma have been completed. Pauls Valley is the most recent quadrangle to be completed. Mapping of the Ardmore and the Oklahoma part of the Gainsville 1:100,000 scale quadrangles is currently in progress and will be completed in 2012.



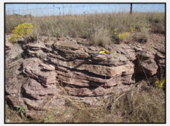

Hart Limestone, Base of Stillwater Formation
Davis 7.5' Quadrangle


Fallis Sandstone, Base of Wellington Formation
Joy 7.5' Quadrangle


Limestone conglomerate, Vanoss Formation
Hennepin 7.5' Quadrangle


Asphaltic sandstone
Harrisburg 7.5' Quadrangle


Gray shale, Garber Formation
Ratliff City 7.5' Quadrangle


Wichita Formation
Harrisburg 7.5' Quadrangle