

Challenges and Opportunities of Distributed Mission Implementation



- ◆ There are issues to be resolved to allow splitting (and make it make sense)
 - *Both technical (pointing) and programmatic (acquisition) challenges associated with putting optical instruments on hosted platforms*
 - Ongoing dialogue with potential government hosts (NOAA GOES, NASA TDRSS)
 - Ongoing dialogue with potential commercial hosts
 - *Science: eliminate co-dependent instrument **requirements** while identifying benefits to be **demonstrated** when observations do overlap*
 - *What are the minimum desired overlap criteria?*
 - Between atmosphere and ocean instruments (e.g., improved atmospheric correction, interdisciplinary science)
 - Between different atmospheric species (e.g., CO and everything else)
 - Acceptable orbit longitude (e.g., what if you get a ride that doesn't give optimum view of the entire US?)
- ◆ If there are opportunities to accelerate, how to select between less capable observations that may happen sooner vs. more capable observations later?
 - *Opportunity to gain near-hemispheric observations by contributing to the international constellation in ~2018*
- ◆ Still need to identify breakpoints in instrument size vs cost to orbit.
 - *Probably a more complex relation than our experience with LEO*

Workshop Charge



- ◆ Identify strategy for defining “minimally acceptable scientifically viable mission”
 - *You won't solve it this week, but define your process and studies needed to answer it by the end of FY12*
- ◆ Summarize recent accomplishments for input into workshop report
- ◆ Identify any reasons to not separate the atmosphere and ocean components
 - *Eliminate co-dependent instrument **requirements** while identifying benefits to be **demonstrated** when observations do overlap*
- ◆ Roadmap: identify specific priorities for both near-term (within next 2 years) and longer term science and mission studies
 - *Express/refine minimum desired overlap criteria*
 - *Define draft data products and latencies*
 - *Develop draft survey metrics for science value assessment*
 - We can express what measurement capabilities might be provided, need to progress toward valuing them. Ask **how** the draft products would be used.
- ◆ Time permitting, develop draft mission success criteria
 - *Should correlate with threshold science requirements*