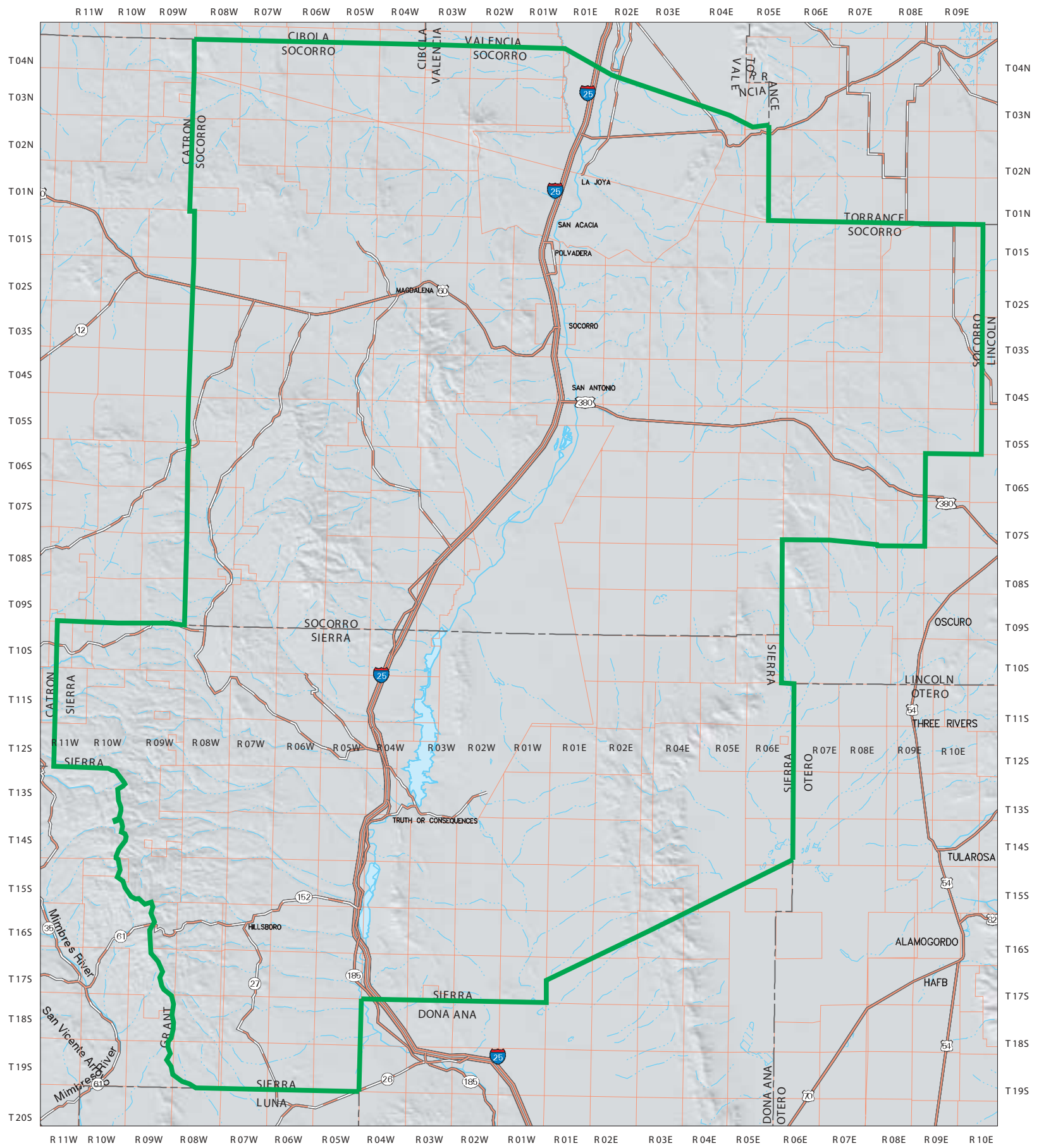


Appendix B
NMWRRI Maps

Socorro and Sierra Water Plan Planning Region



Explanation

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

Produced by New Mexico Water Resources Research Institute, February 2001.

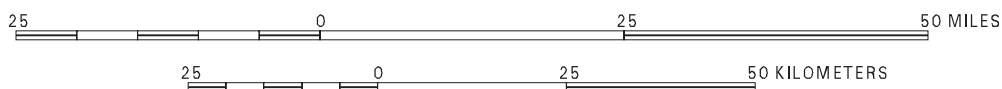
Base map prepared by the U.S. Geological Survey.

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. Shaded relief was provided by RGIS and is based on 1:250,000 Digital Elevation Models (DEMs) created by the U.S. Geological Survey. Boundary of the Socorro and Sierra 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.

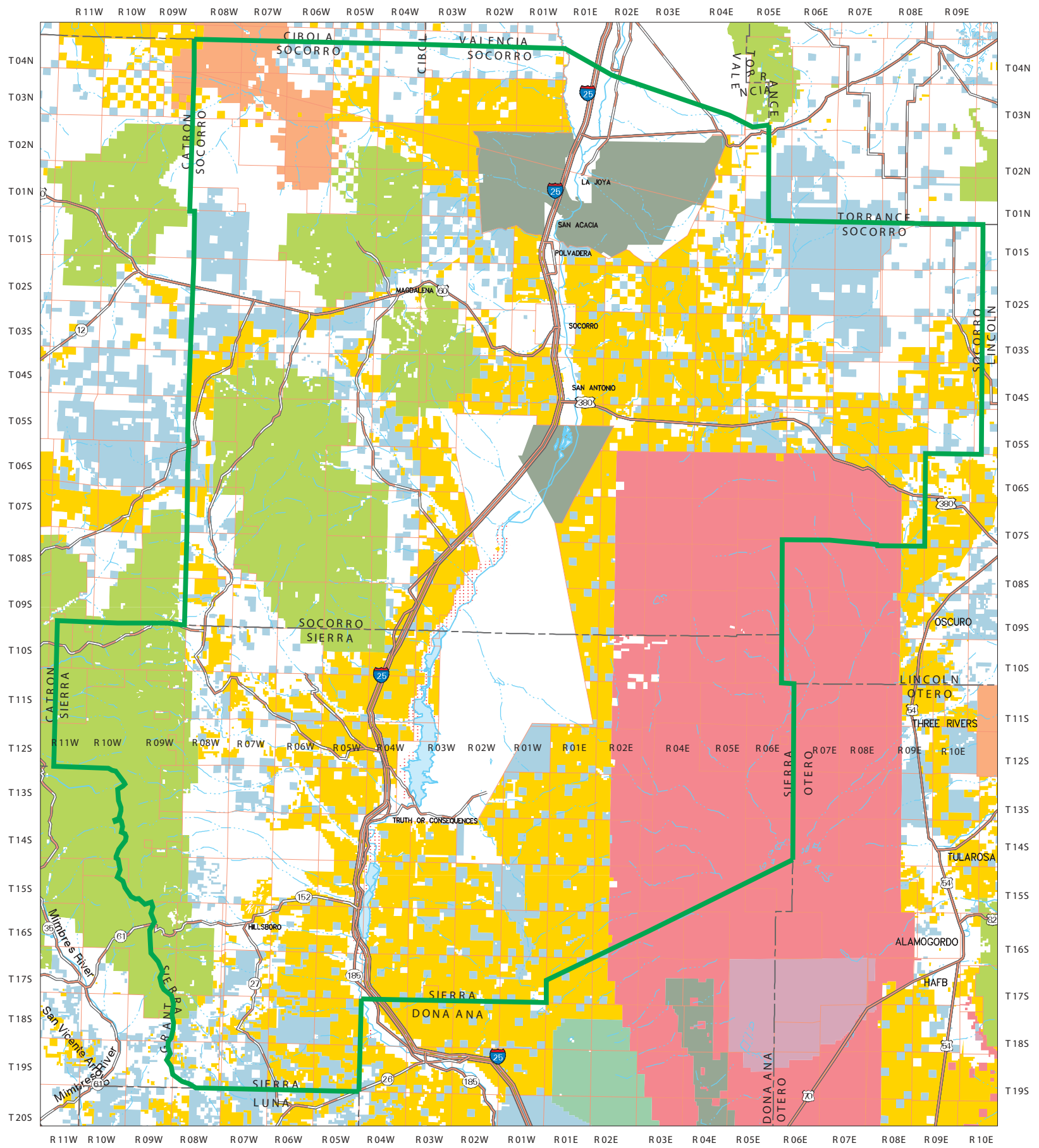
Horizontal accuracy: At the scale of 1:1,000,000, at least 90 percent of the points tested are within 1/30th inch (0.0333 inch), or 847 ground meters, of their true location.

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

SCALE 1: 1 000 000



Socorro and Sierra Water Plan Land Ownership in the Region



- | Explanation | |
|-------------|-------------------------|
| | State Line |
| | County Line |
| | Perennial Stream |
| | Intermittent Stream |
| | 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, February 2001.

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. Land ownership coverage developed by the BLM at 1:100,000 scale. Boundary of the Socorro and Sierra 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 1:1,000,000, at least 90 percent of the points tested are within 1/30th inch (0.0333 inch), or 847 ground meters, of their true location.

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

SCALE 1: 1 000 000

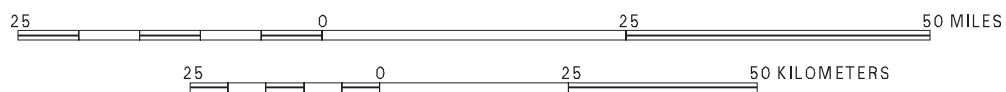
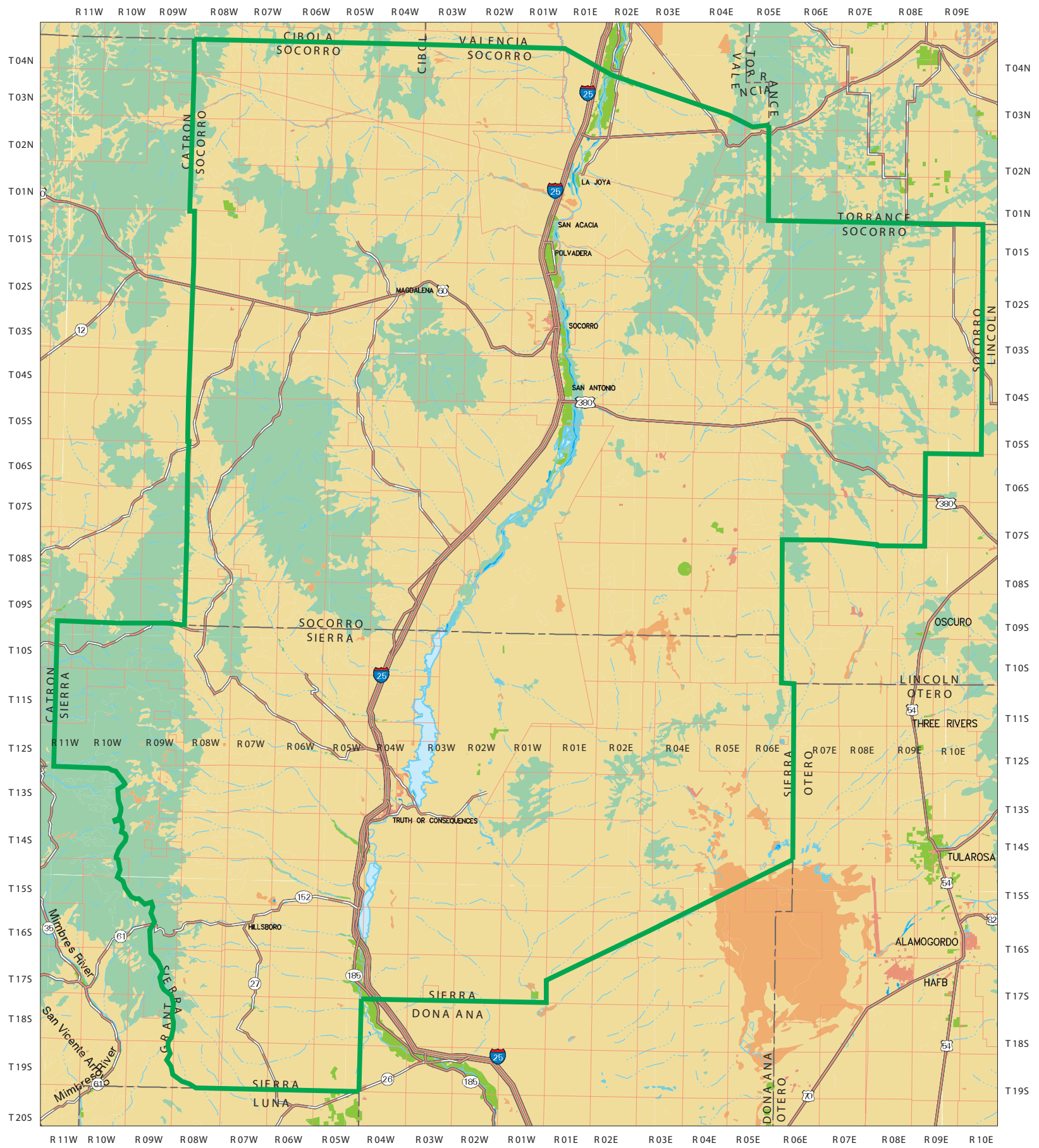


Figure B-2

Socorro and Sierra Water Plan Land Use in the Region



- | Explanation | |
|-------------|------------------------|
| | State Line |
| | County Line |
| | Perennial Stream/River |
| | Intermittent Stream |
| | Interstate |
| | U.S. Highway |
| | State Highway |
| | Township/Range |
| | Planning Region |
| | No Data |
| | Urban |
| | Agricultural Land |
| | Rangeland |
| | Forest Land |
| | Water |
| | Wetland |
| | Barren Land |
| | Tundra |

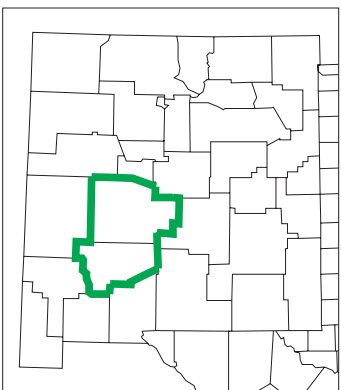
Produced by New Mexico Water Resources Research Institute, February 2001.

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 Socorro and Sierra 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 1:1,000,000, at least 90 percent of the points tested are within 1/30th inch (0.0333 inch), or 847 ground meters, of their true location.

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



SCALE 1: 1 000 000

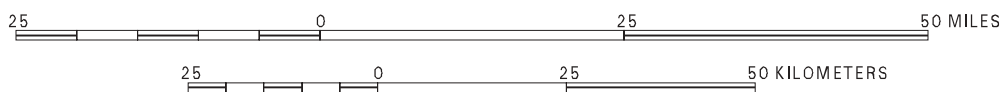
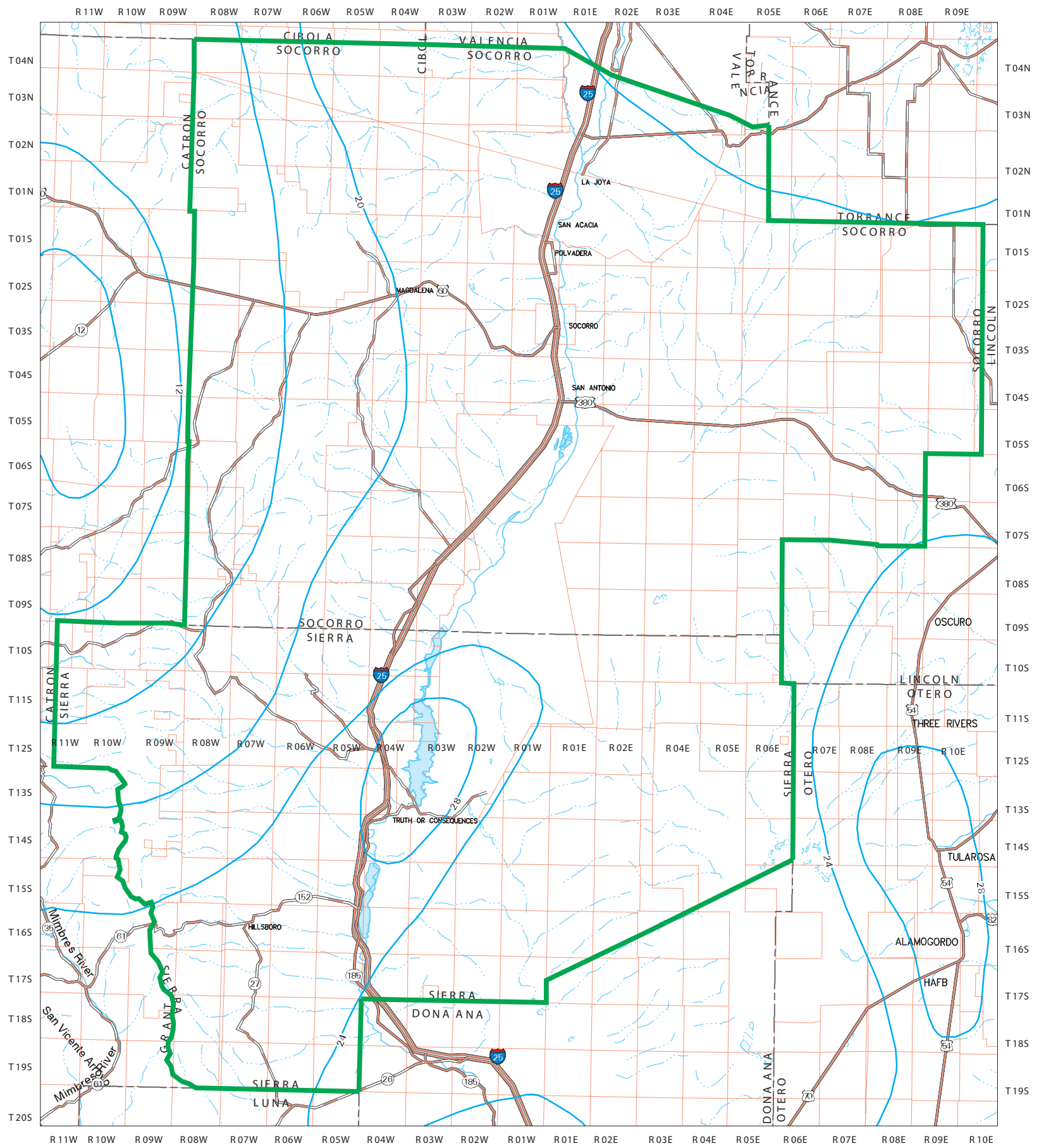


Figure B-3

Sierra and Socorro Water Plan

January Average Daily Minimum Temperatures



Explanation

- State Line
- County Line
- Perennial Stream/River
- Intermittent Stream
- Interstate
- U.S. Highway
- State Highway
- Township/Range
- Planning Region
- Mean Minimum Temperature

Produced by New Mexico Water Resources Research Institute, February 2001.

Base map prepared by the U.S. Geological Survey.

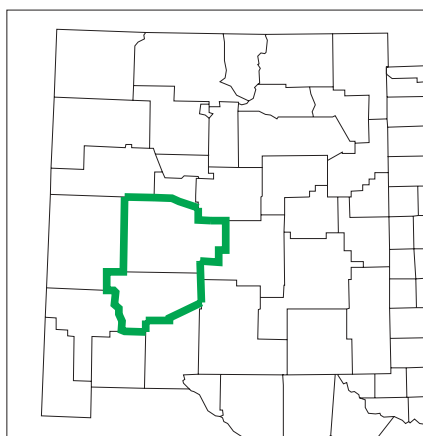
Compiled from digital data provided by the New Mexico Resource Geographic Information System Program (RGIS). Original base maps digitized from 1:500,000 mylar sheets and 100,000 paper maps for New Mexico. These data meet National Mapping Accuracy Standards for 1:500,000 and 1:100,000 scale maps. The data set was created to digitally represent the mean minimum temperature, for January, of the State of New Mexico between the years of 1931 and 1952. The isopleth interval is 4 degrees. The original source is "Climatology of the United States No. 60 29," U.S. Department of Commerce (Houghton 1972; Yi Fu Tuan et al., 1973). The boundary of the Socorro and Sierra 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 cadastral accuracy of the OSE administrative basins and 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 1:1,000,000, at least 90 percent of the points tested are within 1/30th inch (0.0333 inch), or 847 ground meters, of their true location.

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

Houghton, F.E., 1972, Climate of New Mexico: U.S. Department of Commerce, Climates of the States Series, Washington, D.C., Revised 1972.

Yi Fu Tuan, Everard, C.E., Widdison, J.G., and Bennette, I., 1973, The Climate of New Mexico: New Mexico State Planning Office, revised 1973.

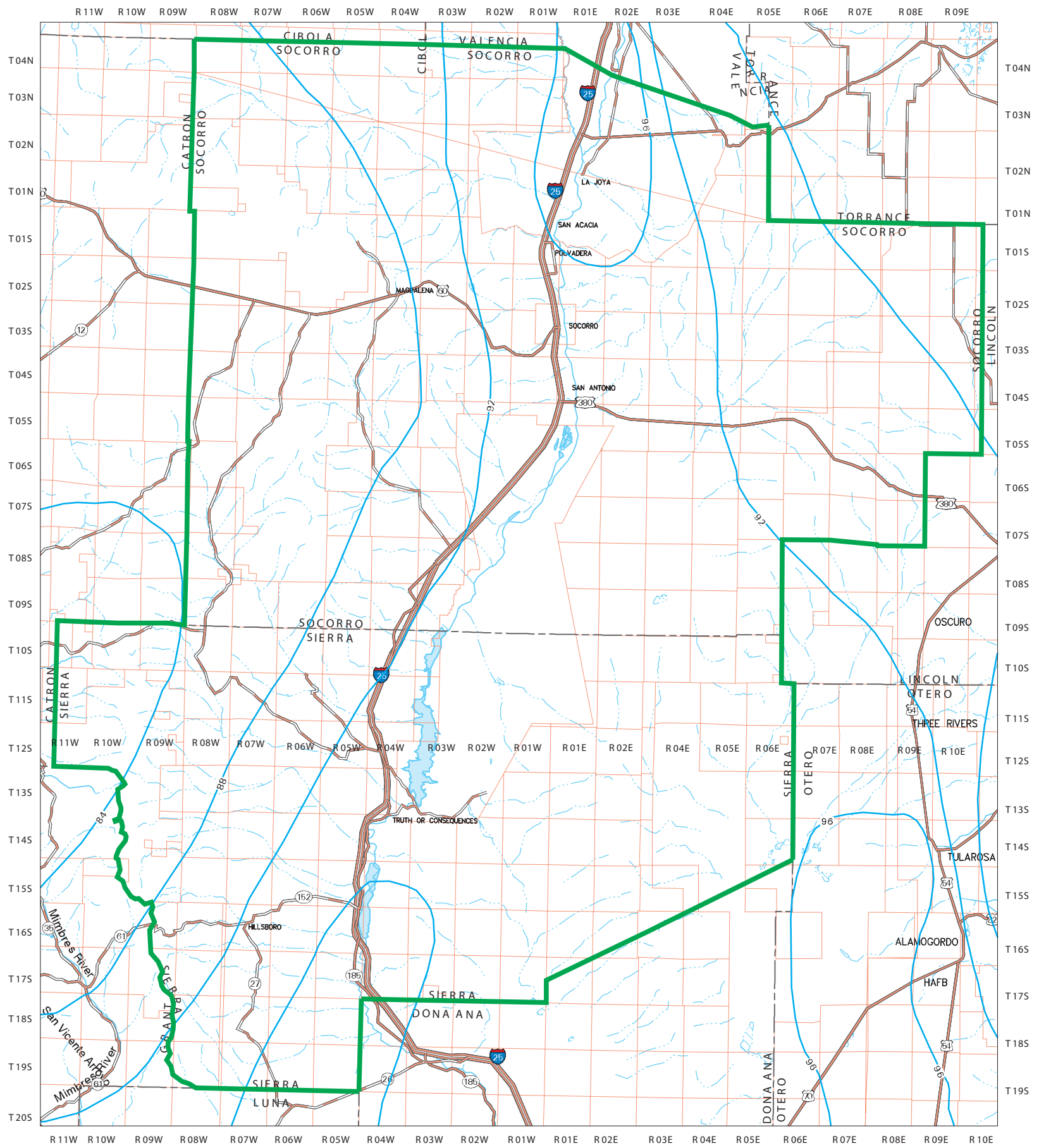


SCALE 1: 1 000 000



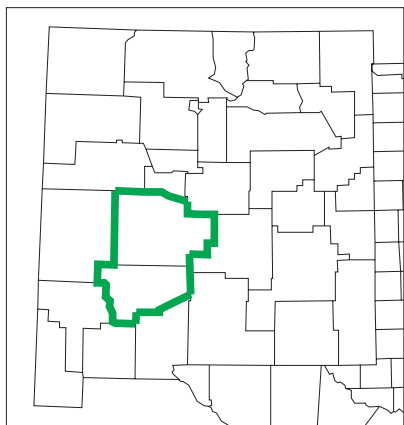
Sierra and Socorro Water Plan

July Average Daily Maximum Temperatures



Explanation

- State Line
- County Line
- Perennial Stream/River
- Intermittent Stream
- Interstate
- U.S. Highway
- State Highway
- Township/Range
- Planning Region
- Average Daily Maximum Temperature



Produced by New Mexico Water Resources Research Institute, February 2001.

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. This data set contains the mean maximum temperature, for July, in degrees Fahrenheit isopleths of the State of New Mexico. The data set was created to digitally represent the mean maximum temperatures, for July, of the State of New Mexico between the years of 1931 and 1952. Isopleth interval is 4 degrees. The original source is "Climatology of the United States No. 60 29," U.S. Department of Commerce (Houghton 1972; Yi Fu Tuan et al., 1973). The boundary of the Socorro and Sierra Water Planning Region is based on the New Mexico county boundaries.

Horizontal accuracy: At the scale of 1:1,000,000, at least 90 percent of the points tested are within 1/30th inch (0.0333 inch), or 847 ground meters, of their true location.

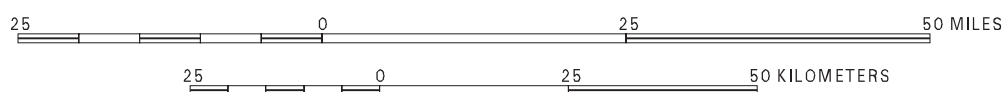
Projection: Universal Transverse Mercator, Zone 13, Units meters, NAD83.

Houghton, F.E., 1972, Climate of New Mexico: U.S. Department of Commerce, Climates of the States Series, Washington, D.C., Revised 1972.

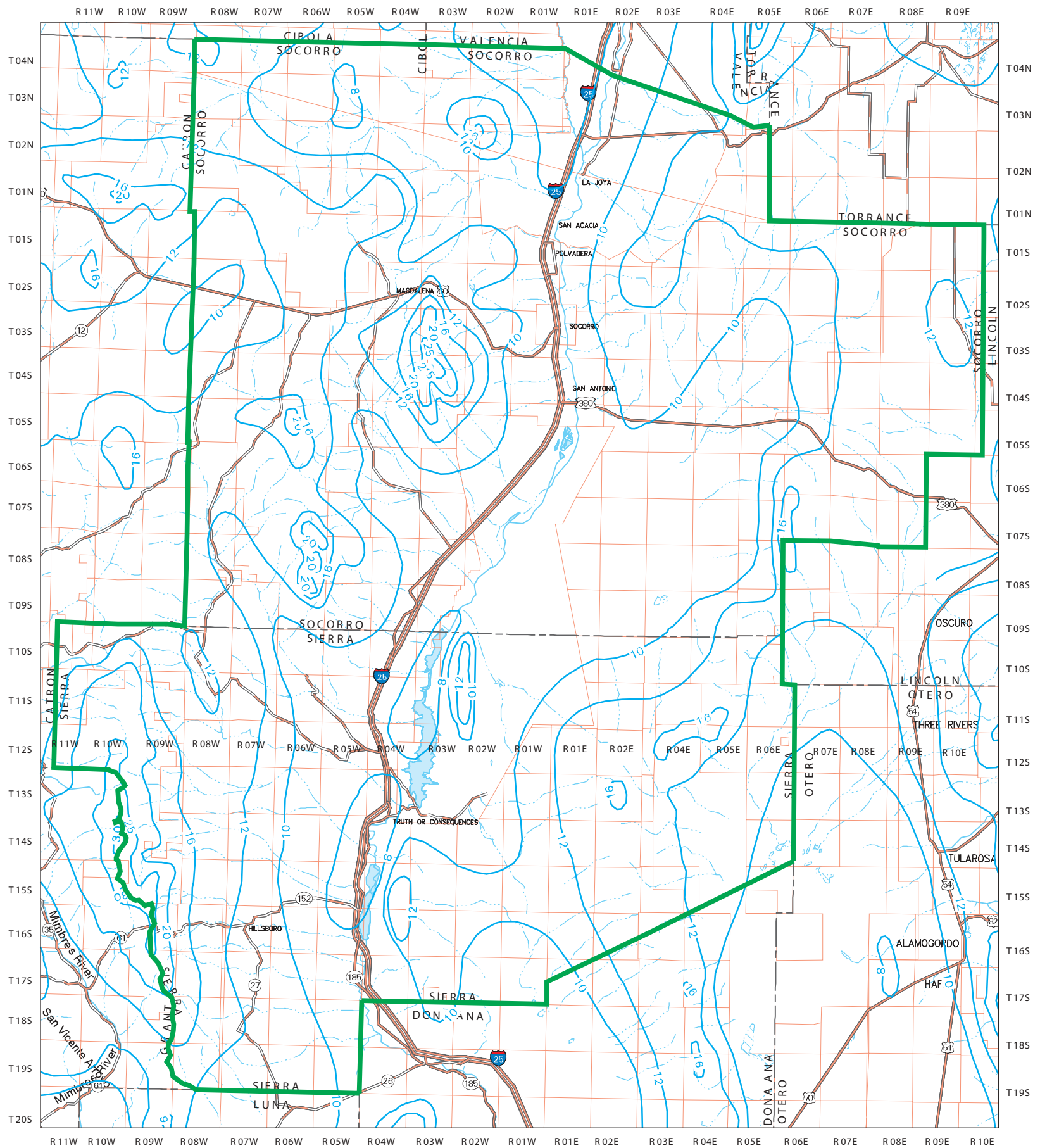
Yi Fu Tuan, Everard, C.E., Widdison, J.G., and Bennette, I., 1973, The Climate of New Mexico: New Mexico State Planning Office, revised 1973.

Figure B-5

SCALE 1: 1 000 000



Sierra and Socorro Water Plan Average Annual Precipitation



Produced by New Mexico Water Resources Research Institute, February 2001.

Base map prepared by the U.S. Geological Survey.

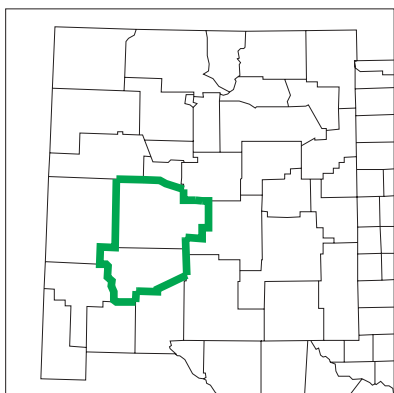
Compiled from digital data provided by the New Mexico Resource Geographic Information System Program (RGIS). Original base maps digitized from 1:500,000 mylar sheets and 100,000 paper maps for New Mexico. These data meet National Mapping Accuracy Standards for 1:500,000 and 1:100,000 scale maps. This 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 set came from National Oceanic and Atmospheric Administration (NOAA). Earth Data Analysis Center manually digitized from the NOAA 1:500,000 scale map of the State of New Mexico. The boundary of the Socorro and Sierra 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 cadastral accuracy of the OSE administrative basins and 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 1:1,000,000, at least 90 percent of the points tested are within 1/30th inch (0.0333 inch), or 847 ground meters, of their true location.

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

Explanation

- State Line
- County Line
- Perennial Stream/River
- Intermittent Stream
- Interstate
- U.S. Highway
- State Highway
- Township/Range
- Planning Region
- Average Precipitation (inches)



SCALE 1: 1 000 000

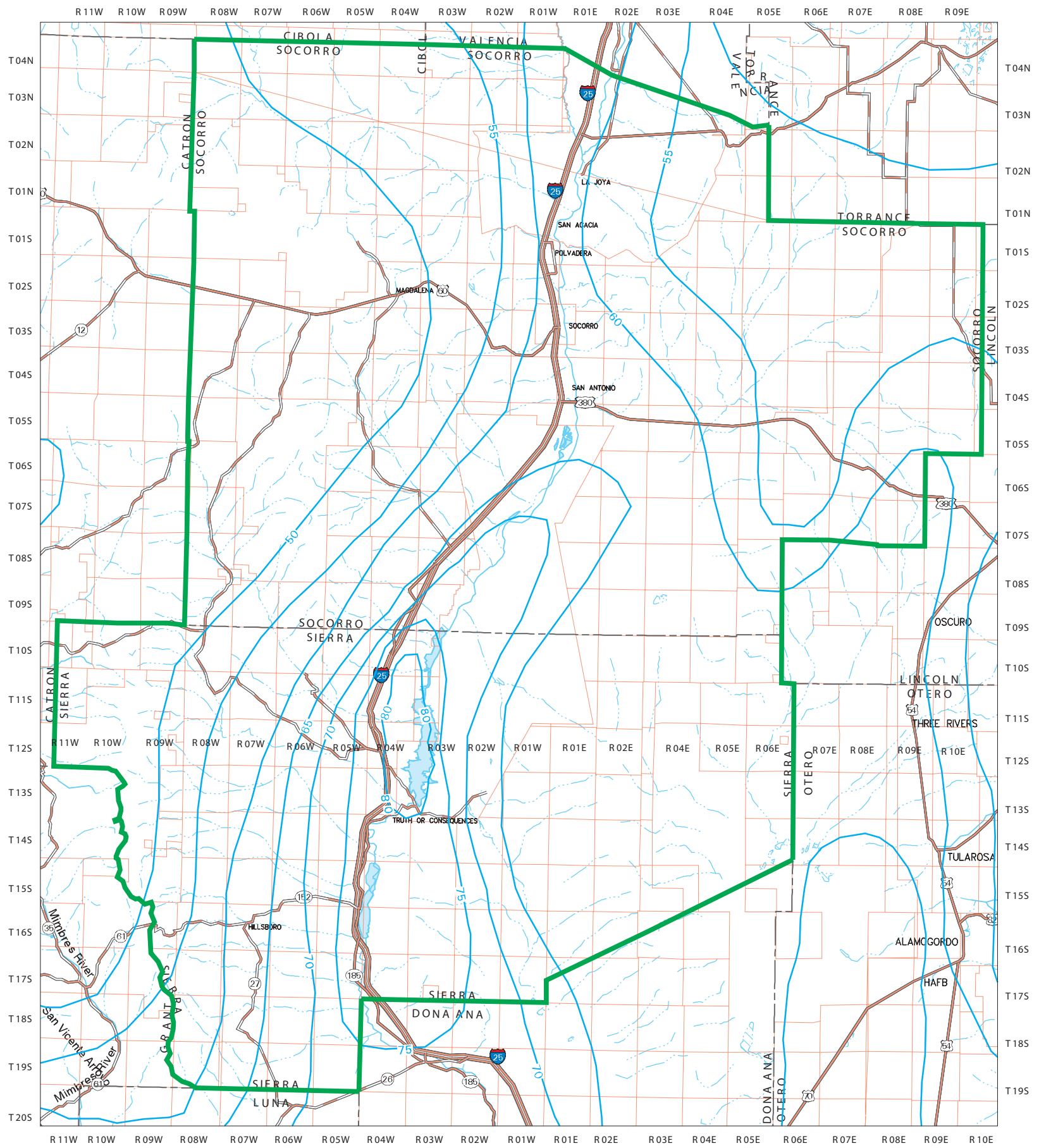
25 0 25 50 MILES

25 0 25 50 KILOMETERS



Sierra and Socorro Water Plan

Average Annual Free Surface Water Evaporation



Explanation

- State Line
- County Line
- Perennial Stream/River
- Intermittent Stream
- Interstate
- U.S. Highway
- State Highway
- Township/Range
- Planning Region
- Average Evaporation in Inches

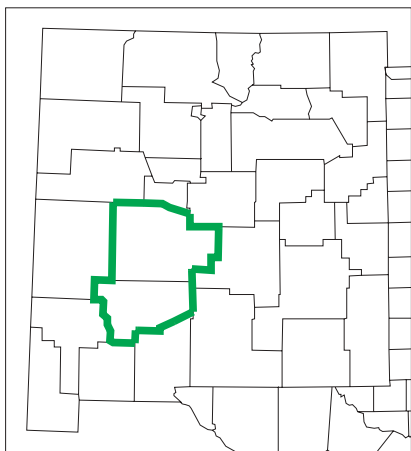
Produced by New Mexico Water Resources Research Institute, February 2001.

Base map prepared by the U.S. Geological Survey.

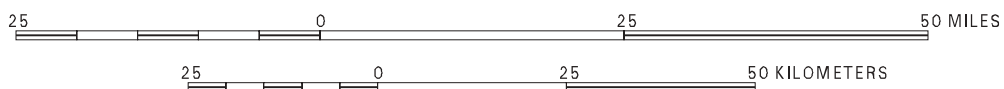
Compiled from digital data provided by the New Mexico Resource Geographic Information System (RGIS). Original base maps digitized from 1:500,000 mylar sheets and 100,000 paper maps for New Mexico. These data meet National Mapping Accuracy Standards for 1:500,000 and 1:100,000 scale maps. The data set 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). Earth Data Analysis Center manually digitized from the NOAA 1:500,000 scale map of the state of New Mexico. The boundary of the Socorro and Sierra 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 cadastral accuracy of the OSE administrative basins and 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 1:1,000,000, at least 90 percent of the points tested are within 1/30th inch (0.0333 inch), or 847 ground meters, of their true location.

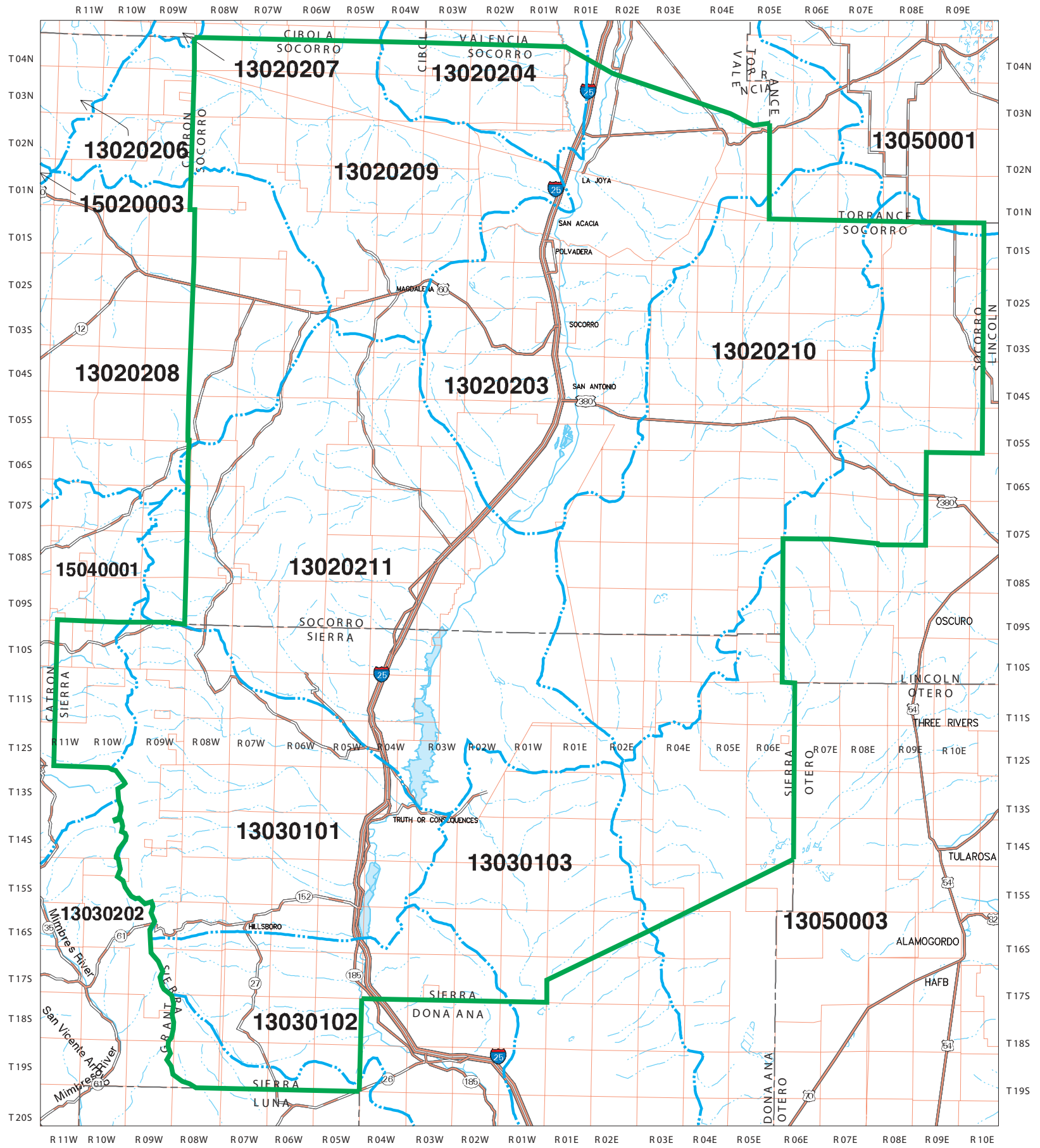
Projection: Universal Transverse Mercator, Zone 13, Units meters, NAD83.



SCALE 1: 1 000 000



Socorro and Sierra Water Plan Watersheds



Explanation

- State Line
- County Line
- Perennial Stream/River
- Intermittent Stream
- Interstate
- U.S. Highway
- State Highway
- Township/Range
- Planning Region
- Watershed Boundary

| Hydrologic Unit Code | Name | Area (sq. mi.) |
|----------------------|--------------------------|----------------|
| 1302023 | Rio Grande Albuquerque | 3200 |
| 13050001 | Western Estancia | 2400 |
| 13020209 | Rio Salado | 1390 |
| 13020210 | Jornada Del Muerto | 1800 |
| 13050003 | Tularosa Valley | 6720 |
| 13020211 | Elephant Butte Reservoir | 2110 |
| 13030103 | Jornada Draw | 1260 |
| 13030202 | Mimbres | 4560 |
| 13030102 | El Paso Las Cruces | 2400 |
| 13020208 | Plains of San Agustin | 1970 |
| 13020206 | North Plains | 1130 |
| 13020207 | Rio San Jose | 2620 |
| 13020204 | Rio Puerco | 2090 |
| 13030101 | Caballo | 1230 |
| 15040001 | Upper Gila | 2000 |
| 15020003 | Carrizo Wash | 2210 |

Produced by New Mexico Water Resources Research Institute, February 2001.

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. Watershed boundaries are based on USGS 1:500,000 and 1:100,000 scale maps, data provided by the RGIS program. Boundary of the Socorro and Sierra 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 1:1,000,000, at least 90 percent of the points tested are within 1/30th inch (0.0333 inch), or 847 ground meters, of their true location.

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

SCALE 1: 1 000 000

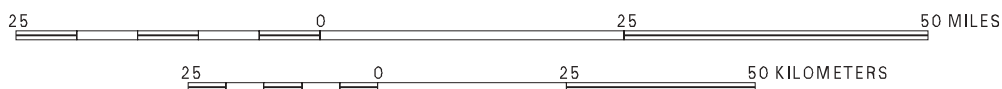
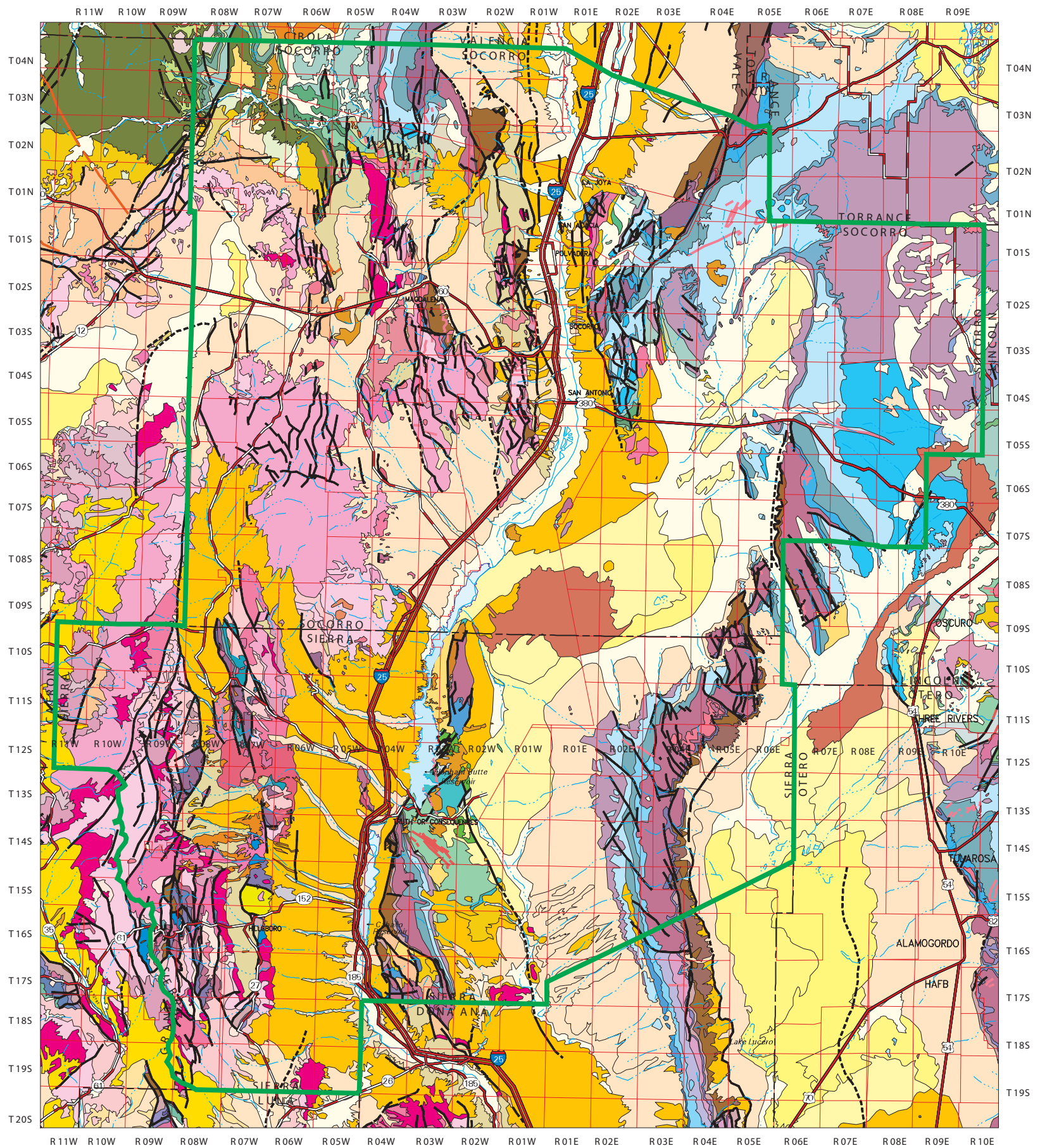


Figure B-8

Sierra and Socorro Water Plan Geology Map



| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|------|------|------|-------|-------|-----|------|----|-----|-----|-----|-----|----|-----|----|-----|-----|-----|-----|----|---|-------|--------|-----|----|-----|----|----|-------|---------|-----|---|-----|-------|----|--------|---------|-----|----|-----|-----|---|-----|--------|-----|-----|----|-----|----|----|--------|-----|-----|-----|----|-----|-----|---------|-----|----|-----|-----|----|----|-----|------|-----|---|----|-------|-----|----|------|-----|-----|----|----|-----|-----|-----|-----|----|------|----|-----|-----|------|----|-----|-----|----|-----|------|------|----|-----|------|----|
| <p>Explanation</p> <ul style="list-style-type: none"> State Line County Line Perennial Stream/River Intermittent Stream Interstate U.S. Highway State Highway Township/Range Planning Region Contact Fault Dashed Fault Dotted Fault Ti Dikes | <table border="0"> <tr> <td>Qa</td><td>QTsf</td><td>Tlrp</td><td>Turp</td><td>Km</td><td>Pay</td><td>IPps</td></tr> <tr> <td>Qb</td><td>QTs</td><td>Tlv</td><td>Tus</td><td>Kmc</td><td>Pb</td><td>IPs</td></tr> <tr> <td>Qe</td><td>QTt</td><td>Tmb</td><td>Tuv</td><td>Kmg</td><td>Pg</td><td>M</td></tr> <tr> <td>Qe/Qa</td><td>Qa/QTs</td><td>Tnb</td><td>Tv</td><td>Kmr</td><td>Ph</td><td>MD</td></tr> <tr> <td>Qe/Qp</td><td>Qa/QTsf</td><td>Tnr</td><td>K</td><td>Kmv</td><td>Playa</td><td>MC</td></tr> <tr> <td>Qe/Qpl</td><td>Qe/QTsf</td><td>Tos</td><td>Ka</td><td>Kth</td><td>Psa</td><td>D</td></tr> <tr> <td>Qeg</td><td>Qe/QTs</td><td>Tpb</td><td>Kbm</td><td>Ku</td><td>Psg</td><td>SO</td></tr> <tr> <td>Ql</td><td>Qp/QTs</td><td>Tps</td><td>Kcc</td><td>TRc</td><td>Py</td><td>SOC</td></tr> <tr> <td>Qoa</td><td>Qp/QTsf</td><td>Tsf</td><td>Kd</td><td>TRm</td><td>Pys</td><td>OC</td></tr> <tr> <td>Qp</td><td>TKi</td><td>Tual</td><td>Kdg</td><td>P</td><td>Pz</td><td>Water</td></tr> <tr> <td>Qpl</td><td>Ti</td><td>Tuau</td><td>Kdm</td><td>PIP</td><td>IP</td><td>Xm</td></tr> <tr> <td>QTb</td><td>Tla</td><td>Tui</td><td>Kdr</td><td>Pa</td><td>IPlc</td><td>Xp</td></tr> <tr> <td>QTg</td><td>Tli</td><td>Tuim</td><td>Ki</td><td>Pal</td><td>IPm</td><td>Yp</td></tr> <tr> <td>QTp</td><td>Tlrf</td><td>Turf</td><td>Km</td><td>Pat</td><td>IPme</td><td>Ys</td></tr> </table> | Qa | QTsf | Tlrp | Turp | Km | Pay | IPps | Qb | QTs | Tlv | Tus | Kmc | Pb | IPs | Qe | QTt | Tmb | Tuv | Kmg | Pg | M | Qe/Qa | Qa/QTs | Tnb | Tv | Kmr | Ph | MD | Qe/Qp | Qa/QTsf | Tnr | K | Kmv | Playa | MC | Qe/Qpl | Qe/QTsf | Tos | Ka | Kth | Psa | D | Qeg | Qe/QTs | Tpb | Kbm | Ku | Psg | SO | Ql | Qp/QTs | Tps | Kcc | TRc | Py | SOC | Qoa | Qp/QTsf | Tsf | Kd | TRm | Pys | OC | Qp | TKi | Tual | Kdg | P | Pz | Water | Qpl | Ti | Tuau | Kdm | PIP | IP | Xm | QTb | Tla | Tui | Kdr | Pa | IPlc | Xp | QTg | Tli | Tuim | Ki | Pal | IPm | Yp | QTp | Tlrf | Turf | Km | Pat | IPme | Ys |
| Qa | QTsf | Tlrp | Turp | Km | Pay | IPps | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Qb | QTs | Tlv | Tus | Kmc | Pb | IPs | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Qe | QTt | Tmb | Tuv | Kmg | Pg | M | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Qe/Qa | Qa/QTs | Tnb | Tv | Kmr | Ph | MD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Qe/Qp | Qa/QTsf | Tnr | K | Kmv | Playa | MC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Qe/Qpl | Qe/QTsf | Tos | Ka | Kth | Psa | D | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Qeg | Qe/QTs | Tpb | Kbm | Ku | Psg | SO | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ql | Qp/QTs | Tps | Kcc | TRc | Py | SOC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Qoa | Qp/QTsf | Tsf | Kd | TRm | Pys | OC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Qp | TKi | Tual | Kdg | P | Pz | Water | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Qpl | Ti | Tuau | Kdm | PIP | IP | Xm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| QTb | Tla | Tui | Kdr | Pa | IPlc | Xp | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| QTg | Tli | Tuim | Ki | Pal | IPm | Yp | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| QTp | Tlrf | Turf | Km | Pat | IPme | Ys | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Produced by New Mexico Water Resources Research Institute, February 2001

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 meets National Mapping Accuracy Standards for 1:500,000 and 1:100,000 scale maps. Surface geology provided by Green and Jones 1997, open file report 97 52. Boundary of the Sierra and Socorro Water Planning Region is based on surface drainage divides and county lines.

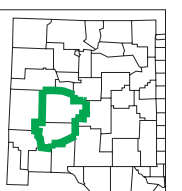
Horizontal accuracy: At the scale of 1:1,000,000 at least 90 percent of the points tested are within 1/30th inch (0.0333 inch), or within 847 ground meters, of their true location.

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

SCALE 1: 1 000 000

25 0 25 50 MILES

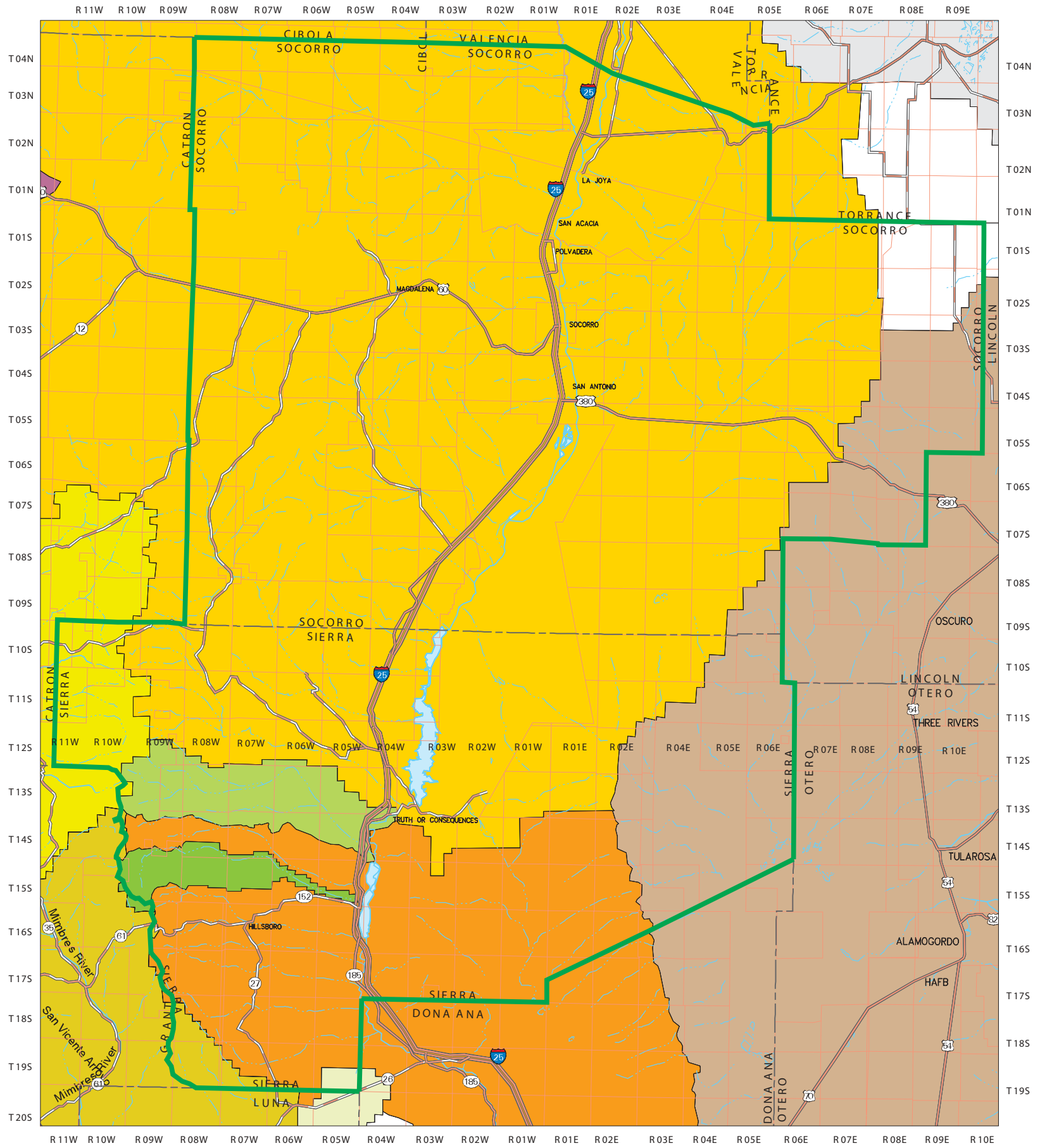
25 0 25 50 KILOMETERS





Socorro and Sierra Water Plan

Office of the State Engineer Administrative Ground Water Basins



- | | |
|---|---|
| <p>Explanation</p> <ul style="list-style-type: none"> State Line County Line Perennial Stream/River Intermittent Stream Interstate U.S. Highway State Highway Township/Range Planning Region | <ul style="list-style-type: none"> Undeclared Ground Water basin Rio Grande Ground Water basin Lower Rio Grande Ground Water basin Tularosa Ground Water basin Hot Springs Artesian Ground Water basin Las Animas Creek Ground Water basin Gila San Francisco Ground Water basin Mimbres Ground Water basin Nutt Hockett Ground Water basin Gallup Ground Water basin Estancia Ground Water basin |
|---|---|

Produced by New Mexico Water Resources Research Institute, February 2001.

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 Socorro and Sierra 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 1:1,000,000, at least 90 percent of the points tested are within 1/30th inch (0.0333 inch), or 847 ground meters, of their true location.

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

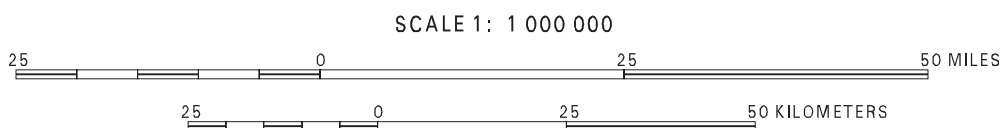
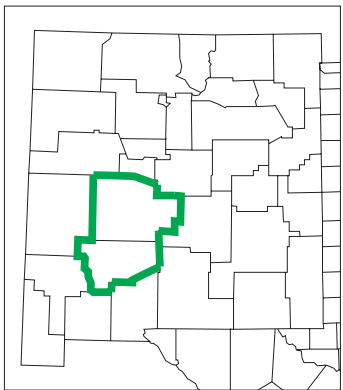
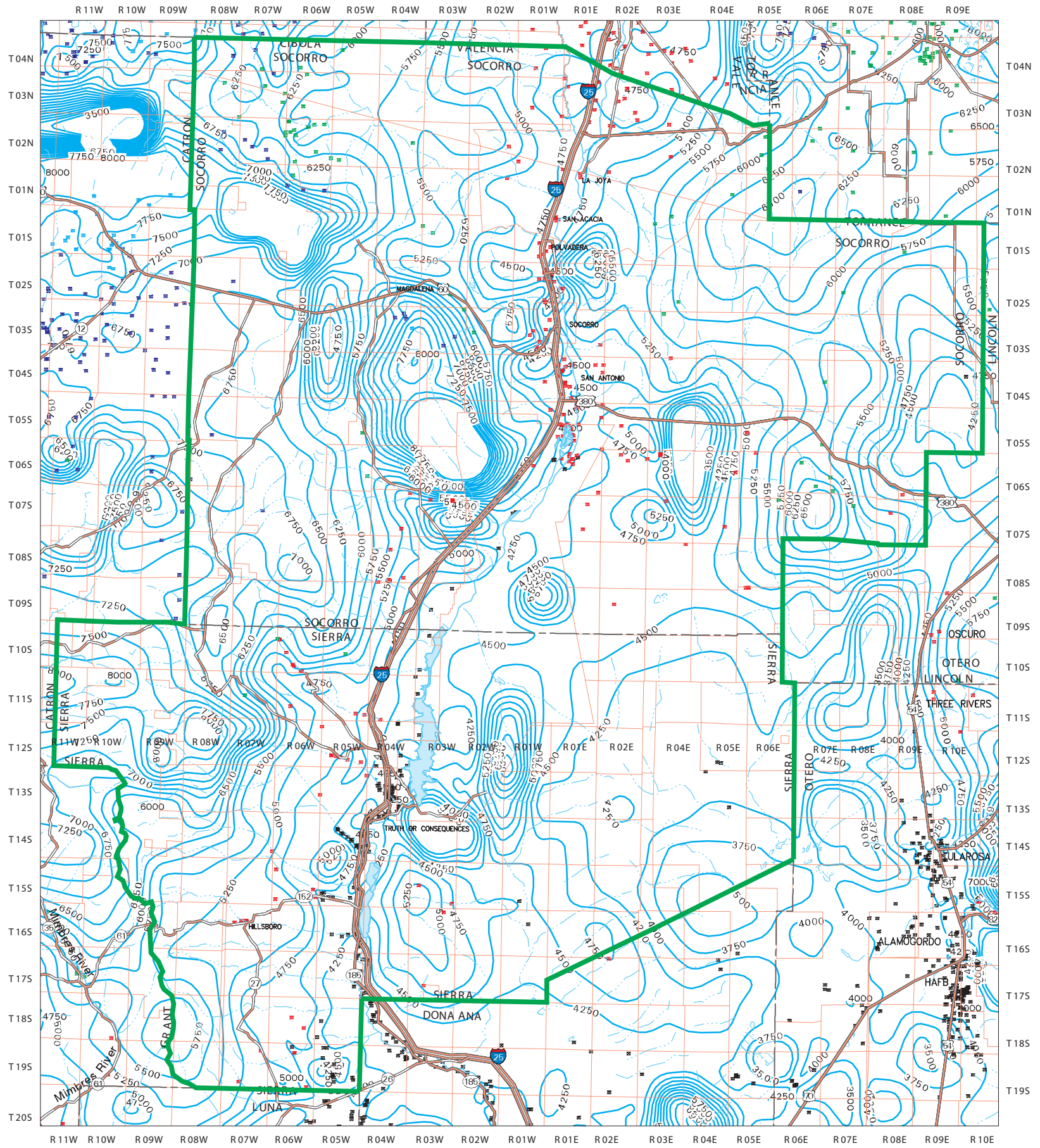
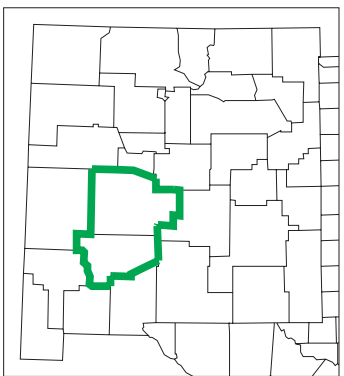


Figure B-10

Sierra and Socorro Water Plan Water Table Contours



- | | |
|---|--|
| <p>Explanation</p> <ul style="list-style-type: none"> State Line County Line Perennial Stream/River Intermittent Stream Interstate U.S. Highway State Highway Township/Range Planning Region Water Table Contours (feet, Mean Sea Level) | <ul style="list-style-type: none"> 3500 to 4500 ft 4500 to 5500 ft 5500 to 6500 ft 6500 to 7500 ft 7500 to 8500 ft |
|---|--|



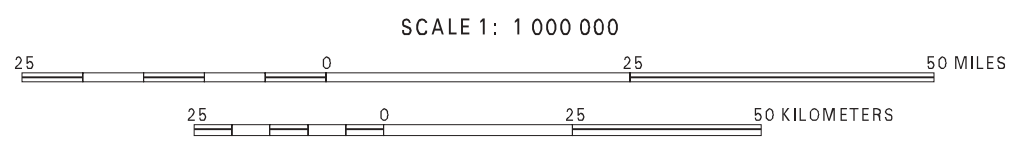
Produced by New Mexico Water Resources Research Institute, February 2001.

Base map prepared by the U.S. Geological Survey.

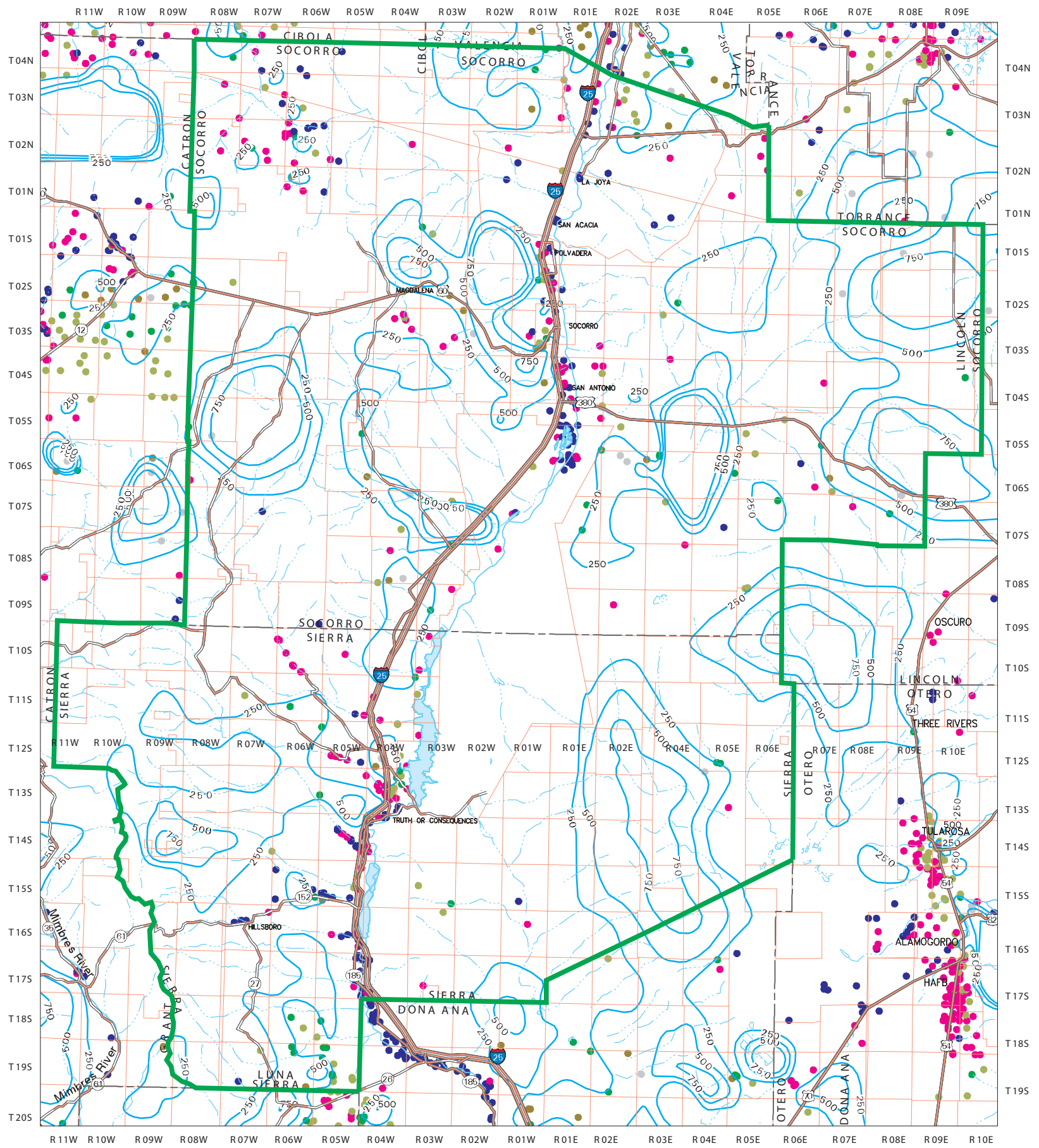
Compiled from digital data provided by the New Mexico Resource Geographic Information System (RGIS). Original base maps digitized from 1:500,000 mylar sheets and 100,000 paper maps for New Mexico. These data meet National Mapping Accuracy Standards for 1:500,000 and 1:100,000 scale maps. Depth to ground 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. The boundary of the Socorro and Sierra 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) maps from RGIS.

Horizontal accuracy: At the scale of 1:1,000,000, at least 90 percent of the points tested are within 1/30th inch (0.0333 inch), or 847 ground meters, of their true location.

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



Sierra and Socorro Water Plan Depth to Ground Water Table



Explanation

- | | | | |
|--|-------------------------------|--|--------------|
| | State Line | | 0 - 25 ft |
| | County Line | | 25 - 100 ft |
| | Perennial Stream/River | | 100 - 200 ft |
| | Intermittent Stream | | 200 - 300 ft |
| | Interstate | | 300 - 400 ft |
| | U.S. Highway | | > 400 ft |
| | State Highway | | |
| | Township/Range | | |
| | Planning Region | | |
| | Depth to water contour (feet) | | |

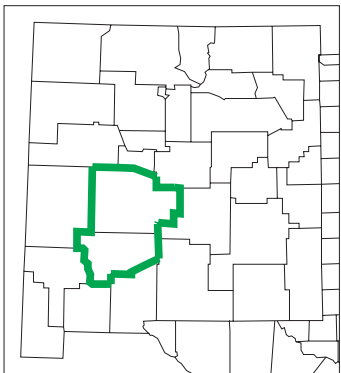
Produced by New Mexico Water Resources Research Institute, February 2001.

Base map prepared by the U.S. Geological Survey.

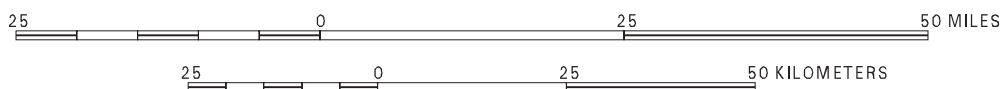
Compiled from digital data provided by the New Mexico Resource Geographic Information System Program (RGIS). Original base maps digitized from 1:500,000 mylar sheets and 100,000 paper maps for New Mexico. These data meet National Mapping Accuracy Standards for 1:500,000 and 1:100,000 scale maps. Depth to groundwater contours are based on the USGS GWSI database records for well locations and water depth. The depth to groundwater 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 depth to groundwater. The function uses a weight of 0.5, examines the 12 nearest neighbors, and has a cell size of 500 meters. The boundary of the Socorro and Sierra 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 1:1,000,000, at least 90 percent of the points tested are within 1/30th inch (0.0333 inch), or 847 ground meters, of their true location.

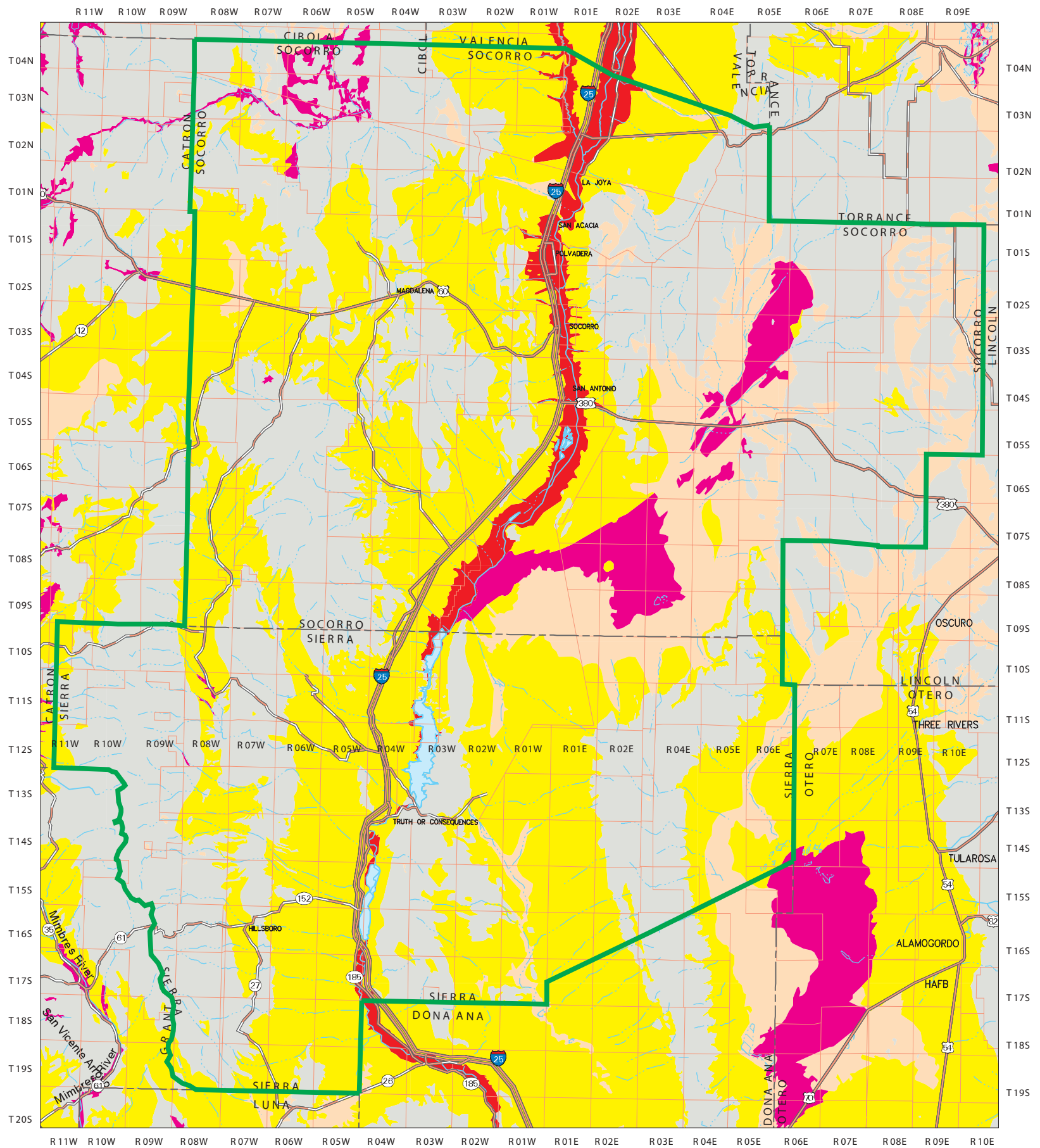
Projection: Universal Transverse Mercator, Zone 13, Units meters, NAD83.



SCALE 1: 1 000 000



Sierra and Socorro Water Plan Vulnerability of Aquifer in the Region



- | | |
|---|---|
| <p>Explanation</p> <ul style="list-style-type: none"> State Line County Line Perennial Stream/River Intermittent Stream Interstate U.S. Highway State Highway Township/Range Planning Region | <ul style="list-style-type: none"> Very Slight Slight Moderate Severe Extreme |
|---|---|

Very Slight groundwater aquifers are very well protected and risk of contamination from nonpoint sources is very low (overall DRASTIC index less than 118).

Slight groundwater aquifers are reasonably well protected, but because one or more of the hydrologic parameters are conducive to contaminant transport, there is a higher level of risk of nonpoint pollution (overall DRASTIC index from 119 to 141).

Moderate groundwater aquifers are somewhat susceptible to contamination because few natural protections exist (overall DRASTIC index from 142 to 164).

Severe groundwater aquifers are very susceptible to contamination due to several hydrologic conditions (overall DRASTIC index from 165 to 187).

Extreme all hydrologic parameters are conducive to the rapid transport of contamination to the groundwater aquifers (overall DRASTIC index greater than 187).

Produced by New Mexico Water Resources Research Institute, February 2001.

Base map prepared by the U.S. Geological Survey.

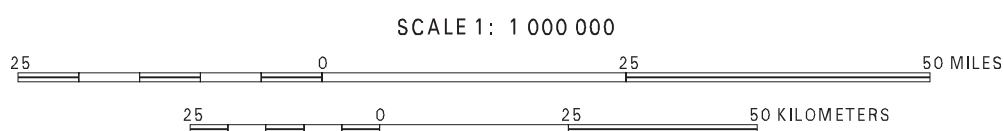
Compiled from digital data provided by the New Mexico Resource Geographic Information System Program (RGIS). Original base maps digitized from 1:500,000 mylar sheets and 100,000 paper maps for New Mexico. These data meet National Mapping Accuracy Standards for 1:500,000 and 1:100,000 scale maps. Surface geology provided by Green and Jones, 1997 (Open File Report 97 52). Boundary of the Sierra and Socorro Water Planning Region is based on surface drainage divides and county lines.

Horizontal accuracy: At the scale of 1:1,000,000, at least 90 percent of the points tested are within 1/30th inch (0.0333 inch), or 847 ground meters, of their true location.

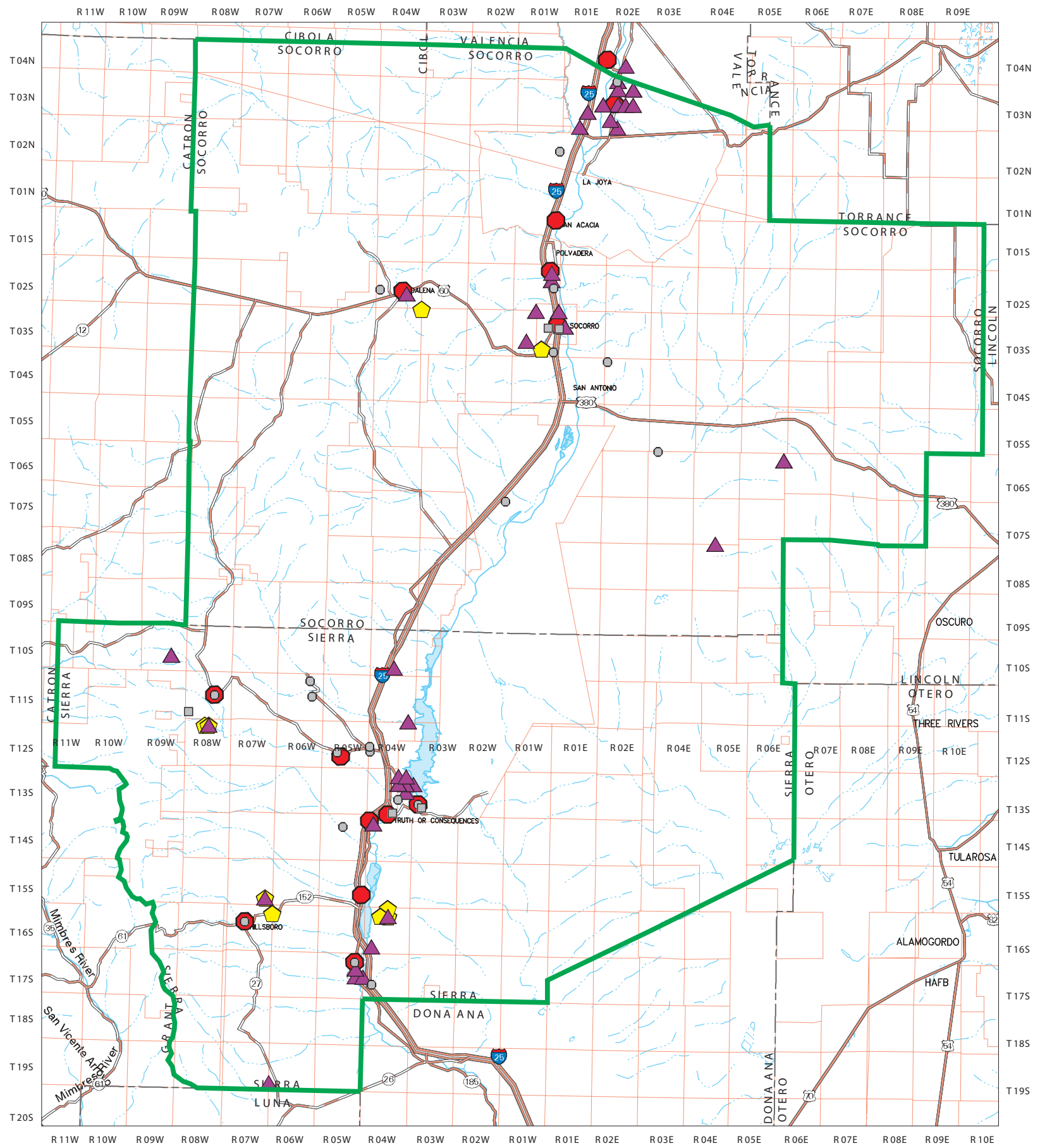
Projection: Universal Transverse Mercator, Zone 13, Units meters, NAD83.

Green, G.N., and Jones, G.E., 1997, The Digital Geologic Map of New Mexico in Arc/Info Format, Open File Report 97 52: U.S. Geological Survey, OF 97 52.

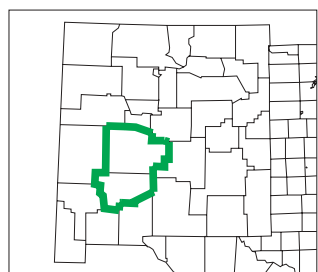
Figure B-13



Sierra and Socorro Water Plan Sites with Potential Water Quality Concerns



- | | |
|---|---|
| <p>Explanation</p> <ul style="list-style-type: none"> State Line County Line Perennial Stream/River Intermittent Stream Interstate U.S. Highway State Highway Township/Range Planning Region | <ul style="list-style-type: none"> NM Environmental Department Discharge Permit Location Municipal and Industrial NPDES Permit Location Landfill, locations based on NMED and EPA records Active Mines and Mills Areas with Leaking Underground Storage Tanks |
|---|---|



Produced by New Mexico Water Resources Research Institute, September 2002.

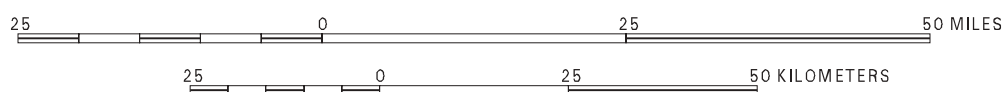
Base map prepared by the U.S. Geological Survey.

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. The data presented on this map was derived from many sources. The boundary of the Socorro and Sierra 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 cadastral accuracy of the OSE administrative basins and 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 1:1,000,000, at least 90 percent of the points tested are within 1/30th inch (0.0333 inch), or 847 ground meters, of their true location.

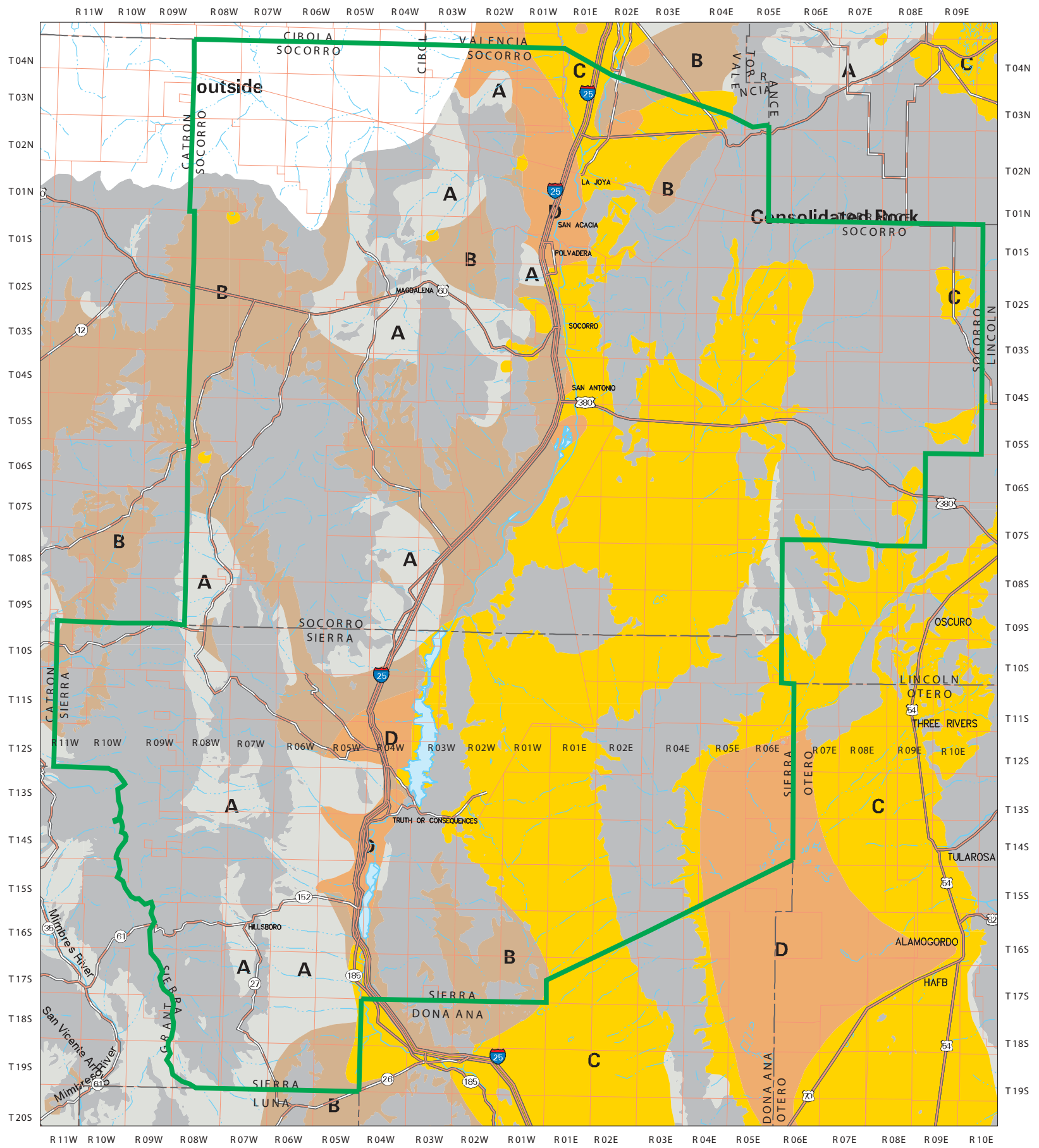
Projection: Universal Transverse Mercator, Zone 13, Units meters, NAD83.

SCALE 1: 1 000 000



Sierra and Socorro Water Plan

Map Showing Dominant Chemical Type Water



- | | |
|--|---|
| <p>Explanation</p> <ul style="list-style-type: none"> State Line County Line Perennial Stream/River Intermittent Stream Interstate U.S. Highway State Highway Township/Range Planning Region | <ul style="list-style-type: none"> A calcium magnesium bicarbonate type water B sodium bicarbonate type water C sulfate type water D chloride type water Consolidated Bedrock No Data |
|--|---|

Produced by New Mexico Water Resources Research Institute, February 2001.

Base map prepared by the U.S. Geological Survey.

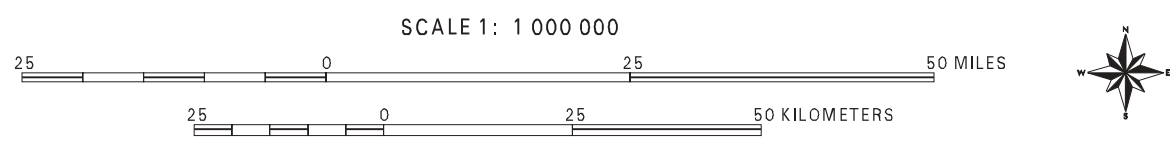
Compiled from digital data provided by the New Mexico Resource Geographic Information System (RGIS). Original base maps digitized from 1:500,000 mylar sheets and 100,000 paper maps for New Mexico. These data meet National Mapping Accuracy Standards for 1:500,000 and 1:100,000 scale maps. Dominant chemical type groundwater map digitized from Water Resources Investigation Report 83 4118 C (Thompson et al., 1984). Boundary of the Socorro and Sierra 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 1:1,000,000, at least 90 percent of the points tested are within 1/30th inch (0.0333 inch), or 847 ground meters, of their true location.

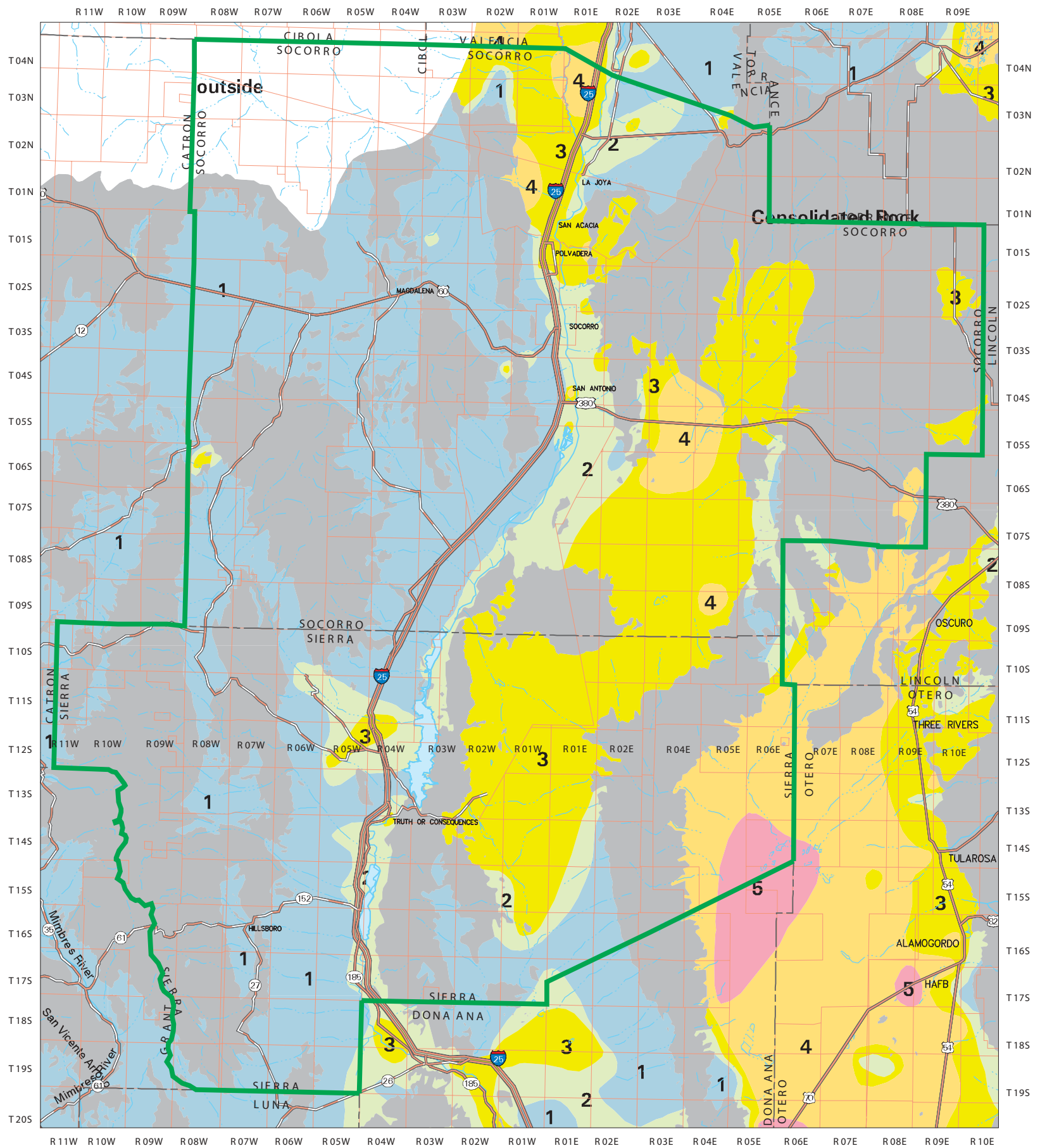
Projection: Universal Transverse Mercator, Zone 13, Units meters, NAD83.

Thompson, T.H., Chappell, R.W., and Hart, D.L., 1984, Maps showing distribution of dissolved solids and dominant chemical type in ground water, Basin and Range province, New Mexico: U.S. Geological Survey Water Resources Investigations 83 4118 C, scale 1:500,000, 2 sheets, 5 p.

Figure B-15



Sierra and Socorro Water Plan Ground Water Salinity in Region



| | |
|---|---|
| <p>Explanation</p> <ul style="list-style-type: none"> State Line County Line Perennial Stream/River Intermittent Stream Interstate U.S. Highway State Highway Township/Range Planning Region | <ul style="list-style-type: none"> 1 0 to 500 mg/L TDS 2 501 to 1,000 mg/L TDS 3 1,001 to 3,000 mg/L TDS 4 3,001 to 10,000 mg/L TDS 5 Greater than 10,000 mg/L TDS Consolidated Bedrock No Data |
|---|---|

Produced by New Mexico Water Resources Research Institute, February 2001.

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. Dominant chemical type groundwater map digitized from Water Resources Investigation Report 83 4118 C (Thompson et al., 1984). Boundary of the Socorro and Sierra 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 1:1,000,000, at least 90 percent of the points tested are within 1/30th inch (0.0333 inch), or 847 ground meters, of their true location.

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

Thompson, T.H., Chappell, R.W., and Hart, D.L., 1984, Maps showing distribution of dissolved solids and dominant chemical type in ground water, Basin and Range province, New Mexico: U.S. Geological Survey Water Resources Investigations 83 4118 C, scale 1:500,000, 2 sheets, 5 p.

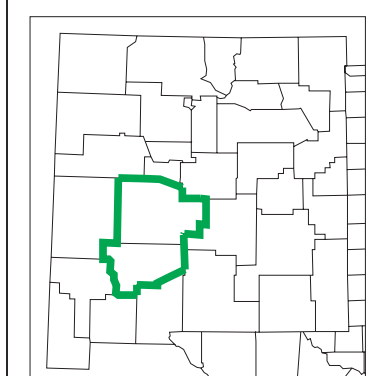
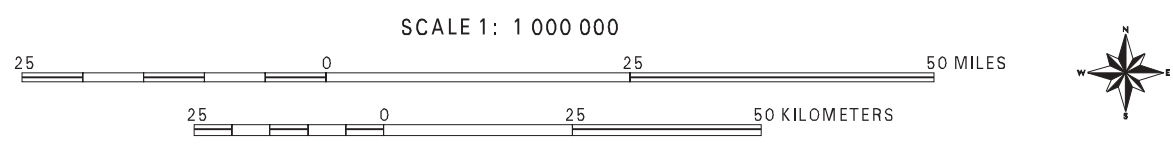
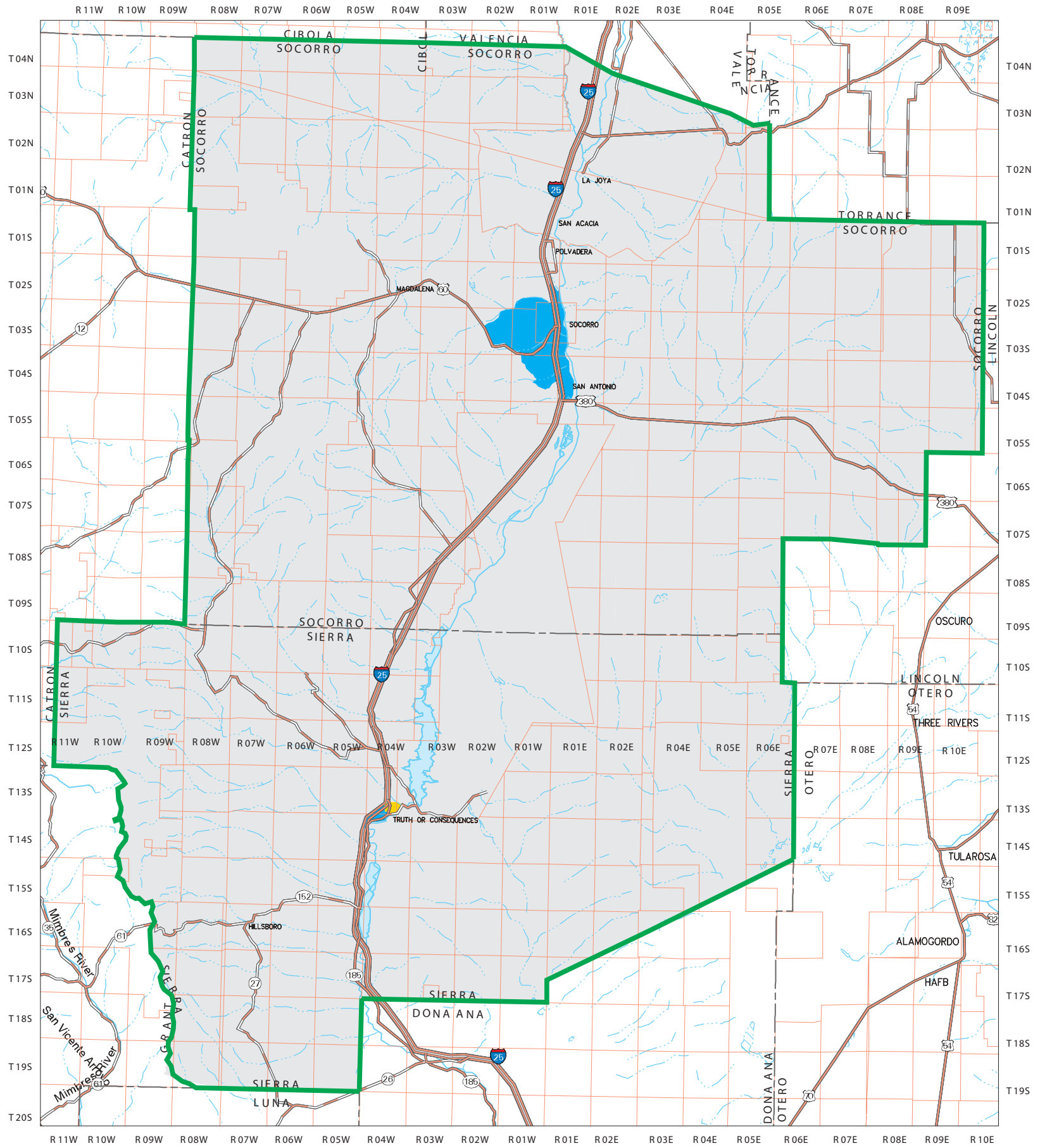


Figure B-16



Sierra and Socorro Water Plan Population Density Based on the 1990 Census



- | | |
|---|---|
| <p>Explanation</p> <ul style="list-style-type: none"> State Line County Line Perennial Stream/River Intermittent Stream Interstate U.S. Highway State Highway Township/Range Planning Region | <ul style="list-style-type: none"> 0 to 10 Persons per square mile 10 to 100 Persons per square mile 100 to 1000 Persons per square mile 1000 to 5000 Persons per square mile |
|---|---|

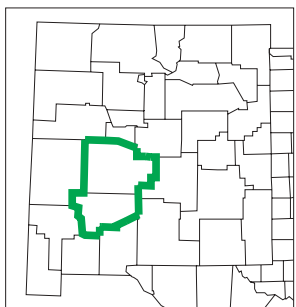
Produced by New Mexico Water Resources Research Institute, February 2001.

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. Population density coverage developed by the US Bureau of the Census (from RGIS data file). Boundary of the Socorro and Sierra Water Planning Region is based on the New Mexico county boundaries. The cadastral accuracy of the county boundaries where verified by the use of 1:100,000 Public Land Survey System (PLSS) from RGIS. The cadastral accuracy of the OSE administrative basins and 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 1:1,000,000, at least 90 percent of the points tested are within 1/30th inch (0.0333 inch), or 847 ground meters, of their true location.

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



SCALE 1: 1 000 000

