



## Emergency Weather Information

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### Introduction

The Storm Prediction Center (SPC) is part of the National Centers for Environmental Prediction (NCEP) and the National Weather Service (NWS). The SPC was formed to give timely, accurate forecasts and watch/warning information for severe thunderstorms and tornadoes over the contiguous United States. Heavy rainstorms, heavy snowfall and fire weather events are also monitored by the SPC.

The SPC relays forecasts of severe weather as much as three days ahead of time, as well as continually updating that information until the storm event has ended. Local NWS offices, emergency managers, TV and radio meteorologists, private weather forecasting companies, the aviation industry, storm spotters, persons in the agricultural industry and others use information provided by the SPC. All products issued by the Storm Prediction Center are available on the World Wide Web ([www.spc.noaa.gov](http://www.spc.noaa.gov)).

The Tropical Prediction Center (TPC) is a component of the National Centers for Environmental Prediction (NCEP). Its mission is to save lives, mitigate property loss and improve economic efficiency by issuing watches, warnings, forecasts, and analyses of tropical weather and increasing the understanding of weather hazards. The TPC has responsibility to generate and coordinate tropical cyclone analysis and forecast products for 24 countries in the Americas, Caribbean and for waters of the North Atlantic Ocean, Caribbean Sea, Gulf of Mexico and the eastern North Pacific Ocean.

### National Oceanic & Atmospheric Administration (NOAA) Weather Radio

In cooperation with the Federal Communication Commission (FCC) Emergency Alert System, NOAA Weather Radio (NWR) is a network of radio stations that broadcast continuous weather information direct from National Weather Service offices. The NWR network is composed of 850 transmitters that cover all 50 states, adjacent coastal waters, Puerto Rico, the US Virgin Islands and the US Pacific Territories.

NWR broadcasts National Weather Service watches, warnings, forecasts, and other non-weather related hazard information 24 hours per day. NWR also broadcasts warning and after-event

information for natural and environmental hazards, including earthquakes, volcanoes, oil spills and chemical releases.

Weather radios equipped with the special alarm tone feature called NWR S.A.M.E. (Specific Area Message Encoding) can sound an alert and give immediate information about emergency situations. You must program your county, parish or independent or marine area into the receiver. After programming, your NWR receiver will alert you to weather or other emergencies **only** for the county(s)/area(s) programmed into the receiver. Receivers without S.A.M.E. capability will alert listeners to emergencies anywhere within the coverage area of the NWR transmitter (typically several counties), even though the affected area may be far away from the listener.

During an emergency, NWS forecasters will interrupt routine weather programming and transmit a special tone that will activate weather radios in the listening area. When that occurs, the NWR S.A.M.E. receiver will activate for that message. A warning alarm tone will be heard, followed by an emergency broadcast message. At the end of the message, an end-of-message static burst will be transmitted, and then the NWR broadcast cycle will resume.

### **Emergency Alert System (EAS)**

The Emergency Alert System replaced the Emergency Broadcast System in 1996. The EAS was designed by the FCC to allow officials to quickly relay emergency information to specific areas. This is an automated system similar to NWR S.A.M.E. technology. The EAS system is capable of sending information via cable television, satellite, pagers, Direct Broadcast Satellite, High Definition Television and Video Dial Tone. Backup procedures exist for those areas outside the range of an NWR station.

Local and county emergency operations centers can input messages into the EAS, as well as radio and television stations. FCC rules require that broadcasters monitor at least two independent sources for emergency information to ensure that emergency information is delivered to viewers and listeners.

### **The Tropical Analysis and Forecast Branch**

The Tropical Analysis and Forecast Branch (TAFB) of the Tropical Prediction Center provides year-round weather analysis and forecast products for the waters of the eastern North and South Pacific and North Atlantic Basin. Forecast products include:

- High seas forecasts for the tropical and subtropical Atlantic, eastern Pacific and south Pacific Oceans: These are now-casts through 36-hour forecasts (updated every six hours) of winds, waves, marine and convection, as well as marine warnings for gale, storm, tropical cyclone conditions, reduced visibility and other marine hazards.
- Offshore Waters Forecasts for the southwest North Atlantic, Caribbean Sea and Gulf of Mexico: These are now-casts through 36-hour forecasts (updated every six hours) and cover marine warnings for gale, storm and tropical cyclone conditions--as well as information on reduced visibility and other marine hazards.

- **Satellite Rainfall Estimates:** The TAFB furnishes satellite rainfall estimates for tropical cyclones or other significant convective systems when they threaten land in the Caribbean Region, southeastern United States, or the west coast of Mexico.
- **Tropical/Subtropical Cyclone Position and Intensity Estimates:** The TAFB provides the National Hurricane Center with position estimates of tropical cyclones every three hours and intensity estimates every six hours. The TAFB position and intensity estimates are not available to the public.
- **Gulf of Mexico, Atlantic and Caribbean Wind/Wave Now-cast and Forecast:** The TAFB produces a graphical marine forecast of wind and waves for select points in the Gulf of Mexico, Atlantic and Caribbean in addition to a forecast of significant storm positions. This information is composed of a now-cast and 24-hour forecast (issued four times/day) as well as 48- and 72-hour forecasts (issued two times/day).
- **Eastern Pacific Wind/Wave Analysis:** A graphical marine forecast of wind and waves is produced for selected points in the eastern and south Pacific. Products include a now-cast and 24-hour forecast (issued four times/day) and 48- and 72-hour forecasts (updated two times/day). Wind/Wave forecasts are transmitted by radiofax from Pt. Reyes, California and Honolulu.

## Commonly Asked Questions

### **Q. *Where can I buy a NOAA Weather Radio Receiver?***

**A.** NOAA Weather Radio Receivers can be purchased at many retail stores that sell electronic equipment, as well as through some mail-order catalogs. And check out Ben Meadows NOAA Weather Radio options: [www.benmeadows.com](http://www.benmeadows.com)

### **Q. *Are there differences in NOAA Weather Radio Receivers?***

**A.** Yes, there are two main types of receivers: residential and industrial/commercial grade. Residential receivers typically cost \$20 to \$200, depending on the model and features. Some receivers may not be equipped with the alarm feature. Industrial/commercial receiver prices vary from hundreds to thousands of dollars. These receivers are designed for reception of both NOAA Weather Radio and EAS broadcasts.

### **Q. *How can I obtain marine forecasts and warnings?***

**A.** Satellite images are available at [www.nhc.noaa.gov/satellite.shtml](http://www.nhc.noaa.gov/satellite.shtml). NOAA Weather Radio provides almost continuous coverage for the coastal U.S., Great Lakes, Hawaii, and populated Alaska coastline. Typically, coverage extends offshore to 25 nautical miles. In some areas, the coverage area is much further. A list of NOAA Weather Radio frequencies can be found at: [www.nws.noaa.gov/om/marine/wxradio.htm](http://www.nws.noaa.gov/om/marine/wxradio.htm). Additionally, most VHF marine radiotelephones have the capacity to receive NOAA Weather Radio broadcasts. NOAA recommends using at least two receivers so that NWR and marine VHF broadcasts can be simultaneously monitored.

## Sources for more Information

National Weather Service website: <http://www.nws.noaa.gov/>

National Weather Service Tropical Prediction Center website: [www.nhc.noaa.gov](http://www.nhc.noaa.gov)

National Weather Service Storm Prediction Center: [www.spc.noaa.gov](http://www.spc.noaa.gov)

## References

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## FREE Technical Support

If you have specific questions on product specifications, product applications or installation, personal safety gear, regulatory compliance requirements, or any other technical questions [E-mail our Technical Support staff](#). Or, call **800-241-6401** or **608-743-8001** from 7 a.m. to 7 p.m. CT, Monday--Friday.

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