

## SUMMARY OF STATEMAP GEOLOGIC MAPPING PROGRAM IN NEW MEXICO

Federal fiscal year(s)	No. of quads mapped	7.5-minute geologic quadrangles mapped	Federal Dollars awarded to NMBGMR	NMBGMR Dollars matched	Total Project Dollars
1993-99	41.5	Tijeras, Albuquerque East, Placitas, Sandia Crest, Sandia Park, Hubbell Spring, McClure Reservoir, Isleta, Alameda, Taos SW, Mt. Washington, Sky Village SE, Jemez Pueblo, Santo Domingo Pueblo, Glorieta, Albuquerque West, Bernalillo, San Ysidro, San Felipe Pueblo, Dalies, Carson, Sedillo, Seton Village, Bosque Peak, Loma Creston, Santo Domingo Pueblo SW, San Pedro, Galisteo, Socorro, Edgewood, San Felipe Pueblo NE, Santa Fe, Veguita, Ranchos de Taos, Rosilla Peak, Turquoise Hill, Golden, Frijoles, Ojo Hedionda, Captain Davis Mtn. (1/2), Lemitar (1/2), Capilla Peak (1/2), Taos (1/2), Madrid (1/2)	\$720,755	\$720,886	\$1,441,64
2000-05	88.0	Horcado Ranch, Guaje Mtn., Pecos, Picture Rock, Hagan, Escabosa, Cundiyo, Española, Luis Lopez, San Antonio, Ponderosa, Carlsbad West, Carlsbad East, Manzano Peak, Peñasco, Los Cordovas, Kellog Well, Oak Peak, Dusty, Welty Hill, Wahoo Ranch, Montoya Butte, Escabosa, Jemez Springs, Bear Springs Peak, Chimayo, San Juan Pueblo, Velarde, Silver Creek, Otis, Loving, Las Vegas, Las Vegas NW, Farmington North, San Lorenzo Spring, Chilili, Truchas, Bland, Cañada, Medanales, Lyden, Tome, Tome NE, Mesa del Yeso, Seven Springs, Cerro del Grant, Polvadera Peak, Ruidoso, Angus, Ruidoso Downs, Chili, El Valle, Trampas, Vallecitos, Cañones, Youngsville, Tome SE, Loma de las Canas, Ojo Caliente, La Joya, Becker, Scholle, Lake McMillan South, Seven Rivers, Arroyo del Agua, Jarosa, Ghost Ranch, Abeytas, Valle Toledo, Valle San Antonio, Baldy Mountain, Bottomless Lakes, Ojitos Frios, Abreu Canyon, Alamogordo South, Reserve, Luna, Arroyo Hondo, King Draw, Water Canyon, Fort Stanton, Holt Mountain, Captain Davis Mtn. (1/2), Lemitar (1/2), Capilla Peak (1/2), Taos (1/2), Madrid (1/2), La Madera (1/2), Stanley (1/2), La Joya NW (1/2), Ladrón Peak (1/2), Taos Junction (1/2), Tres Ritos (1/2), Sierra de la Cruz (1/2)	\$1,642,483	\$1,685,597	\$3,328,080
2006	14	Canijon SE, White Rock, Fort Bayard, Welty Hill, Bay Buck Peaks, Bitter Lake, Canon Agua Buena, Alamogordo North, La Madera (1/2), Stanley (1/2), La Joya NW (1/2), Ladrón Peak (1/2), Taos Junction (1/2), Tres Ritos (1/2), Sierra de la Cruz (1/2), Carbon Springs (1/2), Guadalupe Mountain (1/2), El Rito (1/2), Silver City (1/2), Lake McMillan North (1/2)	\$225,057	\$225,415	\$450,472
2007	16.5	South Spring, Tinnie, Flying H NW, Loco Canyon, Elk, Thimble Canyon, Robertson Canyon, Dunken, Tularosa, Valle Grande Peak, Lobo Springs, Servilleta Plaza, Carbon Springs (1/2), Guadalupe Mountain (1/2), El Rito (1/2), Silver City (1/2), Lake McMillan North (1/2), Sabinata Flat (1/2), Cat Mountain (1/2), Tularosa NE (1/2), Mount Taylor (1/2)	\$223,800	\$240,383	\$464,183
2008	14.5	Three Rivers, Lincoln, San Patricio, Chimney Lake, Lewis Peak, Cornucopia Canyon, Piñon Ranch, San Mateo, Sabinata Flat (1/2), Cat Mountain (1/2), Tularosa NE (1/2), Mount Taylor (1/2), Nogal (1/2), Capitan (1/2), Nelson Canyon West (1/2), Oscura (1/2), Arroyo Seco (1/2), Las Tablas (1/2), Indian Wells Wilderness (1/2), Cerro Pelon (1/2), Ambrosia Lake (1/2)	\$223,216	\$293,040	\$516,256
2009	12.5	Capitan Pass, Capitan Peak, Bull Gap, Carrizozo East, San Lucas Dam, Nogal (1/2), Capitan (1/2), Nelson Canyon West (1/2), Oscura (1/2), Arroyo Seco (1/2), Las Tablas (1/2), Indian Wells Wilderness (1/2), Cerro Pelon (1/2), Ambrosia Lake (1/2), Nogal Peak (1/2), Godfrey Peak (1/2), Cub Mountain (1/2), Dayton (1/2), Artesia (1/2), Spring Lake (1/2)	\$228,572	\$230,015	\$458,587
<b>TOTALS</b>	<b>187</b>		<b>\$3,263,883</b>	<b>\$3,395,336</b>	<b>\$6,659,219</b>

Modern digital geologic maps are essential for New Mexico's environmental and economic prosperity. Geologic maps are uniquely suited to solving problems involving Earth resources, hazards, and environments, and perhaps most importantly for the people of New Mexico, such maps help identify and protect ground water aquifers, aid in locating water-supply wells, and are fundamental for all environmental studies and land-use plans.

One of the primary objectives of the New Mexico Bureau of Geology and Mineral Resources is to characterize the state's geology in sufficient detail to allow governments, communities, planners, and scientists to use these map data in matters of practical economic, environmental, and basic scientific concerns. In addition to mapping quadrangles at the standard scale of 1:24,000 (1 inch = 2000 feet), we will continue to integrate these quads into regional syntheses of New Mexico stratigraphy, structure, hydrogeology, and geologic hazards. The bureau's mapping program is cooperative in the broadest sense; STATEMAP priorities are set annually by the 40+ member N.M. STATEMAP Advisory Committee, comprised of professionals from federal, tribal, state, and local agencies, as well as private industry.

**STATEMENT OF OUTCOME:** Of the 121,598 sq. miles of New Mexico, about 27% has been mapped at a scale of 1:24,000: 256 quads were USGS efforts, 170 quads were produced by the bureau prior to the STATEMAP program, and 175 are completed STATEMAP quads. Few of these pre-STATEMAP quads were located within the metropolitan corridors, and very few are mapped well enough to satisfy the current needs of hydrologists, engineers, land-use managers, and planners.

The most critical area is the populated zone along the Rio Grande watershed from the Colorado border to Elephant Butte Reservoir, which contains 50% of the state's population on 4% of its land area. Rapid population growth, shallow alluvial aquifers, large topographic relief, and the alternating scarcity and abundance of precipitation, give rise to a host of hydrologic and engineering problems here.

Due to these concerns, the N.M. Office of the State Engineer, the counties of Bernalillo, Sandoval, and Santa Fe (containing the Albuquerque-Santa Fe urban corridor), and several pueblo tribes conduct hydrologic studies to determine water resource availability, protect existing water rights, and plan for continued growth in the region. Increasing consumption of surface and ground waters by a growing population, a continuing long-term regional drought, and the competing needs of municipalities, agriculture and endangered species in riverine ecosystems, make geologic and hydrologic data collection and interpretation a critical need for the state. Because much of the state's water is produced from Tertiary sedimentary basins, a thorough geologic understanding of these basins is essential to develop accurate models and management tools for water planning and administration. For recent geologic map compilations used in this corridor, see Open-file reports OFR-481 and OFR-496. Another timely map compilations just released is for the Ruidoso area (OFR-507) and Sacramento Mountains (OFR-512), which is also undergoing rapid growth with limited water resources. These can be found at:

<http://geoinfo.nmt.edu/publications/openfile>