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Arizona Geology

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ARIZONA GEOLOGICAL SURVEY

Information to
Arizonans since 1889

MISSION

To provide objective information to enhance public understanding of geologic processes, materials, and resources in Arizona and to assist citizens, businesses, governmental agencies, and legislators in making informed decisions relative to managing land, water, mineral, and energy resources.

GOALS

- Provide information about geologic processes, materials, and resources in a timely, courteous manner.
- Map and describe the bedrock and surficial geology of Arizona. Current emphasis is on the Phoenix-Tucson urban corridor, which contains 80 percent of the State's population.
- Investigate and document geologic processes and materials that might be hazardous to the public or limiting to land and resource management.
- Administer the rules, regulations, and policies established by the Arizona Oil and Gas Conservation Commission.

Registration of Geologists

Larry D. Fellows

Director and State Geologist

Kansas, Mississippi, and Puerto Rico enacted laws in 1997 that require geologists to be registered to practice legally. The practice of geology is now regulated in 22 states. Thirteen other states have statutes that control the profession by title regulation, statutory definition, or partial certification, as shown in Table 1. Ten states have passed registration laws this decade. Unsuccessful attempts have been made recently to modify existing statutes in four states and to enact new laws in six more states. The grandfather provision for registration ends June 30, 1998 in Illinois and Wyoming and December 31, 1998 in Mississippi.

Registration of geologists in Arizona is the responsibility of the State Board of Technical Registration, 1951 West Camelback Road, Suite 250, Phoenix, AZ 85015 [telephone: (602) 255-4053]. The Executive Director is Ron W. Dalrymple. The Board is composed of two archi-

ects, three engineers, one land surveyor, one landscape architect, one geologist, and one public member. The geologist member is Frank S. Turek.

As of April 1, 1998, 704 geologists were registered to practice in Arizona, 315 of whom were Arizona residents.

Table 1. States with Geological Practice Laws

Practice Regulation		Statutory Definition	
Year	State	Year	State
1956	Arizona	1973	Colorado
1968	California ⁽¹⁾	1993	Oklahoma
1971	Idaho	1997	Nevada
1972	Delaware		
1973	Maine	Partial Certification	
1975	Georgia ⁽²⁾	Connecticut	
1977	Oregon ⁽³⁾	Iowa	
1983	North Carolina	Massachusetts	
1986	South Carolina	Missouri	
1988	Arkansas ⁽²⁾	Nevada	
	Florida	New Jersey	
1991	Wyoming ⁽²⁾	Texas	
1992	Kentucky		
1993	Pennsylvania	States that recently attempted to enact or modify existing registration statutes	
1994	Missouri ⁽²⁾	Delaware	
	Wisconsin	Indiana	
1995	Alabama ⁽²⁾	Nebraska	
	Illinois	New Mexico	
	Minnesota ⁽²⁾	New York	
1997	Kansas	Ohio	
	Mississippi ⁽²⁾	Oklahoma	
	Puerto Rico	Tennessee	
Title Regulation (No exam)		Texas	
Year	State	Utah	
1980	Alaska		
	Indiana		
1981	Virginia		
1988	Tennessee		

⁽¹⁾ Specialty Certification in Engineering Geology and Hydrogeology

⁽²⁾ Specialty Certification authorized but not implemented

⁽³⁾ Specialty Certification in Engineering Geology

Geologic Mapping Reception

**GOVERNOR
JANE DEE HULL**

**ARIZONA
GEOLOGICAL
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Director and State Geologist
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The Association of American State Geologists hosted a reception in Washington, D. C., March 18, 1998, to display geologic maps that were produced as part of the Statemap Program of the National Geologic Mapping Act (NGMA), administered by the U.S. Geological Survey (USGS). Members of Congress and their staff, committee staff, and representatives of agencies that use geologic maps were invited guests. Forty-five states were represented at the reception, which was held in the Rayburn House Office Building.

State geological surveys compete for Statemap funding. Each state determines mapping priorities in consultation with a geologic mapping advisory committee. A panel of state geologists reviews funding proposals that are submitted and recommends the amount of funding to be awarded on the basis of merit of the

proposal and total amount of funds available. Federal funds received by a state geological survey must be matched with an equal amount of State funds. Substantially more State funds are available for matching than are budgeted in the NGMA. Map products must be delivered on time and in accordance with the terms of the proposal.

Geologic data users conclude that production of detailed geologic maps should be one of the highest priority activities of State geological surveys. The Statemap Program, and the Coopera-

tive Geologic Mapping Program that preceded it, have been the most successful cooperative ventures with the USGS since topographic mapping of the nation was completed at 1:24,000 scale.



Figure 1. Association of American State Geologists members display geologic map products prepared as part of the Statemap Program.

Strategic Plan

The Arizona Geological Survey (AZGS) recently completed a strategic plan for Fiscal Years 1999, 2000, and 2001. Staff members and a committee of the Arizona Section of the American Institute of Professional Geologists (AIPG), who completed a comprehensive review of the performance of the

AZGS in November 1997, provided essential input and suggestions. The AIPG review was described in the Spring 1998 issue of *Arizona Geology*.

The planning process included a review of accomplishments; assessment of strengths, weaknesses, opportunities, and threats; definition of strategic issues; and determination of key

projects that will be completed during the next three years.

Four goals, listed on page 1, were identified. Each project and activity that is undertaken relates to one of these goals. The request for a General Fund appropriation will be tied to the strategic plan.

Arizona Geology

is published quarterly by the Arizona Geological Survey (AZGS) to provide information about geologic materials and processes and their impacts on the development and use of Arizona's land, water, mineral and energy resources. We encourage your comments and suggestions.

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Peter F. Corrao

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Arizona Geology
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Just Released

Annual report of the Arizona Geological Survey for Fiscal Year 1997: L. D. Fellows, 1997, Arizona Geological Survey Open-File Report 97-22 (Pub. number OFR 97-22), 17 p. \$4.00 plus shipping and handling.

Geologic map of the State Route 88 corridor from Pinal Creek to Pinto Creek, Gila County, Arizona: S. J. Skotnicki, 1998, Arizona Geological Survey Open-File Report 98-01 (Pub. number OFR 98-01), 7 p., scale 1:12,000. \$5.00 plus shipping and handling.

Compilation of unpublished USGS and University of Arizona K-Ar dates of volcanic rocks of the San Francisco volcanic field, northern Arizona: E. H. McKee, P. E. Damon, M. Shafiqullah, R. C. Harris, and J. E. Spencer, 1998, Arizona Geological Survey Open-File Report 98-02 (Pub. number OFR 98-02), 25 p., 1 plate, scale 1:100,000. \$8.00 plus shipping and handling.

Mineralized areas in the San Carlos-Safford-Duncan nonpoint-source management zone,

Arizona: R. C. Harris and S. M. Richard, 1998, Arizona Geological Survey Open-File Report 98-03 (Pub. number OFR 98-03), 37 p., 1 sheet, scale 1:500,000. \$7.00 plus shipping and handling.

Paleoflood hydrology and historic flood analysis in the upper Verde River basin, central Arizona: J. E. Klawon, 1998, Arizona Geological Survey Open-File Report 98-05 (Pub. number OFR 98-05), 93 p. \$20.00 plus shipping and handling.

Ordering Information

You may purchase publications at the AZGS office or by mail. Address mail orders to AZGS Publications, 416 W. Congress St., Suite 100, Tucson, AZ 85701. Orders are shipped by UPS, which requires a street address for delivery. All mail orders must be prepaid by a check or money order payable in U.S. dollars to the Arizona Geological Survey or by Master Card or VISA. Do not send cash. Add 7% sales tax to the publication cost for orders purchased or mailed in Arizona. Order by publication number and add these shipping and handling charges to your total order:

Shipping & Handling CHARGES

In the United States:

Less than \$1.01, add \$1.00
1.01- 10.00, add 3.00
10.01- 20.00, add 4.50
20.01- 30.00, add 5.75
30.01- 40.00, add 6.50
40.01- 50.00, add 8.00
50.01- 100.00, add 10.25
Over 100.00, add 12%

Other countries, request price quotation.

Shipping and handling charges include insurance. For rolled maps, add \$1.00 for a mailing tube.

If you purchase Open-File Reports, Contributed Maps, or Contributed Reports at the AZGS office, allow up to two days for photocopying.

Arizona Geology
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Other Publications

ARIZONA MINES AND MINING COMPANIES

This book includes a list with the names of mines and mining companies on the left side of the page and their closest geographical location or mineral district on the right side. The list includes 12,600 citations. The 307-page book, published by James H. Garboni in 1991, may be purchased from the Arizona Geological Survey for \$19.95, plus shipping and handling charges if you would like to have it mailed. Please refer to ordering information, on this page. Ask for publication number NP 19.

EXPLORING, MINING, LEACHING, AND CONCENTRATING OF COPPER ORES AS RELATED TO THE DEVELOPMENT OF AJO, ARIZONA TO MID-YEAR 1942

This book, compiled and published by Forrest R. Rickard in 1996, contains a detailed description of the development of Ajo, Arizona, the New Cornelia mine, and some of the key people who were involved. Copies of the 348-page book are available by mail from Rickard at P.O. Box 370, Ajo, AZ 85321 for \$24.53, postage included.

COLLECTING ON PUBLIC LANDS

The U.S. Bureau of Land Management (BLM) released a new brochure that explains requirements for collecting on public lands in Arizona. The brochure, *Rockbounding in Arizona*, contains information about collecting rocks, mineral specimens, semi-precious gemstones, Indian or other historical artifacts, and vertebrate fossils. The brochure also defines procedures to follow in collecting without charge or permit on BLM lands. For a copy of the brochure and related information contact the BLM's Arizona State Office in Phoenix or field offices in Kingman, Havasu City, Phoenix, Safford, Tucson, Sierra Vista, or Yuma, Arizona or St. George, Utah.

**1998 MEETINGS --
MARK YOUR
CALENDAR**

May 25-26.

Rocky Mountain Section,
Geological Society of
America, Flagstaff

June 26-26.

Western United States
Earthquake Insurance
Summit, Sacramento, CA

September 10-14.

Highway Geology
Symposium, Prescott

September 15-18.

Western States Seismic
Policy Council Annual
Meeting, Pasadena, CA

September 23-26.

Arizona Hydrological
Society Symposium,
Tucson

Contact us for more
information.

MAPS AND REPORTS FOR SALE AT THE AZGS

The Arizona Geological Survey (AZGS) offers many geologic maps and reports for purchase by mail, telephone, or in person from our office. These maps and reports are published by the AZGS, the U. S. Geological Survey (USGS), the Arizona Geological Society, and other sources. Items that are available for purchase and persons to contact for more information about them are summarized below.

Arizona Geological Survey. The AZGS produces 20-30 open-file reports each year, announces them in *Arizona Geology*, and adds them to the list of publications for sale. Photocopies are sold on request. The AZGS occasionally publishes maps and reports in the Bulletin, Circular, Special Paper, Map, Oil and Gas, Down-to-Earth, or other series. The AZGS is the distributor for Arizona Geological Society publications and sells selected maps and reports that were prepared by other agencies or professional societies. Mary E. Redmon oversees the sale and distribution of AZGS and Arizona Geological Society maps and reports, as well as items that are not published by the AZGS.

U.S. Geological Survey

The AZGS signed an agreement with the USGS to operate the Earth Science Information Center, from which USGS maps and reports are made available to the public. Arizona is covered by 1,951 1:24,000-scale topographic quadrangles, all of which may be purchased at the AZGS. In addition, many geologic reports published by the USGS that pertain to Arizona (Professional Papers, Bulletins, Circulars, Geologic Quadrangles, and other series) are also for sale. Please call Cathy "Kik" Moore for information about obtaining USGS publications.

Wholesale maps and reports

The AZGS, which has more than 500 maps and reports for sale, offers discounts on selected items to retailers. During the past year the AZGS published two Down-to-Earth series reports for nontechnical audiences. Three more are in preparation and a number of others are being planned. If you operate a business that sells books and/or maps, please call Rose Ellen McDonnell for information about what discounted items the AZGS has available for retailers.



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