Upper Rio Grande Water Operations Model (URGWOM)

2008-2009 HEC-DSS Historic Database Update Documentation

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Introduction

As part of the Middle Valley Rework and creation of the of Upper Rio Grande Water Operations Model (URGWOM) 4.0 planning module, the URGWOM Hydrologic Engineering Center-Data Storage System (HEC-DSS database or DSS database) was updated in the year 2008 to provide input data over the time period from 1975 through 2006. By the year 2009, it was apparent that many records needed updated through the end of calendar year 2007 in order to run an extended Middle Valley calibration and an historic rule based version of URGWOM through 2007. Subsequently, this effort was extended in 2009 to update many other DSS records through the end of calendar year in 2007.

The following DSS files were updated or newly created as part of this effort: agriculture.dss, calculated.dss, diversions.dss, etrate.dss (new), ettool.dss, gwobject.dss (new), localinflow.dss, reservoir.dss, streams.dss, and wastewater.dss. In addition to the file updates, Excel metadata files (by the same name with an .xls extension) were updated to record: what DSS records were updated, the time periods that were updated, and any comments or other information related to the data update.

URGWOM DSS files were also updated to enable backward compatibility with earlier versions of URGWOM. In general, records that required reconfiguration in DSS for the Middle Valley Rework in URGWOM 4.0, such as ET rates or agricultural areas, were stored in new DSS records to preserve the old formats for these data that were used in earlier versions of URGWOM. In the future, these old records may need deleted and/or archived if it is found that backward compatibility within the database is no longer necessary.

URGWOM DSS Files

Ten DSS files in the URGWOM DSS database were updated or newly created with historic data for the URGWOM 4.0 planning module as part of this effort. DSS files were obtained from Mr. Marc Sidlow of the U.S. Army Corps of Engineers (USACOE) at the start of the effort (2008a). The following sections explain specific updates made for each DSS file. Note that not all the files within the URGWOM DSS database were updated, but only the files with historic data used to run the planning model. Table 1 lists DSS files used (directly and indirectly) for the planning model along with: an indication if the file was updated for this effort, a general description of the file contents, file sizes (before and after updating), last modified dates (timestamp), and the version(s) of URGWOM used with each DSS file.

Table 1. URGWOM HEC-DSS Files (Historic Data) -- Indicates Files Recently Updated in 2008 and 2009 and Other File Information.

Filename	Updated as Part of This Effort?	General Contents	File Size Before Update	File Size Following Update	Date of Last Modified Timestamp	Version
agriculture.dss	Yes	Crop and riparian areas	25,357 KB	64,731 KB	5/18/2009	All
calculated.dss	Yes	Back-calculated reach flows	287 KB	419 KB	4/17/2009	All
deliveryrequests.dss	No	Contractor delivery requests	111 KB	N/A	4/22/2004	All
demands.dss	No	MRGCD, Prior & Paramount Demands	507 KB	N/A	1/17/2008	All
diversions.dss	Yes	Rio Chama and Rio Grande Diversions	13,452 KB	12,941 KB	6/25/2009	All
etrate.dss	Yes	Crop consumptive use rates and riparian evapotranspiration rates	N/A	22,049 KB	4/21/2009	4.0
ettool.dss	Yes	Crop consumptive use volumes & rates, crop areas, riparian evapotranspiration volumes & rates, and riparian areas	22,331 KB	23,680 KB	6/252009	Support/ Archive
gwobject.dss	Yes	Starting groundwater heads and deep groundwater heads	N/A	4,006 KB	5/1/2009	4.0
localinflow.dss	Yes	Back-calculated tributary reach inflows	27,952 KB	19,170 KB	9/30/2008	All
mrgcddemand.dss	No	Specialized MRGCD demand series	16 KB	N/A	11/22/2002	Support
nambefalls.dss	No	Historic and synthetic Pojoque return flow credits and use above Otowi	783 KB	N/A	8/28/2007	Support
reach.dss	No	Vertical surface areas and gradients	382 KB	N/A	9/1/2006	≤ 3.0
reservoir.dss	Yes	Reservoir data (Evap., Precip., Storage, Pool Elev., etc.)	10,089 KB	8,538 KB	7/1/2009	All
rivleak.dss	No	Estimated historic seepage used for URGWOM 3.0 and earlier	454 KB	N/A	5/8/2003	≤ 3.0
sjaccount.dss	No	Historic Reclamation green book transfer information	13,226 KB	N/A	5/16/2007	Support
stage.dss	No	Historic gage stage data in select locations	1,048 KB	N/A	7/12/2002	Support
streams.dss	Yes	Historic stream flow gage data	12,101 KB	7,254 KB	4/14/2009	All
typicaldemands.dss	No	Typical contractor letter water demands	2,437 KB	N/A	7/12/2007	All
wastewater.dss	Yes	Historic wastewater treatment plant effluent discharges	1,501 KB	956 KB	5/29/2009	All

From the table, it is apparent that a few files might be consolidated or archived. The etrate.dss and ettool.dss files could probably be consolidated into one file. The mrgcddemand.dss file could be consolidated into the demands.dss file or archived if the records stored within are no longer needed. Some files might be archived if it is found that backward compatibility within URGWOM versions is unnecessary such as reach.dss, rivleak.dss, or stage.dss, which were used

for groundwater movement approximation methods in earlier versions of URGWOM and have been replaced by the modeled shallow groundwater component in URGWOM 4.0. The table also shows that many of the support type files that are not directly used by the model have not been updated recently.

Source Data

In general, source data for URGWOM were obtained from several different agencies. Stream gage data used in URGWOM were obtained from the USGS and State of Colorado Natural Resource Conservation Office websites. Most reservoir data were obtained from URGWOM Accounting Models or the related output database for URGWOM Accounting maintained by U.S. Bureau of Reclamation (Reclamation) and the USACOE. Wastewater data were either obtained from the U.S. Environmental Protection Agency (EPA) or directly from a municipality. Riparian ET rate and crop consumptive use data were obtained from Reclamation's ET Toolbox website, and crop area data were obtained from the New Mexico Interstate Stream Commission (NMISC). Middle Valley diversion data were obtained from Middle Rio Grande Conservancy District (MRGCD). For detailed references related to URGWOM source data, please refer to the specific section within this document describing the DSS database file update.

agriculture.dss

The agriculture.dss file was updated from 2000 through 2008 with acreage data collected by IKONOS (a commercial remote sensing satellite) in the year 2000. These data were processed and formatted for URGWOM 4.0 by the NMISC. The agriculture.dss file was also updated with historic MRGCD and LUTA acreages from 1975 through 1999 that were also formatted for URGWOM 4.0 by the NMISC. Formatting for URGWOM 4.0 consists of entering areas into the database in reach sub-area formats corresponding with URGWOM 4.0 groundwater sub-areas. Crop areas from the two data sources were concatenated into a single acreage record set spanning from 1975 to 2008 for each groundwater sub-area. Existing MRGCD and LUTA data in old record formats were also kept in the file for backward compatibility; however, newer IKONOS data were not entered into the agriculture.dss file in a format compatible with earlier versions of URGWOM (i.e. the database was not formatted with the ability to run URGWOM 3.0 past 1999). Source data for the agriculture file was provided by the USGS and the NMISC in the form of a few different intermediary DSS files (2008) and in an excel file (NMISC, 2008a). The source DSS files (named newagriculture.dss, croparea.dss, cropareacombined.dss, and Ikonos.crop.areas.dss) were originally used to populate the agriculture.dss file with the new IKONOS and reformatted MRGCD/LUTA acreage records in URGWOM 4.0 formats, and the Excel file was used to perform final quality control on the data.

Periods with Consumptive Use versus Irrigation Season

Following previous convention, acreages for crops were entered into the database during the irrigation season (Mar. 1 through Oct. 31) only; this will cause zero consumption periods in the URGWOM model for certain crop types that show consumptive use of water during the non-irrigation season (Nov. 1 through the end of February). ET toolbox output indicates typically three crop types (alfalfa, orchard, and nursery) represented in URGWOM have consumptive use occurring outside the irrigation season (see Figure 1). The annual time period for the areas related to these crops should possibly be modified to include the entire year. Riparian areas

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modeled in URGWOM, which also show consumption during the non-irrigation season, were entered into the database year-round so they do not have this problem.
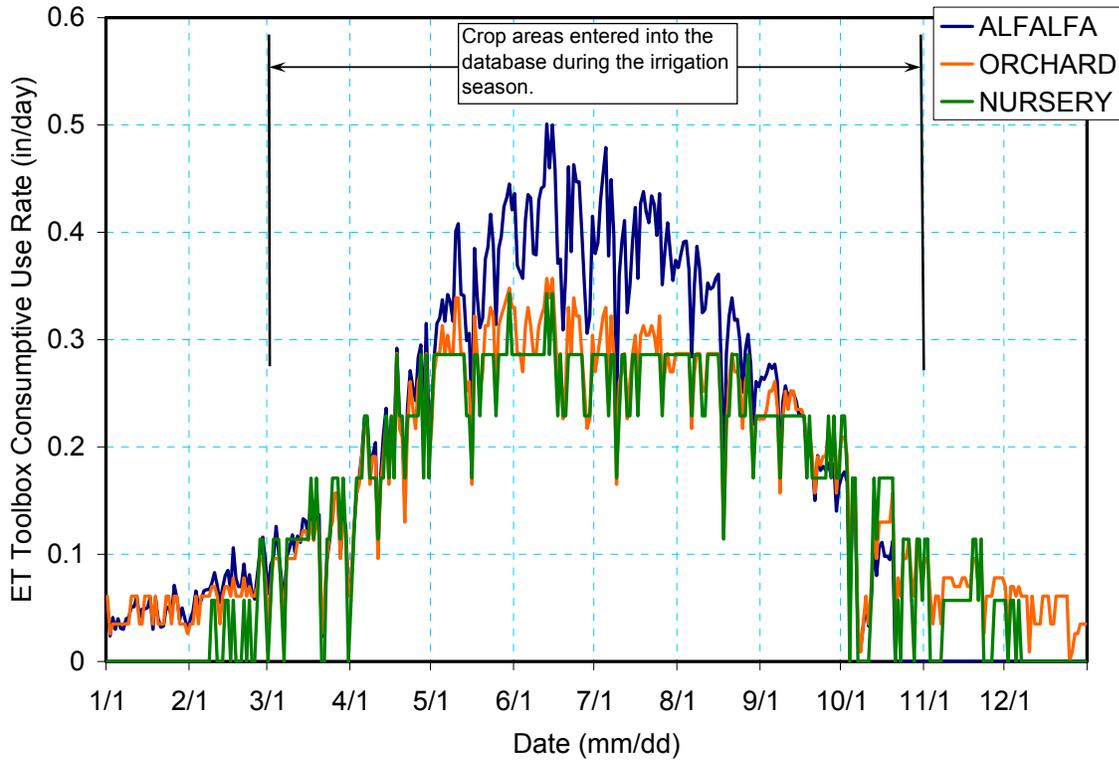
Figure 1. ET Toolbox Crop Types with Periods of Consumption from Nov. 1 through the End of February (URGWOM Reach 5, Year 2000 rates shown).

Vegetation Classification Types from the ET Toolbox Considered to be Riparian Areas in URGWOM

IKONOS riparian areas entered into the RIPARIAN b-part records in the URGWOM DSS database were aggregated from several classification types shown in Table 3. These IKONOS areas (collected in the year 2000) were entered into the database for the period 1975-2007 since an analysis of riparian LUTA/MRGCD areas in the URGWOM 4.0 groundwater reach sub-area format was not conducted.

Table 2. IKONOS Area Classifications Included in the RIPARIAN b-part Records of the URGWOM DSS Database.

Original IKONOS Classification
Cottonwood Bosque (w/ willow)
Cottonwood/Salt Cedar/ Willow mix
Cottonwood/ Salt Cedar / Russian Olive/ Willow Mix
Cottonwood/Salt Cedar/RO/Willow
Salt Cedar Woodland (w/ Willow)
Salt Cedar/ Russian Olive, Willow Mix
Russian Olive Woodland (w/inclusions of Willow)
Willow
Shrubland
Grassland
Wetland

Utah State University & IKONOS Combined Areas versus Straight IKONOS Areas

Crop and riparian reach sub-areas for the URGWOM DSS database were developed by the NMISC using land use data developed from IKONOS satellite imagery from the year 2000. The ET Toolbox also has similar URGWOM reach sub-areas, but uses 2000 IKONOS data combined with 2001 Utah State University aerial photography (Reclamation, 2008a). As a result of the different sub-area classifications and source data, crop and riparian reach sub-areas don't match between the URGWOM DSS database and the ET Toolbox; however, with the exception of the San Marcial to Elephant Butte Reach, total reach areas are similar for most reaches as shown in Table 3.

Table 3. IKONOS/USU Area Analysis (ET Toolbox) vs. Straight IKONOS Area Analysis (used in URGWOM 4.0 -- all values in acres)

Reach	IKONOS/USU (ET Toolbox)			Straight IKONOS (URGWOM 4.0)			
	West	East	Total	West	River	East	Total
Cochiti To San Felipe	2229	2857	5086	2176	2085	2674	6936
San Felipe To Central	4463	7723	12186	4066	3274	8256	15597
Central To Isleta	6781	3120	9901	5849	1750	2400	9999
Isleta To Bernardo	18649	19193	37842	14813	5553	17071	37438
Bernardo To San Acacia	2908	1693	4601	1707	1628	1957	5291
San Acacia To San Marcial	25563	1106	26669	19206	9304	1165	29675
San Marcial To Elephant Butte	1887	1743	3630	2954	4774	195	7923

Future Needs

The agriculture.dss file in the URGWOM database could possibly benefit from the following changes:

- Delineate current IKONOS/USU areas used by the ET Toolbox to correspond with URGWOM 4.0 by partitioning out river areas from current toolbox delineations so that the model uses the same crop areas utilized in the ET Toolbox;
- Put crop and riparian areas into an annual series format rather than a daily series format since crop areas never change at a shorter interval than a year (this would lend to solving the problem for crops that have consumptive use occurring outside the irrigation season and would greatly reduce the file size of the agriculture.dss file);
- And remove all the riparian evapotranspiration, open water evaporation and crop consumptive use rates from the agriculture file (used in URGWOM 3.0) and move them into the etrate.dss file.

calculated.dss

The calculated.dss file contains calculated inflow data to the diversions on the San Juan River and adjusted Rio Grande inflow into Heron Reservoir. The calculated San Juan inflows above the Blanco diversion, above the Little Oso diversion, and above the Oso diversion were all updated through September 30, 2007 by adding each gaged diverted amount to the gaged flow below each diversion dam. The calculated Rio Grande inflows to Heron contained in the calculated.dss file were not updated since they were not required to run the planning module of URGWOM 4.0.

diversions.dss

The diversions.dss file contains diversion data for diversions on the San Juan, on the Rio Chama, and on the mainstem Rio Grande in the Middle Valley. Diversions on the San Juan (Blanco, Oso, and Little Oso) were updated through September 30, 2007, and diversions in the Middle Valley were updated through December 31, 2007 to extend the calibration period of the current Rio Grande Middle Valley simulation model. San Juan Diversion data were downloaded from the Colorado Division of Water Resources' (DWR) and Colorado Water Conservation Board's (CWCB) Decision Support Systems website at http://cdss.state.co.us (2008) and Middle Rio Grande diversion data were provided by the NMISC, and were originally sent out by the Middle Rio Grande Conservancy District (2009). Diversions on the Rio Chama were updated through 2007 by extending the constant values (during the irrigation season) from earlier years provided in records with a "MODIFIED SEO" DSS f-part.

etrate.dss

The etrate.dss file was created for URGWOM 4.0 using new riparian evapotranspiration and crop consumptive use data from Reclamation's ET Toolbox website at http://www.usbr.gov/pmts/rivers/awards/ Nm2/rg/urgwom/ (2008b) and old consumptive use rates previously stored in the agriculture.dss file. Crop consumptive use rates were updated through August of 2008 and were stored separately in the etrate.dss file under the f-part "IKONOS-ETTOOLBOX". Crop consumptive use rates were stored under separate f-parts

since existing consumptive use data in the DSS database varied slightly from data currently posted on the ET Toolbox; however, judging by the subtle differences shown in the following examples, these records were duplicate and could be condensed into one record for each reach/crop type.

Figure 2 illustrates that little variation was evident in a year with overlapping data between existing DSS records and those currently posted on the ET Toolbox. As far as quality control goes, this particular figure shows that records in December were missing from the current ET Toolbox crop consumptive use files (this occurred in some years, 2001 in this case) that were included in the existing records stored in the DSS database. Data were missing from the ET Toolbox in most reaches in the years: 2001, 2003, 2004, 2005, and 2006. In 2001, many days in December were missing from the files because of a U.S. Department of Interior web shutdown (Reclamation, 2008c), but in most of the aforementioned years, just one or two days were missing. Data were usually estimated by interpolation during these periods to complete the records in the DSS files.
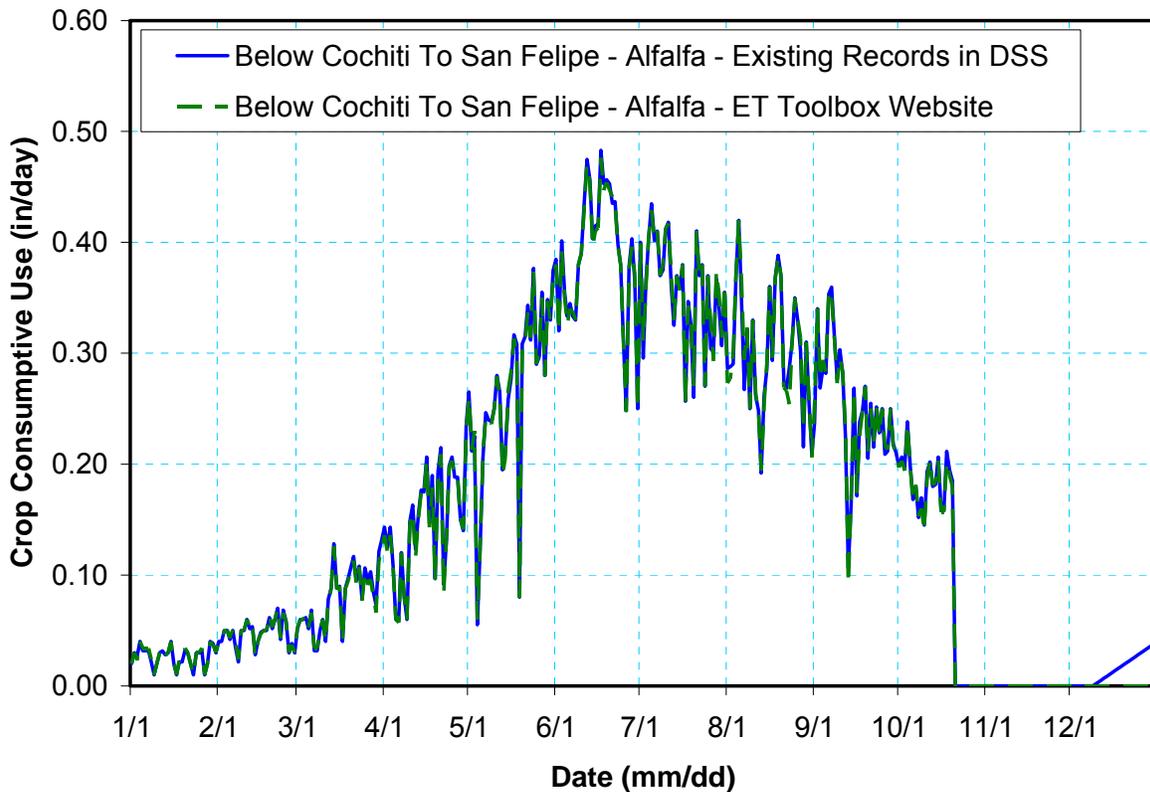
Figure 2. Comparison of Alfalfa Consumptive Use (2001, Cochiti to San Felipe) from Original LUTA and Reprocessed IKONOS ET Toolbox Data (note that recent ET Toolbox data is missing the ascending leg past 12/1).

Table 4 also shows a sample of the same data sets compared against each other and the small variations that exists between the overlap of the two data sets. These variations are due to the recovery of the original crop consumptive use data in the existing DSS data set by dividing the volume posted on the toolbox by the reach area (without rounding or truncation). This comes about since the original procedure (URGWOM 3.0) for storing the data was to archive volumes in acre-feet and areas in acres in the "ettool.dss" file directly from the ET Toolbox website and then use the values in ettool.dss to compute the rates in the agriculture.dss file. Current ET Toolbox output is now provided directly as a rate (velocity) so as a result records were stored directly in the etrate.dss file (the agriculture.dss file was abandoned for storing consumptive use / ET rates for URGWOM 4.0).

Table 4. Slight Variations in Final Crop Consumptive Use Values (June 2001 – Below Cochiti To San Felipe – Alfalfa)

Recent ET Toolbox (Website) (in/day)	Existing DSS Data (in/day)
0.38	0.38
0.32	0.32
0.39	0.40
0.35	0.36
0.33	0.33
0.34	0.34
0.34	0.33
0.33	0.33
0.38	0.38
0.39	0.39
0.43	0.43
0.47	0.47
0.45	0.46
0.40	0.40
0.41	0.41
0.41	0.42
0.48	0.48
0.45	0.45
0.45	0.46
0.45	0.45
0.44	0.44
0.43	0.44
0.40	0.40
0.38	0.38
0.31	0.31
0.25	0.25
0.38	0.38
0.40	0.40
0.37	0.37
0.25	0.25

The "OPEN WATER" records stored in both the etrate.dss and agriculture.dss files were also updated through December 31, 2007 as part of the DSS update effort. These records were similar to the crop consumptive use values in that there were a few overlapping years of data. Similar differences can be noted between the two data sets. Open water evaporation rates from 2000 through 2007 were also downloaded from Reclamation's ET Toolbox Website (2008d) and were stored in the etrate.dss file using an f-part record of "UPDATED ET TOOLBOX" to distinguish them from the existing open water evaporation rates stored under an f-part record of

"MODIFIED ET TOOLBOX". Rates stored in the agriculture.dss file were simply a concatenation of the two record sets. Within the ET Toolbox files, the "Daily Open Water" column was used to develop the URGWOM rates stored in the DSS files; this column reflects daily evaporation without adjustment for NEXRAD radar estimates of direct rainfall on the river surface.

ettool.dss

The ettool.dss file was originally used as a support and archive file for original data downloaded from the ET toolbox website. Updated consumptive use rates, riparian evapotranspiration rates, and open water evaporation rate, for the period 2000-2008, from the ET Toolbox (Reclamation, 2008b and 200d) were stored in the file so that it would be complete as an archive. All of the data in ettool.dss are redundant with rates already stored in the etrate.dss file or the agriculture.dss file so records in ettool.dss could easily be consolidated into the other files.

Currently, there aren't any procedures or scripts running to automatically update the etrate.dss or ettool.dss files; previously, scripts at the USACOE used to automatically update the ettool.dss file and the agriculture.dss file with ET Toolbox data. It would be helpful to reestablish this process with the new ET Toolbox code and file format and the etrate.dss file (and eventually the agriculture.dss file once the areas between the ET Toolbox and URGWOM 4.0 are reconciled).

gwobject.dss

The gwobject.dss file was updated with starting heads and starting storages from the URGWOM 4.0 calibration model. Final shallow aquifer starting heads and storages were provided by Mr. Mike Roark of the USGS (2008) in an updated gwobject.dss file. Starting heads and starting storages were provided in DSS records from 1900-2000 in the file. The gwobject.dss file was also updated with deep heads that were provided by Mr. Nabil Shafike of the NMISC in an Excel file (2008b) and were later modified and extended (2008c).   Storages and heads in the DSS file were organized spatially by URGWOM 4.0 groundwater zones and sub-areas (DSS b-part).

localinflow.dss

The localinflow.dss file was updated by Mr. Marc Sidlow of the USACOE using DSSMATH macros that compute different variations of local inflows at specific locations (2008b). The localinflow.dss file was updated through September 30, 2007.   Specific records updated for the planning version of URGWOM 4.0 included records with DSS b-parts of "ABIQUIU, CABALLO, CERRO, CHAMITA, COCHITI, ELPASO, ELVADO, EMBUDO, JEMEZ, LEASBURG, MESILLA, OTOWI, and TAOS". All of the variations in f-part records (different local inflow calculation methods) for those aforementioned b-parts were also updated.

reservoir.dss

The reservoir.dss file was also updated through the end of the 2007 for the URGWOM 4.0 planning module. Parameters updated in the file are shown in Table 3. Where data were available, records were updated through 2007. Most data were either taken directly from the URGWOM accounting model or indirectly from an accounting model DSS output file such as (*the accounting versions of*) reservoir.dss and sjaccount.dss files or the genmonex.dss file

(Reclamation, 2008 and 2009). Records for Caballo reservoir were obtained from Reclamation's El Paso Office (Reclamation, 2008d) in Lotus 123 format and Mr. Steve Bowser of the Reclamation Albuquerque Area Office converted them to Excel files. Only records necessary to run URGWOM 4.0 were updated in the reservoir.dss file; many other records contained in the reservoir.dss file such as monthly evaporation and precipitation, contractor account storages, and contractor account releases from storage (supplies) were not updated.

Table 5. Specific Parameters Updated in the reservoir.dss File

Reservoir	Parameters Updated through 2007 (DSS B-part)	Reservoir	Parameters Updated through 2007 (DSS B-part)
Heron	INFLOW K FACTOR MAX AIR TEMPERATURE MIN AIR TEMPERATURE OUTFLOW PAN EVAPORATION PAN ICE SWITCH POOL ELEVATION PRECIPITATION RATE STORAGE SURFACE ICE COVERAGE	Cochiti	INFLOW K FACTOR LOCKED IN MAX AIR TEMPERATURE MIN AIR TEMPERATURE OUTFLOW PAN EVAPORATION PAN ICE SWITCH PIRRIG POOL ELEVATION PRECIPITATION RATE SEDIMENT ACCPERM STORAGE SURFACE ICE COVERAGE
El Vado	INFLOW K FACTOR MAX AIR TEMPERATURE MIN AIR TEMPERATURE OUTFLOW PAN EVAPORATION PAN ICE SWITCH PIRRIG PMEADOW POOL ELEVATION PRECIPITATION RATE STORAGE SURFACE ICE COVERAGE TAILWATER ELEVATION	Jemez	INFLOW K FACTOR LOCKED IN MAX AIR TEMPERATURE MIN AIR TEMPERATURE OUTFLOW PAN EVAPORATION PAN ICE SWITCH POOL ELEVATION PRECIPITATION RATE SEDIMENT ACCPERM STORAGE SURFACE ICE COVERAGE
Abiquiu	INFLOW K FACTOR LOCKED IN MAX AIR TEMPERATURE MIN AIR TEMPERATURE OUTFLOW PAN EVAPORATION PAN ICE SWITCH POOL ELEVATION PRECIPITATON RATE SEDIMENT ACCPERM STORAGE SURFACE ICE COVERAGE TAILWATER ELEVATION	Elephant Butte	INFLOW OUTFLOW PAN EVAPORATION POOL ELEVATION PRECIPITATION RATE STORAGE TAILWATER ELEVATION
		Caballo	PAN EVAPORATION POOL ELEVATION PRECIPITATION RATE STORAGE

streams.dss

The streams.dss file contains measured stream gage discharge from rivers and tributaries simulated in the URGWOM model. It was also updated through 2007 for URGWOM 4.0. At the time the streams.dss file was updated, USGS data was only official through September 2007 and as a result most records in the streams.dss file only extend through September 30, 2007.

Most data in the streams.dss file was collected by the USGS and was obtained from their National Water Information System (NWIS) website for New Mexico at: http://waterdata.usgs.gov/nm/nwis/nwis (2008 & 2009). San Juan tributary data on the Navajo and Little Navajo Rivers were downloaded from the State of Colorado DWR and CWCB's Decision Support System website at http://cdss.state.co.us (2008). Rio Grande below Caballo Dam, Rio Grande at Leasburg Dam, and Rio Grande at Mesilla Dam were obtained from the Reclamation's El Paso Area Office (Reclamation, 2008e). Other stream flow data including Azotea Tunnel Diversions and Willow Creek above and below Heron Reservoir were obtained from the URGWOM Accounting Model (Reclamation, 2008 & 2009). Data for the Lower Rio Grande stream gages at El Paso and Fort Quitman were obtained from the International Boundary and Water Commission (IBWC) website at http://www.ibwc.state.gov (2008).

wastewater.dss

Wastewater data for treatment plants, from as far upstream as Taos to as far downstream as El Paso, are stored in the wastewater.dss file. All of the wastewater records in this file were updated through December of 2007. Monthly data were obtained from Mr. Ted Palit of the EPA Region 6 Office in Dallas, TX by Mr. Steve Bowser of Reclamation (USEPA, 2008) with the exception of Socorro wastewater treatment data, which were obtained in daily format directly from the City of Socorro by Mr. Bill Tai of the NMISC (City of Socorro, 2008). Note that contractor requests for data from the EPA require a Freedom of Information Act request (FOIA). As a result, treatment plant data are more easily obtained by government agency personnel.

Monthly data were provided by the EPA in 30-day average—million gallon per day format for each month. These were disaggregated into daily data and units were converted to cubic feet per second. For Los Alamos Labs and El Paso, readings from multiple treatment plants were summed together to obtain one discharge amount per day for each location.

Updated Metadata Files

Original URGWOM DSS metadata files were obtained from the URGWOM website hosted by the USACOE at http://www.spa.usace.army.mil/urgwom/default.asp (2008c). New metadata files were created for the etrate.dss and gwobject.dss files. Also, the reservoir.dss metafile was expanded to include details for many more parameters than the two (precipitation and evaporation) parameters that were formerly described in it. Metafiles were edited in an Excel format and were pasted into this document in Word table format for an easily printable hardcopy. Notes from previous updates were largely left intact, but were edited and in some instances, or deleted if they no longer applied. One or two of the original Excel metafiles (such as reservoir.xls) contain slightly more data that were not included here, such as hydrologic unit codes, drainage areas, river miles, and other such information.

Table 6. Meta data for data used in the URGWOM modeling project--/usr1/urgwom/data/basicdata4/agriculture.dss

Description of data in DSS record	Data Comments	DSS record Bparts	Agency collecting data	Data type	Dimen-sion of data	DSS File	DSS record aparts	DSS record cparts	DSS record fparts	Period of record in URGWOM files
Canal seep by river reach	Daily seepage loss, in cfs=[(canal area, in sq.ft.) x (seepage rate, in ft/day)] / 86,400 seconds/day where canal area=(average wetted canal perimeter) x (canal length). Average wetted canal perimeter=15 feet. Canal length originally from Middle Rio Grande Water Assessment Document number 15; also given in table 52, URGWOM documentation dated February 27, 2001, p.52. Values are constant for each record. Used in URGWOM 3.0.	CANAL DEEP SEEP	U.S. Bureau of Recla-mation (Reclamation)	Flow by reach	cfs	agriculture.dss	SANFELIPE2CENTRAL CENTRAL2BERNARDO	FLOW	MODIFIED USBR	1975-2007
Crop acreage for Bernardo to San Acacia Groundwater Zones	Source data is from "CropAreasCombined.dss" file. 75-99 areas are MRGCD; 00-07 are constant IKONOS values. B and C parts were switched to facilitate groundwater zone designation. Used in URGWOM 4.0.	GW1EAST GW1WEST	Middle Rio Grande Conservancy District (MRGCD) & IKONOS (Lockheed Martin) -- Post Proc. By New Mexico Interstate Stream Commission (NMISC)	Crop Areas	acres	agriculture.dss	BERNARDO 2SANACACIA	ALFALFA APPLES BARLEY CORN COTTON GRAPES MELONS MFRUIT NURSERY OATS OTHER HAY PASTURE PEPPERS SILAGE SORGHUM VEGETABLES WHEAT	None	1975-2007
Crop acreage for Below Cochiti to San Felipe Groundwater Zones	Source data is from "CropAreasCombined.dss" file. 75-99 areas are MRGCD; 00-07 are constant IKONOS values. B and C parts were switched to facilitate groundwater zone designation. Used in URGWOM 4.0.	GW1EAST GW1WEST GW2EAST GW2WEST	MRGCD & IKONOS (Lockheed Martin) -- Post Proc. By NMISC	Crop Areas	acres	agriculture.dss	BLWCOCH2SANFELIPE	ALFALFA APPLES BARLEY CORN COTTON GRAPES MELONS MFRUIT NURSERY OATS OTHER HAY PASTURE PEPPERS SILAGE SORGHUM VEGETABLES WHEAT	None	1975-2007
Crop acreage for Central to Bernardo Groundwater Zones	Source data is from "CropAreasCombined.dss" file. 75-99 areas are MRGCD; 00-07 are constant IKONOS values. B and C parts were switched to facilitate groundwater zone designation. Used in URGWOM 4.0.	GW1EAST GW1WEST GW2EAST GW2WEST	MRGCD & IKONOS (Lockheed Martin) -- Post Proc. By NMISC	Crop Areas	acres	agriculture.dss	CENTRAL2BERNARDO	ALFALFA APPLES BARLEY CORN COTTON GRAPES MELONS MFRUIT NURSERY OATS OTHER HAY PASTURE PEPPERS SILAGE SORGHUM VEGETABLES WHEAT	None	1975-2007

Description of data in DSS record	Data Comments	DSS record Bparts	Agency collecting data	Data type	Dimen-sion of data	DSS File	DSS record aparts	DSS record cparts	DSS record fparts	Period of record in URGWOM files
Table 6. Meta data for data used in the URGWOM modeling project--/usr1/urgwom/data/basicdata4/agriculture.dss										
Crop acreage for Isleta to Bernardo Groundwater Zones	Source data is from "CropAreasCombined.dss" file. 75-99 areas are MRGCD; 00-07 are constant IKONOS values. B and C parts were switched to facilitate groundwater zone designation. Used in URGWOM 4.0.	GW1EAST GW1WEST GW2EAST GW2WEST GW3EAST GW3WEST GW4EAST GW4WEST GW5EAST GW5WEST	MRGCD & IKONOS (Lockheed Martin) -- Post Proc. By NMISC	Crop Areas	acres	agriculture.dss	ISLETA2BERNARDO	ALFALFA APPLES BARLEY CORN COTTON GRAPES MELONS MFRUIT NURSERY OATS OTHER HAY PASTURE PEPPERS SILAGE SORGHUM VEGETABLES WHEAT	None	1975-2007
Crop acreage for Isleta to Bernardo Groundwater Zones	Source data is from "CropAreasCombined.dss" file. 75-99 areas are MRGCD; 00-07 are constant IKONOS values. B and C parts were switched to facilitate groundwater zone designation. Used in URGWOM 4.0.	GW1EAST GW1WEST GW2EAST GW2WEST GW3EAST GW3WEST GW4EAST GW4WEST GW5EAST GW5WEST	MRGCD & IKONOS (Lockheed Martin) -- Post Proc. By NMISC	Crop Areas	acres	agriculture.dss	SANACACIA2SANMARCIAL	ALFALFA APPLES BARLEY CORN COTTON GRAPES MELONS MFRUIT NURSERY OATS OTHER HAY PASTURE PEPPERS SILAGE SORGHUM VEGETABLES WHEAT	None	1975-2007
Riparian acreage for Bernardo to San Acacia Groundwater Zones	Source data is from "CropAreasCombined.dss" or "Ikonos.Crop.Areas.dss" (same data). B and C parts were switched to facilitate groundwater zone designation. Extended constant values through 2007. Note that all values in this riparian dataset (1975-2007) are from 2000 IKONOS satellite imagery. Used in URGWOM 4.0.	GW1EAST GW1RIVER GW1WEST	IKONOS (Lockheed Martin) -- Post Proc. By NMISC	Crop Areas	acres	agriculture.dss	BERNARDO2SANACACIA	RIPARIAN	None	1975-2007
Riparian acreage for Below Cochiti to San Felipe Groundwater Zones	Source data is from "CropAreasCombined.dss" or "Ikonos.Crop.Areas.dss" (same data). B and C parts were switched to facilitate groundwater zone designation. Extended constant values through 2007. Note that all values in this riparian dataset (1975-2007) are from 2000 IKONOS satellite imagery. Used in URGWOM 4.0.	GW1EAST GW1RIVER GW1WEST GW2EAST GW2RIVER GW2WEST	IKONOS (Lockheed Martin) -- Post Proc. By NMISC	Crop Areas	acres	agriculture.dss	BLWCOCH2SANFELIPE	RIPARIAN	None	1975-2007
Riparian acreage for Central to Isleta Groundwater Zones	Source data is from "CropAreasCombined.dss" or "Ikonos.Crop.Areas.dss" (same data). B and C parts were switched to facilitate groundwater zone designation. Extended constant values through 2007. Note that all values in this riparian dataset (1975-2007) are from 2000 IKONOS satellite imagery. Used in URGWOM 4.0.	GW1EAST GW1RIVER GW1WEST GW2EAST GW2RIVER GW2WEST	IKONOS (Lockheed Martin) -- Post Proc. By NMISC	Crop Areas	acres	agriculture.dss	CENTRAL2ISLETA	RIPARIAN	None	1975-2007

Table 6. Meta data for data used in the URGWOM modeling project--/usr1/urgwom/data/basicdata4/agriculture.dss

Description of data in DSS record	Data Comments	DSS record Bparts	Agency collecting data	Data type	Dimen-sion of data	DSS File	DSS record aparts	DSS record cparts	DSS record fparts	Period of record in URGWOM files
Riparian acreage for Isleta to Bernardo Groundwater Zones	Source data is from "CropAreasCombined.dss" or "Ikonos.Crop.Areas.dss" (same data). B and C parts were switched to facilitate groundwater zone designation. Extended constant values through 2007. Note that all values in this riparian dataset (1975-2007) are from 2000 IKONOS satellite imagery. Used in URGWOM 4.0.	GW1EAST GW1RIVER GW1WEST GW2EAST GW2RIVER GW2WEST GW3EAST GW3RIVER GW3WEST GW4EAST GW4RIVER GW4WEST GW5EAST GW5RIVER GW5WEST	IKONOS (Lockheed Martin) -- Post Proc. By NMISC	Crop Areas	acres	agriculture.dss	ISLETA2BERNARDO	RIPARIAN	None	1975-2007
Riparian acreage for San Acacia to San Maricial Groundwater Zones	Source data is from "CropAreasCombined.dss" or "Ikonos.Crop.Areas.dss" (same data). B and C parts were switched to facilitate groundwater zone designation. Extended constant values through 2007. Note that all values in this riparian dataset (1975-2007) are from 2000 IKONOS satellite imagery. Used in URGWOM 4.0.	GW1EAST GW1RIVER GW1WEST GW2EAST GW2RIVER GW2WEST GW3EAST GW3RIVER GW3WEST GW4EAST GW4RIVER GW4WEST GW5EAST GW5RIVER GW5WEST	IKONOS (Lockheed Martin) -- Post Proc. By NMISC	Crop Areas	acres	agriculture.dss	SANACACIA2SANMARCIAL	RIPARIAN	None	1975-2007
Crop percolation	Source data is from "newagriculture.dss" file. Original series ended in 2004--extended same constant value (~0.05) out through end of 2006. Used in URGWOM 4.0.	GENERAL	N/A		Unit-less	agriculture.dss	None	CROP-PERC	None	1975-2006
Deep percolation for irrigated crops within a river reach	Data is aggregated by river reach. Crop deep percolation=percolation rate*area. Percolation rate=1acre foot/acre/year. 1 acre foot/acre/year=0.0013813 cfs/acre. Area=total irrigated acreage - fallow land, as reported on p.56-62 of the URGWOM documentation dated February 27, 2001. Therefore, crop deep percolation= 0.0013813 cfs/acre times area in acres. Used in URGWOM 3.0 .	CROP DEEP PERC	Reclamation (rates) and MRGCD (areas)	Flow by reach	cfs	agriculture.dss	BLWCOCH2SANFELIPE SANFELIPE2CENTRAL CENTRAL2BERNARDO SANACACIA2SANMARCIAL	FLOW	MODIFIED USBR	1975-2000

Description of data in DSS record	Data Comments	DSS record Bparts	Agency collecting data	Data type	Dimen-sion of data	DSS File	DSS record aparts	DSS record cparts	DSS record fparts	Period of record in URGWOM files
Table 6. Meta data for data used in the URGWOM modeling project--/usr1/urgwom/data/basicdata4/agriculture.dss										
Crop acreage	MRGCD is divided into divisions, which do not match the URGWOM reaches. A detailed explanation of the method used to convert MRGCD Division data to URGWOM reaches is included in the Physical Model Documentation dated February 27, 2001. An explanation in equation format is summarized below: Irrigated acreage for the reach Below Cochiti to San Felipe = 0.75[0.06(District-wide acreage)] Irrigated acreage for the reach San Felipe to Central Ave. = 0.54[0.29(District-wide acreage)] + 0.25[0.06(District-wide acreage)] Irrigated acreage for the reach Central Ave. to Bernardo = [0.47(District-wide acreage)] + 0.46[0.29(District-wide acreage)] 1999 MRGCD acreages were extended through 2006. Used in URGWOM 3.0.	ALFALFA APPLES BARLEY CORN COTTON GRAPES MELONS MFRUIT NURSERY OATS OTHER HAY PASTURE PEPPERS SILAGE SORGHUM VEGETABLES WHEAT	Middle Rio Grande Conservancy District (MRGCD)	Crop Area	Acres	agriculture.dss	BLWCOCH2SANFELIPE SANFELIPE2CENTRAL CENTRAL2BERNARDO SANACACIA2SANMAR CIAL	AREA	MODIFIED MRGCD	1975-2006
Crop consumptive use rates, riparian evapotranspiration rates (MRGCD & LUTA), and open water evaporation rates	Consumptive use rates and Riparian Evapotranspiration rates were computed from volumes and areas provided for individual crop/species types by U.S.Bureau of Reclamation, Denver, CO on the ET Toolbox website (see ettool.dss and agriculture.dss for volume and area metadata). **Note that evapotranspiration rates in some reaches for some crops had to be mapped to alternative crops because a certain crop might not have been planted in that particular reach. For example, the following alternative crops were used for actual crops: ACTUAL MAPPED TO ALTERNATIVE APPLES ORCHARD BARLEY OATS COTTON VEGETABLES GRAPES ORCHARDS NURSERY PEPPERS OTHER HAY PASTURE SILAGE CORN Used in URGWOM 3.0	ALFALFA BOSQUE CORN FALLOW GRAPES MARSH MELONS MFRUIT NURSERY OATS OPEN WATER ORCHARDS PASTURE PEPPERS RIP MARSH RIP WOODLAND SALT CEDAR SORGHUM VEGETABLES WHEAT	Reclamation	Rate	inches/day	agriculture.dss	BLWCOCH2SANFELIPE JEMEZ SANFELIPE2CENTRAL CENTRAL2BERNARDO BERNARDO2SANACAC IA SANACACIA2SANMAR CIAL	ET RATE	MODIFIED ET TOOLBOX	1983-1999

Table 7. Meta data for data used in the URGWOM modeling project--/usr1/urgwom/data/basicdata4/calculated.dss										
Description of data in DSS record	Data Comments	DSS record Bparts	Agency collecting data	Data type	Dimension of data	DSS File	DSS record aparts	DSS record cparts	DSS record fparts	Period of record in URGWOM files
Reconstructed flow for Rio Blanco above Blanco diversion (San Juan Tributary)	Calculated by adding Below Blanco gage data to Blanco diversion gage data.	ABV BLANCO	N/A	Flow	cfs	calculated.dss	none	FLOW	CALCULATED	1975-2007
Reconstructed flow for Navajo River above Little Oso Diversion (San Juan Tributary)	Calculated by adding Navajo River Below Little Oso gage data to Little Oso diversion gage data.	ABV LITTLE OSO	N/A	Flow	cfs	calculated.dss	none	FLOW	CALCULATED	1975-2007
Reconstructed flow for Navajo River above Oso Diversion (San Juan Tributary)	Calculated by adding Navajo River Below Oso gage data to Oso diversion gage data.	ABV OSO	N/A	Flow	cfs	calculated.dss	none	FLOW	CALCULATED	1975-2007

Description of data in DSS record	Data comments[1]	DSS record Bparts	Agency collecting data	Data type	Dimension of data	DSS File	Station number	Period of record in URGWOM files	DSS record fparts	DSS record cparts
								Table 8. Meta data for data used in the URGWOM modeling project--/usr1/urgwom/data/basicdata4/diversions.dss		
Blanco Diversion on the Rio Blanco		BLANCO	Colorado Water Conservation Board, District 7	Flow	Cubic Feet per Second (cfs)	diversions.dss		1974-09/30/2007	COSEO	DIVERSION
Little Oso Diversion on the Little Navajo River		LITTLE OSO	Colorado Water Conservation Board, District 7	Flow	cfs	diversions.dss		1973-09/30/2007	COSEO	DIVERSION
Oso Diversion on the Little Navajo River		OSO	Colorado Water Conservation Board, District 7	Flow	cfs	diversions.dss		1973-09/30/2007	COSEO	DIVERSION
Discharge from Unit 7 Drain into Socorro Main Canal	Computed from known flows in Bernardo Interior Drain, Rio Grande Conveyance Channel near Bernardo, and Socorro Main Canal. Flow in Unit 7 Drain = (flow in Bernardo Interior Drain) + (flow in Rio Grande Conveyance Channel near Bernardo). This flow is allowed to pass to Socorro Main Canal during irrigation season. Excessive flow in Unit 7 Drain returns to the Rio Grande abv San Acacia. If the flow in Unit 7 Drain cannot satisfy the irrigation requirement in the Socorro Main Canal, then supplemental flow is diverted from the Rio Grande through the Socorro Diversion Channel. See the dssmath macro included in the sheet called, macro_dssmath (all flows are in cfs)	THRUFLOW FRM U7 TO SOC MC	Computed	Flow	cfs	diversions.dss		1985-2006	SPECIALUSE	FLOW
Albuquerque Main Canal		ALB MAIN CANAL	Middle Rio Grande Conservancy District (MRGCD)	Flow	cfs	diversions.dss		1975-2007	MRGCD	FLOW
Albuquerque Riverside Drain Near Cacique	Data for 1976 are the average monthly values using 1974,1975,1977,1978, and 1979.	ALB RIVERSIDE DRAIN NR CC	MRGCD	Flow	cfs	diversions.dss		1975; 1977-2006 (see comment)	MRGCD	FLOW
Algodones Drain	Data from 1/1/75-12/31/81 are average monthly values using data from 1/1/82-9/30/01 to obtain the monthly average values.	ALGODONES DRAIN	MRGCD	Flow	cfs	diversions.dss		1982-2006 (see comment)	MRGCD	FLOW
Computed Angostura Diversion		ANGOSTURA DIVERSION (COMPUTED)	Computed	Flow	cfs	diversions.dss		1980-2006	MRGCD	FLOW
Arenal Main Canal	Data for 1976 are the average monthly values using 1975,1977,1978,1979, and 1980.	ARENAL MAIN CANAL	MRGCD	Flow	cfs	diversions.dss		1975; 1977-2005 (see comment)	MRGCD	FLOW
Armijo Acequia		ARMIJO ACEQUIA	MRGCD	Flow	cfs	diversions.dss		1974-2005	MRGCD	FLOW
Atrisco Ditch	Data from 1/1/76-12/31/81 and 1985 are daily averages using 1975, 1982,1983, and 1984 daily data.	ATRISCO DITCH	MRGCD	Flow	cfs	diversions.dss		1975; 1982-2004	MRGCD	FLOW
Atrisco Feeder	Data from 1/1/75-12/31/77 are average monthly values using data from 1/1/78-9/30/01 to obtain the monthly average values.	ATRISCO FEEDER	MRGCD	Flow	cfs	diversions.dss		1978-2007 (see comment)	MRGCD	FLOW
Belen High Line Canal		BELEN HI LINE	MRGCD	Flow	cfs	diversions.dss		1974-2007		FLOW
Cacique Acequia		CACIQUE ACEQUIA	MRGCD	Flow	cfs	diversions.dss		1974-2007		FLOW
Chical Acequia		CHICAL	MRGCD	Flow	cfs	diversions.dss		1975-2007		FLOW

Description of data in DSS record	Data comments[1]	DSS record Bparts	Agency collecting data	Data type	Dimen-sion of data	DSS File	Station number	Period of record in URGWOM files	DSS record fparts	DSS record cparts
		ACEQUIA								
Chical Lateral		CHICAL LATERAL	MRGCD	Flow	cfs	diversions.dss		1974-2007		FLOW
Cochiti East Side Main Canal at San Felipe		COCHITI ES MC AT SAN FELIPE	MRGCD	Flow	cfs	diversions.dss		1975-2004	MRGCD	FLOW
Cochit Main Canal at Cochit Dam		COCHITI MC AT COCHITI DAM	MRGCD	Flow	cfs	diversions.dss		1970-2007	INPUT	FLOW
Corrales Main Canal		CORRALES MAIN CANAL	MRGCD	Flow	cfs	diversions.dss		1998	MRGCD	FLOW
Diversion to Socorro Main Canal from Rio Grande	Computed from known flows in Bernardo Interior Drain, Rio Grande Conveyance Channel near Bernardo, and Socorro Main Canal. Flow in Unit 7 Drain = (flow in Bernardo Interior Drain) + (flow in Rio Grande Conveyance Channel near Bernardo). This flow is allowed to pass to Socorro Main Canal during irrigation season. Excessive flow in Unit 7 Drain returns to the Rio Grande abv San Acacia. If the flow in Unit 7 Drain cannot satisfy the irrigation requirement in the Socorro Main Canal, then supplemental flow is diverted from the Rio Grande through the Socorro Diversion Channel. See the dssmath macro included in the sheet called, macro_dssmath (all flows are in cfs)	DIVRSN TO SOC MC FRM RIO GRND	MRGCD	Flow	cfs	diversions.dss		1985-2006	SPECIALUSE	FLOW
Isleta Diversion		ISLETA DIVERSION	MRGCD	Flow	cfs	diversions.dss		1997-2006	MRGCD	FLOW
Peralta Main Canal		PERALTA MAIN CANAL`	MRGCD	Flow	cfs	diversions.dss		1974-2007		FLOW
Sili Main Canal		SILI MAIN CANAL	MRGCD	Flow	cfs	diversions.dss		1970-2007	MRGCD	FLOW
Abeyta Trujillo	2002-2006 records contain estimated constant values (3 cfs from 4/1-10/31 each year)	ABEYTA TRUJILLO	NM State Engineer	Flow	cfs	diversions.dss		1972-1999 (original monthly) 1972-2001 (disagg. daily) 2002-2006 (est. constant)	SEO (monthly) MODIFIED SEO (daily)	FLOW
Chamita	2002-2006 records contain estimated constant values (12.5 cfs from 4/1-10/31 each year)	CHAMITA	NM State Engineer	Flow	cfs	diversions.dss		1972-1999 (original monthly) 1972-2001 (disagg. daily) 2002-2006 (est. constant)	SEO (monthly) MODIFIED SEO (daily)	FLOW

Table 8. Meta data for data used in the URGWOM modeling project--/usr1/urgwom/data/basicdata4/diversions.dss

Description of data in DSS record	Data comments[1]	DSS record Bparts	Agency collecting data	Data type	Dimen-sion of data	DSS File	Station number	Period of record in URGWOM files	DSS record fparts	DSS record cparts
Chili	2002-2006 records contain estimated constant values (12.5 cfs from 4/1-10/31 each year)	CHILI	NM State Engineer	Flow	cfs	diversions.dss		1972-1999 (original monthly) 1972-2001 (disagg. daily) 2002-2006 (est. constant)	SEO (monthly) MODIFIED SEO (daily)	FLOW
Ferran	1999-2001 are blank or show no diversions. 2002-2006 records contain estimated constant values (1 cfs from 4/1-10/31 each year)	FERRAN	NM State Engineer	Flow	cfs	diversions.dss		1972-1998 (original monthly) 1972-1998 (disagg. daily) 2002-2006 (est. constant)	SEO (monthly) MODIFIED SEO (daily)	FLOW
Gonzales	2000-2001 are blank or show no diversions. 2002-2006 records contain estimated constant values (2 cfs from 4/1-10/31 each year)	GONZALES	NM State Engineer	Flow	cfs	diversions.dss		1972-1999 (original monthly) 1972-1999 (disagg. daily) 2002-2006 (est. constant)	SEO (monthly) MODIFIED SEO (daily)	FLOW
Hernandez	2000-2001 are blank or show no diversions. 2002-2006 records contain estimated constant values (2 cfs from 4/1-10/31 each year)	HERNANDEZ	NM State Engineer	Flow	cfs	diversions.dss		1972-1999 (original monthly) 1972-1999 (disagg. daily) 2002-2006 (est. constant)	SEO (monthly) MODIFIED SEO (daily)	FLOW
J.V. Martinez	Year 2001 data were derived from year 2000 data multiplied by the ratio of (year 2000 flow)/(year 2001 flow). 2002-2006 records contain estimated constant values (12.5 cfs from 4/1-10/31 each year)	J. V. MARTINEZ	NM State Engineer	Flow	cfs	diversions.dss		1972-1999 (original monthly) 1972-2001 (disagg. daily) 2002-2006 (est. constant)	SEO (monthly) MODIFIED SEO (daily)	FLOW

Table 8. Meta data for data used in the URGWOM modeling project--/usr1/urgwom/data/basicdata4/diversions.dss

Table 8. Meta data for data used in the URGWOM modeling project--/usr1/urgwom/data/basicdata4/diversions.dss										
Description of data in DSS record	Data comments[1]	DSS record Bparts	Agency collecting data	Data type	Dimen-sion of data	DSS File	Station number	Period of record in URGWOM files	DSS record fparts	DSS record cparts
Jose Pablo Gonzales	2002-2006 records contain estimated constant values (7.5 cfs from 4/1-10/31 each year)	JOSE PABLO GONZALES	NM State Engineer	Flow	cfs	diversions.dss		1972-1999 (original monthly) 1972-2001 (disagg. daily) 2002-2006 (est. constant)	SEO (monthly) MODIFIED SEO (daily)	FLOW
La Puente	2002-2006 records contain estimated constant values (2.5 cfs from 4/1-10/31 each year)	LA PUENTE	NM State Engineer	Flow	cfs	diversions.dss		1972-1999 (original monthly) 1972-2001 (disagg. daily) 2002-2006 (est. constant)	SEO (monthly) MODIFIED SEO (daily)	FLOW
Manzanares and Montoya	Year 2001 data were derived from year 2000 data multiplied by the ratio of (year 2000 flow)/(year 2001 flow). 2002-2006 records contain estimated constant values (0.5 cfs from 4/1-10/31 each year)	MANZANARES & MONTOYA	NM State Engineer	Flow	cfs	diversions.dss		1972-1999 (original monthly) 1972-2001 (disagg. daily) 2002-2006 (est. constant)	SEO (monthly) MODIFIED SEO (daily)	FLOW
Mariano	2002-2006 records contain estimated constant values (2.5 cfs from 4/1-10/31 each year)	MARIANO	NM State Engineer	Flow	cfs	diversions.dss		1972-1999 (original monthly) 1972-2001 (disagg. daily) 2002-2006 (est. constant)	SEO (monthly) MODIFIED SEO (daily)	FLOW
Martinez and Duranes 1	2002-2006 records contain estimated constant values (2.5 cfs from 4/1-10/31 each year)	MARTINEZ & DURANES 1	NM State Engineer	Flow	cfs	diversions.dss		1972-1999 (original monthly) 1972-2001 (disagg. daily) 2002-2006 (est. constant)	SEO (monthly) MODIFIED SEO (daily)	FLOW

Description of data in DSS record	Data comments[1]	DSS record Bparts	Agency collecting data	Data type	Dimen-sion of data	DSS File	Station number	Period of record in URGWOM files	DSS record fparts	DSS record cparts
Martinez and Duranes 2	Ditch not used in 2001. 1997-2001 records are blank or show no diversion 2002-2006 records contain estimated constant values (7.5 cfs from 4/1-10/31 each year)	MARTINEZ & DURANES 2	NM State Engineer	Flow	cfs	diversions.dss		1972-1996 (original monthly) 1972-1996 (disagg. daily) 2002-2006 (est. constant)	SEO (monthly) MODIFIED SEO (daily)	FLOW
Monastery	Year 2001 data were derived from year 2000 data multiplied by the ratio of (year 2000 flow)/(year 2001 flow). Series shows zero diversion or is blank past 1986.	MONASTERY	NM State Engineer	Flow	cfs	diversions.dss		1972-1999 (original monthly -- all zero past 1986) 1972-2006 (disagg. Daily -- all zero past 1986)	SEO (monthly) MODIFIED SEO (daily)	FLOW
Quintana	Year 2001 data were derived from year 2000 data multiplied by the ratio of (year 2000 flow)/(year 2001 flow). 2002-2006 records contain estimated constant values (0.5 cfs from 4/1-10/31 each year)	QUINTANA	NM State Engineer	Flow	cfs	diversions.dss		1972-1999 (original monthly) 1972-2001 (disagg. daily) 2002-2006 (est. constant)	SEO (monthly) MODIFIED SEO (daily)	FLOW
Rio de Chama	Year 2001 data are daily flows from April-October. Flows during January-March and November-December were assumed to be equal to 0. 2002-2006 records contain estimated constant values (10 cfs from 4/1-10/31 each year)	RIO DE CHAMA	NM State Engineer	Flow	cfs	diversions.dss		1972-1999 (original monthly) 1972-2001 (disagg. daily) 2002-2006 (est. constant)	SEO (monthly) MODIFIED SEO (daily)	FLOW
Salazar	2002-2006 records contain estimated constant values (7.5 cfs from 4/1-10/31 each year)	SALAZAR	NM State Engineer	Flow	cfs	diversions.dss		1972-1999 (original monthly) 1972-2001 (disagg. daily) 2002-2006 (est. constant)	SEO (monthly) MODIFIED SEO (daily)	FLOW

Table 8. Meta data for data used in the URGWOM modeling project--/usr1/urgwom/data/basicdata4/diversions.dss

Description of data in DSS record	Data comments[1]	DSS record Bparts	Agency collecting data	Data type	Dimension of data	DSS File	Station number	Period of record in URGWOM files	DSS record fparts	DSS record cparts
Table 8. Meta data for data used in the URGWOM modeling project--/usr1/urgwom/data/basicdata4/diversions.dss										
Scull	All records are zero.	SCULL	NM State Engineer	Flow	cfs	diversions.dss		1972-1999 (original monthly -- all zero) / 1972-2006 (disagg. Daily -- all zero)	SEO (monthly) / MODIFIED SEO (daily)	FLOW
Tierra Azul	2002-2006 records contain estimated constant values (5 cfs from 4/1-10/31 each year)	TIERRA AZUL	NM State Engineer	Flow	cfs	diversions.dss		1972-1999 (original monthly) / 1972-2001 (disagg. daily) / 2002-2006 (est. constant)	SEO (monthly) / MODIFIED SEO (daily)	FLOW
Valentine Martinez	Ditch not used in 2001. 2002-2006 records contain estimated constant values (0.5 cfs from 4/1-10/31 each year)	VALENTINE MARTINEZ	NM State Engineer	Flow	cfs	diversions.dss		1972-1999 (original monthly) / 1972-2001 (disagg. daily) / 2002-2006 (est. constant)	SEO (monthly) / MODIFIED SEO (daily)	FLOW
Winfield Morton	Ditch not used in 2001. Series is all zero past 1986.	WINFIELD MORTON	NM State Engineer	Flow	cfs	diversions.dss		1972-1999 (original monthly -- all zero past 1986) / 1972-2006 (disagg. Daily -- all zero past 1986)	SEO (monthly) / MODIFIED SEO (daily)	FLOW
San Juan Annual Diversions Through Azotea Tunnel		SANJUANANNUAL DIVERSIONS	U.S Bureau of Reclamation (Reclamation)	Volume	Acre-Feet	diversions.dss			USBR	VOLUME
Bernardo Interior Drain	10/01/04-12/31/04 look like estimated monthly values.	BERNARDO INT DR	U.S. Geological Survey (USGS); MRGCD	Flow	cfs	diversions.dss	08332050	1960-09/30/04	USGS	FLOW
Arrey Canal		ARREY CANAL	Reclamation	Flow	cfs	diversions.dss		1918; 1920-1993	INPUT	FLOW

Description of data in DSS record	Data comments[1]	DSS record Bparts	Agency collecting data	Data type	Dimen-sion of data	DSS File	Station number	Period of record in URGWOM files	DSS record fparts	DSS record cparts
						Table 8. Meta data for data used in the URGWOM modeling project--/usr1/urgwom/data/basicdata4/diversions.dss				
Bonita Lateral		BONITA LATERAL	Reclamation	Flow	cfs	diversions.dss		1938-1980	INPUT	FLOW
Rincon Valley Diversions		RINCON VALLEY	Reclamation	Flow	cfs	diversions.dss		1923-1983	INPUT	FLOW
Elmendorf Interior Drain		EMNDRF INTR DRAIN	USGS	Flow	cfs	diversions.dss		1966-1971	USGS	FLOW
San Antonio Drain at San Antonio		SAN ANTNO DRAIN @ SA	USGS	Flow	cfs	diversions.dss		1965-1971	USGS	FLOW
San Antonio Drain at San Marcial		SAN ANTNO DRAIN @ SM	USGS	Flow	cfs	diversions.dss		1965-1971	USGS	FLOW
Socorro Main Canal North at San Acacia	1970-2003 USGS; 2004-2007 MRGCD	SOCORRO MAIN CANAL	USGS; MRGCD	Flow	cfs	diversions.dss	08354500	1970-2007	USGS	FLOW
Lower San Juan Drain	November and December 1981 are daily estimates using averages from 1978,79,80,82, and 84. October, November ,and December 1983 are daily estimates using averages from 1980,82,84,85, and 86.	LSAN JUAN DRAIN	USGS; MRGCD	Flow	cfs	diversions.dss		1964-2006	MODIFIED USGS OR MRGCD	FLOW

[1] Note for Rio Chama Diversions: Data prior to 2001 are from the NM State Engineer's Watermaster Report-Rio Chama Mainstream Section. The data from NMSEO are in acre-feet per month. The data were disaggregated from a monthly volume to equivalent daily flows using a dssmath macro - acq2dly.mac. Year 2001 data are daily flows from April-October (unless otherwise noted). Flows during January-March and November-December were assumed to be equal to 0.

Table 9. Meta data for data used in the URGWOM modeling project--/usr1/urgwom/data/basicdata4/etrate.dss										
Description of data in DSS record	**Data comments**	**DSS record B-parts**	**Agency collecting data**	**Data type**	**Dimension of data**	**DSS File**	**DSS record aparts**	**DSS record cparts**	**DSS record fparts**	**Period of record in URGWOM files**
Crop consumptive use rates, riparian evapotranspiration rates (MRGCD & LUTA), and open water evaporation rates	Consumptive use rates and Riparian Evapotranspiration rates were computed from volumes and areas provided for individual crop/species types by U.S.Bureau of Reclamation, Denver, CO on the ET Toolbox website (see ettool.dss and agriculture.dss for volume and area metadata). **Note that evapotranspiration rates in some reaches for some crops had to be mapped to alternative crops because a certain crop might not have been planted in that particular reach. For example, the following alternative crops were used for actual crops: ACTUAL MAPPED TO ALTERNATIVE APPLES ORCHARD BARLEY OATS COTTON VEGETABLES GRAPES ORCHARDS NURSERY PEPPERS OTHER HAY PASTURE SILAGE CORN Used in URGWOM 3.0	ET RATE	U.S. Bureau of Reclamation (Reclamation) -- ET Toolbox	Velocity	inches per day	etrate.dss	BLWCOCH2 SANFELIPE SANFELIPE2 CENTRAL CENTRAL2 BERNARDO BERNARDO2 SANACACIA SANACACIA2 SANMARCIAL JEMEZ	ALFALFA BOSQUE CORN FALLOW GRAPES MARSH MELONS MFRUIT NURSERY OATS OPEN WATER ORCHARDS PASTURE PEPPERS RIP MARSH RIP WOODLAND SALT CEDAR SORGHUM VEGETABLES WHEAT	MODIFIED ET TOOLBOX	1975-1999
Crop consumptive use rates, riparian evapotranspiration rates based on IKONOS / USU areas, and open water evaporation rates	Each URWGOM reach does not contain the same crop types. Missing values were estimated by interpolation for the following dates: 12/07/01-12/31/01; 12/22/2003-12/31/2003; 12/30/2004-12/31/2004; 12/31/2005; 12/29/2006-12/31/2006 Used in URGWOM 4.0	ET RATE	Reclamation -- ET Toolbox	Velocity	inches per day	etrate.dss	ALAMEDA2 CENTRAL BERNARDO 2SANACACIA BLWCOCH2 SANFELIPE CENTRAL2 ISLETA ISLETA2 BERNARDO SANACACIA2 SANMARCIAL SANFELIPE2 ALAMEDA SANMARCIAL2 ELEPHANTBU TTE	ALFALFA BOSQUE CHILI CORN NURSERY OATS OPEN WATER ORCHARD PASTURE PEPPERS SORGHUM SUDAN GRASS VEGETABLES WHEAT	IKONOS - ET TOOLBOX	2000-8/31/2008

Description of data in DSS record	Data comments	DSS record Bparts	Agency collecting data	Data type	Dimen-sion of data	DSS File	DSS record aparts	DSS record cparts	DSS record fparts	Period of record in URGWOM files
Table 10. Meta data for data used in the URGWOM modeling project--usr1/urgwom/data/basicdata3/ettool.dss										
Crop acreage	Irrigated crop acreage is provided for individual crop types by USBR, Denver, CO. This data is used to prepare summaries for the ET Toolbox website. The 1992-93 Land Use Trends Analysis (LUTA) is used to determine the irrigated crop acreage for each reach. Irrigated area and the bosque area for the San Acacia to San Marcial reach is not from the LUTA. Estimates are from areal photography apart from the LUTA. These areas are reproduced in the agriculture.dss file. Used in URGWOM 3.0	ALFALFA BOSQUE CORN FALLOW GRAPES MARSH MELONS MFRUIT NURSERY OATS OPEN WATER ORCHARDS PASTURE PEPPERS RIP MARSH RIP WOODLAND SALT CEDAR SORGHUM VEGETABLES WHEAT	Reclamation -- ET Toolbox	Area	Acres	ettool.dss	BLWCOCH2 SANFELIPE SANFELIPE2 CENTRAL CENTRAL2 BERNARDO BERNARDO2 SANACACIA SANACACIA2 SANMARCIAL	AREA	ET TOOLBOX	1983-1999
Consumptive use	Consumptive use is provided for individual crop types by U.S.Bureau of Reclamation, Denver, CO. This data is used to prepare summaries for the ET Toolbox website. URGWOM replaced missing data for December 31, 1980 and December 31, 2000 with the average of the day before and the day after. Likewise, on July 11, 2001, data for melons, open water, peppers, rip marsh and rip woodland in the reach from Central to Bernardo was replaced by averaging of the day before and the day after. These volumes are not used directly in the URGWOM model, but are reproduced as ET rates in the agriculture.dss and ET Rate.dss files.	ALFALFA BOSQUE CORN FALLOW GRAPES MARSH MELONS MFRUIT NURSERY OATS OPEN WATER ORCHARDS PASTURE PEPPERS RIP MARSH RIP WOODLAND SALT CEDAR SORGHUM VEGETABLES WHEAT	Reclamation -- ET Toolbox	Volume	Acre-feet	ettool.dss	BLWCOCH2 SANFELIPE SANFELIPE2 CENTRAL CENTRAL2 BERNARDO BERNARDO2 SANACACIA SANACACIA2 SANMARCIAL	CONSUMP TIVE USE	ET TOOLBOX	1983-1999

Description of data in DSS record	Data comments	DSS record Bparts	Agency collecting data	Data type	Dimen-sion of data	DSS File	DSS record aparts	DSS record cparts	DSS record fparts	Period of record in URGWOM files
Table 10. Meta data for data used in the URGWOM modeling project--usr1/urgwom/data/basicdata3/ettool.dss										
Consumptive use rates based on IKONOS areas	Each URWGOM reach does not contain the same crop types. Missing values were estimated by interpolation for the following dates: 12/07/01-12/31/01; 12/22/2003-12/31/2003; 12/30/2004-12/31/2004; 12/31/2005; 12/29/2006-12/31/2006 Used in URGWOM 4.0	ET RATE	Reclamation -- ET Toolbox	Velocity	inches per day	ettool.dss	ALAMEDA2CENTRAL BERNARDO2SANACACIA BLWCOCH2SANFELIPE CENTRAL2ISLETA ISLETA2BERNARDO SANACACIA2SANMARCIAL SANFELIPE2ALAMEDA SANMARCIAL 2ELEPHANTBUTTE	ALFALFA BOSQUE CHILI CORN NURSERY OATS ORCHARD PASTURE PEPPERS SORGHUM SUDAN GRASS VEGETABL ES WHEAT	IKONOS - ET TOOLBOX	2000-8/31/2008

Table 11. Meta data for data used in the URGWOM modeling project--/usr1/urgwom/data/basicdata4/gwobject.dss										
Description of data in DSS record	Data comments	DSS record B-parts	Agency collecting data	Data type	Dimension of data	DSS File	DSS record A-parts	DSS record C-parts	DSS record F-parts	Period of record in URGWOM files
Modeled Deep Aquifer Heads	From Regional Middle Rio Grande MODFLOW Model	GW1EAST GW1RIVER GW1WEST extending up to GW5EAST, GW5RIVER, GW5WEST in some reaches	New Mexico Interstate Stream Commission (NM ISC)	deep aquifer head (elevation)	feet	gwobject.dss	BERNARDO2SANACACIA BLWCOCH2SANFELIPE CENTRAL2ISLETA ISLETA2BERNARDO SANACACIA2SANMARCIAL SANFELIPE2ALAMEDA SANMARCIAL2 ELEPHANTBUTTE	DEEP HEAD	None	1975-2007
Starting Heads		GW1EAST GW1RIVER GW1WEST extending up to GW5EAST, GW5RIVER, GW5WEST in some reaches	NMISC	shallow aquifer head (elevation)	feet	gwobject.dss	BERNARDO2SANACACIA BLWCOCH2SANFELIPE CENTRAL2ISLETA ISLETA2BERNARDO SANACACIA2SANMARCIAL SANFELIPE2ALAMEDA SANMARCIAL2 ELEPHANTBUTTE	STARTING HEAD	None	1975-2007
Starting Storages		GW1EAST GW1RIVER GW1WEST extending up to GW5EAST, GW5RIVER, GW5WEST in some reaches	NMISC	shallow aquifer storage (elevation)	feet	gwobject.dss	BERNARDO2SANACACIA BLWCOCH2SANFELIPE CENTRAL2ISLETA ISLETA2BERNARDO SANACACIA2SANMARCIAL SANFELIPE2ALAMEDA SANMARCIAL2 ELEPHANTBUTTE	STARTING STOR	None	1975-2007

Reach	Data comments	DSS record Bparts	Agency calculating data	Data type	Dimension of data	DSS Filename	DSS Cpart	DSS Fpart	Period of record in DSS
El Vado to Abiquiu	Computed local inflow. Provisional data subject to revision	ABIQUIU	U.S. Army Corps of Engineers (USACOE)	Flow	Cubic feet per second (cfs)	localinflow.dss	LOCAL INFLOW	COMP-VTL	1975-2006
El Vado to Abiquiu	Computed local inflow, smoothed by 3 day centered moving average. Provisional data subject to revision	ABIQUIU	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	3DAYCMASMOOTHED	1975-2006
El Vado to Abiquiu	Computed local inflow, smoothed by 5 day centered moving average. Provisional data subject to revision	ABIQUIU	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	5DAYCMASMOOTHED	1975-2006
El Vado to Abiquiu	Computed local inflow, smoothed by 7 day centered moving average. Provisional data subject to revision	ABIQUIU	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	7DAYCMASMOOTHED	1975-2006
El Vado to Abiquiu	Computed local inflow, smoothed by 9 day centered moving average. Provisional data subject to revision	ABIQUIU	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	9DAYCMASMOOTHED	1975-2006
El Vado to Abiquiu	Computed local inflow, smoothed by 11 day centered moving average. Provisional data subject to revision	ABIQUIU	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	11DAYCMASMOOTHED	1975-2006
El Vado to Abiquiu	Computed local inflow, smoothed by 13 day centered moving average. Provisional data subject to revision	ABIQUIU	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	13DAYCMASMOOTHED	1975-2006
El Vado to Abiquiu	Computed local inflow, smoothed by 15 day centered moving average. Provisional data subject to revision	ABIQUIU	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	15DAYCMASMOOTHED	1975-2006
Central to Bernardo	Computed local inflow. Provisional data subject to revision	BERNARDO	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	COMP-VTL	1975-1999
Central to Bernardo	Computed local inflow, smoothed by 3 day centered moving average. Provisional data subject to revision	BERNARDO	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	3DAYCMASMOOTHED	1975-1999
Central to Bernardo	Computed local inflow, smoothed by 5 day centered moving average. Provisional data subject to revision	BERNARDO	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	5DAYCMASMOOTHED	1975-1999
Central to Bernardo	Computed local inflow, smoothed by 7 day centered moving average. Provisional data subject to revision	BERNARDO	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	7DAYCMASMOOTHED	1975-1999
Central to Bernardo	Computed local inflow, smoothed by 9 day centered moving average. Provisional data subject to revision	BERNARDO	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	9DAYCMASMOOTHED	1975-1999
Central to Bernardo	Computed local inflow, smoothed by 11 day centered moving average. Provisional data subject to revision	BERNARDO	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	11DAYCMASMOOTHED	1975-1999
Central to Bernardo	Computed local inflow, smoothed by 13 day centered moving average. Provisional data subject to revision	BERNARDO	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	13DAYCMASMOOTHED	1975-1999

Table 12. Meta data for data used in the URGWOM modeling project--/usr1/urgwom/data/basicdata4/localinflow.dss

Reach	Data comments	DSS record Bparts	Agency calculating data	Data type	Dimension of data	DSS Filename	DSS Cpart	DSS Fpart	Period of record in DSS
	Table 12. Meta data for data used in the URGWOM modeling project--/usr1/urgwom/data/basicdata4/localinflow.dss								
Central to Bernardo	Computed local inflow, smoothed by 15 day centered moving average. Provisional data subject to revision	BERNARDO	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	15DAYCMASMOOTHED	1975-1999
Elephant Butte to Caballo	Computed local inflow. Provisional data subject to revision	CABALLO	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	COMP-VTL	1975-2006
San Felipe to Central	Computed local inflow. Provisional data subject to revision	CENTRAL	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	COMP-VTL	1975-1999
San Felipe to Central	Computed local inflow, smoothed by 3 day centered moving average. Provisional data subject to revision	CENTRAL	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	3DAYCMASMOOTHED	1975-1999
San Felipe to Central	Computed local inflow, smoothed by 5 day centered moving average. Provisional data subject to revision	CENTRAL	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	5DAYCMASMOOTHED	1975-1999
San Felipe to Central	Computed local inflow, smoothed by 7 day centered moving average. Provisional data subject to revision	CENTRAL	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	7DAYCMASMOOTHED	1975-1999
San Felipe to Central	Computed local inflow, smoothed by 9 day centered moving average. Provisional data subject to revision	CENTRAL	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	9DAYCMASMOOTHED	1975-1999
San Felipe to Central	Computed local inflow, smoothed by 11 day centered moving average. Provisional data subject to revision	CENTRAL	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	11DAYCMASMOOTHED	1975-1999
San Felipe to Central	Computed local inflow, smoothed by 13 day centered moving average. Provisional data subject to revision	CENTRAL	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	13DAYCMASMOOTHED	1975-1999
San Felipe to Central	Computed local inflow, smoothed by 15 day centered moving average. Provisional data subject to revision	CENTRAL	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	15DAYCMASMOOTHED	1975-1999
Lobatos to Cerro	Computed local inflow. Provisional data subject to revision	CERRO	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	COMP-VTL	1975-2006
Lobatos to Cerro	Computed local inflow, smoothed by 3 day centered moving average. Provisional data subject to revision	CERRO	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	3DAYCMASMOOTHED	1975-2006
Lobatos to Cerro	Computed local inflow, smoothed by 5 day centered moving average. Provisional data subject to revision	CERRO	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	5DAYCMASMOOTHED	1975-2006
Lobatos to Cerro	Computed local inflow, smoothed by 7 day centered moving average. Provisional data subject to revision	CERRO	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	7DAYCMASMOOTHED	1975-2006
Lobatos to Cerro	Computed local inflow, smoothed by 9 day centered moving average. Provisional data subject to revision	CERRO	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	9DAYCMASMOOTHED	1975-2006
Lobatos to Cerro	Computed local inflow, smoothed by 11 day centered moving average. Provisional data subject to revision	CERRO	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	11DAYCMASMOOTHED	1975-2006

Reach	Data comments	DSS record Bparts	Agency calculating data	Data type	Dimension of data	DSS Filename	DSS Cpart	DSS Fpart	Period of record in DSS
Lobatos to Cerro	Computed local inflow, smoothed by 13 day centered moving average. Provisional data subject to revision	CERRO	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	13DAYCMASMOOTHED	1975-2006
Lobatos to Cerro	Computed local inflow, smoothed by 15 day centered moving average. Provisional data subject to revision	CERRO	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	15DAYCMASMOOTHED	1975-2006
Abiquiu to Chamita	Computed local inflow. Provisional data subject to revision	CHAMITA	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	COMP-VTL	1975-2006
Abiquiu to Chamita	Computed local inflow, smoothed by 3 day centered moving average. Provisional data subject to revision	CHAMITA	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	3DAYCMASMOOTHED	1975-2006
Abiquiu to Chamita	Computed local inflow, smoothed by 5 day centered moving average. Provisional data subject to revision	CHAMITA	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	5DAYCMASMOOTHED	1975-2006
Abiquiu to Chamita	Computed local inflow, smoothed by 7 day centered moving average. Provisional data subject to revision	CHAMITA	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	7DAYCMASMOOTHED	1975-2006
Abiquiu to Chamita	Computed local inflow, smoothed by 9 day centered moving average. Provisional data subject to revision	CHAMITA	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	9DAYCMASMOOTHED	1975-2006
Abiquiu to Chamita	Computed local inflow, smoothed by 11 day centered moving average. Provisional data subject to revision	CHAMITA	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	11DAYCMASMOOTHED	1975-2006
Abiquiu to Chamita	Computed local inflow, smoothed by 13 day centered moving average. Provisional data subject to revision	CHAMITA	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	13DAYCMASMOOTHED	1975-2006
Abiquiu to Chamita	Computed local inflow, smoothed by 15 day centered moving average. Provisional data subject to revision	CHAMITA	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	15DAYCMASMOOTHED	1975-2006
Otowi to Cochiti	Computed local inflow. Provisional data subject to revision	COCHITI	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	COMP-VTL	1975-2006
Otowi to Cochiti	Computed local inflow, smoothed by 3 day centered moving average. Provisional data subject to revision	COCHITI	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	3DAYCMASMOOTHED	1975-2006
Otowi to Cochiti	Computed local inflow, smoothed by 5 day centered moving average. Provisional data subject to revision	COCHITI	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	5DAYCMASMOOTHED	1975-2006
Otowi to Cochiti	Computed local inflow, smoothed by 7 day centered moving average. Provisional data subject to revision	COCHITI	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	7DAYCMASMOOTHED	1975-2006
Otowi to Cochiti	Computed local inflow, smoothed by 9 day centered moving average. Provisional data subject to revision	COCHITI	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	9DAYCMASMOOTHED	1975-2006

Table 12. Meta data for data used in the URGWOM modeling project--/usr1/urgwom/data/basicdata4/localinflow.dss

Reach	Data comments	DSS record Bparts	Agency calculating data	Data type	Dimension of data	DSS Filename	DSS Cpart	DSS Fpart	Period of record in DSS
Otowi to Cochiti	Computed local inflow, smoothed by 11 day centered moving average. Provisional data subject to revision	COCHITI	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	11DAYCMASMOOTHED	1975-2006
Otowi to Cochiti	Computed local inflow, smoothed by 13 day centered moving average. Provisional data subject to revision	COCHITI	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	13DAYCMASMOOTHED	1975-2006
Otowi to Cochiti	Computed local inflow, smoothed by 15 day centered moving average. Provisional data subject to revision	COCHITI	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	15DAYCMASMOOTHED	1975-2006
San Marcial to Elephant Butte	Computed local inflow. Provisional data subject to revision	ELEPHANTBUTTE	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	COMP-VTL	1975-1999
San Marcial to Elephant Butte	Computed local inflow, smoothed by 3 day centered moving average. Provisional data subject to revision	ELEPHANTBUTTE	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	3DAYCMASMOOTHED	1975-1999
San Marcial to Elephant Butte	Computed local inflow, smoothed by 5 day centered moving average. Provisional data subject to revision	ELEPHANTBUTTE	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	5DAYCMASMOOTHED	1975-1999
San Marcial to Elephant Butte	Computed local inflow, smoothed by 7 day centered moving average. Provisional data subject to revision	ELEPHANTBUTTE	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	7DAYCMASMOOTHED	1975-1999
San Marcial to Elephant Butte	Computed local inflow, smoothed by 9 day centered moving average. Provisional data subject to revision	ELEPHANTBUTTE	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	9DAYCMASMOOTHED	1975-1999
San Marcial to Elephant Butte	Computed local inflow, smoothed by 11 day centered moving average. Provisional data subject to revision	ELEPHANTBUTTE	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	11DAYCMASMOOTHED	1975-1999
San Marcial to Elephant Butte	Computed local inflow, smoothed by 13 day centered moving average. Provisional data subject to revision	ELEPHANTBUTTE	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	13DAYCMASMOOTHED	1975-1999
San Marcial to Elephant Butte	Computed local inflow, smoothed by 15 day centered moving average. Provisional data subject to revision	ELEPHANTBUTTE	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	15DAYCMASMOOTHED	1975-1999
Mesilla to El Paso	Computed local inflow. Provisional data subject to revision	ELPASO	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	COMP-VTL	1975-2006
Heron to El Vado	Computed local inflow. Provisional data subject to revision	ELVADO	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	COMP-VTL	1975-2006
Heron to El Vado	Computed local inflow, smoothed by 3 day centered moving average. Provisional data subject to revision	ELVADO	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	3DAYCMASMOOTHED	1975-2006
Heron to El Vado	Computed local inflow, smoothed by 5 day centered moving average. Provisional data subject to revision	ELVADO	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	5DAYCMASMOOTHED	1975-2006

Table 12. Meta data for data used in the URGWOM modeling project--/usr1/urgwom/data/basicdata4/localinflow.dss

Reach	Data comments	DSS record Bparts	Agency calculating data	Data type	Dimension of data	DSS Filename	DSS Cpart	DSS Fpart	Period of record in DSS
	Table 12. Meta data for data used in the URGWOM modeling project--/usr1/urgwom/data/basicdata4/localinflow.dss								
Heron to El Vado	Computed local inflow, smoothed by 7 day centered moving average. Provisional data subject to revision	ELVADO	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	7DAYCMASMOOTHED	1975-2006
Heron to El Vado	Computed local inflow, smoothed by 9 day centered moving average. Provisional data subject to revision	ELVADO	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	9DAYCMASMOOTHED	1975-2006
Heron to El Vado	Computed local inflow, smoothed by 11 day centered moving average. Provisional data subject to revision	ELVADO	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	11DAYCMASMOOTHED	1975-2006
Heron to El Vado	Computed local inflow, smoothed by 13 day centered moving average. Provisional data subject to revision	ELVADO	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	13DAYCMASMOOTHED	1975-2006
Heron to El Vado	Computed local inflow, smoothed by 15 day centered moving average. Provisional data subject to revision	ELVADO	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	15DAYCMASMOOTHED	1975-2006
Taos to Embudo	Computed local inflow. Provisional data subject to revision	EMBUDO	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	COMP-VTL	1975-2006
Taos to Embudo	Computed local inflow, smoothed by 3 day centered moving average. Provisional data subject to revision	EMBUDO	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	3DAYCMASMOOTHED	1975-2006
Taos to Embudo	Computed local inflow, smoothed by 5 day centered moving average. Provisional data subject to revision	EMBUDO	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	5DAYCMASMOOTHED	1975-2006
Taos to Embudo	Computed local inflow, smoothed by 7 day centered moving average. Provisional data subject to revision	EMBUDO	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	7DAYCMASMOOTHED	1975-2006
Taos to Embudo	Computed local inflow, smoothed by 9 day centered moving average. Provisional data subject to revision	EMBUDO	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	9DAYCMASMOOTHED	1975-2006
Taos to Embudo	Computed local inflow, smoothed by 11 day centered moving average. Provisional data subject to revision	EMBUDO	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	11DAYCMASMOOTHED	1975-2006
Taos to Embudo	Computed local inflow, smoothed by 13 day centered moving average. Provisional data subject to revision	EMBUDO	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	13DAYCMASMOOTHED	1975-2006
Taos to Embudo	Computed local inflow, smoothed by 15 day centered moving average. Provisional data subject to revision	EMBUDO	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	15DAYCMASMOOTHED	1975-2006
Nr Jemez to Jemez	Computed local inflow. Provisional data subject to revision	JEMEZ	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	COMP-VTL	1975-2006
Nr Jemez to Jemez	Computed local inflow, smoothed by 3 day centered moving average. Provisional data subject to revision	JEMEZ	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	3DAYCMASMOOTHED	1975-2006

Reach	Data comments	DSS record Bparts	Agency calculating data	Data type	Dimension of data	DSS Filename	DSS Cpart	DSS Fpart	Period of record in DSS
Nr Jemez to Jemez	Computed local inflow, smoothed by 5 day centered moving average. Provisional data subject to revision	JEMEZ	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	5DAYCMASMOOTHED	1975-2006
Nr Jemez to Jemez	Computed local inflow, smoothed by 7 day centered moving average. Provisional data subject to revision	JEMEZ	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	7DAYCMASMOOTHED	1975-2006
Nr Jemez to Jemez	Computed local inflow, smoothed by 9 day centered moving average. Provisional data subject to revision	JEMEZ	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	9DAYCMASMOOTHED	1975-2006
Nr Jemez to Jemez	Computed local inflow, smoothed by 11 day centered moving average. Provisional data subject to revision	JEMEZ	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	11DAYCMASMOOTHED	1975-2006
Nr Jemez to Jemez	Computed local inflow, smoothed by 13 day centered moving average. Provisional data subject to revision	JEMEZ	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	13DAYCMASMOOTHED	1975-2006
Nr Jemez to Jemez	Computed local inflow, smoothed by 15 day centered moving average. Provisional data subject to revision	JEMEZ	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	15DAYCMASMOOTHED	1975-2006
Caballo to Leasburg	Computed local inflow. Provisional data subject to revision	LEASBURG	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	COMP-VTL	1975-2006
Leasburg to Mesilla	Computed local inflow. Provisional data subject to revision	MESILLA	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	COMP-VTL	1975-2006
Embudo to Otowi	Computed local inflow. Provisional data subject to revision	OTOWI	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	COMP-VTL	1975-2006
Embudo to Otowi	Computed local inflow, smoothed by 3 day centered moving average. Provisional data subject to revision	OTOWI	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	3DAYCMASMOOTHED	1975-2006
Embudo to Otowi	Computed local inflow, smoothed by 5 day centered moving average. Provisional data subject to revision	OTOWI	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	5DAYCMASMOOTHED	1975-2006
Embudo to Otowi	Computed local inflow, smoothed by 7 day centered moving average. Provisional data subject to revision	OTOWI	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	7DAYCMASMOOTHED	1975-2006
Embudo to Otowi	Computed local inflow, smoothed by 9 day centered moving average. Provisional data subject to revision	OTOWI	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	9DAYCMASMOOTHED	1975-2006
Embudo to Otowi	Computed local inflow, smoothed by 11 day centered moving average. Provisional data subject to revision	OTOWI	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	11DAYCMASMOOTHED	1975-2006
Embudo to Otowi	Computed local inflow, smoothed by 13 day centered moving average. Provisional data subject to revision	OTOWI	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	13DAYCMASMOOTHED	1975-2006

Table 12. Meta data for data used in the URGWOM modeling project--/usr1/urgwom/data/basicdata4/localinflow.dss

Reach	Data comments	DSS record Bparts	Agency calculating data	Data type	Dimension of data	DSS Filename	DSS Cpart	DSS Fpart	Period of record in DSS
Embudo to Otowi	Computed local inflow, smoothed by 15 day centered moving average. Provisional data subject to revision	OTOWI	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	15DAYCMASMOOTHED	1975-2006
Bernardo to San Acacia	Computed local inflow. Provisional data subject to revision	SANACACIA	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	COMP-VTL	1975-1999
Bernardo to San Acacia	Computed local inflow, smoothed by 3 day centered moving average. Provisional data subject to revision	SANACACIA	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	3DAYCMASMOOTHED	1975-1999
Bernardo to San Acacia	Computed local inflow, smoothed by 5 day centered moving average. Provisional data subject to revision	SANACACIA	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	5DAYCMASMOOTHED	1975-1999
Bernardo to San Acacia	Computed local inflow, smoothed by 7 day centered moving average. Provisional data subject to revision	SANACACIA	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	7DAYCMASMOOTHED	1975-1999
Bernardo to San Acacia	Computed local inflow, smoothed by 9 day centered moving average. Provisional data subject to revision	SANACACIA	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	9DAYCMASMOOTHED	1975-1999
Bernardo to San Acacia	Computed local inflow, smoothed by 11 day centered moving average. Provisional data subject to revision	SANACACIA	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	11DAYCMASMOOTHED	1975-1999
Bernardo to San Acacia	Computed local inflow, smoothed by 13 day centered moving average. Provisional data subject to revision	SANACACIA	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	13DAYCMASMOOTHED	1975-1999
Bernardo to San Acacia	Computed local inflow, smoothed by 15 day centered moving average. Provisional data subject to revision	SANACACIA	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	15DAYCMASMOOTHED	1975-1999
Cochiti to San Felipe	Computed local inflow. Provisional data subject to revision	SANFELIPE	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	COMP-VTL	1975-1999
Cochiti to San Felipe	Computed local inflow, smoothed by 3 day centered moving average. Provisional data subject to revision	SANFELIPE	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	3DAYCMASMOOTHED	1975-1999
Cochiti to San Felipe	Computed local inflow, smoothed by 5 day centered moving average. Provisional data subject to revision	SANFELIPE	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	5DAYCMASMOOTHED	1975-1999
Cochiti to San Felipe	Computed local inflow, smoothed by 7 day centered moving average. Provisional data subject to revision	SANFELIPE	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	7DAYCMASMOOTHED	1975-1999
Cochiti to San Felipe	Computed local inflow, smoothed by 9 day centered moving average. Provisional data subject to revision	SANFELIPE	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	9DAYCMASMOOTHED	1975-1999
Cochiti to San Felipe	Computed local inflow, smoothed by 11 day centered moving average. Provisional data subject to revision	SANFELIPE	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	11DAYCMASMOOTHED	1975-1999

Table 12. Meta data for data used in the URGWOM modeling project--/usr1/urgwom/data/basicdata4/localinflow.dss

Reach	Data comments	DSS record Bparts	Agency calculating data	Data type	Dimension of data	DSS Filename	DSS Cpart	DSS Fpart	Period of record in DSS

Table 12. Meta data for data used in the URGWOM modeling project--/usr1/urgwom/data/basicdata4/localinflow.dss

Reach	Data comments	DSS record Bparts	Agency calculating data	Data type	Dimension of data	DSS Filename	DSS Cpart	DSS Fpart	Period of record in DSS
Cochiti to San Felipe	Computed local inflow, smoothed by 13 day centered moving average. Provisional data subject to revision	SANFELIPE	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	13DAYCMASMOOTHED	1975-1999
Cochiti to San Felipe	Computed local inflow, smoothed by 15 day centered moving average. Provisional data subject to revision	SANFELIPE	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	15DAYCMASMOOTHED	1975-1999
San Acacia to San Marcial	Computed local inflow. Provisional data subject to revision	SANMARCIAL	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	COMP-VTL	1975-1999
San Acacia to San Marcial	Computed local inflow, smoothed by 3 day centered moving average. Provisional data subject to revision	SANMARCIAL	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	3DAYCMASMOOTHED	1975-1999
San Acacia to San Marcial	Computed local inflow, smoothed by 5 day centered moving average. Provisional data subject to revision	SANMARCIAL	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	5DAYCMASMOOTHED	1975-1999
San Acacia to San Marcial	Computed local inflow, smoothed by 7 day centered moving average. Provisional data subject to revision	SANMARCIAL	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	7DAYCMASMOOTHED	1975-1999
San Acacia to San Marcial	Computed local inflow, smoothed by 9 day centered moving average. Provisional data subject to revision	SANMARCIAL	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	9DAYCMASMOOTHED	1975-1999
San Acacia to San Marcial	Computed local inflow, smoothed by 11 day centered moving average. Provisional data subject to revision	SANMARCIAL	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	11DAYCMASMOOTHED	1975-1999
San Acacia to San Marcial	Computed local inflow, smoothed by 13 day centered moving average. Provisional data subject to revision	SANMARCIAL	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	13DAYCMASMOOTHED	1975-1999
San Acacia to San Marcial	Computed local inflow, smoothed by 15 day centered moving average. Provisional data subject to revision	SANMARCIAL	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	15DAYCMASMOOTHED	1975-1999
Cerro to Taos	Computed local inflow. Provisional data subject to revision	TAOS	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	COMP-VTL	1975-2006
Cerro to Taos	Computed local inflow, smoothed by 3 day centered moving average. Provisional data subject to revision	TAOS	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	3DAYCMASMOOTHED	1975-2006
Cerro to Taos	Computed local inflow, smoothed by 5 day centered moving average. Provisional data subject to revision	TAOS	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	5DAYCMASMOOTHED	1975-2006
Cerro to Taos	Computed local inflow, smoothed by 7 day centered moving average. Provisional data subject to revision	TAOS	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	7DAYCMASMOOTHED	1975-2006
Cerro to Taos	Computed local inflow, smoothed by 9 day centered moving average. Provisional data subject to revision	TAOS	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	9DAYCMASMOOTHED	1975-2006

Reach	Data comments	DSS record Bparts	Agency calculating data	Data type	Dimension of data	DSS Filename	DSS Cpart	DSS Fpart	Period of record in DSS
	Table 12. Meta data for data used in the URGWOM modeling project--/usr1/urgwom/data/basicdata4/localinflow.dss								
Cerro to Taos	Computed local inflow, smoothed by 11 day centered moving average. Provisional data subject to revision	TAOS	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	11DAYCMASMOOTHED	1975-2006
Cerro to Taos	Computed local inflow, smoothed by 13 day centered moving average. Provisional data subject to revision	TAOS	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	13DAYCMASMOOTHED	1975-2006
Cerro to Taos	Computed local inflow, smoothed by 15 day centered moving average. Provisional data subject to revision	TAOS	USACOE	Flow	cfs	localinflow.dss	LOCAL INFLOW	15DAYCMASMOOTHED	1975-2006

Station Name	Data Comments	DSS record Bparts	Agency collecting data	Data type	Dimen-sion of data	DSS Filename	DSS record fpart	DSS record cpart	Period of record in DSS
Heron Reservoir near Los Ojos, NM	USBR data	HERON	U.S. Bureau of Reclamation (Reclamation)	precipitation	inches	reservoir.dss	USBR	PRECIPITATION RATE	1975-2007
Heron Reservoir near Los Ojos, NM	USBR data	HERON	Reclamation	pan evaporation	inches	reservoir.dss	USBR	PAN EVAPORATION	1985-2007
Heron Reservoir near Los Ojos, NM	USBR data	HERON	Reclamation	pool elevation	ft (on the National Geodetic Vertical Datum of 1929) NGVD29	reservoir.dss	USBR	POOL ELEVATION	1975-2007
Heron Reservoir near Los Ojos, NM	USBR data	HERON	Reclamation	inflow	cubic feet per second (cfs)	reservoir.dss	USBR	INFLOW	1975-2007
Heron Reservoir near Los Ojos, NM	USBR data	HERON	Reclamation	K Factor	ft/°F	reservoir.dss	USBR	K FACTOR	1975-2007
Heron Reservoir near Los Ojos, NM	USBR data	HERON	Reclamation	maximum and minimum air temperature	°F	reservoir.dss	USBR	MAX AIR TEMPERATURE MIN AIR TEMPERATURE	1975-2007
Heron Reservoir near Los Ojos, NM	USBR data	HERON	Reclamation	outflow	cubic feet per second (cfs)	reservoir.dss	USBR	OUTFLOW	1975-2007
Heron Reservoir near Los Ojos, NM	USBR data	HERON	Reclamation	storage	cfs	reservoir.dss	USBR	STORAGE	1975-2007
Heron Reservoir near Los Ojos, NM	USBR data	HERON	Reclamation	surface ice coverage	unitless (decimal fraction)	reservoir.dss	USBR	SURFACE ICE COVERAGE	1975-2007
Heron Reservoir near Los Ojos, NM	USBR data	HERON	Reclamation	pan ice switch	cfs	reservoir.dss	INPUT	PAN ICE SWITCH	1975-2007
El Vado Reservoir near Tierra Amarilla, NM	USBR data	ELVADO	Reclamation	precipitation	inches	reservoir.dss	USBR	PRECIPITATION RATE	1975-2007
El Vado Reservoir near Tierra Amarilla, NM	USBR data	ELVADO	Reclamation	pan evaporation	inches	reservoir.dss	USBR	PAN EVAPORATION	1975-2007
El Vado Reservoir near Tierra Amarilla, NM	USBR data	ELVADO	Reclamation	pool elevation	ft NGVD29	reservoir.dss	USBR	POOL ELEVATION	1975-2007
El Vado Reservoir near Tierra Amarilla, NM	USBR data	ELVADO	Reclamation	inflow	cfs	reservoir.dss	USBR	INFLOW	1980-2007
El Vado Reservoir near Tierra Amarilla, NM	USBR data	ELVADO	Reclamation	K Factor	ft/°F	reservoir.dss	INPUT	K FACTOR	1975-2007
El Vado Reservoir near Tierra Amarilla, NM	USBR data	ELVADO	Reclamation	maximum and minimum air temperature	°F	reservoir.dss	USBR	MAX AIR TEMPERATURE MIN AIR TEMPERATURE	1975-2007

Table 13. Meta data for data used in the URGWOM modeling project--/usr1/urgwom/data/basicdata4/reservoir.dss

Station Name	Data Comments	DSS record Bparts	Agency collecting data	Data type	Dimen-sion of data	DSS Filename	DSS record fpart	DSS record cpart	Period of record in DSS
Table 13. Meta data for data used in the URGWOM modeling project--/usr1/urgwom/data/basicdata4/reservoir.dss
El Vado Reservoir near Tierra Amarilla, NM	USBR data	ELVADO	Reclamation	outflow	cfs	reservoir.dss	USBR	OUTFLOW	1980-2007
El Vado Reservoir near Tierra Amarilla, NM	USBR data ('70's data are EOM storages)	ELVADO	Reclamation	storage	acre-ft	reservoir.dss	USBR	STORAGE	1975-2007
El Vado Reservoir near Tierra Amarilla, NM	USBR data	ELVADO	Reclamation	surface ice coverage	unitless (decimal fraction)	reservoir.dss	USBR	SURFACE ICE COVERAGE	1975-2007
El Vado Reservoir near Tierra Amarilla, NM	USBR data	ELVADO	Reclamation	pan ice switch	unitless	reservoir.dss	INPUT	PAN ICE SWITCH	1975-2007
El Vado Reservoir near Tierra Amarilla, NM	USBR data	ELVADO	Reclamation	present irrigated area loss rate	ft	reservoir.dss	INPUT	PIRRIG	1975-2007
El Vado Reservoir near Tierra Amarilla, NM	USBR data	ELVADO	Reclamation	present meadow loss rate	ft	reservoir.dss	INPUT	PMEADOW	1975-2007
Abiquiu Reservoir near Abiquiu, NM	USACOE data used by USBR in accounting	ABIQUIU	U.S. Army Corps of Engineers (USACOE)	precipitation	inches	reservoir.dss	USBR	PRECIPITATION RATE	1963-2007
Abiquiu Reservoir near Abiquiu, NM	USACOE data used by USBR in accounting	ABIQUIU	USACOE	pan evaporation	inches	reservoir.dss	USBR	PAN EVAPORATION	1975-2007
Abiquiu Reservoir near Abiquiu, NM	USACOE data used by USBR in accounting	ABIQUIU	USACOE	pool elevation	ft NGVD29	reservoir.dss	USBR	POOL ELEVATION	1963-2007
Abiquiu Reservoir near Abiquiu, NM	USACOE data used by USBR in accounting	ABIQUIU	USACOE	inflow	cfs	reservoir.dss	USBR	INFLOW	1975-2007
Abiquiu Reservoir near Abiquiu, NM	USACOE data used by USBR in accounting	ABIQUIU	USACOE	K Factor	ft/°F	reservoir.dss	INPUT	K FACTOR	1975-2007
Abiquiu Reservoir near Abiquiu, NM	USACOE data used by USBR in accounting	ABIQUIU	USACOE	maximum and minimum air temperature	°F	reservoir.dss	USBR	MAX AIR TEMPERATURE MIN AIR TEMPERATURE	1975-2007
Abiquiu Reservoir near Abiquiu, NM	USACOE data used by USBR in accounting	ABIQUIU	USACOE	outflow	cfs	reservoir.dss	USBR	OUTFLOW	1975-2007
Abiquiu Reservoir near Abiquiu, NM	USACOE data used by USBR in accounting	ABIQUIU	USACOE	storage	acre-ft	reservoir.dss	USBR	STORAGE	1963-2007
Abiquiu Reservoir near Abiquiu, NM	USACOE data used by USBR in accounting	ABIQUIU	USACOE	surface ice coverage	unitless (decimal fraction)	reservoir.dss	USBR	SURFACE ICE COVERAGE	1975-2007
Abiquiu Reservoir near Abiquiu, NM	USACOE data used by USBR in accounting	ABIQUIU	USACOE	pan ice switch	unitless	reservoir.dss	INPUT	PAN ICE SWITCH	1975-2007
Abiquiu Reservoir near Abiquiu, NM	USACOE data used by USBR in accounting. All locked in values are set to zero (records do not represent historic locked in periods)	ABIQUIU	USACOE	locked in	unitless	reservoir.dss	INPUT	LOCKED IN	1975-2007
Abiquiu Reservoir near Abiquiu, NM	USACOE data used by USBR in accounting	ABIQUIU	USACOE	accumulated permanent sediment	acre-ft	reservoir.dss	USBR	SEDIMENTACCPERM	1975-2007
Abiquiu Reservoir near Abiquiu, NM	USACOE data used by USBR in accounting. All tailwater values set to constant elevation.	ABIQUIU	USACOE	tailwater elevation	ft	reservoir.dss	INPUT	TAILWATER ELEVATION	1975-2007

Station Name	Data Comments	DSS record Bparts	Agency collecting data	Data type	Dimen-sion of data	DSS Filename	DSS record fpart	DSS record cpart	Period of record in DSS
Table 13. Meta data for data used in the URGWOM modeling project--/usr1/urgwom/data/basicdata4/reservoir.dss									
Cochiti Lake near Cochiti Pueblo, NM	USACOE data used by USBR in accounting	COCHITI	USACOE	precipitation	inches	reservoir.dss	USBR	PRECIPITATION RATE	1975-2007
Cochiti Lake near Cochiti Pueblo, NM	USACOE data used by USBR in accounting	COCHITI	USACOE	pan evaporation	inches	reservoir.dss	USBR	PAN EVAPORATION	1975-2007
Cochiti Lake near Cochiti Pueblo, NM	USACOE data used by USBR in accounting	COCHITI	USACOE	pool elevation	ft NGVD29	reservoir.dss	USBR	POOL ELEVATION	1975-2007
Cochiti Lake near Cochiti Pueblo, NM	USACOE data used by USBR in accounting	COCHITI	USACOE	inflow	cfs	reservoir.dss	USBR	INFLOW	1975-2007
Cochiti Lake near Cochiti Pueblo, NM	USACOE data used by USBR in accounting	COCHITI	USACOE	K Factor	ft/°F	reservoir.dss	INPUT	K FACTOR	1975-2007
Cochiti Lake near Cochiti Pueblo, NM	USACOE data used by USBR in accounting	COCHITI	USACOE	maximum and minimum air temperature	°F	reservoir.dss	USBR	MAX AIR TEMPERATURE MIN AIR TEMPERATURE	1975-2007
Cochiti Lake near Cochiti Pueblo, NM	USACOE data used by USBR in accounting	COCHITI	USACOE	outflow	cfs	reservoir.dss	USBR	OUTFLOW	1975-2007
Cochiti Lake near Cochiti Pueblo, NM	USACOE data used by USBR in accounting	COCHITI	USACOE	storage	acre-ft	reservoir.dss	USBR	STORAGE	1975-2007
Cochiti Lake near Cochiti Pueblo, NM	USACOE data used by USBR in accounting	COCHITI	USACOE	surface ice coverage	unitless (decimal fraction)	reservoir.dss	USBR	SURFACE ICE COVERAGE	1975-2007
Cochiti Lake near Cochiti Pueblo, NM	USACOE data used by USBR in accounting	COCHITI	USACOE	pan ice switch	unitless	reservoir.dss	INPUT	PAN ICE SWITCH	1975-2007
Cochiti Lake near Cochiti Pueblo, NM	USACOE data used by USBR in accounting. All locked in values are set to zero (records do not represent historic locked in periods)	COCHITI	USACOE	locked in	unitless	reservoir.dss	INPUT	LOCKED IN	1975-2007
Cochiti Lake near Cochiti Pueblo, NM	USACOE data used by USBR in accounting	COCHITI	USACOE	accumulated permanent sediment	acre-ft	reservoir.dss	USBR	SEDIMENTACCPERM	1975-2007
Cochiti Lake near Cochiti Pueblo, NM	USACOE data used by USBR in accounting	COCHITI	USACOE	present irrigated area loss rate	inches	reservoir.dss	INPUT	PIRRIG	1975-2007
Cochiti Lake near Cochiti Pueblo, NM	USACOE data used by USBR in accounting	COCHITI	USACOE	Rio Grande carry over	acre-ft	reservoir.dss	INPUT	RGCARRYOVER	2000-2007
Jemez Canyon Dam Reservoir near Bernalillo, NM	USACOE data used by USBR in accounting.	JEMEZ	USACOE	precipitation	inches	reservoir.dss	USBR	PRECIPITATION RATE	1953-2007
Jemez Canyon Dam Reservoir near Bernalillo, NM	USACOE data used by USBR in accounting. 1975 filled in with regression equation correlated with Cochiti pan evaps.	JEMEZ	USACOE	pan evaporation	inches	reservoir.dss	USBR	PAN EVAPORATION	1975-2007
Jemez Canyon Dam Reservoir near Bernalillo, NM	USACOE data used by USBR in accounting.	JEMEZ	USACOE	pool elevation	ft NGVD29	reservoir.dss	USBR	POOL ELEVATION	1953-2007
Jemez Canyon Dam Reservoir near Bernalillo, NM	USACOE data used by USBR in accounting.	JEMEZ	USACOE	inflow	cfs	reservoir.dss	USBR	INFLOW	1970-2007
Jemez Canyon Dam Reservoir near Bernalillo, NM	USACOE data used by USBR in accounting.	JEMEZ	USACOE	K Factor	ft/°F	reservoir.dss	INPUT	K FACTOR	1975-2007

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Station Name	Data Comments	DSS record Bparts	Agency collecting data	Data type	Dimension of data	DSS Filename	DSS record fpart	DSS record cpart	Period of record in DSS
Jemez Canyon Dam Reservoir near Bernalillo, NM	USACOE data used by USBR in accounting.	JEMEZ	USACOE	maximum and minimum air temperature	°F	reservoir.dss	USBR	MAX AIR TEMPERATURE MIN AIR TEMPERATURE	1975-2007
Jemez Canyon Dam Reservoir near Bernalillo, NM	USACOE data used by USBR in accounting.	JEMEZ	USACOE	outflow	cfs	reservoir.dss	USBR	OUTFLOW	1970-2007
Jemez Canyon Dam Reservoir near Bernalillo, NM	USACOE data used by USBR in accounting.	JEMEZ	USACOE	storage	acre-ft	reservoir.dss	USBR	STORAGE	1966-2007
Jemez Canyon Dam Reservoir near Bernalillo, NM	USACOE data used by USBR in accounting.	JEMEZ	USACOE	surface ice coverage	unitless (decimal fraction)	reservoir.dss	USBR	SURFACE ICE COVERAGE	1975-2007
Jemez Canyon Dam Reservoir near Bernalillo, NM	USACOE data used by USBR in accounting. Switch is set on (1) from Nov. 1 - Mar. 31 and off (0) Apr. 1-Oct. 31.	JEMEZ	USACOE	pan ice switch	unitless	reservoir.dss	INPUT	PAN ICE SWITCH	1975-2007
Jemez Canyon Dam Reservoir near Bernalillo, NM	USACOE data used by USBR in accounting. All locked in values are set to zero (records do not represent historic locked in periods)	JEMEZ	USACOE	locked in	unitless	reservoir.dss	INPUT	LOCKED IN	1975-2007
Jemez Canyon Dam Reservoir near Bernalillo, NM	USACOE data used by USBR in accounting.	JEMEZ	USACOE	accumulated permanent sediment	acre-ft	reservoir.dss	USBR	SEDIMENTACCPERM	1975-2007
Jemez Canyon Dam Reservoir near Bernalillo, NM	USACOE data used by USBR in accounting.	JEMEZ	USACOE	Rio Grande carry over	acre-ft	reservoir.dss	INPUT	RGCARRYOVER	2000-2005
Elephant Butte Reservoir at Elephant Butte, NM	USBR data	ELEPHANT BUTTE	Reclamation	precipitation	inches	reservoir.dss	USBR	PRECIPITATION RATE	1975-2007
Elephant Butte Reservoir at Elephant Butte, NM	USBR data	ELEPHANT BUTTE	Reclamation	pan evaporation	inches	reservoir.dss	USBR	PAN EVAPORATION	1975-2007
Elephant Butte Reservoir at Elephant Butte, NM	USBR data	ELEPHANTBUTTE	Reclamation	pool elevation	ft NGVD29	reservoir.dss	USBR	POOL ELEVATION	1975-2007
Elephant Butte Reservoir at Elephant Butte, NM	USBR data	ELEPHANTBUTTE	Reclamation	inflow	cfs	reservoir.dss	USBR	INFLOW	1985-2007
Elephant Butte Reservoir at Elephant Butte, NM	USBR data. Records not maintained in accounting model.	ELEPHANTBUTTE	Reclamation	maximum and minimum air temperature	°F	reservoir.dss	USBR	MAX AIR TEMPERATURE MIN AIR TEMPERATURE	1975-1999
Elephant Butte Reservoir at Elephant Butte, NM	USBR data	ELEPHANTBUTTE	Reclamation	outflow	cfs	reservoir.dss	USBR	OUTFLOW	1985-2007
Elephant Butte Reservoir at Elephant Butte, NM	USBR data. Switch is set off (0) for entire record.	ELEPHANTBUTTE	Reclamation	pan ice switch	unitless	reservoir.dss	USBR	PAN ICE SWITCH	1975-2008
Elephant Butte Reservoir at Elephant Butte, NM	USBR data ('75-'85 data are EOM storages)	ELEPHANTBUTTE	Reclamation	storage	acre-ft	reservoir.dss	USBR	STORAGE	1975-2007
Elephant Butte Reservoir at Elephant Butte, NM	USBR data. All tailwater values set to constant elevation.	ELEPHANTBUTTE	Reclamation	tailwater elevation	ft	reservoir.dss	EST	TAILWATER ELEVATION	1975-2007

Table 13. Meta data for data used in the URGWOM modeling project--/usr1/urgwom/data/basicdata4/reservoir.dss

Station Name	Data Comments	DSS record Bparts	Agency collecting data	Data type	Dimen-sion of data	DSS Filename	DSS record fpart	DSS record cpart	Period of record in DSS
Table 13. Meta data for data used in the URGWOM modeling project--/usr1/urgwom/data/basicdata4/reservoir.dss									
Caballo Reservoir, Arrey, NM	Obtained from USBR El Paso Office (Precip and Evap from Jan '07 is missing - temporarily replaced with Jan of '06). 1999-2007 data obtained from USBR El Paso Office (Precip and Evap from Jan '07 is missing, temporarily replaced with Precip and Evap from Jan '06)	CABALLO	Reclamation	precipitation	inches	reservoir.dss	USBR	PRECIPITATION RATE	1975-2007
Caballo Reservoir, Arrey, NM	1989-2000 data from El Paso USBR. 1980-88 data from original USBR records that were checked, corrected, and/or estimated for missing values by URGWOM. 1975-79 filled in with regression equation correlated with Cochiti pan evaps. 1999-2007 data obtained from USBR El Paso Office (Precip and Evap from Jan '07 is missing, temporarily replaced with Precip and Evap from Jan '06)	CABALLO	Reclamation	pan evaporation	inches	reservoir.dss	USBR	PAN EVAPORATION	1975-2007
Caballo Reservoir, Arrey, NM	USBR data.	CABALLO	Reclamation	pool elevation	ft NGVD29	reservoir.dss	USBR	POOL ELEVATION	1996-2007
Caballo Reservoir, Arrey, NM	USBR data.	CABALLO	Reclamation	maximum and minimum air temperature	°F	reservoir.dss	USBR	MAX AIR TEMPERATURE MIN AIR TEMPERATURE	1975-1999
Caballo Reservoir, Arrey, NM	USBR data. Jan. 1, 1930-Sep. 30, 1965 all zero data.	CABALLO	Reclamation	storage	acre-ft	reservoir.dss	USBR	STORAGE	1930-2007

Station Name	Data comments	DSS record Bpart	Agency collecting data	Data type	Dimen-sion of data	DSS File	Station number	DSS record fparts	DSS record cparts	Period of record in URGWOM files
		AT BANDED CREEK	U.S. Geological Survey (USGS)	Flow	CFS	streams.dss		USGS	FLOW	10/01/1936-9/30/95
Azotea Tunnel at Outlet, near Chama, NM		AZOTEA	U.S. Bureau of Reclamation (Reclamation)	Flow	CFS	streams.dss	08284160	USBR	FLOW	10/1970 to 9/30/2000
Rio Blanco below Blanco Diversion Dam near Pagosa		BLW BLANCO	State of Colorado	Flow	CFS	streams.dss	09343300	USBR	FLOW	1971-9/30/2006
Little Navajo River below Little Oso Diversion Dam (USGS: 1971-1996); Little Navajo River below Little Oso Diversion Ditch (State of CO: 1997-2006)	Data from 1/1/97-9/30/2006 from Colorado "below Little Oso Diversion Ditch" gage. 10/1/2004 through 9/30/2005 is provisional. State of CO data was retrieved from: http://cdss.state.co.us/DNN/ViewData/Stations Streamflow/tabid/74/Default.aspx. Provisional data was retrieved by using "AdminFlow" instead of "streamflow" in the website retrieval table.	BLW LITTLE OSO	State of Colorado	Flow	CFS	streams.dss	USGS: 09345200; State of CO: LITOSOCO	USBR	FLOW	1971-9/30/2004, 10/1/2005-9/30/2006
Navajo River Below Oso below Oso Diversion Dam near Chromo, CO	State of CO data was retrieved from: http://cdss.state.co.us/DNN/ViewData/Stations Streamflow/tabid/74/Default.aspx	BLW OSO	State of Colorado	Flow	Cubic feet per second (CFS)	streams.dss	09344400	USBR	FLOW	1971-09/30/2006
Costilla Creek at Garcia, CO		CC AT GARCIA	USGS	Flow	CFS	streams.dss	08261000	USGS	FLOW	1965 to 12/31/2006
Embudo Creek at Dixon, NM		EC AT DIXON	USGS	Flow	CFS	streams.dss	08279000	USGS	FLOW	10/1923 to 2/1926, 10/1926 to 9/1955, wy 1956-1962, 9/1962 to 9/30/2007
Galisteo Creek at Domingo, NM	Station discontinued	GALISTEO CREEK AT DOMINGO	USGS	Flow	CFS	streams.dss	08318000	USGS	FLOW	10/1941 to 6/1971

Table 14. Meta data for data used in the URGWOM modeling project--/usr1/urgwom/data/basicdata4/streams.dss

Station Name	Data comments	DSS record Bpart	Agency collecting data	Data type	Dimen-sion of data	DSS File	Station number	DSS record fparts	DSS record cparts	Period of record in URGWOM files
Galisteo Creek below Galisteo Dam, NM		GC BLW GALISTEO	USGS	Flow	CFS	streams.dss	08317950	USGS	FLOW	3/1970 to 9/30/2007
Jemez River below Jemez Canyon Dam, NM		JR BLW JEMEZ CNYN DAM	USGS	Flow	CFS	streams.dss	08329000	USGS	FLOW	3/1936 to 1/1938, 3/1943 to 9/30/2007
Jemez River near Jemez, NM		JR NR JEMEZ	USGS	Flow	CFS	streams.dss	08324000	USGS	FLOW	6/1936 to 5/1941,8/1949 to 10/1950, 6/1951 to 9/1952, 3/1953 to 9/30/2000
North Floodway Channel at Albuquerque, NM		NFC AT ALB	USGS	Flow	CFS	streams.dss	08329835	USGS	FLOW	6/1982 to 9/30/2007
North Floodway Channel near Alameda, NM		NFC NR ALAMEDA	USGS	Flow	CFS	streams.dss	08329900	USGS	FLOW	1975 to 9/30/2007
Rio Chama above Abiquiu Reservoir, NM		RC ABV ABIQUIU	USGS	Flow	CFS	streams.dss	08286500	USGS	FLOW	8/1961 to 9/30/2007
Rio Chama below Abiquiu Dam, NM		RC BLW ABIQUIU	USGS	Flow	CFS	streams.dss	08287000	USGS	FLOW	11/1961 to 9/30/2007
Rio Chama below El Vado Dam, NM		RC BLW EL VADO	USGS	Flow	CFS	streams.dss	08285500	USGS	FLOW	10/1935 to 9/30/2007
Rio Chama near Abiquiu, NM	Station discontinued	RC NR ABIQUIU	USGS	Flow	CFS	streams.dss	08287500	USGS	FLOW	1941 to 1967
Rio Chama near Chamita, NM		RC NR CHAMITA	USGS	Flow	CFS	streams.dss	08290000	USGS	FLOW	10/1912 to 9/30/2007
Rio Chama near La Puenta, NM		RC NR LA PUENTE	USGS	Flow	CFS	streams.dss	08284100	USGS	FLOW	10/1955 to 9/30/2007
Rio Grande above San Juan Pueblo, NM	Station discontinued	RG ABV SAN JUAN	USGS	Flow	CFS	streams.dss	08281100	USGS	FLOW	04/1963 to 05/1987

Table 14. Meta data for data used in the URGWOM modeling project--/usr1/urgwom/data/basicdata4/streams.dss

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Station Name	Data comments	DSS record Bpart	Agency collecting data	Data type	Dimen-sion of data	DSS File	Station number	DSS record fparts	DSS record cparts	Period of record in URGWOM files
Rio Grande at Albuquerque, NM		RG AT ALB	USGS	Flow	CFS	streams.dss	08330000	USGS	FLOW	10/1941 to 9/30/2007
Rio Grande at Cochiti, NM	Station discontinued	RG AT COCHITI	USGS	Flow	CFS	streams.dss	08314500	USGS	FLOW	1926 to 1970
Rio Grande at El Paso, TX	Downloaded data from: http://www.ibwc.state.gov/Water_Data/histflo1.htm 2004 through 2007 is provisional.	RG AT EL PASO	International Boundary and Water Commision (IBWC)	Flow	CFS	streams.dss	08364000	IBWC	FLOW	1/1938 to 9/30/2007
Rio Grande at Embudo, NM		RG AT EMBUDO	USGS	Flow	CFS	streams.dss	08279500	USGS	FLOW	1/1889 to 9/30/2007
Rio Grande at Fort Quitman, TX	Downloaded data from: http://www.ibwc.state.gov/Water_Data/histflo1.htm 2004 through 2007 is provisional.	RG AT FORT QUITMAN	IBWC	Flow	CFS	streams.dss	08370500	IBWC	FLOW	1/1923 to 9/30/2000
Rio Grande at Isleta, NM	Station discontinued	RG AT ISLETA	USGS	Flow	CFS	streams.dss	08331000	USGS	FLOW	9/1995 to 9/1997
Rio Grande at Otowi Bridge, near San Ildefonso, NM		RG AT OTOWI BRID	USGS	Flow	CFS	streams.dss	08313000	USGS	FLOW	2/1895 to 12/1905, 6/1909 to 9/30/2007
Rio Grande at Rio Bravo Bridge near Albuquerque, NM	Station discontinued	RG AT RIO BRAVO	USGS	Flow	CFS	streams.dss	08330150	USGS	FLOW	1/1991 to 4/1997
Rio Grande at San Fellipe, NM		RG AT SAN FELIPE	USGS	Flow	CFS	streams.dss	08319000	USGS	FLOW	10/1925 to 9/30/2007
Rio Grande below Leasburg Diversion Dam	Missing data for 7/30/00 estimated by linear interpolation using flow the day before and day after Obtained data from USBR El Paso Office -- Missing data in set (gage broken?):3/17/03-3/31/03, 5/28/03-5/31/03, 11/27/03-11/30/03, 12/3/03, 9/21/04-10/4/04, 11/4/04-11/7/04; Filled in missing data using regression equation or interpolation.	RG BELOW LEASBURG DIVERSION DAM	Reclamation	Flow	CFS	streams.dss		USBR	FLOW	1/1/1975 to 12/31/2000

Table 14. Meta data for data used in the URGWOM modeling project--/usr1/urgwom/data/basicdata4/streams.dss

Station Name	Data comments	DSS record Bpart	Agency collecting data	Data type	Dimension of data	DSS File	Station number	DSS record fparts	DSS record cparts	Period of record in URGWOM files
Table 14. Meta data for data used in the URGWOM modeling project--/usr1/urgwom/data/basicdata4/streams.dss										
Rio Grande below Mesilla Diversion Dam	Data from 1/1/75 thru 12/31/84 were not available from the USBR. Data were generated using the equation: blw Mesilla Dam flow = 0.2371*flow blw Leasburg Dam + 0.5256*flow at El Paso gage. All flows are in CFS. Regression equation based on data from 1/1/86-9/30/99 with a multiple R-squared value of 0.92.	RG BELOW MESILLA DIVERSION DAM	Reclamation	Flow	CFS	streams.dss		CALC	FLOW	1/1/1975 to 12/31/1984
Rio Grande below Mesilla Diversion Dam	Data from 1/1/75 thru 12/31/84 were not available from the USBR. Data were generated using the equation: blw Mesilla Dam flow = 0.2371*flow blw Leasburg Dam + 0.5256*flow at El Paso gage. All flows are in CFS. Regression equation based on data from 1/1/86-9/30/99 with a multiple R-squared value of 0.92. Obtained data from USBR El Paso Office -- Missing data in set (gage broken?): 10/31/03, 11/14/03-12/31/03, 5/18/03-5/24/03, 8/12/06-10/25/06, 8/4/07-8/5/07; Filled in missing data using regression equation or interpolation.	RG BELOW MESILLA DIVERSION DAM	Reclamation	Flow	CFS	streams.dss		USBR	FLOW	1/1/1985 to 12/31/2007
Rio Grande below Caballo Dam, NM		RG BLW CABALLO DAM	Reclamation	Flow	CFS	streams.dss	08362500	USBR	FLOW	1/1938 to 9/30/2007
Rio Grande below Cochiti Dam, NM		RG BLW COCHITI DAM	USGS	Flow	CFS	streams.dss	08317400	USGS	FLOW	10/1970 to 9/30/2007
Rio Grande below Elephant Butte Dam, NM		RG BLW ELEPHANT	USGS	Flow	CFS	streams.dss	08361000	USGS	FLOW	1/1915 to 9/30/2007
Rio Grande below Taos Junction Bridge, near Taos, NM		RG BLW TAOS JUNC	USGS	Flow	CFS	streams.dss	08276500	USGS	FLOW	10/1925 to 9/30/2007
Rio Grande near Arroyo Hondo, NM	Station discontinued	RG NR ARROYO HON	USGS	Flow	CFS	streams.dss	08268700	USGS	FLOW	2/1963 to 9/1996

Station Name	Data comments	DSS record Bpart	Agency collecting data	Data type	Dimen-sion of data	DSS File	Station number	DSS record fparts	DSS record cparts	Period of record in URGWOM files
	Table 14. Meta data for data used in the URGWOM modeling project--/usr1/urgwom/data/basicdata4/streams.dss									
Rio Grande near Alameda, NM	Small amount of data was in record during summer of 2000 that does not seem to be in USGS's records--left it.	RG NR ALAMEDA	USGS	Flow	CFS	streams.dss	08329928	USGS	FLOW	3/1989 to 8/1996; 6/9/03-9/30/07
Rio Grande near Cerro, NM		RG NR CERRO	USGS	Flow	CFS	streams.dss	08263500	USGS	FLOW	5/1948 to 9/1994, 10/1995 to 9/30/2007
Rio Grande near Del Norte, CO.	Now operated by the Colorado Division of Natural Resources (DWR).	RG NR DEL NORTE	USGS; Colorado DWR	Flow	CFS	streams.dss	08220000	USGS	FLOW	1/1/1904 to 9/30/2007
Rio Grande near Lobatos CO.		RG NR LOBATOS	USGS	Flow	CFS	streams.dss	08251500	USGS	FLOW	6/1899 to 9/30/2007
Rio Grande Conveyance Channel at San Acacia, NM		RGCC AT SAN ACAC	USGS	Flow	CFS	streams.dss	08354800	USGS	FLOW	10/1958 to 9/1964, 10/1964 to 1/1994, 10/1994 to 9/30/2005
Rio Grande Conveyance Channel at San Marcial, NM		RGCC AT SAN MARC	USGS	Flow	CFS	streams.dss	08358300	USGS	FLOW	10/1958 to 9/1959, 10/1964 to 9/30/2007
Rio Grande Conveyance Channel near Bernardo, NM	Station discontinued at EOWY 2004 DSS records have "fill-in data" stored in them.	RGCC NR BERNARDO	USGS	Flow	CFS	streams.dss	08331990	USGS	FLOW	6/1936 to 9/1937, 10/1964 to 9/30/2004
Rio Grande Floodway at San Acacia, NM		RGF AT SAN ACACI	USGS	Flow	CFS	streams.dss	08354900	USGS	FLOW	4/1936 to 9/1958, 10/1958 to 9/1964, 10/1964 to 9/30/2007

Station Name	Data comments	DSS record Bpart	Agency collecting data	Data type	Dimension of data	DSS File	Station number	DSS record fparts	DSS record cparts	Period of record in URGWOM files
Rio Grande Floodway at San Marcial, NM		RGF AT SAN MARCI	USGS	Flow	CFS	streams.dss	08358400	USGS	FLOW	10/1964 to 9/30/2007
Rio Grande Floodway near Bernardo, NM	This gage number (08332010) is no longer in the state wide index. DSS records in COE master file go up to 9/30/04 with real data ("fill-in" data for last 3 months as above)	RGF NR BERNARDO	USGS	Flow	CFS	streams.dss	08332010	USGS	FLOW	6/1936 to 1/1939, 10/1941 to 9/30/2000
Rio Hondo near Valdez, NM		RH NR VALDEZ	USGS	Flow	CFS	streams.dss	08267500	USGS	FLOW	8/1934 to 9/30/2007
Rio Nambe Below Nambe Falls Dam Near Nambe, NM		RN BLW NAMBE FAL	USGS	Flow	CFS	streams.dss	08294210	USGS	FLOW	01/01/1979 - 09/30/07
Rio Nambe near Nambe, NM	Station discontinued	RN NR NAMBE	USGS	Flow	CFS	streams.dss	08295000	USGS	FLOW	10/1932 to 9/1951
Rio Ojo Caliente at La Madera, NM		ROC AT LA MADERA	USGS	Flow	CFS	streams.dss	08289000	USGS	FLOW	4/1932 to 9/30/2007
Rio Puerco near Bernardo, NM		RP NR BERNARDO	USGS	Flow	CFS	streams.dss	08353000	USGS	FLOW	11/1939 to 9/30/2007
Rio Pueblo de Taos below Los Cordovas, NM		RPT BLW CORDOVAS	USGS	Flow	CFS	streams.dss	08276300	USGS	FLOW	3/1957 to 9/30/2007
Red River below Fish Hatchery, near Questa, NM	Data from 1/1/75-8/8/78 generated using data from Red River nr Questa and the equation rrfishQ=1.2083*rrquestaQ+21.398. R2 is 0.96 ** flows (Q) are in cubic feet per second	RR BLW FISH HATC	USGS	Flow	CFS	streams.dss	08266820	USGS	FLOW	1/1/1975 to 9/30/2007

Table 14. Meta data for data used in the URGWOM modeling project--/usr1/urgwom/data/basicdata4/streams.dss

Station Name	Data comments	DSS record Bpart	Agency collecting data	Data type	Dimension of data	DSS File	Station number	DSS record fparts	DSS record cparts	Period of record in URGWOM files
Rio Salado near San Acacia, NM	Station discontinued	RS AT SAN ACACIA	USGS	Flow	CFS	streams.dss	08354000	USGS	FLOW	wy 1947-1984
San Antonio riverside drain near San Antonio, NM	Station discontinued	SAN ANTNO DRAIN @SA	USGS	Flow	CFS	streams.dss	08356500	USGS	FLOW	1965 to 1971
Santa Clara Creek near Espanola, NM	Station discontinued	SANTA CLARA CREEK	USGS	Flow	CFS	streams.dss	08292000	USGS	FLOW	1984 to 1994
Santa Cruz River at Cundiyo, NM		SCR AT CUNDIYO	USGS	Flow	CFS	streams.dss	08291000	USGS	FLOW	10/1930 to 9/30/2007
Santa Cruz River at Riverside, NM	Station discontinued	SCR AT RIVERSIDE	USGS	Flow	CFS	streams.dss	08291500	USGS	FLOW	01/1942 to 10/1951
South Diversion Channel above Tijeras Arroyo near Albuquerque, NM	Station was installed 6/88. Data from 10/1/82-5/31/88 was estimated by subtracting Tijeras Arroyo nr Alb (08330600) from Tijeras Arroyo blw South Diversion Channel Inlet nr Alb (08330800). Data from 06/01/88 is from station record. DSS Records in COE file were stored as "INST-VAL"; old file used "PER-AVER"; re-stored all records as "PER-AVER" in master COE file.	SDC ABV TIJERAS	USGS	Flow	CFS	streams.dss	08330775	USGS	FLOW	10/1/1982 to 9/30/2007
Santa Fe River above Cochiti Lake, NM	Station discontinued	SFR ABV COCHITI	USGS	Flow	CFS	streams.dss	08317200	USGS	FLOW	3/1970 to 9/30/99
Tijeras Arroyo near Albuquerque, NM		TA NR ALB	USGS	Flow	CFS	streams.dss	08330600	USGS	FLOW	10/1/1982 to 9/30/2007
Willow Creek above Heron Reservoir, near Los Ojos, NM	Pulled all except 2007 records from genmonex.dss; pulled 2007 from 2007 accounting model.	WC ABV HERON	Reclamation	Flow	CFS	streams.dss	08284200	USBR	FLOW	12/1962 to 9/30/2000
Willow Creek below Heron Dam, NM	Missing 12/31/03 (genmonex.dss is missing EOY values) Pulled all except 2007 records from genmonex.dss; pulled 2007 from 2007 accounting model.	WC BLW HERON	Reclamation	Flow	CFS	streams.dss	08284520	USBR	FLOW	1/1971 to 9/30/2000

Table 14. Meta data for data used in the URGWOM modeling project--/usr1/urgwom/data/basicdata4/streams.dss

Table 15. Meta data for data used in the URGWOM modeling project--/usr1/urgwom/data/basicdata4/wastewater.dss											
Station Name	Data Comments	DSS record Bpart	Agency collecting data	Data type	Dimen-sion of data	DSS File	EPA Permit number	DSS record fpart	DSS record cpart	Period of record in URGWOM files
City of Taos, NM	Average daily flow data is computed from monthly flow data obtained from Dallas EPA. Dallas EPA provided monthly flow data for the period 1/1/1989-12/31/2007. Daily values were derived from the reported monthly values by dividing the monthly total by the number of days in the month. Prior to 1/1/89 daily flow was computed by averaging, by month, the flow data for the period 1/1/1989-12/31/2000. The monthly flow was then divided by the number of days in a month to obtain a daily flow. 1/1/2001 through 12/31/2007 was provided in a 30 day average for each month that was converted to a constant discharge in cfs for each month.	TAOS WW	United States Environmental Protection Agency (USEPA)	Flow	Cubic feet per second (cfs)	wastewater.dss	nm0024066	CALC	FLOW	1975-2007
City of Espanola, NM	Average daily flow data is computed from monthly flow data obtained from Dallas EPA. Dallas EPA provided monthly flow data for the period 1/1/1989-12/31/2007. Daily values were derived from the reported monthly values by dividing the monthly total by the number of days in the month. Prior to 1/1/89 daily flow was computed by averaging, by month, the flow data for the period 1/1/1989-12/31/2000. The monthly flow was then divided by the number of days in a month to obtain a daily flow. 1/1/2001 through 12/31/2007 was provided in a 30 day average for each month that was converted to a constant discharge in cfs for each month.	ESPANOLA WW	USEPA	Flow	cfs	wastewater.dss	nm0029351	CALC	FLOW	1974-2007
Los Alamos County, NM	Average daily flow data is computed from monthly flow data obtained from Dallas EPA. Dallas EPA provided monthly flow data for the period 1/1/1989-12/31/2007. Daily values were derived from the reported monthly values by dividing the monthly total by the number of days in the month. Prior to 1/1/89 daily flow was computed by averaging, by month, the flow data for the period 1/1/1989-12/31/2000. The monthly flow was then divided by the number of days in a month to obtain a daily flow. 1/1/2001 through 12/31/2007 was provided in a 30 day average for each month that was converted to a constant discharge in cfs for each month.	LOSALAMOS CNTY WW	USEPA	Flow	cfs	wastewater.dss	nm0020141	CALC	FLOW	1975-1984; 1989-2007
Los Alamos National Lab, NM	Average daily flow data is computed from monthly flow data obtained from Dallas EPA. Dallas EPA provided monthly flow data for the period 1/1/1989-12/31/2007. Daily values were derived from the reported monthly values by dividing the monthly total by the number of days in the month. Prior to 1/1/89 daily flow was computed by averaging, by month, the flow data for the period 1/1/1989-12/31/2000. The monthly flow was then divided by the number of days in a month to obtain a daily flow. 1/1/2001 through 12/31/2007 was provided in a 30 day average for each month that was converted to a constant discharge in cfs for each month.	LOSALAMOS LAB WW	USEPA	Flow	cfs	wastewater.dss	nm0028355	CALC	FLOW	1975-1984; 1989-1996; 2000-2007

Station Name	Data Comments	DSS record Bpart	Agency collecting data	Data type	Dimension of data	DSS File	EPA Permit number	DSS record fpart	DSS record cpart	Period of record in URGWOM files
	Table 15. Meta data for data used in the URGWOM modeling project--/usr1/urgwom/data/basicdata4/wastewater.dss									
City of Bernalillo, NM	Average daily flow data is computed from monthly flow data obtained from Dallas EPA. Dallas EPA provided monthly flow data for the period 1/1/1989-12/31/2007. Daily values were derived from the reported monthly values by dividing the monthly total by the number of days in the month. Prior to 1/1/89 daily flow was computed by averaging, by month, the flow data for the period 1/1/1989-12/31/2000. The monthly flow was then divided by the number of days in a month to obtain a daily flow. 1/1/2001 through 12/31/2007 was provided in a 30 day average for each month that was converted to a constant discharge in cfs for each month.	BERNALILLO WW	USEPA	Flow	cfs	wastewater.dss	nm0023485	CALC	FLOW	1975-2007
City of Rio Rancho, NM	Average daily flow data is computed from monthly flow data obtained from Dallas EPA. Dallas EPA provided monthly flow data for the period 1/1/1989-12/31/2007. Daily values were derived from the reported monthly values by dividing the monthly total by the number of days in the month. Prior to 1/1/89 daily flow was computed by averaging, by month, the flow data for the period 1/1/1989-12/31/2000. The monthly flow was then divided by the number of days in a month to obtain a daily flow. 1/1/2001 through 12/31/2007 was provided in a 30 day average for each month that was converted to a constant discharge in cfs for each month.	RRANCHO WW	USEPA	Flow	cfs	wastewater.dss	nm0027987	CALC	FLOW	1975-2007
City of Albuquerque, NM	Average daily flow data is computed from monthly flow data obtained from Dallas EPA. Dallas EPA provided monthly flow data for the period 1/1/1989-12/31/2007. Daily values were derived from the reported monthly values by dividing the monthly total by the number of days in the month. Prior to 1/1/89 daily flow was computed by averaging, by month, the flow data for the period 1/1/1989-12/31/2000. The monthly flow was then divided by the number of days in a month to obtain a daily flow. 1/1/2001 through 12/31/2007 was provided in a 30 day average for each month that was converted to a constant discharge in cfs for each month.	ALBUQUERQUE WW	USEPA	Flow	cfs	wastewater.dss	nm0022250	CALC	FLOW	1975-2007
City of Los Lunas, NM	Average daily flow data is computed from monthly flow data obtained from Dallas EPA. Dallas EPA provided monthly flow data for the period 1/1/1989-12/31/2007. Daily values were derived from the reported monthly values by dividing the monthly total by the number of days in the month. Prior to 1/1/89 daily flow was computed by averaging, by month, the flow data for the period 1/1/1989-12/31/2000. The monthly flow was then divided by the number of days in a month to obtain a daily flow. 1/1/2001 through 12/31/2007 was provided in a 30 day average for each month that was converted to a constant discharge in cfs for each month.	LLUNAS WW	USEPA	Flow	cfs	wastewater.dss	nm0020303	CALC	FLOW	1975-2007

Station Name	Data Comments	DSS record Bpart	Agency collecting data	Data type	Dimen-sion of data	DSS File	EPA Permit number	DSS record fpart	DSS record cpart	Period of record in URGWOM files
Table 15. Meta data for data used in the URGWOM modeling project--/usr1/urgwom/data/basicdata4/wastewater.dss										
City of Belen, NM	Average daily flow data is computed from monthly flow data obtained from Dallas EPA. Dallas EPA provided monthly flow data for the period 1/1/1989-12/31/2007. Daily values were derived from the reported monthly values by dividing the monthly total by the number of days in the month. Prior to 1/1/89 daily flow was computed by averaging, by month, the flow data for the period 1/1/1989-12/31/2000. The monthly flow was then divided by the number of days in a month to obtain a daily flow. 1/1/2001 through 12/31/2007 was provided in a 30 day average for each month that was converted to a constant discharge in cfs for each month.	BELEN WW	USEPA	Flow	cfs	wastewater.dss	nm0020150	CALC	FLOW	1975-2007
City of Truth or Consequences, NM	Average daily flow data is computed from monthly flow data obtained from Dallas EPA. Dallas EPA provided monthly flow data for the period 1/1/1989-12/31/2007. Daily values were derived from the reported monthly values by dividing the monthly total by the number of days in the month. Prior to 1/1/89 daily flow was computed by averaging, by month, the flow data for the period 1/1/1989-12/31/2000. The monthly flow was then divided by the number of days in a month to obtain a daily flow. 1/1/2001 through 12/31/2007 was provided in a 30 day average for each month that was converted to a constant discharge in cfs for each month.	TORC WW	USEPA	Flow	cfs	wastewater.dss	nm0020681	CALC	FLOW	1975-2000
City of Socorro, NM	Average daily flow data is computed from monthly flow data obtained from Dallas EPA. Dallas EPA provided monthly flow data for the period 1/1/1989-12/31/2007. Daily values were derived from the reported monthly values by dividing the monthly total by the number of days in the month. Prior to 1/1/89 daily flow was computed by averaging, by month, the flow data for the period 1/1/1989-12/31/2000. The monthly flow was then divided by the number of days in a month to obtain a daily flow. EPA data were provided in a 30 day average for each month that was converted to a constant discharge in cfs for each month. 1/1/2000 through 12/31/2007 records were daily data obtained from the City of Socorro and converted to units of cfs (overwrote 2000 monthly disaggregated data with these values).	SOCORRO WW	USEPA	Flow	cfs	wastewater.dss	nm0028835	CALC	FLOW	1975-2007

Table 15. Meta data for data used in the URGWOM modeling project--/usr1/urgwom/data/basicdata4/wastewater.dss										
Station Name	Data Comments	DSS record Bpart	Agency collecting data	Data type	Dimen-sion of data	DSS File	EPA Permit number	DSS record fpart	DSS record cpart	Period of record in URGWOM files
City of Las Cruces, NM	Average daily flow data is computed from monthly flow data obtained from Dallas EPA. Dallas EPA provided monthly flow data for the period 1/1/1989-12/31/2007. Daily values were derived from the reported monthly values by dividing the monthly total by the number of days in the month. Prior to 1/1/89 daily flow was computed by averaging, by month, the flow data for the period 1/1/1989-12/31/2000. The monthly flow was then divided by the number of days in a month to obtain a daily flow. 1/1/2001 through 12/31/2007 was provided in a 30 day average for each month that was converted to a constant discharge in cfs for each month.	LCRUCES WW	USEPA	Flow	cfs	wastewater.dss	nm0023311	CALC	FLOW	1975-2007
City of Anthony, TX	Average daily flow data is computed from monthly flow data obtained from Dallas EPA. Dallas EPA provided monthly flow data for the period 1/1/1989-12/31/2007. Daily values were derived from the reported monthly values by dividing the monthly total by the number of days in the month. Prior to 1/1/89 daily flow was computed by averaging, by month, the flow data for the period 1/1/1989-12/31/2000. The monthly flow was then divided by the number of days in a month to obtain a daily flow.	ANTHONY WW	USEPA	Flow	cfs	wastewater.dss	tx0090522	CALC	FLOW	1985-2000
City of El Paso, TX	Average daily flow data is computed from monthly flow data obtained from Dallas EPA. Dallas EPA provided monthly flow data for the period 1/1/1989-12/31/2007. Daily values were derived from the reported monthly values by dividing the monthly total by the number of days in the month. Prior to 1/1/89 daily flow was computed by averaging, by month, the flow data for the period 1/1/1989-12/31/2000. The monthly flow was then divided by the number of days in a month to obtain a daily flow. During 1/1/1989-12/31/1996 there were 4 outfalls.	ALL ELPASO WW	USEPA	Flow	cfs	wastewater.dss	tx0026751 tx0087149 tx0101605 tx0026778	CALC	FLOW	1975-1996; 2000

Summary

As part of the 2008-2009 URGWOM Planning Model update to URGWOM 4.0, the HEC-DSS database was also updated. DSS files updated (or newly created) in the process included: agriculture.dss, calculated.dss, diversions.dss, etrate.dss (new), ettool.dss, gwobject.dss (new), localinflow.dss, reservoir.dss, streams.dss, and wastewater.dss. Most records in the database were updated through December 31, 2007 and all of the records needed to run URGWOM 4.0 were at least updated through September 30, 2007.

The DSS database would benefit from the following future work:
- Areas in the agriculture file and possibly in URGWOM itself being stored/loaded on an annual basis rather than a daily basis;
- Reconciliation of the URGWOM 4.0 area database records (IKONOS) with ET Toolbox area records (IKONOS/USU);
- Consolidation and clean-up of certain DSS files (agriculture.dss, ettool.dss, and other small DSS files that are not currently used such as mrgcddemand.dss);
- Consolidation and some QA/QC of ET and open water records that were first processed on the ET Toolbox (pre-2005) and were later reprocessed on the ET Toolbox and posted (Reclamation, 2008b & 2008d);
- And repair of USACOE automated scripts to download ET Toolbox evapotranspiration and open water records into the current etrate.dss file, and eventually the agriculture.dss file (once areas are reconciled).

References

Colorado Office of the State Engineer Division of Water Resources and Colorado Water Conservation Board. 2008. Stream gage data retrievals from Colorado's Decision Support System website at: http://cdss.state.co.us.

Middle Rio Grande Conservancy District. 2009. 2007 MRGCD diversion data in email forwarded to C. Boroughs from N. Shafike including the following Excel files: ALBCN2007.xls, ANGDV2007.xls, ATFCN2007.xls, BELCN2007.xls, CACCB2007.xls, CCCN52007.xls, CHACH2007.xls, CHICN2007.xls.

NMISC. 2008a. Meeting with Mr. Nabil Shafike of the NMISC on July 21, 2008 for discussion of quality control of Middle Valley Rework IKONOS acreages and transmittal (email on July 22, 2008) of "IrrigatedandRiparianIkonosAreasAll.xls" file used for quality control.

NMISC. 2008b. Excel file created by Mr. Nabil Shafike: "DeepAquiferHead_FutureRun" with modeled deep aquifer heads from 2000 through 2020 in sub-area groundwater zone format for URGWOM 4.0.

NMISC. 2008c. Excel file created by Mr. Nabil Shafike: "DeepAquiferHead_FutureRun_REV" with modeled deep aquifer heads from 1990 through 2020 in sub-area groundwater zone format for URGWOM 4.0.

Reclamation. 2008a. ET Toolbox: Evapotranspiration Toolbox for the Middle Rio Grande—A Water Resources Decision Support Tool. Version 2.1. Written by: Al Brower. Water and Environmental Resources Division Technical Service Center, Denver, CO, Bureau of Reclamation, U.S. Department of the Interior. Downloaded from: http://www.usbr.gov/pmts/rivers/awards/ettoolbox.pdf

Reclamation. 2008b. ET Toolbox website. Evapotranspiration estimates for the Middle Rio Grande Valley 2000-2008. Downloaded from: http://www.usbr.gov/pmts/rivers/awards/Nm2/rg/urgwom/

Reclamation. 2008c. Email message from Al Brower to Roberta Ball, Tom Pruitt, and Steve Bowser with link to ET Toolbox files placed on Reclamation's website—message notes that data for the period Dec. 6-31, 2001 was unavailable due to a Department of Interior website shutdown.

Reclamation. 2008d. ET Toolbox website. Open water evaporation estimates for the Rio Grande in the Middle Rio Grande Valley 2000-2008. Downloaded from: http://www.usbr.gov/pmts/rivers/awards/Nm2/rg/newreaches/

Reclamation. 2008e. Email with attachments from Jesus Grajeda and Wayne Treers (cc) of the El Paso Bureau of Reclamation Office to Mr. Craig Boroughs. Attachments contained Caballo and Elephant Butte Reservoir Data and Leasburg and Mesilla stream gage data. Provided in Lotus files: Boroughs' data1.WK4, Boroughs' evap99.WK4, Boroughs' evap00.WK4, Boroughs' evap01.WK4, Boroughs' evap02.WK4, Boroughs' evap03.WK4, Boroughs' evap04.WK4, Boroughs' evap05.WK4, Boroughs' evap06.WK4, Boroughs' evap07.WK4.

Reclamation. 2008 & 2009. DSS accounting output files (reservoir.dss, sjaccount.dss, genmonex.dss), and transmittal of RiverWare accounting models (Account.2004.model.gz, Account.2005.model.gz, Account.2006.mdl.gz, Account_3.1_2007.mdl.gz) provided by Mr. Ed Kandl.

Socorro, City of. Wastewater treatment plant daily measurements of effluent discharge 2000-2007; provided in an excel file named: socorro_wwtp_effluent.xls.

USACOE. 2008a. Meeting with Mr. Marc Sidlow and Ms. Roberta Ball of the U.S. Army Corps of Engineers on April 22, 2008 to transfer URGWOM DSS database files and to discuss DSS updates for URGWOM 4.0.

USACOE. 2008b. Transmittal of localinflow.dss file updated by Mr. Marc Sidlow.

USACOE. 2008c. Downloaded URGWOM metadata files from the URGWOM website at: http://www.spa.usace.army.mil/urgwom/default.asp.

USGS. 2008. Transfer of updated gwobject.dss file with new shallow aquifer starting heads and deep aquifer heads following the URGWOM Technical Team on June 26, 2008.

USGS. 2008 & 2009. Stream gage data retrievals from the National Water Information System (NWIS) Website for New Mexico located at: http://waterdata.usgs.gov/nm/nwis/nwis

USGS and NMISC. 2008. Meeting with Mr. Mike Roark of the USGS on April 21, 2008 for discussion of DSS file updates needed for URGWOM Middle Valley Rework and transmittal of basicdata3 files and other peripheral files created by M. Rourke, N. Shafike (NMISC), and M. Gabora (NMISC) for URGWOM 4.0.

USEPA. 2008. Wastewater treatment plant monthly averages for Albuquerque, NM; El Paso, TX; Anthony, TX; Belen, NM; Bernalillo, NM; Espanola, NM; Las Cruces, NM; Los Lunas, NM; Los Alamos County and Los Alamos Labs, NM; Rio Rancho, NM; Socorro, NM; Taos, NM; and T or C, NM. Requested from Mr. Ted Palit, EPA Region 6, Dallas, TX.