High Rate Information Transmission (HRIT) / Emergency Managers Weather Information Network (EMWIN) Service

HRIT/EMWIN is a combined broadcast of the current NOAA Low Rate Information Transmission (LRIT) broadcast, the Emergency Managers Weather Information Network (EMWIN) and a re-broadcast of the GOES Data Collection System (DCS) services.

HRIT/EMWIN will provide continuity of information services in the era of the GOES-R series of satellites. This combined service will be a multi-purpose broadcast featuring:

- International and Domestic Data
- GOES Imagery
- Warnings and Forecasts
- Regional NEXRAD and Weather Graphics
- GOES DCS Observations
- Civil Emergency Information

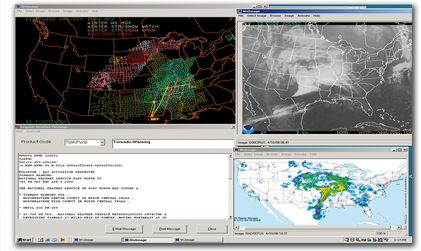
This powerful broadcast will leverage the benefits of the three existing services and add new capabilities. Given below is a short list of system assets:

- No Eclipse Season!
- Small User Antenna
- Low-Cost Hardware and Software
- Free Data – No Reoccurring Fees
- Fast and Reliable
- Weatherproof L-band Broadcast
- Prioritized Data Stream
  – Can be made Alarm Ready
- Enhanced Product Set – 4 + GB / Day
- No Internet Connection Needed!
- Little Infrastructure Required
  – Critical in Disaster Situations

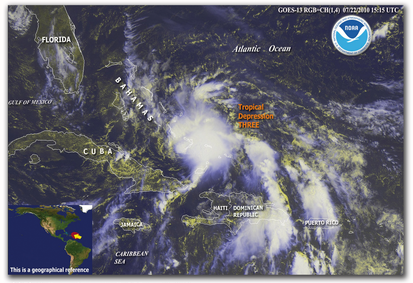
HRIT/EMWIN has the following broadcast characteristics:

- Data Rate will be 400 Kbps
- Downlink Frequency of 1694.1 in the L-band
- Binary Phase Shift Keying (BPSK)
- Forward Error Correction

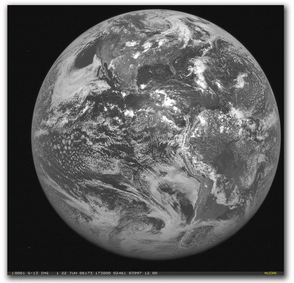
http://www.goes-r.gov/users/hrit.html
http://www.goes-r.gov/users/hrit-links.html



EMWIN User Software Display



GOES-13 Tropical Depression THREE, July 22, 2010



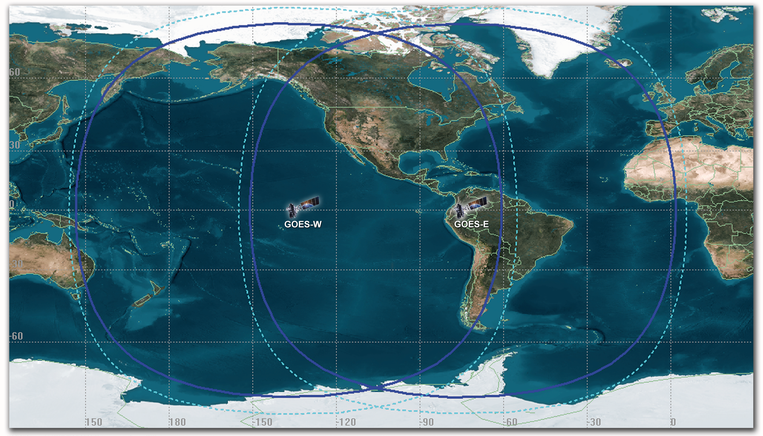
GOES-13 Full Disk Image

GOES DCS provides Real-time Monitoring of Environmental Events

Wildland Fire Fighting is managed in Real Time through GOES DCS

HRIT / EMWIN will be a reliable and robust service based on multiple, redundant geostationary satellites. It will be manned by a technical staff on a 24 x 7 basis.

The system features redundant components with a back-up site for great reliability as well as a prioritized broadcast that will deliver emergency products to the user that satisfy short-fused requirements while minimizing latency.



EMWIN and HRIT/EMWIN Coverage Area Difference

The graphic "EMWIN and HRIT/EMWIN Coverage Area Difference" above shows two different coverage areas. The solid blue line shows the future HRIT/EMWIN coverage. The light blue dashed line shows the coverage area of the current EMWIN service.

The expected HRIT/EMWIN coverage footprint will be constrained by a minimum 5° elevation angle. This is the same constraint as the current LRIT service; the current EMWIN coverage footprint is constrained by a minimum 1° elevation angle.

A prototype receiver for the GOES-R broadcast that is also backward compatible with previous generations of GOES satellites has been developed and tested. The prototype information has been made available on the GOES-R web site under *"User Community"*.

www.goes-r.gov

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