



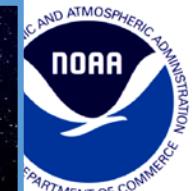
LRIT/HRIT/EMWIN

Seth Clevensine
Direct Broadcast Manager
NOAA/NESDIS/OSPO/SPSD



Current Status of LRIT/HRIT/EMWIN

- GOES East and West currently operating from Legacy LRIT system with HRIT system running parallel non-operationally
- HRIT/EMWIN system configured for GOES-16 on HRIT-W-FEPSYS-3
 - EMWIN products including watches, warnings, forecasts and graphics
 - Copy of the GOES-DCS observations
 - Environmental products such as tropical weather and forecasted maritime surface charts
 - Himawari-8 imagery – Full Disk VIS, IR and WV every 30 minutes
 - GOES-16 products –ABI Cloud and Moisture Imagery (CMI)
 - Full Disk imagery on bands 2, 7, 8, 9, 13, 14, 15 every 30 minutes at 2km resolution
 - Mesoscale imagery on bands 2, 7 and 13 every 15 minutes at 1km resolution
- LRIT on HRIT system configured for GOES-14 on HRIT-W-FEPSYS-2
 - Same broadcast as current LRIT GOES-West
- HRIT/EMWIN Transition to OPS during GOES East transition (November 2017).



GOES-16 (East)

GOES-15 (West)

GOES-R Space Segment

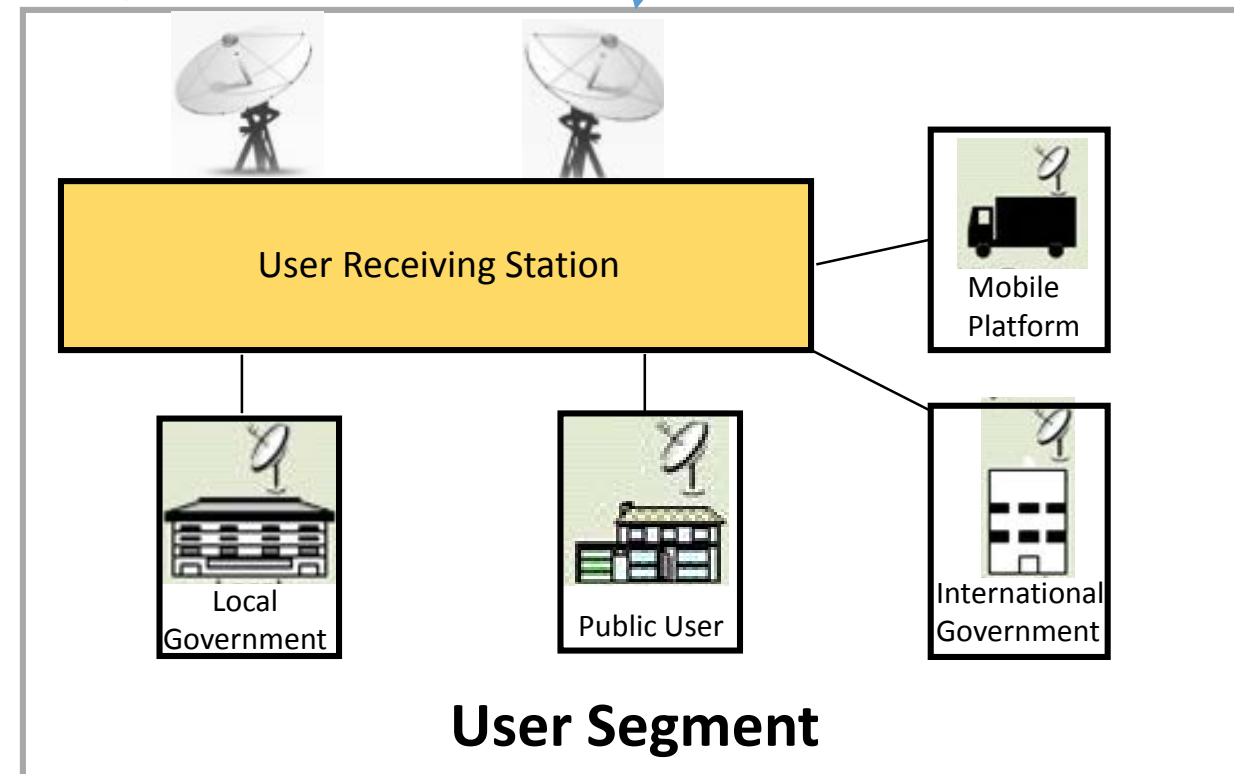
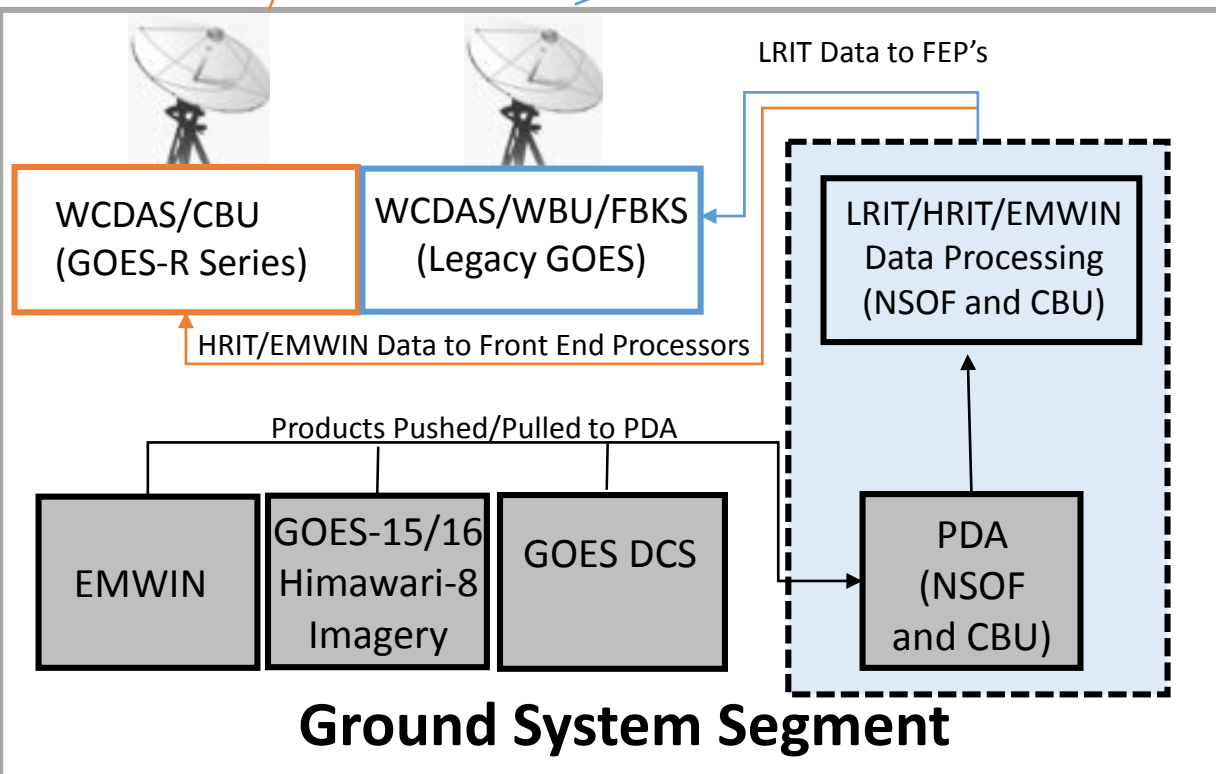
Legacy GOES Space Segment

HRIT/EMWIN
(S-Band)

LRIT/EMWIN
(S-Band)

HRIT/EMWIN
(L-Band)

LRIT/EMWIN
(L-Band)





DCS Prioritization/Bandwidth Utilization on HRIT/EMWIN System

Name	Guaranteed Bandwidth (%)	Maximum Bandwidth (%)	Group Order Rank
Imagery	67	100	3
EMWIN	13	20	1
DCS	5	10	2

	NSOF PDA	CBU PDA	Daytime Bandwidth %	Night time Bandwidth %
GOES-16 Mesoscale Imagery	X		4%	2%
GOES-16 FD Imagery	X		60%	50%
GOES DCS Data	X	X	5%	5%
EMWIN	X	X	5%	5%
Environmental Charts (NWS)	X	X	1%	1%
Himawari-8 Imagery (JMA)	X	X	3%	3%
Legacy GOES FD AFEP Imagery	X	X	6%	6%
			84%	72%



GOES-R Series HRIT User Information

- LRIT DCS end users will have to modify some of their equipment to receive the HRIT/EMWIN broadcast from GOES-R series satellites.
 - Current antenna (>1m above 10 degrees site elevation to S/C) and LNA's that are used for LRIT are compatible with HRIT
 - Current LRIT receiver's will need to be updated for HRIT compatibility due to frequency shift and data rate.

Downlink Service Name	Spacecraft Series	Center Frequency (MHz)	Bandwidth	Data Rate	Modulation	Polarization
LRIT	GOES 13,14 & 15	1691	586 kHz	128 kbs	BPSK	Linear
HRIT/EMWIN	GOES-R	1694.1	1.205 MHz	400 kbs	BPSK	Linear

- Software will need to be updated for inclusion of GOES-16 imagery products. Free HRIT prototype software available through the GOES-R website.
 - <http://www.goes-r.gov/users/hrit-links.html>
- List of manufactures available on NOAASIS website.
 - <http://www.noaasis.noaa.gov/NOAASIS/ml/manulst.html>



Contact Information

HRIT/EMWIN Broadcast

- Seth Clevensline
 - Seth.Clevensline@NOAA.Gov
 - 301-817-4558
 - www.noaasis.noaa.gov/LRIT

EMWIN

- Robert Gillespie
 - Bob.Gillespie@NOAA.Gov
 - 301-427-9693
 - <http://www.weather.gov/emwin>