



Eastern Mediterranean Altimeter Calibration Network - eMACnet

Project Status Report

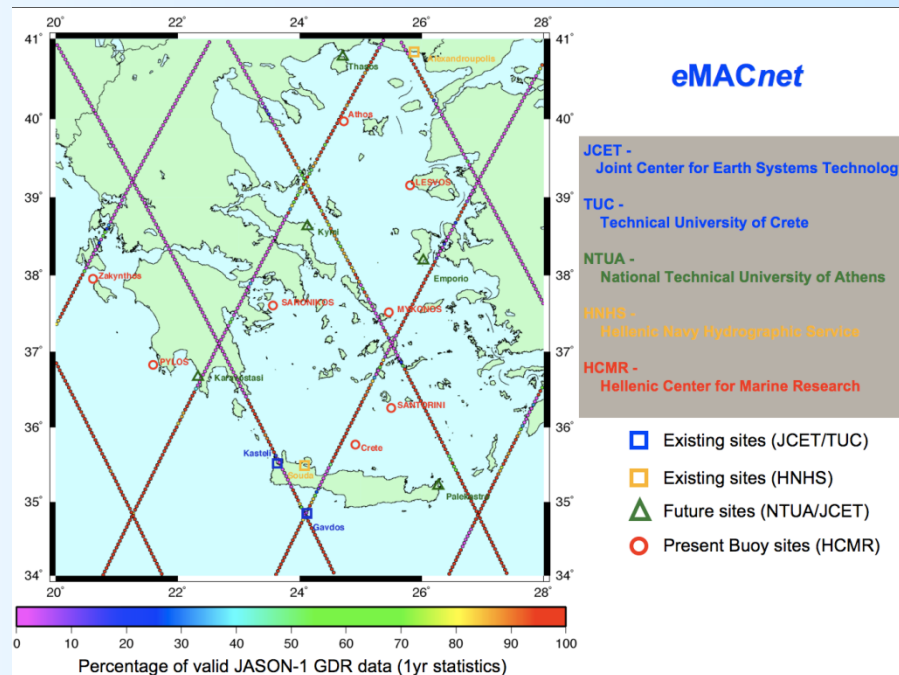
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and

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Ocean Surface Topography
Science Team Meeting
Nice, France
November 10-12, 2008



GODDARD SPACE FLIGHT CENTER
Erricos C. Pavlis, JCET/698



OSTM™ and a
GP acronym
are needed to use the logo.





Consortium News



- Consortium expanded to include three new groups:
 - The National Technical University of Athens (NTUA)
 - The Hellenic Navy Hydrographic Service (HNHS)
 - The Hellenic Center for Marine Research (HCMR)
- New installations ongoing and planned:
 - S. Pelopponese, KARAVOSTASI (NTUA, operational)
 - Back-up float TG at KASTELI (NTUA) - Jan. '09
 - East Crete site, TG + GNSS receiver (NTUA) - Jan. '09
 - Three more sites in the Aegean in early '09 (NTUA)
- Buoy sites (HCMR+JCET+NTUA):
 - GNSS & OBP addition to 1-2 existing HCMR buoys (2009-10)





Present status - 1

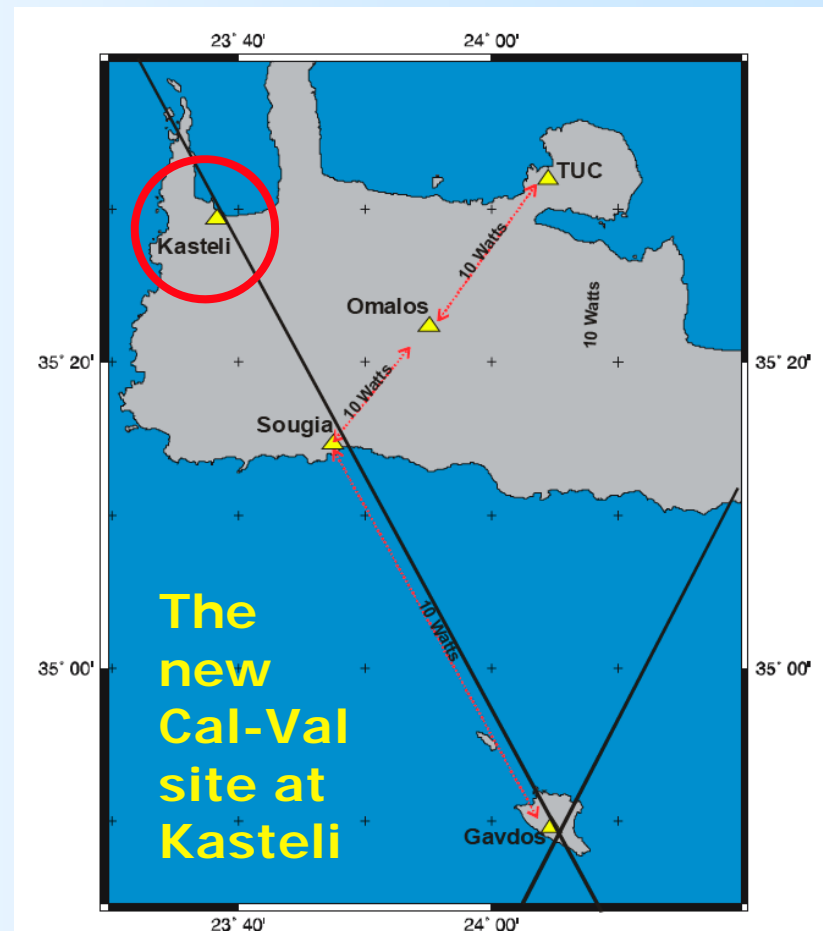


- **Operations**

- With the completion of the new port and jetty the main site KARAVE will move in Jan. '09 to final location with GPRS data access

- **Installations**

- **New site at KASTELI:**
 - **GPS** (*Leica GRX1200Pro GG*)
 - **RADAR TG** (*VegaPuls61*)
 - **MET3** (*Paroscientific*)
 - *GPRS data link*
 - *Float TG (OTT) [Jan. '09]*





KASTEI site

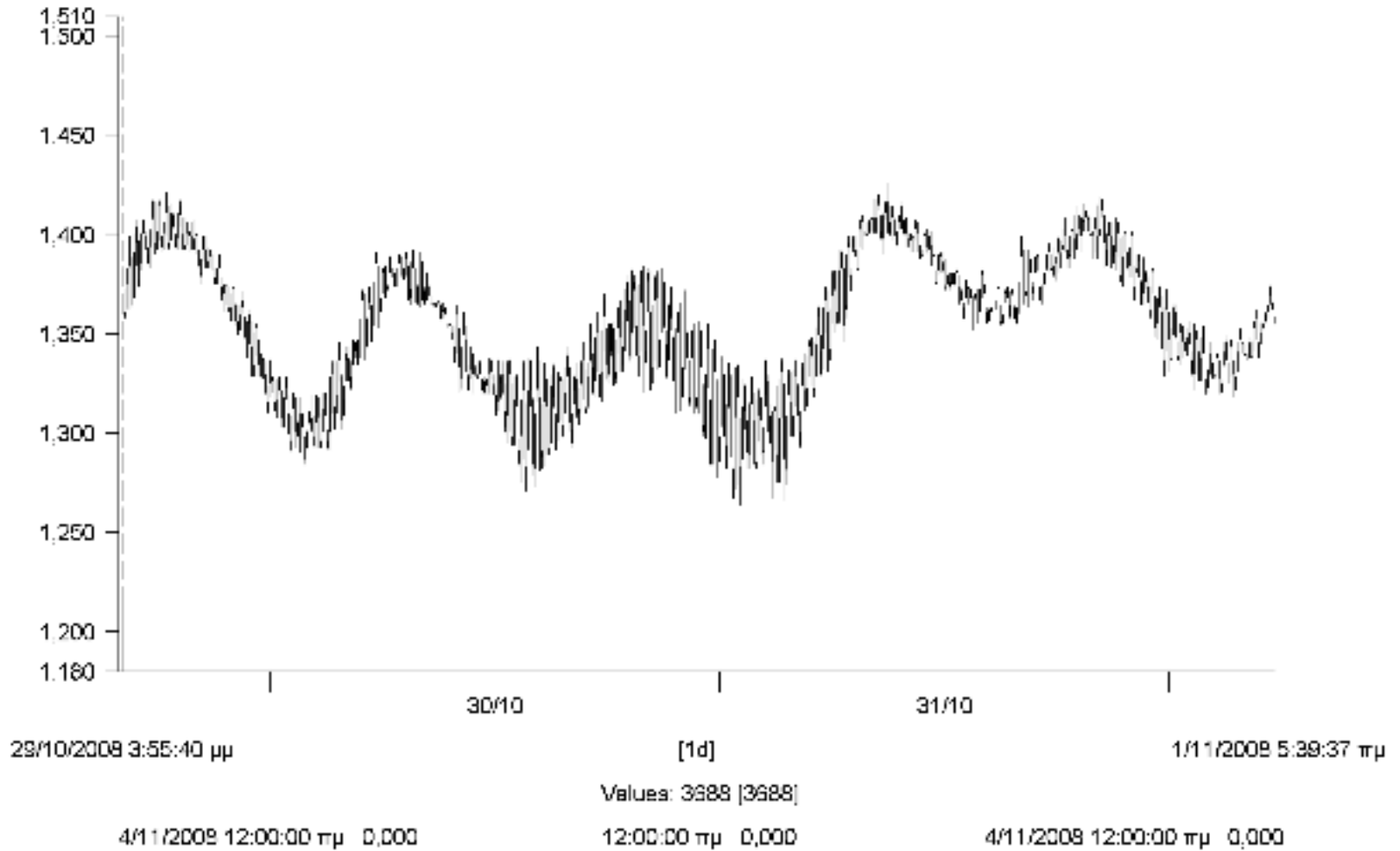


QuikTraq™ and a
GPS receiver
are needed to use the sensor.



Region: » All Stations «
Meas. values

Station: KARAVOSTASI
Sensor: 0001





JASON-1 Calibration (GDR-C)



Coordinates for GVD5 based on ITRF2005 (1 year of data)

ITRF2005 Orbits (GSFC, Luthcke et al.)

JMR corrections (Desai model)

New Parametric SSB (ITRF2005-compatible)

Revised Gavdos GVD5 Height: 21.7805 m

Previous Gavdos GVD5 Height: 21.7620 m

Δh Correction to previous Bias : -0.0185 m

Δh Correction due to TRF change: 0.0246 m

Correction due to Seasonal ΔSLA : -0.0080 m

Δh due to ΔGDR from v.B to v.C (cycle dependent)

REVISED JASON-1 BIAS: 107.5 \pm 8 mm



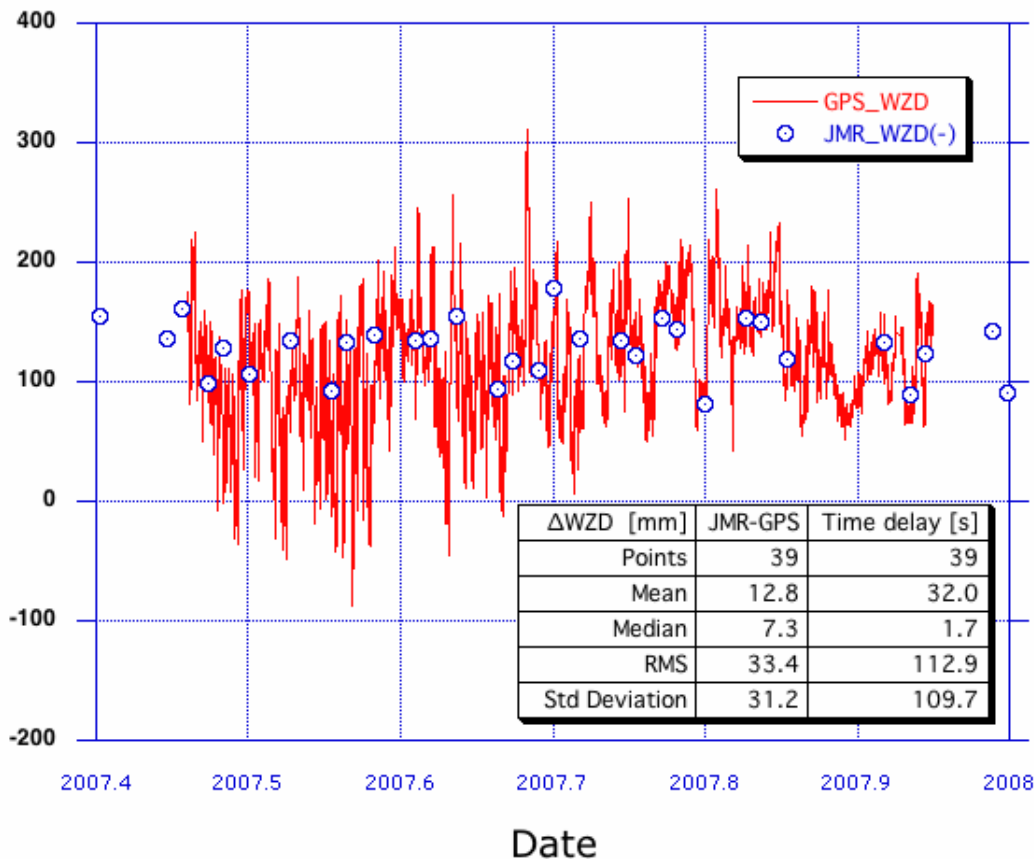


JASON-1 Calibration (GDR-C)



JMR Calibration with Ground GPS

GPS & JMR WZD over Gavdos (GVD5) [mm]



Comparison of GPS-derived WZD at GVD5 (30 min averages) with JMR values obtained from GDR-C release.

Comparison point is closest to the GVD5 location.

Time delay provides a measure of how close in time were the two measurements made.

met_all_gvd5_2006-8



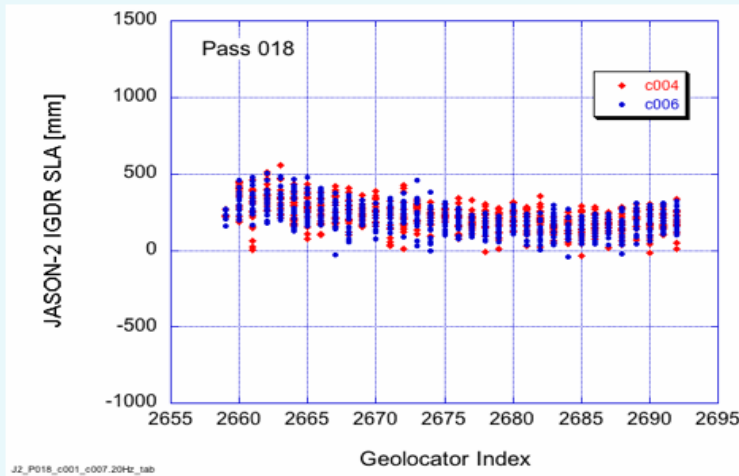
OSTM/JASON2

OSTM/JASON2





JASON-2 Gavdos Calibration (Cycles 1 - 9)



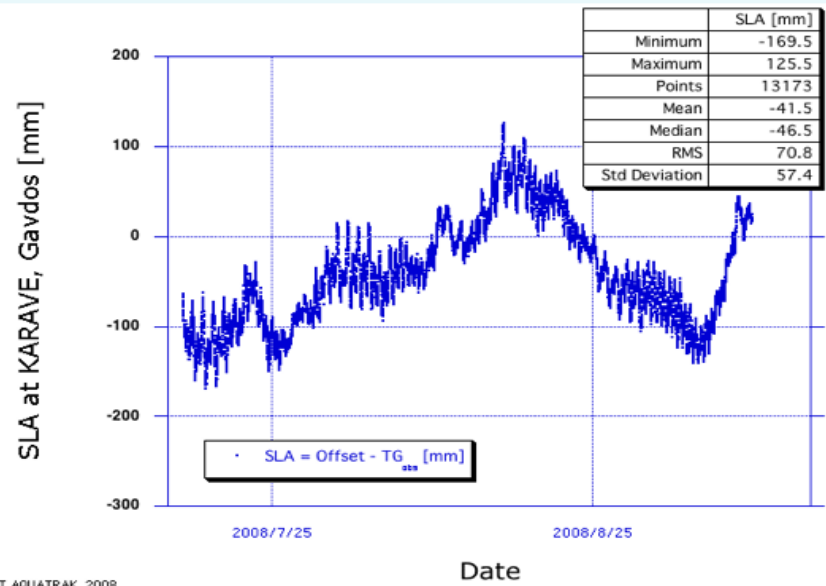
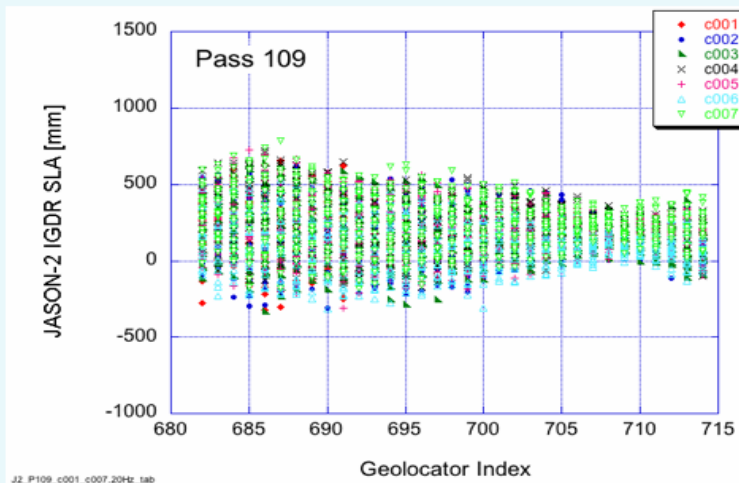
Preliminary Bias Results for JASON-2

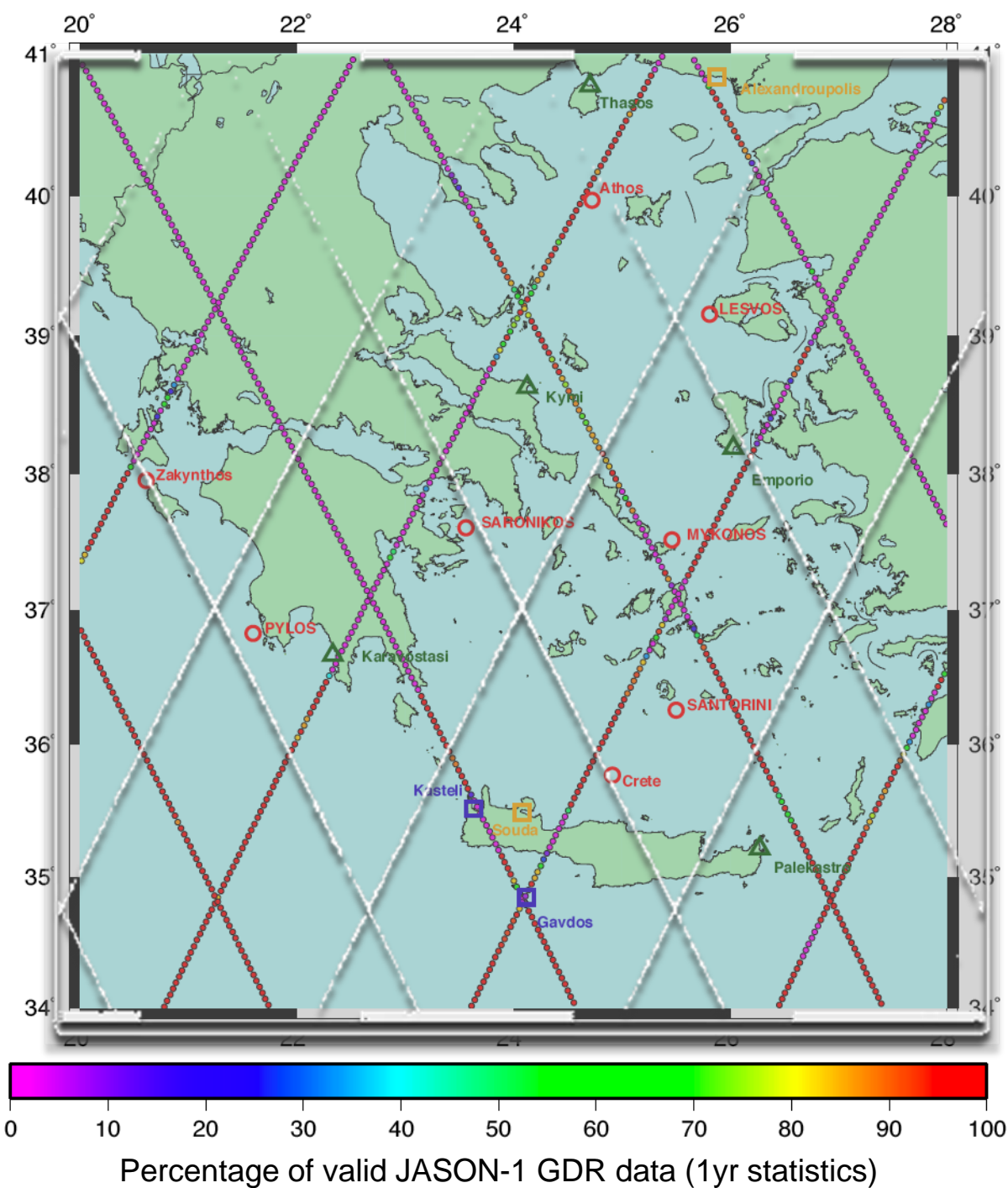
Pass 018: 2 cycles 258.0 ± 10 (formal)

Pass 109: 7 cycles 229.6 ± 47 (formal)

Weighted mean of 9: $234.6 \pm 16^*$ mm

* Statistics of mean based on pass 109 only





eMACnet



JCET -
Joint Center for Earth Systems Technology

TUC -
Technical University of Crete

NTUA -
National Technical University of Athens

HNHS -
Hellenic Navy Hydrographic Service

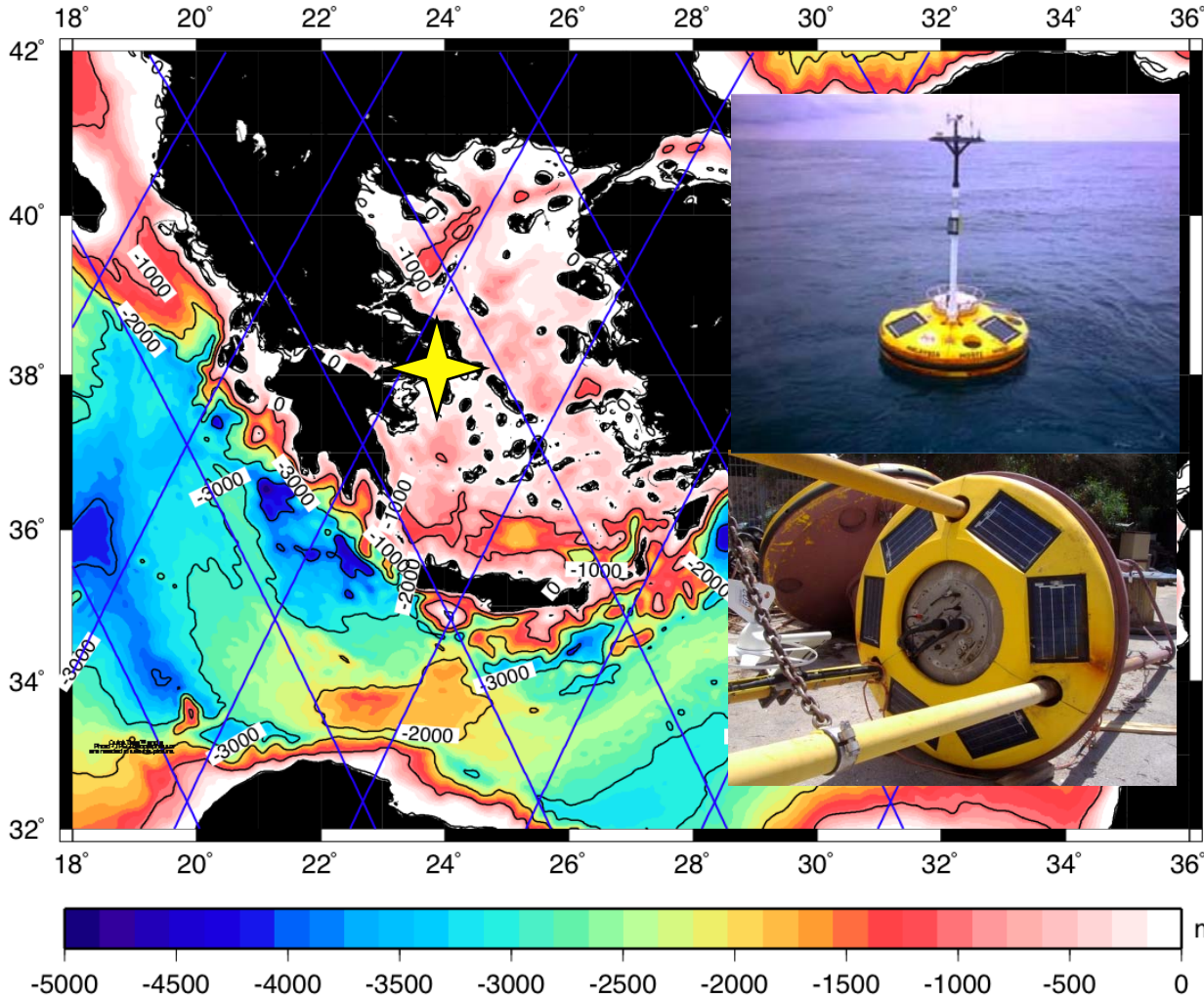
HCMR -
Hellenic Center for Marine Research

- Existing sites (JCET/TUC)
- Existing sites (HNHS)
- △ Future sites (NTUA/JCET)
- Present Buoy sites (HCMR)

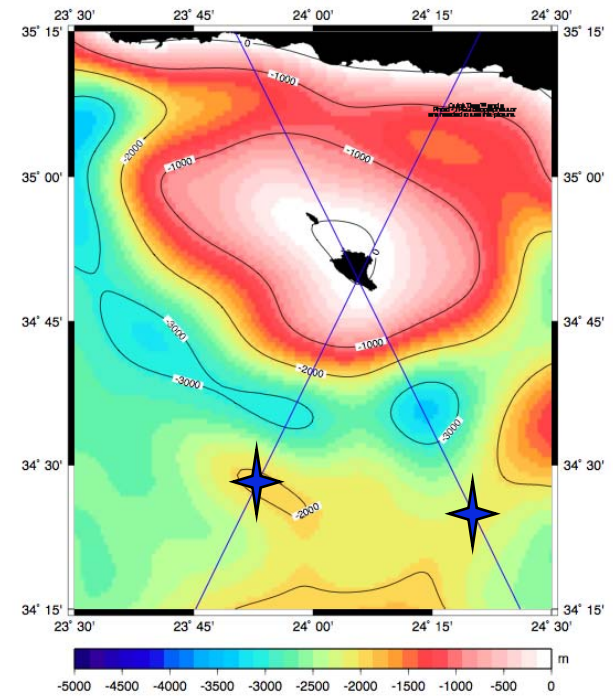




Bathymetry of the Eastern Mediterranean



Bathymetry around Gavdos



Possible buoy locations





Future Plans / Next Phase



- Finalize KASTELI installation this year with GPRS link, internet, and EUMETSAT DCP uplink (TG & GPS)
- Relocate KARAVE and enable data collection using GPRS link and internet (TG & GPS)
- Complete installations at THASOS, PALEKASTRO, KYMI and CHIOS by early 2009 (NTUA has all instruments purchased already)
- Complete re-analysis of GPS data with ITRF2005 back to 1997
- Extend the calibration series with the new GDR-C for JASON 1 & 2
- Pursue redeployment of mobile SLR (FTLRS?) at Dionysos satellite tracking station (NTUA) in the next 1-2 years (will cover all tracks!!!)

