**Daily and Hourly Data and Daily Editor**



**Jacques Régnière**

**Rémi Saint-Amant**

**Ariane Béchard**

**2017**

**Natural Resources Canada**

**Canadian Forest Service**

**Laurentian Forestry Centre**

**P.O. Box 10380, Stn. Sainte-Foy**

**Quebec, QC Canada, G1V 4C7**

Table of Contents

[1. Daily Database 1](#_Toc504046194)

[1.1. Introduction 1](#_Toc504046195)

[1.2. Daily Editor Application 1](#_Toc504046196)

[1.2.1. Station list Windows 2](#_Toc504046197)

[1.2.2. Properties Windows 3](#_Toc504046198)

[1.2.3. Spreadsheet Windows 3](#_Toc504046199)

[1.2.4. Graphics Window 4](#_Toc504046200)

[2. Hourly Editor 5](#_Toc504046201)

1. Daily Database

## Introduction

Daily databases are used to run BioSIM simulations in historical or real time, meaning from daily weather records rather than from randomized normals. Key applications of this usage are: simulating the past occurrence of weather-driven events using past weather records, or forecasting them into the near-future (e.g. seasonal) using the most current weather records. Near-future forecasting requires a Daily database that is as up to date as possible to provide the most recent data available. Updating near-future forecasts implies the maintenance (update) of Daily databases.

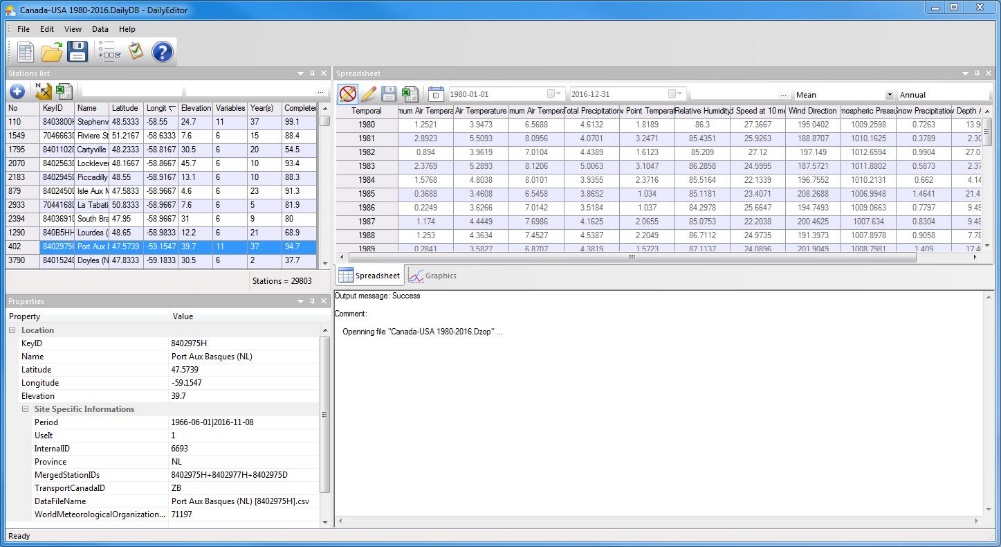
A Daily database is composed of an index file listing the available daily weather stations and references to the Daily data files (with .DailyHdr.csv extensions) that contain the actual daily weather records and that are stored in a separate sub-directory. This sub-directory bears the same name as the index file (which has the extension .DailyDB). The Daily database also contains an optimisation file (.Dzop extension) that is automatically created and updated by BioSIM.

NOTE: When available, weather forecasts can be added directly in the Daily data files. As for daily data, forecasts apply to a specific location (or “station”).

## Daily Editor Application

Daily databases can be opened in the Daily Editor application.

The Daily Database Editor application can be accessed by selecting [Tools] [Daily Editor…] from the menu bar, or by clicking the Daily Editor button  on the main window’s toolbar.

[](#_Daily_database_editor)

BioSIM’s setup usually creates a link between .DailyDB files and the Daily Database Editor application (unless the user does not have administrative privileges when BioSIM is first installed on a computer).

The Daily Editor consists of four window: Stations list, Properties, Speradsheet, and Graphics.

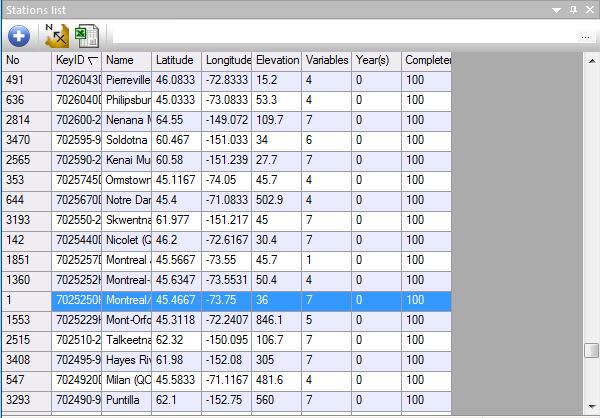
Buttons available in the Normals Editor application are as follows:

The New button  can be used to create a new Daily database.

The Open button  in this field can be used to browse for and open Daily database in the Daily Editor.

The Save button  can be used to save the changes on the active database.

### Station list Windows

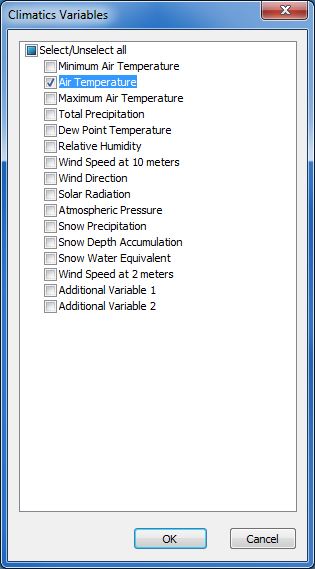
This window allows you to view all weather stations in the database and allows adding new stations.

This window offers the following buttons:

 Add: Add a new station to the list of stations in the database

 Send to ShowMap: Display the location of all the stations listed in the database in the ShowMap application.

Send to Excel: Sends the coordinates of all the stations listed in the database to the spreadsheet software Excel the user previously specified in the *Links* page of the Options dialog.

**Year Filter** field**:** A filter allowing the user to view the stations by year. When used, the main list field of the Daily Editor dialog will only show the stations that have data for the specified year. If a selection has also been made in the **Variables Filter** field, the stations shown in the list field will take both filters into account.

**Variables Filter** field (browse button …)**:** Select filters to apply to the list of stations. You can choose from several Climatic variables.

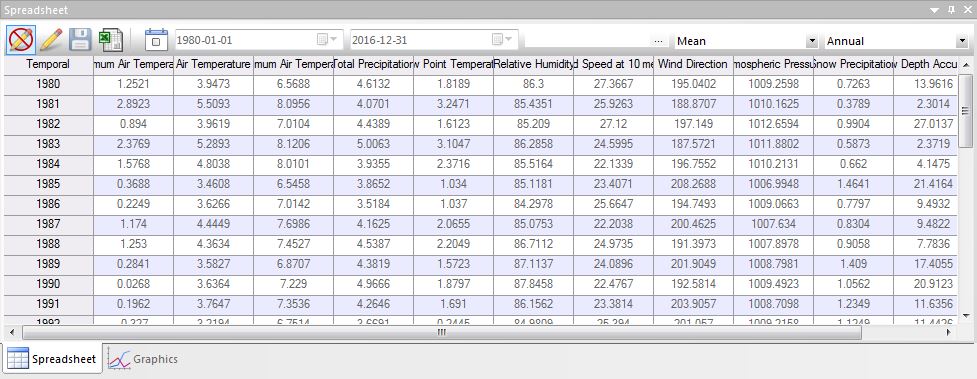
If all filters are unchecked Décocher, every station available in the database will be displayed in the list field. If two or more filters are checked Cocher, only the stations that have information on each data type selected will be displayed in the list field.

### Properties Windows

This window allows viewing the properties of the selected weather station such as the location (CleNo, Name, Latitude, Longitude, and Elevation), Besides the Site Specific Information (UseIt, Period, MergedStationIDs, State…).

### Spreadsheet Windows

This window allows to display by using the Visualisation Mode button  or to modify the data about a weather station by using the Edit Mode button.

Buttons in this dialog are as follows:

**Visualisation Mode**  button: allow just visualizing the weather data of the selected station player, either to save modification and seesaw in the mode visualization.

This **Edit Mode** button  used to activate modify data on a weather station. All fields in the Normals Station Editor are editable.

**Save weather data**  button: save the modifications, without seesaw in the mode visualization.

**Send to Excel**  button: Sends weather data from the selected station to the Excel spreadsheet.

**Period**  button: used / unused user define period filter.

**Begin ** filed: used to select begin date for period filter.

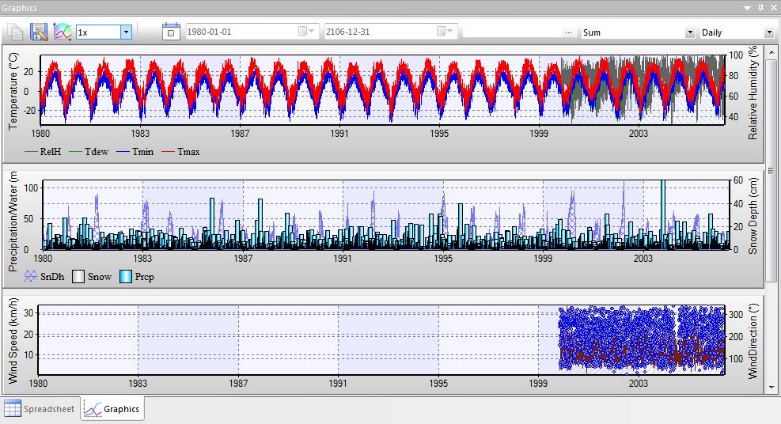
**End ** filed: used to select end date for period filter.

**Variables Filter** field (browse button …)**:** Select filters to apply to the weather data. You can choose from several Climatic variables.

**Temporal Type** field: used to select temporal type (annual, monthly or daily) of weather data to display.

### Graphics Window

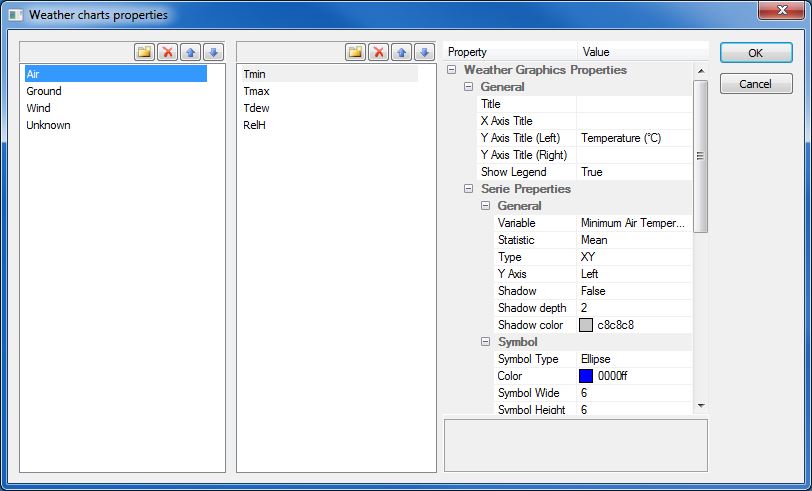
This Graphics window, which allows the user to view a graph of the station’s weather data (one graph for each type of weather data).



Buttons in this dialog are as follows:

Copy Graphics  button: Use to copy the graphics in press-paper for uses it later.

Save Graphics  button: Use to save the graphs of the station selected in the 'JPEG' images.

Define Graphics Options  button: Used to define climatic variables and the various graphic options.

1. Hourly Editor

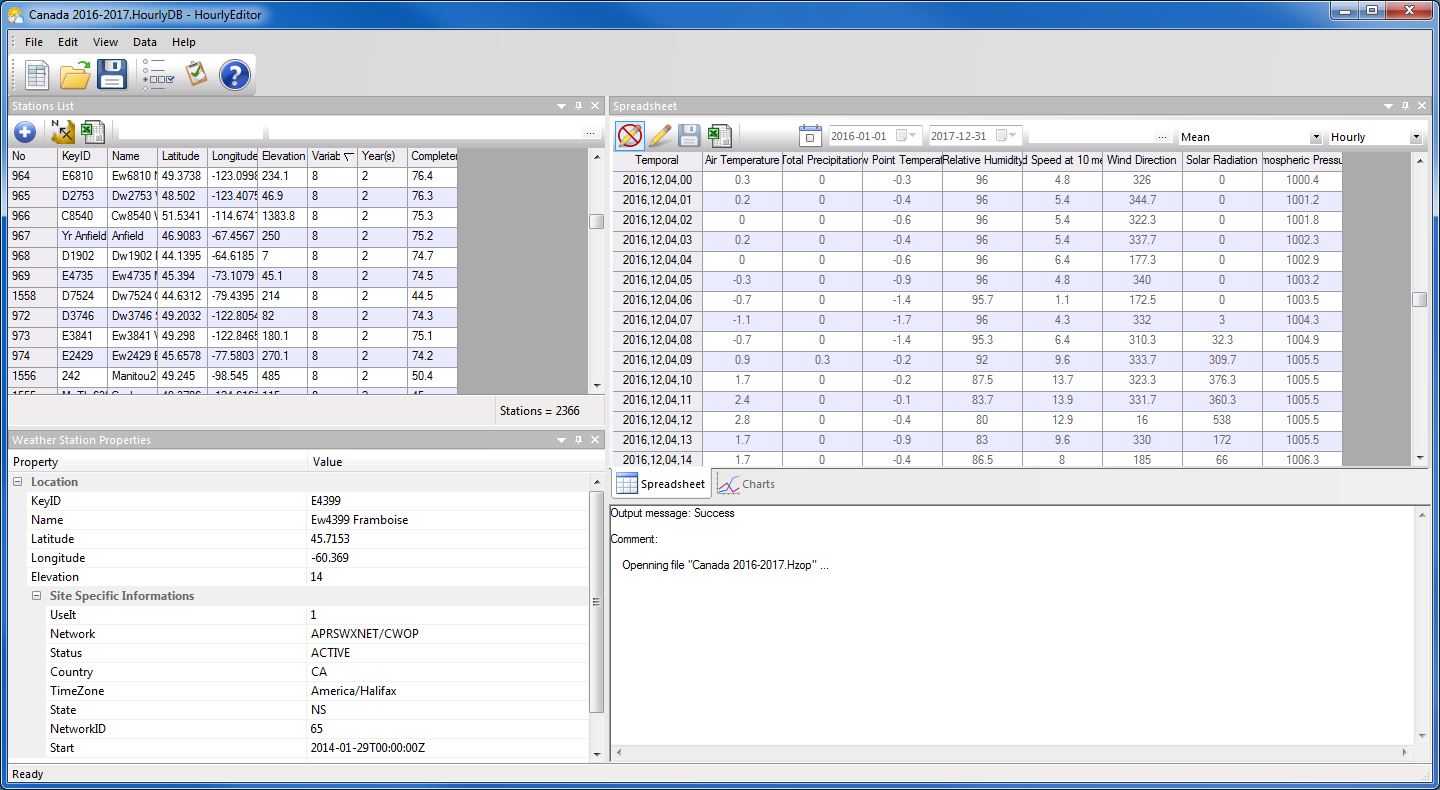
Hourly databases are used to run BioSIM simulations in historical or real time, meaning from daily weather records rather than from randomized normals. Key applications of this usage are: simulating the past occurrence of weather-driven events using past weather records, or forecasting them into the near-future (e.g. seasonal) using the most current weather records. Near-future forecasting requires a Hourly database that is as up to date as possible to provide the most recent data available. Updating near-future forecasts implies the maintenance (update) of Hourly databases.

A Hourly database is composed of an index file listing the available Hourly weather stations and references to the Hourly data files (with .HourlyHdr.csv extensions) that contain the actual hourly weather records and that are stored in a separate sub-directory. This sub-directory bears the same name as the index file (which has the extension .HourlyDB). The Hourly database also contains an optimisation file (.Dzop extension) that is automatically created, and updated by BioSIM.

NOTE: When available, weather forecasts can be added directly in the Hourly data files. As for hourly data, forecasts apply to a specific location (or “station”).

Hourly databases can be opened in the Hourly Editor application.

The Hourly Editor application can be accessed by selecting [Tools] [Hourly Editor…] from the menu bar, or by clicking the Hourly Editor button  on the main window’s toolbar.



The Hourly Editor application is similar to Daily Editor application.