January 2017 CalVal Workshop Objectives - Gary Lagerloef

Summary: We have several open issues going into this meeting. We should decide which of these we can close during the workshop. For those that remain open, we set a path for closing them with Key Decision Points (KDPs) for adopting the best approach.

Open issues:

1. Latitude (SST) bias.
    a. Is this adequately resolved with V4.0 algorithm?
    b. Is Shannon's air-sea temperature difference / wind-stress model an improvement?
        i. If yes, then we plan to implement it
        ii. If not, what more R&D do we need? (e.g dielectric model or other)
    c. Are we overlooking any orbital errors? (one per rev)
2. Sensor calibration:
    a. Requirements:
        i. Quasi-monthly wiggles
        ii. Stability and fidelity for annual cycle
        iii. Stability and fidelity for interannual and climatic variations
        iv. Inter-calibration capability with SMAP & SMOS
    b. Methods and time scales
        i. Quasi-monthly wiggles: Instrument-only model; appears OK
        ii. Annual to interannual: Ocean-Target:
            1. Hycom
            2. Other ocean model analysis (GOES-5)
            3. Objectively analyzed Argo and other surface data (SIO or ADPRC)
            4. Co-located point measurements.
        iii. It's time to choose the optimal calibration approach
3. Geophysical errors
    a. What have we learned from V4.5.0 and V4.5.1?
        i. SST bias adjustment in the emissivity (ON, OFF)
        ii. Galaxy symmetrization (ON, OFF)
        iii. U/I de-coupling (ON, OFF)
    b. What have we learned from
        i. V4.3 ?
        ii. V4.4 ?
4. Need to study separating sensor drift from geophysical model errors, and how best to apply geophysical corrections.

5. **Revisit Radar calibration stability over the full length of mission?**