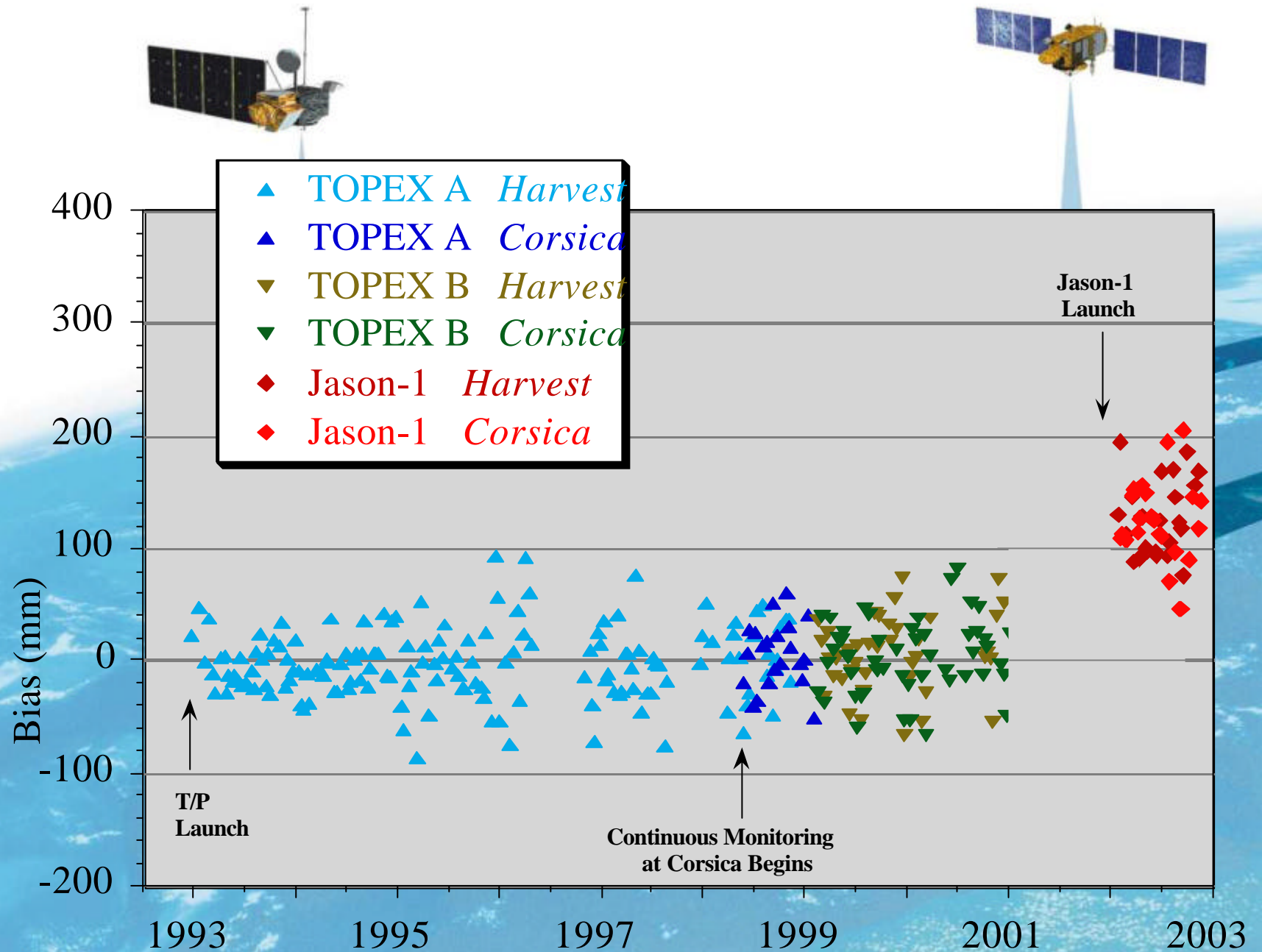


Linking different mission



Local to global CalVal experiments



FROM SPACE TO SEA

☰ Orbit (gravity field, tracking data, ...)

☰ Range (bias, retracking, ...)

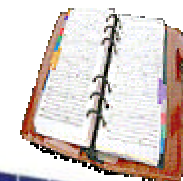
☰ Corrections

☞ Ionosphere

☞ TMR vs. JMR

☞ BM4 vs. non-parametric SSB

☞ Other corrections



GLOBAL STUDIES



- Statistically significant
- Less sensitive to Geographically Correlated Errors



- Provide only relative behavior

ISSUES

☞ State of the art

☞ What we have

☞ What we need

☞ Is it possible to link different missions at the mm/yr? (How do we best develop "standards" for different missions?)

LOCAL STUDIES



- Provide absolute calibration
- Enable separation of error sources using information from multiple in situ sensors (e.g., tide gauge, GPS, radiometer)



- Highly sensitive to Geographically Correlated Errors

Local to global CalVal experiments

TUESDAY, NOVEMBER 18, 14h00 - 15h30

Introduction and open discussion

P. Bonnefond, B. Haines and S. Nerem

Recent Results from the Harvest Experiment

B. Haines, D. Danan, G. Born and S. Gill

Absolute Calibration of Jason-1 and TOPEX/Poseidon Altimeters in Corsica

P. Bonnefond, P. Exertier, O. Laurain, Y. Ménard, A. Orsoni, E. Jeansou and G. Jan

In-Situ Calibration in Bass Strait, Australia

C. Watson, N. White, R. Coleman, J. Church and R. Govind

JCET @ GAVDOS.2003

E. C. Pavlis, K. Evans and the GAVDOS TEAM

Absolute Calibration of the Jason-1 Altimeter using UK Tide Gauges

P. Woodworth, P. Moore, X. Dong and R. Bingley

Calibration results of Jason-1 altimeter in Lake Erie and S. Pacific

Y. Yi, K. Cheng, C. Shum, A. Braun, S. Calmant, D. Chambers

Open discussion

15h30 - 16h00 Break, poster viewing



Local to global CalVal experiments

TUESDAY, NOVEMBER 18, 16h00 - 17h30

Tide Gauge Calibration Results for Jason-1 and the Implications for Measuring Global Mean Sea Level

R. S. Nerem, G. T. Mitchum and E. Leuliette

Calibration/Validation of Jason-1 GDR SSH using global residuals with TOPEX and tide gauges

D. Chambers, J. Ries and T. Urban

Determining Altimeter SSH Absolute Bias From Different Satellites Using Distant Calval Sites

G. Jan, M. Faillot, Y. Menard, F. Lyard, and E. Jeansou

Cross Calibration of JASON, TOPEX-Poseidon, ENVISAT, ERS-2 and Geosat Follow-On wind wave data, based on comparisons with in situ data and wave model analysis fields.

D. Cotton, P. Challenor and J.-M. Lefevre

Jason-1 GDR SSALTO/CALVAL results

M. Ablain, J. Dorandeu, F. Mertz, B. Soussi, N. Picot, and P. Vincent

Jason-1 performance assessment

J. Dorandeu, M. Ablain, F. Mertz, B. Soussi, N. Picot, and P. Vincent

JMR instrument performance

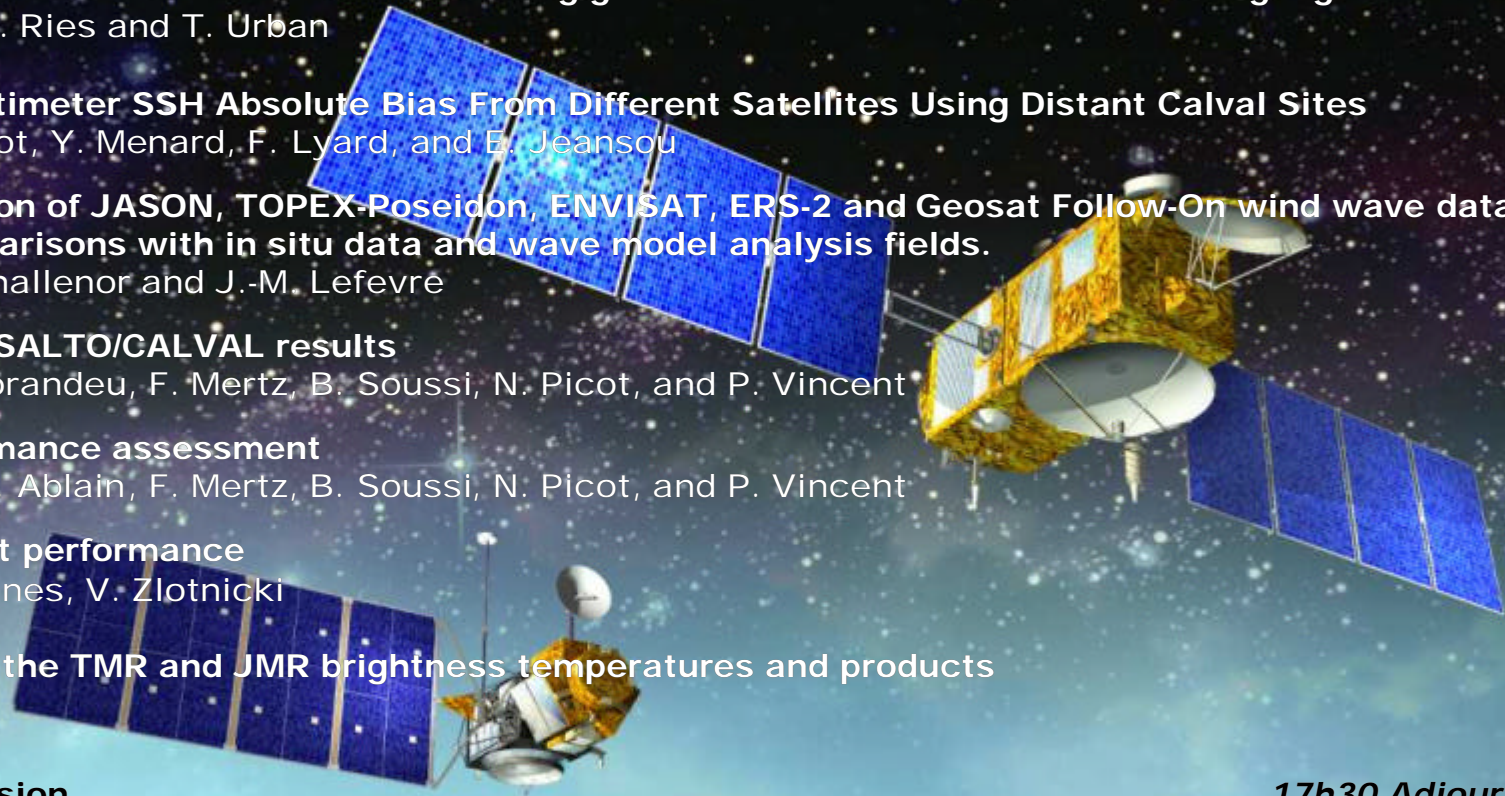
S. Desai, B. Haines, V. Zlotnicki

Assessment of the TMR and JMR brightness temperatures and products

E. Obligis

General discussion

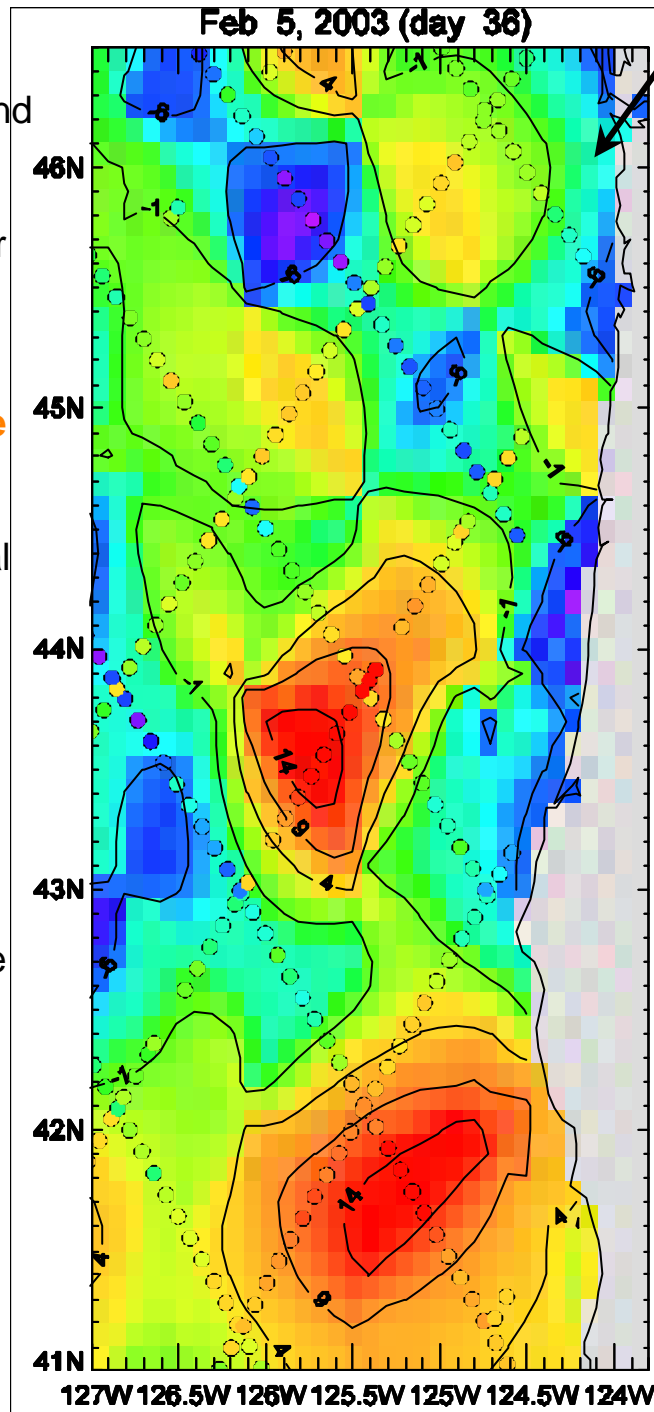
17h30 Adjourn



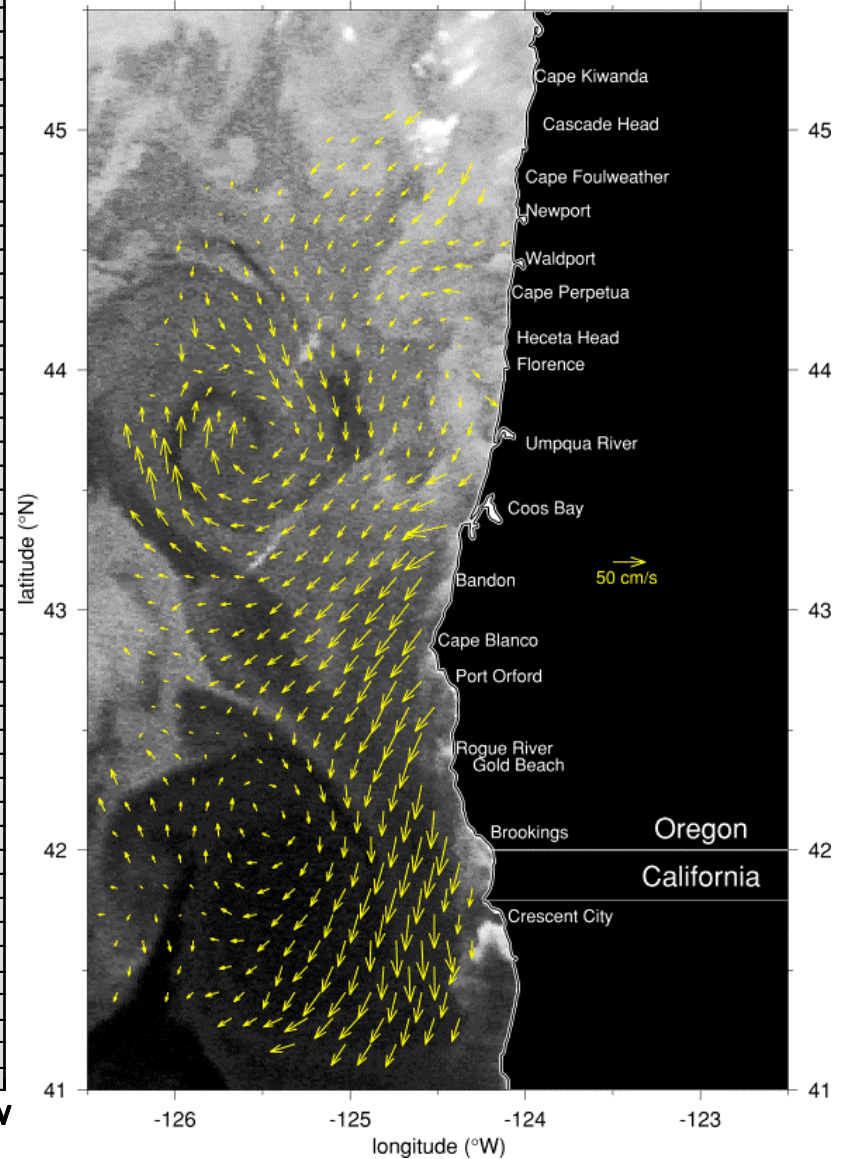
Radar

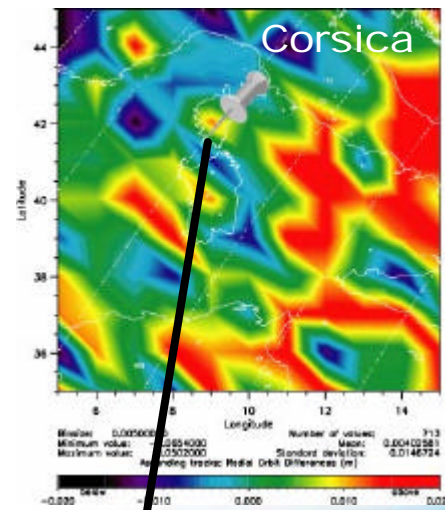
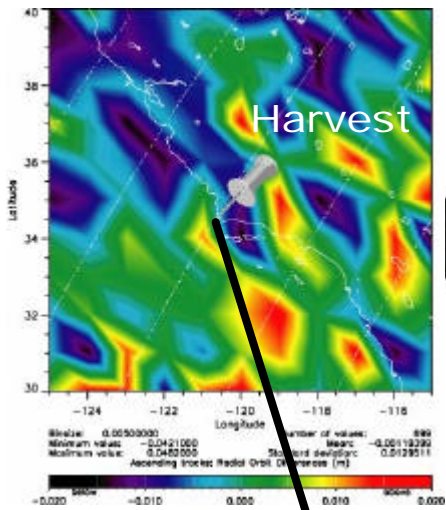
The Feb 5 SSH field and a corresponding long-range radar surface velocity field. The radar field shows the same 2 AC eddies in the south and middle of the field. **Can the radar provide “Cal/Val” for the altimeter?** The radar units resolve only radial velocities, so need 2-3 sites to produce vector velocities, which have errors due to both random noise and systematic geometric errors (like altimeter vectors at crossovers). Work needs to be done to quantify the radar errors.

From Ted Strub
College of Oceanic and Atmospheric Sciences
Oregon State University



From T/P and Jason-1

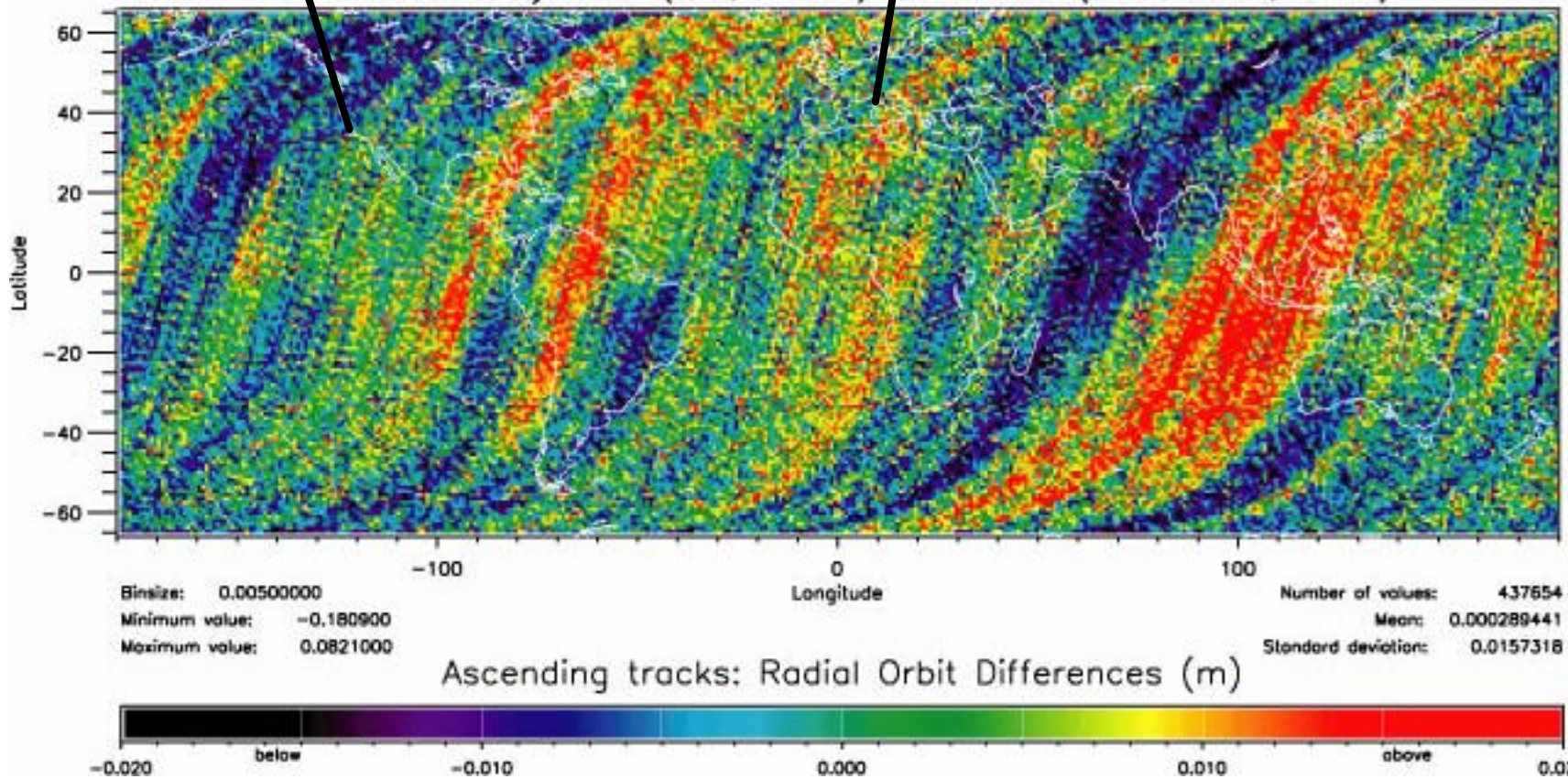




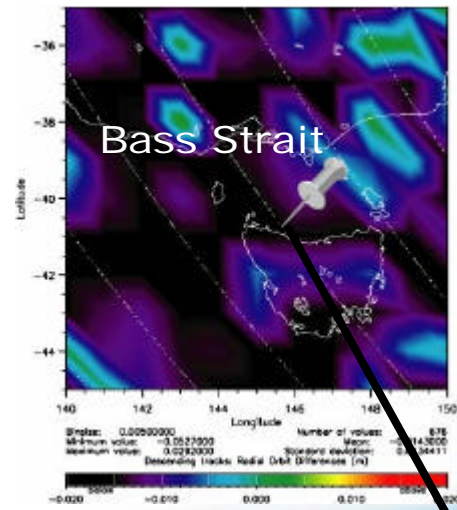
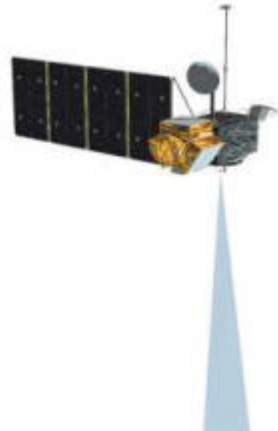
Ascending tracks



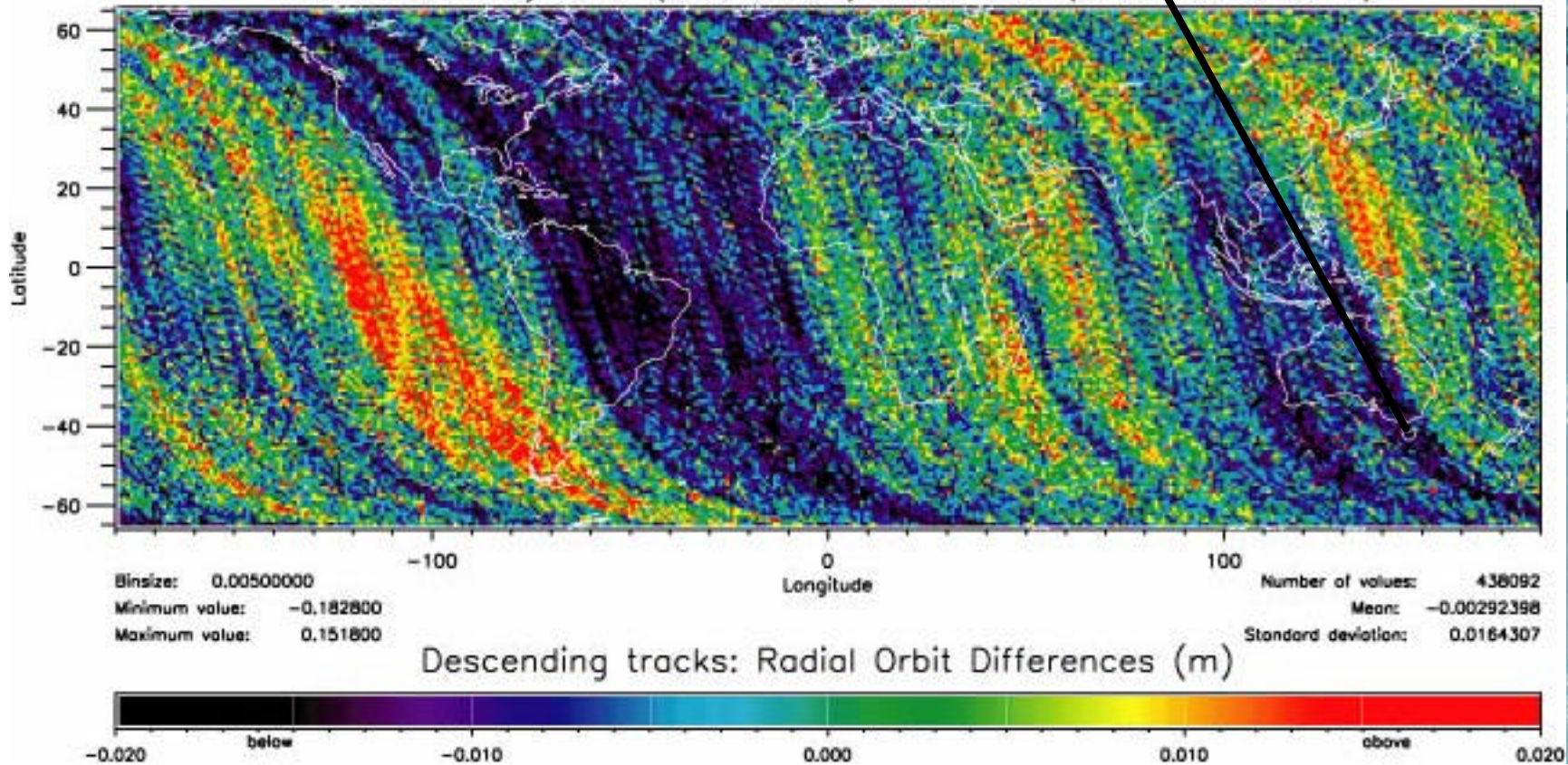
GPS Reduced Dynamic (JPL, GRACE) minus POE (SLR+DORIS, CNES)



Descending tracks



GPS Reduced Dynamic (JPL, GRACE) minus POE (SLR+DORIS, CNES)



Which standards for which satellite?



Orbit: NASA POE (SLR+DORIS, JGM3)
Iono.: Dual Frequency
Dry Tropo.: Model+ECMWF
Wet Tropo.: TMR
SSB: BM4
Tides: CSR3.0 or FES95.2

Consensus standards:

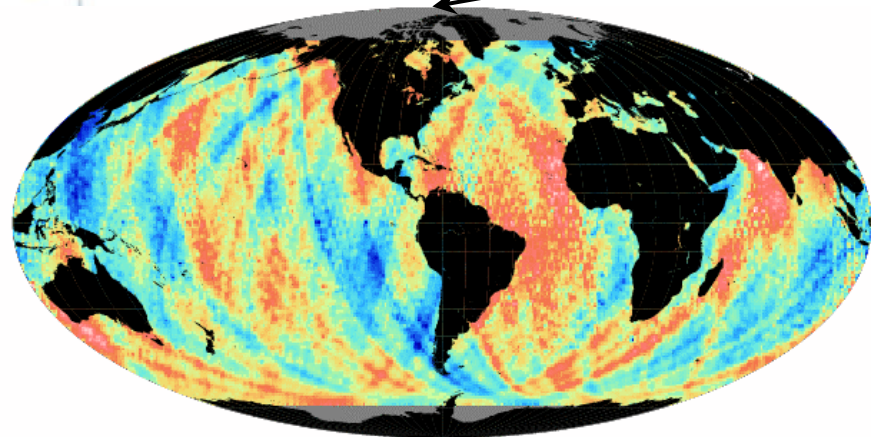
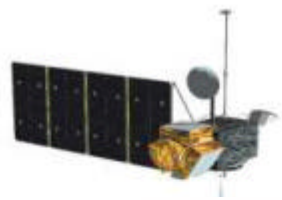
Marginal use:

TMR Drift
TMR yaw correction
new ALT-B SSB
retracking

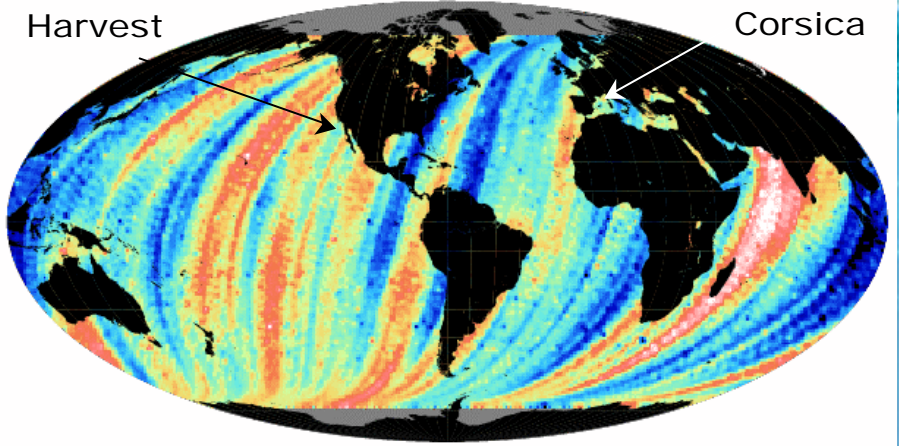
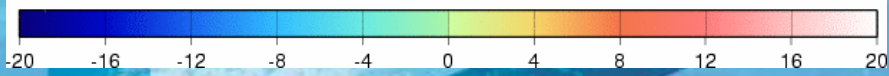


Orbit: CNES POE (SLR+DORIS, JGM3)
Iono.: Dual Frequency
Dry Tropo.: Model+ECMWF
Wet Tropo.: JMR
SSB: non-parametric
Tides: GOT99.2 or FES99

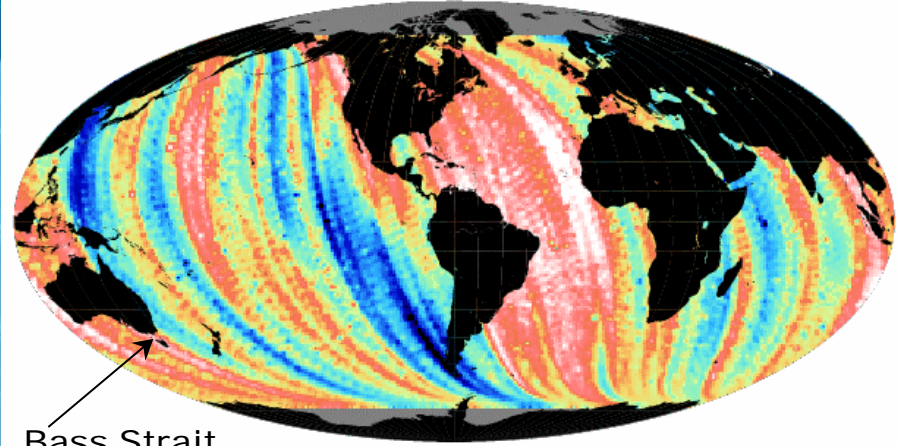
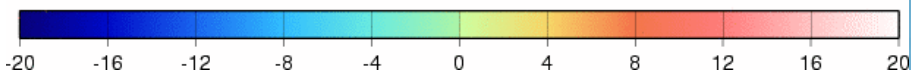
CNES POE (JGM3, SLR+DORIS) - JPL Reduced Dynamic (GRACE, GPS)



Radial orbit differences (mm)

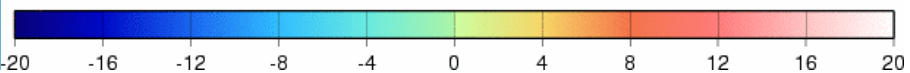


Ascending tracks



Bass Strait

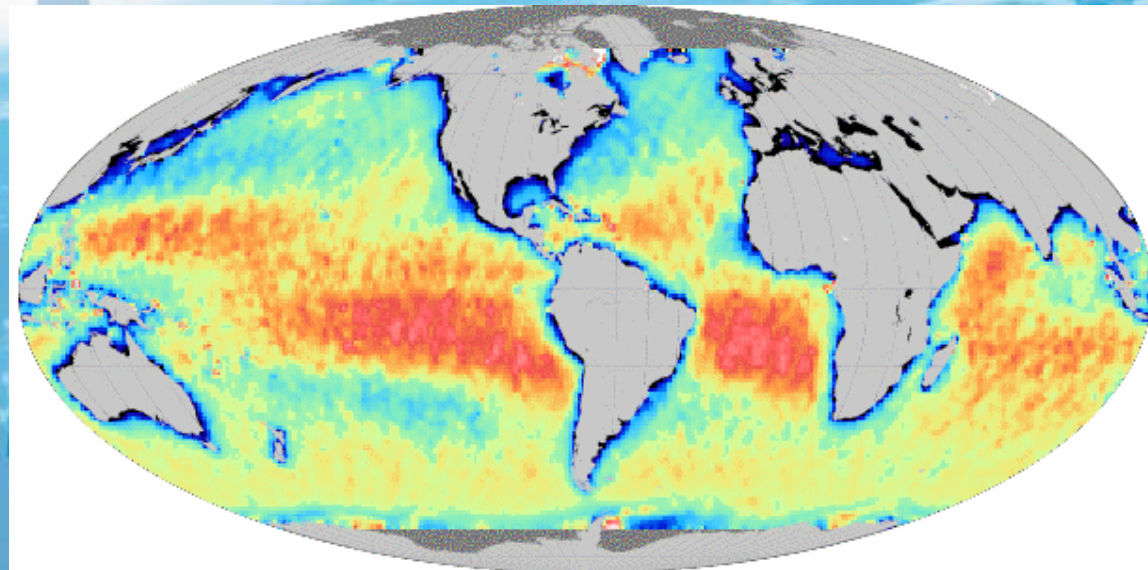
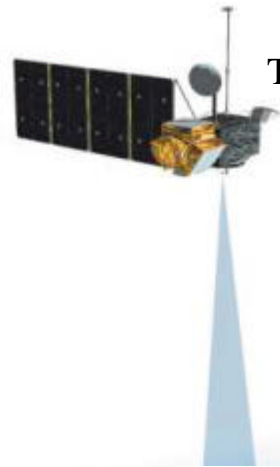
Descending tracks



JMR - TMR During Formation Flying Phase

Jason-1 GDR: Cycles 1-21

T/P MDGR + TMR Drift Correction: Cycles 344-364



mm

