



Joint WMO-IOC Technical Commission
for Oceanography and Marine Meteorology

DBCP Pilot Project for High Resolution SST (PP-HRSST)



WMO



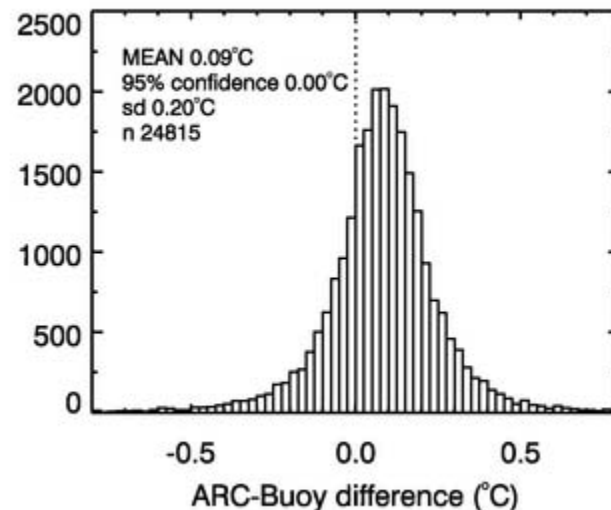
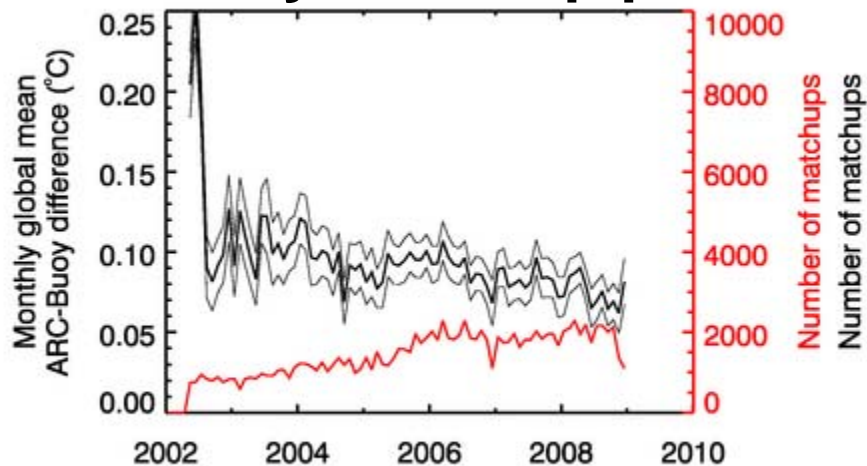
IOC/UNESCO

Monthly global area avg ARC - buoy diff and monthly number of ARC/buoy matchup pairs

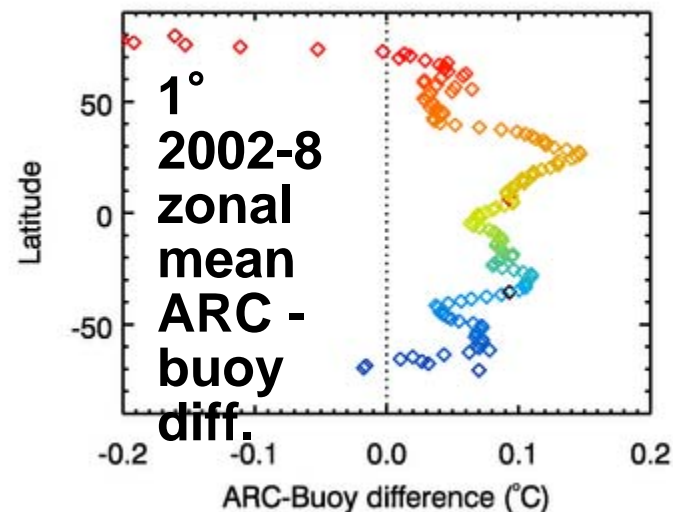
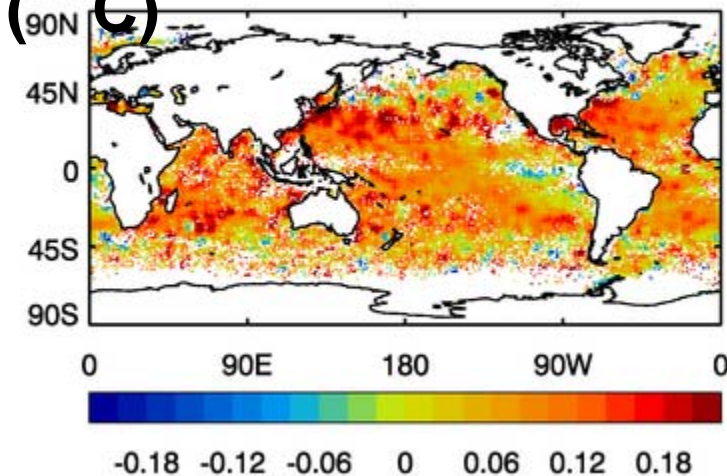
Distribution of ARC - buoy difference (2002-8)

ARC:
D3
SST_{0.2m}

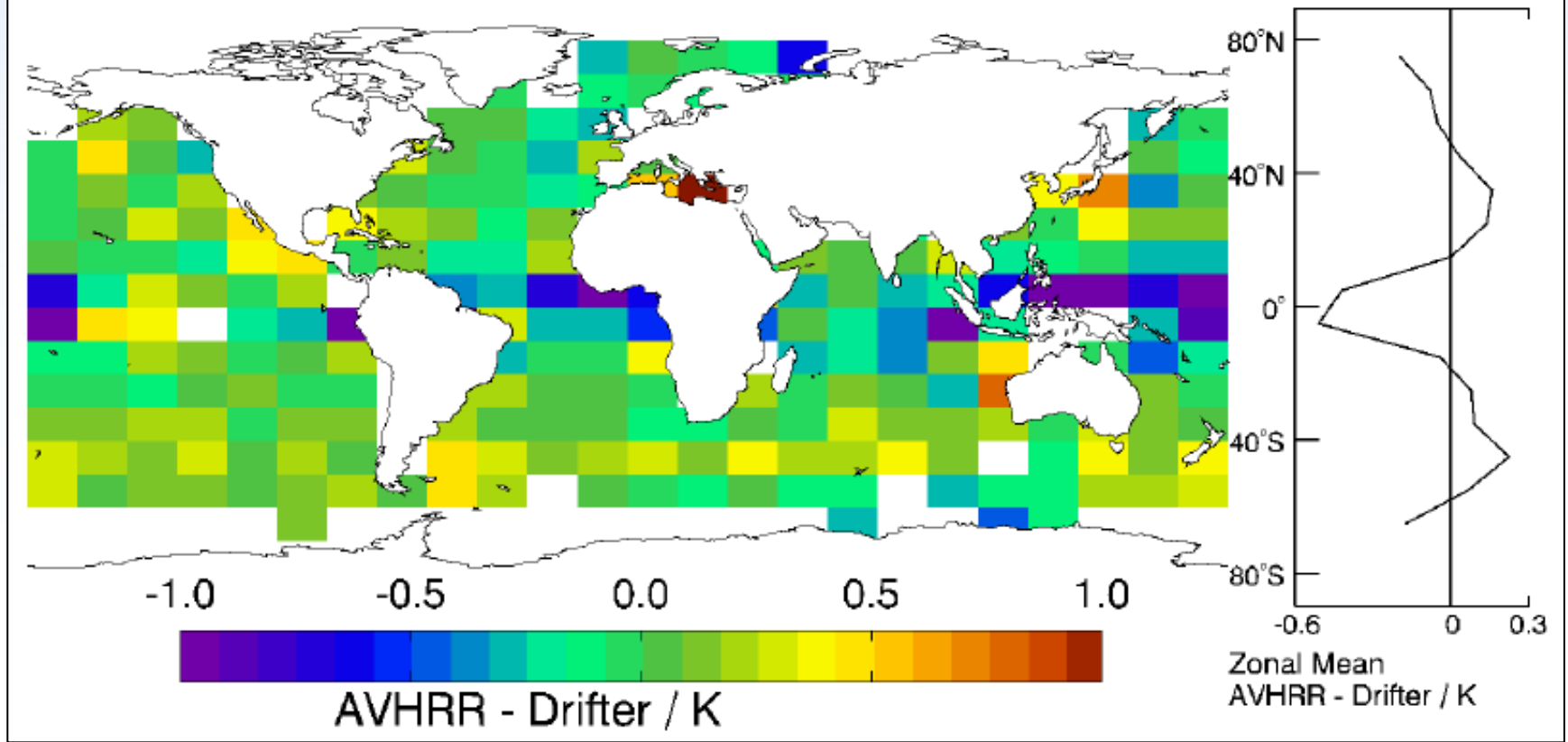
From
early test
phase



Smoothed 1° 2002-8 avg ARC - buoy diff (°C)



Driving down regional biases in satellite SST



GHR SST recommendations agreed in 2008 + 1

- (1) Make hourly reporting universal
- (2) Report design depth in calm water to ± 5 cm
- (3) Report of geographical location to ± 0.5 km or better
- (4) SST accuracy to ± 0.05 K or better, resolve 0.01 K
- (5) Use NetCDF CF-1.3
- (6) Report of the time of SST measurement to ± 5 minutes
- (7) No requirement to report on or close to integer hours
- (8) *(Extra) Report estimate of absolute accuracy*

At DBCP-XXVI Oban – issues for HRSST

- Drifter SST clearly critical to satellite SST retrievals!
- GHRSSST have expanded a DBCP draft proposal to propose a new joint DBCP-GHRSSST pilot project
 - At least matched funding from GHRSSST
 - 50 drifters upgraded to HRSST reporting
 - Upgrade cost ~\$1k
 - E-SURFMAR ahead of the game – deploying HRSST-1 drifters
 - Will require reporting in BUFR to achieve required resolution
 - Target area to be decided:
 - General distribution?
 - Specific area, e.g. Barents Sea?
- PP-HRSST approved at DBCP



Draft Terms of Reference of the Steering Group

- The SG will work closely with the GHRSSST to:
 - agree and review instrumentation standards
 - identify optimal target ocean areas that will be likely to deliver a high number of matchups and demonstrate the impact of drifter HRSST within the project lifespan
 - secure sufficient funding to allow the project to proceed expeditiously
 - work with buoy agencies and manufacturers to allow a sufficient number of upgraded HRSST drifters to be procured and deployed in the chosen target area(s)
 - ensure that HRSST data flow onto the GTS and are clearly identified as HRSST in associated meta-data and/or bulletin headers
 - assist in the analysis of the impact of the data on satellite SST retrievals
 - report to the Panel at its annual sessions and in the published literature
- The SG chair and vice chair will be appointed by the Panel, and will recruit other members of the team, drawn from buoy operators, manufacturers, the scientific community, GHRSSST, end-users and other interested parties.
- The SG chair will convene annual meetings of the SG, will communicate regularly with SG members by e-mail, and will report annually to the Panel.

Draft Work Plan Year 1 : Planning

- Form SG and agree on working procedures
- Recruit additional members as required, including key players from within the GHRSSST
- Review progress to date with Metocean HRSST-1 and HRSST-2 drifters
- Ensure that proposed technology solutions adequately address GHRSSST requirements
- Identify the cost of an HRSST upgrade and identify buoy operators and manufacturers willing to participate in the PP
- Work proactively with GHRSSST and buoy operators to define and cost a practicable PP plan
- Present this plan to the annual GHRSSST science meeting (June 2012) and secure GHRSSST financial support
- Draw up a detailed costed implementation plan for approval at DBCP-XXVIII

Draft Work Plan Year 2 : Implementation

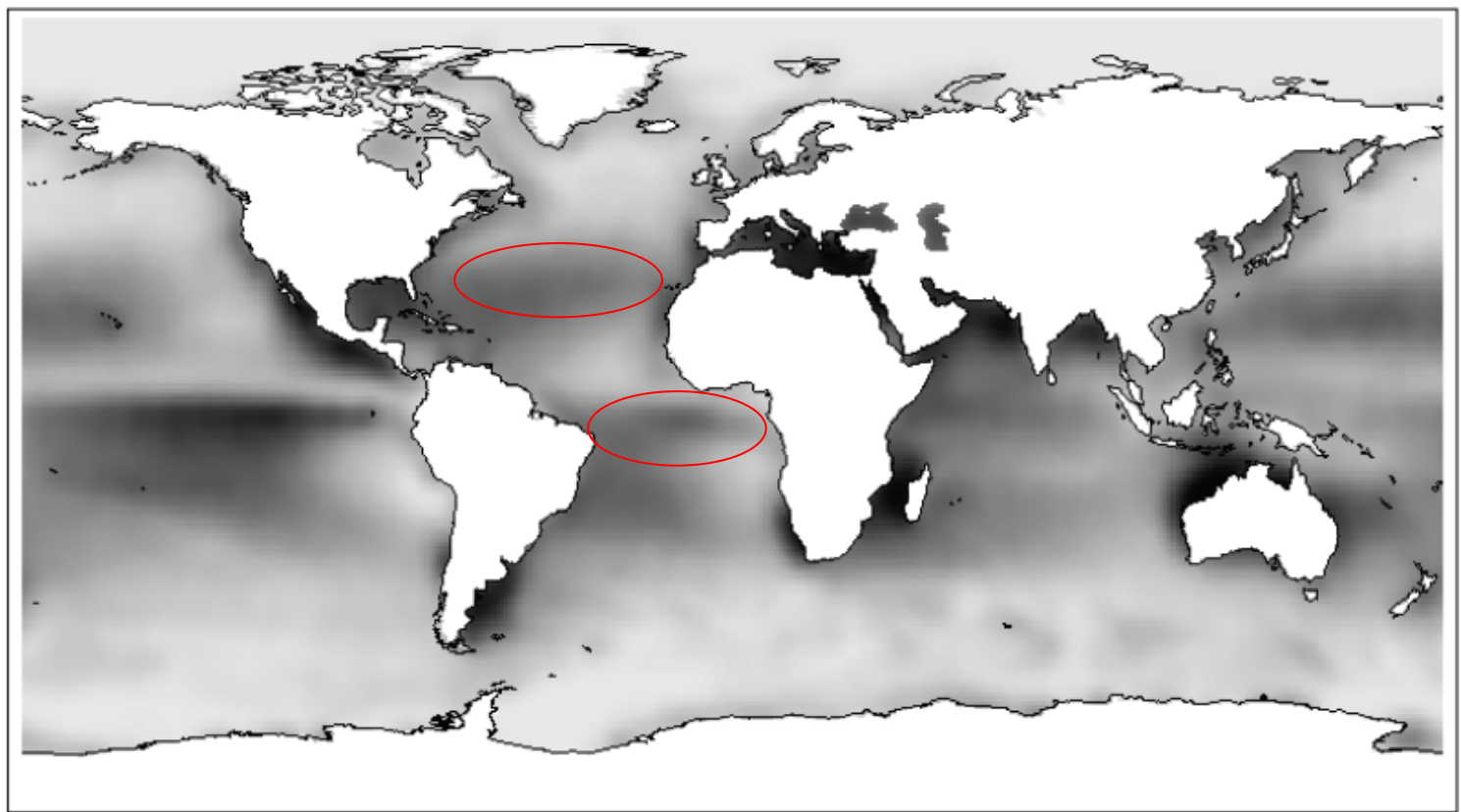
- Agree a deployment schedule with buoy operator(s)
- Procure HRSST upgrades
- Oversee calibration/recalibration protocols
- Implement BUFR encoding for HRSST data
- Monitor buoy deployments, data flow and data ingestion by GHRSSST
- Present at GHRSSST science meeting (June 2013)
- Make interim report to DBCP-XXIX

Draft Work Plan Year 3 : Analysis

- Continue with deployments as far as possible within budget
- Attempt recovery of failed or failing buoys for analysis and sensor post-calibration
- Review technology and data-flow performance and make recommendations as appropriate
- Work with GHRSSST to identify impacts and shortcomings of PP
- Agree recommendations for future activities, if any
- Report to GHRSSST science meeting (June 2014)
- Final report to DBCP-XXX
- Work with GHRSSST on a journal article
- Disband

- Need to identify areas that will provide large number of matchups
- These areas to be of interest to buoy operators as they will pay most of the cost
- PP-HRSST funds being used to help Met Office to purchase high accuracy HRSST-2 drifters
- Need to get feedback from GHRSSST asap
 - Problems with receiving BUFR
- Need to get funding from GHRSSST

Cloud probability and target areas



Prior probability of cloud

