

Sincere appreciation is offered to Ralph Curtis, Manager of the Rio Grande Conservation District, Alamosa, and Alan Davie, Consulting Engineer, Del Norte, for their help in developing the information found in this brochure.

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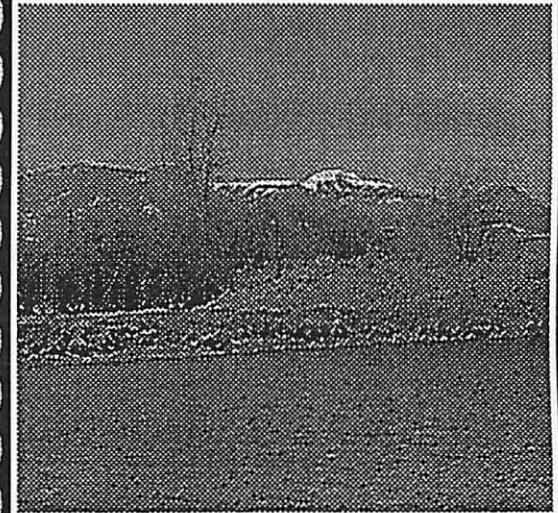
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- ◆ Citizens for Water in the San Luis Valley
- ◆ Colorado State University Cooperative Extension - San Luis Valley Area
- ◆ San Luis Valley Association of Soil Conservation Districts
- ◆ San Luis Valley Water Quality Demonstration Project

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FACTS



ABOUT WATER
IN THE
SAN LUIS
VALLEY

1. The floor of the San Luis Valley is a desert and receives on average 7.5 inches of precipitation per year.

2. Average annual precipitation increases significantly as one travels either east or west from the center of the Valley. Average annual precipitation at Center is 7.01" while at Del Norte and the Great Sand Dunes, it is 9.32" and 10.26" respectively. Crestone receives 14.57" and Wolf Creek Pass receives 44.27".

3. At any given point in the middle of the Valley, an inch or more of rain in one day only occurs about once per decade. Half inch rains only occur about three times per year.

4. The wettest year in recent history on the Valley floor was 1969 when Alamosa received 11.55" of precipitation.

5. The Valley region which lies North of the Rio Grande is referred to as the "Closed Basin". Until recently it was internally drained by transpiration from vegetation and evaporation. The southern region of the Valley is drained by the Rio Grande River and its major tributary, the Conejos River.

6. Volume of water is often expressed in terms of acre-foot (ac-ft). The amount of water in one acre-foot would cover an area of one acre to a depth of one foot. The volume of water in one acre-foot is approximately 326,000 gallons.

7. It's been estimated that 2,800,000 ac-ft of water enters and leaves the San Luis Valley each year. Of this amount, surface water (streamflow) contributes an average of 1,480,000 ac-ft /year.

8. The Bureau of Reclamation's Closed Basin Project, completed in 1993, is designed to produce 104,000 ac-ft of water per year from the unconfined aquifer of the Closed Basin to the Rio Grande River. Of this amount, 60,000 ac-ft is committed to assist Colorado in meeting its Rio Grande Compact obligations to New Mexico and Texas.

9. The Valley is one of the most water-rich deserts in the U.S. considering the amount of groundwater beneath it and surface streams flowing from the surrounding mountains.

10. Groundwater in the Valley is contained in both a confined and an unconfined aquifer. A confined aquifer is one which is bounded above and below by impermeable beds or by beds of distinctly lower permeability than that of the aquifer itself. An unconfined aquifer is not bounded by an overlying impermeable layer.

11. The depth to water in the unconfined aquifer is 12 feet over approximately half of the Valley. In southeastern parts of the valley, the depth to water exceeds 300 feet. The average thickness of the unconfined aquifer is 100 feet.

12. Most of the confined aquifer is separated from the overlying unconfined aquifer by semipermeable clay layers and in southwestern portion of the Valley by volcanic ash and lava flows.

13. Water within the confined aquifer is under internal pressure and flows to the surface as artesian water when tapped by wells.

14. Artesian water was discovered about 1887 in the Valley. Approximately 2000 flowing wells were developed by 1891.

15. Confined groundwater occurs under nearly one-half of the Valley. The active portion of the confined aquifer reaches a depth of approximately 3000 feet. Capacity of the aquifer to this depth is approximately 150 million ac-ft.

16. The Valley has one of the most complicated and intensively used irrigation water systems in the world because of the manner and amount of surface and groundwater utilized for crops.

17. In 1980, approximately 7100 wells were withdrawing water from the confined aquifer and 2300 were withdrawing from the unconfined. As of May 1996, 2132 center pivot sprinklers were present within the Valley.

18. Surface water flowing in to the Valley provides, directly or indirectly, nearly all the water used for irrigation. Valley farms utilize 1.1 million ac-ft of surface and groundwater each year.

19. Most of the wells used for irrigation in the Valley withdraw water from the unconfined aquifer supplying 80% of all large capacity (greater than 300 gallons per minute) wells.

20. Many large capacity irrigation wells tapping the confined aquifer are more than 2000 feet deep. Most of these wells flow naturally, some exceeding 3000 gallons per minute.

21. Valley farmers pay about \$20/ac-ft for irrigation water pumped from the unconfined aquifer. It would cost them about \$200/ac-ft to develop water from the confined aquifer according to a 1985 study.

22. American Water Development, Inc. (AWDI), planned to pump 200,000 ac-ft of water per year from the confined aquifer to sell for municipal use. At a value of \$5000/ac-ft, the sale would generate \$1 billion every year.

23. Denver and Aurora have paid up to \$6000/ac-ft for water. Southern California water users are predicted to pay from \$8000 - \$10,000/ac-ft in the future.

24. Over 40 geothermal wells free flow in the valley. Temperatures range from 72 to 120 degrees F. Average well depth is 800 feet.

25. The oldest continuously used water right in Colorado is the San Luis People's Ditch with a priority date of April 10, 1852. This water right is located in Culebra Drainage in the southeastern part of the Valley.