Meeting Conclusion
- Follow up Topics -

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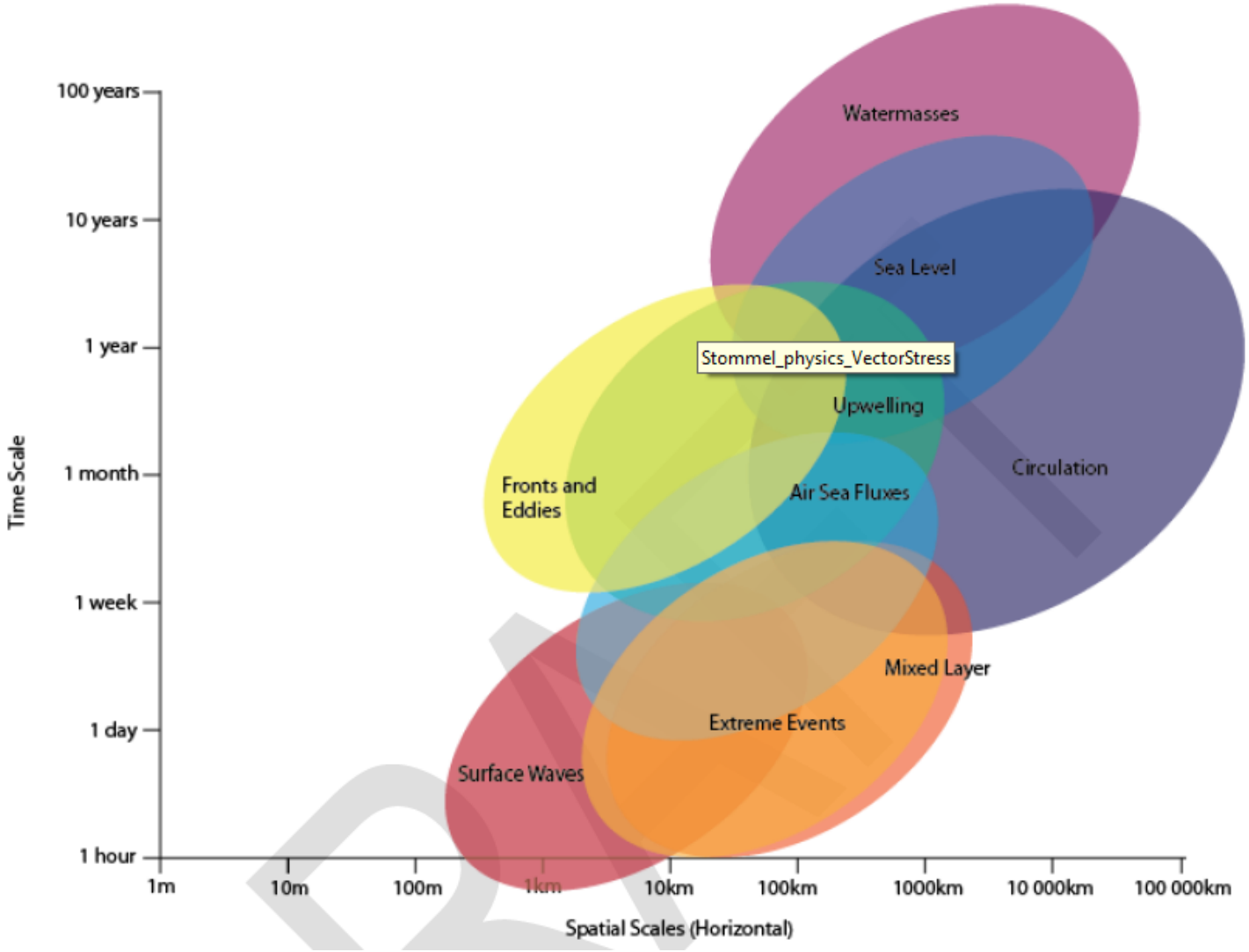
Better Outreach

- We need to provide a more practical message to international organizations:
  - The current and future observing system sides that are used by CEOS don't convey the message we want to convey about the needs for the observing system
  - Please send me (Mark) the observing system requirements for your application or the phenomena that you are investigating
- We need much better outreach to winds users outside the IOVWST
  - Niklas Schneider suggested that an annual workshop could train students (and perhaps postdocs) about using winds and other satellite data
    - We need to work with Eric and other agency representatives to develop a suitable workshop
  - Perhaps we could work more with David Moroni to provide more advice to users of winds data (make available from data providers)

Example Needs for Stress



- Essential Climate Variables (ECVs) are being described in terms of the space-time scales of related processes
- We need more examples to add to this chart.
- Please send suggestions to Mark

Winds and Currents

- The IOVWST strongly supported the need for higher resolution winds and collocated & coincident surface currents
- The DopplerScat measurements showed a tremendous value, measuring winds and currents from aircraft
  - Revolutionary for submesoscale oceanography
- Global coverage at the scales proposed for a Winds and Currents Mission were discussed at length and strongly supported

- Additional new capabilities for winds, CYGNSS and COWVR/ORS-6 will also be followed with interest
- The community also welcomes dual and rotating fan beam scatterometers, any combination with wave measurements and an extended spatial and temporal coverage (ScatSat-1, CFOSAT, HY2B, MetOp-C, WindRad, OceanSat-3, HY2C, ..)

Make a Better Gridded Product

- One international group (CGMS) would like us to produce a suite of better gridded products
  - We has some good suggestions for how to make
  - I suggest that the few of us that are developing new gridded products talk more later

- We also need a rain impact flag to better handle rain-related issues in making the gridded product
  - I'd like to see a rain impact flag that has the same interpretation across instruments (e.g., typically less impact for C-band)
  - Bryan suggests the flag simply be an estimate of the random vector error
    - That would allow users to quantitatively determine what errors are acceptable (other adjustments are needed to deal with rain-related biases)

High Winds Calibration

- The high winds community has requested that the IOVWST develop a plan for high wind speed calibration
  - At the high winds meeting (which included a lot of the IOVWST folks that work on such calibration) it was suggested that we improve the calibration from 17 m/s to 32 m/s before pushing hard on the higher wind speeds.
  - We need to develop a plan
    - One key part is determining the conditions for which buoy data are 'safe' to use.
    - Is there a problem with buoy data for high winds and high seas?
- We need more in situ data for these conditions
- We need to better understand the physics of stress at high wind speeds
- We also need a plan to translate collocations of dropsondes and SFMR to collocations of SFMR and satellite winds and stresses.
  - Ralph Foster points to some issues with dropsonde estimates of U_{10EN}

Winds GMF dependent on SST?

- Differences between C-band and Ku-band instruments can be explained in terms of SST impacts on viscosity (and hence surface roughness)
  - If this reasoning is correct, we would expect the problems to be mostly with Ku-band rather than C-band
- JPL and others would like to hear your opinion about using SST in a GMF
  - With the goal of making C-band and Ku-band retrievals more consistent
  - There is precedence: salinity
- Conclusion: There was strong support for a GFM that accounted for the influences of SST on U_{10EN} (and stress)

Stress from Scatterometry

- We can made a suitable stress product that is valid over a very wide range of conditions
  - Hurricane force winds remain a challenge
- Do we want to (1) develop a stress model function , (2) determine stress from stress equivalent winds, or (3) both and assess which approach is better?
- What do we do about a definition of scalar wind/stress with a vector direction?
  - This is good for turbulent heat fluxes, but
  - Vector stress estimates are off – for low wind speeds
- Jim and Doug will move forward with a stress paper, with input from many here.

Talks will be posted on-line

- The default assumption is that you are willing to have your talk posted on line
  - Exception: If there is a JPL coauthor)
    - Then it will not be posted until I am told that JPL has approved the content for posting
- I can also post posters, but I need to be sent the poster (pdf format please) since I don't already have it.
  - Email the poster to Mark