



# Tutorial: How to Use the Hourly Weather Graph

The National Weather Service transitioned to digital forecasts in 2002, using a software package called the Interactive Forecast Preparedness System (IFPS). With this type of system, forecasters can manipulate grids of weather variables graphically, and then generate different formats of forecasts for thousands of points across the country in a matter of minutes.

One of these formats is called the Hourly Weather Graph, and it can be a valuable tool to evaluate the weather forecast for the upcoming week. In this document, we'll take you through a step-by-step process in order to understand how to use the Hourly Weather Graph.

## Step One

Access the NWS Duluth home page – <http://www.weather.gov/duluth>

National Weather Service Weather Forecast Office  
Duluth, MN

Home Site Map News Organization Search for: [ ] NWS All NOAA Go

Local forecast by "City, St" or Zip Code  
City, St [ ] Go  
XML RSS Feeds

Current Hazards  
Watches/Warnings  
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Submit Report

Current Conditions  
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Forecasts  
Forecast Discussion  
Local Area  
Activity Planner  
Aviation Weather  
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Climate  
Local  
National  
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Weather Safety  
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Weather Radio  
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- La Nina Conditions In Pacific - What Does It Mean For Northland Winters?
- Get the Latest Beach Forecast, including Rip Current Outlook
- July 23rd Hailstone from Vivian, SD Recently Confirmed as US Record
- Listen to the NOAA Weather Radio Online

Watches & Warnings Observations Forecast Graphics Rivers & Lakes Climate Marine

Click on the map below for the latest forecast.

Read watches, warnings & advisories  
Zoom Out  
Hazardous Weather Outlook

Click on the map for where you want your forecast, or type in a location in the box in the upper left hand corner.

Latest Conditions in Duluth, MN Choose Your Front Page City

Aug 27  
8:55 am Clear 63°F (17°C)  
Select A City: [ ]

Weather Story Radar Satellite Weather Map

Frequently Used Products

## Step Two

Choose a forecast location

You achieve this by either clicking at any point on the map on the home page, or by typing in a city and state, or zip code, in the white input box in the upper left hand corner of the web page. Let's assume for purposes of this tutorial that you typed "Hibbing, MN" into the box.

## Step Three

Scroll down the forecast page

After you click the map or complete your search, the forecast page for the location you selected will come up. At the top, you will see the standard 7-day forecast. Scroll down the page.

 **Your National Weather Service forecast** 

**Hibbing MN**

Enter Your "City, ST" or zip code   [BOOKMARK](#) [f](#) [t](#) [e](#)

NWS Duluth, MN [Mobile Weather Information](#) | [En Español](#)  
**Point Forecast:** Hibbing MN **Last Update:** 10:06 am CDT Aug 27, 2010  
47.41°N 92.95°W **Forecast Valid:** 11am CDT Aug 27, 2010-6pm CDT Sep 2, 2010

### Forecast at a Glance

Today	Tonight	Saturday	Saturday Night	Sunday	Sunday Night	Monday	Monday Night	Tuesday
								
Sunny Hi 82 °F	Mostly Clear Lo 58 °F	Mostly Sunny Hi 81 °F	Partly Cloudy Lo 57 °F	Mostly Sunny Hi 85 °F	Slight Chc Tstms Lo 61 °F	Chance Tstms Hi 81 °F	Chance Tstms Lo 59 °F	Chance Tstms Hi 73 °F

The National Center for Atmospheric Research (NCAR) will be conducting a survey in Fall 2010 to ask people's opinions about this web page. This survey is not being conducted by the National Weather Service (NWS) or any other government entity. If you are willing to be contacted by email to participate in this web-based survey, please click [here](#) (you will be redirected to an NCAR web page).

### Detailed 7-day Forecast

Hazardous weather condition(s): [view Yesterday's Weather](#)

**Hazardous Weather Outlook**

**Today:** Sunny, with a high near 82. South wind around 15 mph, with gusts as high as 25 mph.

**Tonight:** Mostly clear, with a low around 58. South wind around 15 mph, with gusts as high as 20 mph.

**Saturday:** Mostly sunny, with a high near 81. South wind between 10 and 15 mph, with gusts as high as 20 mph.

**Saturday Night:** Partly cloudy, with a low around 57. South wind between 10 and 15 mph, with gusts as high as 15 mph.

**Sunday:** Mostly sunny, with a high near 85. South wind between 10 and 20 mph, with gusts as high as 25 mph.

**Sunday Night:** A 20 percent chance of showers and thunderstorms. Mostly cloudy, with a low around 61.

**Monday:** A chance of showers and thunderstorms. Mostly cloudy, with a high near 81.

### Current Conditions

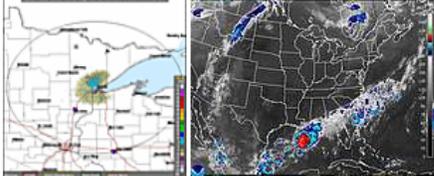
**Chisholm-Hibbing Airport**  
Lat: 47.39 Lon: -92.85 Elev: 1347  
Last Update on Aug 27, 9:53 am CDT

**Fair**  
68 °F  
(20 °C)

<b>Humidity:</b>	78 %
<b>Wind Speed:</b>	SE 10 MPH
<b>Barometer:</b>	29.88" (1012.0 mb)
<b>Dewpoint:</b>	61 °F (16 °C)
<b>Visibility:</b>	10.00 mi.

[More Local Wx:](#) [3 Day History:](#)

### Radar and Satellite Images



## Step Four

Click on Hourly Weather Graph Link

cloudy, with a high near 61.

**Monday Night:** A chance of showers and thunderstorms. Mostly cloudy, with a low around 59.

**Tuesday:** A chance of showers and thunderstorms. Mostly cloudy, with a high near 73.

**Tuesday Night:** A chance of showers and thunderstorms. Mostly cloudy, with a low around 53.

**Wednesday:** A chance of showers and thunderstorms. Mostly cloudy, with a high near 70.

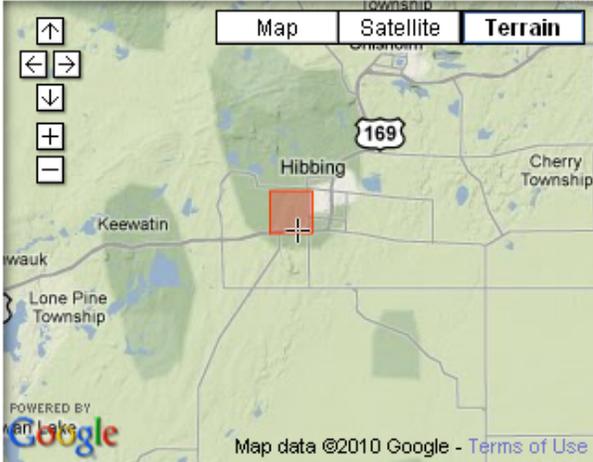
**Wednesday Night:** A chance of showers and thunderstorms. Mostly cloudy, with a low around 51.

**Thursday:** A slight chance of showers and thunderstorms. Partly cloudy, with a high near 69.

### Detailed Point Forecast [Move Up]

Click Map for Forecast Disclaimer

Map Satellite Terrain

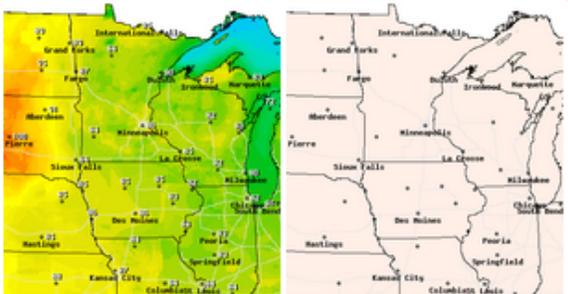


Map data ©2010 Google - [Terms of Use](#)

Requested Location Forecast Area  
Lat/Lon: 47.41°N 92.95°W Elevation: 1538 ft

[KML](#) [XML](#)

### National Digital Forecast Database



### Additional Forecasts & Information

- Zone Area Forecast for Central St. Louis, MN
- Forecast Discussion
- Air Quality Forecasts
- Printable Forecast
- Text Only Forecast
- Hourly Weather Graph**
- Tabular Forecast
- Quick Forecast
- International System of Units
- About Point Forecasts
- Hazardous Outlook
- Home
- Local Forecast Page

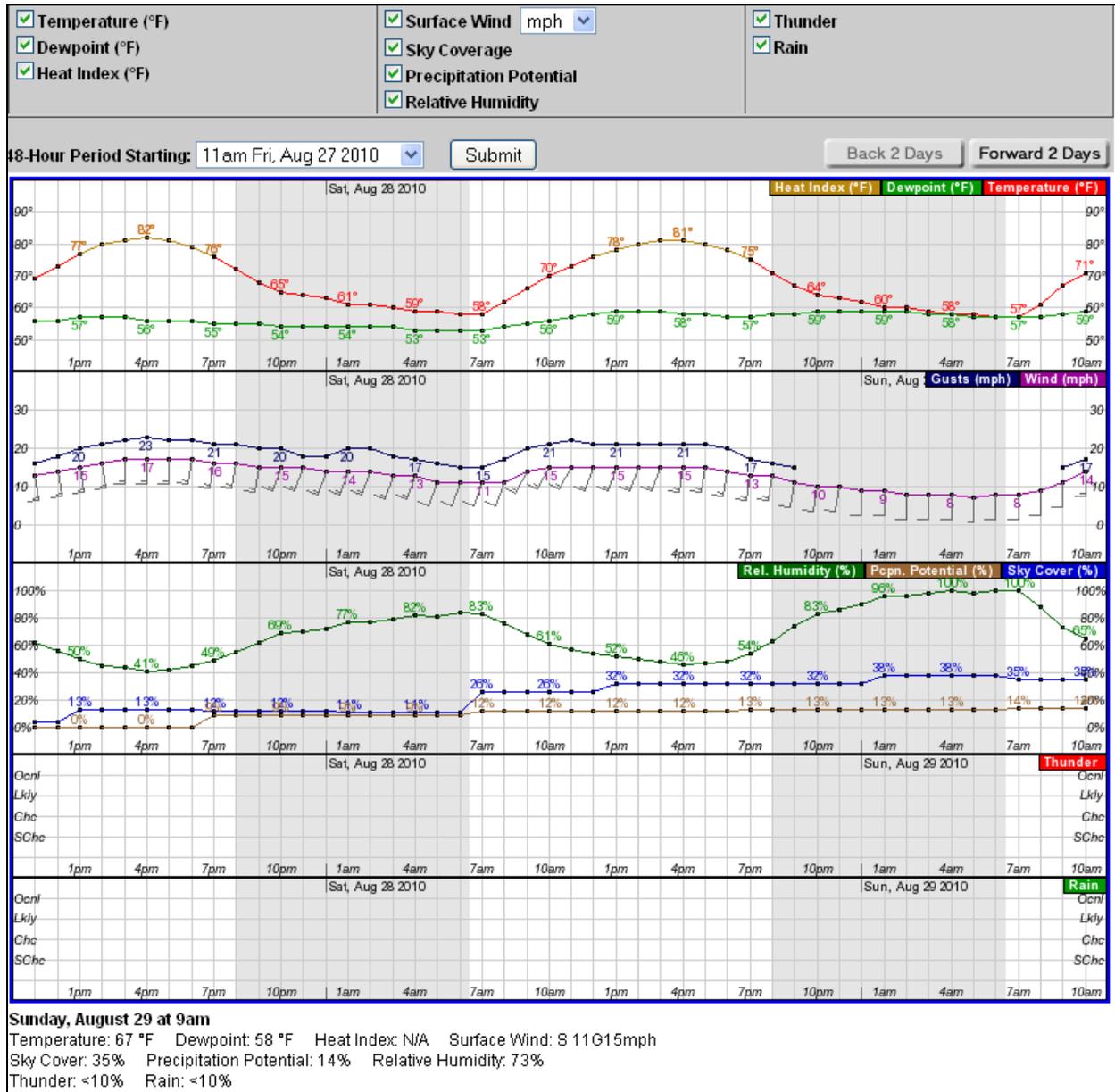
Webmaster  
National Weather Service:  
Duluth, MN

[Back to Previous Page](#)

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[Credits](#)

This will bring up the Hourly Weather Graph Page. You'll also notice that right above that link box, there is an interactive Google map that you can use to fine-tune your location. Use the navigation tools to pan and/or zoom. You can even switch to a satellite view and find your building or house. If you find that your location is outside of the red box, you can click on the map, and it will change the forecast page to that location.

# What the Hourly Weather Graph Looks Like



Above is a picture of what the Hourly Weather Graph page looks like. You can choose the weather elements that you'd like to view at the top, and change the 48-hour period that you'd like to view in the drop down menu. If you'd like to see the forecast at a specific time, simply mouse over the graph, and the text box at the bottom of the page will change as your mouse moves left or right on the graph. Thus, the Hourly Weather Graph allows you to view the forecast graphically, and get specific forecast information all on one web page.



# Tutorial: How to Use the Activity Planner

Similar to the Hourly Weather Graph, the Activity Planner takes advantage of the Interactive Forecast Preparedness System (IFPS). It is simply another way of viewing the same digital forecast information.

## Step One

Access the NWS Duluth home page – <http://www.weather.gov/duluth>  
Click on the “Activity Planner” link on the left hand navigation menu.

The screenshot shows the National Weather Service website for Duluth, MN. The page features a navigation menu on the left with various weather-related links. A red arrow points to the "Activity Planner" link in the "Local Area" section of the menu. The main content area includes a search bar, a "Top News of the Day" section with several news items, and a map of the Duluth area. The map is titled "Click on the map below for the latest forecast." and shows various locations including International Falls, Bemidji, Hibbing, Duluth, Grand Marais, Brainerd, Hinckley, Hayward, Park Falls, Ironwood, and Rice Lake. A red arrow points to the "Activity Planner" link in the left-hand navigation menu, with the text "Click link" next to it. The bottom of the page displays the latest conditions in Duluth, MN, including the date and time (Aug 27, 8:55 am), the temperature (63°F / 17°C), and the weather (Clear). There are also links for "Weather Story", "Radar", "Satellite", and "Weather Map".

## Step Two

Enter in your personalized forecast criteria in the “Element” white boxes. For instance, if you are fishing on a large inland lake, and you don’t want the wind speeds to be any higher than 30 mph, you would enter a “30” in the “Max” box next to “Surface Wind Speed (mph)”. Or, perhaps you are looking for days with low precipitation chances. For this example we will enter a 30 into the “Max” box next to Precipitation Potential to find the times over the next 7 days where the precipitation chances are less than 30%. Click on the map, or enter the latitude and longitude of a point, in order to get the forecast information for the site that you want. We will select Hibbing again.

### Weather Activity Planner

Welcome to the **Weather Activity Planner**. Please enter the range of weather parameters required for your activity. Then, either click the approximate location on the map below, or enter the specific latitude and longitude and hit submit. This will query the forecast grids to find when your weather requirements will be met at the nearest grid point over the next 7 days. Public **comments and suggestions** are encouraged.

This application generates products from a digital forecast data base. It is intended to allow a user to define and produce a forecast for general planning purposes only. As any weather or hydrologic event evolves, updated forecasts and warnings are issued by the NWS. Customers are urged to obtain the latest official forecast information prior to engaging in any weather sensitive activity, and to monitor forecasts for updates during such activities.

The **Weather Activity Planner** is NOT meant to replace a spot forecast request. **Weather Activity Planner** surface winds are a gridded representation of projected, local surface winds at a 5km or 2.5km resolution. The surface winds returned do NOT account for fuel type, sheltering or slope aspect. Users can select either surface wind speeds or 20 foot winds (if the 20 foot wind grid is available). If precise wind forecasts are needed, please submit a spot forecast request to your servicing Weather Forecast Office.

[\[English Units - Click to Change\]](#)

Element	Min	Max	Element	Min	Max
Temperature (°F) <input type="text"/>	<input type="text"/>	to <input type="text"/>	Surface Wind Direction <input type="text"/>	<input type="text"/>	to <input type="text"/>
Relative Humidity <input type="text"/>	<input type="text"/>	to <input type="text"/>	Sky Cover <input type="text"/>	<input type="text"/>	to <input type="text"/>
Surface Wind Speed (mph) <input type="text"/>	<input type="text"/>	to <input type="text"/>	Precipitation Potential <input type="text"/>	<input type="text"/>	to <input type="text"/>



[Read watches, warnings & advisories](#)   
[Hazardous Weather Outlook](#)

**Latitude/Longitude Entry**  
decimal degrees (i.e. 42.134) or  
deg min sec (i.e. 42 23 34)

**Latitude:**

**Longitude:**

Use "-" (negative sign) in longitude for locations in Western Hemisphere

Last Updated: Fri, Aug. 27 2010 9:47 AM

### Step Three

#### Using the Activity Planner output

Weather Activity Planner for 47.39°N 92.95°W [Interactive](#)

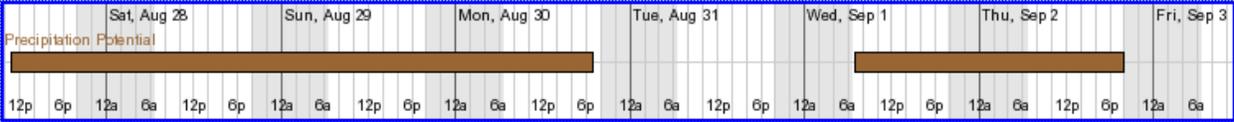
**Point Forecast:** Hibbing MN

#### Weather Activity Planner

This interactive forecast display is intended for general planning purposes. Data entered may have been changed for accuracy. Please verify the below data is appropriate. All wind direction information should be entered in a clockwise direction (using compass directions i.e. E, ESE, SE, etc). Public **comments and suggestions** are encouraged.

This application generates products from a digital forecast data base. It is intended to allow a user to define and produce a forecast for general planning purposes only. As any weather or hydrologic event evolves, updated forecasts and warnings are issued by the NWS. Customers are urged to obtain the latest official forecast information prior to engaging in any weather sensitive activity, and to monitor forecasts for updates during such activities.

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**Monday, August 30 at 6am** 48-hr Element Meteorogram  
Precipitation Potential: 24%

**Hazardous weather condition(s):**  
[Hazardous Weather Outlook](#)

Element	Min	Max	Element	Min	Max
Temperature (°F) <input type="text"/>	<input type="text"/>	to <input type="text"/>	Surface Wind Speed (mph) <input type="text"/>	<input type="text"/>	to <input type="text"/>
Relative Humidity <input type="text"/>	<input type="text"/>	to <input type="text"/>	Sky Cover <input type="text"/>	<input type="text"/>	to <input type="text"/>
Surface Wind Speed (mph) <input type="text"/>	<input type="text"/>	to <input type="text"/>	Precipitation Potential <input type="text"/>	0	to 30

**Latitude/Longitude Entry**  
decimal degrees (i.e. 42.134) or deg min sec (i.e. 42 23 34)  
Use "-" (negative sign) in longitude for locations in Western Hemisphere

**Latitude:**  **Longitude:**

You can see that the Activity Planner produced a graph. The brown bar on the graph represents the times at which the precipitation probabilities are less than 30%. In this example, there is a long stretch of pretty dry weather from the current time through around 7pm on Monday.

If you want more specific information, you can mouse over the graph and it will provide the specific data point below the graph, as was the case in the Hourly Weather Graph. You can also click on the graphical output to get a tabular display of all the data at that particular point. Finally, you can always fine tune your criteria in the gray box closer to the bottom. **It is important to note that you can use more than one criterion at a time.**

# Summary

Both of these options are ways for the user to interact with the digital forecast database in order to get the specific forecast information that they need. The Hourly Weather Graph provides a graphical display of forecast trends, and an easy way to view specific forecast information at a specific time in the future. The Activity Planner is potentially useful for anyone planning an outdoor event as it will isolate the times in the forecast where the weather forecast is ideal for the user. If you have any additional questions or feedback, send us an email at:

[w-dlh.webmaster@noaa.gov](mailto:w-dlh.webmaster@noaa.gov)

