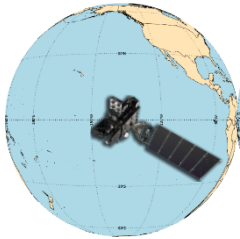




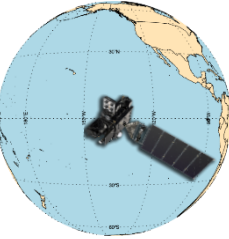
GOES Constellation with West Transition Plan

Current

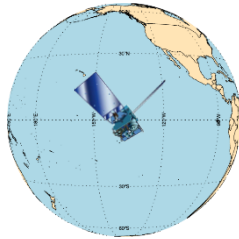
GOES-West
GOES-17
137.3° West



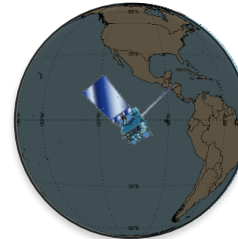
Checkout
GOES-18
137.0° West



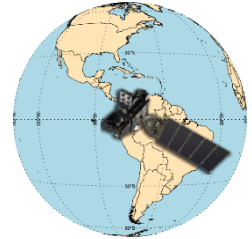
Supp. Ops.
GOES-15
128° West



Standby
GOES-14
105° West

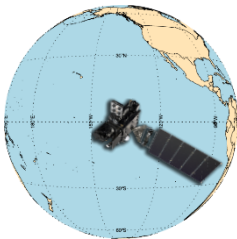


GOES-East
GOES-16
75.2° West

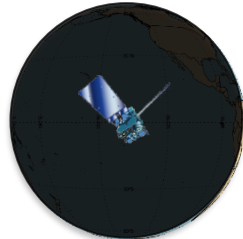


January, 2023 (GOES-18 as GOES-West, GOES-17 drift to Standby)

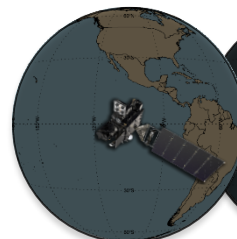
GOES-West
GOES-18
137.0° West



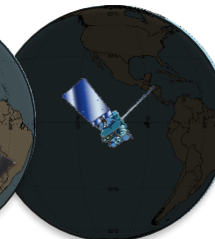
Storage
GOES-15
128° West



Standby
GOES-17
~105° West



Storage
GOES-14
105° West



GOES-East
GOES-16
75.2° West



Past GOES-18 T2O Constellation Activities & Locations

03/01-05/15: GOES-18 PLT Part 1 pre-drift checkout at 89.5°W

05/15-06/06: GOES-18 drift to 136.8°W

07/05-07/15: GOES-18 nudge from 136.8°W to 137.0°W, GOES-17 nudge from 137.2°W to 137.3°W



GOES-West Transition Plan - Swap of GOES-17/18

Date (Based on 3/1/22 Launch)	GOES-17		GOES-18	
	Location	Activity	Location	Activity
3/1 – 3/23	137.2°W	GOES-West Operations		Launch and Orbit Raising
3/24 – 5/15			89.5°W	GOES-18 Post Launch Test (PLT) Part 1 - Instrument Outgassing, Spacecraft PLT - First ABI Image (Vis & IR) @ 89.5W
5/16 – 6/6			136.8W	GOES-18 Drift from 89.5W to 136.8W PLT activities paused; Science data for GMAG, but no other data.
6/7				GOES-18 PLT Part 2 begins and PLPT begins
7/5 – 7/15 (21)	137.3°W	Orbit Nudge 137.2W to 137.3W: July 5-15, 2022 (10 days) - Antennas smaller than 7m should not need to repoint - Antennas larger than 7m should repoint - All users should re-peak antennas once nudge is over	137.0°W	Orbit Nudge 136.8W to 137.0W: July 5-21, 2022 (16 days) - Antennas smaller than 7m should not need to repoint - Antennas larger than 7m should repoint - All users should re-peak antennas once nudge is over
7/27				GOES-18 ABI reaches Provisional maturity GOES-18 ABI 'supplemental' data via Cloud for NWS
8/1-9/8		GOES-17 ABI Warm Period GOES-18 ABI interleaved in GOES-17 GRB		GOES-18 ABI data interleaved in GOES-17 GRB
9/8-10/13		GOES-West Operations GOES-17 Nominal Distribution		GOES-18 product maturation continues PLT Part 2 ends Oct 3, 2022
10/13-11/16		GOES-17 ABI Warm Period GOES-18 ABI interleaved in GOES-17 GRB		GOES-18 ABI data interleaved in GOES-17 GRB
11/16-1/3		GOES-West Operations GOES-17 Nominal Distribution		GOES-18 product maturation continues Post Launch Product Test (PLPT) ends Jan 3, 2023
1/3		X-band downlink off and instruments shut down		GOES-18 Declared operational GOES-West - Begin GOES-18 GRB broadcast / nominal distribution - SAR/DCS services transitioned to GOES-18
1/10-11	137.3°W	GOES-17 drift start to 105°W		No Change
2/11-12	~105°W	GOES-17 drift stop at 105°W followed by storage mode		No Change



Planning a 'split' Post Launch Test phase, beginning at 89.5°W and then drifting to 136.8°W in order to have early use of the GOES-18 Imager in the West location to mitigate the GOES-17 Imager thermal anomaly



GOES-18 L1b Science Product Validation Status

ABI L1b Product	Beta	Provisional	Full
Radiances	5/11/2022	7/28/2022	FY23
GLM L2 Product			
Lightning: Events, Groups, Flashes	9/16/2022	10/31/2022	FY23
SEISS L1b Products			
Energetic Heavy Ions	8/1/2022	11/15/2022	FY23
Magnetospheric e ⁻ /p ⁺ : Low Energy	8/1/2022	11/29/2022	FY23
Magnetospheric e ⁻ /p ⁺ : High Energy	8/1/2022	10/11/2022	FY23
Solar & Galactic Protons	8/1/2022	9/13/2022	FY23
EXIS L1b Products			
Solar Flux: EUV	7/18/2022	11/14/2022	FY23
Solar Flux: X-ray Irradiance	7/18/2022	11/14/2022	FY23
SUVI L1b Product			
Solar EUV Imagery	8/1/2022	11/22/2022	FY23
GMAG L1b Product			
Geomagnetic Field	7/11/2022	9/16/2022	FY23

9/16/22

Synced with SOE v1.28

Validation Maturity Levels:

Not Validated	Beta Maturity	Provisional Maturity	Full Maturity
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GOES-18 L2+ Science Product Validation Status

L2+ Products	Beta	Prov	Full
Cloud and Moisture Imagery (CMI) and Sectorized CMI (KPP)	5/11/2022	7/28/2022	FY23
Aerosol Detection (Smoke & Dust)	5/11/2022	11/9/2022	
Aerosol Optical Depth	5/11/2022	11/9/2022	
Clear Sky Mask	5/11/2022	9/28/2022	
Cloud Cover Layers	N/A	3/7/2023	
Cloud Optical Depth	5/11/2022	10/12/2022	
Cloud Particle Size Distribution	5/11/2022	10/12/2022	
Cloud Top Height	5/11/2022	9/28/2022	
Cloud Top Phase	5/11/2022	9/28/2022	
Cloud Top Pressure	5/11/2022	9/28/2022	
Cloud Top Temperature	5/11/2022	9/28/2022	
Derived Motion Winds	5/11/2022	9/28/2022	
Derived Stability Indices	5/11/2022	10/12/2022	
Downward S/W Radiation: Surface	5/11/2022	11/9/2022	

L2+ Products	Beta	Prov	Full
Fire/Hot Spot Characterization	5/11/2022	10/12/2022	FY23
Ice Age & Thickness	5/11/2022	11/21/2022	
Ice Concentration & Extent	5/11/2022	11/21/2022	
Ice Motion	N/A	3/7/2023	
Land Surface Albedo	5/11/2022	11/9/2022	
Land Surface Reflectance	5/11/2022	11/9/2022	
Land Surface Temperature	5/11/2022	11/9/2022	
Legacy Vertical Moisture Profile	5/11/2022	10/12/2022	
Legacy Vertical Temperature Profile	5/11/2022	10/12/2022	
Rainfall Rate/QPE	5/11/2022	10/12/2022	
Reflected S/W Radiation: TOA	5/11/2022	11/9/2022	
Sea Surface Temperature	5/11/2022	11/21/2022	
Snow Cover	N/A	12/8/2022	
Total Precipitable Water	5/11/2022	10/12/2022	

9/16/22

Synced with SOE v1.28

Validation Maturity Levels:

Not Validated	Beta Maturity	Provisional Maturity	Full Maturity
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6



GOES-West Interleave Data Content per Distribution Service

GRB: (netCDF file orbital slot will be "GOES-West")

- G18 ABI L1b
- G17 GLM L2+
- G17 Space Wx L1b

PDA: ("GOES-West" for products below)

- G18 ABI L1b, CMI (no L2+)
- G17 ABI L1b, CMI, L2+
- G17 GLM L1b, L2+
- G17 Space Wx L1b
- Note PDA cal/val subscriptions have additional G18 data access

CLASS:

- G17 ABI L1b, CMI, L2+
- G17 GLM L1b, L2+
- G17 Space Wx L1b
- Note CLASS cal/val subscriptions have additional G18 data access

NODD (formerly BDP) via AWS, Google, Azure:

- G18 ABI Rad, CMI
- G17 ABI Rad, CMI, L2+
- G17 GLM L2+
- G17 Space Wx L1b

HRIT/EMWIN:

- G18 ABI CMI
- G17 ABI L2+

GNC-A:

- G18 ABI CMI

AWIPS:

- G18 ABI SCMI
- G17 ABI L2+
- G17 GLM L2+

During the Aug-Sept and Oct-Nov interleave periods, GOES-18 ABI data are at a "Provisional" level of maturity, fit for operational use and may be shared without restriction.

In between the interleave periods, GOES-18 ABI data should be treated as preliminary, non-operational data as some Post-Launch Testing will be occurring and GOES-17 carries the GOES-West designation.



GRB Spacecraft IDs & Metadata Decoder for Interleave Test & Nominal Interleave

	Nominal Interleave (two periods)	G18 Nominal as GOES-West
Description	Early ops access to G18 ABI data as a mitigation for G17 ABI saturated images	Future
Dates	1 st : August 1 – September 6, 2022 2 nd : October 15 – November 11, 2022	Starting January 2023
GRB Content	<u>G18 GRB</u> at 137.0° West: - N/A <u>G17 GRB</u> at 137.3° West: G18 ABI L1b (from 137.0° West) - G17 GLM L2, Space Wx L1b	<u>G18 GRB</u> at 137.0° West: - G18 ABI, GLM, Space Wx L1b <u>G17 GRB</u> at 137.3° West: - N/A
<u>Data Relay</u> GRB Spacecraft ID (SCID) AOS frame header (8 bits)	0x82	0xE4
<u>Data Source</u> platform_ID metadata within ABI packets	G18	G18
<u>Data Source</u> instrument_ID metadata within ABI packets	FM3	FM3



GOES-18 Data Sharing Policy

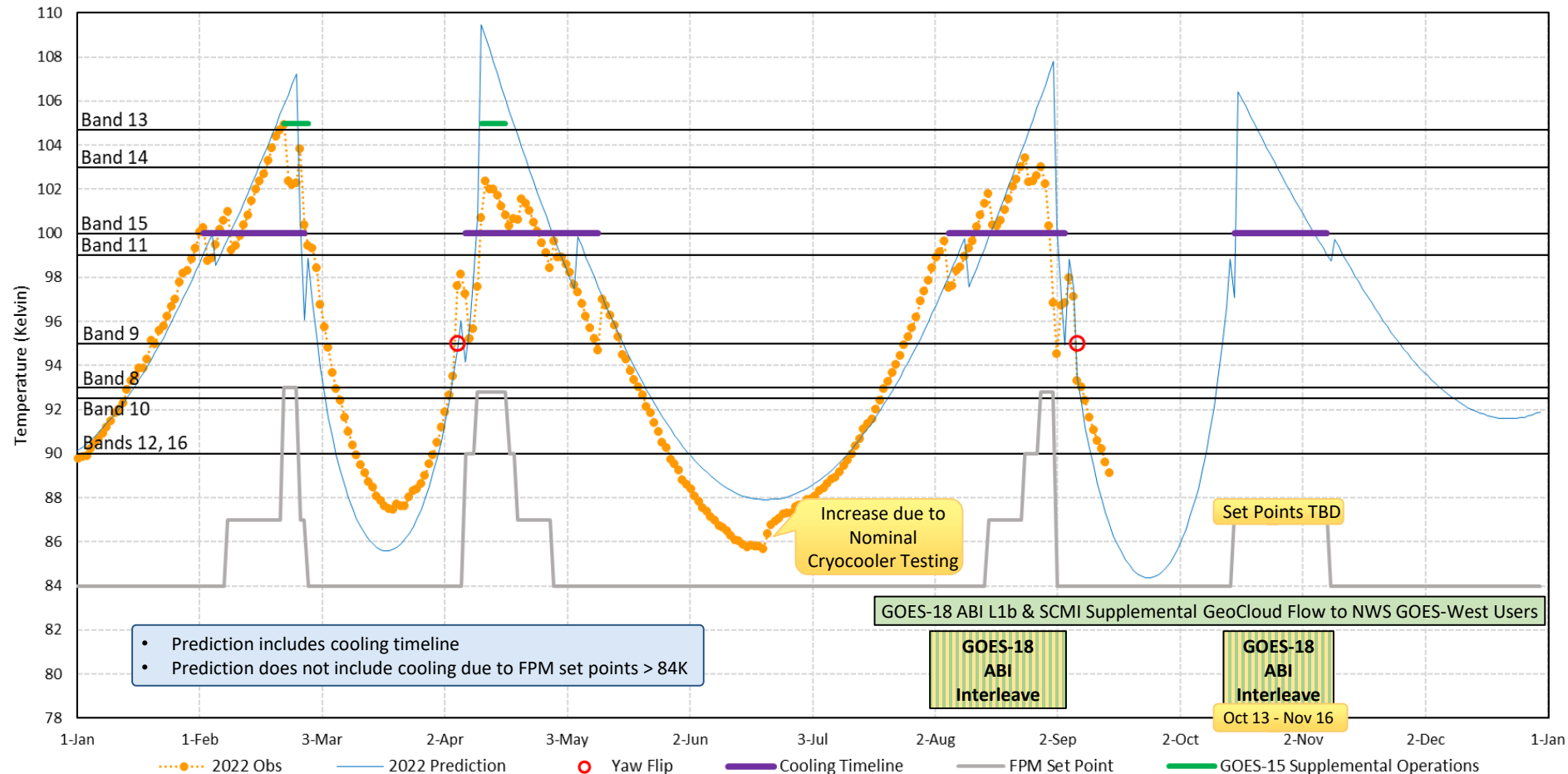
Not Allowed
Caveats
Allowed

	Images/Social Media	Data Files	Publications
Between Launch and “First Light” Public Release	Not allowed	Not allowed	Allowed; You may include pre-Provisional instrument data/images/plots as long as it will not be published until after Provisional validation is declared for that instrument. Exercise caution in publishing data regarding apparent anomalies or artifacts especially during ongoing instrument and product tests (PLTs and PLPTs).
Between First Public Release and Beta Certification	Allowed; must contain the caveat: “GOES-18 Preliminary, Non-Operational Data”	Not allowed	
Between Beta and Provisional	Allowed; must contain the caveat: “GOES-18 Preliminary, Non-Operational Data”	Not allowed	
ABI Interleaved Data	Allowed (ABI Only)	Allowed (ABI Only)	
Between Provisional (or Interleave Period(s) for ABI) and Operational Declaration	Allowed; must contain the caveat: “GOES-18 Preliminary, Non-Operational Data”	Allowed; must contain the caveat: “GOES-18 Preliminary, Non-Operational Data”	
GOES-West Operations onwards	Allowed	Allowed	

Table description: Policy for sharing images on social media, data files, and publications as it evolves during post-launch phases of satellite testing and data maturity.



GOES-17 ABI Loop Heat Pipe Anomaly – The Origin of Interleave and GOES-18 T2O Schedule



This plot shows daily maximum temperature of the ABI focal plane module. These maximums occur at night. The higher the temperature, the more saturated imagery becomes. Where the temperature rises to approach a black line for each band, marginal saturation may be observed in imagery. Where the temperature curve exceeds a black line for each band, the imagery may begin to saturate so much that it becomes unusable.