

Grid Extraction Tool Web Interface (GETWI)

I. Introduction

The GETWI allows the user to define a set of rules to extract gridded data into a CSV or Shape file format for use in other applications. At any time if help is needed, select the question mark next to the section title for help on that particular section. Figure 1.1.

– **Bounded Area**[\[?\]](#)–

Figure 1.1. Help Location.

To extract gridded data. Please perform the following:

1. [Define an Area of Interest or Bounding Area](#)
2. [Select model and model run time.](#)
3. [Create and Add rules defining the data for the request](#)
4. [Name and select your request type.](#)

Once a request is created, settings may be saved and recalled for use at other times. Please see the following sections for more information.

[Saving settings for future use.](#)

[Upload settings file to restore previous values.](#)

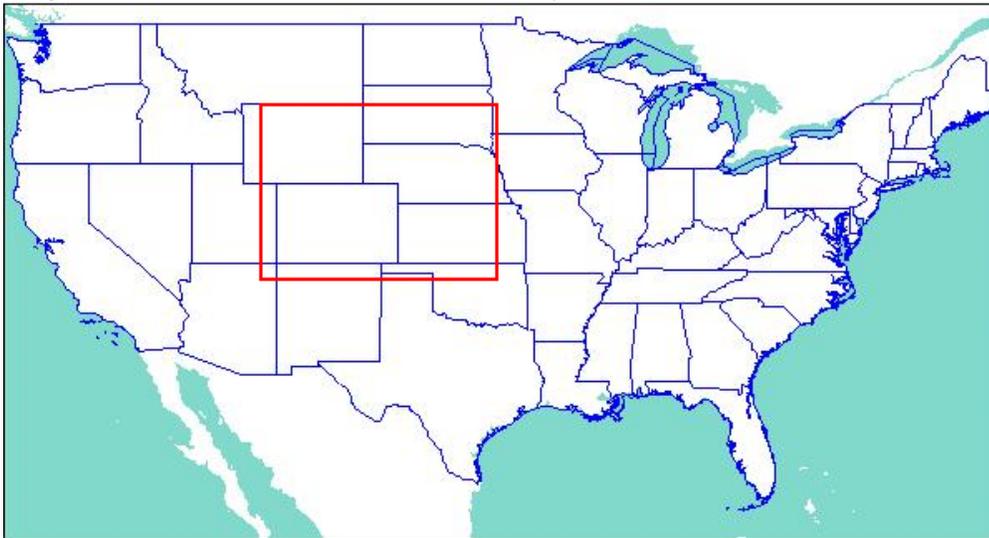
[PDF User Guide](#)

[Request Settings Example](#)

II. Bounding Area

To define your area of interest, you must select a bounding area. There are two ways of selecting a bounding area. Figure 2.1.

Use your mouse to select a bounded area for the request



Bounded Area[?]

Lower Left

Lat:

Lon:

Upper Right

Lat:

Lon:

Figure 2.1. Defining a Bounding Area.

1. Using your mouse, hold down the left button on the map and drag the mouse to define the bounded area, and release the button. As you drag the mouse, a red box is drawn on the screen to show the area selected.
2. Use the text boxes to type in the lower left and lower right points of the area of interest. You will need the latitude and longitude for each point.

III. Model Selection

Within the Model Selection area, use the “Model” drop-down box to select the data source. Only the sources listed are available. Figure 3.1.

The screenshot shows a web interface with two main sections. The top section, titled "Model Selection", contains a "Model:" dropdown menu with a list of options: "Choose a Model...", "NAM20", and "NAM12". The "NAM20" option is currently selected. To the right of this is a "Model Time:" dropdown menu set to "latest". The bottom section, titled "Rule C", contains a "Variable:" dropdown menu set to "windspeed" and a "Units:" dropdown menu set to "MILES_PER_HOUR".

Figure 3.1. Model Selection Drop-down box.

Once the data source is selected, the “Model Time” drop-down box will be populated with the model runs available on the server. Using the “Model Time” drop-down box, select the model time of interest, or leave the dialog box on “latest” to use the most recent data available for that particular model. Figure 3.2.

This screenshot shows the same interface as Figure 3.1, but with the "Model Time" dropdown menu open. The dropdown list now includes "latest", "20081104_1200", and "20081104_0600". The "latest" option is selected. The "Model" dropdown remains set to "NAM20", and the "Variable" and "Units" dropdowns remain unchanged.

Figure 3.2. Model Time Selection Drop-down box.

Model Descriptions:

GFS40	Global Forecast System Model on 40km Grid
NAM20	North American Mesoscale Model on 20km Grid
NAM12	North American Mesoscale Model on 12km Grid
RUC40	Rapid Update Cycle Model on 40km Grid
RUC13	Rapid Update Cycle Model on 13km Grid
GriddedMos	Model Output Statistics(MOS) applied to GFS on 5km Grid
RTMA	Real Time Mesoscale Analysis from NDFD on 5km Grid

IV. Rule Creation

1. Variable Selection

The Rule Creation area is used to define the data you would like to extract from the model. To begin, use the “Variable” drop-down box to select a variable. Figure 4.1.

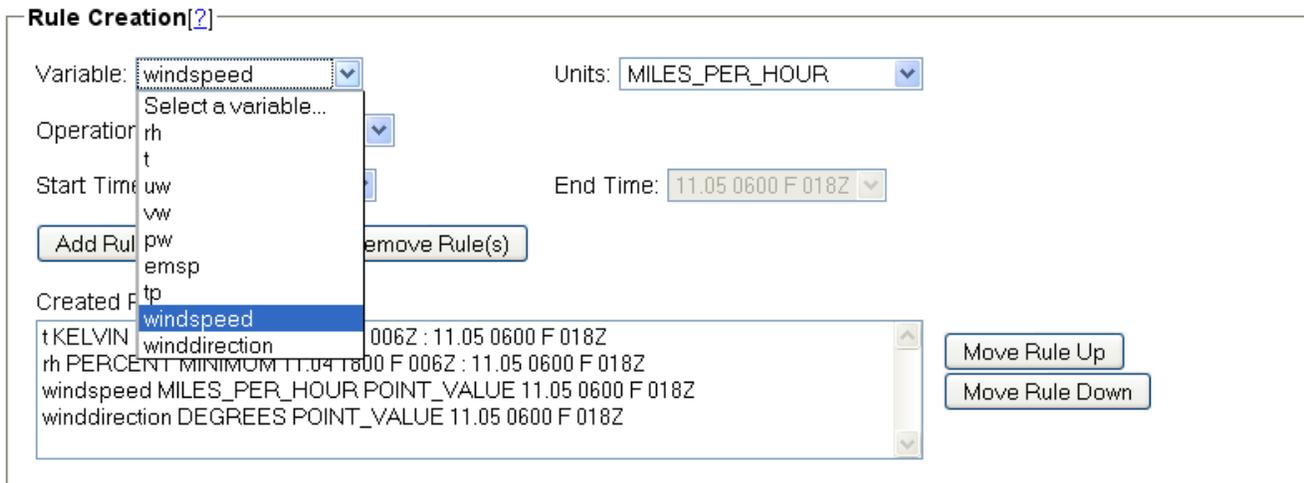


Figure 4.1. Variable Selection Drop-down box.

Variable Guide (Not all variables are available for each model):

t	Temperature
dpt	Dewpoint
rh	Relative Humidity
emsp	ETA Mean Sea Level Pressure
mmsp, mslp, pmsl	Mean Sea Level Pressure
pw	Precipitable Water
tp	Total Precipitation
uw	U Component of Wind
vw	V Component of Wind
winddirection	Wind Direction
windspeed	Wind Speed

2. Units Selection

Once a variable is selected, the “Units” drop-down box will be populated with the current and conversion units available. Use the “Units” drop-down box to change the units of the variable for the request. Figure 4.2.

Rule Creation[2]

Variable: windspeed Units: MILES_PER_HOUR
Operation: POINT_VALUE METERS_PER_SECOND
Start Time: 11.05 0600 F 018Z MILES_PER_HOUR
End Time: 11.05 0600 F 018Z ONE_PER_SECOND

Created Rules

t	KELVIN	MAXIMUM	11.04 1800 F 006Z	: 11.05 0600 F 018Z
rh	PERCENT	MINIMUM	11.04 1800 F 006Z	: 11.05 0600 F 018Z
windspeed	MILES_PER_HOUR	POINT_VALUE	11.05 0600 F 018Z	
winddirection	DEGREES	POINT_VALUE	11.05 0600 F 018Z	

Figure 4.2. Units Selection Drop-down box.

3. Operation Selection

The “Operation” drop-down box provides options of what type of operation to perform on the data. The following options are available: (Figure 4.3)

- POINT_VALUE
Returns the point data for each grid point at the start time selected. Requires the selection of a “Start Time” only.
- MAXIMUM
Determines the maximum value at each grid point over the time range selected. Requires the selection of a “Start Time” and an “End Time”.
- MINIMUM
Determines the minimum value at each grid point over the time range selected. Requires the selection of a “Start Time” and an “End Time”.
- AVERAGE
Determines the average value at each grid point over the time range selected. Requires the selection of a “Start Time” and an “End Time”.

The screenshot shows the 'Rule Creation' interface. At the top, there are two dropdown menus: 'Variable' set to 'windspeed' and 'Units' set to 'MILES_PER_HOUR'. Below these, the 'Operation' dropdown menu is open, showing options: 'POINT_VALUE' (selected), 'Select a operation...', 'MAXIMUM', 'MINIMUM', and 'AVERAGE'. To the right of the 'Operation' dropdown is the 'End Time' dropdown set to '11.05 0600 F 018Z'. Below the 'Operation' dropdown is a button labeled 'Add Rule' and a button labeled 'Move Rule(s)'. At the bottom, there is a list of 'Created Rules' with a scroll bar and two buttons: 'Move Rule Up' and 'Move Rule Down'. The list of rules is as follows:

Variable	Operation	Start Time	End Time
tKELVIN	MAXIMUM	11.04 1800 F 006Z	11.05 0600 F 018Z
rh	PERCENT MINIMUM	11.04 1800 F 006Z	11.05 0600 F 018Z
windspeed	MILES_PER_HOUR POINT_VALUE	11.05 0600 F 018Z	
winddirection	DEGREES POINT_VALUE	11.05 0600 F 018Z	

Figure 4.3. Operation Selection Drop-down box.

4. Start Time and End Time Selection

“Start Time” and “End Time” Selection Drop-Down boxes are used to select the time for data extraction. See “Operation” section above for what operations require what time. Any time displayed in a grayed out font is not available according to the model inventory. Any time listed in dark font is available for selection according to the model inventory. Figure 4.4 and 4.5.

The time is in the format “10.25 1200 F 012Z”. This is interpreted as:

- 10.25 - The valid forecast date, October 25 the current year.
- 1200 - The valid forecast time, 1200 Z.
- F 012Z - The valid forecast hour from the start of the model.

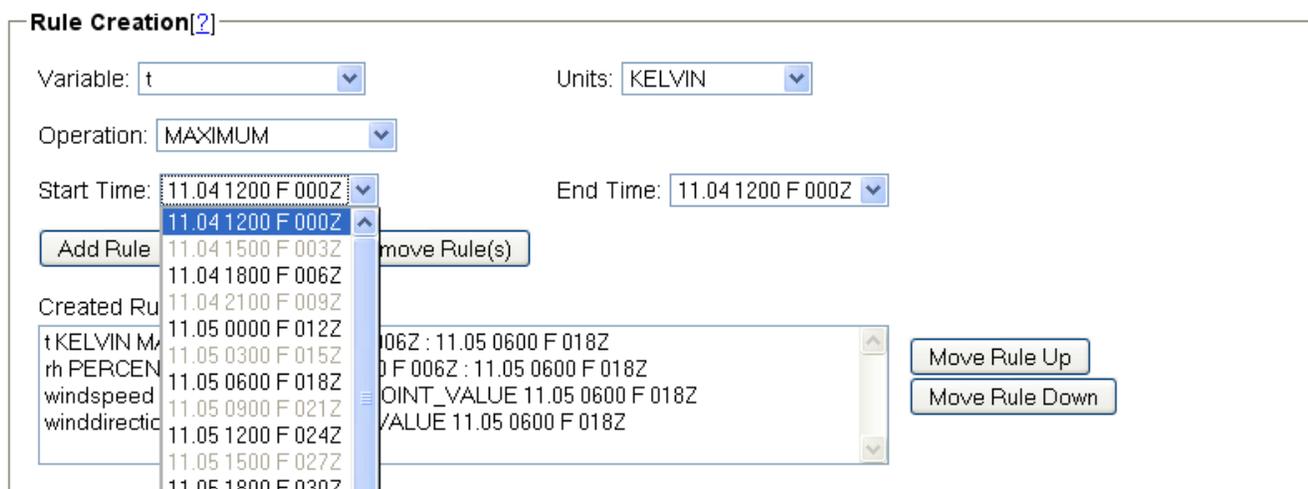


Figure 4.4. Start Time Selection Drop-down box.

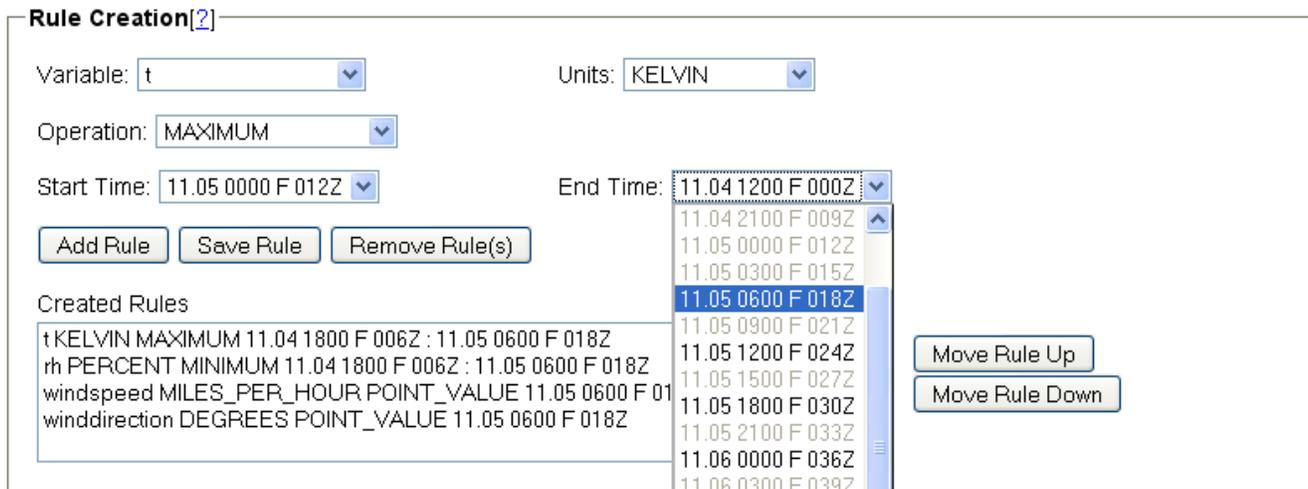


Figure 4.5. End Time Selection Drop-down box.

5. Adding, Saving, Removing Rules.

After all items 1-4 have been selected, Select the “Add Rule” button to add this rule to your set.

IMPORTANT – You need to add rules to the request in order to receive data.

The “Created Rules” area list the rules attached to the current request. The order of the rules in this area is the order of the data in the resulting data set.

By selecting a rule in the “Created Rules” area you can perform the following tasks:

- Modify the rule. Using the drop-down box's of items 1-4, the variable, operation, units, and times can be modified. Use the “Save Rule” button to update the rule after making changes.
- Remove the rule. By selecting the “Remove Rule” button, the rule is removed from the list.
- Change the order of the rules. By selecting either the “Move Rule Up” or “Move Rule Down” button, you can change the order of the rules

Rule Creation[?]:

Variable: Units:

Operation:

Start Time: End Time:

Created Rules

t FAHRENHEIT MAXIMUM 11.04 1800 F 006Z : 11.05 0600 F 018Z	<input type="button" value="Move Rule Up"/>
rh PERCENT MINIMUM 11.04 1800 F 006Z : 11.05 0600 F 018Z	
windspeed MILES_PER_HOUR POINT_VALUE 11.05 0600 F 018Z	
winddirection DEGREES POINT_VALUE 11.05 0600 F 018Z	<input type="button" value="Move Rule Down"/>

Figure 4.6. Adding, Saving, Removing Rules Buttons.

V. Request Data

The Request Data section is where the request is named and the type of request is selected. Currently the request can create either Comma Separated Values text file or Shape file output.

To submit the request, name the request and selected the output type, then select the "Request Data" button. Figure 5.1.

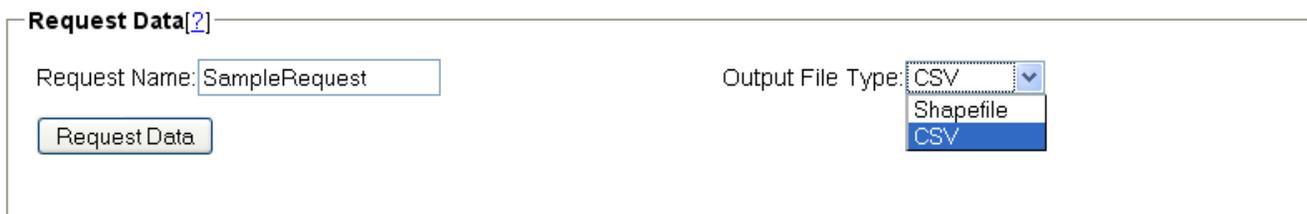


Figure 5.1. Request Data Section.

After the request is submitted, the server will process the data and update the Request Data section with a link to the data for download. Right click the link to save the data to your local system.

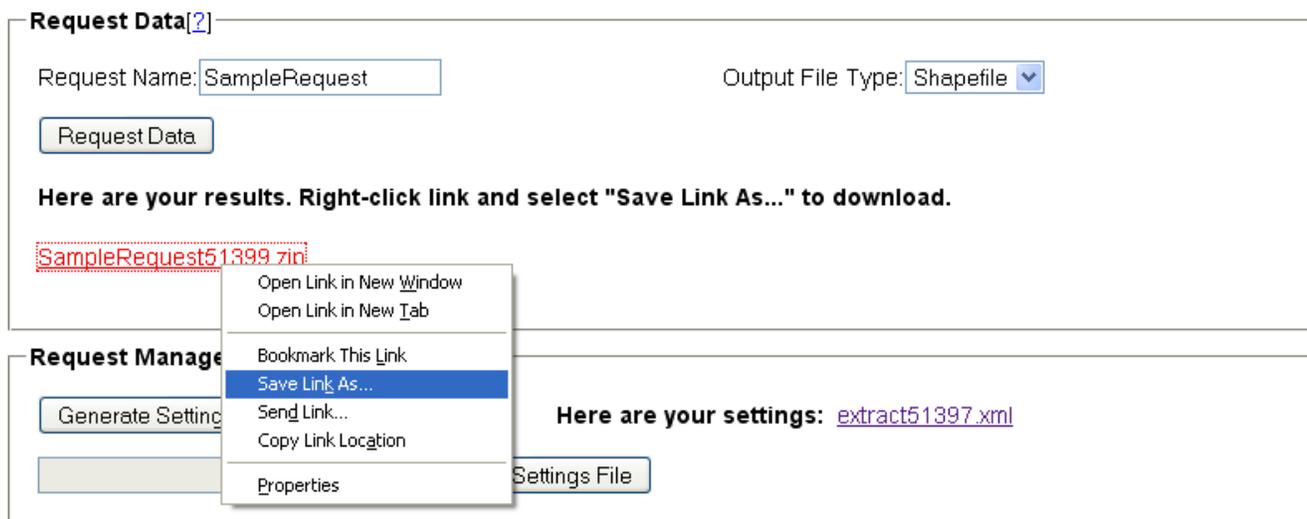


Figure 5.2. Saving Requested Data.

A CSV Output file will return a single text file with the results.
 A Shape file request will return a zip file containing the files necessary for GIS Applications.
 Please extract the files from the zip file for use in these applications.

VI. Request Management

The Request Management area is where settings can be saved for future requests, or settings are uploaded to set the form values.

1. Saving Settings.

To save your settings, select the “Generate Settings File” button, after the request is processed, the resulting settings file link will appear to the right of the button. Right click the link and select “Save link as...” to save the settings file.

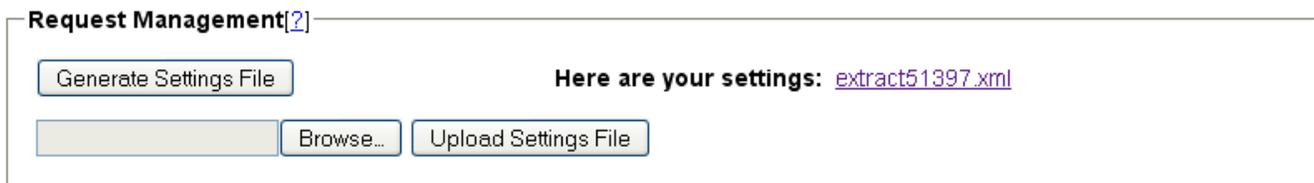


Figure 6.1. Generating a settings file.

2. Using Existing Settings File.

To upload a previously save settings file, select the “Browse...” Button and Navigate to locate the settings file, and select open. Once the file has been chosen, select the “Upload Settings File” to setup the request page.