



Association of American State Geologists



Montana Bureau of Mines and Geology

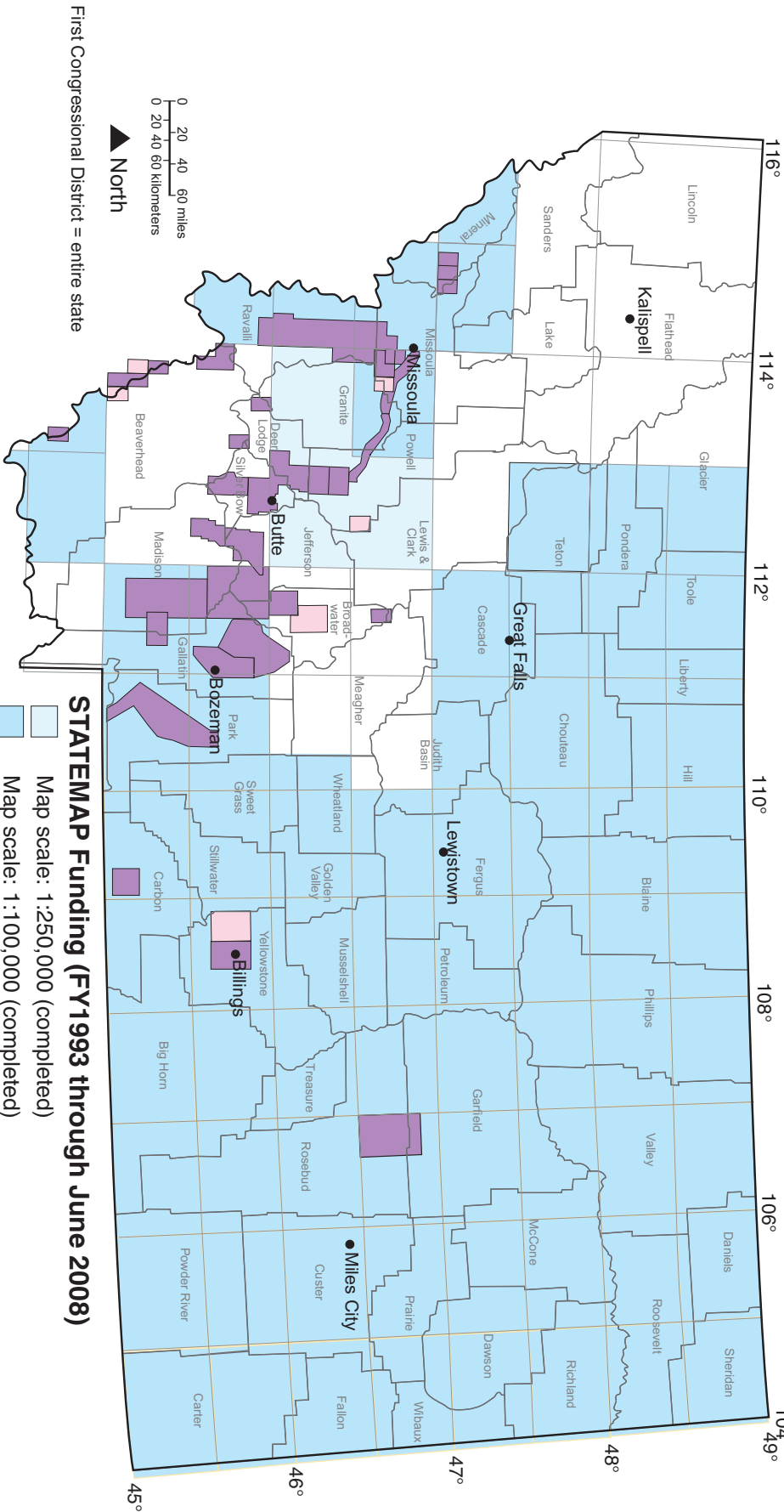
United States Geological Survey



# National Cooperative Geologic Mapping Program

STATEMAP Component: States compete for federal matching funds for geologic mapping

## MONTANA



First Congressional District = entire state

### Contact information

**Montana Bureau of Mines and Geology**  
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<http://www.mbmng.mtech.edu/>

**STATEMAP Funding (FY1993 through June 2008)**

- Map scale: 1:250,000 (completed)
- Map scale: 1:100,000 (completed)
- Map scales: 1:48,000, 1:50,000 and 1:24,000 (completed; in progress FY2008)

**U.S.G.S. Geologic Mapping Program Office**  
Program Coordinator: Peter T. Lytle (703/648-6943)  
Associate Program Coordinators: Randy Orndorff and Laurel M. Bybell (703/648-5281)  
<http://ncgmp.usgs.gov/>

**SUMMARY OF STATEMAP GEOLOGIC MAPPING PROGRAM IN MONTANA – April 2008**

Federal Fiscal Year	Project Titles – Scale	State Dollars	Federal Dollars	Total Project Dollars
1993	1:100,000: Conrad, Chester, Lonesome Lake, Sweet Grass Hills and Winifred 30' x 60' quadrangles; 1:24,000: Teepee Mountain 7.5' quadrangle (not digital)	\$159,923	\$105,000	\$264,923
1994	1:100,000: Bozeman 30' x 60' quadrangle; 1:48,000: Metropolitan Billings area (not digital)	\$123,139	\$110,000	\$233,139
1995	1:100,000: Billings, Bridger, Hamilton, and Nez Perce Pass 30' x 60' quadrangles	\$65,492	\$40,000	\$105,492
1996	1:250,000: Butte 1x2-degree; 1:100,000: Glendive, Plentywood, Culbertson, Scooby, Wolf Point, Lodge Grass, and Hardin 30' x 60' quadrangles; 1:48,000: Bitterroot Valley	\$130,961	\$120,000	\$250,961
1997	1:100,000: Leadore, and Missoula West 30' x 60' quadrangles	\$129,162	\$120,000	\$249,162
1998	1:100,000: Malta, Glasgow, Winnett, Lewistown, Musselshell, Gardiner, and Wallace 30' x 60' quadrangles	\$151,182	\$120,000	\$271,182
1999	1:100,000: Great Falls South, Roundup, Livingston, Big Timber, and Lima 30' x 60' quadrangles	\$100,430	\$100,000	\$200,430
2000	1:100,000: Harlowton, Red Lodge, Forsyth, Lame Deer, Birney, Miles City, Powderville, Broadus, Baker, Ekalaka, and Alzada 30' x 60' quadrangles	\$100,319	\$100,000	\$200,319
2001	1:100,000: Winifred, Zortman, Dodson, Ophelm, Sweet Grass Hills, Conrad, Chester, Lonesome Lake, Belt, Rocky Boy, Valier, Cut Bank, Great Falls North, and Fort Benton 30' x 60' quadrangles; 1:50,000: Gallatin Valley East	\$235,105	\$234,809	\$469,914
2002	1:100,000: Whitewater, Harlem, Havre, Richey, Circle, Sidney, Wibaux, Terry, and Phillipsburg 30' x 60' quadrangles; 1:50,000: Gallatin Valley West, and Paradise Valley; 1:24,000: Hellgate Gulch 7.5' quadrangle	\$220,302	\$220,000	\$440,302
2003	1:100,000: Fort Peck Lake E, Fort Peck Lake W, Hysham, Angela, and Ringling 30' x 60' quadrangles; 1:50,000: Upper Jefferson Valley, Divide-Melrose area, and Upper Clark Fork Valley; 1:24,000: Kelly Lake, and Dickie Hills 7.5' quadrangles	\$196,445	\$196,445	\$392,890
2004	1:100,000: Sand Springs, Jordan, and Melstone 30' x 60' quadrangle; 1:50,000: Red Lodge area, and Clark Fork valley; 1:24,000: Lozeau, and Tarkio 7.5' quadrangles, and Lost Trail Pass area	\$162,127	\$162,077	\$324,204
2005	1:50,000: Lower Jefferson Valley, Central Madison Valley, and Lower Clark Fork Valley; 1:24,000: Siark South 7.5' quadrangle, and Goldstone Pass area	\$121,100	\$121,034	\$242,134
2006	1:100,000: north half of Choteau, and Plains 30' x 60' quadrangles; 1:50,000: Radersburg-Toston Basin; 1:24,000: south half of Missoula SE and north half of Davis Point 7.5' quadrangles	\$122,110	\$122,037	\$244,147
2007	1:100,000: Choteau 30' x 60' (completion); 1:50,000: Porcupine Dome area, 1:24,000: Fan Mtn- Lone Mtn- Gallatin Peak 7.5' quadrangles, Homer Youngs Peak 7.5' quadrangle, and Davis Point-Elk Mtn 7.5' quadrangles.	\$141,536	\$141,531	\$283,067
2008	1:50,000: Yellowstone corridor w of Billings, Townsend Valley; 1:24,000: Black Mountain, Iris Point, Bohannon Spring, and Kitty Creek 7.5' quadrangles	\$161,974	\$162,031	\$324,005
<b>TOTALS</b>	One at 1:250,000 scale; seventy at 1:100,000 scale; 11 at 1:50,000 scale; two at 1:48,000 scale; fifteen at 1:24,000 scale= <b>99 digital maps</b>	<b>\$2,321,307</b>	<b>\$2,174,964</b>	<b>\$4,496,271</b>

The availability of geologic information for Montana has been significantly advanced by Montana Bureau of Mines & Geology's (MBMG) participation in the STATEMAP part of the National Cooperative Geologic Mapping Program (NCGMP).

Water has always been a primary issue in Montana. Assessment, management and protection of both surface and ground water require good geologic maps. As the state undergoes major demographic changes and the related major shifts in land use, the need for adequate geologic information is even more critical for all the state's resources, land area, and citizens. Modern geologic maps, at a useful scale, are in great demand—by state and federal agencies responsible for management of Montana's water, energy, timber, and minerals; by county and municipal agencies responsible for land-use planning decisions on such matters as residential sites, highway routing, and waste disposal; and by economic-resource developers who must delineate and produce commodities in an environmentally acceptable manner. The maps are being used in ground-water characterization, earthquake hazard evaluation, burn-area remediation, abandoned-mines assessment, location of sand and gravel resources, and many other land- and resource-use issues across the state. Because of the universal need for new maps, MBMG has focused its efforts first at generating coverage for the entire state at a scale of 1:100,000 (1 in. = 1.6 mi.). A second effort,

also underway, focuses more locally on the state's urban centers and western valleys that are facing immediate concerns at the interface of available resources and increasing population.

MBMG's production of geologic maps is about 50% dependent upon the funding received through the National Cooperative Geologic Mapping Program. In this 1:1 matching program, MBMG contributes the salary dollars of the geologists; NCGMP dollars provide the geologists' field expenses and the digital expertise to produce the work.

Because MBMG's geologic maps are available online, state and federal agencies, private companies, drillers, ranchers, attorneys, and others have immediate access to the information. Thus, MBMG may have no knowledge of many additional map uses and outcomes.

In 2007 the Montana Bureau of Mines and Geology published a new geologic map of the State as a direct result of having most of the State mapped at 1:100,000 scale through the STATEMAP program.

Prepared by Montana Bureau of Mines and Geology, April 11, 2008.