SSES IN ACSPO

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Quality Levels and SSES Algorithm in ACSPO

- Currently, the ACPO quality levels are defined based on ACSPO Clear-Sky Mask:

    Clear = Level 5
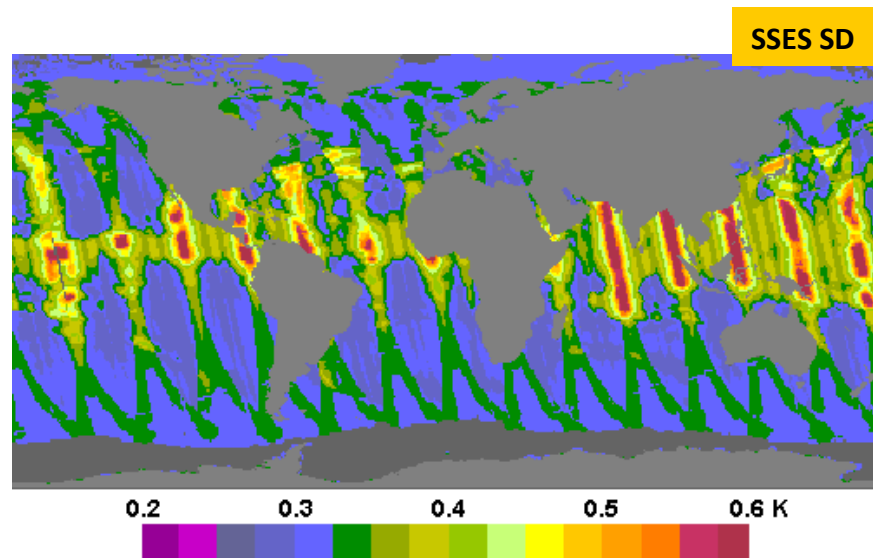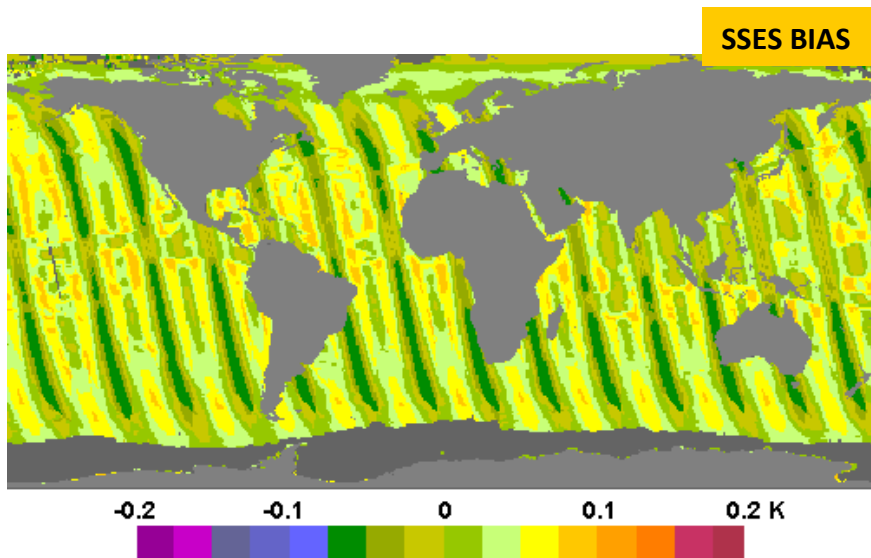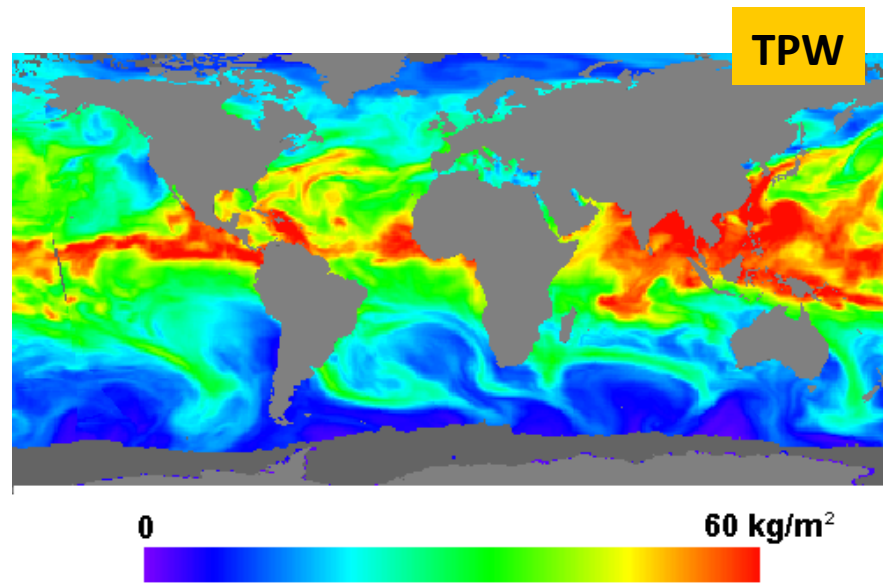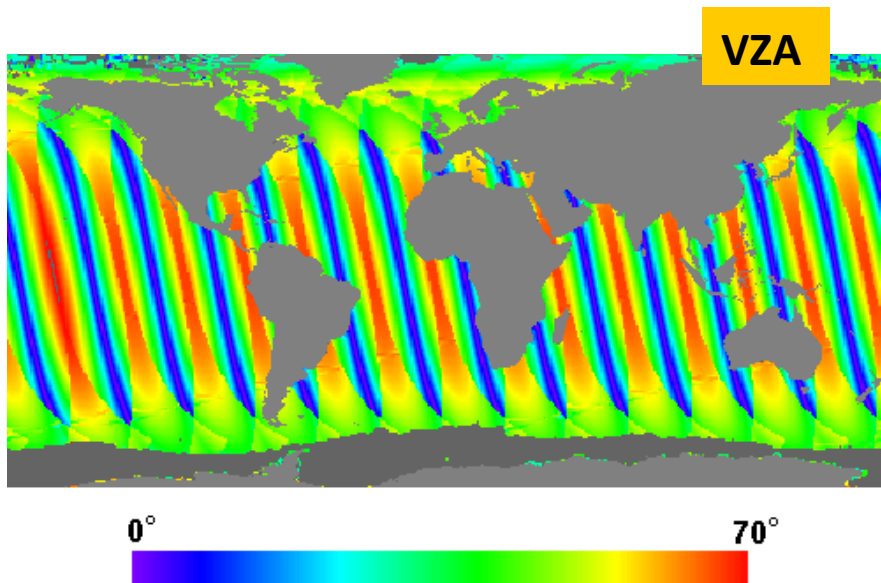   Probably Clear=Level 4
    Cloudy= Level 1
    Unprocessed=Level 0

- SSES bias and SD are represented as functions of VZA and TPW:

    $$SSES=F(VZA,TPW)$$

- 2D SSES look-up tables (LUTs) are derived from matchups along with regression coefficients

- When processing L1b data, the LUT SSES values are interpolated to pixel values of VZA and GFS TPW

Maps of GFS TPW and VZA (VIIRS, Day, 24 August 2012)

VZA

0°   70°

TPW

0   60 kg/m²

SSES BIAS

-0.2   -0.1   0   0.1   0.2 K

SSES SD

0.2   0.3   0.4   0.5   0.6 K

Future Improvements

- Other factors will be, such as aerosol, proximities to coast, ambient cloud etc.

- Representativeness of the matchups dataset will be taken into account – unusual situations will be tracked and marked with larger SSES values

- Explore accounting for calibration trends in SSES by using most recent matchups

- Link quality levels to SSES

THANK YOU

Reprocessing AVHRR GAC