AQUAMAP

Version 3.0.1

DOCUMENTATION AND INSTRUCTIONS

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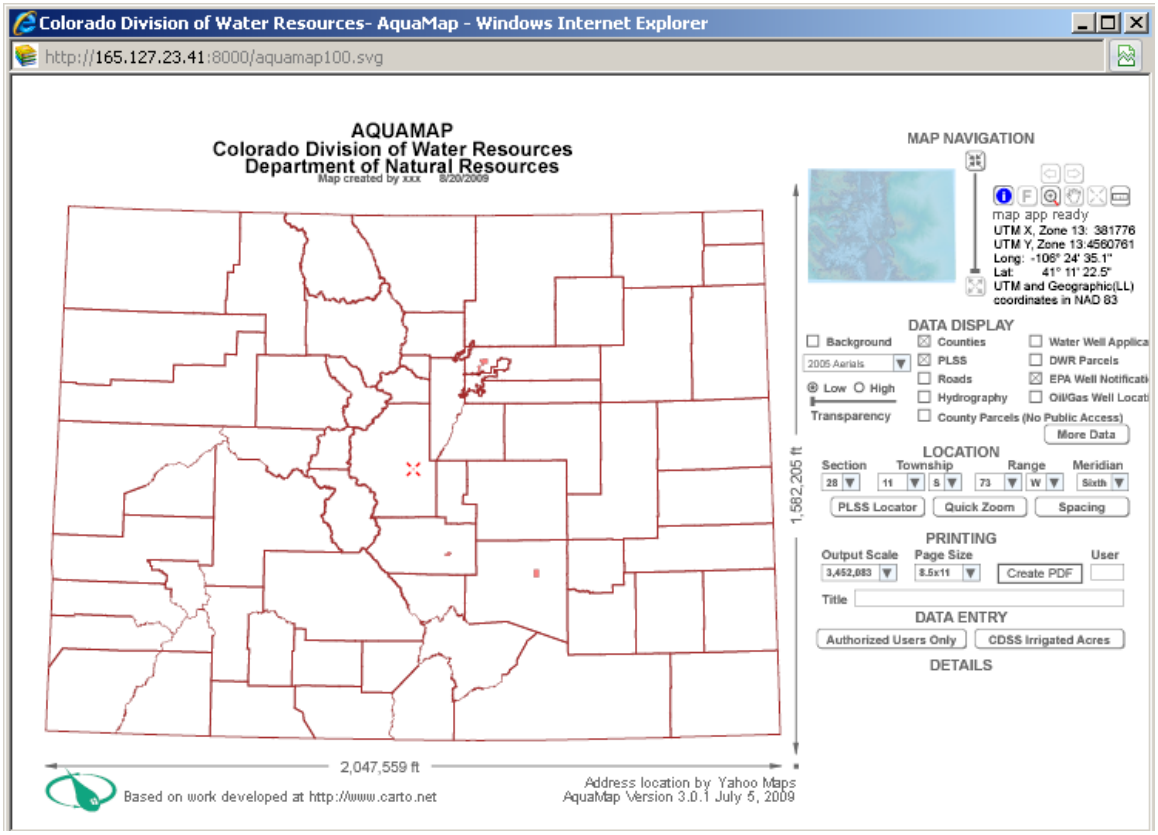
Table of Contents

SUMMARY OF THE AQUAMAP INTERFACE

This section of the document will briefly outline the functionality of the various tabs and check boxes shown on the AquaMap interface. Each item shown on the interface will be briefly discussed. The picture below shows how AquaMap will appear on your screen when it is first opened.



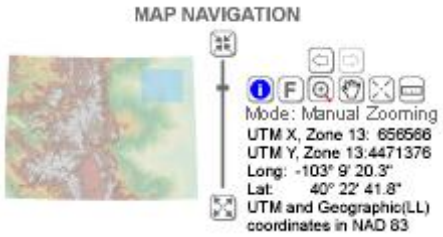
DWR AQUAMAP INTERFACE

The DWR AquaMap Interface comprises of a map on the left portion of the screen and the tools and controls on the right portion of the screen. By default, you will see the county boundaries and well notification areas when the program is opened. The red crosshair represents your location. The map dimensions are given across the bottom and up the right side of the map.

MAP NAVIGATION

Map Navigator

The Map Navigator is located in the top right corner of the screen. The Map Navigator provides a few simple tools to help with moving around on the map and providing information. The various tools that are available are outlined in the sections below.



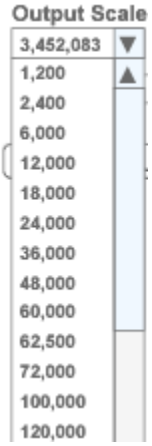
Location Map

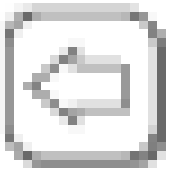
The Location Map is located near the top center of the screen. The location map is shaded in blue to show the area of the State that is displayed on the map.

Vertical Slider Scale

Next to the Location Map is a slider scale that allows you to zoom to different scales. To zoom in on a location, move the slider bar up. To zoom out from a location, move the slider bar down. Alternatively, you can click on the 'zoom in' button at the top of the slider or the 'zoom out' button at the bottom of the slider.

The "Output Scale" box in the middle of the screen will display the scale at which you are zoomed to. Click on the upside down triangle and it will display a variety of scales. The scale represents 1 unit = xxxx units. For instance, 1:24,000 means 1 inch equals 24,000 inches or 1 mile equals 24,000 miles. Any unit can be substituted because the scale represents a proportional fraction.

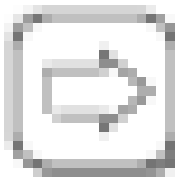




Back Arrow Button

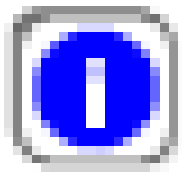
The back arrow works just like the back arrow of a browser. It takes you back to the previous view or scale.

Forward Arrow Button



The forward arrow works just like the forward arrow in a browser. It takes you forward to the view or scale you just left using the back arrow.

Info Button

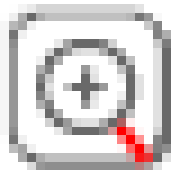


The info button provides information regarding the different layers in AquaMap. It must be selected (clicked) when using the mouse-over feature to obtain data regarding a specific layer. The information obtained from using the info button will be discussed in a later section.

Full Extent Button

The full extent button takes you back to the full extent of the map which is the Colorado state boundary.

Zoom Button



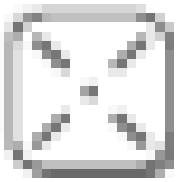
The zoom button allows you to zoom in on a location by dragging a rectangle around the area you want to zoom into. The red cross hair will be in the center of the area you zoom into. Click and hold your mouse button down as you slide your mouse over the map. A red rubber-banding box will appear to show the area

You must wait for the map to redraw before executing another command.

Pan Button

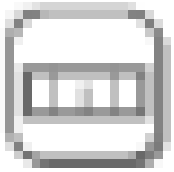
The pan button allows you to hold down the left mouse button and drag the map to a new location by slicing your mouse.

Re-Center Button



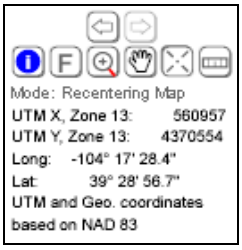
The re-center button allows you to define a new center of the map. If you click somewhere on the map, the map will recenter around that point.

Measure Button



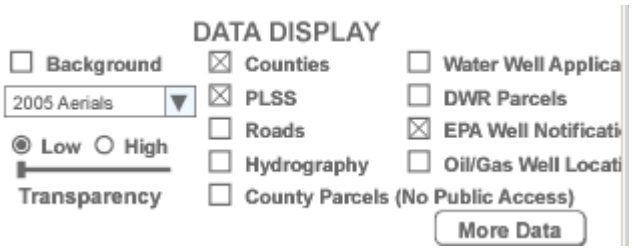
The measure button allows you to measure distances in feet between two or more points. The measurement appears in the 'Details' section on the bottom right of the screen. To end the measure tool, double-click the last point. To erase the line generated by the measure tool, click the 'Info' button (the 'I' button).

Beneath the Map Navigation buttons is a line which provides information on what each button does and what mode you are currently in. You will also see the UTM coordinates and latitude/longitude coordinates for the point where your mouse cursor is at. The UTM X is the easting. The UTM Y is the northing. All UTM coordinates are based on NAD83, Zone 13.



Data Display

The Data Display portion of the screen is directly below the Map Navigation Box. This box is where you can turn on/off the most commonly used data by checking and unchecking the box next to the data layer name. There are eight base layers that you can turn on/off. Additional data can be found by clicking on the 'More Data' button.



NOTE: It is critical that you wait until one layer has been completely drawn before clicking on another layer or any other buttons.

Background Image

The background image consists of all the raster background images. Using the drop down menu, you can choose from aerial photographs, quad maps, designated basins maps, and the Denver Basin Atlases.

2005 Aerials - Color aerial photography for the entire State. It appears between scales of 1:3.5 Million and 1:1200.

Quad Maps - USGS 7.5' topographic maps. These maps do not contain any drawings. It appears between scales of 1:150000 and 1:1200.

MapCab(Main) - Scanned topographic work maps. If multiple copies of a map exist, they were scanned into MapCab (#2) and MapCab(#3). Multiple copies contain different information. The scanned quad maps will appear between scales of 1:25000 and 1:1200.

88-01 Aerials - Black and white aerial photography of the State between the years 1988-2001. To view the year of the photo, turn on the 'Quad Index' layer list under the 'More Data' button, click on the 'Information' tool and move your cursor over the map. The year will appear under the 'Details' section. The aerials appear between scales of 1:3.5 Million and 1:1200.

SHP/UBS/UBS - Black and white aerial photography for the Southern High Plains, Upper Big Sandy, and Upper Black Squirrel areas of the Designated Basins. It appears between scales of 1:3,000,000 and 1:1200.

Subdivision - Plat maps of select subdivisions.

Mylar (Aquifer) – Scanned mylar work maps of the Denver Basin by aquifer. The scanned mylars will appear between scales 1:250,000 and 1:1200.

Denver Atlas Maps – Scans of each individual map. Each map appears between scales of 1:300000 and 1:1200. Table 1 shows how the background maps in AquaMap correlate to the paper Denver Basin Atlases.

Table 1: Denver Basin Atlases

Background Layer Name	Map Name	Figure Number
Dawson Base	Structural Contour Map of the Base of the Dawson Aquifer	Figure 1A
Denver Atlas	Location of Not Nontributary Groundwater in the Denver Aquifer	Figure 2D
Denver Sands	Sandstone/Siltstone Isolith Map of the Denver Aquifer	Figure 2C

Dawson Atlas	Location of Not Nontributary Groundwater in the Dawson Aquifer	Figure 1G
Dawson Sands	Sandstone Isolith Map for the Dawson Aquifer	Figure 1E
L Dawson Atlas	Location of Not Nontributary Groundwater in the Lower Dawson Aquifer	Figure 1F
L Dawson Sands	Sandstone Isolith Map for the Lower Dawson Aquifer	Figure 1C
N Arapahoe Atlas	Location of Not Nontributary Groundwater in the Arapahoe Aquifer	Figure 3H
S Arapahoe Atlas	Location of Not Nontributary Groundwater in the Arapahoe Aquifer	Figure 3H
Arapahoe Sands	Sandstone/Siltstone Isolith Map for the Arapahoe Aquifer	Figure 3E
L Arapahoe Atlas	Location of Not Nontributary Groundwater in the Lower Arapahoe Aquifer	Figure 3G
L Arapahoe Sands	Sandstone/Siltstone Isolith Map for the Lower Arapahoe Aquifer	Figure 3F
N LarFox Atlas	Location of Not Nontributary Groundwater in the Laramie-Fox Hills Aquifer	Figure 4E
S LarFox Atlas	Location of Not Nontributary Groundwater in the Laramie-Fox Hills Aquifer	Figure 4C
LarFox Sands	Sandstone/Siltstone Isolith Map for the Arapahoe Aquifer	Figure 4C

To turn on the images, you must click in the box next to “Background Image”. The raster images may take some time to load so you must be patient. If you do not see the background image, you may be zoomed out too far. If you do not see the background image after waiting for a minute or so, try zooming in to a smaller scale.

The transparency slider bar allows you to set the transparency (opaqueness) of the background image.

The high-low option sets the resolution of the image when it is sent for printing. When printing, it is wise to set the resolution to low unless the map is too grainy to read. The map generation and printing will take much, much longer when the resolution is set to high.

No mouse-over information is available for the background images.

Counties

The Counties layer shows the county boundaries. The boundaries are displayed as a brown line. The county outlines will appear down to a scale of 1:1200.

No mouse-over information is available for the Counties Layer.

Highways/Roads

The Highways/Roads layer shows highways and roads. The highways and roads are displayed as a red line. The shapefile will appear on all maps unless turned off from the full scale down to a scale of 1:1200.

Mouse-over information provided for the Highways/Roads layer is the name of the feature. This information is only available if you are in the Info Mode.

Hydrography

The Hydrography layer shows 1:24,000 hydrography for rivers, streams, lakes, reservoirs, etc. The rivers and streams are displayed as a blue line. The lakes and reservoirs will appear as a blue polygon. The data is viewable from scales between 1:3,000,000 and 1:6000.

Mouse-over information provided for the Hydrography layer is the name of the feature. This information is available only if you are in the Info Mode.

PLSS

The PLSS layer shows the township, section, and quarter-quarters information. The sections are displayed as a green line. The quarter-quarters are displayed as pink lines. The section lines appear between scales of 1:25000 and 1:1200. The quarter-quarters appear at scales of between 1:24000 and 1:1200.

No mouse-over information is available for the PLSS Layer. The current section is located directly below the data layers. The section displayed is the location of the red 'X' in the center of the map.

Water Well Application

The Water Well Application layer displays well permit application locations. The data is updated nightly. Constructed wells are shown as a green dots. Wells without construction information on file are shown as red dots. If there are multiple wells for a single location, small squares will spiral around the dot representing the additional wells. The wells are displayed from scales between 1:250000 and 1:6000.

Mouse-over information provided for the Well Permit layer is the owner name on file, receipt number, permit number, permit suffix, permit replacement, aquifer, activity code, yield, and depth. The aquifer and activity code information is given as abbreviations (See Tables 4 and 7). Blank fields represent no information and may have to be manually looked up in our records. This information is only available if you are in the Info Mode.

The full information on the well is available by double clicking on the well permit of interest. The table will contain all of the information available in Hydrobase. A description for each field along with any associated codes is listed in tables 2 through 10. This information is only available if you are in the Info Mode.

Table 2: Well Permit Information Field Descriptions

Field Name	Description
Receipt	Receipt number assigned by the Division of Water Resources
Div	Division number
Cty	County number (See Table 3)
Permitno	Permit number assigned by the Division of Water Resources
Permitsuf	Permit suffix – Used with non-exempt well permit numbers
Permitrpl	Permit replacement – Used for wells that have been replaced
Parcel_no	County parcel number
Actdate	Date the application was received by DWR
Actcode	Activity Code – Relates to the major actions taken on a permit. (See Table 4)
WD	Water District in which the well is located
Basin	Designated Basin (See Table 5)
MD	Groundwater Management District (See Table 6)
Full_name	Name of well owner on file with DWR
Address1	Mailing address of well owner on file with DWR
Address2	Mailing address of well owner on file with DWR
City	City for the mailing address
St	State for the mailing address
Zip	Zip code for the mailing address
Phone_number	Well owner's phone number
Pm	Principal Meridian in which the well is located
Rng	Range number
Rnga	Identifies the half range
Rdir	Range direction
Ts	Township number
Tsa	Identifies the half township
Tdir	Township direction
Sec	Section
Seca	Section designation for Ute correction sections
Q160	Quarter = 160 acres
Q40	Quarter-quarter = 40 acres
Q10	Quarter-quarter-quarter = 10 acres
Coordsns	Distances (in feet) from north or south section line
Coordsns_dir	Direction from the north or south section line
Coordsew	Distances (in feet) from the east or west section line
Coordsew_dir	Direction from east or west section line
Utm_x	UTM coordinate for the Easting
Utm_y	UTM coordinate for the Northing
Loc_source	Source of data for location information – Spotted from section lines, user supplied UTM coordinates, quartered, etc.
Aquifer1	Aquifer in which the well is completed (See Table 7)
Aquifer2	Aquifer in which the well is completed (See Table 7)
Subdiv_name	Subdivision name shown on the permit
Lot	Lot number shown on the permit
Block	Block number shown on the permit
Filing	Filing number shown on the permit
Engineer	Staff member initials who approved the well permit
Well_name	Name of well given on the application by the applicant
Use1	Permitted use of the well (See Table 8)
Use2	Permitted use of the well (See Table 8)
Use3	Use of the Well (See Table 9)
Driller_lic	License number of the driller who constructed the well

Pump_lic	License number of the pump installer who installed the pump
Field Name	**Description**
Pidate	Date pump installation report was received by DWR
Statute	Statute under which the permit was issued
Statdate	Date of the status code action
Statecode	Interim status of the application or permit (See Table 10)
Npdate	Date the permit, denial, or monitoring hole was issued
Wadate	Date the Well Construction and Test Report was received by DWR
Trancode	Last action that was updated (See Table 10)
Trandate	Date the last action was taken
Sadate	Date of first beneficial use
Sbudate	Date the Statement of Beneficial Use was received by DWR
Exdate	Expiration date of the well permit
Abrdate	Date the Abandonment Report was received by DWR
Abcodate	Date the well was plugged and abandoned
Abreq	Used internally to show if abandonment is required for a well
Acreft	Annual appropriation for the well (shown in acre-feet)
Tperf	Depth to top of the first perforated casing
Bperf	Depth to the base of the last perforated casing
Case_no	Water court case number
Yield	Yield of well (Shown in gallons per minute)
Depth	Total depth of the well
Level	Depth to the static water level
Elev	Ground surface elevation of the well
Area_irr	Amount of land irrigated
Irr-Meas	Units for the amount of land irrigated (square feet or acres)
Comment	Comments
Meter	Totalizing flow meter required and/or installed
Wellxno	Cross reference to another well permit number
Wellxsuf	Cross reference to another well permit suffix
Wellxrpl	Cross reference to another well permit replacement
Nwcdate	Notice of Well Construction Report received
Nbudate	Notice of Commencement of Beneficial Use received
Wcdate	Date well was completed
Pcdate	Date pump installation was completed
Log	Flag to indicated if a geophysical log is required and received
Qual	Water quality information available (yes or no)
User1	Initials of the last staff member to update the file
Pyield	Proposed yield of the well shown on the application
Pdepth	Proposed depth of the well shown on the application
Pacreft	Proposed amount of water to be withdrawn from the well
Parcelsize	Number of acres in the parcel
Noticedate	Date that the Notice of Expiration was sent out
Completed_well	Date the well was completed
Display_utm_x	Easting displayed
Display_utm_y	Northing displayed
Latdecdeg	Latitude in decimal degrees
Longdecdeg	Longitude in decimal degrees

NOTE: Not all fields may be populated. If a field is not populated, the information may not be available or it may be available in the actual permit file.

Table 3: County Codes

County Code	County Name	County Code	County Name
1	Adams	33	Lake
2	Alamosa	34	La Plata
3	Arapahoe	35	Larimer
4	Archuleta	36	Las Animas
5	Baca	37	Lincoln
6	Bent	38	Logan
7	Boulder	39	Mesa
8	Chaffee	40	Mineral
9	Cheyenne	41	Moffat
10	Clear Creek	42	Montezuma
11	Conejos	43	Montrose
12	Costilla	44	Morgan
13	Crowley	45	Otero
14	Custer	46	Ouray
15	Delta	47	Park
16	Denver	48	Phillips
17	Dolores	49	Pitkin
18	Douglas	50	Prowers
19	Eagle	51	Pueblo
20	Elbert	52	Rio Blanco
21	El Paso	53	Rio Grande
22	Fremont	54	Routt
23	Garfield	55	Saguache
24	Gilpin	56	San Juan
25	Grand	57	San Miguel
26	Gunnison	58	Sedgwick
27	Hinsdale	59	Summit
28	Huerfano	60	Teller
29	Jackson	61	Washington
30	Jefferson	62	Weld
31	Kiowa	63	Yuma
32	Kit Carson	64	Broomfield

Table 4: Activity Codes

Code	Explanation	Code	Explanation
AP	New application received	CP	Amended household use permit to allow watering of user's noncommercial domestic animals.[1]
AD	Application denied	EX	Well permit expiration date extended
AW	Application for a well permit is withdrawn	MH	Monitoring hole notice of construction received
AV	Verbal approval granted to well contractor to construct a well w/o a permit in place.[2]	NP	Well permit issued
BD	Determination of available water in the Denver Basin Aquifers inside the Designated Basins	RI	Well permit reinstated pursuant to Policy 2001-04
CA	Cancelled well permit	TH	Test hole notice received
CD	Change description of acres irrigated (Designated Basins)	TW	Test well notice received
CO	Application to commingle wells (Designated Basins)		

[1] **This code is no longer used since State Statutes do not allow this use anymore.**
[2] **This code is no longer used since verbal permission is no longer granted.**

Table 5: Designated Basin Codes

Code	Designated Basin Name
1	Northern High Plains
2	Kiowa-Bijou
3	Southern High Plains
4	Upper Black Squirrel Creek
5	Lost Camp
6	Camp Creek
7	Upper Big Sandy
8	Upper Crow Creek

Table 6: Groundwater Management District Codes

Code	Management District Name	Code	Management District Name
1	Plains	8	Eastern Cheyenne
2	Sand Hills	9	Lost Creek
3	Arikaree	10	Southern High Plains
4	Frenchman	11	Marks Butte
5	Central Yuma	12	Upper Black Squirrel
6	W-Y	13	Upper Big Sandy
7	North Kiowa-Bijou		

Table 7: Aquifer Codes

Aquifer Symbol	Aquifer Name	Aquifer Symbol	Aquifer Name
GW	All Un-named Aquifers	KI	Iles
KA	Arapahoe	KL	Laramie
UKA	Upper Arapahoe	KLF	Laramie-Fox Hills
LKA	Lower Arapahoe	ML	Leadville Limestone
JMB	Brushy Basin	KM	Mancos
KDB	Burro Canyon	KMV	Mesa Verde Group
KCH	Cheyenne	JM	Morrison
CON	Confined San Luis Valley	TO	Ogallala
KD	Dakota	KP	Pierre Shale
TDW	Dawson	KPU	Purgatorie
UTDW	Upper Dawson	JMS	Salt Wash
LTDW	Lower Dawson	UNC	Unconfined San Luis Valley
TKD	Denver	TW	Wasatch
JE	Entrada	TW	White River
TG	Green River	KW	Williams Fork
PH	Hermosa		

Table 8: Codes for Usecode1 and Usecode2

Usecode	Explanation	Usecode	Explanation
1	Crop Irrigation	9	Livestock
2	Municipal	G	Geothermal
3	Commercial	H	Household use only
4	Industrial	K	Snowmaking
5	Recreation	O	Other or Monitoring Hole/Well
6	Fishery	Q	Special uses for Monitoring Holes

7	Fire	R	Recharge
8	Domestic	E	Exchange and Augmentation

Table 9: Codes for Usecode3

Usecode	Explanation
A	Augmentation – The well is covered under a water court approved augmentation plan.
M	Permitted monitoring well
Z	Household Use Wells Issued Prior to HB1111 that have been amended prior to 3(b)(II)(b) by $25 application – No longer available
L	Permit issued under presumption 3(b)(II)(A) for domestic/livestock uses as the only well on 35 acres
G	Gravel pit well permit
C	Closed loop geothermal well
P	Geothermal production well
S	Other types of holes constructed especially for cathodic protection
5	Identifies that the permit was issued pursuant to Senate Bill 5 – 137(4)

Table 10: Codes for Statcode and Trancode

Code	Explanation
AB	Well plugged and sealed
AR	Application for well permit was resubmitted to DWR
AU	Application returned to applicant for correction or additional information
AH	Application on hold for more information
EP	Expired well permit
LC	Location of the well has been corrected
NC	Notice of well construction received for a permitted well
NS	Exempt wells where no state of use is required (No longer used)
OC	Change in ownership accepted and updated
PI	Pump installation report received
PU	Pump installation report returned to responsible party for correction
RC	A portion of the record was changed
S5	Notice of Well Construction received for a non-tributary well under 137(4)
SA	Statement of Beneficial Use accepted
SP	Statement of Beneficial Use received but not accepted
ST	Supplemental test well
SR	Statement of Beneficial Use resubmitted to DWR
SU	Statement of Beneficial Use returned to owner for correction
WA	Well construction report received
WU	Well construction report returned to responsible party for correction
YY	General update by permitting and records staff
ZZ	General update by records staff adding existing data to the system

DWR Parcels

The DWR Parcels displays parcels (polygons) created by DWR personnel in AquaMap instead of on the paper maps. Polygons will appear with specific colors for the different categories of polygons. Table 11 provides the symbology for DWR Parcels. The data is viewable from scales between 1:250000 and 1:6000.

The default is to display all parcel types. To view only certain parcel types, click the 'More Data' button. The 'Parcel' refers to all data categories statewide. The 'Aquifer' refers only to Denver Basin. These categories allow you to choose which aquifer and which parcel type you wish to view. For

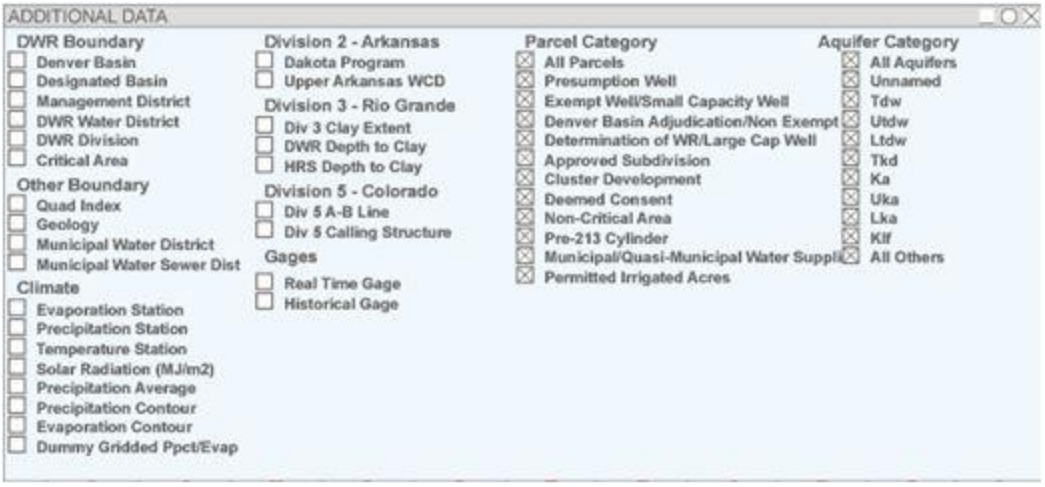
example if you wish to view only the Presumption Wells in the Denver Aquifer, turn on the DWR Parcels and Well Permits layers. Then on the 'More Data' screen, click the Presumption Well category and Tkd Aquifer to display the subset of data.

Mouse-over information provided for the DWR Parcels layer is the type of polygon, the user initials of the person who created the parcel, the creation date of the polygon, the calculated acreage, the receipt number, WDID number, Case number, and Subdivision number. This information is only available if you are in the Info Mode.

NOTE: Care must be utilized when using the calculated acreage because it may be different than the permitted acreage shown on the permit application, plat map, or survey that was submitted with the application.

More Data Button

The "More Data" button will open an additional window that allows you to select a variety of other data layers that can be turned on/off.



This menu also allows you to designate the category and aquifer you wish to see for the DWRParcels located within the Denver Basin. By default all the Parcel Categories and Aquifer Categories are turned on.

The other data layers that can be turned on are grouped by subject.

The layers are viewable between the scales shown in the Table 11.
Note: Most of the layers will provide information in the way of a mouse-over. If you don't see information regarding a specific layer, make sure that you are zoomed into the appropriate scale. If you still don't see any information, try turning off some of the other layers you have turned on.

Note: You must be in “Info” mode to see the information. To get in the “Info” mode, press the “I” button on the AquaMap interface.

Table 11: Additional Layer Details

Layer	Max Scale	Min Scale	Color	Comments
DWR Boundary				
Denver Basin	1 to 3.4 Million	1 to 12000	Black Line Gray Fill	Provides the extents of the Denver Basin. The mouse-over provides the name of the top aquifer at that location.
Designated Basin	1 to 3.4 Million	1 to 12000	Purple Line No Fill	Provides the boundaries of the Designated Basins. The mouse-over provides the Designated Basin Name and the date of formation.
Management District	1 to 3.4 Million	1 to 12000	Green Line No Fill	Provides the boundaries of the Groundwater Management Districts in the Designated Basins. The mouse-over provides the
DWR Water District	1 to 3.4 Million	1 to 12000	Black Line No Fill	Provides the boundaries of the DWR Water Districts. Mouse-over provides the division and water district numbers.
DWR Division	1 to 3.4 Million	1 to 12000	Red Line No Fill	Provides the boundaries of the DWR Divisions. Mouse-over provides the division number.
Critical Area	1 to 2 Million	1 to 6000	Pink Line No Fill	Boundaries of the water critical areas in Divisions 6 and 7. The mouse-over provides the name of the water critical area.
Other Boundary				
Quad Index	1 to 1 Million	1 to 12000	Red Line No Fill	Provides the Quad Map name and SEO Map Number as a mouse-over.
Geology	1 to 3.4 Million	1 to 12000	Red Line	Provides the surface geology for the State. Mouse-over provides the geologic symbol for the formation.
Municipal Water District	1 to 3.4 Million	1 to 12000	Red Line Gray Fill	Provides Municipal Water District boundaries. The data was obtained from the DOLA shapefile. The mouse-over provides the name of the water district.
Municipal Water/Sewer District	1 to 3.4 Million	1to 12000	Red Line Gray Fill	Provides Municipal Water and Sewer District boundaries. The data was obtained from the DOLA shapefile. The mouse-over provided the name of the district.
Climate				
Evaporation Station			Blue Square	Evaporation station
Precipitation Station			Green Square	Precipitation station
Temperature Station			Pink Square	Temperature station
Solar Radiation (MJ/m^2)	1 to 3.4 Million	1 to 6000	Brown Line	Shows the NOAA solar radiation contour lines. The mouse-over provides the annual solar radiation in MJ/m^2
Precipitation Contours	1 to 3.4 Million	1 to 6000	Red Line	Shows the NOAA precipitation contour lines. The mouse-over provides annual precipitation amount in inches.

Layer	Max Scale	Min Scale	Color	Comments
Evaporation Contours	1 to 3.4 Million	1 to 6000	Red Line	Shows the NOAA evaporation contour lines. The mouse-over provides annual evaporation in inches.
Gridded Ppct/Evap	1 to 500000	1 to 1200	Blue Line No Fill	Not Available
Division 2 – Arkansas				
Dakota Program	1 to 3.4 Million	1 to 6000	Black Line Gray Fill	Provides the extents of the Dakota Program.
Upper Arkansas WCD				Coming Soon
Division 3 – Rio Grande				
Div 3 Clay Extent	1 to 3.4 Million	1 to 6000	Black Line No Fill	Provides the extents of the HRS clay map. The mouse-over indicates if the location is within the map extents.
DWR Depth to Clay	1 to 3.4 Million	1 to 6000	Black Line No Fill	Provides the extents of the blue clay layer. The mouse-over provides the depth to the top of the blue clay layer.
HRS Depth to Clay	1 to 3.4 Million	1 to 6000	Orange Line	Provides the contours for the HRS depth to clay. The mouse-over provides the depth to the top of the clay layer as determined by HRS.
Division 5 – Colorado				
Div 5 A-B Line	1 to 3.4 Million	1 to 6000	Pink Line No Fill	Provides the location of the Division 5 A-B line. The mouse-over indicates if the location is in the A, B, or C area.
Div 5 Calling Structures				Coming Soon
Gages				
Real Time Gage			Green Circles	Real time gages, active
Historical Gage			Red Circles	Gages, inactive
Parcel Category				
Presumption Well Polygon	1 to 200000	1 to 2000	Light Blue Fill	A tract of land of 35 acres or more that is "encumbered" by a well permit issued pursuant to 37-92-602(3)(b)(II)(A), C.R.S. for full domestic use, or a parcel that is smaller than 35 acres that is "encumbered" by a well permit issued pursuant to 37-92-602(3)(b)(II)(A), C.R.S. for household use only, or a Cluster Development parcel that is "encumbered" by a well permit issued pursuant to 37-92-602(3)(b)(II)(A), C.R.S.
Exempt Well / Small Capacity Well Polygon	1 to 200000	1 to 2000	Light Purple Fill	A tract of land that was claimed by an exempt well permit applicant to quantify water in the Denver Basin pursuant to 37-92-602(3)(b)(I), C.R.S. and the April 23, 1986 policy, or a tract of land that was claimed by a small capacity well permit applicant to quantify water in the Denver Basin pursuant to 37-90-105

				where, in both cases, the issuance of the well permit includes an evaluation of land area and a determination of no injury.
Layer	**Max Scale**	**Min Scale**	**Color**	**Comments**
Non-Exempt Well / Large Capacity Well Polygon	1 to 200000	1 to 2000	Purple Fill	One or more pieces of land that were claimed in an application to the water court to adjudicate Denver Basin ground water underlying the subject land pursuant to 37-92-302, C.R.S.
Decreed Denver Basin Adj	1 to 200000	1 to 2000	Light Green Outline	One or more pieces of land that were claimed in an application to the water court to adjudicate Denver Basin ground water underlying the subject land pursuant to 37-92-302, C.R.S.
Determination of Water Right	1 to 200000	1 to 2000	Green Fill	One or more pieces of land that were claimed in an application to the Ground Water Commission to quantify Denver Basin ground water underlying the subject land and determine a water right pursuant to 37-90-107, C.R.S.
Determination of Water Rights – Place of Use	1 to 200000	1 to 2000	Gray Fill	Not currently used
Approved Subdivision	1 to 200000	1 to 2000	Black Line with gray Fill	The piece of land that was created pursuant to 30-28-133, C.R.S. and whose water supply is subject of the SEO review pursuant to 30-28-136, C.R.S. This will include subdivisions whose water supply is individual, exempt or small capacity, on-lot wells; individual, non-exempt or large capacity, on-lot wells; community wells; or municipal /quasi-municipal water suppliers.
Cluster Development	1 to 200000	1 to 2000	Black Line with no Fill	The piece of land that was created pursuant to the provisions and definition in 30-28-401 through 30-28-404, C.R.S. It is made up of the entire Cluster Development including the open space area.
Deemed Consent	1 to 200000	1 to 2000	Pink Fill	The land area that is claimed by a water supplier pursuant to 37-90-137(8) or Ground Water Commission Rule 5.3.10
Non-Critical Area	1 to 200000	1 to 2000	Light Green Fill	Not currently used
Pre-213 Cylinder	1 to 200000	1 to 2000	Light Reddish - Brown Fill	A circle that represents an "appropriation" by a well constructed before July 6, 1973 outside of the Designated Basins and before November 19, 1973 in the Designated Basins. This could be a stored polygon or created, based a radius attribute of a well permit record. In either case, it must be visible. (Note: some pre-213

				cylinders will not have a well permit, just a court decree.)
Municipal / Quasi Municipal Water Supplier	1 to 200000	1 to 2000	Light Red Fill	The established service boundaries of a municipal/quasi-municipal water supplier
Permitted Irrigated Acres	1 to 200000	1 to 2000	Green Fill	Not currently used
Aquifer Category	1 to 250000	1 to 6000	Green or Red	Shows the well permits based on aquifer(s)

Location

Section

Drop down menu showing the section number. You cannot type in the box; you must select the appropriate section from the drop down menu.

Township

Drop down menu showing the township number and direction. You cannot type in the box; you must select the appropriate township from the drop down menu. You must also select the appropriate direction from the drop down menu.

Range

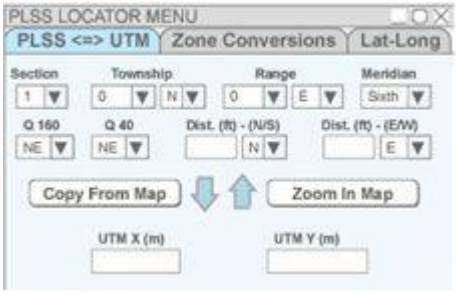
Drop down menu showing the range number and direction. You cannot type in the box; you must select the appropriate range from the drop down menu. You must also select the appropriate direction from the drop down menu.

Meridian

Drop down menu showing the principal meridian. You cannot type in the box; you must select the appropriate principal meridian from the drop down menu.

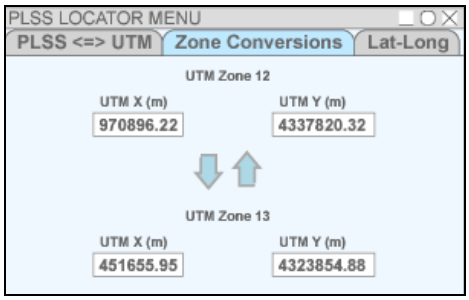
Open PLSS Locator Button

The “Open PLSS Menu” button opens the PLSS menu which allows you to convert between UTMs and distances from section lines.

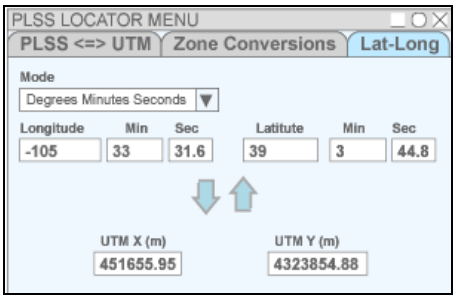


- To convert from UTMs to distances from section lines, enter the easting in the “UTM X” box and the northing in the “UTM Y” box.
  - Click the up arrow to determine distances from section lines.

- To convert from distances from section lines to UTMs, enter the section, township, and range using the drop down menus and then enter the distances from the section lines.
  - Click the down arrow to determine the UTM coordinates.
  - After getting the UTM coordinates, you can zoom to those coordinates by clicking on the “Zoom to Map” button.
  - If you zoomed to a location using one of the other zoom tools, you can use the “Copy from Map” button to determine the distances from section lines and UTM coordinates of the location. The exact location is the red ‘X’ in the center of the screen.
- You can convert between Zone 12 and Zone 13 UTM coordinates by clicking on the “Zone Conversions” tab.
  - Enter the UTM coordinates in the appropriate zone boxes and use the up and down arrows to convert between the two zones.

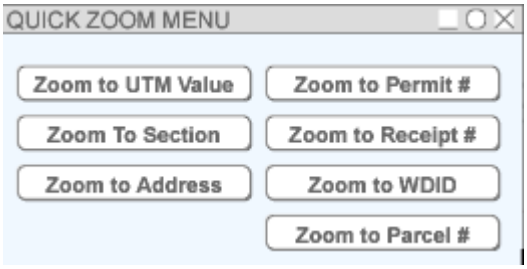


- You can convert between Zone 13 UTM coordinates and latitude/longitude coordinates by clicking on the “Lat-Long” tab.
  - To convert from latitude/longitude to UTM coordinates, choose the format that your latitude/longitude coordinates are in from the drop down menu.
  - Enter the latitude/longitude coordinates in the appropriate boxes. Use a negative (-) sign for the longitude.
  - Click the down arrow button to get your UTM coordinates.
  - To convert from UTM coordinates to latitude/longitude, enter the easting and northing in the appropriate boxes.
  - Click the up arrow button to get your latitude/longitude coordinates.



Open Quick Zoom Button

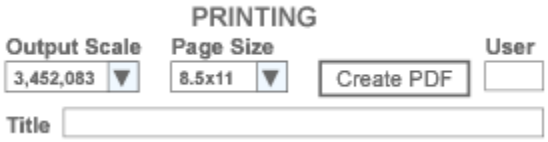
The “Open Quick Zoom” Button opens the Quick Zoom menu that provides a variety of zooming methods.



1. The “Zoom to UTM Value” button allows you to enter the easting and northing and then zooms to that point.
2. The “Zoom to Section” button allows you to enter the section, township, range, and principal meridian from the drop down menus on the AquaMap interface and then zooms to the center of the designated section.
3. The “Zoom to Address” button allows you to enter a street address and town and then zooms to the vicinity of the given address.
4. The “Zoom to Permit #” button allows you to enter a permit number and a county and zooms to that well.
5. The “Zoom to Receipt #” button allows you to enter a receipt number of an issued well permit and then zooms to the permitted well location.
6. The “Zoom to WDID” buttons allows you to enter a WDID (water district identifier) and zooms to that structure.
7. The “Zoom to Parcel #” is a work in progress to link parcel id numbers assigned by the county to a well. Most well records lack a parcel id number to link the information.

Printing

This portion of the screen is located below the Location box. This box provides menus that are related to printing maps. The sections below describe the various options available for printing.



Output Scale

The output scale is a drop down menu that allows you to automatically zoom to a pre-determined scale. The pre-determined scale ranges from 3.5 million to 1200. If you are printing, the scale listed in this box will be the scale of the output map.

Page Size

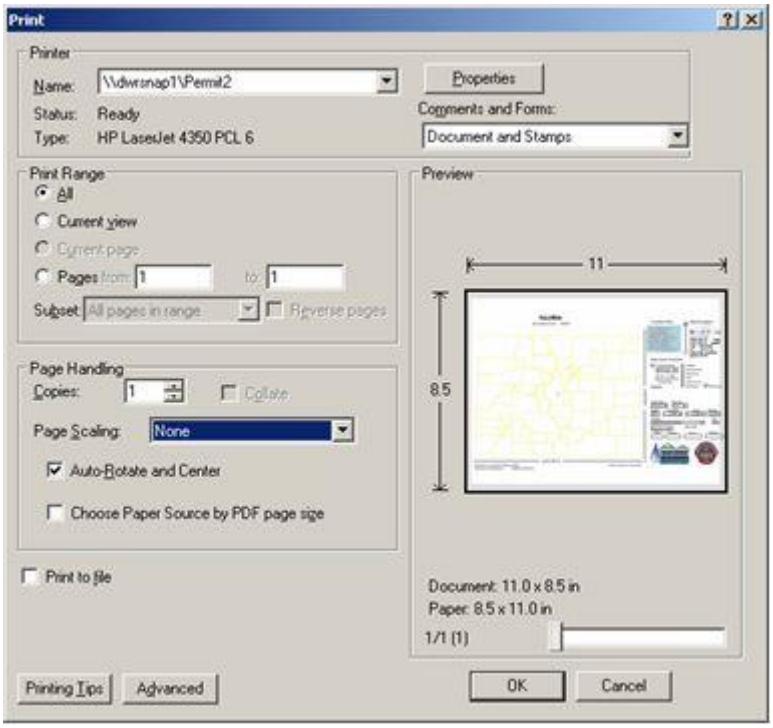
Page size is related to the output scale and is used to create printable maps. There are two page sizes to choose from: 8.5” by 11” or 11” by 17”.

Create PDF Button

The “Create PDF” button creates a PDF file that can be printed out to scale. Once you click on the “Create PDF” button, you will see a message above the button that says the ‘PDF creating…’. When the program has created the PDF, the message changes to “Open PDF file”. Clicking on the Open PDF message will launch Adobe Acrobat and the map that was created will open.

Note: If the map opens in the same browser window as AquaMap, you will lose your AquaMap session when closing the window. To fix this, open Acrobat. Go to Edit – Preferences – Internet. There is an option that says “Display PDF in Browser”. Make sure that the box is not checked.

Note: To print a scaled PDF document, you must disable the scaling option on the print menu in Adobe Acrobat Reader.



User

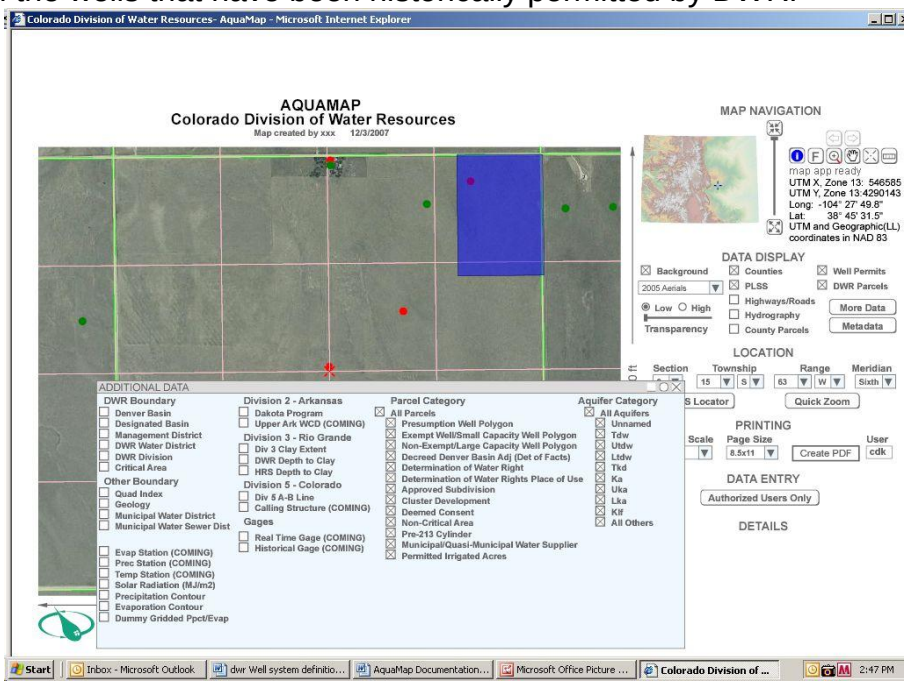
The user’s initials are entered in this box. The initials are used to show who created a parcel and/or map. This box must be filled in before a parcel can be saved or a map can be printed.

Details

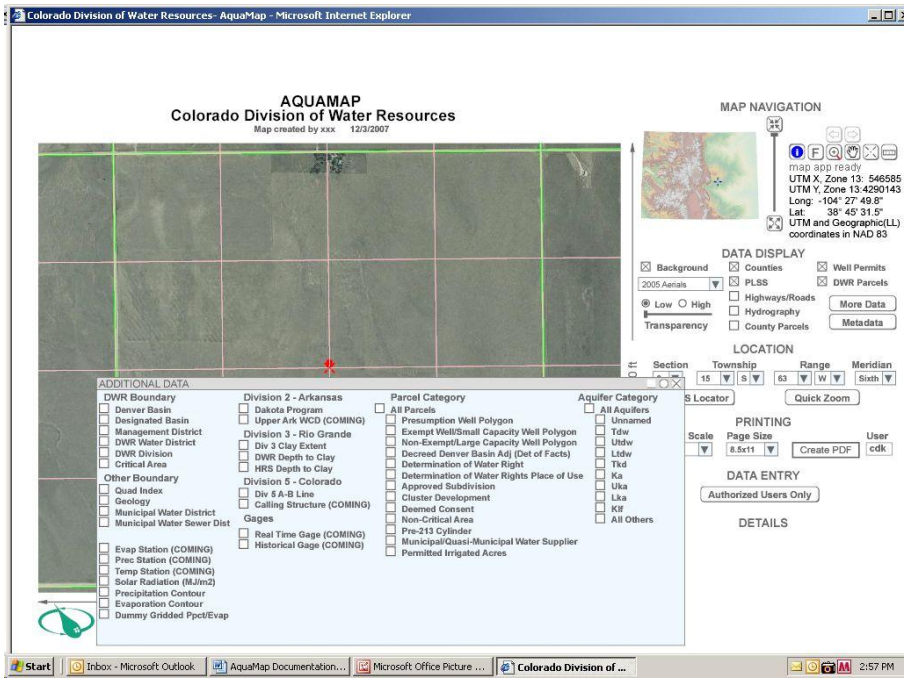
The details area is located directly below the Map Control Layers area. This is where the mouse-over information will appear.

Example of how to View a Denver Basin Well Application or DWR Parcel

1. Open AquaMap
2. Enter the section, township, range, and principal meridian for the parcel.
3. Click on the “Quick Zoom” button located beneath the Location portion of the AquaMap interface.
4. Click on the “Zoom to Section” button.
5. Turn on the “Map Cab(Main)” background layer.
6. Turn on the “Water Well Application” background layer.
7. Turn on the “DWR Parcels” background layer.
8. If the output scale is not set to 18000 or 24000, choose one of those options from the “Output Scale” dropdown menu.
9. You should see all of the parcels that have been drawn in AquaMap along with the wells that have been historically permitted by DWR.



10. Click on the “More Data”
11. Click on the box next to “All Parcels” under the Parcel Category turning off all parcels.
12. Click on the box next to “All Aquifers” under the Aquifer Category turning off all aquifers.



13. You should note that all wells and polygons disappeared from the screen.
14. Check the “Presumption Well Polygon” box.
15. Check the “KLF” aquifer box.
16. You should see only the wells and parcels that are in the Presumption Well Polygon category and in the Laramie-Fox Hills aquifer.