



# OKLAHOMA GEOLOGICAL SURVEY

*Research and Public Service, Mewbourne College of Earth and Energy, University of Oklahoma*

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## **Geologic Map Day, October 19**

The first-ever Geologic Map Day will be observed October 19, and is part of Earth Sciences Week, October 14–20. The theme this year for the week is “Discovering Careers in the Earth Sciences,” to make students more aware of the geosciences and the many exciting career and job opportunities in the field.

Because geologic maps are so important, a special day was set aside to help the public understand more about these maps and what their uses are. They have an important economic impact on our economy, but also are tools for recreation and conservation. Geologic maps are important for siting dams and other large structures; exploring for energy sources and finding building materials; recreation purposes; road building and city planning; protecting and finding water sources; quantifying geologic hazards such as earthquakes, landslides and sinkholes; building lakes and then helping find good spots for fishing; and many other functions that allow us to develop and conserve our natural resources and make wise planning decisions.

In Oklahoma, the Oklahoma Geological Survey is conducting a long-term program of mapping called STATEMAP that will result in a new digital state map for Oklahoma, replacing the old 1954 version.

For more information about the Oklahoma Geological Survey, Earth Science Week and Geologic Map Day, visit:

[www.ogs.ou.edu](http://www.ogs.ou.edu)

and

<http://www.earthsciweek.org/index.html>

**Oklahoma Geological Survey Maps Online:**

<http://www.ogs.ou.edu/level2-geomapping.php>



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## **STATEMAP Products from Oklahoma Geological Survey:**

<http://www.ogs.ou.edu/geolmapping.php>

[More information](#) about Map Day and Earth Science Week.

## **Why we need geologic maps, what are they and how are they used?**

<http://www.earthsciweek.org/geologicmap/faq.html>

## **FACTS ABOUT STATEMAP AT OGS**

STATEMAP, with OGS geologists Dr. Tom Stanley and Dr. Julie Chang, marks its 15<sup>th</sup> anniversary at the Survey in 2012. It is a cooperative program from the National Geologic Mapping Act of 1992 and involves the U.S. Geological Survey and State Surveys. The project's goals are detailed mapping at 1:24,000 around urban areas and digital maps at 1:100,000 scale available to the public. These smaller-scale maps also are part of the ongoing effort to create a new digital 1:500,000-scale geologic map of the state. Russell Standridge of OGS works with Stanley and Chang on the GIS and cartography. Before STATEMAP the Survey was involved in COGEMAP, a cooperative project that mapped the Ouachita Mountains of Arkansas and Oklahoma.

To date, the OGS has completed more than 41 detailed 7.5' geologic maps at a scale of 1:24,000 and 16 reconnaissance maps at 1:100,000. These are available on the website and in hard copy and digital format upon request. This reconnaissance project is complete for the southwestern part of the state and is moving northwest to southeast with plans to complete at least one 1° sheet annually.

## **OKLAHOMAN HONORED FOR WORK PROMOTING MAPPING**

OGS former Director Dr. Charles J. Mankin was recognized at the annual AASG meeting for his very important contributions to the establishment of the National Geologic Mapping Act of 1992 ([http://ncgmp.usgs.gov/about/ngm\\_act/ngmact1992.html](http://ncgmp.usgs.gov/about/ngm_act/ngmact1992.html)). This act established the funding for STATEMAP, which is the Survey's largest annual research grant. STATEMAP's 20<sup>th</sup> anniversary was a major focus of the AASG meeting and now the best proposal submitted to this program each year will be given the Charles J. Mankin Award, with the name of the winner added to a nice plaque. Dr. Mankin made many trips to Washington D. C., wrote many position papers, and talked with people at all levels and in various areas of the federal government to impart the importance of mapping and the great need that existed, and still exists, in the United States.



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Dr. Mankin was, along with other State Geologists, also a driving force in the COGEOMAP program which was a forerunner of STATEMAP. The Survey worked with the USGS and the Arkansas Geological Commission on this effort to map the Ouachita Mountains of southeastern Oklahoma and southwestern Arkansas. Proposals were issued by the USGS in 1984 and the project got underway in Federal Fiscal Year 1985. The 22 quadrangle maps of COGEOMAP and the STATEMAP products can be seen at <http://ogs.ou.edu/level2-geomapping.php>

[From the Geologic Mapping Act:](#)

43 USC section 31a. Findings and purpose

(a) Findings

The Congress finds and declares that--

- (1) during the past 2 decades, the production of geologic maps has been drastically curtailed;
- (2) geologic maps are the primary data base for virtually all applied and basic earth-science applications, including--
  - (A) exploration for and development of mineral, energy, and water resources;
  - (B) screening and characterizing sites for toxic and nuclear waste disposal;
  - (C) land use evaluation and planning for environmental protection;
  - (D) earthquake hazards reduction;
  - (E) predicting volcanic hazards;
  - (F) design and construction of infrastructure requirements such as utility lifelines, transportation corridors, and surface-water impoundments;
  - (G) reducing losses from landslides and other ground failures;
  - (H) mitigating effects of coastal and stream erosion;
  - (I) siting of critical facilities; and
  - (J) basic earth-science research;
- (3) Federal agencies, State and local governments, private industry, and the general public depend on the information provided by geologic maps to determine the extent of potential environmental damage before embarking on projects that could lead to preventable, costly environmental problems or litigation;
- (4) the combined capabilities of State, Federal, and academic groups to provide geologic mapping are not sufficient to meet the present and future needs of the United States for national security, environmental protection, and energy self-sufficiency of the Nation;
- (5) States are willing to contribute 50 percent of the funding necessary to complete the mapping of the geology within the State;
- (6) the lack of proper geologic maps has led to the poor design of such structures as dams and waste-disposal facilities;



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- (7) geologic maps have proven indispensable in the search for needed fossil-fuel and mineral resources; and
- (8) a comprehensive nationwide program of geologic mapping is required in order to systematically build the Nation's geologic-map data base at a pace that responds to increasing demand.

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