

Scatterometer High Winds Workshop
December 9-10, 2015
National Hurricane Center
Miami, FL

Background: The need for this workshop spawned from ongoing discussions during the International Ocean Vector Winds Science Team (IOVWST) annual meetings. Over the past several years a concerted effort has been mounted toward consistent generation and validation of scatterometer wind datasets. While much progress has been made in understanding and interpreting the scatterometer response over a large portion of the wind speed range, the extreme winds (> 30 m/s) remains less understood.

Several objectives of this workshop include addressing the following questions:

- How to best develop and validate high wind retrievals?
- What are the best sources of high wind "truth" and what are they really telling us?
- What's really happening at the air-sea boundary in these conditions?
- How to reconcile spatial resolution of the measurements with the spatial resolution over which the winds are actually occurring?
- What are the validation approaches and methodology for high winds and should standards be established?
- What are the next steps needed to advance our understanding of what's going on?

The expectations of this workshop are not to solve all the open questions within two days, but to at least identify the issues and reach some sort of consensus on a path forward to resolve.

Wednesday – 09 December 2015

09:00

- Welcoming remarks and introduction (P.Chang/Z.Jelenak)
- NHC perspective on high winds (J.Franklin, M.Brennan)

09:30

- Scatterometer geophysical model function (GMF) summary - Brief overview of current GMFs being utilized (retrieval approach, validated wind ranges, etc.)
 - GMF introduction (Z.Jelenak)
 - KNMI approach (A.Stoffelen)
 - JPL approach (B.Stiles)
 - Remote Sensing Systems approach (L.Ricciardulli)
 - NOAA approach (Z.Jelenak)
 - IWRAP (J.Sapp, S.Frasier, J.Carswell)
 - SAR (R.Foster, A.Mouche)

- Discussion

12:00-13:30 Lunch

13:30

- High wind “truth” sources (strengths, weaknesses, what are they really telling us?)
 - GPS Dropsondes (R.Foster, C.Fairall)
 - SFMR (J.Carswell)
 - HWind (M.Powell, M.Kozar)
 - Others sources?
 - Discussion

16:30

Summarize philosophical discussions topics from the day

Thursday - 10 December 2015

09:00

- Review of previous day
- The ocean surface
 - What’s really happening down there? (D.Vandemark, J.Edson, J. Stopa)
 - Discussion

11:30 – 13:00 Lunch

13:00

- Scatterometer retrievals revisited – how high a wind should we expect to retrieve from current satellite scatterometers
 - Spatial scale considerations
 - Frequency/polarization sensitivities
 - Other limiting factors?
- Next steps
 - How should we validate current/future high wind algorithms
 - Are there other validation sources/approaches that should be investigated or pursued further
 - Field experiments that could/should be leveraged?
 - Do we need to improve our understanding of the physics at the air-sea boundary and how?
 - Identify outstanding issues and possible resolution
 - Implications for future scatterometer systems
- Wrap-up and assignments

16:00 adjourn

Participants:

- Paul Chang (y)
- Zorana Jelenak (y)
- Suleiman Alsweiss (y)
- Joe Sapp (y)
- Jim Carswell (y)
- Thomas Meissner (y)
- Lucrezia Ricciardulli (y)
- Ernesto Rodriguez (y)
- Ralph Foster (y)
- Ad Stoffelen (y)
- Marcos Portabella (y)
- Julia Figa (y)
- Doug Vandemark (y)
- Jim Edson (y)
- Mark Powell (y)
- Michael Kozar (y)
- Mark Bourassa (y)
- Alexis Mouche (y)
- Michael Brennan (y)
- James Franklin (y)
- Steve Frasier (y)
- Chris Ruf (y)
- Bryan Stiles (y)
- Heather Holbach (y)
- Justin Stopa (y)
- Seubson (Golf) Soisuvann (y)
- Faozi Said (y)
- Jun Zhang (maybe)
- Jim McFadden (maybe)
- David Richter (maybe)
- Pete Black (maybe)
- Svetla Hristova-Veleva (maybe)