A wide variety of ocean, coastal and aquatic domains and application-specific needs, addressing diverse user requirements…

1. Expanding our approaches to encompass big data techniques (e.g. machine learning) to find innovative ways to fully exploit the hyperspectral information.

2. Need to have an appropriate operational (i.e. not a scene by scene approach) atmospheric correction for surface slicks, appropriate spectral bands to resolve phycoerythrin and spatial resolution to detect slicks, and a common understanding in the community as to what appropriate measurement techniques and units are for validation of the product.

3. Main priority for operational satellite vicarious calibration is to ensure sustainable resources (staff, knowledge, and infrastructure) to build long-term data series over multi-mission lifetime

4. Given the need for remote sensing of inland and coastal waters, what are the priorities for missions designed for these waters – sensor characteristics, in situ acquisition & protocols, algorithm development - and what actions is your agency taking to meet those priorities?

5. Is the Southern Ocean that different from the others? Combining active & passive remote sensing, BGC floats and models towards quantifying SO carbon sources and sinks and their decadal changes

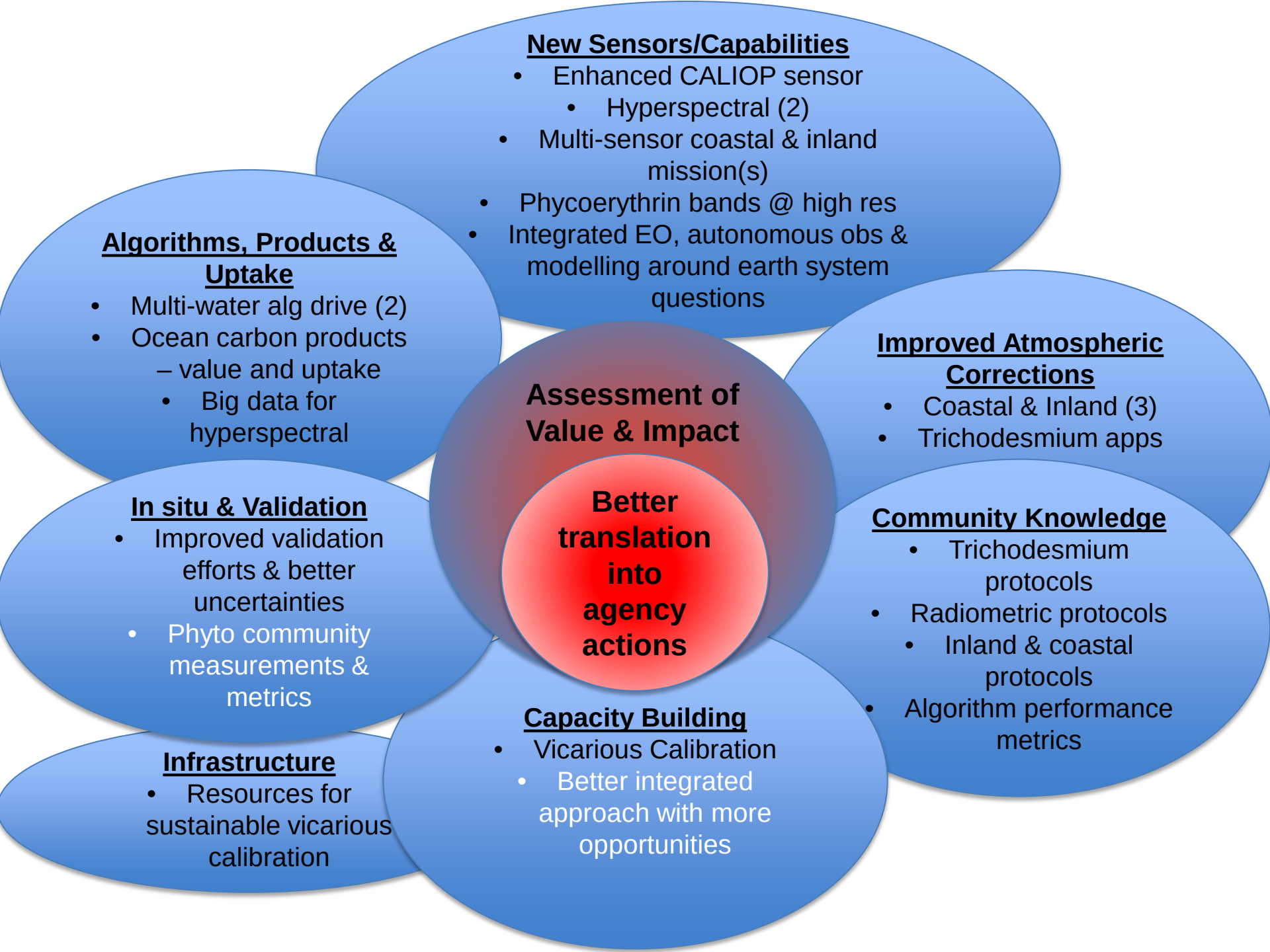
6. Enhanced version of CALIOP space-borne sensor, e.g. MESCAL (CNES/NASA collaborations) --> 355 and 532 profiling oceanic lidar with fluorescence at 685 nm (and a vertical resolution of 3 meters).

7A. Multi-water algorithms: Challenge is to meet needs of non-expert users with very high value and interest in coastal and inland waters. Accurate atmospheric correction and seamless multi-water products are a prerequisite to reap the benefit of the new sensors and to provide reliable user services.

7B. Algorithm performance assessment: Compile community recommendations on standardization of statistical metrics to assess algorithm performance in water and on satellite data and INSPIRE action and change within community.

8. The 2003 NASA protocols need to be updated to reflect the advances of the intervening years, need to explain the reasoning/data behind decisions, and measurement uncertainties need to be explicitly listed.

9. Can we do ocean carbon products from space? Yes! How do we ensure full uptake, value and impact of this capability?


New Sensors/Capabilities
• Enhanced CALIOP sensor
• Hyperspectral (2)
• Multi-sensor coastal & inland mission(s)
• Phycoerythrin bands @ high res
• Integrated EO, autonomous obs & modelling around earth system questions
Algorithms, Products & Uptake
• Multi-water alg drive (2)
• Ocean carbon products – value and uptake
• Big data for hyperspectral
Improved Atmospheric Corrections
• Coastal & Inland (3)
• Trichodesmium apps
Assessment of Value & Impact
Better translation into agency actions
In situ & Validation
• Improved validation efforts & better uncertainties
• Phyto community measurements & metrics
Community Knowledge
• Trichodesmium protocols
• Radiometric protocols
• Inland & coastal protocols
• Algorithm performance metrics
Capacity Building
• Vicarious Calibration
• Better integrated approach with more opportunities
Infrastructure
• Resources for sustainable vicarious calibration

International Ocean Colour Science Meeting 2017

Advancing Global Ocean Colour Observations

Much work during IOCS 2017 planning to act on feedback from IOCS 2015 to improve structure….has this worked?

More thoughts & comments on the IOCS meeting structure itself – what works, what doesn't, etc….