



SSES & L4 Task Team

Co-Chairs: Andy Harris, Simon Good

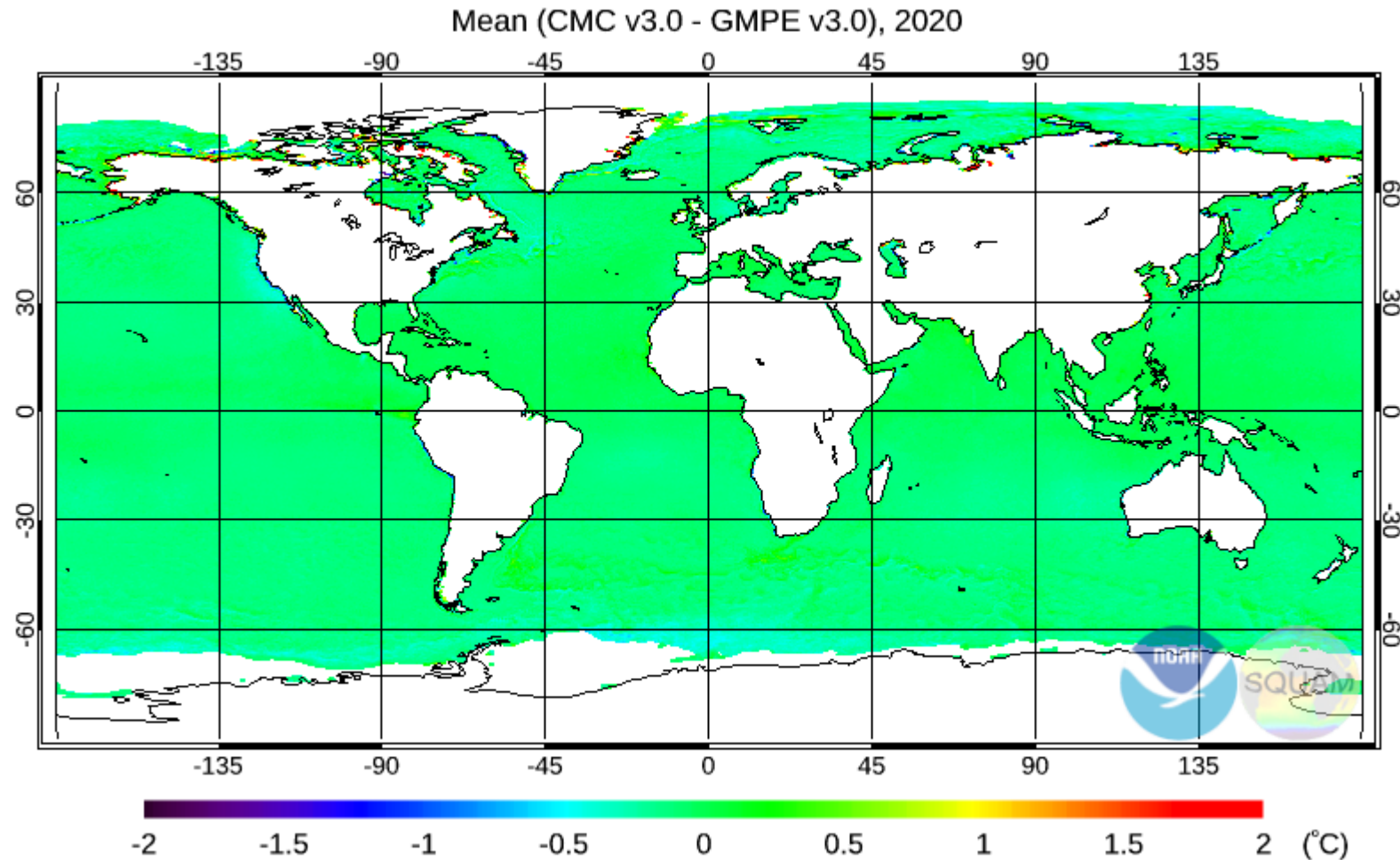
Summary of intersessional virtual meeting

- Original intent was to forge ahead with defining experiments
- Within the TT, it became clear that there was the potential for misunderstandings, and a need for more external information
- In particular, L2/3 SSES methodologies vary, but are essentially undocumented on the GHR SST web site
 - **Request updated definitions from L2/3 providers**
 - **Send to Gary.Corlett@eumetsat.int**
- Revisit expectations and plans for experiments after understanding has been improved
 - Hope to gain some clarity & inputs this week

SSES Example ACSPO

- ACSPO VIIRS nighttime + SSES bias is “reference sensor” for OSTIA bias correction scheme
- Applying SSES bias converts SST from “simple” linear regression to Piece-Wise Regression (PWR – Petrenko *et al.*, JAOT, 2016)
 - PWR utilizes many matches, separates into distinct “clusters” in regressor space and calculates regression relationships for each cluster
- Examples follow (plots from NOAA SQUAM website)

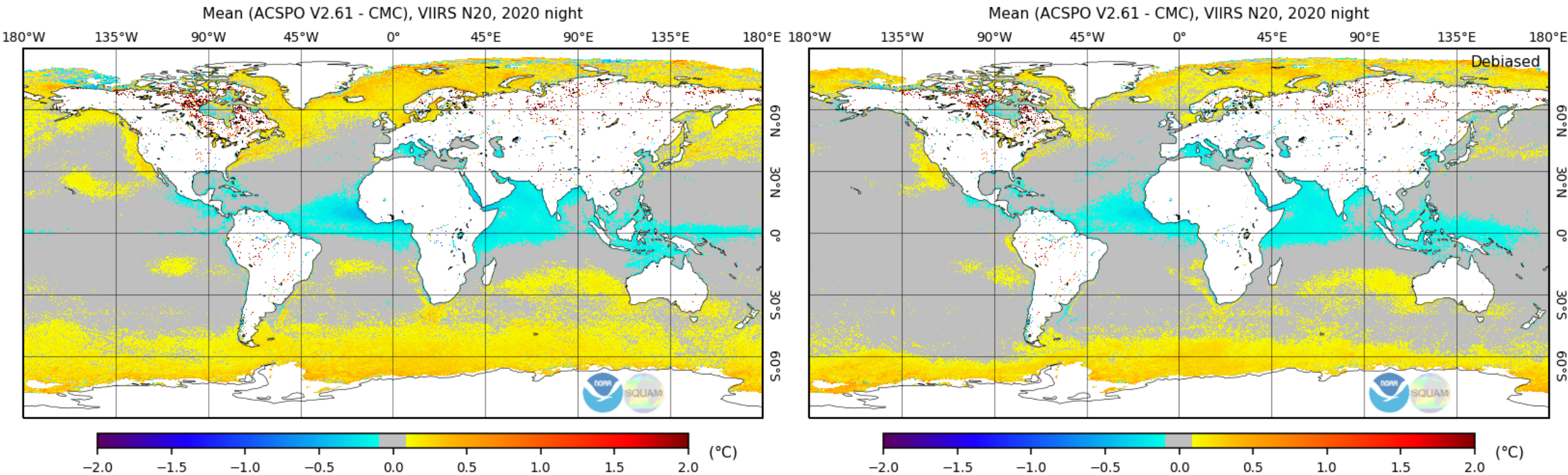
Comparisons vs. CMC



Good proxy for GMPE
Median

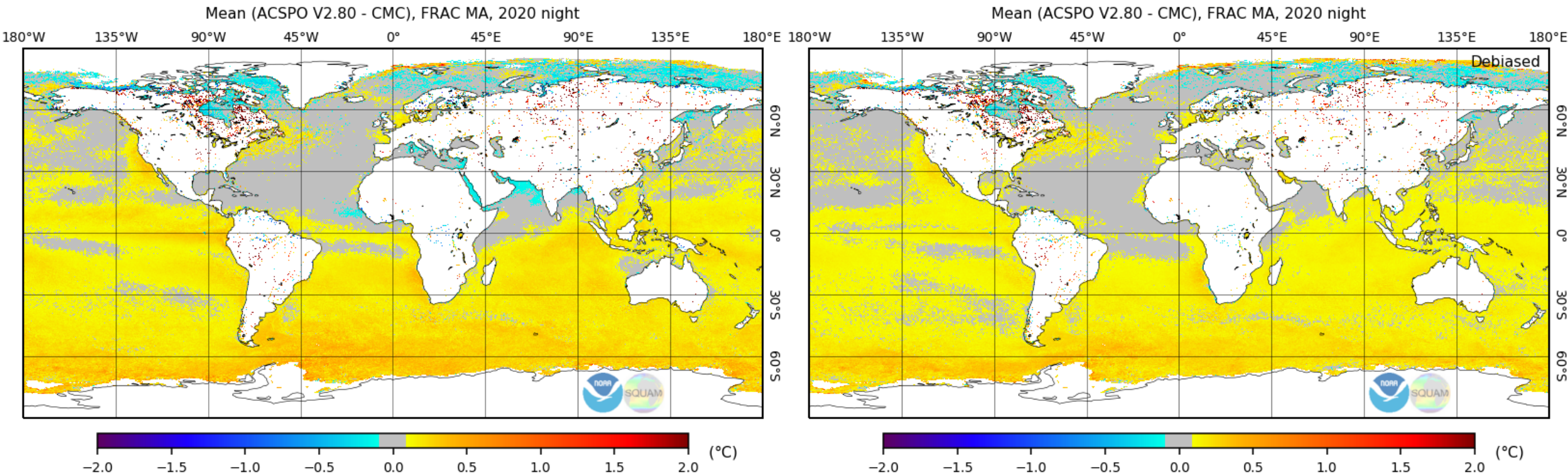
NOAA-20 Nighttime VIIRS

+SSES Bias



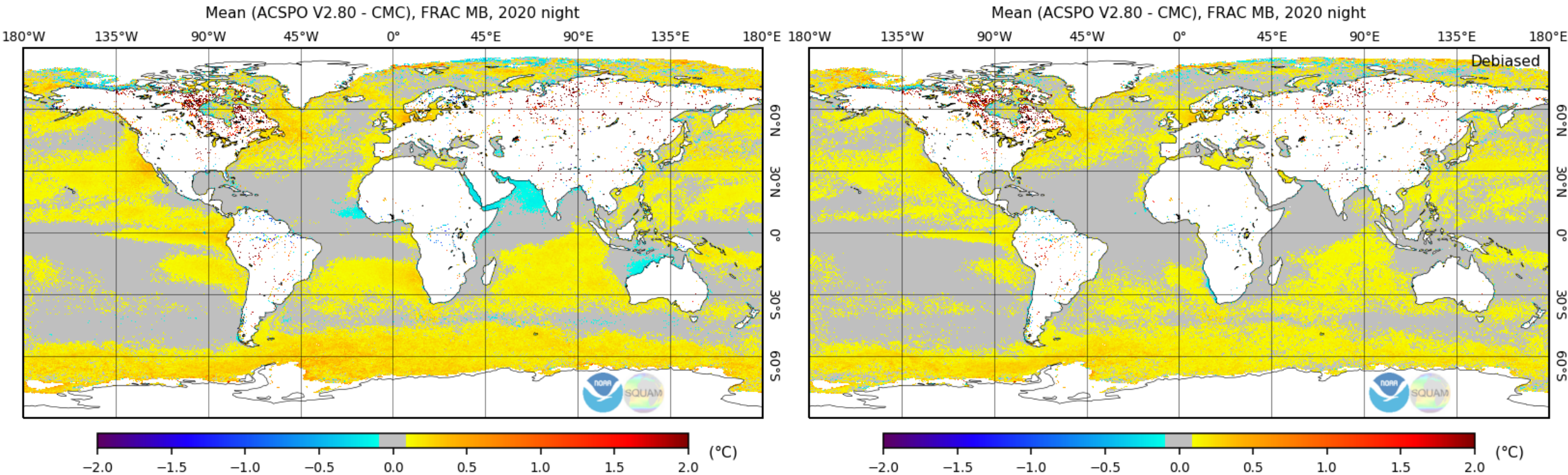
- More “grey” = reduced overall bias
- Aerosol-prone regions reduced intensity but still present
- High latitudes...

MetOp-A Nighttime AVHRR +SSES Bias



- Zonal bias pattern probably due to the drift towards a terminator orbit

MetOp-B Nighttime AVHRR +SSES Bias



- Almost entirely warm bias
- Modest aerosol bias is largely eliminated

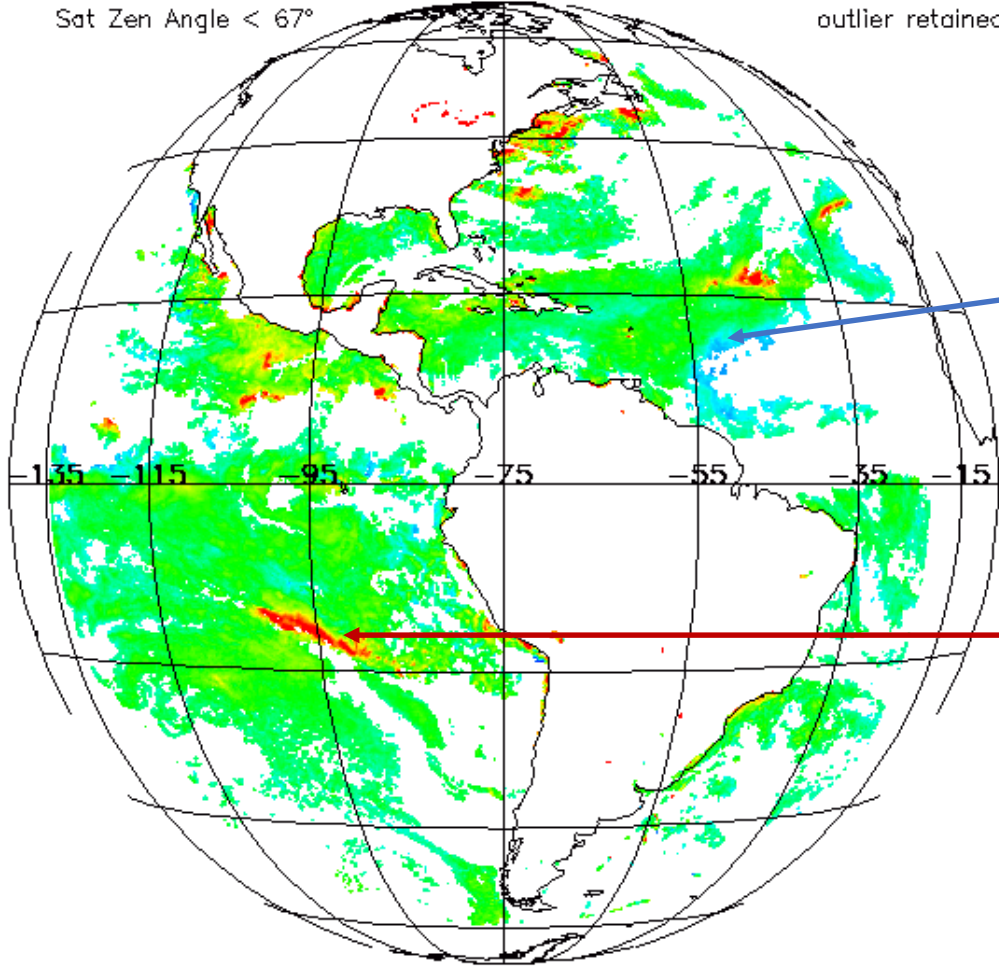
GOES-16 15:00 LT ABI

+SSES Bias

Mean (ACSP0 V2.70 - CMC), G16 ABI L2C, 2021-05-17 15 LT

Sat Zen Angle < 67°

outlier retained



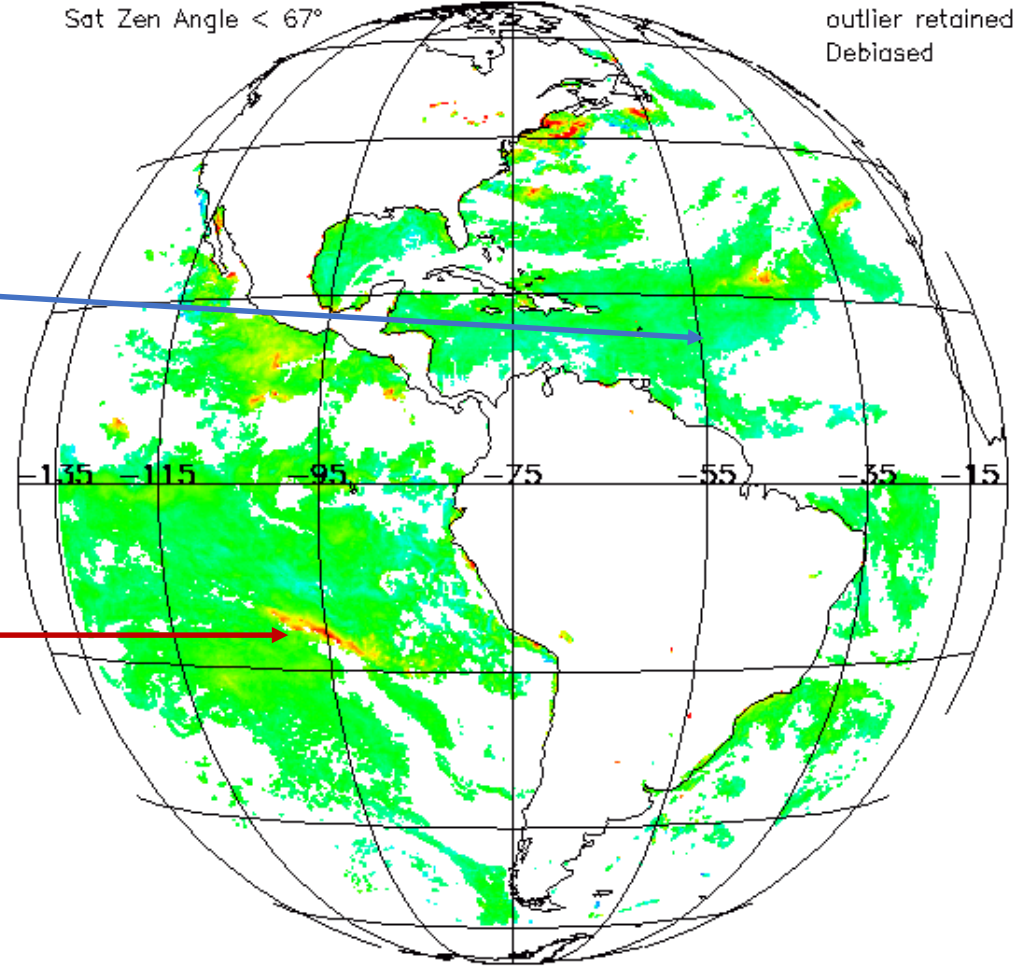
Reduced
aerosol effect

Reduced
diurnal
warming

Mean (ACSP0 V2.70 - CMC), G16 ABI L2C, 2021-05-17 15 LT

Sat Zen Angle < 67°

outlier retained
Debiased



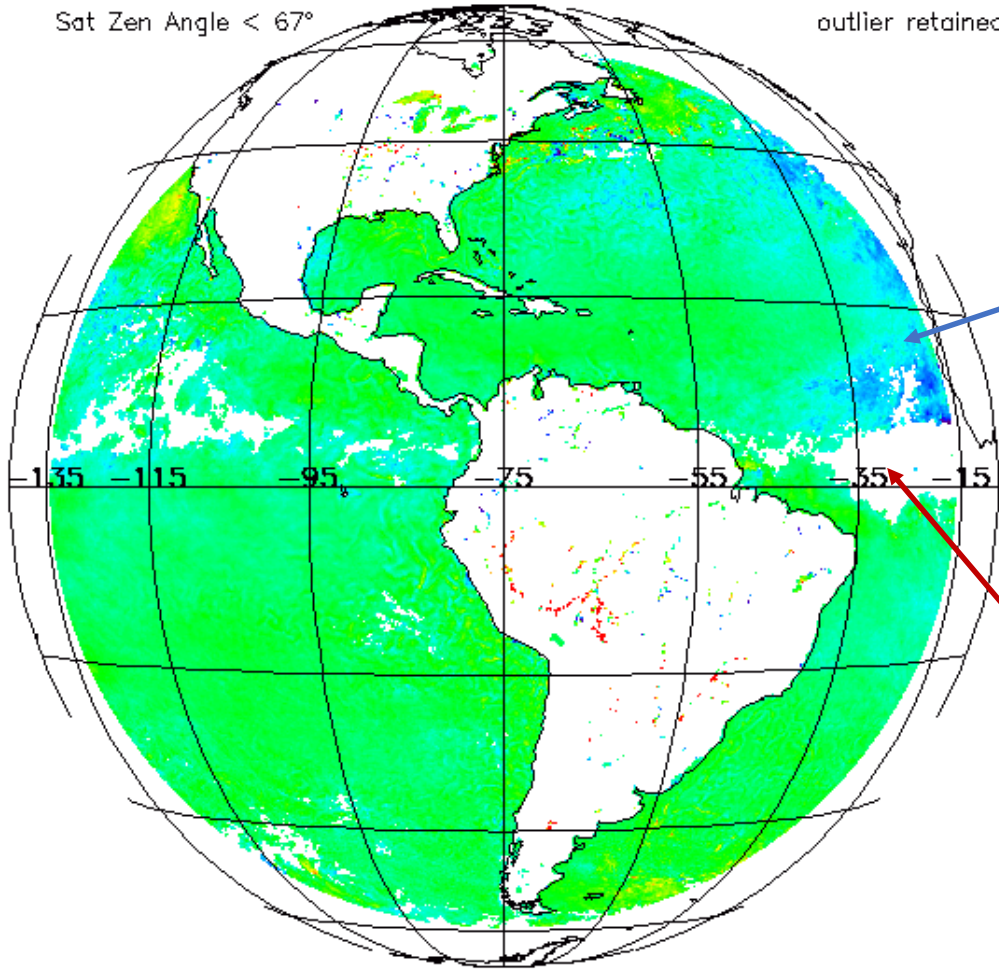
-2 -1.5 -1 -0.5 0 0.5 1 1.5 2 (°C)

GOES-16 Night ABI (04-2021) +SSES Bias

Mean (ACSP0 V2.70 - CMC), G16 ABI L2C, 2021-04 UTC Night

Sat Zen Angle < 67°

outlier retained



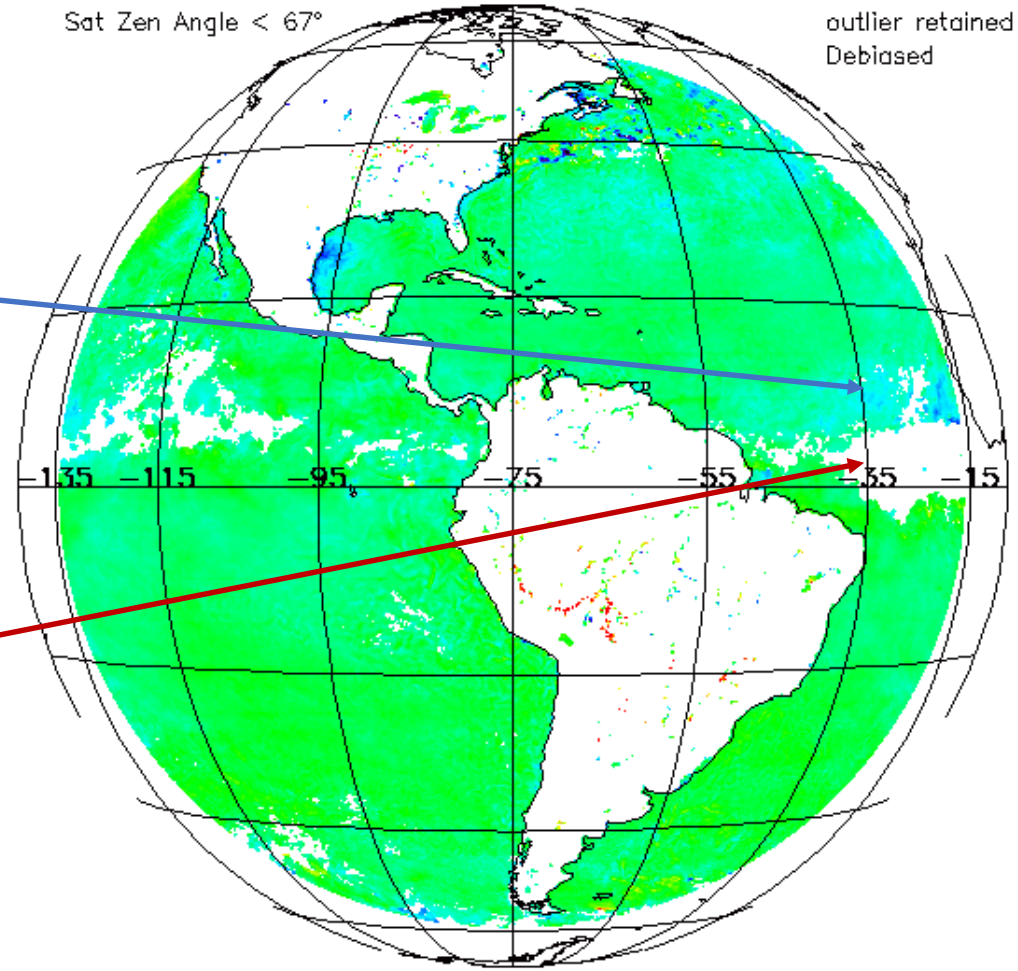
Reduced aerosol effect

No data for entire month...

Mean (ACSP0 V2.70 - CMC), G16 ABI L2C, 2021-04 UTC Night

Sat Zen Angle < 67°

outlier retained
Debiased



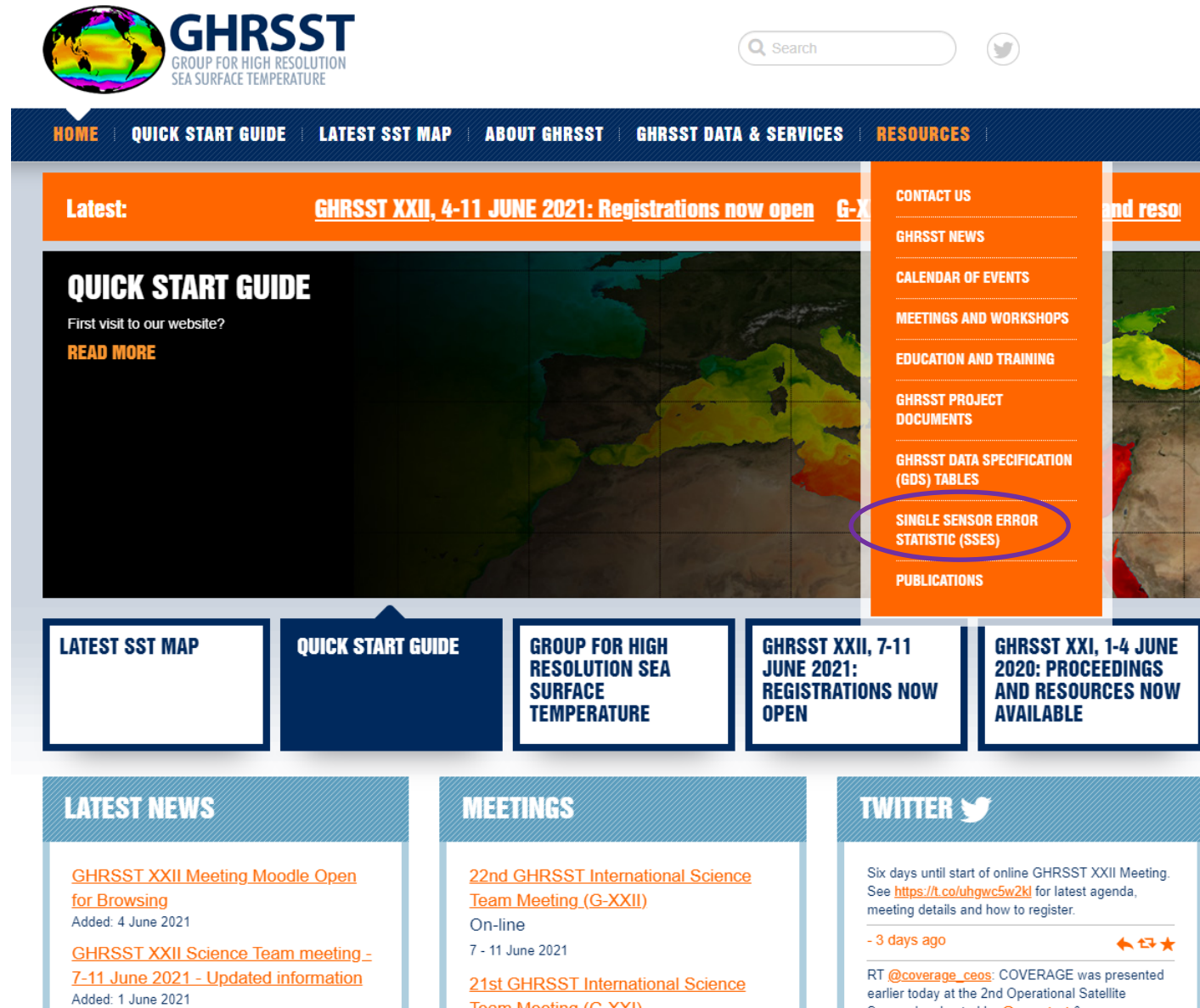
-2 -1.5 -1 -0.5 0 0.5 1 1.5 2 (°C)

-2 -1.5 -1 -0.5 0 0.5 1 1.5 2 (°C)

SSES Information

- Being able to visualize these effects is very informative for L4 developers
 - SQUAM web site provides ability to toggle SSES bias, *etc.*
- Not saying other L2/3 producers *have* to provide this level of information...

SSES Information



The screenshot displays the GHR SST (Group for High Resolution Sea Surface Temperature) website. The header includes the GHR SST logo and a search bar. The main navigation bar lists: HOME, QUICK START GUIDE, LATEST SST MAP, ABOUT GHR SST, GHR SST DATA & SERVICES, and RESOURCES. A secondary navigation bar on the right contains links to CONTACT US, GHR SST NEWS, CALENDAR OF EVENTS, MEETINGS AND WORKSHOPS, EDUCATION AND TRAINING, GHR SST PROJECT DOCUMENTS, GHR SST DATA SPECIFICATION (GDS) TABLES, SINGLE SENSOR ERROR STATISTIC (SSES) (highlighted with a red circle), and PUBLICATIONS. The main content area features a 'QUICK START GUIDE' with a 'READ MORE' link. Below this is a row of five boxes: LATEST SST MAP, QUICK START GUIDE, GROUP FOR HIGH RESOLUTION SEA SURFACE TEMPERATURE, GHR SST XXII, 7-11 JUNE 2021: REGISTRATIONS NOW OPEN, and GHR SST XXI, 1-4 JUNE 2020: PROCEEDINGS AND RESOURCES NOW AVAILABLE. The footer contains three sections: LATEST NEWS (with links to GHR SST XXII Meeting Moodle Open for Browsing and GHR SST XXII Science Team meeting - 7-11 June 2021 - Updated information), MEETINGS (with links to 22nd GHR SST International Science Team Meeting (G-XXII) and 21st GHR SST International Science Team Meeting (G-XXI)), and TWITTER (with a tweet about the GHR SST XXII Meeting).

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SEA SURFACE TEMPERATURE

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Latest: **GHR SST XXII, 4-11 JUNE 2021: Registrations now open**

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First visit to our website?
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SINGLE SENSOR ERROR STATISTIC (SSES)
PUBLICATIONS

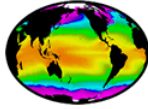
LATEST SST MAP
QUICK START GUIDE
GROUP FOR HIGH RESOLUTION SEA SURFACE TEMPERATURE
GHR SST XXII, 7-11 JUNE 2021: REGISTRATIONS NOW OPEN
GHR SST XXI, 1-4 JUNE 2020: PROCEEDINGS AND RESOURCES NOW AVAILABLE

LATEST NEWS
[GHR SST XXII Meeting Moodle Open for Browsing](#)
Added: 4 June 2021
[GHR SST XXII Science Team meeting - 7-11 June 2021 - Updated information](#)
Added: 1 June 2021

MEETINGS
[22nd GHR SST International Science Team Meeting \(G-XXII\)](#)
On-line
7 - 11 June 2021
[21st GHR SST International Science Team Meeting \(G-XXI\)](#)

TWITTER
Six days until start of online GHR SST XXII Meeting. See <https://t.co/uHgwc5w2kl> for latest agenda, meeting details and how to register.
- 3 days ago
RT @coverage_ceos: COVERAGE was presented earlier today at the 2nd Operational Satellite Symposium hosted by @sumatratp

SSES Information

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External Educational Resources

GHR SST PROJECT DOCUMENTS

GHR SST DATA SPECIFICATION (GDS) TABLES

SINGLE SENSOR ERROR STATISTIC (SSES)

SSES Descriptions

SSES Common Principles

PUBLICATIONS

2021

2020

2019

2018

2017

SINGLE SENSOR ERROR STATISTIC (SSES)

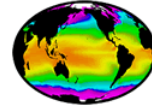
Introduction

Content coming soon !

[Common Principles](#)

[SSES Descriptions](#)

SSES Information



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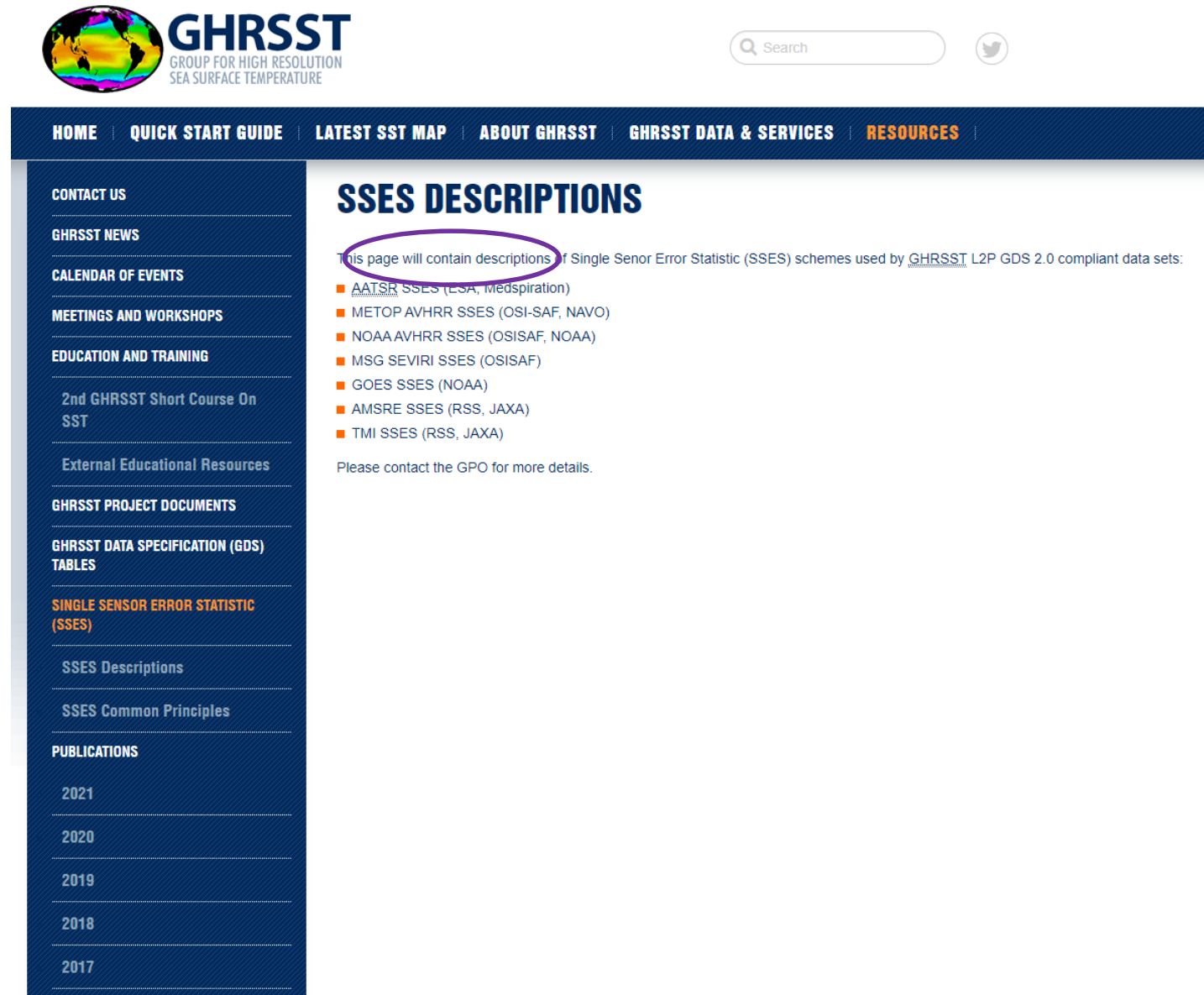
[2017](#)

SSES COMMON PRINCIPLES

Content coming soon!

SSES Information...

...Needs Input!



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Please contact the GPO for more details.