

**Topic category:** Water Quality

**Keywords:** climate variability, spatial scale, aquifers, land cover, concentration, dilution, mixing, vegetation, soils, geology, time variations, landscapes, drainage basins, streams, surface water, chemical composition, networks, rivers, rainfall

**County:** unknown

**Title:** Impact of monsoonal rains on spatial scaling patterns in water chemistry of a semiarid river network

---

**Author:** Acuna, V. and C.N. Dahm

---

**Date:** 2007

---

**Publication/journal/publisher:** Journal of Geophysical Research - Biogeosciences

---

**Type of document:** Electronic file (PDF) - needs AGU membership to download

---

**Source of document / Search method (phone, internet, library, etc.):**

Adrian T. Oglesby @tnc.org

J. of Geophysical Res. 112:1-11

---

**Purchase Price:** \$9.00

---

**Web site address:** <http://www.agu.org/pubs/crossref/2007/2007JG000493.shtml>

---

**Document Location:** AGU online

---

**Work initiated by:** unknown

---

**Work funded by:** University of New Mexico, National Science Foundation, Fullbright Commission, Spanish Ministry of Science and Education, Nature Conservancy, European Commission, Swiss Federal Institute of Water Science and Technology

---

**Type of review:** Peer review

---

**Location of Work:** Southwestern United States, Gila River, Colorado Basin

---

**Abstract or brief summary:**

The chemical composition of surface waters of nine streams with drainage sizes ranging from 44 to 8900 km<sup>2</sup> within a semiarid catchment in the southwestern United States was examined over the monsoonal season of 2006. Primary goals were to determine the impact of monsoonal rains on linkages between landscape cover features and water chemistry in a semiarid river network and to identify whether drainage size influences the temporal variability in water chemistry of streams. Landscape cover features (geology, soil, and vegetation types) were quantified for the subcatchment upstream of each study site and the riparian ecotone. Processes of binary mixing, dilution, and concentration were identified by end member mixing analysis (EMMA). Results showed that most chemical constituents corresponded to geological features at the basin scale, but other constituents (TSS and PO<sub>4</sub><sup>3-</sup>) corresponded more closely to riparian features.

**Topic category:** Water Quality

**Keywords:** statistics, trend analysis, water-quality, Kendall tau, Calva, Gillespie, turbidity, lead, dissolved solids, manganese, sodium chloride, pH, sulfate, chromium

**County:** Catron, Grant, Hidalgo, Cochise, Graham, Greenlee, Gila, Pinal

**Title:** Summary statistics and trend analysis of water-quality data at sites in the Gila River basin, New Mexico and Arizona

**Author:** Baldys, S. III, L.K. Ham, and K.D. Fossum

**Date:** 1995

**Publication/journal/publisher:** U.S. Geological Survey, Water-Resources Investigations Report 95-4083, v. 86, p. :ill., maps, 28 cm.

**Type of document:** Electronic file (DJVU)

**Source of document / Search method (phone, internet, library, etc.):** USGS publication search

**Purchase Price:** \$15.00

**Web site address:** <http://pubs.er.usgs.gov/usgspubs/wri/wri954083>

**Document Location:** USGS online

**Work initiated by:** USGS, ADEQ

**Work funded by:** USGS, ADEQ

**Type of review:**

**Location of Work:** Gila River basin, New Mexico and Arizona

**Abstract or brief summary:**

Summary statistics and temporal trends for 19 water-chemistry constituents and for turbidity were computed for 13 study sites in the Gila River basin, Arizona and New Mexico. A nonparametric technique, the seasonal Kendall tau test for flow-adjusted data, was used to analyze temporal changes in water-chemistry data. For the 19 selected constituents and turbidity, decreasing trends in concentrations outnumbered increasing trends by more than two to one. Decreasing trends in concentrations of constituents were found for 49 data sets at the 13 study sites. Gila River at Calva and Gila River above diversions, at Gillespie Dam (eight each) had the most decreasing trends for individual sites. The largest number of decreasing trends measured for a constituent was six for dissolved lead. The next largest number of decreasing trends for a constituent was for dissolved solids and total manganese (five each). Hardness, dissolved sodium, and dissolved chloride had decreasing trends at four of the study sites. Increasing trends in concentrations- of constituents were found for 24 data sets at the 13 study sites. The largest number of increasing trends measured for a single constituent was for pH (four), dissolved sulfate (three), dissolved chromium (three) and total manganese (three). Increased concentrations of constituents generally were found in three areas in the basin-at Pinal Creek above Inspiration Dam, at sites above reservoirs, and at sites on the main stem of the Gila River from Gillespie Dam to the mouth.

**Topic category:** Water Quality

**Keywords:** Geochemical, metals, dioxin, sediment, San Carlos, Gila, San Carlos, San Francisco

**County:** unknown

**Title:** Geochemical assessment of metals and dioxin in sediment from the San Carlos Reservoir and the Gila, San Carlos, and San Francisco Rivers, Arizona

**Author:** Church, S.E., L.M. Choate, M.E. Marot, D.L. Fey, M. Adams, P.H. Briggs, and Z.A. Brown

**Date:** 2005

**Publication/journal/publisher:** U.S. Geological Survey, Scientific Investigations Report 2005-5086, vi, 61 p.

**Type of document:** Electronic file (PDF)

**Source of document / Search method (phone, internet, library, etc.):** USGS publication search

**Purchase Price:** \$19.00

**Web site address:** <http://pubs.usgs.gov/sir/2005/5086/>

**Document Location:** USGS online

**Work initiated by:** Bureau of Indian Affairs, on behalf of the San Carlos Apache Indian Tribe

**Work funded by:** USGS

**Type of review:** unknown

**Location of Work:** San Carlos Reservoir and the Gila, San Carlos, and San Francisco Rivers

**Abstract or brief summary:**

Stream-bed sediment, terrace sediment, and sediment from the San Carlos Reservoir were sampled to determine the spatial and chronological variation of six potentially toxic metals—Cu, Pb, Zn, Cd, As, and Hg.

**Topic category:** Water Quality  
**Keywords:** Water quality, standards, Gila, San Pedro  
**County:**

**Title:** Water Quality Standards Study and Recommendations for the Upper Gila and San Pedro River Basins

---

**Author:** Department of Health

---

**Date:** 1976

---

**Publication/journal/publisher:** Department of Health

---

**Type of document:** Book

---

**Source of document / Search method (phone, internet, library, etc.):**  
BOR Phoenix Area Office Library

---

**Purchase Price:** Unknown

---

**Web site address:** Unknown

---

**Document Location:** Unknown

---

**Work initiated by:** Unknown

---

**Work funded by:** Unknown

---

**Type of review:** Unknown

---

**Location of Work:** Upper Gila and San Pedro River Basins

---

**Abstract or brief summary:**

**Topic category:** Water Quality

**Keywords:** water quality

**County:**

**Title:** Special Water Quality Survey of the Iron, Taylor, Hoyt, Black Canyon and Sapillo Creeks

**Author:** Ditmore, D.R.

**Date:** 1998

**Publication/journal/publisher:** NMED

**Type of document:**

**Source of document / Search method (phone, internet, library, etc.):**

p. 51-90 - Intensive Water Quality Stream Surveys NMED/SWQ-98/1. 92 p.

**Purchase Price:** not available

**Web site address:** not available

**Document Location:**

**Work initiated by:** NMED

**Work funded by:** NMED

**Type of review:**

**Location of Work:** Iron, Taylor, Hoyt, Black Canyon and Sapillo Creeks

**Abstract or brief summary:**

not available

**Topic category:** Water Quality

**Keywords:** forest, fire, water, chemistry, biota, Gila

**County:** unknown

**Title:** Implications of forest fires on water chemistry and biota of streams in the Gila National Forest, New Mexico

---

**Author:** Earl, S.R.

---

**Date:** 1999

---

**Publication/journal/publisher:** Northern Arizona University Thesis

---

**Type of document:** Thesis

---

**Source of document / Search method (phone, internet, library, etc.):** Library

---

**Purchase Price:**

---

**Web site address:**

---

**Document Location:** Northern Arizona University Library

---

**Work initiated by:**

---

**Work funded by:**

---

**Type of review:**

---

**Location of Work:** Gila National Forest

---

**Abstract or brief summary:**

Four streams impacted by fire events were monitored in the Gila National Forest. The experiment at Meadow Creek extered dramatic impacts on the water quality of the system. We observed increases in the concentrations of nutrients, cations, anions, alkalinity, and conductivity, and decreases in dissolved oxygen and % saturation of oxygen.

**Topic category:** Water Quality

**Keywords:** forest, fire, water, chemistry, biota, Gila

**County:** unknown

**Title:** Effects of Wildfire ash on water chemistry and biota in streams in the Gila National Forest, NM

**Author:** Earl, S.R. and D.W. Blinn

**Date:** 1999

**Publication/journal/publisher:** Northern Arizona University. Report for the Gila National Forest, Department of Biological Sciences. Published in Freshwater Biology (2003) volume 48, p. 1015-1030.

**Type of document:** Journal Article

**Source of document / Search method (phone, internet, library, etc.):** Internet

**Purchase Price:** unknown

**Web site address:** unknown

**Document Location:** Gila National Forest

**Work initiated by:** unknown

**Work funded by:** unknown

**Type of review:** unknown

**Location of Work:** Gila National Forest

**Abstract or brief summary:**

We monitored streams within the Gila River drainage in south-western New Mexico, U.S.A., over a 5-year period, to investigate the influence of ash input on water quality and stream biota following forest wildfires.

**Topic category:** Water Quality

**Keywords:** Water quality, Gila, groundwater, surface water, analyses, sodium, chloride, sulfate

**County:** Catron, Grant, Hidalgo, Cochise, Graham, Greenlee, Gila, Pinal

**Title:** Quality of water of the Gila River basin above Coolidge Dam, Arizona

**Author:** Hem, J.D.

**Date:** 1950

**Publication/journal/publisher:** U.S. Geological Survey, Water Supply Paper 1104, vi, 230 p., 2 fold maps (in pocket) diags., tables, 23 cm.

**Type of document:** Electronic file (DJVU)

**Source of document / Search method (phone, internet, library, etc.):** USGS publication search

**Purchase Price:** not in stock

**Web site address:** <http://pubs.er.usgs.gov/usgspubs/wsp/wsp1104>

**Document Location:** Contact USGS

**Work initiated by:** USGS

**Work funded by:** USGS

**Type of review:** Peer review

**Location of Work:** Gila River Basin in Southwest NM and Southeast AZ

**Abstract or brief summary:**

Analysis of surface water and groundwater samples collected between 1/1/40 and 12/31/44 in the Gila River Basin. Results are tabulated and brief discussions are given of the analyses and some of the most important quality-of-water problems in the basin.



**Topic category:** Water Quality

**Keywords:** Benthic macroinvertebrate, survey, water quality

**County:** Grant and Luna Counties

**Title:** Water quality of the Mimbres River and benthic macroinvertebrate survey

**Author:** Jacobi, G.Z. and D.U. Potter

**Date:** 1984

**Publication/journal/publisher:** NMED

**Type of document:** unknown

**Source of document / Search method (phone, internet, library, etc.):**  
EODSWQ-846/ 21p.

**Purchase Price:** Unknown

**Web site address:** Unknown

**Document Location:**

**Work initiated by:** Unknown

**Work funded by:** Unknown

**Type of review:** Unknown

**Location of Work:** Mimbres River

**Abstract or brief summary:**

**Topic category:** Water Quality

**Keywords:** phreatophyte, water quality, Gila River, statistical analysis

**County:** Graham County, Arizona

**Title:** Effects of phreatophyte removal on water quality in the Gila River phreatophyte project area, Graham County, Arizona, with a section on statistical analysis

---

**Author:** Laney, R.L. and H.W. Hjalmarson

---

**Date:** 1977

---

**Publication/journal/publisher:** U.S. Geological Survey, Professional Paper 655-M, 22 p.

---

**Type of document:** Electronic file (DJVU)

---

**Source of document / Search method (phone, internet, library, etc.):** USGS publication search

---

**Purchase Price:** \$4.50

---

**Web site address:** <http://pubs.er.usgs.gov/usgspubs/pp/pp655M>

---

**Document Location:** USGS online

---

**Work initiated by:** USGS

---

**Work funded by:** USGS

---

**Type of review:** unknown

---

**Location of Work:** Gila River phreatophyte project area, Graham County, Arizona

---

**Abstract or brief summary:**

Results of a USGS study to determine the chemical quality of water in the project area and to define changes, if any, in water quality caused by phreatophyte removal. Water-Quality data were collected during the period June 1964 to June 1972, and more than 200 chemical analyses of water were used to determine the water quality in the alluvial deposits, the basin fill, the Gila River, and the tributaries to the Gila River. Specific conductance was monitored on water from the Gila River for a 3-year period and on water from monitoring wells in the alluvial deposits.

**Topic category:** Water Quality

**Keywords:** geochemical, Acoma, springs, wells, mineral, resources

**County:** Cibola and Catron Counties

**Title:** Analytical results and sample locality map for 21 water samples from domestic wells and springs near the Rimrock, Sand Canyon, Little Rimrock, and Pinyon Wilderness Study Areas, Cibola and Catron counties, New Mexico

**Author:** McHugh, J.B. and G.A. Nowlan

**Date:** 1989

**Publication/journal/publisher:** U.S. Geological Survey, Open File Report 89-15, 7 p. :maps ;28 cm.

**Type of document:** Electronic file (DJVU)

**Source of document / Search method (phone, internet, library, etc.):** USGS publication search

**Purchase Price:** \$10.00

**Web site address:** <http://pubs.er.usgs.gov/usgspubs/ofr/ofr8915>

**Document Location:** USGS online

**Work initiated by:** USGS

**Work funded by:** USGS

**Type of review:** unknown

**Location of Work:** Acoma Pueblo in Cibola and Catron counties

**Abstract or brief summary:**

Results of a USGS mineral survey of Rimrock, Sand Canyon, Little Rimrock, and Pinyon Wilderness Study Areas, Cibola and Catron counties, New Mexico to determine their mineral resource potential. Survey consisted of the collection of groundwater and spring samples. Report includes sample analytical results and sample location map.

**Topic category:** Water Quality  
**Keywords:** well, water, quality, border  
**County:** Southern New Mexico

**Title:** Well-water quality assessment for southern New Mexico

**Author:** New Mexico Border Health Office

**Date:** 2003

**Publication/journal/publisher:**

**Type of document:**

**Source of document / Search method (phone, internet, library, etc.):** Internet

**Purchase Price:**

**Web site address:** <http://www.nmsu.edu/~bho/bhc/h2o-nm.html>

**Document Location:** On internet

**Work initiated by:**

**Work funded by:**

**Type of review:**

**Location of Work:**

**Abstract or brief summary:**

**Topic category:** Water Quality

**Keywords:** Mexico, border, New Mexico, environmental

**County:** unknown

**Title:** Bordering New Mexico: Major environmental issues along the state's international border with Mexico

---

**Author:** New Mexico Environment Department

---

**Date:** 2002

---

**Publication/journal/publisher:**

---

**Type of document:**

---

**Source of document / Search method (phone, internet, library, etc.):** Internet

---

**Purchase Price:**

---

**Web site address:** [http://bbrs.nmsu.edu/scerp/SCERP/NMED/page\\_6.htm](http://bbrs.nmsu.edu/scerp/SCERP/NMED/page_6.htm)

---

**Document Location:** On internet

---

**Work initiated by:**

---

**Work funded by:**

---

**Type of review:**

---

**Location of Work:**

---

**Abstract or brief summary:**

**Topic category:** Water Quality  
**Keywords:** Discharge, permit, Chino mine  
**County:** Grant County

**Title:** Supplemental discharge permit for closure, DP-1340, Chino Mines Company

**Author:** New Mexico Environment Department

**Date:** 2003

**Publication/journal/publisher:** New Mexico Environment Department, February 24, 2003

**Type of document:** Discharge Permit

**Source of document / Search method (phone, internet, library, etc.):**

**Purchase Price:** Contact NMED

**Web site address:**

**Document Location:**

**Work initiated by:** NMED

**Work funded by:**

**Type of review:**

**Location of Work:** Chino Mine

**Abstract or brief summary:**

The permit contains the closure requirements addressing Chino's discharges of contaminants that may move directly or indirectly into ground water from the Open Pit, Hurley Smelter, Tailing Impoundments, Waste Rock Piles, Leach Ore Stockpiles and associated facilities (the Chino Mines Facility) at its copper mine and mill in Grant and Luna Counties, New Mexico. NMED's purpose in issuing this Supplemental Discharge Permit, and in imposing the requirements and conditions specified herein, is to control the discharge of water contaminants from the Chino Mines Facility into ground and surface water, so as to protect ground and surface water for actual and potential future use as domestic and agricultural water supply and other uses, and to abate pollution of ground water, after Cessation of Operation at the Chino Mines Facility.

**Topic category:** Water Quality

**Keywords:** Discharge, permit, Tyrone mine

**County:** Grant County

**Title:** Supplemental discharge permit for closure, DP-1341, Phelps Dodge Tyrone, Inc., Tyrone Mine Facility

**Author:** New Mexico Environment Department

**Date:** 2003

**Publication/journal/publisher:** New Mexico Environment Department, April 8, 2003

**Type of document:** Discharge Permit

**Source of document / Search method (phone, internet, library, etc.):**

**Purchase Price:** Contact NMED

**Web site address:**

**Document Location:**

**Work initiated by:** NMED

**Work funded by:**

**Type of review:**

**Location of Work:** Tyrone Mine

**Abstract or brief summary:**

The permit contains the closure requirements addressing Tyrone's discharges of water contaminants that may move directly or indirectly into ground water from the various Open Pits, Tailing Impoundments, Leach Ore Stockpiles, Waste Rock Piles, and associated facilities at its copper mine and mill, in Grant County, New Mexico (the Tyrone Mine Facility). The purpose of this Supplemental Discharge Permit and the requirements and conditions specified herein is to establish a closure plan to address the discharge of water contaminants from the Tyrone Mine Facility into ground and surface water following cessation of operation, so as to protect ground and surface water for actual and potential future use as domestic and agricultural water supply and other uses, and to abate pollution of ground water at the Tyrone Mine Facility.

**Topic category:** Water Quality

**Keywords:** Gila River watershed, restoration, strategy, management, water, quality, TMDL, impairments, BMPs, strategies

**County:** Grant, Catron, Hidalgo, Sierra, and Socorro Counties

**Title:** Gila River Watershed Restoration Action Strategy

---

**Author:** New Mexico Environment Department

---

**Date:** 2005

---

**Publication/journal/publisher:** New Mexico Environment Department, Surface Water Quality Bureau

---

**Type of document:** Electronic file (PDF)

---

**Source of document / Search method (phone, internet, library, etc.):** Internet (NMED website)

---

**Purchase Price:** NA

---

**Web site address:** <http://www.nmenv.state.nm.us/swqb/wps/WRAS/GilaRiver07-2005.pdf>

---

**Document Location:** NMED website

---

**Work initiated by:** New Mexico Environment Department and diverse group of stakeholders, agencies, and organizations

---

**Work funded by:** New Mexico Environment Department and diverse group of stakeholders, agencies, and organizations

---

**Type of review:** unknown

---

**Location of Work:** Gila River Watershed

---

**Abstract or brief summary:**

This Watershed Restoration Action Strategy, or WRAS, for the Gila River Watershed of southwestern New Mexico was prepared to assist in guiding decisions for watershed-based restoration activities. This WRAS encompasses the efforts and goals of a diverse group of stakeholders, agencies, and organizations in the effort to improve the overall health of the watershed. The WRAS is a written plan intended to provide a long-range vision for various activities and management of resources in a watershed. It includes opportunities for private landowners and public agencies to reduce and prevent impacts to water quality. This long-range strategy will become instrumental in coordinating and achieving a reduction of contaminant levels and in restoring watershed health. The WRAS serves as a primary tool for creating and maintaining a system to disseminate, gather, and redistribute knowledge about the Gila Watershed in support of developing and implementing effective practices to improve watershed condition.



**Topic category:** Water Quality  
**Keywords:** Aquifer mapping, liquid waste, septic  
**County:** New Mexico

**Title:** Liquid Waste (Septic Tank) Program Hydrogeologic Mapping

**Author:** New Mexico Environment Department

**Date:** 2005

**Publication/journal/publisher:** New Mexico Environment Department Liquid Waste (Septic Tank)  
Program Hydrogeologic Mapping

**Type of document:** Electronic file (PDF)

**Source of document / Search method (phone, internet, library, etc.):** Internet

**Purchase Price:** NA

**Web site address:** <http://www.nmenv.state.nm.us/fod/LiquidWaste/mapping.html>

**Document Location:** NMED website

**Work initiated by:** NMED, Lee Wilson and Associates

**Work funded by:** Unknown

**Type of review:** Unknown

**Location of Work:** New Mexico counties

**Abstract or brief summary:**

NMED is mapping areas where waters of the state may be vulnerable to contamination from septic tank discharges, and where stricter standards may be imposed. Aquifer sensitivity maps prepared for NMED by Lee Wilson and Associates in 1989 have been digitized and are a data layer in the online Liquid Waste Geographic Information System (GIS). The Lee Wilson maps are being updated and modified to include current depth-to-ground-water information, as well as areas of karst and fractured bedrock, known contamination sites, and gaining streams. These maps also can be downloaded as bitmap and gif files (Table 1). The maps contain color-coded groundwater areas based on depth to water and naturally occurring, background, total dissolved solids (TDS) as explained in Table 2. Areas with ground water less than 100 feet deep, and with 2000 mg/L or less TDS, are mapped in red. Other areas of concern based on karst or fractured bedrock, known ground-water contamination, and gaining streams impacted by septic tank effluent, are also being mapped.

**Topic category:** Water Quality

**Keywords:** Clean water act, water quality, pollution, prevention, management

**County:** New Mexico

**Title:** Water quality and water pollution control in New Mexico, 2002

**Author:** New Mexico Water Quality Control Commission

**Date:** 2002

**Publication/journal/publisher:** 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

**Type of document:** pdf

**Source of document / Search method (phone, internet, library, etc.):** Internet (NMED web site)

**Purchase Price:** Free as downloaded PDF or requested CD

**Web site address:** <http://www.nmenv.state.nm.us/swqb/305b/2002/index.html>

**Document Location:** On internet

**Work initiated by:** U.S. Congress/EPA

**Work funded by:** NMED

**Type of review:** Peer review

**Location of Work:** New Mexico

**Abstract or brief summary:**

This report is designed to satisfy the statutory requirements of §305(b) of the federal Water Pollution Control Act [33 U.S.C. 1288], commonly known as the Clean Water Act (CWA) for the reporting period of January 2000 through December 2001. It also serves as a source of basic information on water quality and water pollution control programs in New Mexico. Accordingly, the intended audience includes the general public, interest groups, consultants, state legislators, governmental agencies at State, local, and federal levels, as well as universities and other educational entities. State and federal agencies, statutes, regulations, and programs are distinctly identified within the various aspects of water pollution control management as required by the context.

**Topic category:** Water Quality

**Keywords:**

**County:** Grant County

**Title:** Reconnaissance Survey of Mule Creek near the Town of Mule Creek, Grant County, NM

**Author:** Pierce, S.T.

**Date:** 1986

**Publication/journal/publisher:** NMED

**Type of document:** Book

**Source of document / Search method (phone, internet, library, etc.):** EID/SWQ-86/7. 21 p.

**Purchase Price:** not available

**Web site address:** not available

**Document Location:** not available

**Work initiated by:** NMED

**Work funded by:** NMED

**Type of review:** unknown

**Location of Work:** Mule Creek

**Abstract or brief summary:**

not available

**Topic category:** Water Quality  
**Keywords:** Water quality, Gila, NMED, SWQB  
**County:** Grant and Catron Counties

**Title:** Intensive Water Quality Survey of the Gila River and its Tributaries in Grant and Catron Counties, NM

---

**Author:** Pierce, S.T.

---

**Date:** 1987

---

**Publication/journal/publisher:** NMED

---

**Type of document:** book

---

**Source of document / Search method (phone, internet, library, etc.):** EIS/SWQ-87/10. 69 p.

---

**Purchase Price:** unknown

---

**Web site address:** unknown

---

**Document Location:** Library of Congress

---

**Work initiated by:** unknown

---

**Work funded by:** unknown

---

**Type of review:** unknown

---

**Location of Work:** Gila River and its Tributaries in Grant and Catron Counties, NM

---

**Abstract or brief summary:**

**Topic category:** Water Quality  
**Keywords:** Water quality, Mimbres, Sapillo, NMED, SWQB  
**County:** Grant and Luna Counties

**Title:** Intensive Water Quality Survey of the Mimbres and its Tributaries and Sapillo Creek in Grant and Luna Counties, NM

---

**Author:** Pierce, S.T.

---

**Date:** 1991

---

**Publication/journal/publisher:** NMED

---

**Type of document:** book

---

**Source of document / Search method (phone, internet, library, etc.):** NMED/SWQ-97/2. 202 p.

---

**Purchase Price:** unknown

---

**Web site address:** unknown

---

**Document Location:** Library of Congress

---

**Work initiated by:** unknown

---

**Work funded by:** unknown

---

**Type of review:** unknown

---

**Location of Work:** Mimbres River and its Tributaries and Sapillo Creek in Grant and Luna Counties, NM

---

**Abstract or brief summary:**

**Topic category:** Water Quality  
**Keywords:** Water quality, Mimbres, Sapillo, NMED, SWQB  
**County:** Grant and Luna Counties

**Title:** Intensive Water Quality Survey of the Mimbres River and its Tributaries and Sapillo Creek in Grant and Luna Counties

---

**Author:** Pierce, S.T.

---

**Date:** 1991

---

**Publication/journal/publisher:** NMED

---

**Type of document:** book

---

**Source of document / Search method (phone, internet, library, etc.):**

p 118-132 - Intensive Water Quality Stream Surveys and Lake Quality Assessment Surveys  
EID/SWQ-91/1. 209 p.

---

**Purchase Price:** unknown

---

**Web site address:** unknown

---

**Document Location:** Library of Congress

---

**Work initiated by:** unknown

---

**Work funded by:** unknown

---

**Type of review:** unknown

---

**Location of Work:** Mimbres River and its Tributaries and Sapillo Creek in Grant and Luna Counties

---

**Abstract or brief summary:**

**Topic category:** Water Quality  
**Keywords:** Water quality, Gila, NMED, SWQB  
**County:** Catron, Grant and Hidalgo Counties

**Title:** Intensive Water Quality Survey of the Gila River and its Tributaries from the Cliff Dwellings downstream to Virden, Catron, Grant and Hidalgo Counties, NM

---

**Author:** Pierce, S.T.

---

**Date:** 1993

---

**Publication/journal/publisher:** NMED

---

**Type of document:** book

---

**Source of document / Search method (phone, internet, library, etc.):**

p. 11-29 - Intensive Water Quality Stream Surveys NMED/SWQ-93/1. 138 p.

---

**Purchase Price:** unknown

---

**Web site address:** unknown

---

**Document Location:** Library of Congress

---

**Work initiated by:** unknown

---

**Work funded by:** unknown

---

**Type of review:** unknown

---

**Location of Work:** Gila River and its Tributaries from the Cliff Dwellings downstream to Virden, Catron, Grant and Hidalgo Counties, NM

---

**Abstract or brief summary:**

**Topic category:** Water Quality  
**Keywords:** Water quality, perennial, NMED, SWQB  
**County:** Hidalgo County

**Title:** Intensive Water Quality Survey of the perennial Streams in Hidalgo County, NM

**Author:** Pierce, S.T.

**Date:** 1993

**Publication/journal/publisher:** NMED

**Type of document:** book

**Source of document / Search method (phone, internet, library, etc.):**

p. 3-10 -Intensive Water Quality Stream Surveys, NMED/SWQ-93/1. 138 p.

**Purchase Price:** unknown

**Web site address:** unknown

**Document Location:** Library of Congress

**Work initiated by:** unknown

**Work funded by:** unknown

**Type of review:** unknown

**Location of Work:** Streams in Hidalgo County, NM

**Abstract or brief summary:**



**Topic category:** Water Quality  
**Keywords:** Water quality, San Francisco, NMED, SWQB  
**County:** Catron County

**Title:** Intensive Water Quality Survey of the San Francisco River and its Tributaries, Catron County, NM

**Author:** Pierce, S.T.

**Date:** 1993

**Publication/journal/publisher:** NMED

**Type of document:** book

**Source of document / Search method (phone, internet, library, etc.):**  
NMED/SWQ-93-1. 138.p

**Purchase Price:** unknown

**Web site address:** unknown

**Document Location:** Library of Congress

**Work initiated by:** unknown

**Work funded by:** unknown

**Type of review:** unknown

**Location of Work:** Intensive Water Quality Survey of the San Francisco River and its Tributaries, Catron County, NM

**Abstract or brief summary:**

**Topic category:** Water Quality  
**Keywords:** Water quality, Gila, NMED, SWQB  
**County:** Catron County

**Title:** Intensive Water Quality Survey of the Upper Gila River and its Tributaries

**Author:** Pierce, S.T.

**Date:** 1993

**Publication/journal/publisher:** NMED

**Type of document:** book

**Source of document / Search method (phone, internet, library, etc.):**

p. 53-74 - Intensive Water Quality Stream Surveys NMED/SWQ-93/1. 138 p.

**Purchase Price:** unknown

**Web site address:** unknown

**Document Location:** Library of Congress

**Work initiated by:** Santa Fe, N.M. : Health & Environment Dept

**Work funded by:** Santa Fe, N.M. : Health & Environment Dept

**Type of review:** unknown

**Location of Work:** Intensive water quality survey of the Upper Gila River and its tributaries

**Abstract or brief summary:**

**Topic category:** Water Quality

**Keywords:** meteorology, climatology, watershed, precipitation, physicochemical properties, rainfall runoff, floods, San Francisco river, runoff, chlorides, sodium, nitrates, phosphates, ammonia

**County:** unknown

**Title:** Physicochemistry of the upper Gila River watershed: II. Influence of precipitation runoff and flood events on the San Francisco River

**Author:** Rampe, J.J., R.D. Jackson, and M.R. Sommerfeld

**Date:** 1984

**Publication/journal/publisher:** Journal of the Arizona-Nevada Academy of Science 19(2): 115-120

**Type of document:** Journal Article

**Source of document / Search method (phone, internet, library, etc.):**

**Purchase Price:** 10-Jun

**Web site address:** <http://www.arizonanevadaacademyofscience.org/janas.html>

**Document Location:** online

**Work initiated by:** unknown

**Work funded by:** unknown

**Type of review:** unknown

**Location of Work:** Upper Gila River Watershed

**Abstract or brief summary:**

The chemistry of a permanent desert stream is described during flooding with regard to changes in major anions and cations, nutrients, selected trace metals, and the interactions of the substances with suspended particulates. The San Francisco River is a permanent stream rising in the White Mountains and Mogollon Rim of eastern Arizona and western New Mexico. Flowing south and west it drains the Blue and Mogollon Mountains and receives its major tributary, the Blue River, 20 km northeast of Clifton, Arizona. The river discharges into the Gila River 12 km southwest of Clifton, above the Peconcillo Box Canyon. During two flood events stream turbidity increased 20-250 fold. During increased discharge chloride concentration decreased but the total quantity transported did not change. The ambient concentrations and loads of ammonia, nitrate and phosphate increased during flooding. Dissolved concentrations of major cations decreased by dilution, whereas sediment associated concentrations and total loads increased noticeably. Sodium was an exception since it was transported primarily into the dissolved form. Dissolved concentrations of trace elements either did not change or decreased slightly during flooding, whereas total concentration and transport increased dramatically.

**Topic category:** Water Quality  
**Keywords:** Water quality, San Francisco, NMED,  
SWQB  
**County:** Catron County

**Title:** Intensive Water Quality Survey of the San Francisco River and its Tributaries, Catron County, NM

**Author:** Smolka, L.R.

**Date:** 1987

**Publication/journal/publisher:** NMED

**Type of document:** book

**Source of document / Search method (phone, internet, library, etc.):**  
EID/SWQ-87/9. 41 p.

**Purchase Price:** unknown

**Web site address:** unknown

**Document Location:** Library of Congress

**Work initiated by:** unknown

**Work funded by:** unknown

**Type of review:** unknown

**Location of Work:** Intensive Water Quality Survey of the San Francisco River and its Tributaries,  
Catron County, NM

**Abstract or brief summary:**

**Topic category:** Water Quality

**Keywords:**

**County:** Grant County

**Title:** Reconnaissance Survey of Bear Creek in Grant County, NM

**Author:** Smolka, L.R.

**Date:** 1987

**Publication/journal/publisher:** NMED

**Type of document:** Book

**Source of document / Search method (phone, internet, library, etc.):**

EID/SWQ-87/2. 19 p.

**Purchase Price:** not available

**Web site address:** not available

**Document Location:** not available

**Work initiated by:** NMED

**Work funded by:** NMED

**Type of review:** unknown

**Location of Work:** Bear Creek

**Abstract or brief summary:**

not available

**Topic category:** Water Quality

**Keywords:** Water quality, Tularosa, Apache, Negrito, NMED, SWQB

**County:** Catron County

**Title:** Intensive Water Quality Survey of Tularosa River and Apache and Negrito Creeks in Catron County, NM

---

**Author:** Smolka, L.R.

---

**Date:** 1991

---

**Publication/journal/publisher:** NMED

---

**Type of document:** book

---

**Source of document / Search method (phone, internet, library, etc.):**

p. 92-102 -Intensive Water Quality Stream Surveys and Lake Quality Assessment Surveys, EID/SWQ-91/1. 209 p.

---

**Purchase Price:** unknown

---

**Web site address:** unknown

---

**Document Location:** Library of Congress, New Mexico Water Resources Research Institute Library: Call #1411.52; WRS

---

**Work initiated by:** Santa Fe, N.M. : Health & Environment Dept

---

**Work funded by:** Santa Fe, N.M. : Health & Environment Dept

---

**Type of review:** unknown

---

**Location of Work:** Tularosa River and Apache and Negrito Creeks in Catron County, NM

---

**Abstract or brief summary:**

**Topic category:** Water Quality

**Keywords:** water quality

**County:**

**Title:** Special Water Quality Survey of the East, Middle and West Forks of the Gila River

**Author:** Smolka, L.R.

**Date:** 1996

**Publication/journal/publisher:** NMED

**Type of document:**

**Source of document / Search method (phone, internet, library, etc.):**

p. 1-49 - Intensive Water Quality Stream Surveys NMED/SWQ-98/1. 92 p.

**Purchase Price:** not available

**Web site address:** not available

**Document Location:** not available

**Work initiated by:** NMED

**Work funded by:** NMED

**Type of review:**

**Location of Work:** East, Middle and West Forks of the Gila River

**Abstract or brief summary:**

not available

**Topic category:** Water Quality

**Keywords:** water quality

**County:** Grant, Luna

**Title:** Special Water Quality Survey of the Mimbres River in Grant and Luna Counties, NM

**Author:** Smolka, L.R.

**Date:** 1997

**Publication/journal/publisher:** NMED

**Type of document:**

**Source of document / Search method (phone, internet, library, etc.):**

p. 75-102 - Intensive Water Quality Stream Surveys. NMED/SWQ-97-2. 202 p.

**Purchase Price:**

**Web site address:**

**Document Location:**

**Work initiated by:** NMED

**Work funded by:** NMED

**Type of review:**

**Location of Work:** Mimbres River in Grant and Luna Counties, NM

**Abstract or brief summary:**



**Topic category:** Water Quality

**Keywords:** water quality

**County:** Catron County

**Title:** Special Water Quality Survey of the San Francisco River and its Tributaries, Catron County, NM

**Author:** Smolka, L.R.

**Date:** 1997

**Publication/journal/publisher:** NMED

**Type of document:**

**Source of document / Search method (phone, internet, library, etc.):**

NMED/SWQ-97-2. 202.p

**Purchase Price:**

**Web site address:**

**Document Location:**

**Work initiated by:** NMED

**Work funded by:** NMED

**Type of review:**

**Location of Work:** San Francisco River and its Tributaries, Catron County, NM

**Abstract or brief summary:**

**Topic category:** Water Quality

**Keywords:** water quality, US-Mexico border, Mimbres Basin, Columbus, Puerto Palomas

**County:** Luna County

**Title:** Water Quality on the U.S.-Mexico Border: An Assessment of the Mimbres Basin Aquifer and the Region Surrounding Columbus, New Mexico, USA and Puerto Palomas, Chihuahua, Mexico.

**Author:** Tanski, J.M., A.T. Hansen, A.G. Olivas, M.M.Perez, E. Hebard, and Z. Samani

**Date:** Undated

**Publication/journal/publisher:** Southwest Consortium for Environmental Research and Policy, Final Report, SCERP Project No. PP96II-19.

**Type of document:** Electronic file (PDF)

**Source of document / Search method (phone, internet, library, etc.):** Internet

**Purchase Price:** online

**Web site address:** [http://scerpfles.org/cont\\_mgt/doc\\_files/W-96-5%20Water%20Quality%20Assessment%20Plan.pdf](http://scerpfles.org/cont_mgt/doc_files/W-96-5%20Water%20Quality%20Assessment%20Plan.pdf)

**Document Location:** SCERP online

**Work initiated by:** SCERP, NMSU, UNM, Universidad Autonoma de Cuidad Juarez

**Work funded by:** SCERP and EPA

**Type of review:** Peer review

**Location of Work:** Columbus, NM and Puerto Palomas, Chihuahua

**Abstract or brief summary:**

The purpose of the project was to collect and analyze the existing hydrological and geological data on the Mimbres aquifer (which serves these border cities), to collect and analyze information on the demographic and economic characteristics of these neighboring communities and to meet and work with the residents of both sides of the border to listen to their concerns about their water quality and quantity and to assist them in whatever way we could to more efficiently manage and conserve their water resources. Our research indicates that the aquifer associated with the bolson fill has sufficient quantities of water, but with high total dissolved solids (TDS). Pockets of water associated with rock fractures around Columbus and Palomas have lower TDS levels but, in some cases, high levels of flouride and arsenic. The water table appears to have fallen significantly in many of the area's wells.

**Topic category:** Water Quality  
**Keywords:** TMDL, San Francisco River, Gila River  
**County:** Apache County, Arizona

**Title:** Luna Lake TMDL

**Author:** Tetrattech, Inc.

**Date:** 2000

**Publication/journal/publisher:** Tetrattech, Inc. Prepared for Arizona Game and Fish Department. April 2000

**Type of document:** Report

**Source of document / Search method (phone, internet, library, etc.):**

**Purchase Price:** unknown

**Web site address:** unknown

**Document Location:** unknown

**Work initiated by:** Arizona Game and Fish Department

**Work funded by:** unknown

**Type of review:** unknown

**Location of Work:** Luna Lake, Arizona

**Abstract or brief summary:**

**Topic category:** Water Quality  
**Keywords:** Water quality, Upper Gila, supply  
**County:** unknown

**Title:** Final Report Water Quality Study Upper Gila Water Supply Project P-72-2

**Author:** Twedt, T.M.

**Date:** 1984

**Publication/journal/publisher:** Bio West, Inc.

**Type of document:** Book

**Source of document / Search method (phone, internet, library, etc.):**

BOR Phoenix Area Office Library

**Purchase Price:**

**Web site address:**

**Document Location:**

**Work initiated by:**

**Work funded by:**

**Type of review:**

**Location of Work:**

**Abstract or brief summary:**

**Topic category:** Water Quality

**Keywords:** Water quality, standards, Gila

**County:** Southwestern NM

**Title:** Water Quality Study, Upper Gila Water Supply Project: Final Report

**Author:** Twedt, T.M.

**Date:** Unknown

**Publication/journal/publisher:** Unknown

**Type of document:** Report

**Source of document / Search method (phone, internet, library, etc.):**

BOR Phoenix Area Office Library

**Purchase Price:** Unknown

**Web site address:** Unknown

**Document Location:** Unknown

**Work initiated by:** Unknown

**Work funded by:** Unknown

**Type of review:** Unknown

**Location of Work:**

**Abstract or brief summary:**

**Topic category:** Water Quality

**Keywords:** unknown

**County:** unknown

**Title:** Nonpoint Source Pollution Education for Municipal Officials - and Other Land Use Decision Makers Watershed Characterizations and Assessments Upper Gila Watershed

---

**Author:** Unknown

---

**Date:** 2005

---

**Publication/journal/publisher:** Unknown

---

**Type of document:** Report

---

**Source of document / Search method (phone, internet, library, etc.):**

BOR Phoenix Area Office Library

---

**Purchase Price:** unknown

---

**Web site address:** unknown

---

**Document Location:** unknown

---

**Work initiated by:** unknown

---

**Work funded by:** unknown

---

**Type of review:** unknown

---

**Location of Work:** Upper Gila River Watershed

---

**Abstract or brief summary:**