

**Appendix A**  
**Resource Information**  
**and Maps**

**Appendix A1**

**Bibliography**

## Southwest New Mexico Water Planning Region Data Inventory

Author	Date	Document Name	Publication Information
Afinowicz, J.D., C.L. Munster, and B.P. Wilcox	2004	Modeling the effects of brush management for increasing water yield on the Edwards Plateau, Texas	Journal of the American Water Resources Association. Accepted for publication.
Aller, L., T. Bennett, J. Lehr, and G. Hackett	1987	DRASTIC: a standardized system for evaluating groundwater pollution potential using hydrogeologic settings	EPA/600/2 87/035, U.S. Environmental Protection Agency
Alley, W.M.	1984	The Palmer Drought Severity Index: Limitations and assumptions.	Journal of Climate and Applied Meteorology 23:1100-1109
American Society of Civil Engineers	2001	Standard guidelines for artificial recharge of ground water	Environmental and Water Resources Institute, Reston, Virginia. 106p.
Anderson, T.W., G.W. Freethey, and P. Tucci	1992	Geohydrology and Water Resources of Alluvial Basins in South-Central Arizona and Parts of Adjacent States, Regional Aquifer-System Analysis	U.S. Geological Survey Professional Paper 1406-B, U.S. Government Printing Office, Washington
Apodaca, T.	1998	Memorandum from General Counsel Ted Apodaca to State Engineer Tom Turney	January 8, 1998
Arizona Water Resources Research Center (WRRC)	2002	Dry power plants produce energy using less water	Arizona Water Resource 10(4). March-April 2002. Available at < <a href="http://ag.arizona.edu/AZWATER/awr/marapr02/feature1.html">http://ag.arizona.edu/AZWATER/awr/marapr02/feature1.html</a> >.
Avon, L. and T.J. Durbin	1994	Evaluation of the Maxey-Eakin method for estimating recharge to ground-water basins of Nevada	Water Resources Bulletin 30(1): 99-111
Baker, M.B., Jr., and P.F. Ffolliott	2000	Contributions of watershed management research to ecosystem-based management in the Colorado River Basin	pp. 117-128 in Ffolliott, P.F., M.B. Baker, Jr., C.B. Edminster, M.C. Dillion, and K.L. Mora (technical coordinators) Land stewardship in the 21st Century: The contributions of watershed management. Proceedings RMRS-P-13, USDA Forest Service.
Baker, M.B., Jr., and P.F. Ffolliott	1999	Interdisciplinary land use along the Mogollon Rim	pp. 27-34. In Baker, M.B., Jr. (comp.) History of watershed research in the Central Arizona Highlands. Research Paper RMRS-GTR-29, USDA Forest Service.
Baker, M.B., Jr., L.F. DeBano, and P.F. Ffolliott	1999	Changing values of riparian ecosystems	pp. 43-47 in Baker, M.B., Jr. (comp.) History of watershed research in the Central Arizona Highlands. Research Paper RMRS-GTR-29, USDA Forest Service.
Balleau Groundwater, Inc.	2002	Exxon Water Rights (GSF 1745) Transfer Hearing	Unpublished data , January 2002
Balleau Groundwater, Inc.	Undated	Miscellaneous exhibits	OSE File GSF-1745 et al into GSF-1014 through GSF-1018
Basabilvazo, G.T.	1997	Ground-Water Resources of Catron County, New Mexico	Prepared in Cooperation with the New Mexico State Engineer Office and the New Mexico Bureau of Mines and Mineral Resources. U.S. Geological Survey, Water-Resources Investigations Report 96-4258.

## Southwest New Mexico Water Planning Region Data Inventory

Author	Date	Document Name	Publication Information
Belin, A., C. Bokum, and F. Titus	2002	Taking charge of our water destiny: A water management policy guide for New Mexico in the 21st Century	1000 Friends of New Mexico
Benavides-Solorio, J., and L.H. MacDonald	2000	Post-fire sediment production from hillslopes in the Colorado Front Range	Eos Trans. AGU 82(47):F510
Benavides-Solorio, J., and L.H. MacDonald	2001	Post-fire runoff and erosion from simulated rainfall on small plots, Colorado Front Range	Hydrological Processes 15:2931-2952
Bernalillo County Municipal Code	2001	Chapter 42. Health and Sanitation, Article IV. Environmental Health Code, Division 10. Wastewater Systems.	Codified through Ord. No. 01-4, enacted Nov. 11, 2002 (Supplement No. 12).
Blair, A.W. and K. Stevens	1991	Use of Hydrologic Criteria to Expedite Changes in Water Use in the Mimbres Basin, New Mexico	Prepared in cooperation with Department of Economics, Department of Geology, University of New Mexico, Civil, Agricultural, and Geological Engineering Department, New Mexico State University. Technical Completion Report No. 255, New Mexico Water Research Institute. June 1991
Bosch, J.M. and J.D. Hewlett	1982	A review of catchment experiments to determine the effect of vegetation changes on water yield and evapotranspiration	Journal of Hydrology 55:2-23
Boucher, P.F.	2002	The historical role of fire and ecosystem management of fires, Gila National Forest, New Mexico: A PowerPoint presentation	pp. 91-98 in Ortega Klett, C.T. (ed.) Proceedings, 46th Annual New Mexico Water Conference: New Mexico watershed management: Restoration, utilization, and protection. November 5-7, 2001, Santa Fe, New Mexico. Report No. 323, WRRRI. June 2002.
Bouwer, H.	1978	Groundwater Hydrology	McGraw-Hill, 480p
Bouwer, H.	1991	Groundwater recharge with sewage effluent	Water Science Technology 23:2099-2108
Bouwer, H.	1992	Reuse rules	Civil Engineering. July 1992. pp. 72-75.
Brooks, K.N., P.F. Foliott, H.M. Gregersen, and J.L. Thomas	1991	Hydrology and the Management of Watersheds	Iowa State University Press, Ames, Iowa. 392p
Burke, A.	2004	Keepers of the flame	High County News 36(21):9-14. November 8, 2004.
Burt, C.M., A.J. Clemmens, R. Bliesner, J.L. Merriam, and L. Hardy	2000	Selection of irrigation methods for agriculture	American Society of Civil Engineers On-Farm Irrigation Committee of the Environmental and Water Resources Institute, New York, New York. 144p.
Camp Dresser and McKee, Inc. (CDM)	1998	City of Santa Fe treated effluent management plan	Prepared in association with Lee Wilson and Associates. May 1998.
Cather, S.M.	1980	Petrology, diagenesis, and genetic stratigraphy of the Eocene Baca Formation, Alamo Navajo Reservation, Socorro County, New Mexico	Unpublished M.S. thesis, University of Texas, Austin, Texas. 243p
Cayan, D.R.	1996	Interannual climate variability and snowpack in the Western United States	Journal of Climate 9:928-948

## Southwest New Mexico Water Planning Region Data Inventory

Author	Date	Document Name	Publication Information
CH2M Hill	1990	Vulnerability of Bernalillo County ground-water resources	Hazardous Materials and Waste Storage Component of the Ground-Water Protection Policy and Action Plan: Prepared for the Policy Coordinating Committee. May 1990.
Chino Mines Company	Undated	5-Year Water Use and Water Rights	Unpublished data (filed with OSE), provided by Gerry Donaldson, May 22, 2003
Chino Mines Company	Undated	Miscellaneous Water Report tables (duplicate?)	
Chino Mines Company	Undated	5-Year Water Use and Water Rights	Unpublished data (filed with OSE), provided by Gerry Donaldson, May 22, 2003
City of Albuquerque (COA)	2004	Resolutions and ordinances	< <a href="http://www.cabq.gov/waterconservation/ordinances.html">http://www.cabq.gov/waterconservation/ordinances.html</a> >. Accessed December 2004.
City of Las Cruces	2001	Municipal code, Article VII: Water conservation	Ordinance 1894, enacted September 17, 2001. Available at < <a href="http://www.lascruces.org/legal/city_clerk/codes-dir/index.asp">http://www.lascruces.org/legal/city_clerk/codes-dir/index.asp</a> >.
City of Santa Fe	2004	Santa Fe City Code, Chapter XXV: Water	Supplement no. 57, Text amendments through June 30, 2004. Available at < <a href="http://www.codedsystems.com/santa_fe.htm">http://www.codedsystems.com/santa_fe.htm</a> >. Accessed December 2004.
Clemons, R.E.	1979	Geology of Good Sight Mountains and Uvas Valley, southwest New Mexico	Circular 169, New Mexico Bureau of Mines and Mineral Resources, A Division of New Mexico Institute of Mining & Technology
Coney, P.J.	1976	Structure, volcanic stratigraphy, and gravity across the Mogollon Plateau, New Mexico	In Cenozoic volcanism in southwestern New Mexico. New Mexico Geological Society Special Publication 5, 29-41
Cruz, R.R.	1991	Groundwater Levels, Mimbres Basin South, New Mexico, 1982-1987	New Mexico State Engineer Office, Map No. GWL-MBS-82/87
Dane, C.H. and G.O. Bachman	1965	Geologic map of New Mexico	U.S. Geological Survey. 2 sheets, scale 1:500,000
Daniel B. Stephens & Associates, Inc.	1996	Estimation of infiltration and recharge for environmental site assessment	American Petroleum Institute, Health and Environmental Sciences Department Publication Number 4643, July 1996
Darton, N.H.	1916	Geology and Underground Water of Luna County, New Mexico	Department of the Interior, United States Geological Survey, Bulletin 618, Washington Government Printing Office
DeBano, L.F., M.B. Baker, Jr., and G.J. Gottfried	1999	Providing water and forage in the Salt-Verde River Basin	pp. 13-18. In Baker, M.B., Jr. (comp.) History of watershed research in the Central Arizona Highlands. Research Paper RMRS-GTR-29, USDA Forest Service.
DeBano, L.F., M.B. Baker, Jr., and S.T. Overby	1999	Managing chaparral in Yavapai Country	pp. 19-25. In Baker, M.B., Jr. (comp.) History of watershed research in the Central Arizona Highlands. Research Paper RMRS-GTR-29, USDA Forest Service.
Dinwiddie, G.A., W.A. Mourant, and J.A. Basler	1966	Municipal Water Supplies and Uses, Southwestern New Mexico	Technical Report 29D, New Mexico State Engineer Office, Santa Fe, New Mexico
District Court of the 6th Judicial District, Luna County, New Mexico	1990	Final Decree, Mimbres River Stream System and Mimbres Underground Water Basin	August 1990

## Southwest New Mexico Water Planning Region Data Inventory

Author	Date	Document Name	Publication Information
Doty, G.C.	1960	Reconnaissance of Ground Water in Playas Valley, Hidalgo County, New Mexico	Prepared in cooperation with the U.S. Geological Survey. Technical Report 15, New Mexico State Engineer, Santa Fe, New Mexico.
Duttle, M.	1994	Safe use of household greywater	< <a href="http://www.cahe.nmsu.edu/pubs/_m/m-106.html">http://www.cahe.nmsu.edu/pubs/_m/m-106.html</a> > New Mexico State University, Cooperative Extension Service. Last modified February 1994.
Elston, W.E., E.G. Deal, and M.J. Logsdon	1983	Geology and geothermal waters of Lightning Dock region, Animas Valley and Pyramid Mountains, Hidalgo County, New Mexico	Circular 177, New Mexico Bureau of Mines & Mineral Resources, A Division of New Mexico Institute of Mining & Technology
Elston, W.E., R.C. Rhodes, P.J. Coney, and E.G. Deal	1976	Progress report on the Mogollon Plateau volcanic field, southwestern New Mexico, No. 3—Surface expression of a pluton	In Cenozoic volcanism in southwestern New Mexico. New Mexico Geological Society Special Publication 5, 3-28
Engineers Inc.	1986	Specifications and Documents for Town of Silver City, New Mexico, Gabby Hayes Well and Transmission Line	April 1986
Engineers Inc.	1991	Bid Documents for the Village of Virden, New Mexico Water Systems Improvements	Project No. 90-W-287. December 1991
Engineers Inc.	1996	A 40-Year Water Plan for the Village of Santa Clara, New Mexico	Prepared for the Village of Santa Clara. Engineers Inc., Silver City, New Mexico. August 1996
Engineers Inc.	1996	A 40-Year Water Plan for the City of Bayard, New Mexico	Prepared for the City of Bayard. Silver City, New Mexico. April 1996
Engineers Inc.	1998	Lake Roberts Dam Outlet Structure Repairs	Prepared for New Mexico Department of Game & Fish. February 20, 1998
Engineers Inc.	2002	City of Deming Water Production and Transmission System Improvements, Preliminary Engineering Report	Prepared for City of Deming. Las Cruces, New Mexico. May 2002
Engineers Inc.	2003	Village of Santa Clara Water and Wastewater System Improvements	Prepared for the Village of Santa Clara. Silver City, New Mexico, EI Project Number: SCLO202C. June 2003
Ffolliott, P.F., and D.B. Thorud	1975	Vegetation management for increased water yield in Arizona	Tech. Bull. 215, Agricultural Experiment Station, University of Arizona, Tucson, Arizona. 38p.
Foster, R.W.	1964	Stratigraphy and petroleum possibilities of Catron County, New Mexico	New Mexico Bureau of Mines and Mineral Resources Bulletin 85
Freeze, R.A. and J.A. Cherry	1979	Groundwater	Prentice Hall, Inc.
Gary, H.L.	1975	Watershed management problems and opportunities for the Colorado Front Range ponderosa pine zone: The status of our knowledge	Research Paper RM-139, USDA Forest Service. 32p.
Gelt, J.	2002	Home use of greywater, rainwater conserves water--and may save money	< <a href="http://ag.arizona.edu/AZWATER/arroyo/071rain.html">http://ag.arizona.edu/AZWATER/arroyo/071rain.html</a> > Undated. (Accessed November 20, 2002).

## Southwest New Mexico Water Planning Region Data Inventory

Author	Date	Document Name	Publication Information
Gelt, J., J. Henderson, K. Seasholes, B. Tellman, and G. Woodard	1999	Water in the Tucson area-Seeking sustainability	Water Resources Research Center Issue Paper #20, University of Arizona. 155 p.
Geohydrology Associates, Inc.	1980	Water-Resources Appraisal for East-Central Grant County, New Mexico	Prepared for the Southwest New Mexico Council of Governments, Silver City, New Mexico. January 1980
Getches, D.H.	1997	Water law in a nutshell, 3rd ed.	West Publishing Co., St. Paul, Minnesota. 456p.
Gleick, P.H., D. Haasz, C. Henges-Jeck, V. Srinivasan, G. Wolff, K.K. Cushing, and A. Mann	2003	Waste not, want not: The potential for urban water conservation in California	Pacific Institute. November 2003. Available at < <a href="http://www.pacinst.org/reports/urban_usage">http://www.pacinst.org/reports/urban_usage</a> >.
Gordon, N.	1994	A 40-Year Water Plan for the City of Lordsburg, New Mexico	Prepared for the City of Lordsburg. Engineers Inc., Silver City, New Mexico. December 1994
Gordon, N.	1996	Water Conservation Plan for the Town of Silver City, New Mexico	Prepared for the Town of Silver City. Engineers Inc. February 1996
Gordon, N.	1997	A 40-Year Water Plan for the Village of Reserve, New Mexico, Final Report	AquaTech, Prepared for the Village of Reserve, Under Subcontract to Engineers Inc., March 1997
Gordon, N.	2002	Silver City's Water Supply: A History of Shortages	Desert Exposure, May 2002, p. 12-13
Gordon, N., G. Equeda, and T. Kelly	1993	A 40-Year Water Plan for the Town of Silver City, New Mexico	Prepared for the Town of Silver City. Engineers Inc. and Geohydrology Associates. October 1993
Gordon, N., J. Gendron, and J. Johnson-Barraza	1997	Water System Master Plan for the Town of Silver City, New Mexico, Final Report	Prepared for the Town of Silver City. July 1997
Gottfried, G.J. and K.E. Severson	1994	Managing pinyon-juniper woodlands	Rangelands 16(6):234-236. December 1994.
Gottfried, G.J., L.F. DeBano, and M.B. Baker, Jr.	1999	Beginning of water studies in the Central Arizona Highlands	pp. 7-12. In Baker, M.B., Jr. (comp.) History of watershed research in the Central Arizona Highlands. Research Paper RMRS-GTR-29, USDA Forest Service.
Gottfried, G.J., L.F. DeBano, and P.F. Ffolliott	1999	Creating a basis for watershed management in high elevation forests	pp. 35-41. In Baker, M.B., Jr. (comp.) History of watershed research in the Central Arizona Highlands. Research Paper RMRS-GTR-29, USDA Forest Service.
Gould, J. and E. Nissen-Petersen	1999	Rainwater Catchment Systems for Domestic Supply	ITDG Publishing, London
Grant Soil and Water Conservation District	Undated	Ft. Bayard precipitation records	Prepared in cooperation with Black Range RC&D.
Gray, R.N.	1997	Hydrologic Budget Analysis and Numerical Simulations of Groundwater Flow in Los Alamos Canyon near Los Alamos, New Mexico	Master's Thesis, University of New Mexico, Albuquerque, New Mexico. 485p
Green, G.N. and G.E. Jones	1997	Digital geologic map of New Mexico	
Hanover MDWCA	2003	Water Use Data for 2002 and 2003	Unpublished, July 2003

## Southwest New Mexico Water Planning Region Data Inventory

Author	Date	Document Name	Publication Information
Hanson, R.T., J.S. McLean, and R.S. Miller	1994	Hydrogeologic Framework and Preliminary Simulations of Ground-Water Flow in the Mimbres Basin, Southwestern New Mexico.	Prepared in Cooperation with the New Mexico State Engineer Office. U.S. Geological Survey Water-Resources Investigations Report 94-4011.
Hardman, G.	1936	Nevada precipitation and acreages of land by rainfall zones	University of Nevada Experimental Station, Reno, NV. 10 pp.
Hathaway, D.L.	Undated	Use of Regional Ground-Water Flow Model for Water Rights Administration in a Southwest Alluvial Basin	State Engineer Office, Santa Fe, New Mexico
Hawley, J.W., B.J. Hibbs, J.F. Kennedy, B.J. Creel, M.D. Remmenga, M. Johnson, M.M. Lee, and P. Dinterman	2000	Trans-International Boundary Aquifers in Southwestern New Mexico	Prepared for the U.S. Environmental Protection Agency-Region 6 and the International Boundary and Water Commission-U.S. Section. Technical Completion Report, Interagency contract number X-996350-01-3, New Mexico Water Resources Research Institute. March 2000
Hayes, M.J.	1999	Drought indices	< <a href="http://enso.unl.edu/ndmc/enigma/indices.htm">http://enso.unl.edu/ndmc/enigma/indices.htm</a> >. Updated October 12, 1999.
Hays, B.	1998	Questions remain as to efficacy of brush management for water yield	Texas Water Savers 4(2), Spring 1998. Available online at < <a href="http://twri.tamu.edu/twripubs/WtrSavrs/v4n2/article.9.html">http://twri.tamu.edu/twripubs/WtrSavrs/v4n2/article.9.html</a> >. (Accessed January 2003).
Hernandez, J.W., W.G. Hines, and F.D. Trauger	1984	Evaluation of a Municipal Water Supply for the Silver City Area Using Ground Water Recharge of Water from Conner Reservoir on the Gila River	Prepared for Town of Silver City and New Mexico Interstate Stream Commission. August 1984
Hibbert, A.R.	1979	Managing vegetation to increase flow in the Colorado River Basin	General Technical Report RM-66, USDA Forest Service. 27 p.
Hibbert, A.R.	1967	Forest treatment effects on water yield	In Sopper, W.E. and H.W. Lull (eds.) Oxford International symposium on forest hydrology. Pergamon.
Hibbert, A.R. and G.J. Gottfried	1987	Stormflow responses to forest treatments on two Arizona mixed conifer watersheds	pp. 189-194. In Troendle, C.A., M.R. Kaufmann, R.H. Hamre, and R.P. Winokur (technical coordinators). 2001. Management of subalpine forests: Building on 50 years of research. General Technical Report RM-149, USDA Forest Service.
Hong, S., J. Woolslayer, E. Small, J. Hendrickx, W. Bastiaanssen, P. Neville, and J. Cleverly	2000	Regional distribution of soil moisture in the middle Rio Grande Basin (poster)	New Mexico Institute of Mining and Technology, Socorro, New Mexico
Horton, J.S., and C.J. Campbell	1974	Management of phreatophyte and riparian vegetation for maximum multiple use values	Research Paper RM-117, USDA Forest Service. 23 p.
Huff, D.D., B. Hargrove, M.L. Tharp, and R. Graham	2000	Managing forests for water yield: The importance of scale	Journal of Forestry 12:15-19



## Southwest New Mexico Water Planning Region Data Inventory

Author	Date	Document Name	Publication Information
Illinois Department of Natural Resources	1994	The changing Illinois environment: Critical trends, volume 2: water resources	Technical Report of the Critical Trends Assessment Project. Available at < <a href="http://www.dnr.state.il.us/orep/ctap/index.htm">http://www.dnr.state.il.us/orep/ctap/index.htm</a> >.
Interbasin Transfer Working Group	2002	Final report of the Interbasin Transfer Working Group to the Georgia Joint Comprehensive State Water Plan Study Committee	July 2002. Available at < <a href="http://www.cviog.uga.edu/water/workinggroups/interbasin/interbasin.pdf">http://www.cviog.uga.edu/water/workinggroups/interbasin/interbasin.pdf</a> >.
Intergovernmental Panel on Climate Change (IPCC)	2001	Summary for policy makers: A report of Working Group I of the Intergovernmental Panel on Climate Change	< <a href="http://www.usgcrp.gov/ipcc/wg1spm.pdf">www.usgcrp.gov/ipcc/wg1spm.pdf</a> >
International Arid Lands Consortium (IALC)	2000	International Arid Lands Consortium promotes long term water savings for U.S. farmers: The IALC demonstrates benefits of drip irrigation to farmers in the arid southwest	Press release. Available at < <a href="http://ag.arizona.edu/OALS/IALC/news-releases/pr10.html">http://ag.arizona.edu/OALS/IALC/news-releases/pr10.html</a> >. September 7, 2000.
Isaacson & Arfman, P.A.	1988	Engineering study for Lake Roberts rehabilitation	Appendix A in Engineers Inc., 1998, Lake Roberts Dam Outlet structure repairs. Prepared for State of New Mexico Department of Game and Fish, Contract No. 98-516-52. February 1998.
Johnson, B.D.	1978	Genetic stratigraphy and provenance of the Baca Formation, New Mexico, and the Eagar Formation, Arizona	Unpublished M.S. thesis, University of Texas, Austin, Texas. 150p
Johnson, M.A.	1996	Changed southwestern forests: Resource effects and management remedies	Presented at Society of American Foresters National Convention, Albuquerque, New Mexico, November 9-13, 1996. Available at < <a href="http://www.cpluhna.nau.edu/Research/changed_southwestern_forests.htm">http://www.cpluhna.nau.edu/Research/changed_southwestern_forests.htm</a> >. Accessed June 14, 2004.
Johnson, M.S.	2000	Hydrologic Evaluation of Application GSF-1745 into GSF 1014 for Permit to Change Location of Well and Place or Purpose of Use in the Gila-San Francisco Underground Water Basin, Grant County, New Mexico	New Mexico Office of the State Engineer, Technical Division Hydrology Report 00-3. December 2000
Johnson, M.S., L.M. Logan, and D.H. Rappuhn	2002	Analysis of Effects of Ground-Water Development to Meet Projected Demands in Regional Planning District 4, Southwest New Mexico	DRAFT Hydrology Report 02-X, New Mexico Office of the State Engineer Hydrology Bureau. March 2002
Johnson, R.R., C.D. Ziebell, D.R. Patton, P.F. Ffolliott, and R.H. Hamre (technical coordinators)	1985	Riparian ecosystems and their management: Reconciling conflicting uses	General Technical Report RM-120, USDA Forest Service. 523p.
Joint Institute for the Study of the Atmosphere and Ocean (JISAO)	2003	PDO index	< <a href="http://jisao.washington.edu/pdo/PDO.latest">http://jisao.washington.edu/pdo/PDO.latest</a> >. Accessed July 2003.
Karl, T.R. and R.W. Knight	1985	Atlas of monthly Palmer hydrologic indices (1931-1983) for the contiguous United States	Historical Climatology Series 3-7, National Climatic Data Center, Asheville, North Carolina

## Southwest New Mexico Water Planning Region Data Inventory

Author	Date	Document Name	Publication Information
Kay, M.	1986	Surface irrigation	Cranfield Press, Bedford. 142p.
Kernodle, J.M.	1992	Summary of U.S. Geological Survey ground-water-flow models of basin-fill aquifers in the Southwestern Alluvial Basins region, Colorado, New Mexico, and Texas.	U.S. Geological Survey Open-File Report 90-361
Khepar, S.D., A.K. Yadav, S.K. Sondhi, and A. Sherring	2000	Modelling surplus canal water releases for artificial recharge of ground water through surface drainage systems	Irrigation Science 19:95-100
King, W.E., J.W. Hawley, A.M. Taylor, and R.P. Wilson	1971	Geology and Ground-Water Resources of Central and Western Doña Ana County, New Mexico	Hydrologic Report 1, Water Resources Research Institute, In Cooperation with New Mexico State Bureau of Mines and Mineral Resources, New Mexico Institute of Mining and Technology, Socorro, New Mexico
Klawson, J.E.	2002	Upper Gila River Fluvial Geomorphology Study, Catalog of Historical Changes, New Mexico	Technical Service Center, Denver, Colorado, U.S. Department of the Interior Bureau of Reclamation. December 20, 2002
Koopman, F.C., F.D. Trauger, and J.A. Basler	1969	Water Resources Appraisal of the Silver City Area, New Mexico	Prepared in cooperation with the U.S. Geological Survey. Technical Report 36, New Mexico State Engineer, Santa Fe, New Mexico.
Lansford, R.R., D. Lucero, C. Gore, W.W. Wilken, R. Nedom, A.A. Lucero, and J. Schultz	1997	Sources of irrigation water and cropland acreages in New Mexico, 1994-1996	Technical Report 29, Agricultural Experiment Station, Cooperative Extension Service, College of Agriculture and Home Economics, New Mexico State University, Las Cruces, New Mexico. October 1997.
Lansford, R.R., L. Dominguez, C. Gore, J. Hand, F.G. West, B. Wilson, and T.M. Cohen	1991	Sources of irrigated water and irrigated and dry cropland acreages in New Mexico, by county, 1988-90	Technical Report 4, Agricultural Experiment Station, Cooperative Extension Service, College of Agriculture and Home Economics, New Mexico State University, Las Cruces, New Mexico. October 1991.
Lansford, R.R., L. Dominguez, C. Gore, W.W. Wilken, B. Wilson, and T.L. Franz	1993	Sources of irrigation water and irrigated and dry cropland acreages in New Mexico, by county, 1990-92	Technical Report 16, Agricultural Experiment Station, Cooperative Extension Service, College of Agriculture and Home Economics, New Mexico State University, Las Cruces, New Mexico. October 1993.
Lansford, R.R., L. Dominguez, C. Gore, W.W. Wilken, F.G. West, B. Wilson, and S.L. Runyon	1992	Sources of irrigation water and irrigated and dry cropland acreages in New Mexico, by county, 1988-1991	Technical Report 13, Agricultural Experiment Station, Cooperative Extension Service, College of Agriculture and Home Economics, New Mexico State University, Las Cruces, New Mexico. October 1992.
Lansford, R.R., T.L. Franz, C. Gore, W.W. Wilken, and A.A. Lucero	1996	Irrigation water sources and cropland acreages in New Mexico, 1993-1995	Technical Report 27, Agricultural Experiment Station, Cooperative Extension Service, College of Agriculture and Home Economics, New Mexico State University, Las Cruces, New Mexico. October 1996.

## Southwest New Mexico Water Planning Region Data Inventory

Author	Date	Document Name	Publication Information
Lansford, R.R., T.L. Franz, C. Gore, W.W. Wilken, B. Wilson, and C.S. Coburn	1995	Sources of irrigation water and cropland acreages in New Mexico, 1992-1994	Technical Report 22, Agricultural Experiment Station, Cooperative Extension Service, College of Agriculture and Home Economics, New Mexico State University, Las Cruces, New Mexico. October 1995.
Lasky, S.G.	1936	Geology and ore deposits of the Bayard area, Central mining district, New Mexico	U.S. Geological Survey Bulletin 870. 144p
Latif, M. and T.P. Barnett	1994	Causes of decadal climate variability over the North Pacific and North America	Science 266: 634-637
Lee Wilson and Associates, Inc.	1979	Program for the statewide monitoring of ground-water quality in New Mexico. Final Report.	April 30, 1979
Lee, W.T.	1907	Water resources of the Rio Grande Valley in New Mexico	Water-Supply Paper 188, U.S. Geological Survey, 59p.
Leeds, Hill and Jewett Inc., Consulting Engineers (LHJ)	1968	Phelps Dodge Corporation, Tyrone Branch water supply completion work, Specification no. 4004-C8	December 1968
Leedshill-Herkenhoff, Inc. and John Shomaker & Associates, Inc.	1997	City of Deming, New Mexico, 40 Year Water Plan	LH Project No. 96042.13/0100, December 1997
Liles, C.A.	2003	Pacific decadal oscillation and New Mexico precipitation	< <a href="http://www.srh.noaa.gov/abq/feature/PDO_NM.htm">http://www.srh.noaa.gov/abq/feature/PDO_NM.htm</a> >. Accessed August 12, 2003
Little, V.L.	2003	Graywater guidelines	< <a href="http://www.watercasa.org/pubs/Graywater%20Guidelines.pdf">http://www.watercasa.org/pubs/Graywater%20Guidelines.pdf</a> > The Water Conservation Alliance of Southern Arizona. Accessed from < <a href="http://www.watercasa.org/pubs">http://www.watercasa.org/pubs</a> > on January 29, 2003.
Loeltz, O.J., A.M. Morgan, C.R. Murray, and C.V. Theis		Four Ground-Water Studies Near Lordsburg, New Mexico, 1942	Prepared in cooperation with U.S. Geological Survey. Published in Sixteenth and Seventeenth Biennial Reports of the State Engineer of New Mexico, for the 31st, 33rd, and 34th Fiscal Years, July 1, 1942 to June 30, 1946
Lund, John W. and James C. Witcher	2002	Truth or Consequence, New Mexico: A Spa City	GHC [Geo-Heat Center] Bulletin, December 2002, p. 20-24
MacDonald, L., M. Wirtz, A. Belin, and E. Atencio	2002	Alternative: Restore and manage forests, piñon-juniper woodlands, and riparian systems	In Daniel B. Stephens & Associates, Inc. and A. Lewis. Jemez y Sangre Regional Water Plan. Prepared for Jemez y Sangre Water Planning Council. March 2003 (Appendix F).
Mantua, N.	2000	The Pacific decadal oscillation (PDO)	< <a href="http://tao.atmos.washington.edu/pdo/">http://tao.atmos.washington.edu/pdo/</a> >. Joint Institute for the Study of the Atmosphere and Ocean. Accessed August 12, 2003
Mantua, N.J.	2002	Pacific-Decadal Oscillation (PDO) Available at <a href="http://www.atmos.washington.edu/~mantua/REPORTS/egec_pdo.pdf">http://www.atmos.washington.edu/~mantua/REPORTS/egec_pdo.pdf</a>	pp 592-594 in Encyclopedia of Global Environmental Change, Volume 1, The Earth System: Physical and Chemical Dimensions of Global Environmental Change. Munn, T., M.C. MacCracken, and J.S. Perry Eds. John Wiley & Sons.

## Southwest New Mexico Water Planning Region Data Inventory

Author	Date	Document Name	Publication Information
Mantua, N.J., S.R. Hare, Y. Zhang, J.M. Wallace, and R.C. Francis	1997	A Pacific interdecadal climate oscillation with impacts on salmon	Bulletin of the American Meteorological Society 78:1069-1079
Maxey, G.B. and T.E. Eakin	1949	Ground water in White River Valley, White Pine, Nye, and Lincoln Counties, Nevada.	Nevada State Engineer, Water Resources Bulletin No. 6. 23p.
McCord, J.T., and J.N. Winchester	2001	Analysis of management alternatives for the Santa Fe municipal watershed	New Mexico Decision Makers Field Guide No. 1, Water, Watersheds, and Land Use in New Mexico, New Mexico Bureau of Geology, Socorro, New Mexico.
McLean, J.S.	1977	Hydrologic Maps and Data in the Mimbres Basin, New Mexico	Prepared in cooperation with the Office of the New Mexico State Engineer. U.S. Geological Survey Open-File Report 77-314. April 1977
McLellan, M.W., L.R. Biewick, and E.R. Landis	1984	Stratigraphic framework, structure, and general geology of the Salt Lake Coal Field, Cibola and Catron Counties, New Mexico	U.S. Geological Survey Miscellaneous Field Studies Map MF-1689, scale 1:100,000
Meinzer, O.E.	1911	Geology and water resources of Estancia Valley, New Mexico	U.S. Geological Survey Water-Supply Paper 320. 231p.
Meinzer, O.E.	1916	Ground water in Big Smoky Valley, Nevada	U.S. Geological Survey Water-Supply Paper 375. 321p.
Montgomery Watson Harza	2001	Farmington groundwater recharge/seasonal habitat study, final report	Prepared for U.S. Army Corps of Engineers. Sacramento District, Sacramento, California.
Moody, J.A. and D.A. Martin	2001	Initial hydrologic and geomorphic response following a wildfire in the Colorado Front Range	Earth Surface Processes and Landforms 26:1049 1070.
Mountain Mail	2003	Fence Lake Mine Project Scrapped	Magdalena, New Mexico. August 7, 2003
Myers, R.G.	1992	Geohydrology and Potential Hydrologic Effects of Surface Coal Mining of the San Agustin Coal Area and Adjacent Areas, Catron and Cibola Counties, New Mexico	Prepared in cooperation with the U.S. Bureau of Land Management. U.S. Geological Survey Water-Resources Investigations Report 92-4004.
Myers, R.G., J.T. Everheart and C.A. Wilson	1994	Geohydrology of the San Agustin Basin, Alamosa Creek Basin Upstream from Monticello Box, and Upper Gila Basin in Parts of Catron, Socorro, and Sierra Counties, New Mexico	Prepared in Cooperation with the New Mexico State Engineer Office. U.S. Geological Survey Water Resources Investigations Report 94-4125.
National Academy of Science	1996	Use of reclaimed water and sludge in food crop production	
National Climatic Data Center	2003	Reconstruction of past drought across the coterminus United States from a network of climatically sensitive tree-ring data	< <a href="http://www.ncdc.noaa.gov/paleo/usclient2.html">http://www.ncdc.noaa.gov/paleo/usclient2.html</a> >. Last updated January 25, 1999.
National Climatic Data Center	2003	NCDC: CLIMVIS information	< <a href="http://wf.ncdc.noaa.gov/oa/climate/onlineprod/drought/xmgrg1.html">http://wf.ncdc.noaa.gov/oa/climate/onlineprod/drought/xmgrg1.html</a> >. Accessed July 2003.

## Southwest New Mexico Water Planning Region Data Inventory

Author	Date	Document Name	Publication Information
National Small Flows Clearinghouse	2002	Graywater: Safe reuse and recycling.	Pipeline 13(1):1-2, Winter 2002. Available at < <a href="http://www.nesc.wvu.edu/nsfc/-Articles/PL/-PL_w02_web/pl_w02_GraywaterMain.htm">http://www.nesc.wvu.edu/nsfc/-Articles/PL/-PL_w02_web/pl_w02_GraywaterMain.htm</a> > (Accessed December 4, 2002).
Natural Resources Conservation Service	Undated	Luna County Cropland Inventory, 1990-2002	Unpublished spreadsheet from NRCS, Farm Service Agency, Deming, New Mexico
Nellor, M.H., R.B. Baird, and J.R. Smith	1984	Summary of health effects study: Final report	County Sanitation Districts of Los Angeles County, Whittier, California.
New Hampshire Department of Environmental Services	2001	Implementing a water efficiency and conservation program for public water utilities	< <a href="http://www.des.state.nh.us/factsheets/ws/ws-26-9.htm">http://www.des.state.nh.us/factsheets/ws/ws-26-9.htm</a> >.
New Mexico Acequia Association	2000	An acequia perspective on critical water policy issues for the State of New Mexico	Presentation to the Water and Natural Resources Legislative Interim Committee. < <a href="http://www.nmacequias.org/WNRC%20Presentation%20June%208%20Web.htm">http://www.nmacequias.org/WNRC%20Presentation%20June%208%20Web.htm</a> >. June 8, 2000.
New Mexico Agricultural Statistics Service	1986	1986 New Mexico Agricultural Statistics	Prepared in cooperation with New Mexico Department of Agriculture. New Mexico Agricultural Statistics Service, USDA
New Mexico Agricultural Statistics Service	1998	1998 New Mexico Agricultural Statistics	Prepared in cooperation with New Mexico Department of Agriculture. New Mexico Agricultural Statistics Service, USDA
New Mexico Agricultural Statistics Service	2003	2000 New Mexico Agricultural Statistics	Available at < <a href="http://www.nass.usda.gov/nm/nmbulletin/CtlCnty.txt">www.nass.usda.gov/nm/nmbulletin/CtlCnty.txt</a> >. Accessed July 16, 2003
New Mexico Agricultural Statistics Service	2004	2001 New Mexico Agricultural Statistics	Available at < <a href="http://www.nass.usda.gov/nm/nmbulletin">www.nass.usda.gov/nm/nmbulletin</a> >. Accessed November 29, 2004.
New Mexico Border Health Office	2003	Well-water quality assessment for southern New Mexico	< <a href="http://www.nmsu.edu/~bho/bhc/h2o-nm.html">http://www.nmsu.edu/~bho/bhc/h2o-nm.html</a> >. Last modified July 17, 1998. Accessed August 12, 2003.
New Mexico Department of Game and Fish, Conservation Services Division	2001	Bear Canyon Reservoir Rehabilitation, Mimbres, Grant County, New Mexico, Environmental Assessment [Draft Report]	Prepared for the U.S. Fish and Wildlife Service, Southwestern Region. September 14, 2001
New Mexico Economic Development Department	2003	County Statistics for Grant, Hidalgo, Luna, and Catron Counties	<a href="http://www.edd.state.nm.us/COMMUNITIES/ShowCounty.php">http://www.edd.state.nm.us/COMMUNITIES/ShowCounty.php</a>
New Mexico Energy, Minerals, and Natural Resources Department	2001	Mines, mills, and quarries in New Mexico	
New Mexico Environment Department	1990	Database of operating and closed solid waste facilities in New Mexico	August 14, 1990
New Mexico Environment Department	1996	Solid waste in New Mexico, 1996 Annual report	July 1, 1996
New Mexico Environment Department	2000	Solid waste in New Mexico, 2000 Annual report	December 1, 2000

## Southwest New Mexico Water Planning Region Data Inventory

Author	Date	Document Name	Publication Information
New Mexico Environment Department	2002	Draft 2002-2004 CWA §303(d) list for assessed surface waters	NMED Surface Water Quality Bureau. Available at < <a href="http://www.nmenv.state.nm.us/swqb/2002-2004_Draft_NM_CWA_303d_List.pdf">http://www.nmenv.state.nm.us/swqb/2002-2004_Draft_NM_CWA_303d_List.pdf</a> >, July 9, 2002
New Mexico Environment Department	2002	Bordering New Mexico: Major environmental issues along the state's international border with Mexico.	Available at < <a href="http://bbrs.nmsu.edu/scerp/SCERP/NMED/page_6.htm">http://bbrs.nmsu.edu/scerp/SCERP/NMED/page_6.htm</a> >.
New Mexico Environment Department	2003	Supplemental discharge permit for closure, DP-1340, Chino Mines Company	February 24, 2003
New Mexico Environment Department	2003	Past and current leak sites by GWPA rank and city	< <a href="http://www.nmenv.state.nm.us/ust/leakcity.html">http://www.nmenv.state.nm.us/ust/leakcity.html</a> >. Petroleum Storage Tank Bureau. Last updated March 12, 2003.
New Mexico Environment Department	2003	Supplemental discharge permit for closure, DP-1341, Phelps Dodge Tyrone, Inc., Tyrone Mine Facility	April 8, 2003
New Mexico Environment Department	2003	New Mexico NPDES permittees-2003	< <a href="http://www.nmenv.state.nm.us/swqb/psrlist.html">http://www.nmenv.state.nm.us/swqb/psrlist.html</a> > Surface Water Quality Bureau. Last updated May 8, 2003
New Mexico Environment Department	2003	List of discharge permits	< <a href="http://www.nmenv.state.nm.us/gwb/Web%20Site-DPs.xls">http://www.nmenv.state.nm.us/gwb/Web%20Site-DPs.xls</a> > Ground Water Quality Bureau. Pollution Prevention Section. Accessed June 20, 2003.
New Mexico Environment Department	2004	Liquid waste (septic tank) program, Aquifer mapping - Areas of concern (AOCs)	< <a href="http://www.nmenv.state.nm.us/fod/LiquidWaste/aoc.html">http://www.nmenv.state.nm.us/fod/LiquidWaste/aoc.html</a> >. Last updated August 25, 2004. Accessed December 2004.
New Mexico Interstate Stream Commission	1994	Regional water planning handbook	Available at < <a href="http://www.seo.state.nm.us/doing-business/water-plan/rwp-handbook.html">http://www.seo.state.nm.us/doing-business/water-plan/rwp-handbook.html</a> >.
New Mexico Interstate Stream Commission	2003	Developing a comprehensive state water plan: Final corrected draft consensus report.	Interstate Stream Commission New Mexico First Town Hall, Albuquerque, New Mexico, September 23-25, 2003. Available at < <a href="http://www.ose.state.nm.us/water-info/NMWaterPlanning/FirstTownHall.pdf">http://www.ose.state.nm.us/water-info/NMWaterPlanning/FirstTownHall.pdf</a> >. October 7, 2003.
New Mexico Interstate Stream Commission and New Mexico State Engineer Office	1974	County Profile: Hidalgo County, Water Resources Assessment for Planning Purposes	
New Mexico Interstate Stream Commission and New Mexico State Engineer Office	1974	County Profile: Luna County, Water Resources Assessment for Planning Purposes	
New Mexico Interstate Stream Commission and New Mexico State Engineer Office	1975	County Profile: Catron County, Water Resources Assessment for Planning Purposes	

## Southwest New Mexico Water Planning Region Data Inventory

Author	Date	Document Name	Publication Information
New Mexico Interstate Stream Commission and the New Mexico State Engineer Office	1975	County Profile: Grant County, Water Resources Assessment for Planning Purposes	
New Mexico Office of the State Engineer	2003	GIS data	< <a href="http://www.seo.state.nm.us/water-info/gis-data/">http://www.seo.state.nm.us/water-info/gis-data/</a> >. Accessed March 17, 2003.
New Mexico Office of the State Engineer	2004	Proposed active water resource management regulations	NMSA 19.25.4. April 28, 2004.
New Mexico Office of the State Engineer	1999	A water conservation guide for commercial, institutional and industrial users.	July 1999. Available at < <a href="http://www.seo.state.nm.us/water-info/conservation/pdf-manuals/cii-users-guide.pdf">http://www.seo.state.nm.us/water-info/conservation/pdf-manuals/cii-users-guide.pdf</a> >.
New Mexico Office of the State Engineer	2001	A water conservation guide for public utilities.	March 2001. Available at < <a href="http://www.seo.state.nm.us/water-info/conservation/pdf-manuals/nm-water-manual.pdf">http://www.seo.state.nm.us/water-info/conservation/pdf-manuals/nm-water-manual.pdf</a> >.
New Mexico Office of the State Engineer and Interstate Stream Commission	2002	Framework for Public Input to a State Water Plan	December 2002
New Mexico Office of the State Engineer and Interstate Stream Commission	2003	Water Administration Technical Engineering Resource System (W.A.T.E.R.S.) database	< <a href="http://seowaters.ose.state.nm.us/awdProd/">http://seowaters.ose.state.nm.us/awdProd/</a> >
New Mexico Rural Water Association, Environment Department		Listing of Public Water Supply Systems, Catron, Grant, Hidalgo, and Luna Counties	Provided by facsimile. July 15, 2003
New Mexico State Engineer Office	1995	Rules and regulations governing drilling of wells and appropriation and use of ground water in New Mexico	State Engineer, Santa Fe, New Mexico
New Mexico Stockman	2001	2001 Directory of New Mexico Agriculture Listings	New Mexico Stockman 67(7):136-168. July 2001
New Mexico Stockman	2002	2002 Directory of New Mexico Agriculture Listings	New Mexico Stockman 68(7): 132-142. July 2002
New Mexico Water Quality Control Commission (NMWQCC)	2002	Water quality and water pollution control in New Mexico, 2002	A report for submission to the Congress of the United States by the State of New Mexico pursuant to Section 305(b) of the Federal Clean Water Act. NMED/SWQ-02/1
Newcomer, R.W. Jr.	1994	Preliminary Assessment of Hydrogeologic Conditions at Proposed Turner Ranch Landfill Site, Grant County, New Mexico	Prepared for Engineers Inc., Silver City, New Mexico. John Shomaker and Associates, Inc. July 25, 1994
Newson, M.D.	1997	Land, water and development: Sustainable management of river basin systems	Routledge, London
Nigam, S., M. Barlow, and E.H. Berbery	1999	Analysis links Pacific decadal variability to drought and streamflow in the United States	EOS Transactions, American Geophysical Union 80(51)

## Southwest New Mexico Water Planning Region Data Inventory

Author	Date	Document Name	Publication Information
Nunn, S.C. and S. BenDavid, with J. Urban and J.W. Shomaker	1991	Expediting Changes in Water Use Hydrologic Criteria and Market Transactions,	Prepared in cooperation with Department of Economics, Department of Geology, University of New Mexico, Civil, Agricultural, and Geological Engineering Department, New Mexico State University. Technical Completion Report No. 255, New Mexico Water Research Institute. June 1991
O'Brien, K.M. and W.J. Stone	1981	Water-Level Data Compiled for Hydrogeologic Study of Animas Valley, Hidalgo County, New Mexico	Open-file Report 130, New Mexico Bureau of Mines and Mineral Resources. June 1981
O'Brien, K.M. and W.J. Stone	1982	Water-Quality Data Compiled for Hydrogeologic Study of Animas Valley, Hidalgo County, New Mexico	Open-file Report 131, New Mexico Bureau of Mines and Mineral Resources. February 1982
O'Brien, Keith M. and William J. Stone	1983	A Two-Dimensional Hydrologic Model of the Animas Valley, Hidalgo County, New Mexico	Open-File Report 133, New Mexico Bureau of Mines and Mineral Resources, January 1983
Office of Arid Lands Studies	2002	Graywater	< <a href="http://ag.arizona.edu/OALS/oals/dru/-graywater.html">http://ag.arizona.edu/OALS/oals/dru/-graywater.html</a> > University of Arizona. Undated. (Accessed October 9, 2002).
Office of Surface Mining, Reclamation, and Enforcement	1996	Proposed Mining Plan and Permit Application, Fence Lake Mine, Catron and Cibola Counties, New Mexico, and Apache County, Arizona.	April 12, 1996
O'Hare, M.P., D.M. Fairchild, P.A. Hajali, and L.W. Canter	1986	Artificial recharge of groundwater	
Osburn, G.R. and C.E. Chapin	1983	Nomenclature for Cenozoic rocks of northeast Mogollon- Datil volcanic field, New Mexico	New Mexico Bureau of Mine and Mineral Resources, Socorro, New Mexico. Stratigraphic Chart 1, 7p, 1 sheet
Paige, S.	1916	Descriptions of the Silver City quadrangle, New Mexico	Atlas Folio 199, U.S. Geological Survey, 10p.
Palmer, W.C.	1965	Meteorological drought	Research Paper No. 45, U.S. Department of Commerce Weather Bureau, Washington, D.C.
Phelps Dodge Mining Company	2003	5 year water use and water rights, Chino Mining Company	Unpublished data (data filed with OSE) provided by Gerry Donaldson, Chino Mines Company, May 22, 2003.
Phelps Dodge Mining Company	2003	Water used and well level data, water rights information for Tyrone and Hidalgo	Unpublished data (data filed with OSE) provided by Ty Bays, Phelps Dodge Tyrone, Inc. June 5 and August 12, 2003.
PNM	2004	Fact sheet: Luna Energy Facility	< <a href="http://www.pnm.com/invest/news/2004/1112_luna_facts.htm">http://www.pnm.com/invest/news/2004/1112_luna_facts.htm</a> >. Accessed December 2004
Policy Coordinating Committee	1995	Albuquerque/Bernalillo County ground-water protection policy and action plan	Adopted by the Board of County Commissioners on November 1993 and by the Albuquerque City Council on August 1994.
Pontius, F.W., S.C. Kery, B. Colby, and Daniel B. Stephens & Associates, Inc.	2002	Alternative: Wastewater reuse	In Daniel B. Stephens & Associates, Inc. and A. Lewis. Jemez y Sangre Regional Water Plan. Prepared for the Jemez y Sangre Regional Water Planning Council, Santa Fe, New Mexico. March 2003 (Appendix F).



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Author	Date	Document Name	Publication Information
Prososki-Marsland, G.	1995	Greywater	< <a href="http://www.solarbuilt.com/docs/greywater.doc">http://www.solarbuilt.com/docs/greywater.doc</a> > SolarBuilt LLC. May/June 1995.
Reeder, H.O.	1957	Ground Water in Animas Valley, Hidalgo County, New Mexico	Prepared in cooperation with the U.S. Geological Survey. Technical Report No. 11, State of New Mexico State Engineer Office.
Reeder, H.O. and Others	1959	Annual Water Level Measurements in Observation Wells, 1951-1955, and Atlas of Maps Showing Changes in Water Levels for Various Periods from Beginning of Record Through 1954, New Mexico High Plains, Pecos River Valley, South-Central Closed Basins, Rio Grande Valley, Southwestern New Mexico	Technical Report No. 13, State of New Mexico State Engineer Office, Santa Fe, New Mexico
Resource Technology, Inc.	1998	Spillway Capacity and Dam Failure Investigation, Bear Canyon Dam	Prepared for New Mexico Department of Game & Fish. July 30, 1998
Resource Technology, Inc., Albuquerque, NM	1990	Draft Southwest New Mexico Regional Water Plan, Southwest New Mexico Planning District V, Catron, Grant, Hidalgo, and Luna Counties	June 1990
Resource Technology, Inc., Albuquerque, NM	1991	Southwest New Mexico Regional Water Plan Southwest New Mexico Planning District V, Catron, Grant, Hidalgo, and Luna Counties	Prepared for Southwest New Mexico Council of Governments and Black Range RC&D. April 1991
Richard, D.	1998	The cost of wastewater reclamation and reuse	In Asano, T. (ed.), Wastewater reclamation and reuse. Technomic Publishing Co., Lancaster, Pennsylvania.
Robichaud, P.R., J.L. Beyers, and D.G. Neary	2000	Evaluating the effectiveness of postfire rehabilitation treatments	USDA Forest Service General Technical Report RMRS-GTR-63, Rocky Mountain Research Station, Fort Collins, Colorado. 85p.
Roundy, B.A., and J.L. Vernon	1999	Watershed values and conditions associated with pinyon-juniper communities	In Monsen, S.B. and R. Stevens (comp.), Ecology and management of pinyon-juniper communities within the interior west. September 15-18, 1997, Brigham Young Univ., Provo, Utah. RMRS-P-9, Rocky Mtn. Res. Station, Ogden, Utah. June 1999.
Roybal, F.E.	1991	Ground-water resources of Socorro County, New Mexico.	Water-Resources Investigations Report 89-4083, U.S. Geological Survey
S.S. Papadopoulos & Associates, Inc.	2003	Middle Rio Grande water supply study: Phase 3, interim partial draft	Prepared for US Army Corps of Engineers and New Mexico Interstate Stream Commission. August 6, 2003.
Scanlon, B., E.S. Angle, B. Christian, J. Pi, K. Martinez, R. Reedy, R. Boghici, and R. Petrossian	2003	Evaluation of enhanced recharge potential to the Ogallala Aquifer in the Brazos River Basin, Hale County, Texas	Texas Water Development Board, Austin, Texas. August 2003.
Schulman, E.	1956	Dendroclimatic changes in semiarid America (Cited by Trauger & Doty 1965)	

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Author	Date	Document Name	Publication Information
Schwennesen, A.T. and R.F. Hare	1918	Ground Water in the Animas, Playas, Hachita and San Luis Basins, New Mexico	Water-Supply Paper 422, Department of the Interior, U.S. Geological Survey, Prepared in Cooperation with the New Mexico Agricultural Experiment Station, Washington, Government Printing Office
Shomaker, J.W.	2001	Defining "sustainable" water use	Dialogue, September 2001:5-7
Sloss, E.M., S.A. Geschwind, D.F. McCaffrey, and B.R. Ritz	1996	Groundwater recharge with reclaimed water: An epidemiologic assessment in Los Angeles County, 1987-1991	RAND, Santa Monica, California.
Smith, D.I., M.F. Hutchinson, and R.J. McArthur	1993	Australian climatic and agricultural drought: Payments and policy	Drought Network News 5(3):11-12
Smith, Z.A.	1985	Groundwater policy in the southwest	Southwestern Studies, Monograph No. 76. Texas Western Press, El Paso, Texas. 57p
Soil and Water Conservation Society	2003	Seeking common ground for conservation: An agricultural conservation policy project	Available at < <a href="http://www.swcs.org/t_seeking_sectionsummary_farmbill.htm">http://www.swcs.org/t_seeking_sectionsummary_farmbill.htm</a> >.
Soil Conservation Service	1979	Important Farmlands Map, Luna County, New Mexico	USDA. Scale 1:100,000. July 1979
Soil Conservation Service	1983	Important Farmlands Map, Grant County, New Mexico	USDA. Scale 1:253,440
Sophocleous, M. (ed)	1998	Perspectives on sustainable development of water resources in Kansas	Bulletin 239, Kansas Geological Survey, Lawrence, Kansas. 239p
Sorensen, E.F.	1976	Water Use by Categories in New Mexico Counties and River Basins, and Irrigated and Dry Cropland Acreage in 1975	New Mexico State Engineer Office, Technical Report 41
Sorensen, E.F.	1981	Water Use by Categories in New Mexico Counties and River Basins, and Irrigated Acreage in 1980	New Mexico State Engineer Office, Technical Report 44, Santa Fe, New Mexico
Southwest New Mexico Council of Governments	1975	Utility Plan for Southwest New Mexico	CPA-NM-1010-NMP/D5. Silver City, New Mexico. March 1975
Spradlin, T.	1997	A lexicon of decision making	Decision Analysis Society. Available at < <a href="http://faculty.fuqua.duke.edu/daweb/lexicon.htm#decision_analysis">http://faculty.fuqua.duke.edu/daweb/lexicon.htm#decision_analysis</a> >.
Springer, A.E., L.F. Navarro, and S.P. Maslansky	2002	Modeling safe and sustainable yields for a groundwater basin undergoing development.	Presentation at Geological Society of America 2002 Annual Meeting, Denver, Colorado, October 27-30, 2002. Abstract available at < <a href="http://gsa.confex.com/gsa/2002AM/finalprogram/abstract_39445.htm">http://gsa.confex.com/gsa/2002AM/finalprogram/abstract_39445.htm</a> >
Stednick, J.D.	1996	Monitoring the effects of timber harvest on annual water yield	Journal of Hydrology 176:79-95

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Author	Date	Document Name	Publication Information
Stone, W.J. and K.M. O'Brien	1990	Preliminary Work for a Hydrologic Report on Hidalgo County, New Mexico	Prepared in cooperation with Office of the New Mexico State Engineer and the U.S. Geological Survey. Open-File Report 372, New Mexico Bureau of Mines and Mineral Resources
Tetrattech, Inc.	2000	Luna Lake TMDL	Prepared for Arizona Game and Fish Department. April 2000
Texas Water Development Board	1997	Texas guide to rainwater harvesting	Prepared in cooperation with the Center for Maximum Potential Building Systems. Second Edition. Available at < <a href="http://www.twdb.state.tx.us/publications/reports/RainHarv.pdf">http://www.twdb.state.tx.us/publications/reports/RainHarv.pdf</a> >.
Texas Water Development Board	2004	Water Conservation Best Management Practices Guide	Texas Water Development Board Report 362, Water Conservation Implementation Task Force. November 2004. Available at < <a href="http://www.twdb.state.tx.us/assistance/conservation/TaskForceDocs/WCITFBMPGuide.pdf">http://www.twdb.state.tx.us/assistance/conservation/TaskForceDocs/WCITFBMPGuide.pdf</a> >.
Thal, A.J., A. Polley, R. Mendenhall, M. Romo, and P. Nelson	1992	A Summary Report, Economic and Social Importance of Cattle Ranching in Southwest New Mexico	A WNMU Cooperative Project. Southwest Center for Resource Analysis, Department of Applied Technology. April 15, 1992
Thorn, C.R.	1995	Surface water discharge and evapotranspiration rates for grass and bare soil along a reach of the Rio Grande, Albuquerque, New Mexico, 1989-95.	Open-File Report 95 419, U.S. Geological Survey, Albuquerque, New Mexico.
Thornburg, Richard	2003	Unpublished data for Bill Evans Lake	Unpublished. Phelps Dodge, Tyrone Mining Co. June 5, 2003
Trauger, F.D.	1972	Water Resources and General Geology of Grant County, New Mexico	Prepared in cooperation with the U.S. Geological Survey, the New Mexico State Engineer Office, and the Grant County Commission. Hydrologic Report 2, New Mexico State Bureau of Mines and Mineral Resources.
Trauger, F.D.	1960	Availability of Ground Water at Proposed Well Sites in Gila National Forest, Sierra and Catron Counties, New Mexico	Prepared in Cooperation with the U.S. Geological Survey and the U.S. Forest Service. Technical Report 18, New Mexico State Engineer Office, Santa Fe, New Mexico.
Trauger, F.D. and E.H. Herrick	1962	Ground Water in Central Hachita Valley, Northeast of the Big Hatchet Mountains, Hidalgo County, New Mexico	Prepared in Cooperation with the U.S. Geological Survey and the U.S. Army Corps of Engineers. Technical Report 26, New Mexico State Engineer, Santa Fe, New Mexico.
Trauger, F.D. and G.C. Doty	1965	Ground Water--Its Occurrence and Relation to the Economy and Geology of Southwestern New Mexico	In J.P. Fitzsimmons and C. Lochman-Balk (eds.), Guidebook of Southwestern New Mexico II, New Mexico Geological Society, Sixteenth Field Conference-October 15-17, 1965.
Trauger, F.D., D.N. Jenkins, and R.L. Link	1980	Water resources appraisal for east-central Grant County, New Mexico	Prepared for the Southwest New Mexico Council of Governments. January 1980.
Trauger, F.D. and L.M. Coons	1982	Franks' Ranch Well Field, Well No. 7, Grant County, New Mexico	Prepared for Molzen-Corbin & Associates, Inc. Geohydrology Associates, Inc. November 1982
Troendle, C.A. and R.M. King	1985	The effects of timber harvest on the Fool Creek watershed, 30 years later	Water Resources Research 21(12):1915-1922
Troendle, C.A. and R.M. King	1987	The effect of partial and clearcutting on streamflow at Deadhorse Creek, Colorado	Journal of Hydrology 90:145-157

## Southwest New Mexico Water Planning Region Data Inventory

Author	Date	Document Name	Publication Information
Troendle, C.A., and M.R. Kaufmann	1987	Influence of forests on the hydrology of sub alpine forests	pp. 68-76. In Management of subalpine forests: Building on fifty years of research. USDA Forest Service General Technical Report RM-149, Fort Collins, Colorado.
Troendle, C.A., M.S. Wilcox, G.S. Bevenger, and L.S. Porth	2001	The Coon Creek water yield augmentation project: Implementation of timber harvesting technology to increase streamflow	Forest Ecology and Management 143:179-187
U.S. Bureau of Land Management	1990	Draft Environmental Impact Statement, Fence Lake Project	Las Cruces District Office, Socorro Resource Area. May 1990
U.S. Bureau of Reclamation	1972	Mimbres Project, Special Test Case Report on Evaluating Multiobjective Approach to Planning Water Resource Projects	Albuquerque Development Office, Region 5. January 1972
U.S. Bureau of Reclamation	1985	Upper Gila Water Supply Study- Plan Formulation Working Document	Lower Colorado Region. April 1985
U.S. Bureau of Reclamation	1986	Upper Gila Water Supply Study, Plan Formulation Working Document Supplement #1	Lower Colorado Region. May 1986
U.S. Bureau of Reclamation	1987	Upper Gila Water Supply Study, Special Report on Alternatives	Lower Colorado Region. October 1987
U.S. Bureau of Reclamation	1990	Upper Gila Water Supply Study, RSA-RSF Water Supply Analyses and Sizing Studies, Draft Report	April 1990
U.S. Bureau of Reclamation, Lower Colorado Region	1986	Upper Gila Water Supply Study, Proposed Selection for the Draft Environmental Impact Statement	Public Meetings Announcement and Public Information Document, April 1986
U.S. Department of Agriculture	2004	2002 Census of agriculture	Volume 1, Geographic Area Series, Part 51. National Agricultural Statistics Service, Washington, DC. June 2004.
U.S. Environmental Protection Agency	2003	CERCLIS hazardous waste sites	< <a href="http://www.epa.gov/superfund/sites/cursites/index.htm">http://www.epa.gov/superfund/sites/cursites/index.htm</a> > Accessed July 9, 2003
U.S. Environmental Protection Agency	2003	Total Maximum Daily Loads	< <a href="http://www.epa.gov/owow/tmdl/">http://www.epa.gov/owow/tmdl/</a> > Accessed June 19, 2003
U.S. Environmental Protection Agency	2004	US-Mexico environmental program: Border 2012	< <a href="http://www.epa.gov/usmexicoborder/org.htm#regional">http://www.epa.gov/usmexicoborder/org.htm#regional</a> >. Accessed November 2004.
U.S. Environmental Protection Agency	2004	Calendar of Events: US Mexico Border 2012 Frontera 2012	< <a href="http://yosemite.epa.gov/oia/MexUSA.nsf/Name/20041203">http://yosemite.epa.gov/oia/MexUSA.nsf/Name/20041203</a> >. Accessed December 2004.
U.S. Fish and Wildlife Service	1986	Draft Fish and Wildlife Coordination Act report, Upper Gila water supply study, New Mexico	April 4, 1986
U.S. Fish and Wildlife Service	1986	Upper Gila water supply study and Verde River diversions, Endangered Species Act, Section 7 conference report, Meda fulgida and Tiaroga cobitis	April 14, 1986

## Southwest New Mexico Water Planning Region Data Inventory

Author	Date	Document Name	Publication Information
U.S. Forest Service	1958	Gila River Drainage 58 Exhibit: US Exhibit No. 2720 B: Gila National Forest, New Mexico, Gila River drainage: Existing uses	Unpublished spreadsheet file provided by Carolyn Koury, Gila National Forest, to Wayne Ericson, Engineers Inc., June 18, 2003
U.S. Forest Service	Undated	Wells within G-SF watershed	Unpublished spreadsheet file provided by Carolyn Koury, Gila National Forest, to Wayne Ericson, Engineers Inc., June 18, 2003
U.S. Forest Service	Undated	Mimbres Valley Adjudication	Unpublished spreadsheet file provided by Carolyn Koury, Gila National Forest, to Wayne Ericson, Engineers Inc., June 18, 2003
U.S. Forest Service	Undated	Mimbres 1986 Stipulation	Unpublished spreadsheet file provided by Carolyn Koury, Gila National Forest, to Wayne Ericson, Engineers Inc., June 18, 2003
U.S. Geological Survey	2003	Ground water for New Mexico: Water Levels	< <a href="http://waterdata.usgs.gov/nm/nwis/gwlevels?">http://waterdata.usgs.gov/nm/nwis/gwlevels?</a> >. Accessed on June 5, 2003
U.S. Geological Survey	2003	NWIS Web Data for New Mexico	< <a href="http://waterdata.usgs.gov/nm/nwis/nwis">http://waterdata.usgs.gov/nm/nwis/nwis</a> >
U.S. Geological Survey	2004	Equus Beds ground-water recharge project	< <a href="http://ks.water.usgs.gov/Kansas/studies/equus/">http://ks.water.usgs.gov/Kansas/studies/equus/</a> >. Last modified April 19, 2004.
U.S. Geological Survey	2004	Changes in ground-water levels and storage in the Equus Beds Aquifer, northwest of Wichita, Kansas.	< <a href="http://ks.water.usgs.gov/Kansas/studies/equus/equus_gwstorage.html">http://ks.water.usgs.gov/Kansas/studies/equus/equus_gwstorage.html</a> >. Last modified September 20, 2004.
University of New Mexico	2001	The East Mountain area septic system user's guide to the Bernalillo County Wastewater Ordinance: Ensuring groundwater sustainability	Water Resources Program, University College. Publication No. WRP 3. February 2001. Available at < <a href="http://www.unm.edu/~wrp/wrp-3.htm">http://www.unm.edu/~wrp/wrp-3.htm</a> >.
Unknown	1999	Well logs for City of Deming, Wells MW-1, MW-2, and MW-3	On file at New Mexico Office of the State Engineer
Unknown	2003	Upper Mimbres River Mainstream Diagram of adjudicated Water Rights	Unpublished, provided at the OSE public hearing, Silver City, New Mexico, June 12, 2003
Unknown	2003	Water Used and Well Level Data, Water Rights Information for Tyrone and Hidalgo	Unpublished (data filed with OSE) provided by Ty Bays, Phelps Dodge Tyrone, Inc., June 5 and August 12, 2003
Unknown	Undated	Water Resources Assessment, Part C-Summary of Supply with Practical and Legal Considerations	
Unknown	Undated	Water Use and Water Demand, Part B-Reconciling Supply and Demand	
URS Greiner-Woodward Clyde	2000	Upper Whitewater Creek diversion project, Phase II, James Canyon Dam	January 21, 2000
USGS Hanson, et al	1994	Mimbres GW Model (Duplicate?)	
Velasco, D.	2004	Texas group buys Santa Teresa Parks	Albuquerque Journal. June 14, 2004.
Vickers, Amy	2002	Handbook of water use and conservation	Waterplow Press, Amherst Massachusetts.
Viessman, W., G.L. Lewis, and J.W. Knapp	1989	Introduction to Hydrology	Third edition. Harper Collins, New York. 780p.
Viessman, W., G.L. Lewis, and J.W. Knapp	1996	Introduction to Hydrology	Fourth edition. Harper Collins, New York. 760p.

## Southwest New Mexico Water Planning Region Data Inventory

Author	Date	Document Name	Publication Information
Waltemeyer, Scott D.	1994	Methods for Estimating Streamflow at Mountain Fronts in Southern New Mexico	U.S. Geological Survey, Water-Resources Investigations Report 93-4213, Prepared in Cooperation with the New Mexico State Engineer Office
Warren, D.R., G.T. Blain, F.L. Shorney, and L.J. Klein	1995	IR - a case study from Kansas	Journal of the American Water Works Association. June 1995. pp. 57-71.
Water Resources Research Institute	1999	Basin boundaries map	New Mexico State University, Las Cruces, New Mexico. Scale 1:1,250,000. March 1999.
Water Strategist	1995	Gila River groundwater rights sold for \$4,138 an acre foot.	8:4. January 1995.
Waterscience Southwest and Engineers Incorporated	1984	Silver City Water System Master Plan, Final Report, Phase 1--Storage and Distribution	Prepared for Town of Silver City. January 1984
Watson, P., P. Sinclair, and R. Waggoner	1976	Quantitative evaluation of a method for estimating recharge to the desert basins of Nevada.	Journal of Hydrology 30:335-357
Weber, R.H.	1971	K-Ar ages of Tertiary igneous rocks in central and western New Mexico	Isochron/West, No. 1, 33-45
Western Regional Climate Center	2004	Period of record climate summaries for Gila Hot Springs, Beaverhead R.S., Adobe Ranch, Redrock, Cliff 11 SE, and Silver City climate stations	Available at < <a href="http://www.wrcc.dri.edu/summary/mapnm.html">http://www.wrcc.dri.edu/summary/mapnm.html</a> >.
Wilkins, D.W.	1986	Geohydrology of the southwest alluvial basins, Regional aquifer-systems analysis in parts of Colorado, New Mexico, and Texas	U.S. Geological Survey Water-Resources Investigations Report 84-4224
Willard, M.E. and R.H. Weber	1958	Reconnaissance geologic map of Cañon Largo 30-minute quadrangle	New Mexico Bureau of Mines and Mineral Resources Geological Map 6. Scale 1:26,720
William J. Miller Ecological Consultants, Inc.	2001	Bear Canyon Lake Fish Exclusion Evaluation Report	Prpared for Engineers Inc. and New Mexico Department of Game and Fish. October 18, 2001
Williams, W., A. Belin, E. Atencio, and Daniel B. Stephens & Associates, Inc.	2002	Alternative: Manage storm water from short duration precipitation events using catchment basins in urban areas	In Daniel B. Stephens & Associates, Inc. and A. Lewis. Jemez y Sangre Regional Water Plan. Prepared for the Jemez y Sangre Regional Water Planning Council, Santa Fe, New Mexico. March 2003 (Appendix F).
Wilson, Brian C.	1986	Water Use by Categories in New Mexico Counties and River Basins, and Irrigated Acreage in 1985	New Mexico State Engineer Office, Technical Report 46
Wilson, Brian C.	1992	Water Use by Categories in New Mexico Counties and River Basins, and Irrigated Acreage in 1990	New Mexico State Engineer Office, Technical Report 47. July 1992
Wilson, Brian C.	2001	Projected Water Demands in Grant, Hidalgo, and Luna Counties, New Mexico, 2000 to 2040	New Mexico Office of the State Engineer. December 16, 2001

**Southwest New Mexico Water Planning Region  
Data Inventory**

<b>Author</b>	<b>Date</b>	<b>Document Name</b>	<b>Publication Information</b>
Wilson, Brian C. and Anthony A. Lucero	1997	Water Use by Categories in New Mexico Counties and River Basins, and Irrigated Acreage in 1995	New Mexico State Engineer Office, Technical Report 49. September 1997
Wilson, Brian C., Anthony A. Lucero, John T. Romero, and Patrick J. Romero	2003	Water Use by Categories in New Mexico Counties and River Basins, and Irrigated Acreage in 2000	New Mexico Office of the State Engineer. February 2003
Winchester, D.E.	1920	Geology of Alamosa Creek Valley, Socorro County, New Mexico	U.S. Geological Survey Bulletin 716-A, 1-15
Wood, M.K. and N. Javed	2001	Hydrologic and vegetal responses to fuelwood harvest and slash disposal in a pinyon pine and juniper dominated grassland	Miscellaneous Report No. M27, New Mexico Water Resources Research Institute, Las Cruces, New Mexico. October 2001.
Ziegler A.C., H.C. Roos, T.J. Trombley, and V.G. Christensen	2001	Effects of artificial recharge on water quality in the Equus Beds Aquifer, South-Central Kansas, 1995-2000	U.S. Geological Survey Fact Sheet 096-01. Available at < <a href="http://ks.water.usgs.gov/Kansas/pubs/fact-sheets/fs.096-01.html">http://ks.water.usgs.gov/Kansas/pubs/fact-sheets/fs.096-01.html</a> >.
Ziegler, A.C., V.G. Christensen, and H.C. Ross	1999	Baseline water quality and preliminary effects of artificial recharge on ground water, South-Central Kansas, 1995-98.	U.S. Geological Survey Water-Resources Investigations Report 99-4250, 74p. Available at < <a href="http://ks.water.usgs.gov/Kansas/pubs/reports/wrir.99-4250.html">http://ks.water.usgs.gov/Kansas/pubs/reports/wrir.99-4250.html</a> >.

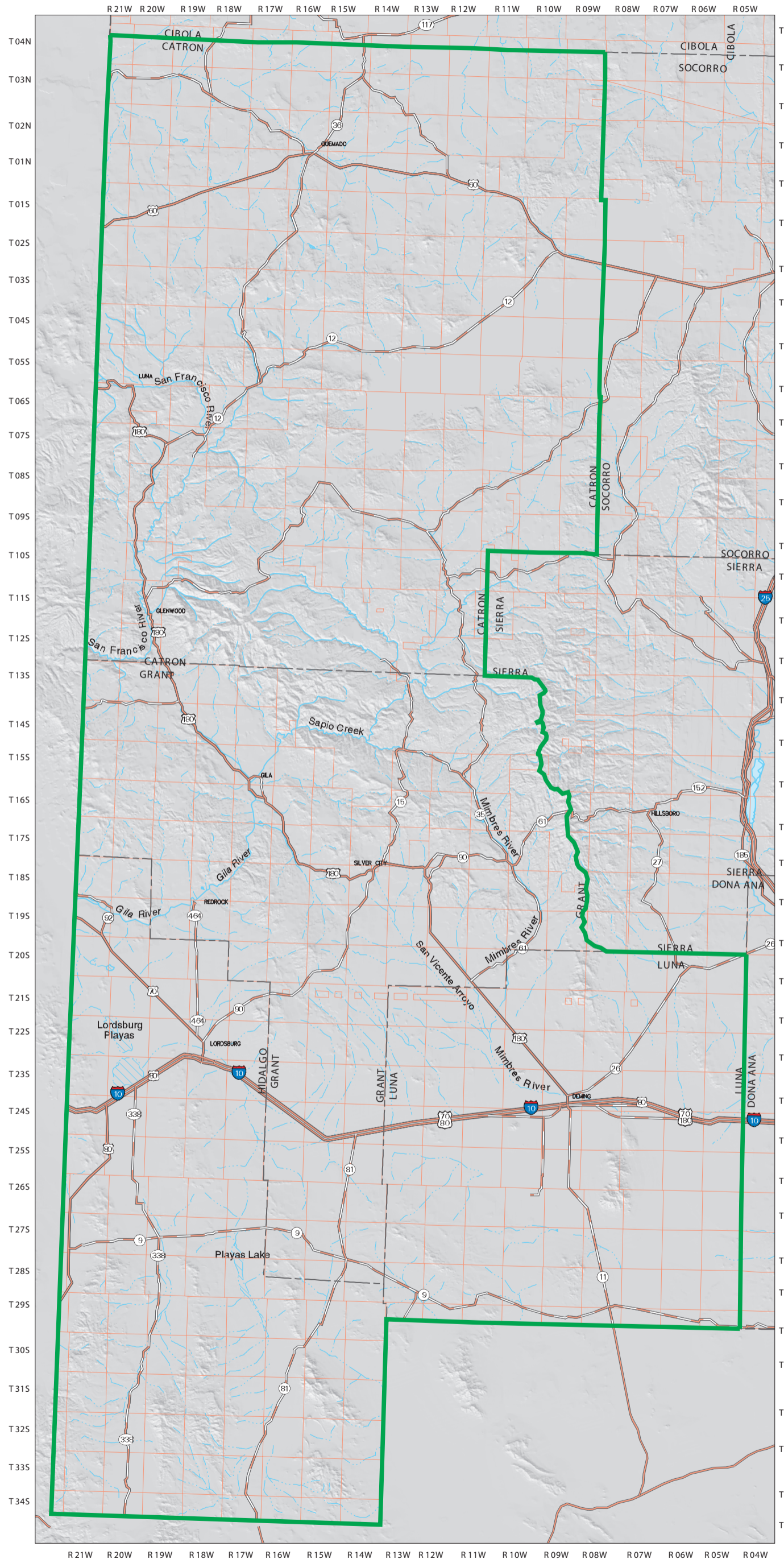
## **Appendix A2**

### **WRRRI Maps**



# Southwest New Mexico Water Plan Planning Region

- Explanation**
-  State Line
  -  County Line
  -  Perennial Stream/River
  -  Intermittent Stream
  -  Perennial Water Body
  -  Intermittent Water Body
  -  Interstate
  -  U.S. Highway
  -  State Highway
  -  Township/Range
  -  Planning Region



Produced by New Mexico Water Resources Research Institute, April 2003

Base map prepared by the U.S. Geological Survey

Compiled from digital data provided by the New Mexico Resource Geographic Information System Program (RGIS). Original base maps digitized from 1:500,000 mylar sheets and 100,000 paper maps for New Mexico. These data meet National Mapping Accuracy Standards for 1:500,000 and 1:100,000 scale maps. Boundary of the Southwest New Mexico Water Planning Region is based on the New Mexico county boundaries. The cadastral accuracy of the county boundaries was verified by the use of 1:100,000 Public Land Survey System (PLSS) from RGIS. Shaded relief provided by RGIS and is based on 1:250,000 Digital Elevation Models (DEMs) created by the U.S. Geological Survey.

Horizontal accuracy: At the scale of 1:1,050,000, at least 90 percent of the points tested are within 1/30th inch (0.0333 inch), or 889 ground meters, of their true location.

Projection: Universal Transverse Mercator, Zone 13, Units meters, NAD83.

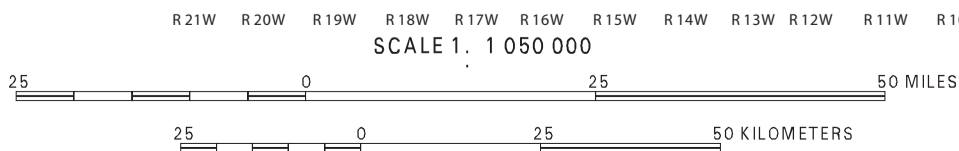
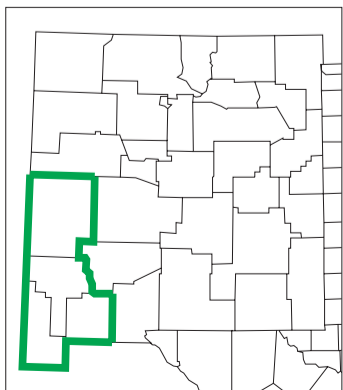






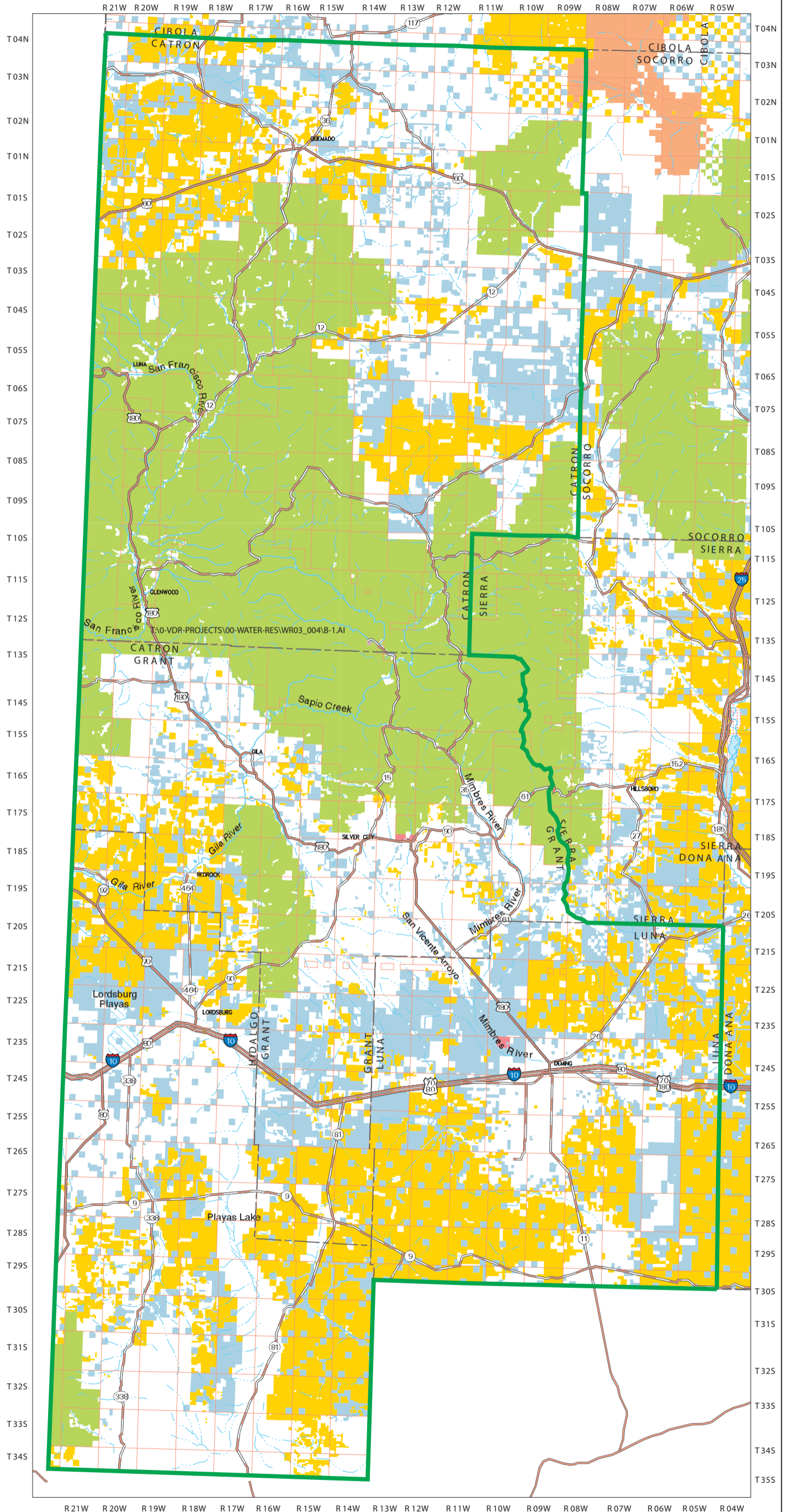


Figure A2-1

# Southwest New Mexico Water Plan Land Ownership in the Planning Region

- Explanation**
-  State Line
  -  County Line
  -  Perennial Stream/River
  -  Intermittent Stream
  -  Perennial Water Body
  -  Intermittent Water Body
  -  Interstate
  -  U.S. Highway
  -  State Highway
  -  Township/Range
  -  Planning Region
  -  Dept. of Agriculture
  -  BLM Public Land
  -  Bureau of Reclamation
  -  Forest Service
  -  US Fish & Wildlife
  -  Indian and Tribal Lands
  -  Dept. of Defense
  -  National Parks Service
  -  Dept. of Energy
  -  Private
  -  State Land
  -  State Park
  -  NM Game & Fish



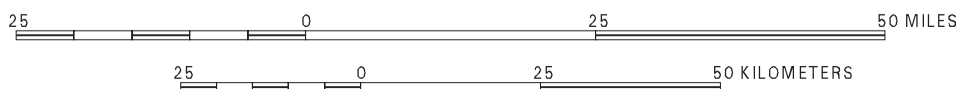
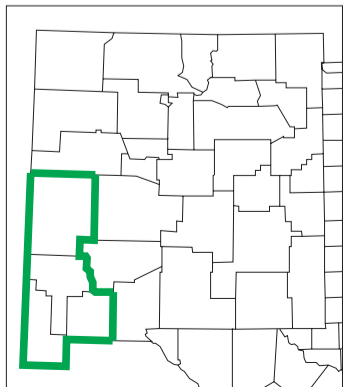
Produced by New Mexico Water Resources Research Institute, April 2003

Base map prepared by the U.S. Geological Survey

Compiled from digital data provided by the New Mexico Resource Geographic Information System Program (RGIS). Original base maps digitized from 1:500,000 mylar sheets and 100,000 paper maps for New Mexico. These data meet National Mapping Accuracy Standards for 1:500,000 and 1:100,000 scale maps. Boundary of the Southwest New Mexico Water Planning Region is based on the New Mexico county boundaries. The cadastral accuracy of the county boundaries was verified by the use of 1:100,000 Public Land Survey System (PLSS) from RGIS. Land ownership coverage developed by the BLM at 1:100,000 scale.

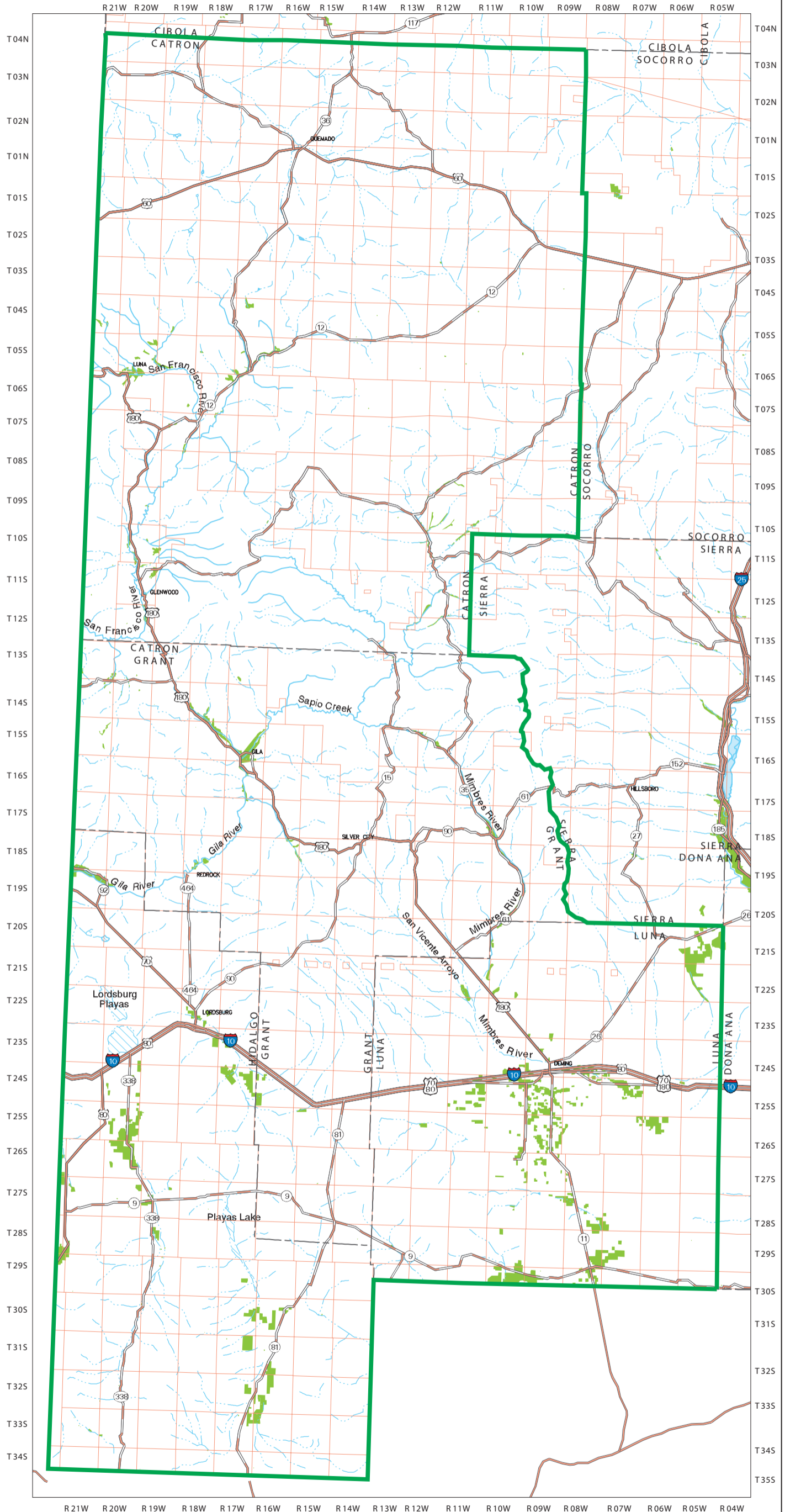
Horizontal accuracy: At the scale of 1:1,050,000, at least 90 percent of the points tested are within 1/30th inch (0.0333 inch), or 889 ground meters, of their true location.

Projection: Universal Transverse Mercator, Zone 13, Units meters, NAD83.



# Southwest New Mexico Water Plan Irrigated Lands in the Planning Region

- Explanation**
-  State Line
  -  County Line
  -  Perennial Stream/River
  -  Intermittent Stream
  -  Perennial Water Body
  -  Intermittent Water Body
  -  Interstate
  -  U.S. Highway
  -  State Highway
  -  Township/Range
  -  Planning Region
  -  Agricultural/Irrigated Land



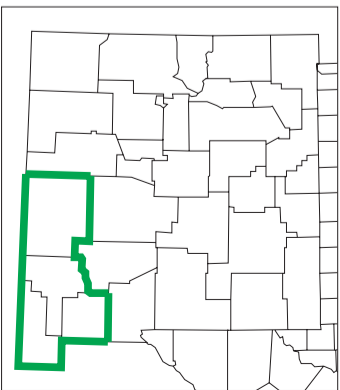
Produced by New Mexico Water Resources Research Institute, April 2003

Base map prepared by the U.S. Geological Survey

Compiled from digital data provided by the New Mexico Resource Geographic Information System Program (RGIS). Original base maps digitized from 1:500,000 mylar sheets and 100,000 paper maps for New Mexico. These data meet National Mapping Accuracy Standards for 1:500,000 and 1:100,000 scale maps. Landuse coverage developed by USGS/EPA at 1:250,000 scale. Boundary of the Southwest New Mexico Water Planning Region is based on the New Mexico county boundaries. The cadastral accuracy of the county boundaries was verified by the use of 1:100,000 Public Land Survey System (PLSS) from RGIS.

Horizontal accuracy: At the scale of 1:1,050,000, at least 90 percent of the points tested are within 1/30th inch (0.0333 inch), or 889 ground meters, of their true location.

Projection: Universal Transverse Mercator, Zone 13, Units meters, NAD83.



SCALE 1: 1 050 000

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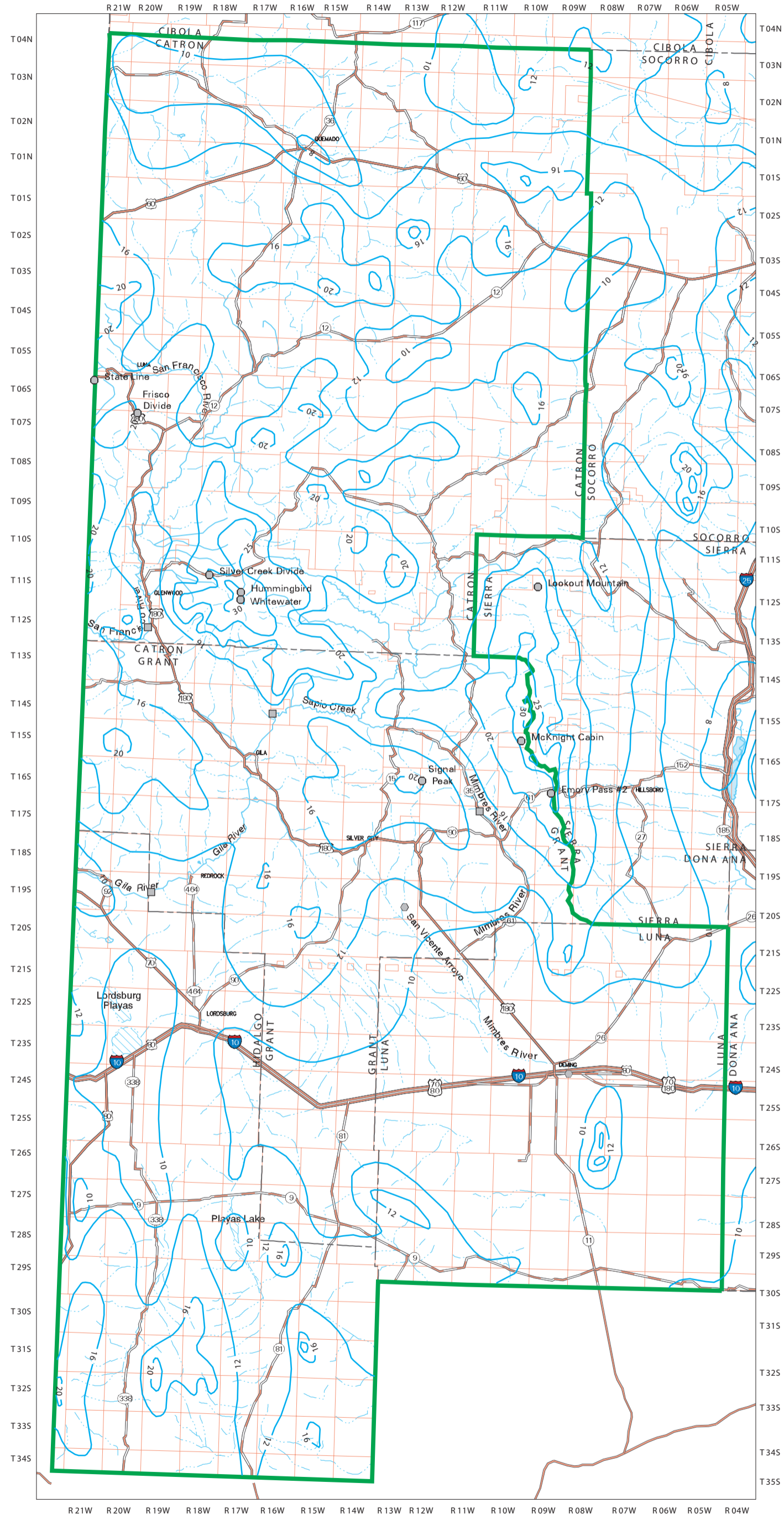
25 0 25 50 KILOMETERS



# Southwest New Mexico Water Plan

## Annual Average Precipitation in the Planning Region

- Explanation**
- State Line
  - County Line
  - Perennial Stream/River
  - Intermittent Stream
  - Perennial Water Body
  - Intermittent Water Body
  - Interstate
  - U.S. Highway
  - State Highway
  - Township/Range
  - Planning Region
  - Precipitation Isoleths (inches)
  - SNOTEL data measuring site
  - USDA NRCS Forecast point
  - National Weather Service station



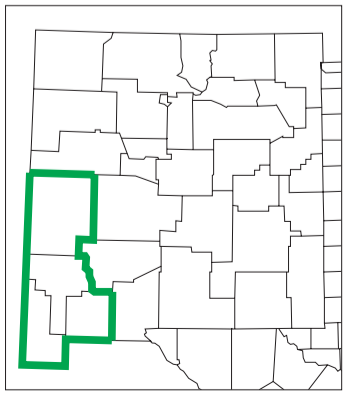
Produced by New Mexico Water Resources Research Institute, April 2003

Base map prepared by the U.S. Geological Survey

Compiled from digital data provided by the New Mexico Resource Geographic Information System Program (RGIS). Original base maps digitized from 1:500,000 mylar sheets and 100,000 paper maps for New Mexico. These data meet National Mapping Accuracy Standards for 1:500,000 and 1:100,000 scale maps. Boundary of the Southwest New Mexico Water Planning Region is based on the New Mexico county boundaries. The cadastral accuracy of the county boundaries was verified by the use of 1:100,000 Public Land and Survey System (PLSS) from RGIS. This data set contains the precipitation isopleths of the state of New Mexico. The data set was created to digitally represent the average precipitation of the state of New Mexico between the years of 1931 and 1960. The original source of the data was the National Oceanic and Atmospheric Administration (NOAA). Earth Data Analysis Center manually digitized data from the NOAA 1:500,000 scale map of the state of New Mexico.

Horizontal accuracy: At the scale of 1:1,050,000, at least 90 percent of the points tested are within 1/30th inch (0.0333 inch), or 889 ground meters, of their true location.

Projection: Universal Transverse Mercator, Zone 13, Units meters, NAD83.



SCALE 1: 1 050 000

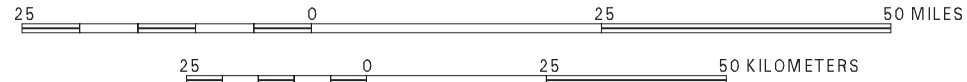
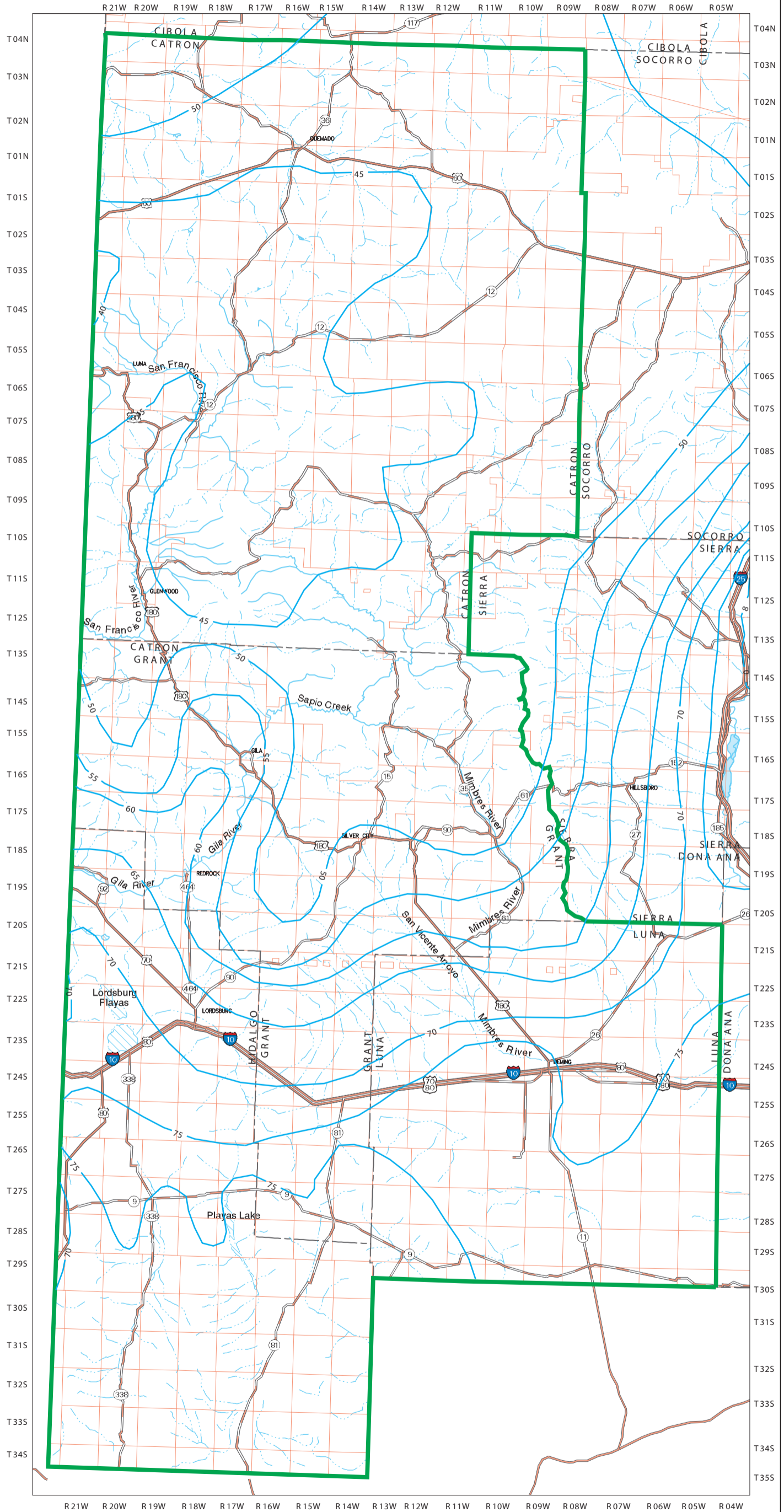


Figure A2-4

# Southwest New Mexico Water Plan Annual Average Free Water Surface Evaporation Rate

- Explanation**
- State Line
  - County Line
  - Perennial Stream/River
  - Intermittent Stream
  - Perennial Water Body
  - Intermittent Water Body
  - Interstate
  - U.S. Highway
  - State Highway
  - Township/Range
  - Planning Region
  - Evaporation Isoleths (inches)



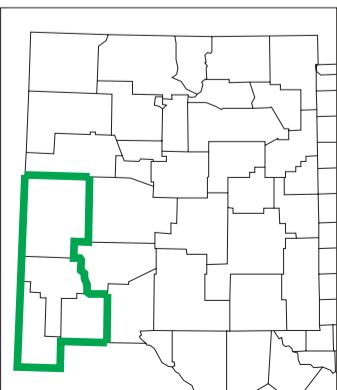
Produced by New Mexico Water Resources Research Institute  
April 2003

Base map prepared by the U.S. Geological Survey

Compiled from digital data provided by the New Mexico Resource Geographic Information System (RGIS). Original base maps digitized from 1:500,000 mylar sheets and 100,000 paper maps for New Mexico. These data meet National Mapping Accuracy Standards for 1:500,000 and 1:100,000 scale maps. Boundary of the Southwest New Mexico Water Planning Region is based on the New Mexico county boundaries. The cadastral accuracy of the county boundaries was verified by the use of 1:100,000 Public Land Survey System (PLSS) from RGIS. This data set contains the evaporation isopleths of the state of New Mexico. The data set was created to digitally represent the average free surface water evaporation of the state of New Mexico between the years of 1931 and 1960. The original source of the data set came from National Oceanic and Atmospheric Administration (NOAA). NOAA Technical Report NWS33, Map 3: Annual FWS Evaporation. Publication date: 19910103. Earth Data Analysis Center manually digitized from the NOAA 1:500,000 scale map of the state of New Mexico.

Horizontal accuracy: At the scale of 1:1,050,000, at least 90 percent of the points tested are within 1/30th inch (0.0333 inch), or 889 ground meters, of their true location.

Projection: Universal Transverse Mercator, Zone 13, Units meters, NA D83.



SCALE 1: 1 050 000

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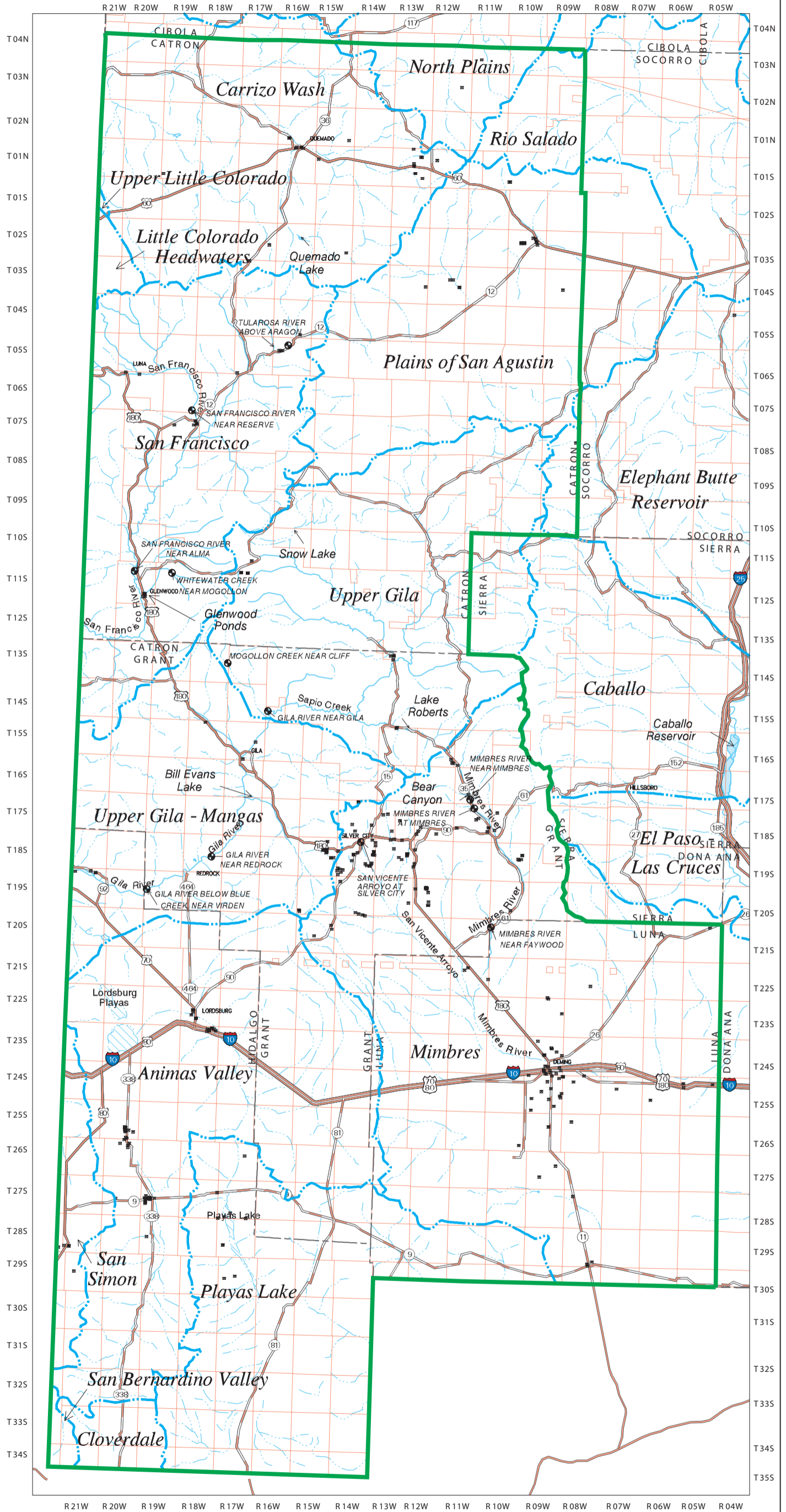
25 0 25 50 KILOMETERS



# Southwest New Mexico Water Plan

## Water Resources

- Explanation**
- State Line
  - County Line
  - Perennial Stream/River
  - Intermittent Stream
  - Perennial Water Body
  - Intermittent Water Body
  - Interstate
  - U.S. Highway
  - State Highway
  - Township/Range
  - Planning Region
  - Surface Watershed Boundaries
  - USGS Gaging Station
  - Public Supply Water Well



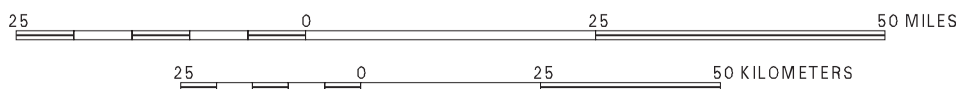
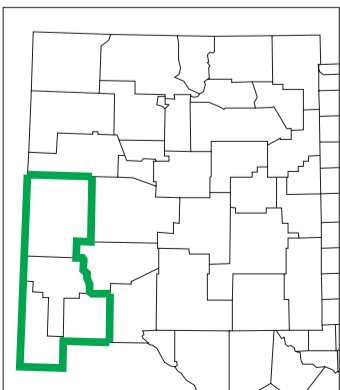
Produced by New Mexico Water Resources Research Institute, April 2003

Base map prepared by the U.S. Geological Survey

Compiled from digital data provided by the New Mexico Resource Geographic Information System Program (RGIS). Original base maps digitized from 1:500,000 mylar sheets and 100,000 paper maps for New Mexico. These data meet National Mapping Accuracy Standards for 1:500,000 and 1:100,000 scale maps. Boundary of the Southwest New Mexico Water Planning Region is based on the New Mexico county boundaries. The cadastral accuracy of the county boundaries was verified by the use of 1:100,000 Public L and Survey System (PLSS) from RGIS. Watershed boundaries based on USGS 1:500,000 and 1:100,000 scale maps, data provided by the RGIS program. USGS Gaging stations based on USGS locations. Dam and reservoir locations based on USGS DL G 1:100,000 scale files and RGIS data. Location of municipal/public wells based on Office of the State Engineer records maintained in the W.A.T.E.R.S. database.

Horizontal accuracy: At the scale of 1:1,050,000, at least 90 percent of the points tested are within 1/30th inch (0.0333 inch), or 889 ground meters, of their true location.

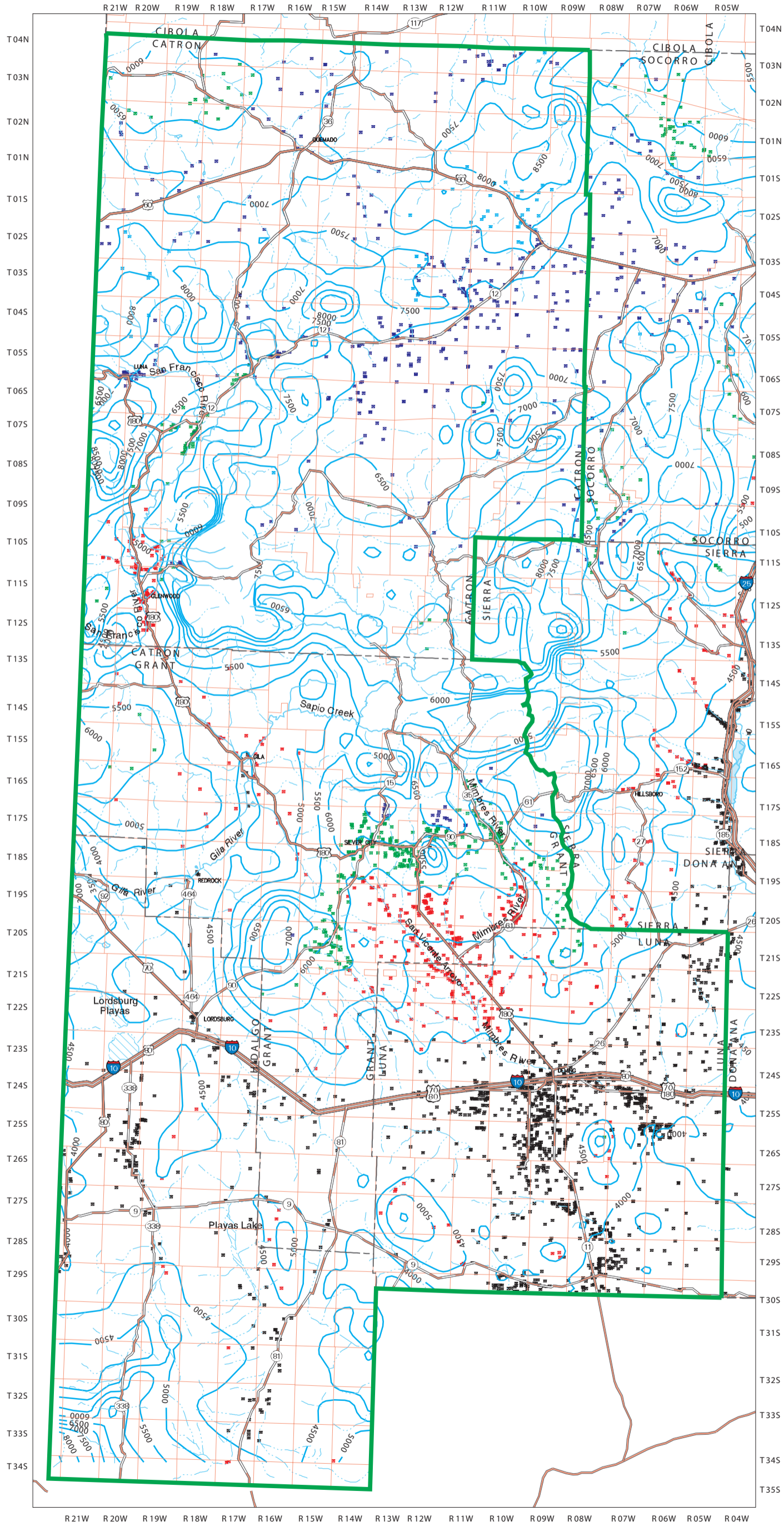
Projection: Universal Transverse Mercator, Zone 13, Units meters, NA D83.



# Southwest New Mexico Water Plan

## Ground Water Contours for Planning Region

- Explanation**
- State Line
  - County Line
  - Perennial Stream/River
  - Intermittent Stream
  - Perennial Water Body
  - Intermittent Water Body
  - Interstate
  - U.S. Highway
  - State Highway
  - Township/Range
  - Planning Region
  - Water Level Contours (500 ft)
  - 3629 to 4500 ft
  - 4500 to 5500 ft
  - 5500 to 6500 ft
  - 6500 to 7500 ft
  - 7500 to 8265 ft



Produced by New Mexico Water Resources Research Institute, April 2003

Base map prepared by the U.S. Geological Survey

Compiled from digital data provided by the New Mexico Resource Geographic Information System Program (RGIS). Original base maps digitized from 1:500,000 mylar sheets and 100,000 paper maps for New Mexico. These data meet National Mapping Accuracy Standards for 1:500,000 and 1:100,000 scale maps. Boundary of the Southwest New Mexico Water Planning Region is based on the New Mexico county boundaries. The cadastral accuracy of the county boundaries was verified by the use of 1:100,000 Public Land Survey System (PLSS) from RGIS. Depth to ground water contours are based on the USGS GWSI database records for well locations and water depth. The water table elevation information and point location were used as a data source for a Arc/Info GIS Grid function called "spline." The spline function takes the data source and creates a surface that represents the water table elevation. The function uses a weight of 0.5, examines the 12 nearest neighbors, and has a cell size of 500 meters.

Horizontal accuracy: At the scale of 1:1,050,000, at least 90 percent of the points tested are within 1/30th inch (0.0333 inch), or 889 ground meters, of their true location.

Projection: Universal Transverse Mercator, Zone 13, Units meters, NAD83.

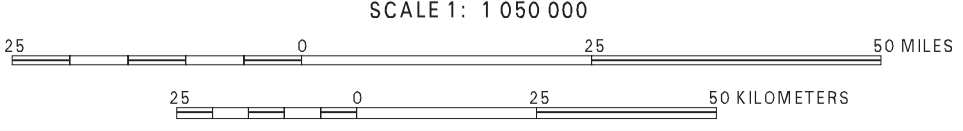
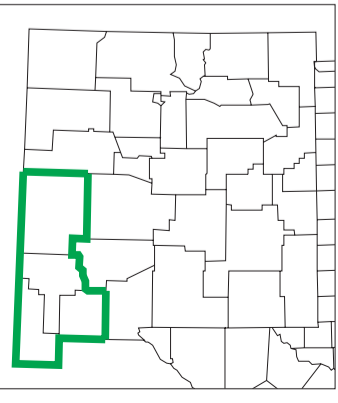


Figure A2-7

# Southwest New Mexico Water Plan Depth to Ground Water Map

- Explanation**
- State Line
  - County Line
  - Perennial Stream/River
  - Intermittent Stream
  - Perennial Water Body
  - Intermittent Water Body
  - Interstate
  - U.S. Highway
  - State Highway
  - Township/Range
  - Planning Region
  - Depth to Water Contours (250 ft interval)
  - Less than 0 ft
  - 0 to 250 ft
  - 250 to 500 ft
  - 500 to 750 ft
  - Greater than 750 ft

Note: Contours represent potentiometric surface. Negative values indicate artesian conditions.

Produced by New Mexico Water Resources Research Institute, April 2003

Base map prepared by the U.S. Geological Survey

Compiled from digital data provided by the New Mexico Resource Geographic Information System (RGIS). Original base maps digitized from 1:500,000 mylar sheets and 100,000 paper maps for New Mexico. These data meet National Mapping Accuracy Standards for 1:500,000 and 1:100,000 scale maps. Boundary of the Southwest New Mexico Water Planning Region is based on the New Mexico county boundaries. The cadastral accuracy of the county boundaries was verified by the use of 1:100,000 Public Land Survey System (PLSS) from RGIS. Depth to ground water contours are based on the USGS GWS1 database records for well locations and water depth. The water table elevation information and point location were used as a data source for a Arc/Info GIS Grid function called "spline." The spline function takes the data source and creates a surface that represents the water table elevation. The function uses a weight of 0.5, examines the 12 nearest neighbors, and has a cell size of 500 meters.

Horizontal accuracy: At the scale of 1:1,050,000, at least 90 percent of the points tested are within 1/30th inch (0.0333 inch), or 889 ground meters, of their true location.

Projection: Universal Transverse Mercator, Zone 13, Units meters, NAD83.

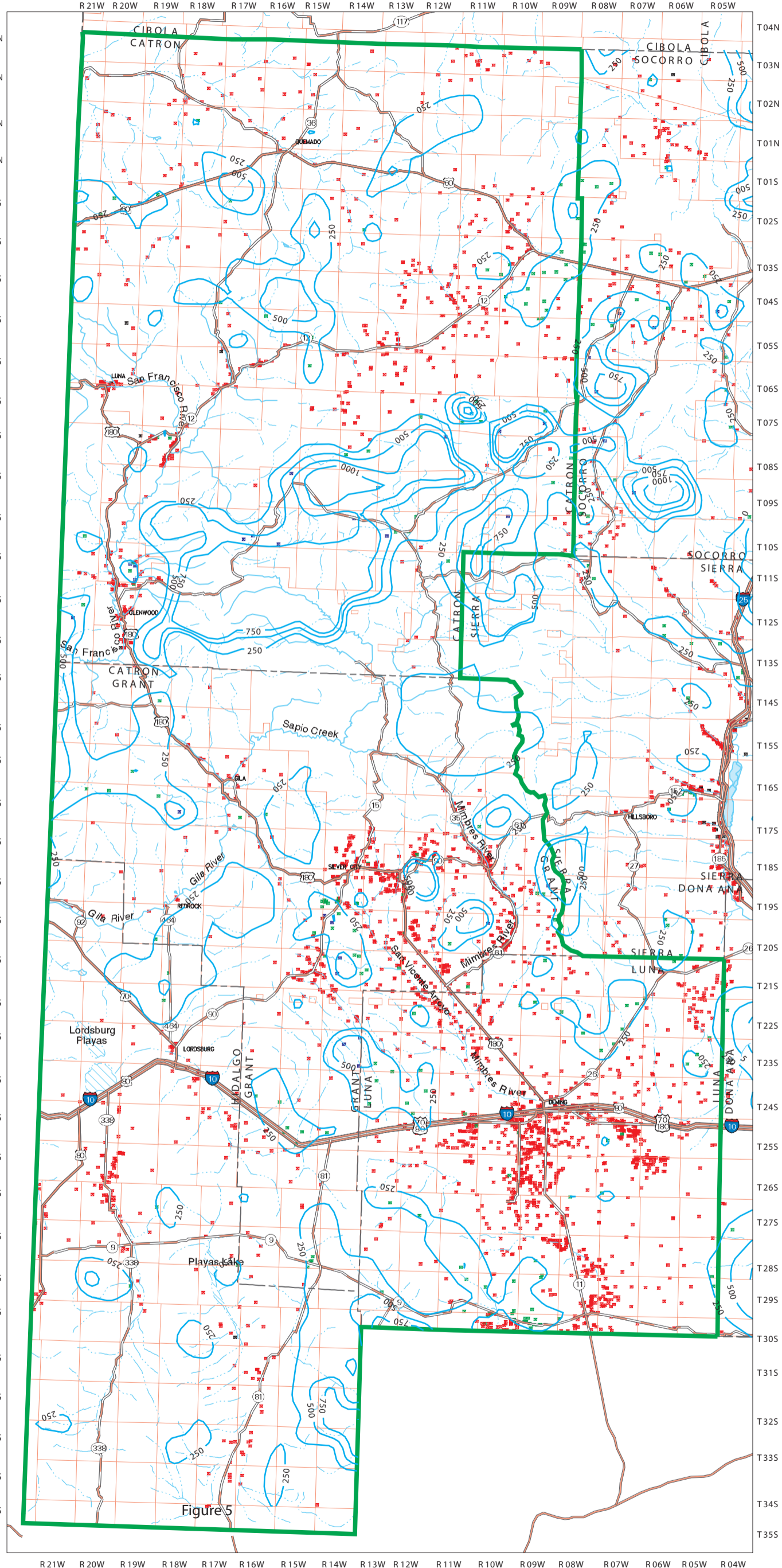
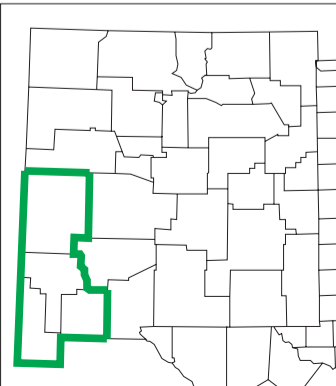


Figure 5



SCALE 1: 1 050 000

0 25 50 MILES

0 25 50 KILOMETERS





# Southwest New Mexico Water Plan

## Sulfate Concentrations in Regional Ground Water and Surface Water

- Explanation**
- State Line
  - County Line
  - Perennial Stream/River
  - Intermittent Stream
  - Perennial Water Body
  - Intermittent Water Body
  - Interstate
  - U.S. Highway
  - State Highway
  - Township/Range
  - Planning Region
  - 0 to 400 mg/L
  - 400 to 800 mg/L
  - 800 to 1200 mg/L
  - 1200 to 1600 mg/L
  - 1600 to 2000 mg/L
  - 0 to 400 mg/L
  - 400 to 800 mg/L
  - 800 to 1200 mg/L
  - 1200 to 1600 mg/L
  - 1600 to 2000 mg/L

NOTE: circles represent ground water occurrences and triangles represent surface water occurrences

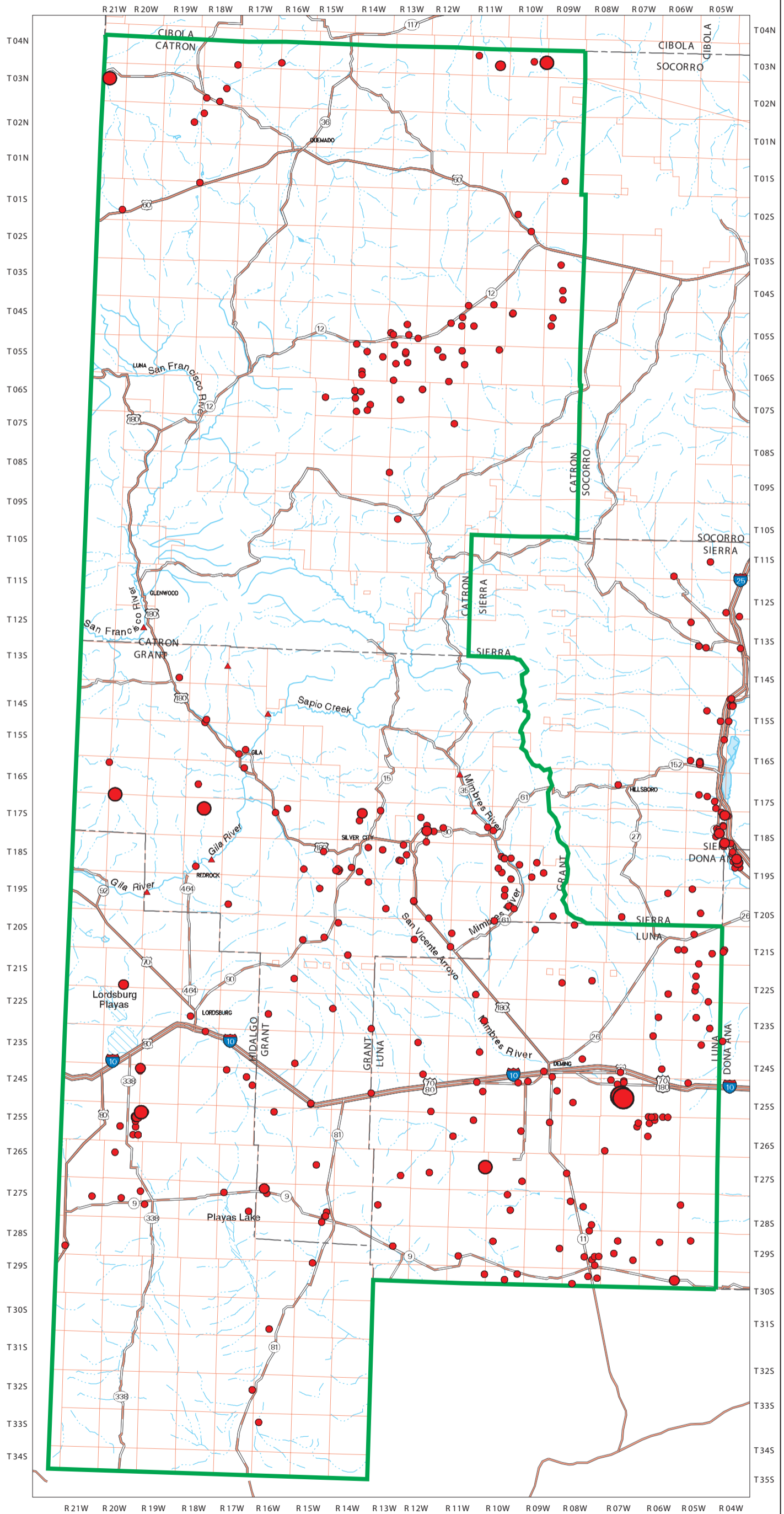
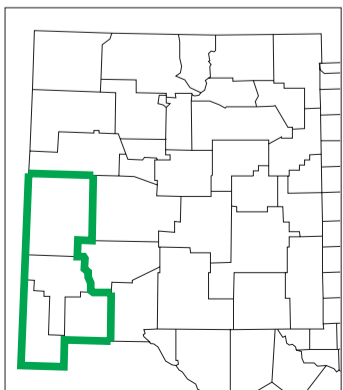
Produced by New Mexico Water Resources Research Institute, April 2003

Base map prepared by the U.S. Geological Survey

Compiled from digital data provided by the New Mexico Resource Geographic Information System Program (RGIS). Original base maps digitized from 1:500,000 mylar sheets and 100,000 paper maps for New Mexico. These data meet National Mapping Accuracy Standards for 1:500,000 and 1:100,000 scale maps. Boundary of the Southwest New Mexico Water Planning Region is based on the New Mexico county boundaries. The cadastral accuracy of the county boundaries was verified by the use of 1:100,000 Public Land and Survey System (PLSS) from RGIS. The water quality data is derived from USGS archives stored in the GWSI database.

Horizontal accuracy: At the scale of 1:1,050,000, at least 90 percent of the points tested are within 1/30th inch (0.0333 inch), or 889 ground meters, of their true location.

Projection: Universal Transverse Mercator, Zone 13, Units meters, NA D83.



SCALE 1: 1 050 000

0 25 50 MILES

0 25 50 KILOMETERS



# Southwest New Mexico Water Plan

## TDS Concentrations in Regional Ground Water and Surface Water

- Explanation**
- State Line
  - County Line
  - Perennial Stream/River
  - Intermittent Stream
  - Perennial Water Body
  - Intermittent Water Body
  - Interstate
  - U.S. Highway
  - State Highway
  - Township/Range
  - Planning Region
  - 0 to 1559 mg/L
  - 1559 to 2964 mg/L
  - 2964 to 4370 mg/L
  - 4370 to 5775 mg/L
  - 5775 to 7180 mg/L
  - 0 to 1559 mg/L
  - 1559 to 2964 mg/L
  - 2964 to 4370 mg/L
  - 4370 to 5775 mg/L
  - 5775 to 7180 mg/L

NOTE: circles represent ground water occurrences and triangles represent surface water occurrences

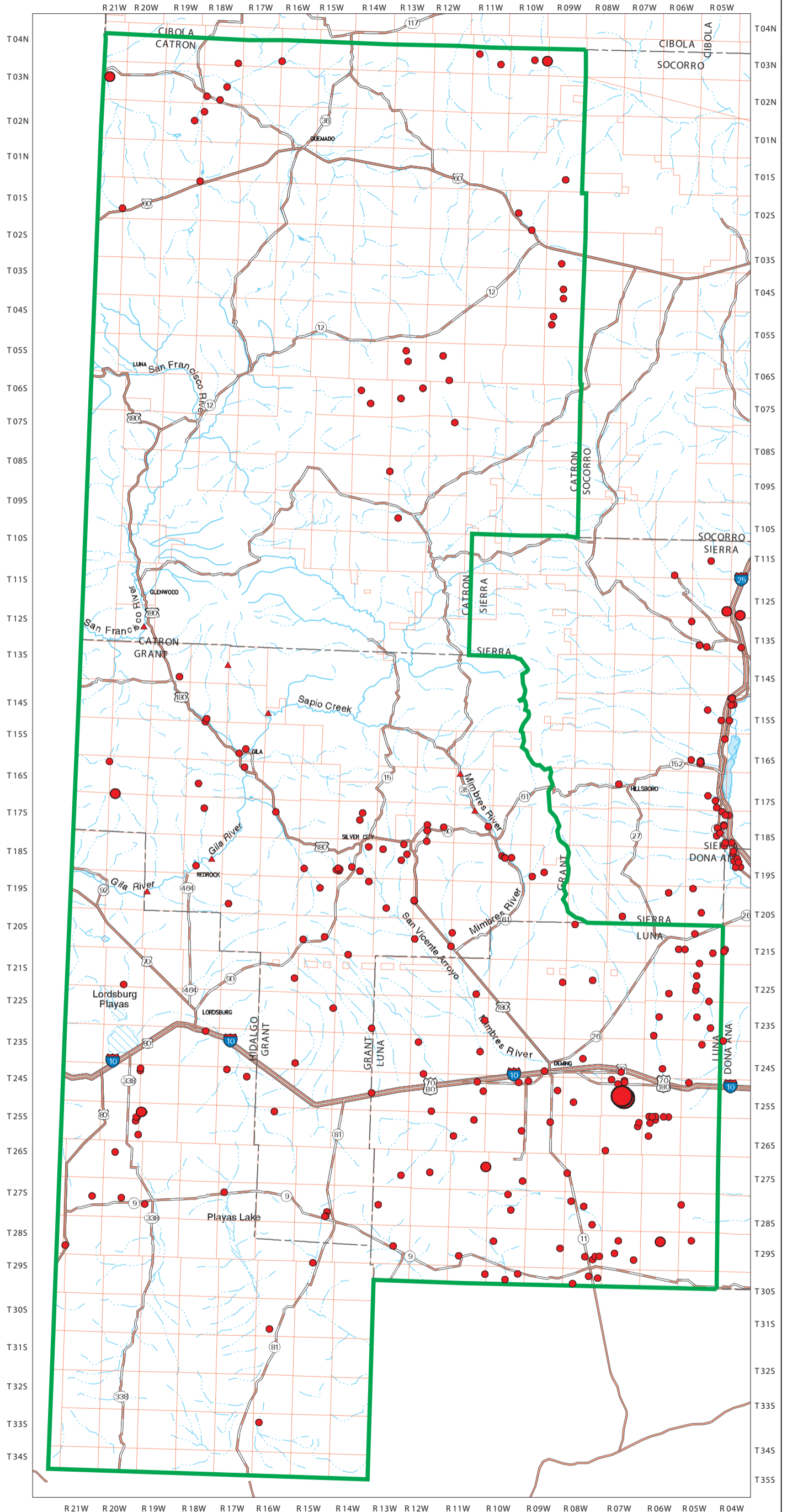
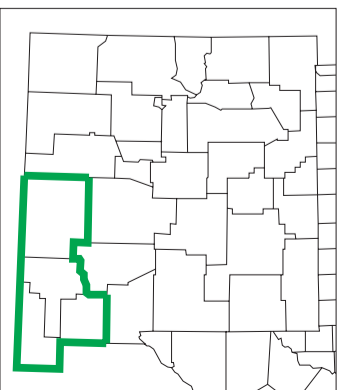
Produced by New Mexico Water Resources Research Institute, April 2003

Base map prepared by the U.S. Geological Survey

Compiled from digital data provided by the New Mexico Resource Geographic Information System (RGIS). Original base maps digitized from 1:500,000 mylar sheets and 100,000 paper maps for New Mexico. These data meet National Mapping Accuracy Standards for 1:500,000 and 1:100,000 scale maps. Boundary of the Southwest New Mexico Water Planning Region is based on the New Mexico county boundaries. The cadastral accuracy of the county boundaries was verified by the use of 1:100,000 Public Land Survey System (PLSS) from RGIS. The water quality data is derived from USGS archives stored in the GWSI database.

Horizontal accuracy: At the scale of 1:1,050,000, at least 90 percent of the points tested are within 1/30th inch (0.0333 inch), or 889 ground meters, of their true location.

Projection: Universal Transverse Mercator, Zone 13, Units meters, NA D83.



SCALE 1: 1 050 000

25 0 25 50 MILES

25 0 25 50 KILOMETERS



# Southwest New Mexico Water Plan

## Nitrate Concentrations in Regional Ground Water and Surface Water

- Explanation**
- State Line
  - County Line
  - Perennial Stream/River
  - Intermittent Stream
  - Perennial Water Body
  - Intermittent Water Body
  - Interstate
  - U.S. Highway
  - State Highway
  - Township/Range
  - Planning Region
  - 0 to 10 mg/L
  - 10 to 20 mg/L
  - 20 to 30 mg/L
  - 30 to 40 mg/L
  - 40 to 50 mg/L
  - 0 to 10 mg/L
  - 10 to 20 mg/L
  - 20 to 30 mg/L
  - 30 to 40 mg/L
  - 40 to 50 mg/L

NOTE: circles represent ground water occurrences and triangles represent surface water occurrences

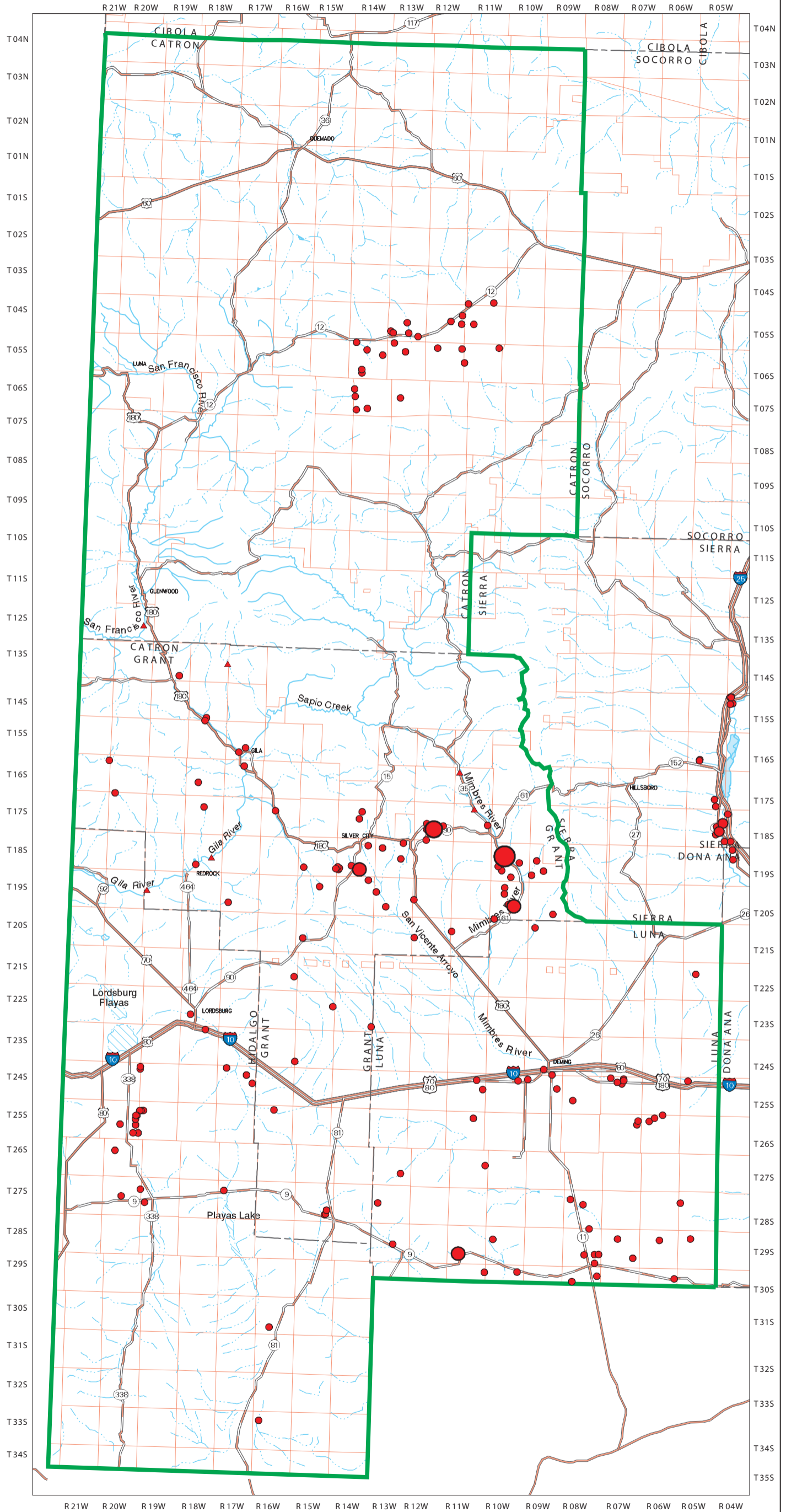
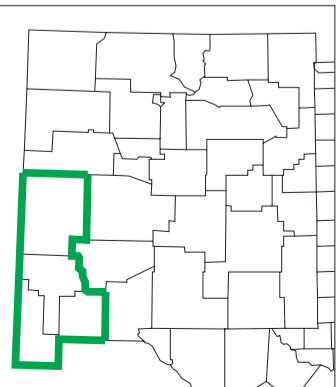
Produced by New Mexico Water Resources Research Institute, April 2003

Base map prepared by the U.S. Geological Survey

Compiled from digital data provided by the New Mexico Resource Geographic Information System Program (RGIS). Original base maps digitized from 1:500,000 mylar sheets and 100,000 paper maps for New Mexico. These data meet National Mapping Accuracy Standards for 1:500,000 and 1:100,000 scale maps. Boundary of the Southwest New Mexico Water Planning Region is based on the New Mexico county boundaries. The cadastral accuracy of the county boundaries was verified by the use of 1:100,000 Public Land Survey System (PLSS) from RGIS. The water quality data is derived from USGS archives stored in the GWSI database.

Horizontal accuracy: At the scale of 1:1,050,000, at least 90 percent of the points tested are within 1/30th inch (0.0333 inch), or 889 ground meters, of their true location.

Projection: Universal Transverse Mercator, Zone 13, Units meters, NA D83.



SCALE 1: 1 050 000

25 0 25 50 MILES

25 0 25 50 KILOMETERS



# Southwest New Mexico Water Plan

## Arsenic Concentrations in Regional Ground Water and Surface Water

- Explanation**
- State Line
  - County Line
  - Perennial Stream/River
  - Intermittent Stream
  - Perennial Water Body
  - Intermittent Water Body
  - Interstate
  - U.S. Highway
  - State Highway
  - Township/Range
  - Planning Region
  - 0 to 6 mg/L
  - 6 to 12 mg/L
  - 12 to 18 mg/L
  - 18 to 24 mg/L
  - 24 to 30 mg/L
  - 0 to 6 mg/L
  - 6 to 12 mg/L
  - 12 to 18 mg/L
  - 18 to 24 mg/L
  - 24 to 30 mg/L

NOTE: circles represent ground water occurrences and triangles represent surface water occurrences

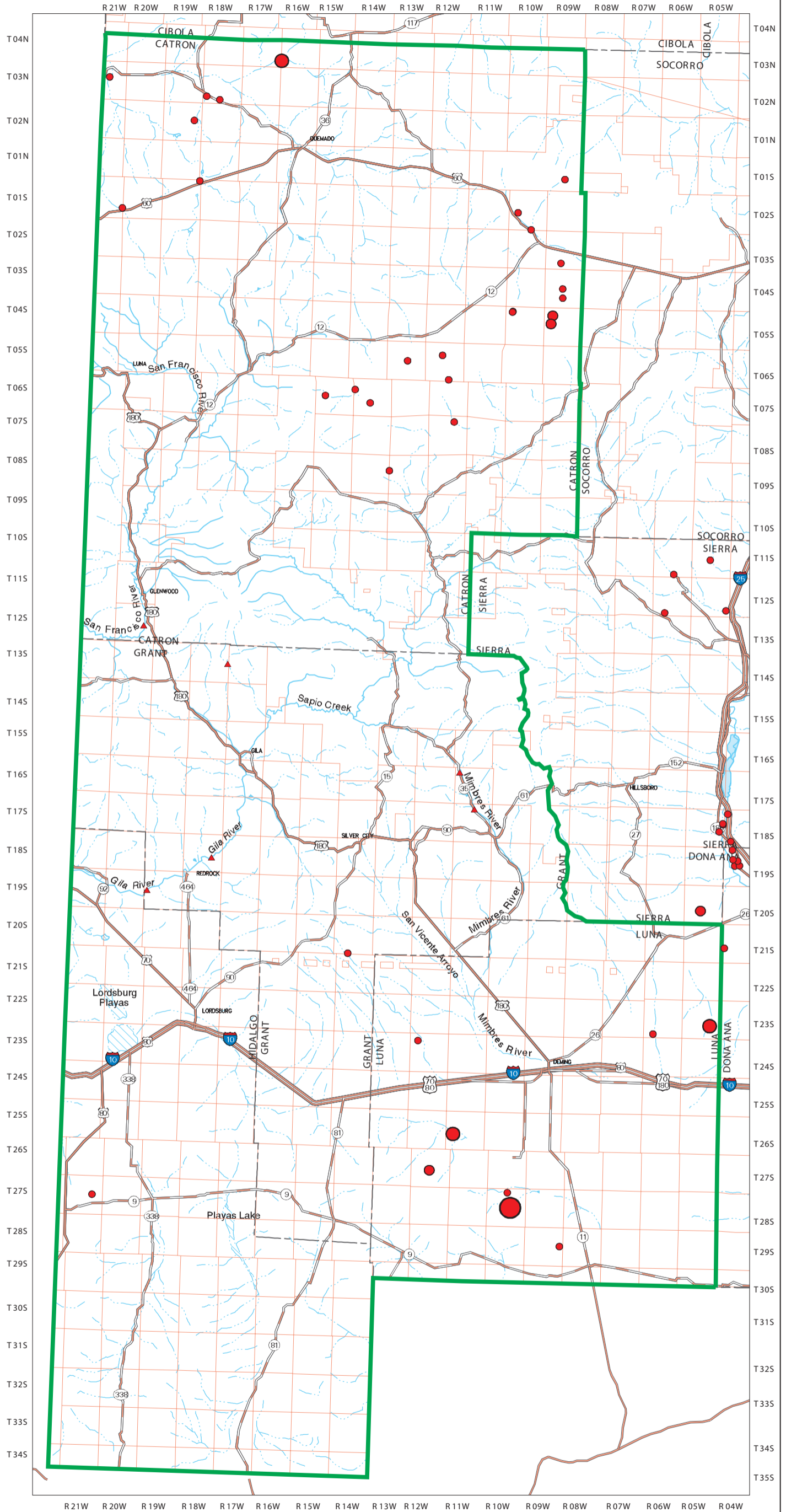
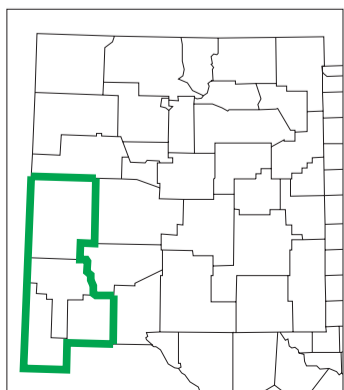
Produced by New Mexico Water Resources Research Institute, April 2003

Base map prepared by the U.S. Geological Survey

Compiled from digital data provided by the New Mexico Resource Geographic Information System Program (RGIS). Original base maps digitized from 1:500,000 mylar sheets and 100,000 paper maps for New Mexico. These data meet National Mapping Accuracy Standards for 1:500,000 and 1:100,000 scale maps. Boundary of the Southwest New Mexico Water Planning Region is based on the New Mexico county boundaries. The cadastral accuracy of the county boundaries was verified by the use of 1:100,000 Public Land and Survey System (PLSS) from RGIS. The water quality data is derived from USGS archives stored in the GWSI database.

Horizontal accuracy: At the scale of 1:1,050,000, at least 90 percent of the points tested are within 1/30th inch (0.0333 inch), or 889 ground meters, of their true location.

Projection: Universal Transverse Mercator, Zone 13, Units meters, NA D83.



SCALE 1: 1 050 000

0 25 50 MILES

0 25 50 KILOMETERS

