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# Command Reference: ReadUsgsNwisDaily()

Read 1+ time series from the USGS NWIS Daily Value web service

Version 10.05.00, 2012-03-05

**This command is under development – additional enhancements, such as drop-down choices for parameters and support for text parameters and statistics (rather than numeric codes), will be enabled if possible, to minimize input errors.**

The `ReadUsgsNwisDaily()` command reads one or more time series from the United States Geological Survey (USGS) National Water Information System (NWIS) Daily Value web service (see the **UsgsNwisDaily Data Store Appendix**) and optionally assigns an alias to the results. The command provides parameters to constrain the web service query and also allows the result to be saved as an output file. For example, if WaterML is chosen as the time series format, a WaterML file can be saved and can be read later using the `ReadWaterML()` command. See also the `WebGet()` command, which also can be used to retrieve data files from the USGS website.

The USGS NWIS web service allows station and time series data type information to be filtered, both as a convenience and to maintain reasonable web service performance. Many of the choices that are available for limiting queries allow 0+ values to be provided. For example, specifying no requested parameter will return all available parameters for a location. Specifying a list of parameters (separated by commas) will return only the requested parameters.

USGS codes are used in order to generate a unique time series identifier (TSID). For example, the TSID data type is formed from the parameter code, a dash, and the statistic code. The numerical codes currently are used to ensure uniqueness but in the future the string name may be allowed as an option. In order to have more human-friendly identifiers for time series, one strategy is to request only a specific parameter and statistic and then use the alias to specify a text equivalent to the numeric codes. For example, specify `Parameters=00060` (for streamflow discharge) and `Statistics=00003` and assign the alias with `Alias=%L.Streamflow-Mean`.

The following dialog is used to edit the command and illustrates the syntax.

**Edit ReadUsgsNwisDaily Command**

Read one or more time series from the USGS NWIS daily value web service.

**WARNING - This command can be slow. Constrain the query to improve performance.**

Refer to the USGS NWIS Daily Data Store documentation for more information.

Constrain the query by specifying time series metadata to match. **A location constraint must be specified.**

If not specified, the input period defaults to the input period from SetInputPeriod().

Optionally, also write time series to a file, which can be specified using a full or relative path (relative to the working directory).

The working directory is: C:\Develop\TSTool\_SourceBuild\TSTool\test\regression\commands\general\ReadUsgsNwisDaily

[USGS NWIS Documentation](#) [USGS NWIS Online](#)

Data store: **UsgsNwisDaily** Required - data store containing data.

**Location constraint (specify only one constraint)**

Site number(s):  List of 1+ site numbers separated by commas.

State(s):  List of 1+ state abbreviations separated by commas.

HUC(s):  List of 1+ HUCs separated by commas.

Bounding box:  Bounding box: WestLon, SouthLat, EastLon, NorthLat

FIPS counties:  List of 1+ counties separated by commas.

Parameter(s):  Optional - list of parameters separated by commas (default=all).

Statistic(s):  Optional - list of statistics separated by commas (default=all).

Site status:  Optional - site status (default=All).

Site types(s):  Optional - list of site types separated by commas (default=all).

Agency:  Optional - agency code (default=all).

Input start:  Optional - YYYY-MM-DD, override the global input start.

Input end:  Optional - YYYY-MM-DD, override the global input end.

Alias to assign:  Insert:  Optional - use %L for location, etc. (default=no alias).

Format:  Optional - data format (default=WaterML).

Output file to write:

Command:

```
ReadUsgsNwisDaily(DataStore="UsgsNwisDaily", Sites="03451500", InputStart="2010-01-01", InputEnd="2010-12-31", Alias="%L.%T", OutputFile="Results/Test_ReadUsgsNwisDaily_SingleSite_Alias_out.waterml")
```

ReadUsgsNwisDaily

**ReadUsgsNwisDaily() Command Editor**

The command syntax is as follows:

```
ReadUsgsNwisDaily(Parameter=Value,...)
```

### Command Parameters

| Parameter   | Description   | Default  |
|-------------|---|--|
| Sites       | A list of site numbers to read, separated by commas.  | None – one of the locational parameters must be provided to constrain the query. |
| States      | A list of state codes (e.g., AL), separated by commas.  | None – see above.  |
| HUCs        | A list of hydrologic unit codes, separated by commas. See the limitations on the NWIS site for more information.  | None – see above.  |
| BoundingBox | A bounding box consisting of west longitude, south latitude, east longitude, and north latitude, separated by spaces. Longitudes in the western hemisphere are negative.  | None – see above.  |
| Counties    | A list of FIPS county codes, separated by commas.   | None – see above.  |
| Parameters  | Data parameter codes for the stations (e.g., 00060 for stream discharge), separated by commas.  | All available parameters are returned.   |
| Statistics  | Statistic codes (e.g., 00003 for mean), separated by commas.  | All available statistics are returned.   |
| SiteStatus  | Filter for stations, one of: <ul style="list-style-type: none"> <li>All – all stations are returned</li> <li>Active – only active stations are returned</li> <li>Inactive – only inactive stations are returned</li> </ul>  | All  |
| SiteTypes   | Site types to return, separated by commas.  | All available site types are returned.   |
| Agency      | Agency code to return (e.g., USGS).   | All available agencies are returned.   |
| InputStart  | The start of the period to read data – specify if the period should be different from the global query period.  | Use the global query period.   |
| InputEnd    | The end of the period to read data – specify if the period should be different from the global query period.  | Use the global query period.   |
| Alias       | The alias to assign to the time series, as a literal string or using the special formatting characters listed by the command editor. The alias is a short identifier used by other commands to locate time series for processing, as an alternative to the time series identifier | None – must be specified.  |

| Parameter  | Description  | Default                         |
|------------|--|---------------------------------|
|            | (TSID).  |                                 |
| Format     | The data format for output, one of: <ul style="list-style-type: none"><li>• JSON – JavaScript Object Notation (currently used only for downloads but will not result in time series in TSTool)</li><li>• RDB – tab-delimited format (also see ReadUsgsNwisRDB( ) command; currently used only for downloads but will not result in time series in TSTool).</li><li>• WaterML – XML format (also see the ReadWaterML( ) command).</li></ul> | WaterML                         |
| OutputFile | The name of the output file to create. The path to the file can be absolute or relative to the working directory.  | No output file will be created. |