# The DTU15 Mean Sea Surface and Mean Dynamic Topography - focusing on Arctic issues and development.

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# The DTU15MSS

**What is NOT NEW….**

MSS is STILL based on 20 year Mean T/X-J1+J2 profiles (1992-2012)

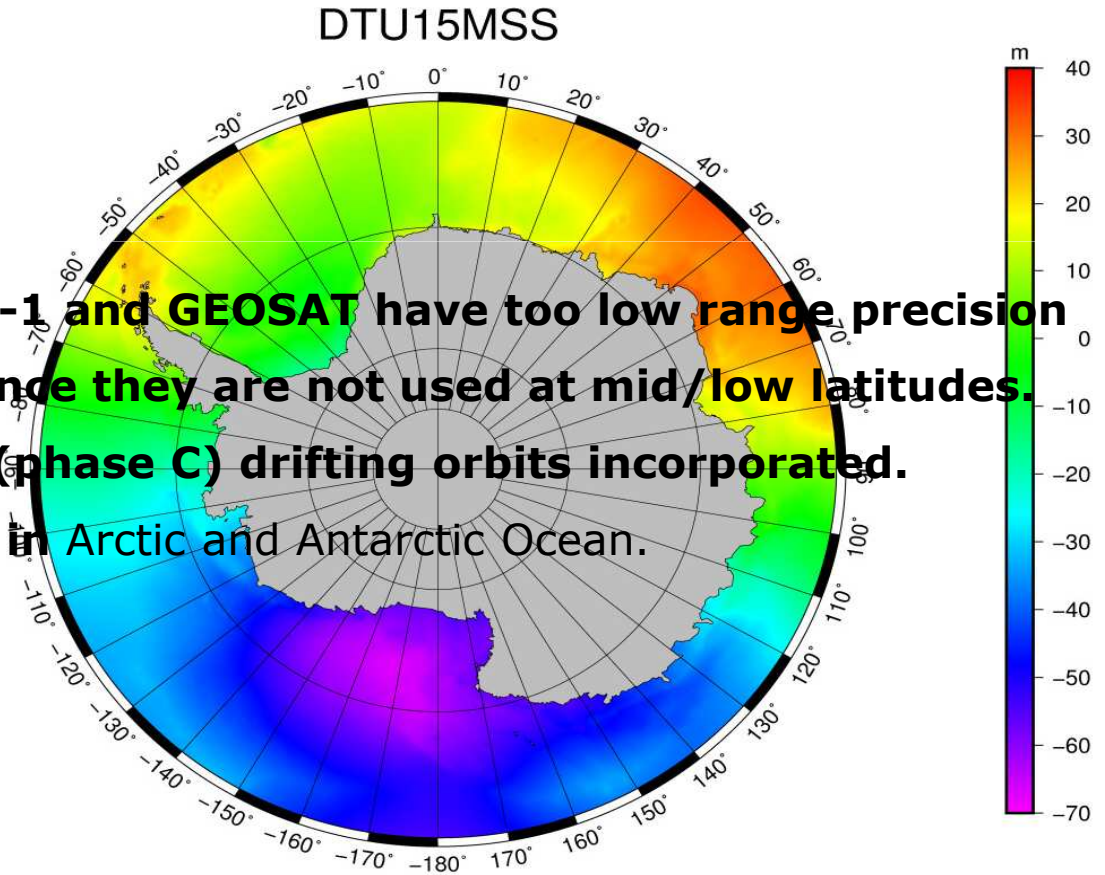
Identical reference time period to DTU13.

All GM satellites reference to this by only considering short wavelength of these.

Corrections consistent to RADS

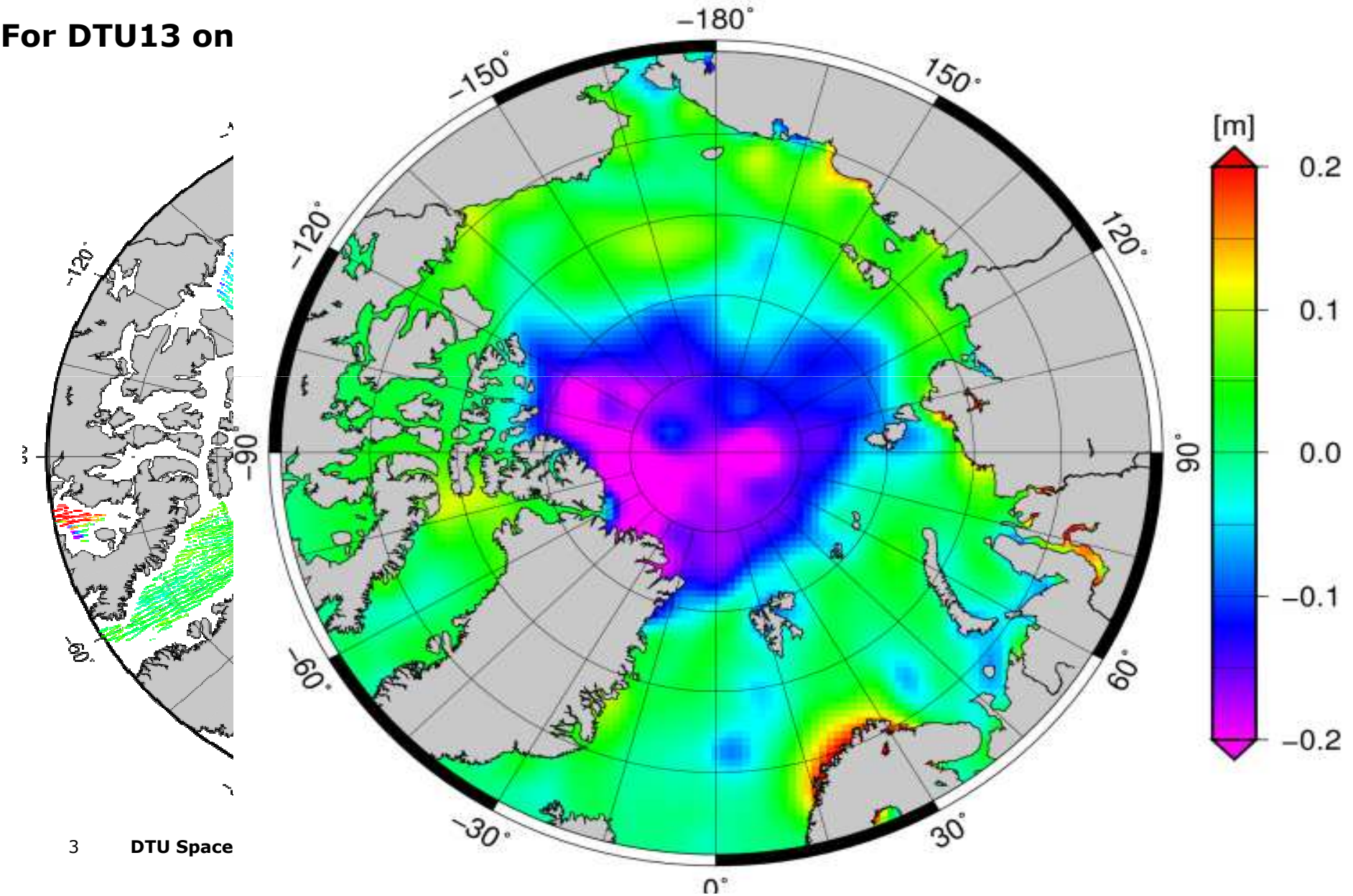
**Whats new:**

- **Old Geodetic mission of ERS-1 and GEOSAT have too low range precision**
- **Compared to C2 and J-1. Hence they are not used at mid/low latitudes.**
- **SARAL/AltiKA and ENVISAT(phase C) drifting orbits incorporated.**
- **Update of short wavelength in** Arctic and Antarctic Ocean.



# DTU13MSS from DTU10

**For DTU13 on**



# 5 years of Cryosat-2 relative to DTU13MSS

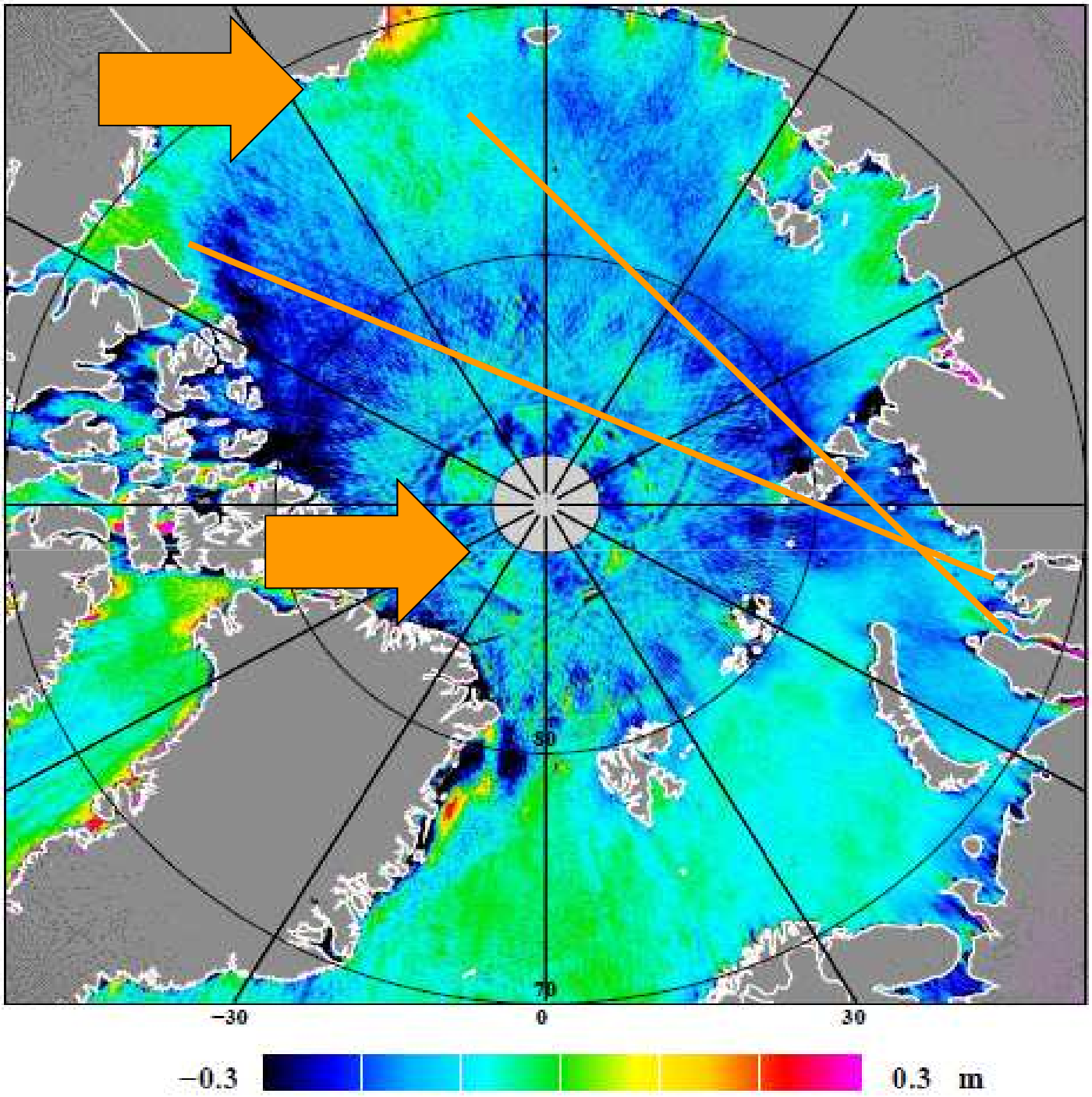
**The Problems are:**

**ICESat data in DTU10**

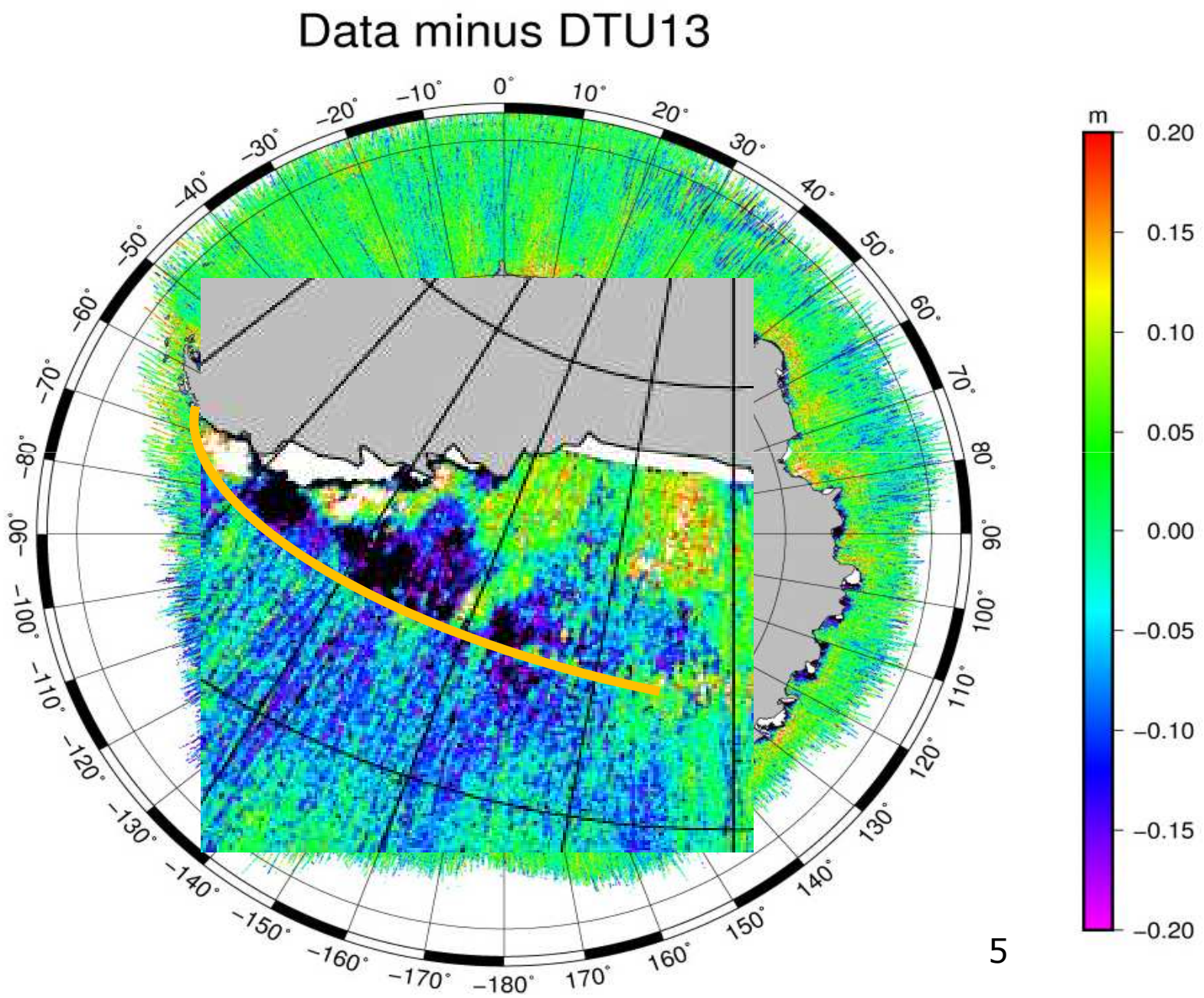
**Coastal**

**Polar extrapolation**

**North of 86N (expected**



# Antarctica





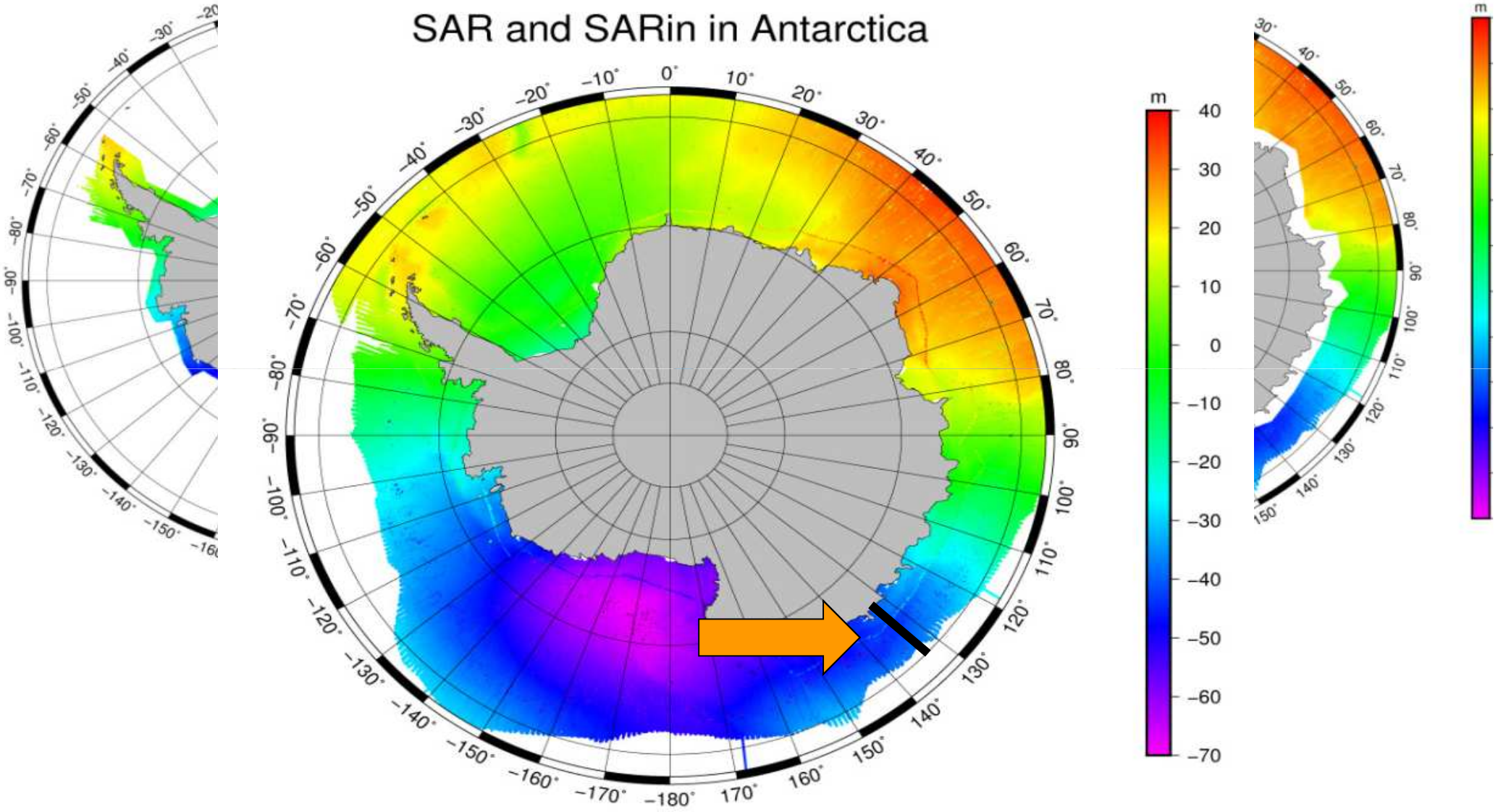

5

JSA

SARin in Antarctica

SAR and SARin in Antarctica

SAR in Antarctica



# Arctic issues

**Coastal issue:**

Merging C-2 SAR and SAR-in

–(apparently slight different retracker bias dependent on sea-ice concentration-specular)

**Change of satellite issue (ICESat):**

Shortwavelength issue……

Determine short wavelengh from C2

Full in-house retracking of all C2 Baseline B

**Polar Gap issue:**

GOCE smooth geoid extrapolation north of 88N.

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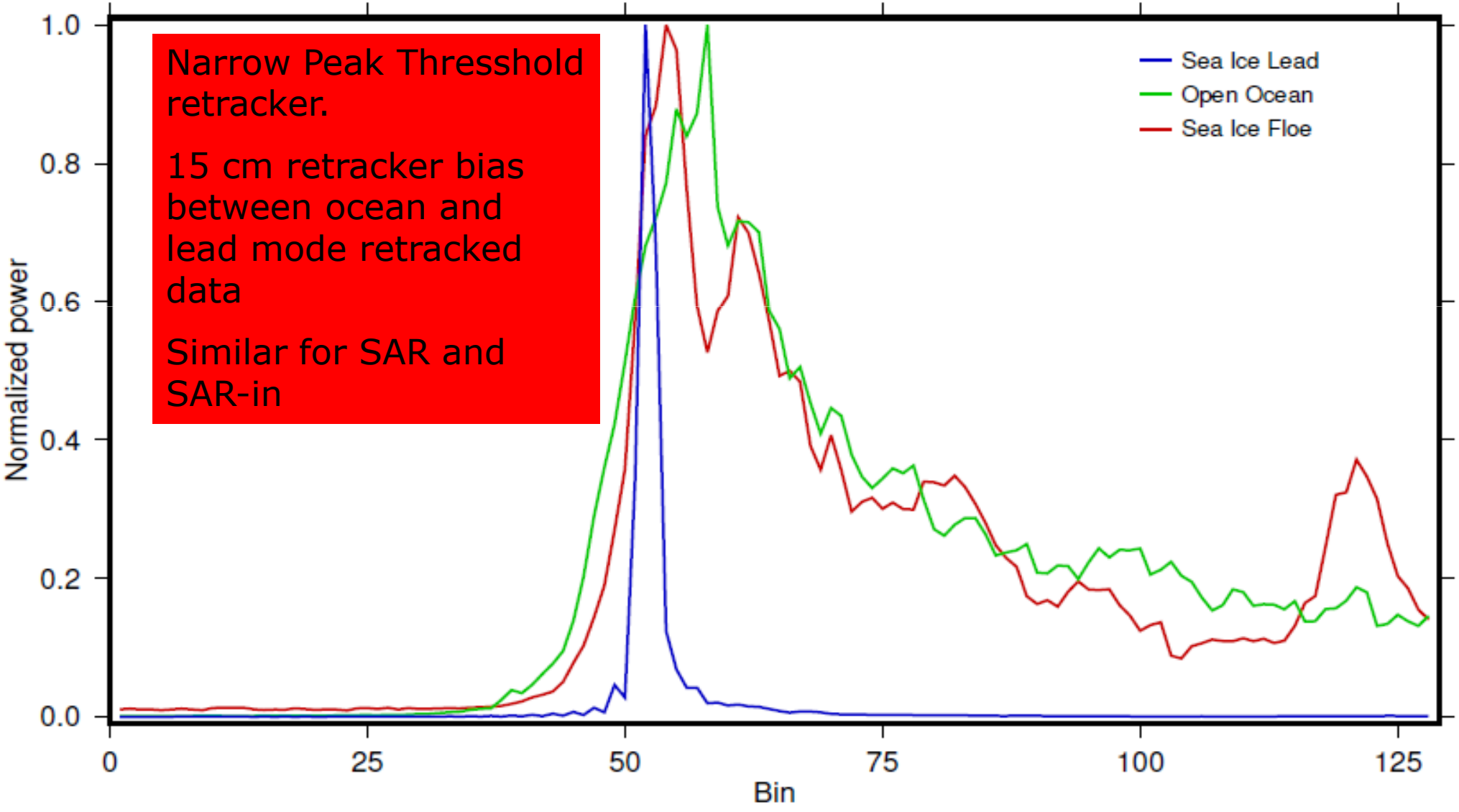
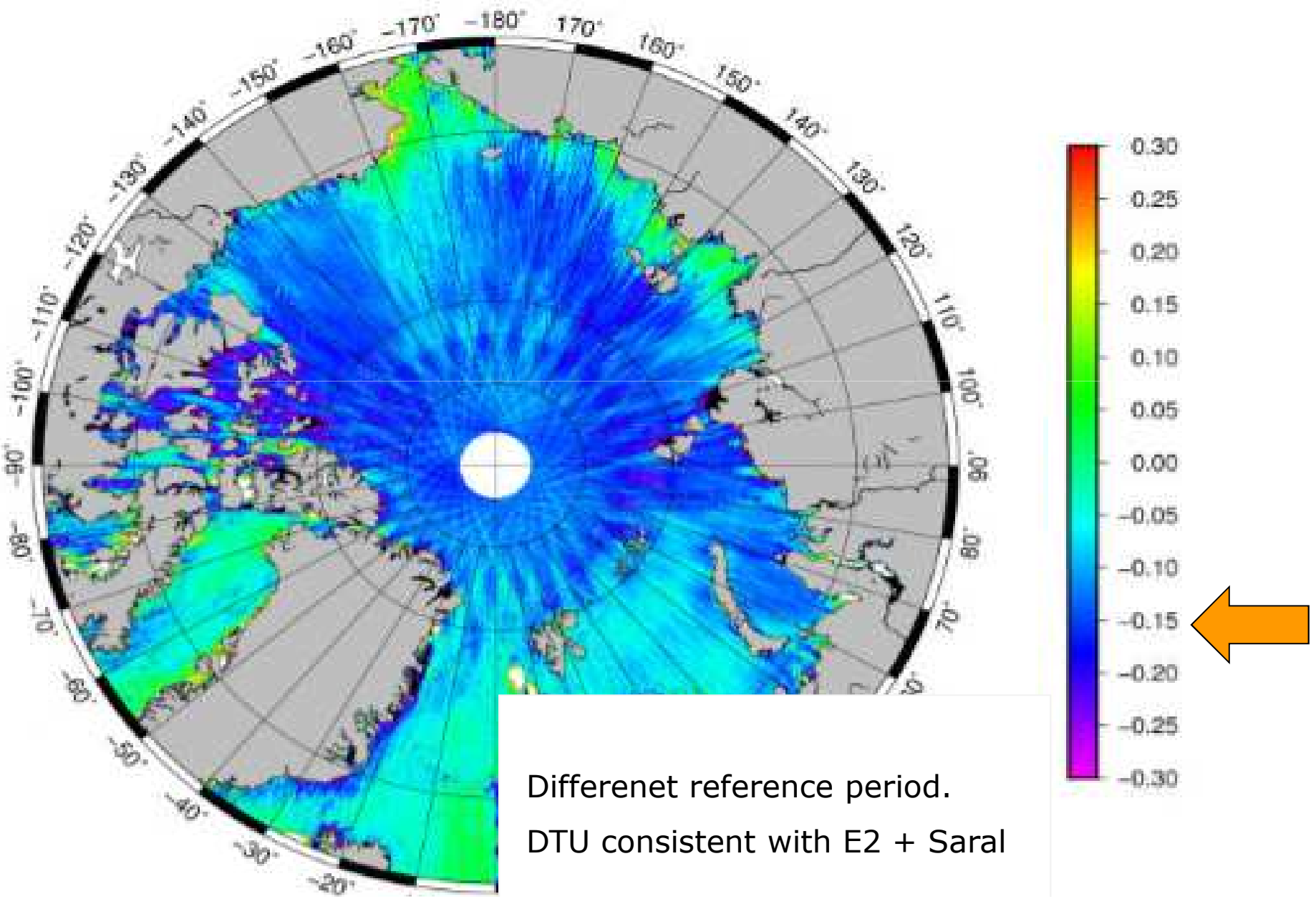
# Classification for offset: Stack Standard Deviation vs PP



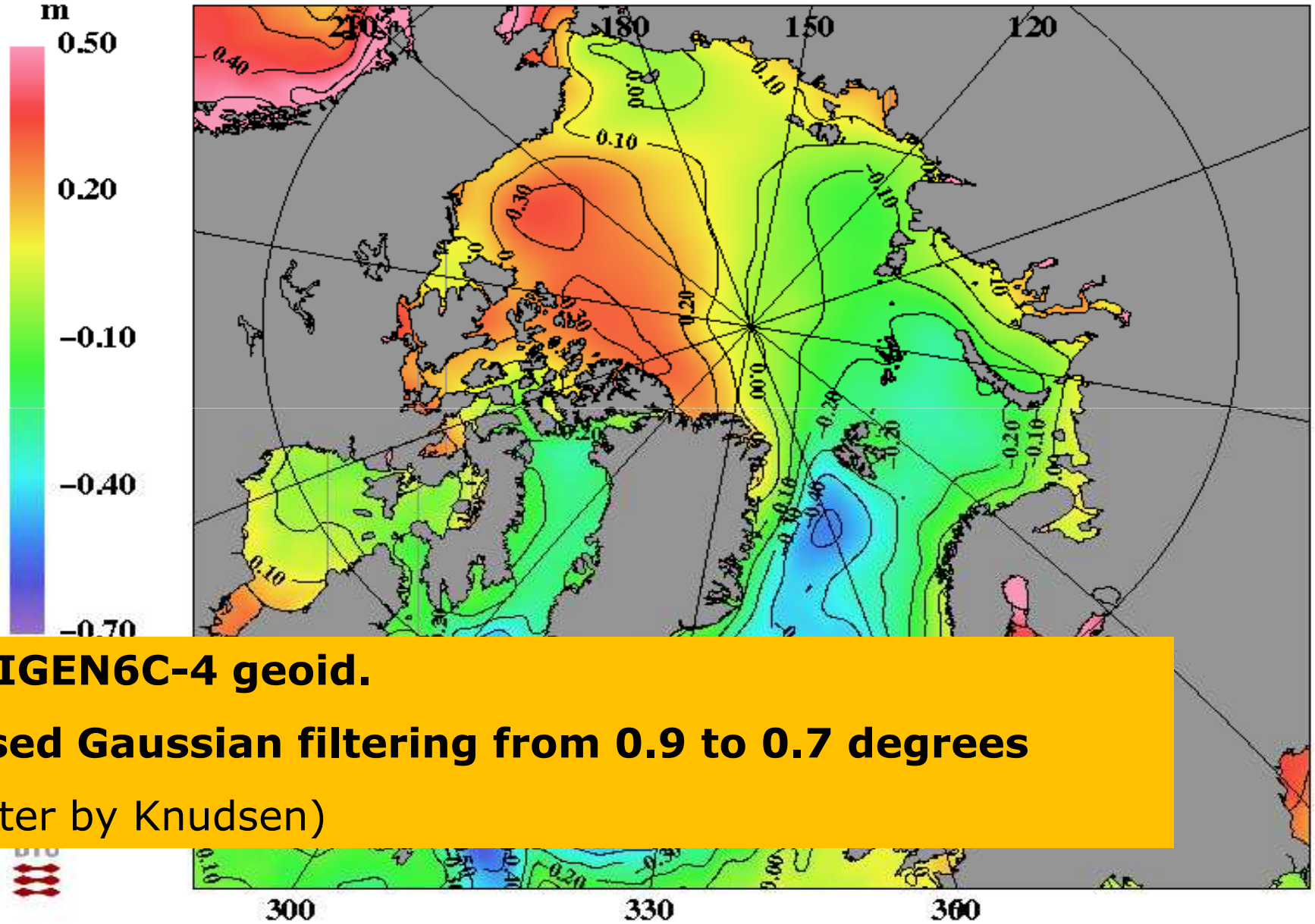
# DTU15 – UCL13 (15 cm offset)




Differenet reference period.

DTU consistent with E2 + Saral

# DTU15 MDT

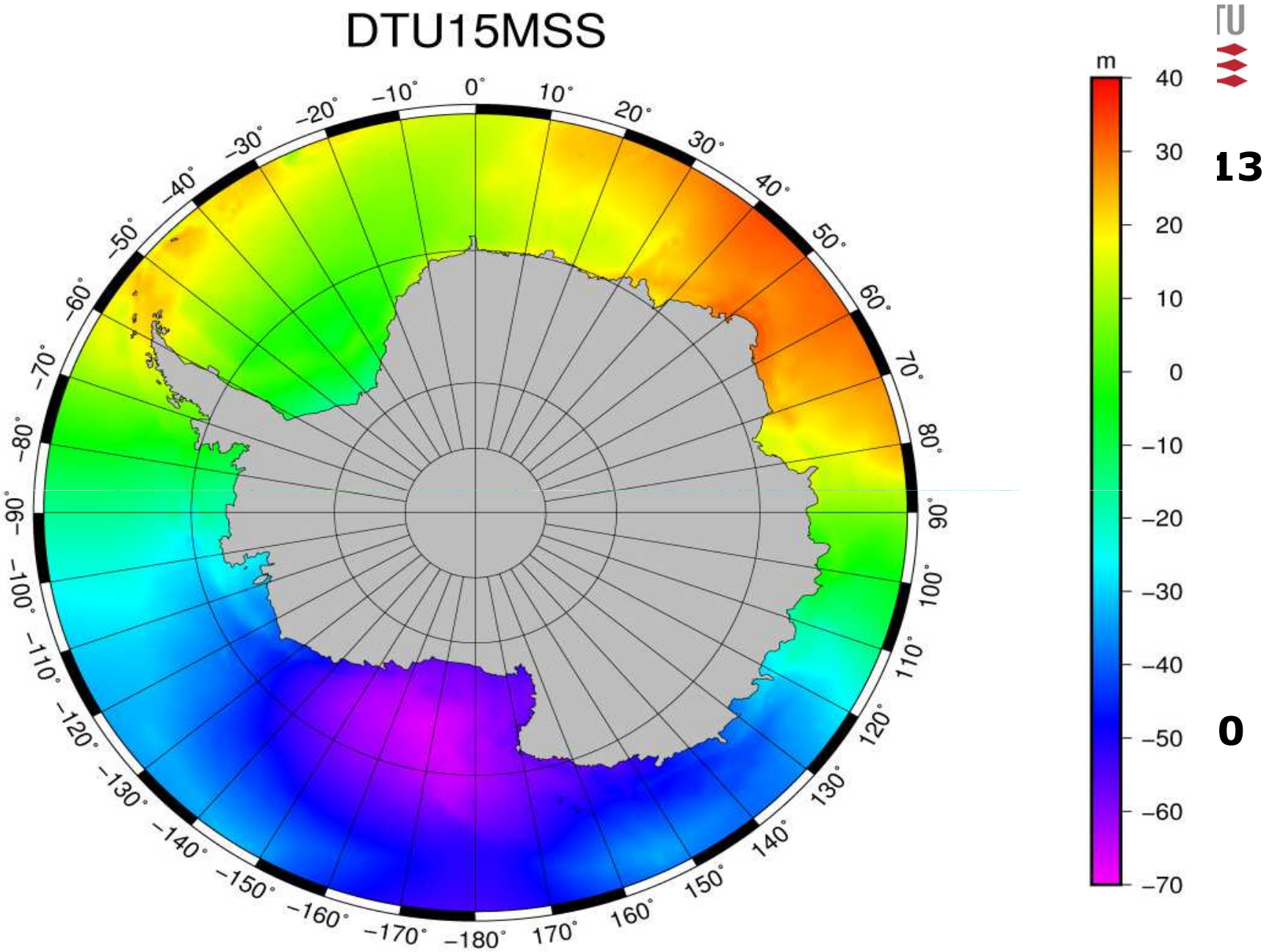



**Using EIGEN6C-4 geoid.**

**Decreased Gaussian filtering from 0.9 to 0.7 degrees**

(see poster by Knudsen)

**C2-DTU**



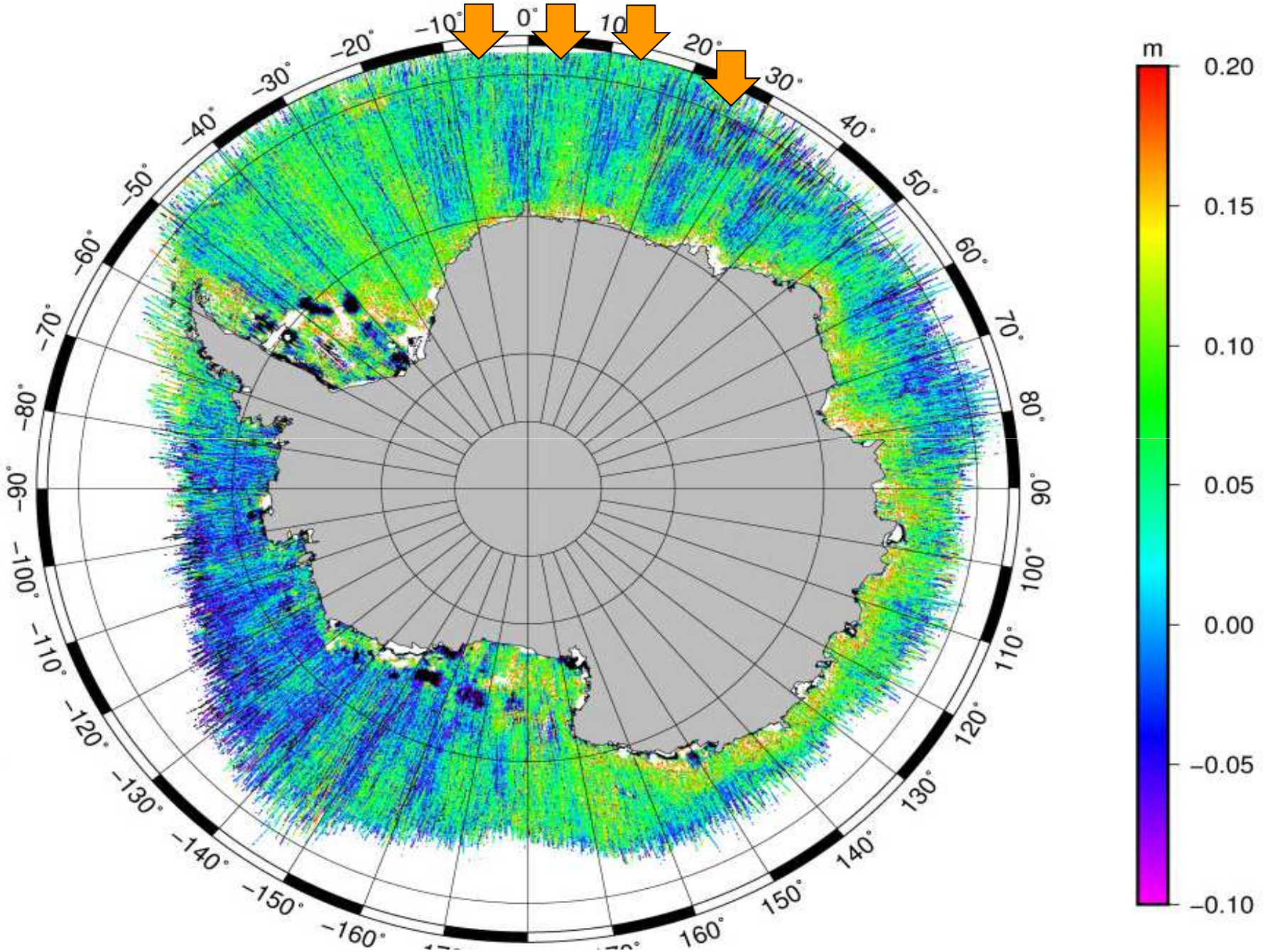

**C2–DT**

**13**

**0**

DTU
Natio

# Data minus CLS10



# Summary.

- **DTU15MSS and DTU15MDT is ready for release.**
- **Final Testing around Arctic and Antarctic coasts are ongoing**
- **The old Geodetic Missions now have to low precision.**
- **However E-1 is still used in the Arctic.**
- **As DTU15MSS is based on DTU13MSS, then any input for final testing is valuable to us.**
- **The coastal SAR to SAR-in change might be good for Cryosphere, but not for MSS determination.**