

IOVWST 2024 Meeting Wrap up

**Input from Mark, Session Chairs, and the
IOVWST organizing Committee**



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Statements

- The IOVWST most strongly recommend the collection of high resolution three dimensional wind data in tropical and extratropical cyclones (currently provided by IWRAP). We recommend making similar observations for temperature and humidity. Ideally surface winds and temperatures would be collocated with some of these data (we recommend collocation). Furthermore, surface stress, surface currents and sub-surface temperature, current and stress would also be collected for these cyclones.
- Efforts to collocate satellite data with these observations should continue and increase
- We most strongly recommend practices that will lead to sound physical modeling of the air/sea transition zone, and sound physics for interpreting remote sensing of these interactions.
 - Proposed missions such as ODYSEA, DoppSCA, Harmony and Butterfly are examples of missions that would help achieve the above goals.
 - Best practice includes transparent calibration method for these observations, and where possible intercalibration checks with other observations.
- We are concerned about the calibration of wind sensors in the TAO array having different fits to collocated satellite data than other buoys. We strongly recommend that there is improved two-way communication regarding changes in buoys and other in situ platforms.



Related Action #1: Short Paper on Observing System Needs for Cyclones

- Discussion on Thursday led to the suggestion that we publish a short paper on the needs for observations in cyclones (tropical and extratropical)
 - While the central focus is presumably aircraft observations, we will tie in observations from satellite, other in situ platforms, the surface and the sub-surface.
 - We need someone to be the lead author ('to herd the cats')
 - This person is _____.



Related Action #2: Invitation to NDBC

- The IOVWST will invite someone senior at NDBC to attend our next meeting and explain the change in calibration.
 - Someone will identify the people to invite. This some person is _____
 - Mark will make the invitation
 - Keep in mind the next meeting will be in Germany. We might have to deal with a presentation over Zoom.



Applications for High Resolution Winds and Currents

- People working on ODYSEA and DoppSCA would benefit from knowing requirements for science problems and applications for high resolution surface winds and currents.
 - Someone(s) to be identified today will be tasked as the point of contact for this information, and to record the information
 - This information includes the question/application and the observation requirements:
 - Sampling in space and time
 - Spatial sampling or resolution
 - Temporal sampling or resolution
 - Uncertainty at specific space and time scales
 - Other important factors
 - If these points (or most of them) are known, send them to the point of contact
 - This point of contact is _____



List of Wind Datasets

- At the prior (on-line) IOVWST meeting, Mark was asked to collect and post information about and links to wind-related data sets.
 - That is finally progressing with a lot of input to late for me to make use of the information for this meeting.
 - Note that one point of confusion is the difference between ‘resolution’ and ‘grid spacing’
 - The IOVWST recognizes that in some cases there will not be a good measure of resolution and that it will rarely be constant in space and time.
 - Estimated ranges for resolution will be provided when known
 - In the absence of this information on resolution, the resolution will be listed as ‘unknown’
 - Mark will post this information this summer
 - Information on new wind products (e.g., MEASURES winds and stresses) will be given to Mark by either the data provider or the data creator
 - Gaps in information, such as scalar wind products, will be solved by the data provider or creator given the information to Mark



Improved Communication

- Publication in the *Annals*
 - Nick Pizzo will provide guidance on how to do this
 - The wide communication and DOIs will be useful in multiple ways
- Arrange on-line updates for working groups (or other groups) (Mark)
 - Team members to recommend groups
 - Set up Slack and Google Drive for sharing
- Mark to share links to Special Issues that are ongoing in Remote Sensing



Data Sharing (Dealing with US Complications)

- Mark will legally obtain the data from Chinese instruments through European collaborators (KMNI).
 - The data trail will be noted in the metadata (must give KNMI credit)
- Mark will reformat these to match the other data sets that he shares, and will share these data sets
 - Updates will NOT be NRT!
 - The updating will be automated, but Mark can't promise 24/7 availability or updating.
- How do we learn more about these data sets?
 - Would a virtual meeting help?
 - Are planned non-US meetings sufficient
 - Other approaches?



Coastal Products

- Information on Coastal products will be given to Mark if these products are not on his list.
 - Makers of these products will check to see if their products are on this list within two weeks of notice that the list is public (or could ask Mark for the list).
 - If the product is not on the list, they will give the information to Mark within one week.
- The science team will collaborate on
 - Verification data in the coastal zone; in-situ, campaign, RS or SAR
 - Comparison of satellite products
 - RFI and structures are a concern, particularly near the coast



Collaboration with in situ networks

- More clean and direct communications regarding changes in observing platforms
 - Lot of discussion here regarding buoys
- Working together to get collocated observations
 - Especially in extreme conditions
 - Importance for not just winds, but a wide range of variables for fluxes, stresses, etc.
- Improved ways of comparing different platforms
 - Understanding what the measurements are and assumptions with them
- Mutual discussion of what needs to be included in the new aircraft (C-130s) in terms of observations



For the Next Meeting:

- Send Mark (or another organizing committee member) requests for tutorial topics
- Send Mark (or another organizing committee member) requests for more focused session topics
- Pick a meeting date (Mark and Stefanie)
 - We need input on conflicts. Send these to Mark
 - We will be NASA a deadline of Dec. __ to inform us of ODYSEA-related conflicts.
 - We will announce the meeting by Dec. __, 2024
 - The location will presumably be Darmstadt, Germany
 - Investigate obtaining funding to help Students/Early Career Scientist attend
- Remember to organize the meeting dinner (Stefanie).
 - Mark to remind Stefanie in a timely manner
- Early career/student get together?
- Invite select in situ experts (e.g., NDBC) to improve discussions and communications



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