



NOAA *Backgrounder*

EMWIN: High-Tech Readiness for Stormy Weather

The NOAA National Weather Service and America's emergency managers continue to strengthen their partnership to help protect lives and property faced by the threat of severe weather. One shining example of this alliance is The Emergency Managers Weather Information Network (EMWIN), a system that transmits live weather information to computers across the U.S., the Caribbean, Central America and over most of the Pacific Ocean.

A WORD ABOUT NOAA. . .

The National Oceanic and Atmospheric Administration (NOAA) conducts research and gathers data about the global oceans, atmosphere, space, and sun, and applies this knowledge to science and service that touch the lives of all Americans.

NOAA warns of dangerous weather, charts our seas and skies, guides our use and protection of ocean and coastal resources, and conducts research to improve our understanding and stewardship of the environment which sustains us all.

A Commerce Department agency, NOAA provides these services through five major organizations: the National Weather Service, the National Ocean Service, the National Marine Fisheries Service, the National Environmental Satellite, Data and Information Service, and Office of Oceanic and Atmospheric Research; and numerous special program units. In addition, NOAA research and operational activities are supported by the Nation's seventh uniformed service, the NOAA Corps, a commissioned officer corps of men and women who operate NOAA ships and aircraft, and serve in scientific and administrative posts.

For further information: NOAA Office of Public Affairs, 14th Street and Constitution Avenue NW, Room 6217, Washington, D.C. 20230. Phone: (202) 482-6090.

EMWIN Is A Win-Win

More than ever, the EMWIN system gives emergency managers the capability to respond faster to severe weather and other natural threats. That means greater lead times to warn, and possibly evacuate, communities of dangerous tornadoes, floods, hurricanes, tsunamis, blizzards and other severe weather events. Faster response time improves the likelihood of sparing lives and property, which tops the list of priorities at the NOAA National Weather Service, an agency within the National Oceanic and Atmospheric Administration.

How EMWIN Works

The NWS gathers live weather and emergency information from sources across the globe, and the EMWIN system broadcasts that data using several methods: satellite, radio and the Internet. A satellite downlink is the key that enables computer users to access a stream of real-time weather information from the NOAA Geostationary Operational Environmental Satellites—the GOES-East and West. EMWIN's satellite receiver is more reliable than wire and fiber optic systems and especially useful to island countries.

The EMWIN data stream is retrieved from satellite by emergency management groups and municipal agencies, and retransmitted through local radio frequencies. The VHF retransmission can be accessed by anyone within a 40-50 mile range of the transmitter's signal and displayed on their computer screen. Using retransmission software, agencies can tailor the information to fit their specific area by filtering the products-warnings, watches and other weather news that do not apply.

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Through the Internet, computer users also can receive the broadcast or access the data stream by visiting the EMWIN Web site at <http://iwin.nws.noaa.gov/emwin/index.htm>. Users are given a choice of receiving weather information with enhanced graphics, including radar and satellite images, or in a plain text format. Additionally, users can download EMWIN software from commercial EMWIN software vendors that operates with the Internet or through other wireless technology.

Each live broadcast contains:

- ☉ warnings and watches for all forms of severe weather
- ☉ earthquake and tsunami data
- ☉ fire danger statements
- ☉ current hourly reports for each state
- ☉ zone forecasts for individual counties and zones in each state
- ☉ satellite, radar and other imagery
- ☉ short-term forecasts, called NOWcasts
- ☉ aviation weather information
- ☉ hydrologic information and reports
- ☉ climatic data
- ☉ worldwide data, including forecasts, warnings, imagery and graphics

Anyone who receives the broadcast can configure their computer to sound an alarm when a certain product arrives. Alarm features include: automatic activation of lights, sirens, printers, pagers, electronic mail and other forms of notification. These techniques are ideal for people on the go, the disabled, emergency management operation centers or anyone that needs to stay informed about weather and emergency situations.

The Future of EMWIN

Since its debut in September 1995, the popularity of EMWIN has flourished, as the number of visits to its Internet site reveals. EMWIN has evolved into a fully

operational and supported public service provided by the NOAA National Weather Service, and its partner, the Federal Emergency Management Agency, as well as other public and private organizations.

EMWIN is currently undergoing a transition to remain compatible with the next series of GOES satellites, the GOES-N thru P constellation. Sometime before 2011 the current GOES satellite will be replaced by the new series. All current EMWIN users will need to migrate to newer technologies due to frequency, power and modulation changes. To meet these future needs the NOAA National Weather Service is now working on EMWIN-N. In coordination with the NOAA Satellite and Information Service, a working prototype has been developed and is in the final stages of testing. The prototype is capable of receiving both the current and future broadcasts allowing for a smooth transition. Details will be available to manufacturers and the public on the EMWIN Web site. Moving to the EMWIN-N broadcast will allow the NOAA National Weather Service to make use of improved technologies and will double the current data rate. As always, the NOAA National Weather Service is dedicated to seeking ways and means of making the upcoming transition as low in cost as possible to the EMWIN user community.

Key EMWIN Web Sites

For information about EMWIN, including a brief overview and an index of other related documents visit <http://iwin.nws.noaa.gov/emwin/index.htm>.

For the latest information about EMWIN transmission and reception capabilities check <http://iwin.nws.noaa.gov/emwin/winbca.htm>.

In many areas the EMWIN data is rebroadcast by local radio. For further information about rebroadcasts visit <http://iwin.nws.noaa.gov/emwin/retrans.htm>.

For updated information about the EMWIN vendors, including technical information about their hardware and software visit <http://iwin.nws.noaa.gov/emwin/winven.htm>. ☉

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