

Surface-Water Daily Data

What are Daily Data?

Daily data are derived by summarizing time-series data for each day for the period of record. The time-series data used to derive daily values, sometimes referred to as real-time or instantaneous values may be collected as often as every minute. These data are used to calculate daily data, such as the daily mean, median, maximum, minimum, and/or other derived values. Daily data include approved, quality-assured data that may be published, and provisional data, whose accuracy has not been verified.

General steps to retrieve Surface-Water Daily Data

Retrieving daily data is a multi-step process. The general steps are summarized here. These steps permit users to control the amount and types of data that are retrieved. A more detailed example and explanation follows.

1. **Choose Site Selection Criteria** – Identify the site-selection criteria that will be used to search for sites; for example, to obtain a particular Site type and County, check the Site type and County boxes.
2. **Define the specific Site Selection Criteria** – Define specific choices for site selection criteria. For example, if “County” were selected as a criterion, specify the desired county name(s).
3. **Choose the Output format** – Output options include either summaries or actual data for selected sites.

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Example: Retrieval for Surface-Water Daily data

To begin, click the **Daily Data** button from the Surface-Water screen. For this example, Surface-Water data for Maryland is used.

USGS Surface-Water Data for Maryland

Real-time Data (139 sites)
Real-time data are time-series (recorded at fixed intervals) data from automated equipment and represent the most current hydrologic conditions. Measurements are commonly recorded at 5-60 minute intervals and transmitted to the NWIS database every 1-4 hours. Real-time data are available online for 31 days.

Daily Data (304 sites)
Daily values are summarized from time-series data for each day for the period of record and may represent the daily mean, median, maximum, minimum, and/or other derived value. Daily values include approved, quality-assured data that may be published, and more recent provisional data, whose accuracy has not been verified. [Example](#).

Statistics (298 sites)
Daily **Monthly** **Annual**
Statistics are computed from approved daily mean time-series data at each site. These links provide summaries of approved historical daily values for daily, monthly, and annual (water year or calendar year) time periods.

Peak-flow data (229 sites)
Annual maximum instantaneous peak streamflow and gage height

Field Measurements (202 sites)
Periodic manual measurements of streamflow and gage height. These measurements are often used to supplement and (or) verify the accuracy of the time-series measurements.

The number of possible sites for the data category is listed in parentheses to the right of the data category button.

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Step 1 - Choose Site Selection Criteria

Step 1 involves choosing the criteria for Site Selection. Select one or more boxes from the four categories: Site Location, Site Identifier, Site Attribute, and Data Attribute. In the next step, specific site selection criteria are defined.

Note: Under the Site Attribute category, **Site type** is preselected by default when starting from the surface-water or ground-water data category.

With site type selected (the default), the output will include all the sites meeting those criteria, which in this example would lead to a retrieval of 304 sites.












In this example, County and Site type are selected.

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Choose Site Selection Criteria

Choose from the following criteria to constrain the number of sites selected. By default, the "Site-type" criterion is preselected below and will default to surface water on the following page. If no additional site-selection criteria are chosen and no additional specifications are defined on the following page then output will be for all 304 surface water sites in Maryland that have daily values data.

Surface-water [daily data example](#).

Site -- Location --	Site -- Identifier --	Site -- Attribute --	Data -- Attribute --
<input checked="" type="checkbox"/>  County	<input type="checkbox"/>  Site Name	<input checked="" type="checkbox"/>  Site type	<input type="checkbox"/>  Number of observations
<input type="checkbox"/>  Hydrologic Unit	<input type="checkbox"/>  Site Number	<input type="checkbox"/>  Drainage area	
<input type="checkbox"/>  Lat-Long box	<input type="checkbox"/>  Multiple Site Numbers		
	<input type="checkbox"/>  Agency Code		
	<input type="checkbox"/>  File of Site Numbers		

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Step 2 - Define the specific Site Selection Criteria

In Step 2, because County was selected in the previous step, one or more specific County name(s) can now be defined by using the shift and control keys. The Site types that apply to surface-water retrievals are highlighted by default: Spring, Estuary, Lake/Reservoir, and Stream/River. Meteorological and Ground Water data categories can also be specified at this point.

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Surface-water [daily data example](#).

Select sites which meet all of the following criteria:
Define one or more values for each of the following site-selection criteria: --- or select [new criteria](#)

County -- select one or more

- Dorchester County
- Frederick County
- Garrett County
- Harford County
- Howard County
- Kent County

Site type -- select one or more

- Meteorological
- Ground Water
- Spring
- Estuary
- Lake/Reservoir
- Stream/River

Available parameters -- select sites that have data for the following parameters:
Select one or more parameters --or-- leave blank to select all:

Water Level/Flow Parameters	Meteorological Parameters
<input type="checkbox"/> Depth to water level, ft below land surface (5 sites)	<input type="checkbox"/> Barometric pressure, uncorrected, inHg (1 sites)
<input type="checkbox"/> Elevation above NGVD 1929, ft (4 sites)	<input type="checkbox"/> Precipitation, total, in (18 sites)
<input type="checkbox"/> Elevation of reservoir water surface above datum, ft (3 sites)	
<input type="checkbox"/> Gage height, ft (72 sites)	
<input type="checkbox"/> Reservoir storage, acre-ft (2 sites)	
<input type="checkbox"/> Stream velocity, ft/s (1 sites)	
<input type="checkbox"/> Streamflow, ft ³ /s (245 sites)	

Water Quality Parameters

- Dissolved oxygen, water, unfiltered, %saturation (1 sites)
- Dissolved oxygen, water, unfiltered, mg/L (7 sites)
- Specific conductance, water, unfiltered, $\mu\text{S}/\text{cm}$ at 25 °C (12 sites)
- Suspended sediment concentration, mg/L (6 sites)
- Suspended sediment discharge, tons/d (5 sites)
- Temperature, water, °C (14 sites)
- Temperature, water, °F (1 sites)
- Turbidity, water, monochrome near infra-red LED light, 780-900 nm, detection angle 90 +/-2.5 degrees, FNU (2 sites)
- Turbidity, water, unfiltered, NTU (3 sites)
- pH, water, unfiltered, field, standard units (8 sites)

Specification of daily data parameters is an option that provides a more advanced search. If no Available parameters are selected, output will include all surface water sites in Harford County that have Daily data.

Important: All available parameters for Daily Data are listed by default. Not all parameters are available for all sites. When a specific site has been selected, the available parameters will be shown.

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Step 3 – Choose the Output format

Choose from one of the two output options.

The first set of options, **Display Summary of Selected Sites**, provides tables of sites or descriptive site information.

Choose Output Format
Display Summary of Selected Sites
Choose one of the following options for displaying descriptions of the sites meeting the criteria above:

? Table of sites sorted by grouped by

? Scroll list of sites -- allows selection of data for multiple sites

? Brief descriptions -- allows selection of data for multiple sites

? Site-description information displayed in

<--Select fields to include in site-description output

? Save file of selected sites to local disk for future upload

The second set of options, **Retrieve USGS Surface-Water Daily Data for Selected Sites**, provides tables or graphs of data.

Retrieve USGS Surface-Water Daily Data for Selected Sites
Choose one of the following options for displaying data for the sites meeting the criteria above:

Retrieve data for:

the previous days (1 - 55555) **OR**

for the date range: First date: Last date: (1854-03-21 through 2006-04-27)

Output Options:

? Graphs of data -- use arithmetic Y-axis for discharge

? Graphs of data with long-term statistics -- use arithmetic Y-axis for discharge

? Table of data

? Tab-separated data Save to file

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In this example for Maryland, the defaults are used and the result is a table of sites sorted by site number.

USGS Surface-Water Daily Data for Maryland

Site Selection Results -- 15 sites found

Site type = Spring, Estuary, Lake, Surface Water
County = Harford

[Save file of selected sites](#) to local disk for future upload

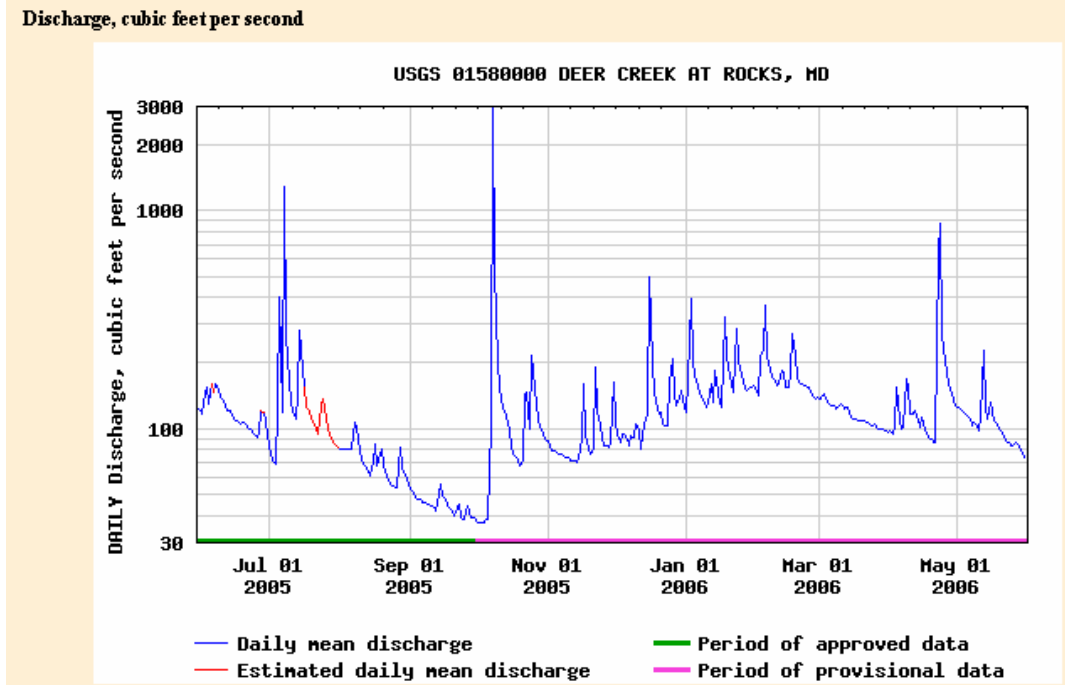
Data for individual sites can be obtained by selecting the site number below

Agency	Site Number	Site Name
USGS	01578000	BROAD CREEK AT MILL GREEN, MD
USGS	01578310	SUSQUEHANNA RIVER AT CONOWINGO, MD
USGS	01580000	DEER CREEK AT ROCKS, MD
USGS	01580200	DEER CREEK NEAR KALMIA, MD
USGS	01580500	DEER CREEK NEAR CHURCHVILLE, MD
USGS	01580520	DEER CREEK NEAR DARLINGTON, MD

When the surface-water site, 01580000, is selected, the result is a display of the available parameters for the site and graphs of the Daily data for the last 365 days.

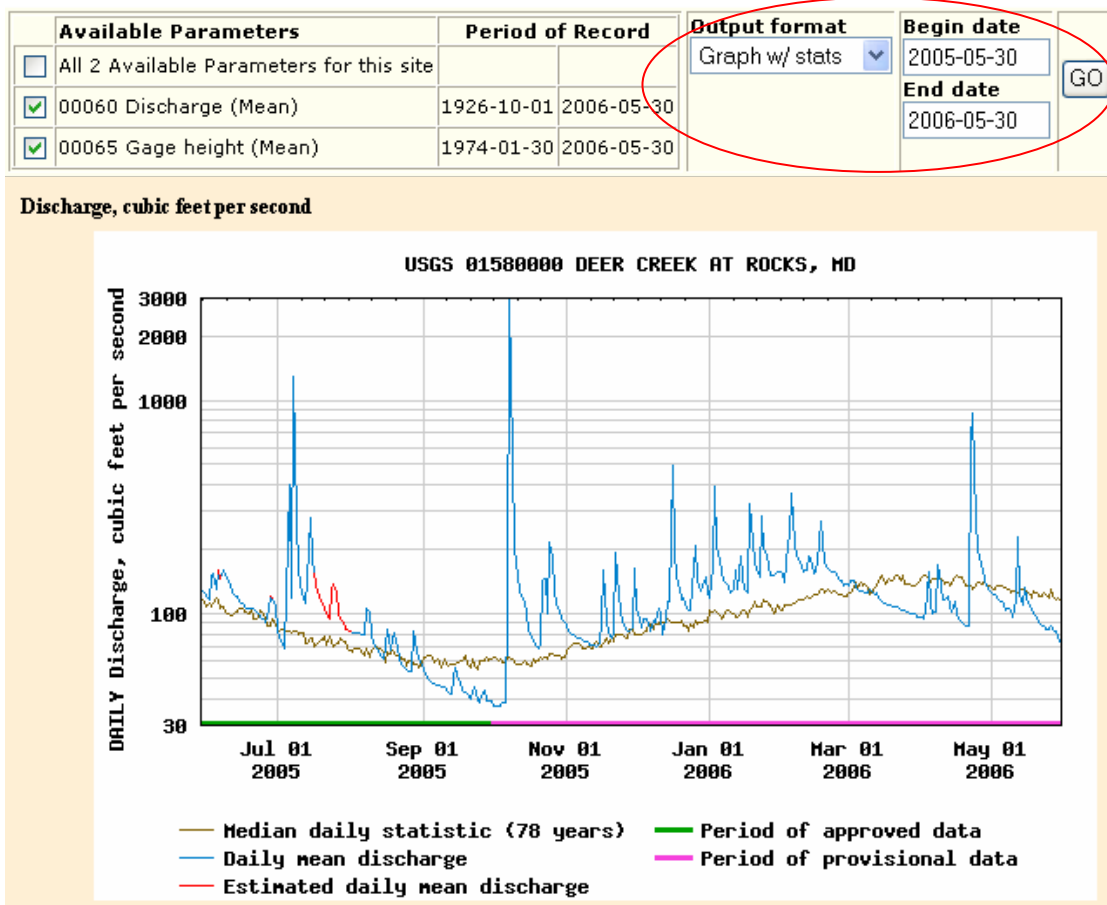
The graph for daily discharge is shown as an example. Approved and provisional data are shown on the same graph highlighted by green and magenta lines, respectively.

Available Parameters	Period of Record	Output format	Begin date	End date
<input type="checkbox"/> All 2 Available Parameters for this site		Graph	2005-05-30	2006-05-30
<input checked="" type="checkbox"/> 00060 Discharge (Mean)	1926-10-01 2006-05-30			
<input checked="" type="checkbox"/> 00065 Gage height (Mean)	1974-01-30 2006-05-30			



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Another useful output format is the **Graph w/stats** option which shows the daily mean discharge plotted with the median daily discharge. Approved and provisional data are shown on the same graph highlighted by green and magenta lines, respectively.



In the hydrograph for Deer Creek, the median daily flow is based on 78 years of approved data and is shown as a brown line. The daily mean discharge is plotted in blue.