Command Reference: ReadHydroBase()

Read time series from a HydroBase database

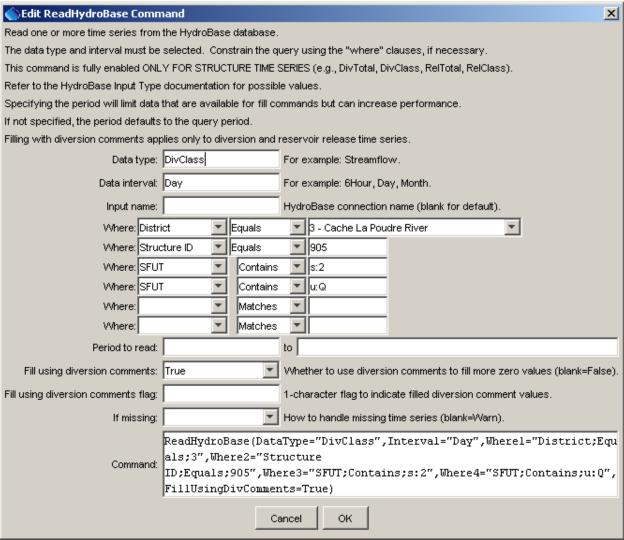
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The ReadHydroBase () command reads one or more time series from the HydroBase database (see the **HydroBase Input Type Appendix**). It is designed to utilize query criteria to process large numbers of time series.

The following special actions occur, depending on data type:

- 1. Daily diversion (DivTotal and DivClass) and reservoir release (RelTotal and RelClass) time series have their values automatically carried forward to fill data within irrigation years (Nov to Oct). HydroBase only stores full months of data when non-zero observations or non-zero filled values occur in a month. Therefore, this filling action should only provide additional zero values. Irrigation years with no observations remain as missing after the read. See the FillHistMonthAverage() command, which is often used to fill completely missing years.
- 2. Daily, monthly, and yearly diversion and reservoir release time series can optionally be filled using diversion comments, which indicate when irritation years should be treated as missing. See the FillusingDivComments parameter below. Note that diversion comments should not conflict with more detailed records but and provide additional information. The older FillusingDivComments() command is also available for filling.

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



ReadHydroBase() Command Editor

ReadHydroBase

The **Data type**, **Data interval**, and **Where** input fields are similar to those from the main TSTool interface. However, whereas the interactive interface first requires a query to find the matching time series list and then an interactive select for specific time series identifiers, the ReadHydroBase() command reads the time series list and the corresponding data for the time series. This can greatly shorten commands files and simplify command logic, especially when processing large amounts of data.

Currently the **Data type** and **Data interval** must be entered manually (drop-down choices are not available), according to the **HydroBase Input Type Appendix**. Currently, only the structure data types (in particular diversions) are supported in the above dialog and have been tested. Support for other data types will be added as resources allow.

The command syntax is as follows:

ReadHydroBase(Parameter=Value,...)

Command Parameters

| Parameter | Description | Default |
|----------------------|---|-------------------|
| DataType | The data type to be queried, as documented in the | None – must |
| | HydroBase Input Type Appendix. The following | be specified. |
| | conditions apply: | |
| | For diversions, use DivClass without the | |
| | SFUT sub-type. The SFUT sub-type will be | |
| | added after data are queried. | |
| | • For reservoir releases, use RelClass without | |
| | the SFUT sub-type. The SFUT sub-type will | |
| | be added after data are queried. | |
| Interval | The data interval for the time series, as | None – must |
| | documented in the HydroBase Input Type | be specified. |
| T 127 | Appendix (e.g. Day, Month, Year). | |
| InputName | The HydroBase database connection input name to | Use the |
| | use for the connection, as initialized in | default |
| | OpenHydroBase(), which allows reading from | HydroBase |
| | more than one HydroBase in the same commands | connection. |
| WhereN | file. | TC . |
| wheren | The "where" clauses to be applied when querying | If not |
| | data, matching the values in the Where fields in the | specified, the |
| | command editor dialog and the TSTool main | query will not be |
| | interface. The parameters should be named | limited and |
| | Where1, Where2, etc., with a gap resulting in the remaining items being ignored. The format of each | very large |
| | value is: | numbers of |
| | value is. | time series |
| | "Item;Operator;Value" | may be |
| | 200, 02020002, 10.200 | queried. |
| | Where Item indicates a data field to be filtered on, | querieu. |
| | Operator is the type of constraint, and Value is the | |
| | value to be checked when querying. | |
| | | |
| | Warning: Currently the >= and <= operators will | |
| | produce errors – this issue is being evaluated. | |
| | Work around by using the Less Than and | |
| | Greater Than operators with appropriate | |
| | Value. | |
| InputStart | Start of the period to query, specified as a date/time | Read all |
| | with a precision that matches the requested data | available |
| | interval. | data. |
| InputEnd | End of the period to query, specified as a date/time | Read all |
| | with a precision that matches the requested data | available |
| 7/7/7/ 7/ 7/ | interval. | data. |
| FillUsingDivComments | Indicate whether to fill diversion and reservoir | False |
| | release time series using diversion comments. | |

| Parameter | Description | Default |
|--------------------------|--|------------|
| FillUsingDivCommentsFlag | If specified as a single character, data flags will be | No flag is |
| | enabled for the time series and each filled value | assigned. |
| | will be tagged with the specified character. The | |
| | flag can then be used later to label graphs, etc. The | |
| | flag will be appended to existing flags if necessary. | |
| IfMissing | Indicate the action to be taken if the requested time | Warn |
| | series is missing, one of: | |
| | • Ignore – ignore the time series (do not warn | |
| | and the time series will not be available) | |
| | Warn – generate a failure for the command | |

A sample command file is as follows (read all reservoir releases to structure 0300905):

```
ReadHydroBase(DataType="DivClass",Interval="Day",
Where1="District;Equals;3",
Where2="Structure ID;Equals;905",Where3="SFUT;Contains;s:2")
```