

# GPSMAP® 400/500 Series

Weather and XM Satellite Radio  
supplement



  
**GARMIN**®

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## Introduction

### WARNING

See the *Important Safety and Product Information* guide in the product box for product warnings and other important information.

This manual includes XM WX Satellite Weather<sup>®</sup>, cellular Global System for Mobile communication (GSM) weather, and XM<sup>®</sup> satellite radio information for the following products:

GPSMAP <sup>®</sup> 431	GPSMAP 431s	GPSMAP 441	GPSMAP 441s
GPSMAP 531	GPSMAP 531s	GPSMAP 536	GPSMAP 536s
GPSMAP 541	GPSMAP 541s	GPSMAP 546	GPSMAP 546s

## Cellular Equipment Requirements

To use cellular weather, you must have a cellular GSM antenna such as the Garmin GDL 40. To connect your chartplotter to a cellular antenna, refer to the installation instructions for the antenna.

## XM Equipment Requirements

To use XM WX Satellite Weather, you must have a Garmin XM satellite weather receiver. To use XM Satellite Radio, you must have a Garmin XM satellite radio receiver. Go to [www.garmin.com/xm](http://www.garmin.com/xm) for more information. To connect the XM antenna and receiver and for subscription instructions, refer to the instructions for your XM equipment.

## Contacting Garmin Product Support

Contact Garmin Product Support if you have any questions about this product.

- In the USA, go to [www.garmin.com/support](http://www.garmin.com/support), or contact Garmin USA by phone at (913) 397.8200 or (800) 800.1020.
- In the UK, contact Garmin (Europe) Ltd. by phone at 0808 2380000.
- In Europe, go to [www.garmin.com/support](http://www.garmin.com/support) and click **Contact Support** for in-country support.

## Simulator Mode

Simulator mode provides simulated weather data.

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## XM WX Satellite Weather and Cellular Weather

### WARNING

The weather information provided through this product is subject to service interruptions and may contain errors, inaccuracies, or outdated information, and consequently should not be relied upon exclusively. Always use common sense while driving or navigating, and check alternate weather information sources prior to making safety-related decisions. You acknowledge and agree that you shall be solely responsible for use of the weather information and all decisions taken with respect to driving or navigating in weather. Garmin will not be responsible for any consequences of using the weather data.

### Cellular Weather

Cellular weather provides data through wireless service providers. An antenna, such as the Garmin GDL® 40, communicates with nearby cellular towers to receive the weather data. The weather data for each feature comes from reputable weather data centers such as the National Oceanic and Atmospheric Administration (NOAA) National Weather Service, Environment Canada, and Météo-France.

To view cellular weather, you must initially select an annual subscription service online at <http://my.garmin.com>. You may purchase a day pass directly from the chartplotter. A day pass provides 24 hours of continuous weather data. Refer to the antenna installation instructions or the instructions at <http://my.garmin.com> to activate this service.

### XM WX Satellite Weather

A Garmin XM satellite weather receiver and antenna receives XM WX Satellite Weather data and shows it on various Garmin devices, including the Navigation chart on a chartplotter. The weather data for each feature comes from reputable weather data centers such as the National Weather Service and the Hydrometeorological Prediction Center. For more information, go to the XM WX Satellite Weather Web site at [www.xmwxweather.com](http://www.xmwxweather.com).

To view XM WX Satellite Weather information, you must have a subscription to XM WX Satellite Weather, and you must have a Garmin XM satellite weather receiver connected to a chartplotter.

### Weather Features

Feature	XM WX Satellite Weather	Cellular Weather
Type of Precipitation ( <a href="#">page 2</a> )	X	X
Satellite Cloud Cover ( <a href="#">page 3</a> )	X	X
European, Canadian, and USA Radar ( <a href="#">page 3</a> )	X	X
Lightning ( <a href="#">page 3</a> )	X	X
Severe Storm Tracks ( <a href="#">page 4</a> )	X	
Canada and USA Warnings ( <a href="#">page 4</a> )	X	X
Hurricane Track ( <a href="#">page 4</a> )	X	X
Surface WX Analysis ( <a href="#">page 5</a> )	X	
Sea Surface Pressure Forecast ( <a href="#">page 8</a> )	X	X

Feature	XM WX Satellite Weather	Cellular Weather
City Forecasts (page 6)	X	X
Surface Wind Vectors (page 7)	X	X
Wave Direction and Wave Direction Forecast (page 7)	X	X
Wave Height and Wave Height Forecast (page 7)	X	X
Wave Period and Wave Period Forecast (page 7)	X	X
Forecasting Fish Locations (page 9)	X	
Visibility (page 9) and Visibility Forecast (page 10)	X	
National Weather Station Marine Local Forecast (page 10)	X	X
Buoy Data (page 10)	X	X
Sea Surface Temperature and Sea Surface Pressure (page 10)	X	X

## Weather Data Broadcasts

Satellite weather data is broadcast at set intervals. For example, XM weather radar data is broadcast at five-minute intervals. Cellular weather data is broadcast at fifteen-minute intervals. When the Garmin receiver is turned on, or when a different weather feature is selected, the receiver has to receive new data before it can be shown. You might experience a delay before weather data or a different feature appears on the chart.

**NOTE:** Any weather feature can change in appearance if the source that provides the information changes.

When you purchase cellular weather data or when the chartplotter automatically requests a cellular weather update, the current boat position is transmitted, and your chartplotter then receives weather data for your area centered around your current location.

## Status Messages

When viewing a weather chart, a status message, such as one of the following, may be displayed in the upper-left corner.

**Buy WX**—you must purchase a day pass or a subscription to view weather data.

**Register**—you must register your cellular antenna before you can purchase and view cellular weather data. If you see this message after registering your antenna, shut down your system and then turn it back on.

## Viewing Precipitation Information

Precipitation ranging from very light rain and snow, up to strong thunderstorms, is indicated in varying shades and colors. Precipitation is shown either independently or with other weather information.

From the Home screen, select **Information > Weather > Precipitation**.

The time stamp in the upper-left corner of the screen indicates the elapsed time since the weather data provider last updated the information.

## Showing an Animated Radar Loop

You can view precipitation information as an image of the latest update or as an animated loop of the latest updates.

From the Home screen, select **Information > Weather > Precipitation > MENU > NEXRAD Loop > On**.

The time stamp in the upper-left corner of the screen indicates the elapsed time since the service provider generated the weather radar frame currently displayed on the screen.

## Showing Cloud Cover

Cloud cover can be shown or hidden. XM weather data provides the height of the cloud tops.

Cellular weather displays clouds based on cloud-top temperatures as detected by infrared satellites. Deeper shades of gray represent colder clouds often found with cirrus or thunderstorm clouds. Lighter shades or lack of shading indicate warmer clouds usually associated with stratus or fog.

From the Home screen, select **Information > Weather > Precipitation > MENU > Cloud Cover > Show**.

## Switching Weather Charts

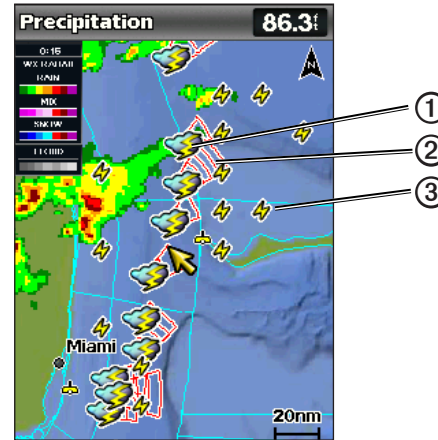
You can change from one type of weather chart to a different chart.

1. From the Home screen, select **Information > Weather**.
2. Select a weather chart.
3. Select **MENU > Change Weather**.
4. Select a different weather chart.

## Storm Cell and Lightning Information

**NOTE:** Storm cell information is available only if you are receiving XM WX Satellite Weather data. It is not available if you are receiving only cellular weather data.

Storm cell icons ① on the weather Precipitation chart indicate both the present position of a storm and the projected path of that storm in the immediate future.

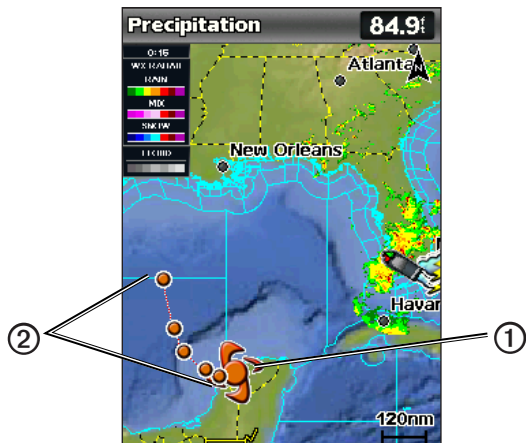


Red cones ② appear with a storm cell icon, and the widest part of each cone points in the direction of the projected path of the storm cell. The red lines in each cone indicate where the storm will most likely be in the near future. Each line represents 15 minutes.

Lightning strikes are represented by lightning bolt icons Ⓝ. Lightning appears on the weather Precipitation chart if strikes were detected within the last seven minutes. The ground-based lightning detection network detects cloud-to-ground lightning only.

## Hurricane Information

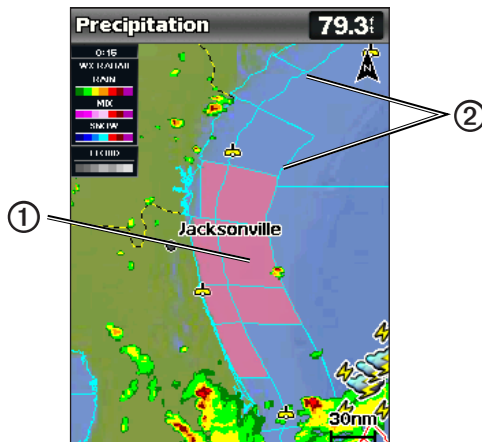
The weather Precipitation chart can show the present position of a hurricane Ⓛ, a tropical storm, or a tropical depression. A red line stemming from a hurricane icon indicates the projected path Ⓜ of the hurricane. Darkened dots on the red line indicate the projected locations through which the hurricane will pass, as received from the weather data provider.



## Weather Warnings and Weather Bulletins

When a marine weather warning, weather watch, weather advisory, weather bulletin, or other weather statement is issued, shading Ⓛ indicates the area to which the information applies. To view information about the warning or bulletin, select the shaded area. The aqua lines Ⓜ on the chart indicate the boundaries of marine forecasts, coastal forecasts, and offshore forecasts. Weather bulletins may consist of either weather watches or weather advisories.

See the Appendix (page 19) to view a list of color shading descriptions.





## Forecast Information

The Forecast chart shows city forecasts, marine forecasts, warnings, hurricane warnings, METARS, county warnings, weather fronts and pressure centers (XM data only), surface pressure, and WX buoys.

### Viewing Present Forecast Information

From the Home screen, select **Information > Weather > Forecast**.

### Viewing Forecast Information for Another Time Period

**NOTE:** This feature is available only if you are receiving XM WX Satellite Weather data. It is not available if you are receiving only cellular weather data.

1. From the Home screen, select **Information > Weather > Forecast**.
2. Complete an action:
  - To view the weather forecast for the next 12 hours, select right on the **Rocker**, and to view forecasts up to 48 hours, in 12-hour increments, select right on the **Rocker** again.
  - To view the weather forecast for the previous 12 hours, select left on the **Rocker**, and to view previous forecasts, up to 48 hours ago, in 12-hour increments, select left on the **Rocker** again.






### Viewing a Marine Forecast or an Offshore Forecast

1. From the Home screen, select **Information > Weather > Forecast**.
2. Select **MENU > Start Panning**.
3. Pan the chart to an offshore location.  
The **Marine Forecast** or **Offshore Forecast** options appear when forecast information is available.
4. Select **Marine Forecast** or **Offshore Forecast**.



## Weather Fronts and Pressure Centers:

**NOTE:** This feature is available only if you are receiving XM WX Satellite Weather data. It is not available if you are receiving only cellular weather data.

Weather fronts appear as lines that indicate the leading edge of an air mass.

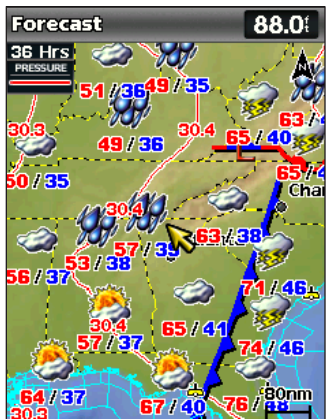
Front Symbol	Description
	Cold front
	Warm front
	Stationary front
	Occluded front
	Trough

Pressure-center symbols often appear near weather fronts.

Pressure-Center Symbol	Description
	Indicates a low-pressure center, which is a region of relatively lower pressure. Moving away from a low-pressure center results in increased pressure. Winds flow counterclockwise around low-pressure centers in the northern hemispheres.
	Indicates a high-pressure center, which is a region of relatively higher pressure. Moving away from a high-pressure center results in decreased pressure. Winds flow clockwise around high-pressure centers in the northern hemispheres.

### City Forecasts

City forecasts appear as weather symbols. The forecast is viewed in 12-hour increments. XM WX Satellite Weather includes data for the next 48 hours. Cellular weather includes data for the next 24 hours.



Symbol	Weather	Symbol	Weather
	Windy		Foggy
	Cloudy		

### Viewing Sea Conditions

The Sea Conditions chart shows information about surface conditions, including winds, wave height, wave period, and wave direction.

From the Home screen, select **Information > Weather > Sea Conditions**.

Symbol	Weather	Symbol	Weather
	Partly cloudy		Rain (drizzle, sleet, showers)
	Thunderstorms		Fair (sunny, hot, clear)
	Smoke (dusty, hazy)		Snow (snow showers, flurries, blizzard, blowing snow, sleet, freezing rain, freezing drizzle)

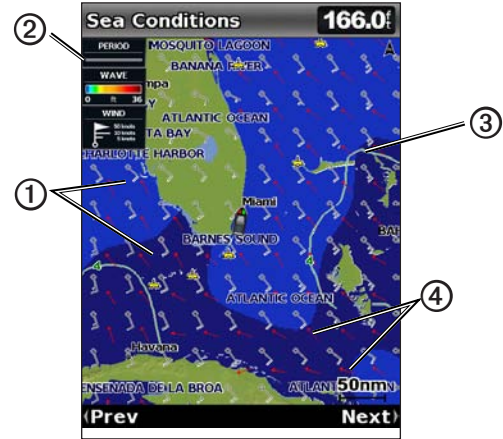
### Surface Winds

Surface wind vectors appear on the Sea Conditions chart using wind barbs that indicate the direction from which the wind is blowing. A wind barb is a circle with a tail. The line or flag attached to the tail of the wind barb indicates the wind speed. A short line represents 5 knots, a long line represents 10 knots, and triangle represents 50 knots.

Wind Barb	Wind Speed	Wind Direction
	Calm	
	5 knots	
	10 knots	
	15 knots	
	20 knots	
	50 knots	
	65 knots	

### Wave Height, Wave Period, and Wave Direction

Wave heights for an area appear as variations in color. Different colors indicate different wave heights ①, as shown in the legend ② on the left of the screen.



The wave period indicates the time (in seconds) between successive waves. Wave period lines ③ indicate areas that have the same wave period.

Wave directions appear on the chart using red arrows ④. The direction of each arrow pointer indicates the direction in which a wave is moving.

## Viewing Forecast Sea Conditions Information for Another Time Period

**NOTE:** This feature is available only if you are receiving XM WX Satellite Weather data. It is not available if you are receiving only cellular weather data.

1. From the Home screen, select **Information > Weather > Sea Conditions**.
2. Complete an action:
  - To view forecasted sea conditions for the next 12 hours, select right on the **Rocker**, and to view forecasts up to 48 hours, in 12-hour increments, select right on the **Rocker** again.
  - To view the forecasted sea conditions for the previous 12 hours, select left on the **Rocker**, and to view previous forecasts, up to 48 hours ago, in 12-hour increments, select left on the **Rocker** again.

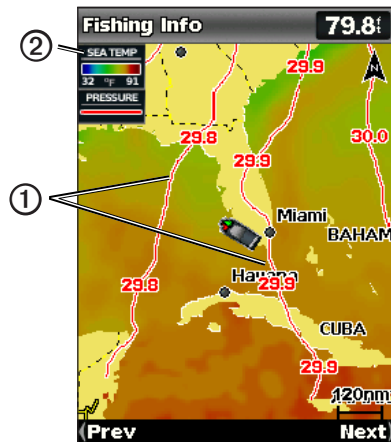
## Viewing Fishing Information

The weather Fishing chart shows present water temperature, present surface pressure conditions, and fishing forecasts.

From the Home screen, select **Information > Weather > Fishing**.

## Surface Pressure and Water Temperature Data

Surface-pressure information appears as pressure isobars and pressure centers. Isobars ① connect points of equal pressure. Pressure readings can help to determine weather and wind conditions. High-pressure areas are generally associated with fair weather. Low-pressure areas are generally associated with clouds and the chance of precipitation. Isobars packed closely together show a strong pressure gradient. Strong pressure gradients are associated with areas of stronger winds.



Pressure units are shown in millibars (mb), inches of Mercury (inHg), or hectopascals (hPa).

Colored shading, as defined by the legend ② in the upper-left corner of the display, indicates the surface temperature of the water.

## Forecasting Fish Locations

**NOTE:** This feature is available only if you are receiving XM WX Satellite Weather data. It is not available if you are receiving only cellular weather data.

You can show areas that contain optimal weather conditions for specific species of fish.

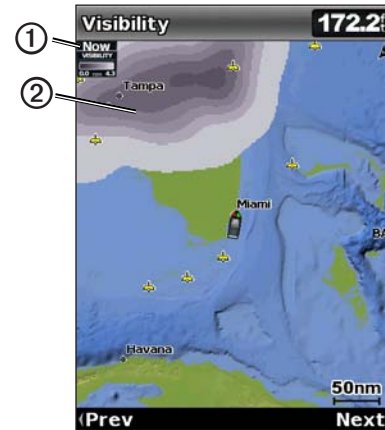
1. From the Home screen, select **Information > Weather > Fishing > MENU > Fish Species**.
2. Select a species of fish.
3. Select **SELECT** to turn display of that species of fish on or off.
4. Repeat steps 2 and 3 to show areas with optimal weather conditions for additional species of fish.

Shaded areas indicate optimal fishing areas. If you have selected more than one species of fish, you can select a shaded area to view the fish species that are included in the shaded area.

## Visibility Information

**NOTE:** This feature is available only if you are receiving XM WX Satellite Weather data. It is not available if you are receiving only cellular weather data.

Visibility is the forecast maximum horizontal distance that can be seen at the surface, as shown in the legend ① on the left of the screen. Variations in the visibility shading ② show the forecast change in surface visibility.



## Viewing Visibility Information


From the Home screen, select **Information > Weather > Visibility**.

## Viewing Forecast Visibility Information for Another Time Period

1. From the Home screen, select **Information > Weather > Visibility**.
2. Complete an action:
  - To view the visibility forecast for the next 12 hours, select right on the **Rocker**, and to view forecasts up to 48 hours, in 12-hour increments, select right on the **Rocker** again.
  - To view the visibility forecast for the previous 12 hours, select left on the **Rocker**, and to view previous forecasts, up to 48 hours ago, in 12-hour increments, select left on the **Rocker** again.

## Viewing Buoy Reports

Report readings are taken from buoys and coastal observation stations. These readings are used to determine air temperature, dew point, water temperature, tide, wave height and period, wind direction and speed, visibility, and barometric pressure.

1. From the Home screen, select **Information > Weather > Forecast**.
2. Select **MENU > Start Panning**.
3. Select  > **Buoy**.

## Viewing Local Weather Information near a Buoy

You can select an area near a buoy to view forecast information.

1. From the Home screen, select **Information > Weather > Forecast**.
2. Select **MENU > Start Panning**.
3. Complete an action using the **Rocker**:
  - Select a location on the chart.
  - Pan to a new location, and select the location on the chart.
4. Select **Local Weather**.
5. Complete an action:
  - To view present weather conditions from a local weather service, select **Current Cond.**
  - To view a local weather forecast, select **Forecast**.
  - To view surface wind and barometric pressure information, select **Sea Surface**.
  - To view wind and wave information, select **Marine Bulletin**.

## Creating a Waypoint on the Forecast Chart

1. From the Home screen, select **Information > Weather > Forecast**.
2. Select **MENU > Start Panning**.
3. Complete an action using the **Rocker**:
  - Select a location on the chart.
  - Pan to a new location, and select the location on the chart.
4. Select **Create Waypoint**.

5. If you want to name the waypoint or provide information about the waypoint, select the waypoint, select the number assigned to the waypoint, and select **Edit Waypoint**.
- Select **Name**, enter the name, and select **Done**.
  - Select **Symbol**, and enter a symbol.
  - Select **Depth**, enter the depth, and select **Done**.
  - Select **Water Temp**, enter the water temperature, and select **Done**.
  - Select **Comment**, enter the comment, and select **Done**.

## About the Weather Overlay

The weather overlay superimposes weather and weather-related information on the Navigation chart, the Fishing chart, and the Perspective 3D chart view. The Navigation chart and the Fishing chart can show WX radar, height of cloud tops (XM weather), infrared satellite data for clouds (cellular weather), lightning, WX buoys, county warnings, and hurricane warnings. The Perspective 3D chart view can show WX radar.

Weather overlay settings configured for use on one chart are not applied to another chart. The weather overlay settings for each chart must be configured separately.

**NOTE:** The Fishing chart is available if you use a BlueChart g2 Vision® data card, a BlueChart g2 data card, or if your built-in map supports Fishing charts.

## Turning On the Weather Overlay on a Chart

1. From the Home screen, select **Charts**.
2. Select **Navigation Chart** or **Fishing Chart**.
3. Select **MENU > Chart Setup > Weather > Weather > On**.

## Showing WX Radar Precipitation Data on a Chart

Before you can show WX radar information on a chart, you must turn on the weather overlay ([page 11](#)).

WX radar shows very light rain and snow up to strong thunderstorms in varying shades and colors.

1. From the Home screen, select **Charts**.
2. Select **Navigation Chart** or **Fishing Chart**.
3. Select **MENU > Chart Setup > Weather > NEXRAD > On**.

## Showing Weather Buoys on a Chart

Before you can show weather buoys on a chart, you must turn on the weather overlay ([page 11](#)).

1. From the Home screen, select **Charts**.
2. Select **Navigation Chart** or **Fishing Chart**.
3. Select **MENU > Chart Setup > Weather > WX Buoys > On**.

### Showing a Weather Legend on a Chart

Before you can show a weather legend on a chart, you must turn on the weather overlay ([page 11](#)).

1. From the Home screen, select **Charts**.
2. Select **Navigation Chart** or **Fishing Chart**.
3. Select **MENU > Chart Setup > Weather > Legend > Show**.

### Showing Cloud Cover Data on the Navigation Chart

Before you can show cloud cover data on the Navigation chart, you must turn on the weather overlay ([page 11](#)).

**NOTE:** This feature is available only if you are receiving XM WX Satellite Weather data. It is not available if you are receiving cellular weather data.

From the Home screen, select **Charts > Navigation Chart > MENU > Chart Setup > Weather > Cloud Cover > On**.

### Showing Infrared Satellite Data on the Navigation Chart

Before you can show infrared satellite data on the Navigation chart, you must turn on the weather overlay ([page 11](#)).

**NOTE:** This feature is available only if you are receiving cellular weather data. It is not available if you are receiving XM WX Satellite Weather data.

Infrared satellite data displays clouds based on cloud-top temperatures. Deeper shades of gray represent colder temperatures often found with cirrus or thunderstorm clouds. Lighter shades or lack of shading indicate warmer temperatures usually associated with stratus clouds or fog.

From the Home screen, select **Charts > Navigation Chart > MENU > Chart Setup > Weather > Satellite IR > On**.

### Showing Visibility Data on the Navigation Chart

Before you can show visibility data on the Navigation chart, you must turn on the weather overlay ([page 11](#)).

**NOTE:** This feature is available only if you are receiving XM WX Satellite Weather data. It is not available if you are receiving only cellular weather data.

Visibility is the forecast maximum horizontal distance that can be seen at the surface.

From the Home screen, select **Charts > Navigation Chart > MENU > Chart Setup > Weather > Visibility > On**.

### Showing Sea Temperature Data on the Fishing Chart

Before you can show sea temperature data on the Fishing chart, you must turn on the weather overlay ([page 11](#)).

From the Home screen, select **Charts > Fishing Chart > MENU > Chart Setup > Weather > Sea Temp > On**.

### Showing Fish Forecasting Data on the Fishing Chart

Before you can show fish forecasting data on the Fishing chart, you must turn on the weather overlay ([page 11](#)).

**NOTE:** This feature is available only if you are receiving XM WX Satellite Weather data. It is not available if you are receiving only cellular weather data.



You can show areas that contain optimal weather conditions for specific species of fish.

1. From the Home screen, select **Charts > Fishing Chart > MENU > Chart Setup > Weather > Fish Species > On.**
2. Select a species of fish.
3. Select **On.**  
Shaded areas indicate optimal fishing areas.
4. Repeat steps 2 and 3 to show areas with optimal weather conditions for additional species of fish.
5. Select a shaded area to view the fish species that are included in the shaded area.

## Weather Alarms

### Setting Weather Alarms

You can set an alarm to sound for weather warnings.

1. From the Home screen, select **Configure > Alarms > Weather.**
2. Complete one or more actions:
  - Select **Marine > On.**
  - Select **Tornado > On.**
  - Select **Severe Storm > On.**
  - Select **Flood > On.**
  - Select **Flash Flood > On.**
  - Select **Wind/Visibility > On.**
  - Select **Winter > On.**

**NOTE:** **Wind/Visibility** and **Winter** alarms are available only if you are receiving cellular weather data. They are not available if you are receiving only XM WX Satellite Weather data.

## Selecting a Cellular or XM Antenna

If your chartplotter is connected to both a cellular and an XM antenna, you must select which antenna you want to provide weather service. If you are connected to only one antenna, that antenna is selected automatically.

If you have both a cellular antenna and an XM antenna connected to your chartplotter and you select the cellular antenna, XM weather data does not appear, but your XM radio is still available (if you have a paid subscription). If you select the XM antenna, cellular weather data does not appear.

1. From the Home screen, select **Configure > Communications > NMEA 2000 Setup > Preferred Devices > Weather Antenna**.
2. Select an antenna.

## Selecting an External Cellular Antenna

If your chartplotter is connected to an external cellular antenna, you must select that antenna on your chartplotter.

From the Home screen, select **Configure > Communication > NMEA 2000 Setup > Device List > GDL 40 > Configure > GSM Antenna > External**.

## Viewing Weather Subscription Information

You can view information about the weather services you have subscribed to and how many minutes have passed since the data for each service was updated. The time elapsed since the last weather download will be displayed for cellular weather data. If you have purchased a day pass, the time of the purchase and the time when the day pass expired is also shown.

From the Home screen, select **Information > Weather > Weather Subscription**.

## XM Satellite Radio

To use XM Satellite Radio features, you must have a Garmin XM satellite radio receiver connected to your chartplotter and to the audio input of your boat. You must also have a subscription to XM Satellite Radio. Go to [www.garmin.com/xm](http://www.garmin.com/xm) for more subscription information.

### Using XM Radio

#### Selecting an XM Radio Channel

1. From the Home screen, select **Configure** > **XM Audio**.
2. Complete an action:
  - To select a specific XM channel within the selected category, select up or down on the **Rocker**.
  - To enter an XM channel number manually, select **MENU**, **Channel Entry**, enter a channel number, and select **SELECT**.

#### Customizing the Channel Guide

XM Radio channels are grouped in categories. You can select the category of channels that appear in the channel guide.

1. From the Home screen, select **Configure** > **XM Audio** > **MENU** > **Category**.
2. Select a category, and select **SELECT**.

#### XM Presets

The XM presets list is a customizable channel category. You can save your favorite channels to the presets list.

#### Saving an XM Channel to the Presets List

1. From the Home screen, select **Configure** > **XM Audio**.
2. Complete an action:
  - To select a specific XM channel within the selected category, select up or down on the **Rocker**.
  - To enter an XM channel number manually, select **MENU** > **Channel Entry**.
3. Select **Save Preset**.

#### Adjusting XM Radio Volume

**Note:** Volume control is not available when using a GDL 30 or GDL 30A.

1. From the Home screen, select **Configure** > **XM Audio**.
2. Complete an action:
  - To turn the XM radio volume off or on, select **Mute**.
  - To adjust the volume level, select **Volume**, select and hold **Up** or **Down**, and select **Done**.

## XM Radio Bar

### Displaying the XM Radio Data Bar on a Chart

The XM Radio data bar ① is available on all charts. On a chartplotter, a data bar configured to appear on one chart may not appear on another chart. The data bar for each chart must be configured separately.



1. From the Home screen, select **Charts**.
2. Select a chart.
3. Select **MENU > Data Bars > XM Audio > On**.

## Appendix

### Weather Data Warranty

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## Weather Warnings and Weather Bulletin Color Shading

Color		Marine Weather Group	Weather Categories
	Light Blue	Flash Flood	
	Dark Blue	Flood	Areal Flood, Coastal Flood, Debris Flow, Flood, High Water Level, Hydrological, Lakeshore Flood, Storm Surge
	Yellow	Marine/Wind	Brisk Wind, Extreme Wind, Freezing Spray, Gale, Hazardous Seas, High Surf, High Wind, Hurricane Force Wind, Lake Wind, Les Suêtes Wind, Low Water, Marine Weather, Rip Tide, Small Craft, Small Craft Hazardous Seas, Small Craft Rough Bar, Small Craft Winds, Special Marine, Squall, Storm, Strong Wind, Tsunami, Waterspout, Wind, Wreckhouse Winds
	Pink	Miscellaneous	Air Quality, Air Stagnation, Ashfall, Blowing Dust, Excessive Heat, Fire Weather, Heat, High Heat and Humidity, Humidex, Humidex and Health, Rainfall, Special Weather, Weather
	Orange	Severe Storm	

Color		Marine Weather Group	Weather Categories
	Red	Tornado	
	Purple	Tropical	Hurricane, Inland Hurricane, Inland Tropical Storm, Tropical Storm, Typhoon
	Dark Gray	Visibility	Dense Fog, Dense Smoke, Dust Storm, Smog
	White	Winter	Arctic Outflow, Avalanche, Blizzard, Blowing Snow, Cold Wave, Extreme Cold, Flash Freeze, Freeze, Freezing Drizzle, Freezing Fog, Freezing Rain, Frost, Hard Freeze, Heavy Freezing Spray, Heavy Snow, Ice Storm, Lake Effect Blowing Snow, Lake Effect Snow, Sleet, Snow, Snow and Blowing Snow, Snow Squall, Snowfall, Wind Chill, Winter Storm, Winter Weather

## **XM Satellite Radio Service Agreement**

XM Satellite Radio Inc.

Hardware and required monthly subscription sold separately. Subscription fee is consumer only. Other fees and taxes, including a one-time activation fee apply. All programming fees and weather data subject to change. XM WX weather data displays and individual product availability vary by hardware equipment. Reception of the XM signal may vary depending on location. Subscriptions subject to Customer Agreement included with the XM Welcome Kit and available at [xmradio.com](http://xmradio.com). XM Radio U.S. Satellite Services available only to those at least 18 years of age in the 48 contiguous United States and D.C. XM WX is a trademark of XM Satellite Radio Inc.



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