

NCDC Data Import Plug-in

March 2007

Introduction

The NCDC data import plug-in is an optional capability to import data from the National Climatic Data Center in the following formats: 3200 and 3210 (Daily Climatic Data), 3220 (Monthly Surface Data), 3240 (Hourly Precipitation Data), 3260 (15-minute precipitation data), LCD and 3505 (Local Climatic Data), and the GSOD (Global Surface Summary of Day). This plug-in does not retrieve data from the NCDC web site, it only imports data that has been retrieved from that site or loaded from some other source, such as a published CD ROM. This plug-in is being provided in a beta form, usable in HEC-DSSVue Version 1.2 and later. It will be updated on the HEC web site as modifications become available.

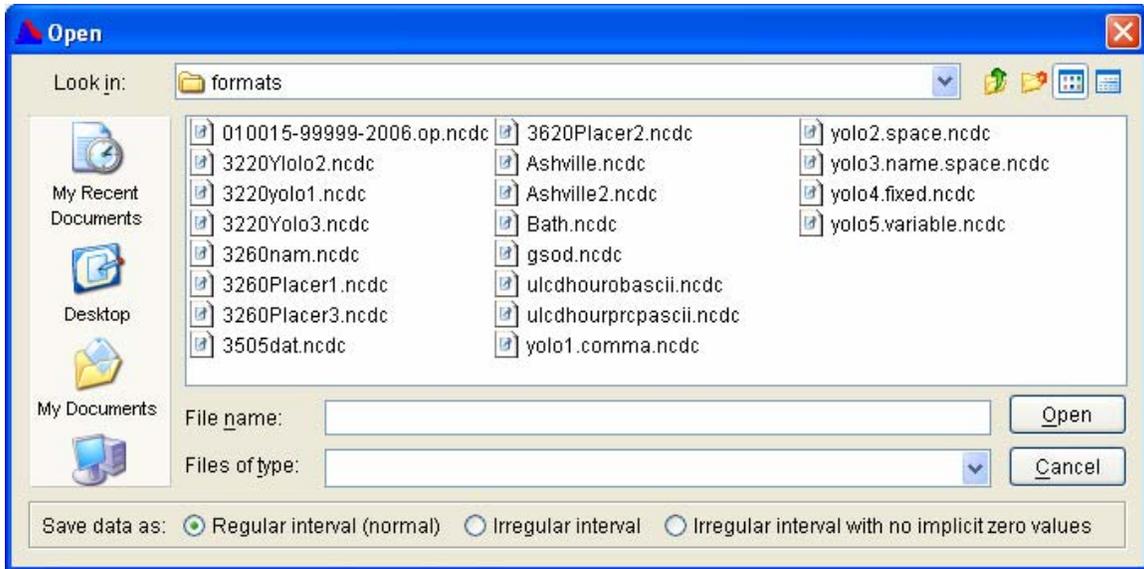
An HEC-DSSVue plug-in is a set of Java software that is compiled and put into a Java “.jar” file. By simply placing this file into the HEC-DSSVue Plugins directory, it is automatically loaded and accessible from the HEC-DSSVue program. The purpose of a plug-in is similar to the jython scripting capability that is available in HEC-DSSVue. However, since plug-ins are written in the Java language, which is used by HEC-DSSVue, there are extended capabilities and controls available. The plug-in code can access the HEC-DSSVue API (Application Program Interface) directly. Typical uses for plug-ins are: complex mathematical operations; specialized formatting of data for entry into another application (such as a program that uses a “card format”); and, retrieval of data from a web site.

The plug-in will import all data from the data file provided using default names and units. Users may want to rename parts of pathname and/or delete unwanted data sets. As this plug-in is in a beta test stage, you should verify that portions of the data have been correctly loaded. We recommend that you review the last values imported into DSS with what is in the import file to verify that the import was correct. If you find that there is a problem, please report it and email the data import file to: hec.dss@usace.army.mil. Please review the import file first to insure that the file is correct and does not contain improper characters due to transfer or other errors. (We still would appreciate the file, just let us know that you think the problem is bad characters in it.)

Usage

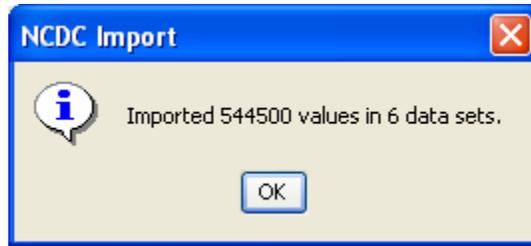
Plug-ins can be used by HEC-DSSVue Version 1.2 and later. To activate the NCDC plug-in, the NCDC.jar file is downloaded and placed in HEC-DSSVue Plugins directory, e.g., “Program Files\HEC\HEC-DSSVue\Plugins”. To un-install a plug-in, simply remove it from the Plugins directory. When you run HEC-DSSVue, it detects plug-ins in the Plugins directory and automatically loads them.

You use the NCDC plug-in after you have retrieved your NCDC data files. Instructions for obtaining data files are provided at the end of this document. Run HEC-DSSVue, open the HEC-DSS file that you want to store the retrieved data in and then select the NCDC button on the main toolbar. This will open a file selection dialog box as shown below. Navigate to the directory with your data file, select the file and then press “Open”. The plug-in will read the file, parse the data and store it into the opened DSS file. This process may take several seconds to complete, depending on the amount of data and speed of your machine.



There are three choices on how to store the data that can be selected at the bottom of the open dialog box. Most NCDC precipitation data sets imply zero values when no value is reported. If you choose “regular interval” or “irregular interval”, the plug-in will add the implicit zero values to the data set, and usually the number of data imported will far exceed the number of values in the file. If you select “regular interval”, the plug-in will attempt to store the data in the interval specified by the data. Precipitation data that is accumulated over a longer time period, will be set to missing, since that value is for a time greater than the time interval of the data. This option is usually the most useful for modeling. If you choose “irregular interval”, the accumulated values are stored, but there is no indication of the time distribution. You will need to account for this in most modeling programs. Implicit zero precipitation values are stored with the irregular interval option. The last option, “irregular interval with no implicit zero values” stores the data in the file without adding implied zeros between reported values.

After the import is complete, a message will report the number of values and the number of data sets imported, as shown below.



If there is an error in importing the data, or the data format is not recognized, an error dialog will be displayed indicating so.

You should verify that the data was successfully imported by comparing values in the DSS file with the import file. Generally, ones near the end of the data set are best to compare. You may also want to rename pathname parts to be more suitable to your liking.

Valid Formats

The plug-in has been tested with NDCD 3200, 3210, 3220, 3240 and 3260 formats in all forms. It has also been tested with LCD, GSOD and 3505 **delimited** formats. It will not import data from non-delimited LCD, GSOD and 3505 formats. If you have a choice for your format, we recommend comma delimited with station names. Many of the parameter types in 3200, 3220, LCD, GSOD and 3505 formats do not have the units or type assigned by the importer and they may need to be edited in later, if needed.

Examples of these formats are:

1. 3240 Comma Delimited:

```
COOPID,CD,ELEM,UN,YEAR,MO,DA,TIME,HOUR01,F,F,TIME,HOUR02...
-----,--,--,--,--,--,--,--,--,--,-----,--,-----
041112,00,HPCP,HI,1970,09,01,0100,00000,g,,0200,00000,...
041112,00,HPCP,HI,1970,09,04,0100,00000,, ,0200,00000,...
041112,00,HPCP,HI,1970,10,01,0100,00000,g,,0200,00000,...
...
```

2. 3240 Space Delimited with Station Name:

```
COOPID STATION NAME CD ELEM UN YEAR MO DA TIME HOUR01
-----
041112 BROOKS FARNHAM RANCH 00 HPCP HI 1970 09 01 0100 00000
041112 BROOKS FARNHAM RANCH 00 HPCP HI 1970 09 04 0100 00000
041112 BROOKS FARNHAM RANCH 00 HPCP HI 1970 10 01 0100 00000
...
```

3. 3240 fixed:

```
HPD04111200HPCPHI19700900010010100 00000g
HPD04111200HPCPHI19700900010012500 00000
HPD04111200HPCPHI19700900040011900 00005
HPD04111200HPCPHI19700900040012500 00005
HPD04111200HPCPHI19701000010010100 00000g
```


Limitations

The NCDC plug-in currently has limited error detection capabilities. If you think that there are problems, you should check the HEC-DSSVue log screen for messages. The log screen is usually minimized in your task bar.

Additional formats may be introduced as resources become available. If you are interested in certain formats, please let us know by emailing us at:

hec.dss@usace.army.mil.