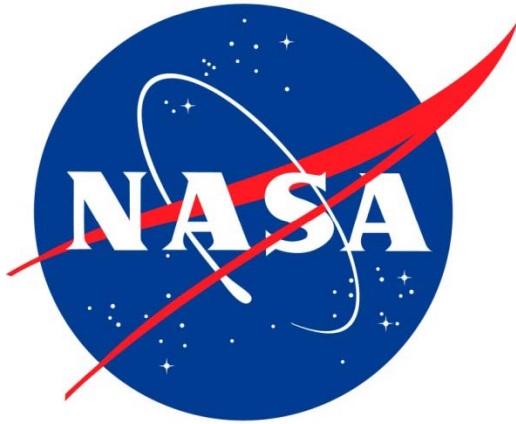


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*The Florida State University*

IOVWST 2011  
1



# Mission Concepts

- TROPSAT – Milliff et al.
- Dual Frequency Scatterometer – Rodriguez et al.
- XOVWM – Rodriguez et al.
- Flux Mission – Bourassa et al.
  - Note – instrumentation requirements similar to TROPSAT
  - DFS with AMSR2 would also have the desired instrumentation
- Others??
  - Mission to look at BL and free atmosphere mixing



# Tasks/Assignments

- What can be done to help what might be a golden age of scatterometry (and SAR)?
  - Access to validation data and uncertainty information (for L2)
    - Requires input from data providers
    - Scatterometer Volunteers: Bourassa
    -



# Tasks/Assignments

- What can be done to help what might be a golden age of scatterometry (and SAR)?
  - A repository of information on data sets is needed (L2, L3, and L4)
    - Should be routinely updated
    - Include information about all vector wind products
      - Requires input from data providers and users
    - Include user advice document by Milliff et al.
  - Volunteers:
    - Scatterometer: Stoffelen, Bourassa & PO.DAAC
    - WindSAT :Mike B.
    - SAR: Don
    - Altimetry??: nix
    - Others?



# Tasks/Assignments

- What can be done to help what might be a golden age of scatterometry (and SAR)?
  - Update user advice document by Milliff et al.
    - Volunteers: Milliff et al.
  - Wiki or other approach to provide comment
    - Volunteers: PO.DAAC



# Tasks/Assignments

- Intercalibration (Doing it, rather than making comparison data available)
  - Backscatter vs winds, ice, and land calibration
  - Ku-band
    - Volunteers: Rodriguez and Wentz
  - C-band
    - Volunteers: Stoffelen, ??
  - Ku and C-band
    - Volunteers: all of above
- Stability
- Do we want to minimize global error, or minimize error at each direction?
- Stress – training and validation data
  - Requirements?
  - Volunteers: Wentz, Rodriguez, Bourassa



# Tasks/Assignments

- Justification/optimization of phasing of orbit studies
  - Need to develop metrics for optimization/harmonization of orbits
    - Metrics should consider diurnal and inertial cycles
    - Should not be based on mean return time
    - Should consider the possibility of premature end of missions
  - Need for coverage should be demonstrated
  - Volunteers:



# Additional Tasks

- Draft a letter thanking ISRO for their great international cooperation with regards to the sharing and product of scatterometer data.
  - On behalf of IOVWST
  - Volunteer:
- Contributions to surface flux capabilities
  - Input to GCOS and WOAP (and other acronyms)
  - Interest in reviewing input?
- Are there any other suggestions?





## Issues (page 1 of 6)

- How do we validate spatial and temporal derivatives of the winds?
  - Sensitivity to currents could be a big player in ASCAT vs QSCAT characteristics for curl and divergence
    - Curl is more sensitive to currents than divergence.
    - Or is it something else going on (e.g., rain, SST gradients, noise that is very different from assumed)?
      - Who will investigate?
- Should we endorse work on current estimates from SAR and Doppler Scatterometer?
  - Is long-wave orbital velocity an issue?
  - Can we get wave information too?
    - Orbital velocity is related to significant slope.



## Issues (2)

- Last year we said
  - One outstanding issue for tropical cyclone retrievals is upwind/cross-wind Vpol calibration for SAR vs scatterometer retrievals for Hpol. Solving this problem will be of use for missions that have been proposed, such as the Dual-Frequency Scatterometer. A potential approach is the direct experimental observation of the H-pol model function, which will minimize the reliance on polarization scaling from V to H-pol.
- Has Stephen Fraiser answered this question? What more needs to be done? Is more intercalibration needed to remove biases?



## Issues (3)

- Does the IWRAP procedure match satellite GMFs for ranges where we have confidence in the GMFs?
  - U10 < 20m/s are less certain with this approach
  - What aspects of the IWRAP GMF are we considering?
    - Can we use this information to reduce biases mentioned on last page?
- Can IWRAP observations be used to assess difference in the calibration?
  - Can the scale influences be examined?
  - Rain modifications of backscatter are of interest and in many applications to be avoided or worked around
  - Other considerations such as currents?



## Issues (4)

- Can we introduce uncertainty calculation into the model function
  - Calibration of backscatter and winds are different but closely related issues
    - Ad Stoffelen is addressing this issue
  - Kpm is another important consideration in this
    - What is else governing noise or error?
  - Consider the difference between point and spatial averages
    - Advantage of QuikSCAT not spinning is this question can be partially addressed
    - Can SAR help with spatial variability within scatterometer footprints?
      - Several km and larger scale



## Issues (5)

- Accuracy of L2b, L3, and L4 data sets
  - We need to assess metric (and goal for metric) for calibration
  - No single metric is sufficient
    - Different applications and different problems will require different metrics
    - Ralph Milliff's review address many of the concepts.
      - More input is welcome!



## Issues (6)

- How can we demonstrate that reprocessing benefits the agency responsible for the processing
  - Validation is part of the process, and the validation should demonstrate the improvement
  - User impacts?????
    - These come from the users –
      - Pass on the information to IOVWST organizing committee and program managers



# Reminders

- Talks and abstracts will be posted next week
  - Let me know if the talk and/or abstract should not be posted
  - Send me updates, or tell me which files to remove
- Next meeting will be in Europe
  - Two sites are being discussed
- A word from Ralph Milliff and Eric Lindstrom

