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# TROPICS Data Products Update

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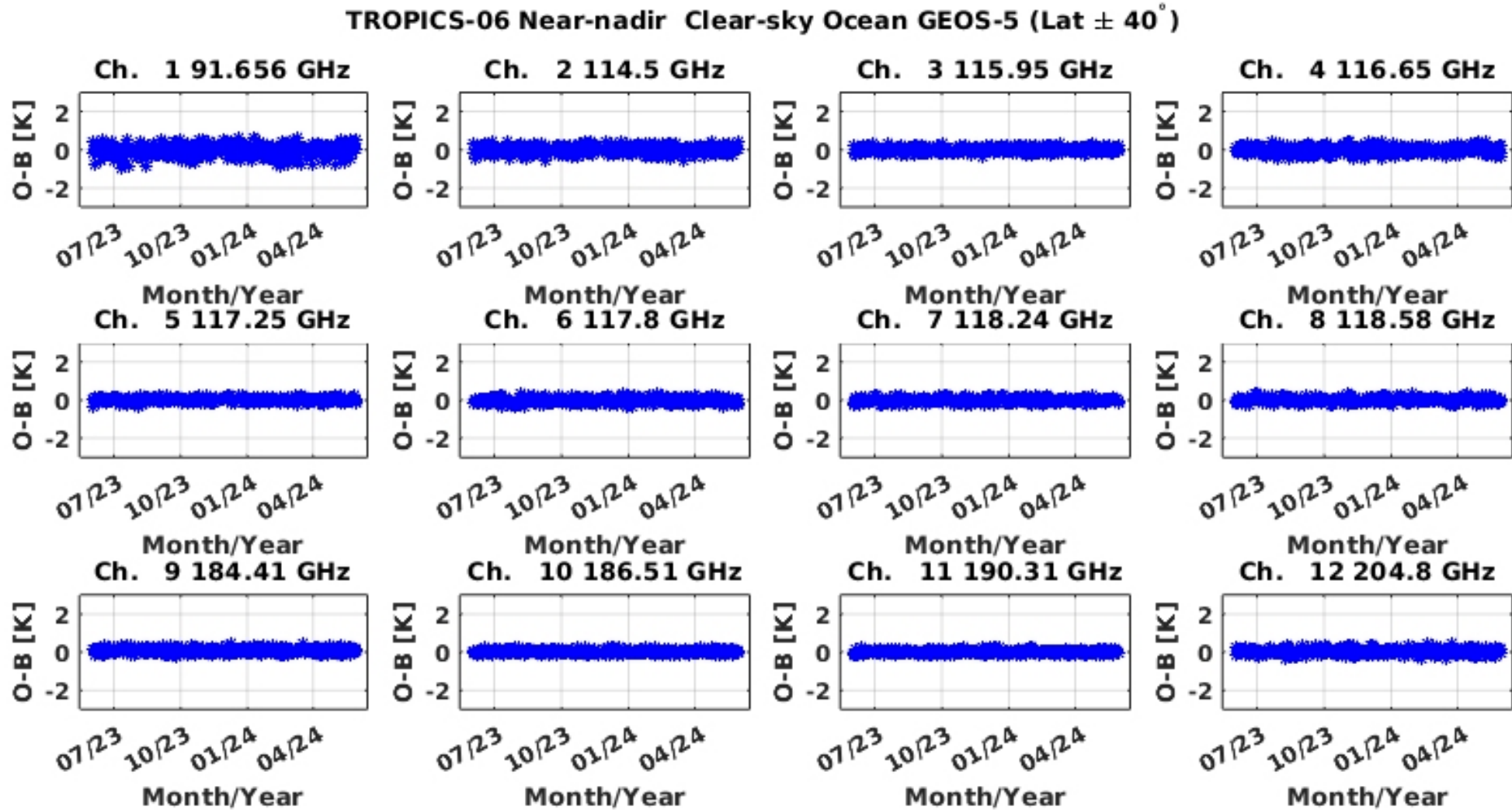


# TROPICS GES DISC Processing Chains

- **Pathfinder/TROPICS-01 at “Provisional-2” (V1.0) data maturity with known residual orbital bias to be corrected in upcoming update TROPICS-03 & TROPICS-06 at “Validated-1” data maturity:**
  - Reduced the residual orbital bias
  - Fixed the calibration error due to rapid thermal environment changes at 33-deg. inclination (solar beta angle)
- **TROPICS-05 & TROPICS-07 are at “Provisional” data maturity (V0.2):**
  - TROPICS-05 still has residual F-band channel mixing (Ch. 4-8) because correction doesn’t work as well as the other CubeSats because T-05 lost the interferer Ch. 2 before launch.
  - TROPICS-07 has a slip ring issue and stopped producing science data on 31-July-2023
- **GES DISC POC: Kristan Morgan [kristan.l.morgan@nasa.gov](mailto:kristan.l.morgan@nasa.gov)**
- **Approximately a 12-hr latency**



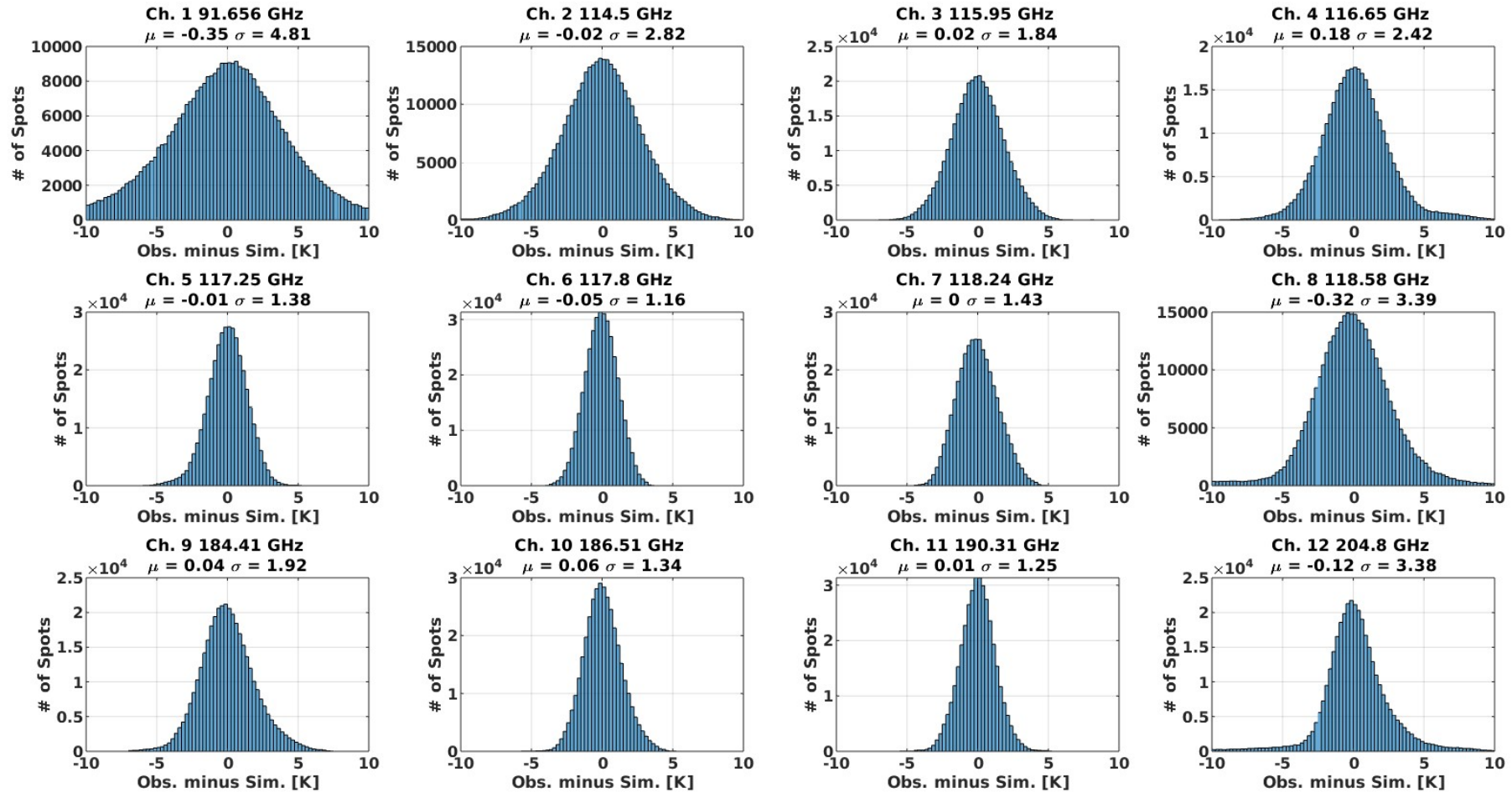
# TROPICS Calibration is Very Stable Over 1 Year





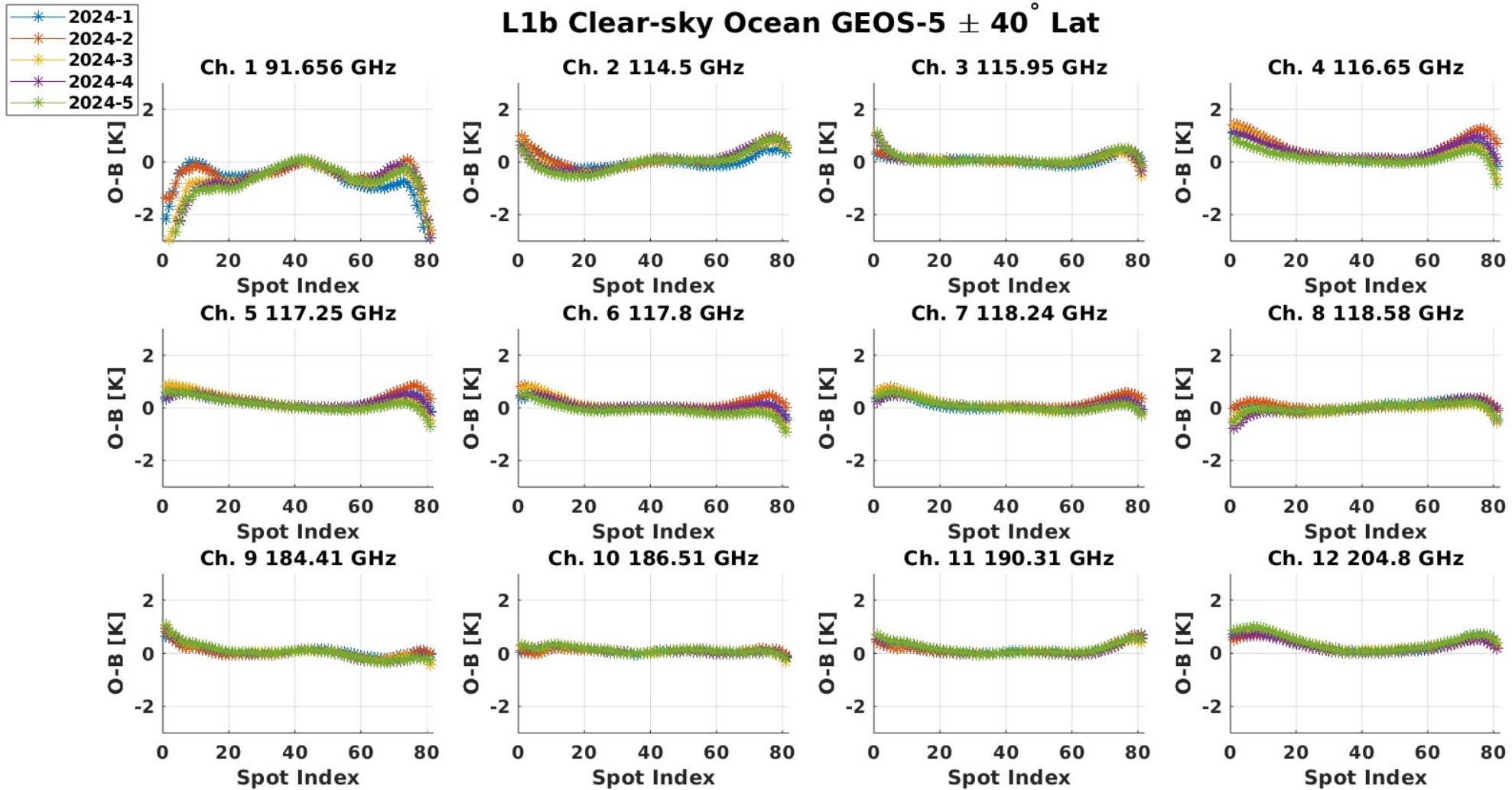
# TROPICS Calibration Agrees Very Well with GEOS-5

TROPICS-03 Near-nadir Clear-sky Ocean (June 2023 to May 2024)  $\pm 15^\circ$  Scan Angle  $\pm 40^\circ$  Lat.





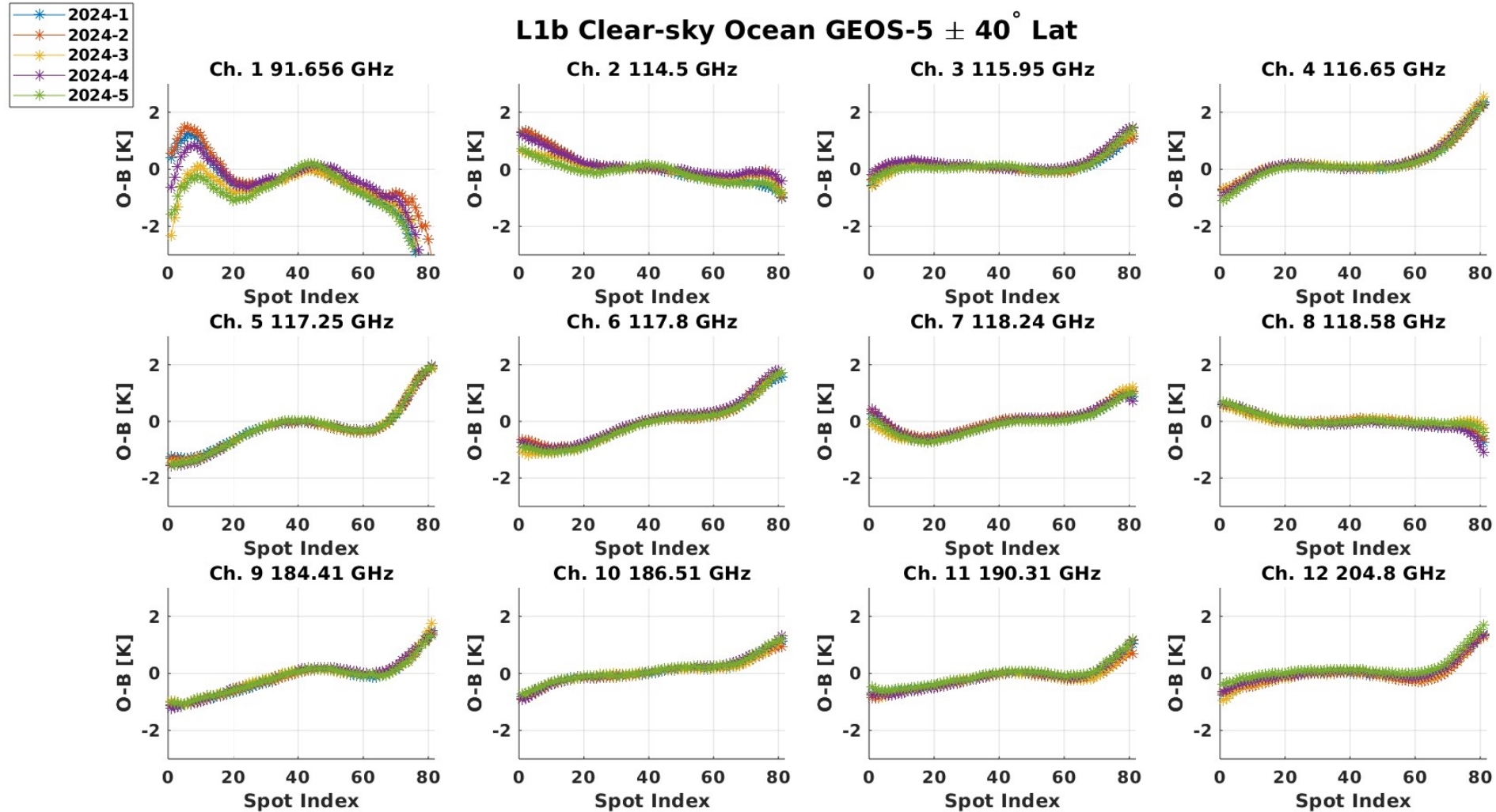
# TROPICS-06: Very Small Scan Bias







# TROPICS-03: Larger Scan Bias to Work On





# Nominal TROPICS Data Maturity Matrix

Data Products	Level	TROPICS-01	TROPICS-03	TROPICS-05	TROPICS-06	TROPICS-07		
Antenna Temperature	L1a	Provisional-2 V1.0 (Aug. 2021 to Dec. 2023)	Provisional V0.2	Validated-1 V1.0	Provisional V0.2	Provisional V0.2	Validated-1 V1.0	Provisional V0.2 (15-Jun to 31-Jul)
Brightness Temperature	L1b							
Unified Resolution	L2a							
Atmos. Vert. Temp. & Moisture Prof.	L2b	Provisional-2 V1.0	Provisional V0.2	Beta	Provisional V0.2	Beta		
Instant. Surf. Rain Rate	L2b	Provisional-2 V1.0	Provisional V0.2	Beta	Provisional V0.2	Beta		
TCIE TC Intensity (MSLP & MSWS)	L2b	Provisional	Provisional	Provisional	Provisional	Provisional		

 Update being developed

 Being integrated at DPC

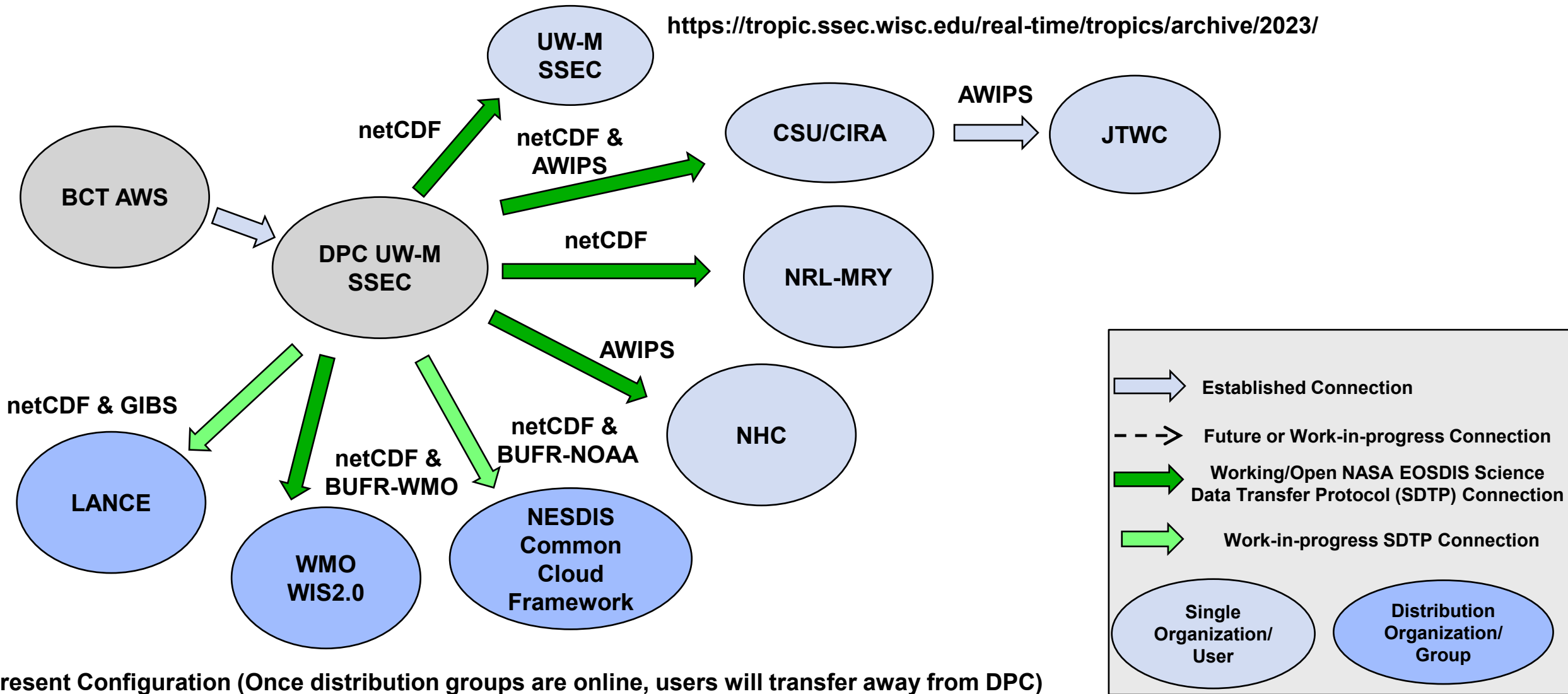
 Preparing for GES DISC

 DAAC public release



# TROPICS NRT Organization Flowchart

<https://tropic.ssec.wisc.edu/real-time/tropics/archive/2023/>



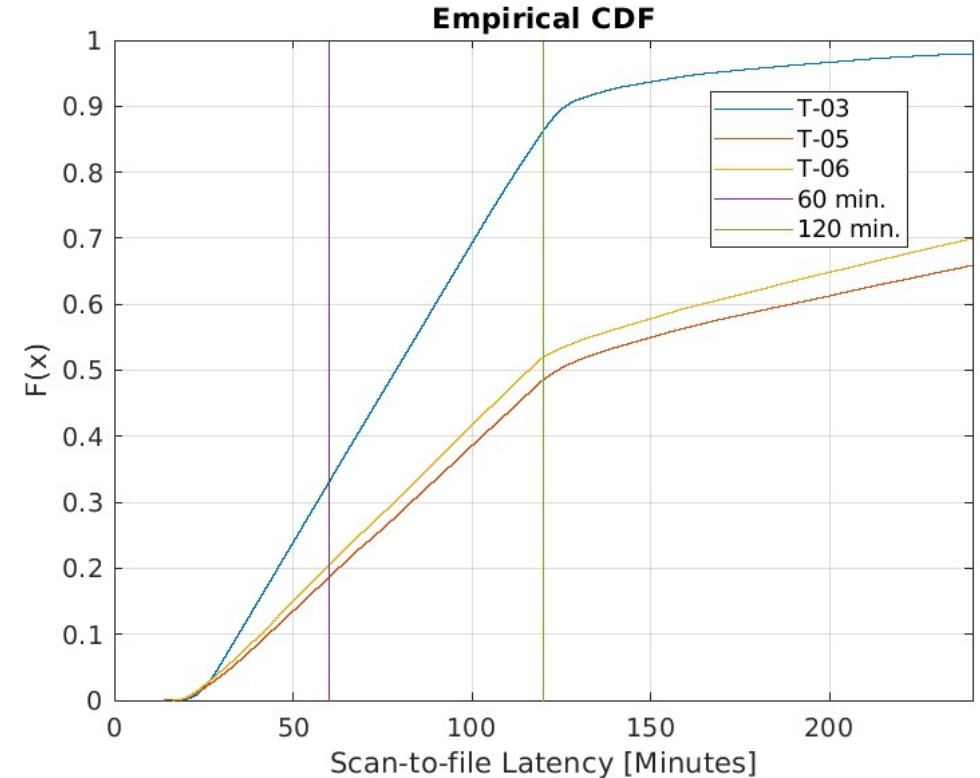
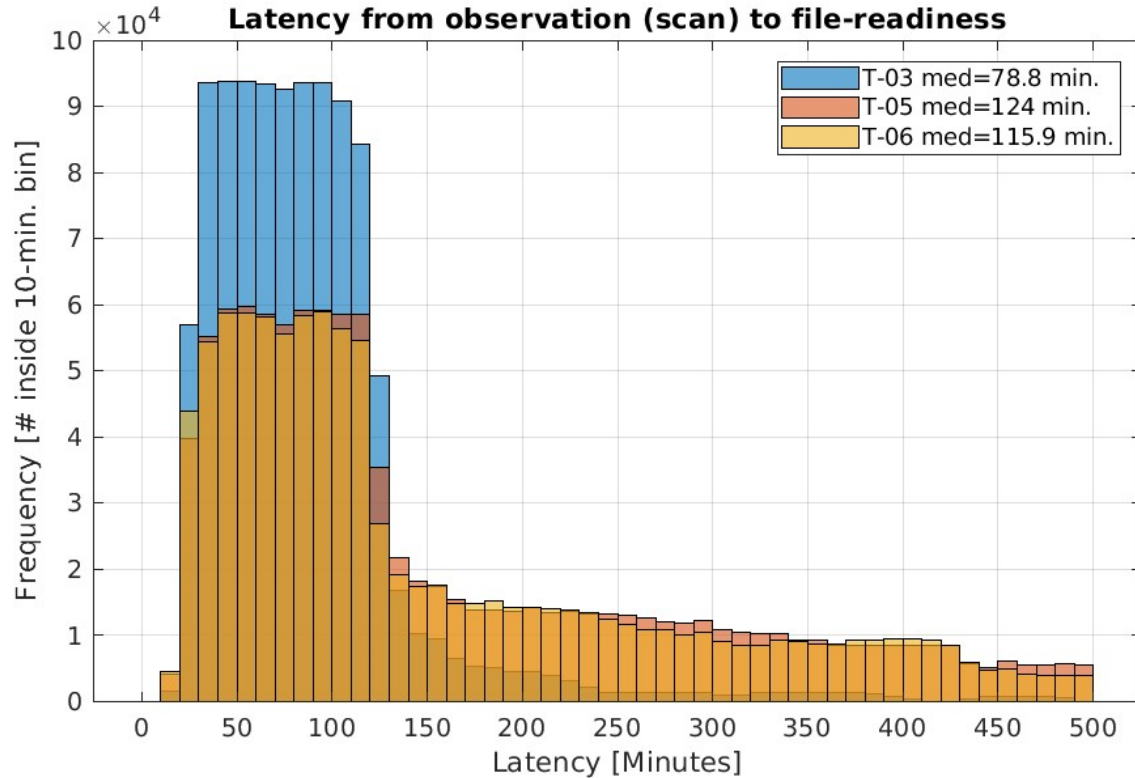
Present Configuration (Once distribution groups are online, users will transfer away from DPC)





# NRT Latency

Measurement/Observation (scan) to data product file ready at DPC



5-Aug-2024 to 22-Aug-2024

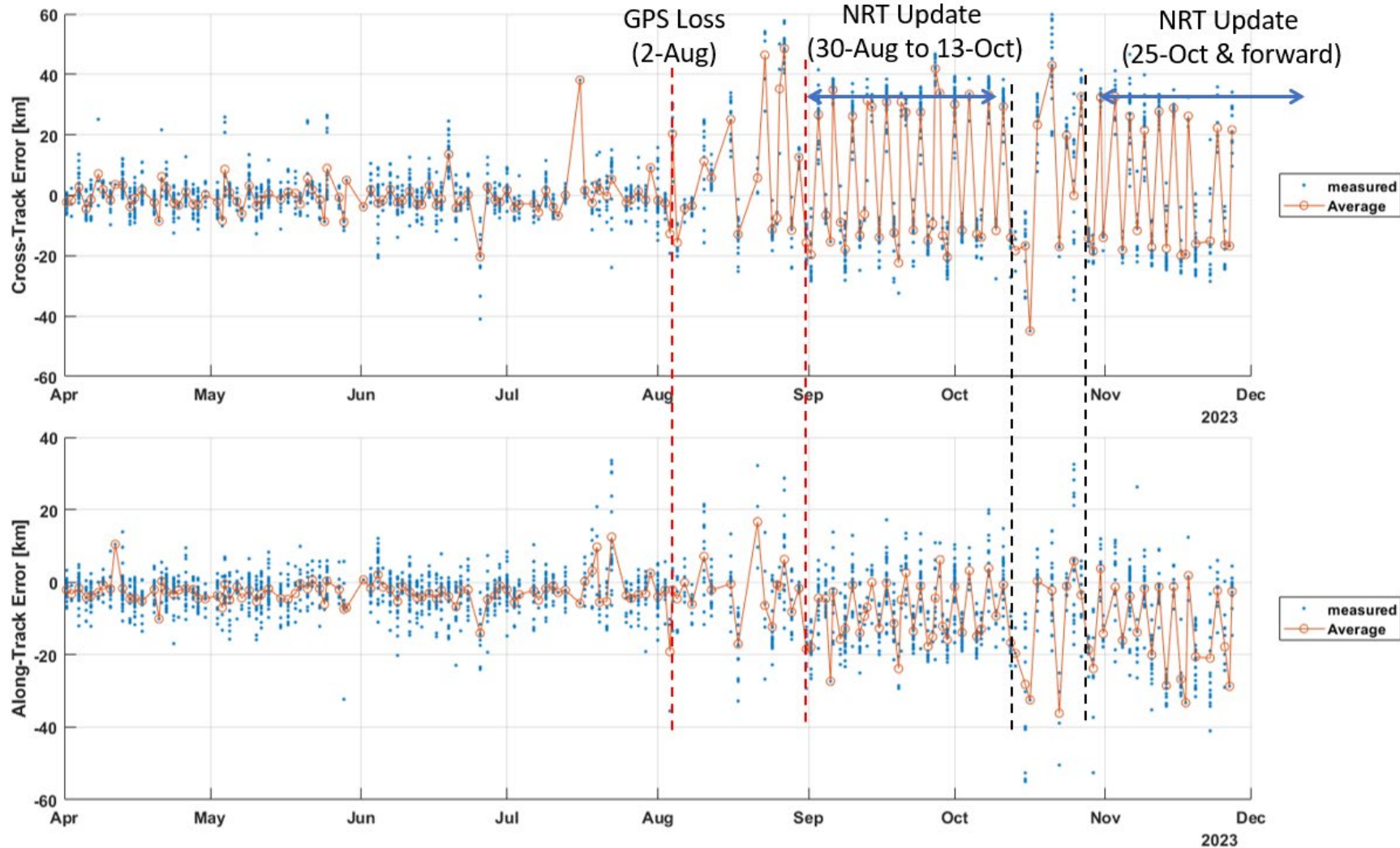


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# Backup



# Trending Pathfinder Geolocation Error



Coastline inflection Point  
at Red Sea