

***Improved Satellite Ocean Color Retrievals of Ocean  
Inherent Optical Properties and Biogeochemical Properties  
Utilizing the Capabilities of PACE***

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***Science Systems and Applications, Inc.***

**>100 years experience! BGM > 2 yrs at sea!**

**PACE Science Team Meeting  
14-16 January, 2015**

**ACE Asia Massive Gobi Dust Event**

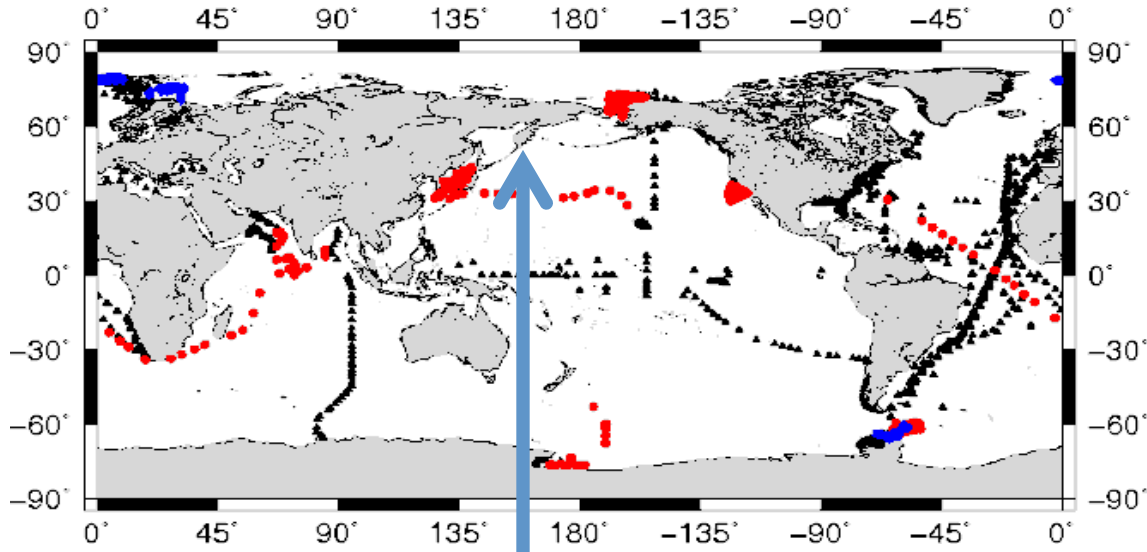
**Aircraft Track**

**R/V Ron Brown**



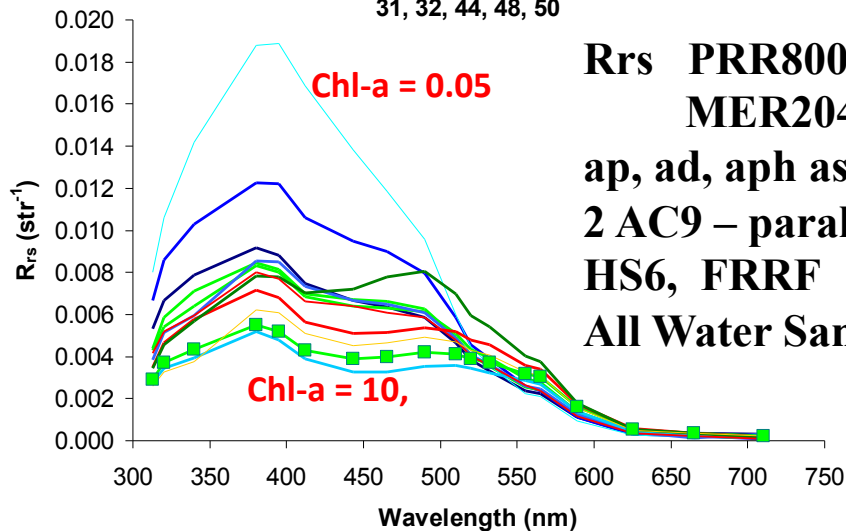
# DATA!

Via collaborations with CalCOFI, JGOFS, AMLR, SIMBIOS, ONR JES, CCE LTER



In situ Optics	# Stations
PRR600	76
PRR800	744
MER1012	150
MER2040	310
MER2048	333
SPMR	37
AC9	817
HS6	813
FRRF	452

ACE Asia Stations  
1, 14 15, 16, 17, 18, 28,  
31, 32, 44, 48, 50



Rrs PRR800 UV-Vis, 19-λ  
MER2040 12-λ,  
ap, ad, aph as 300-800 nm  
2 AC9 – parallel, unfiltered  
HS6, FRRF  
All Water Samples except TSM

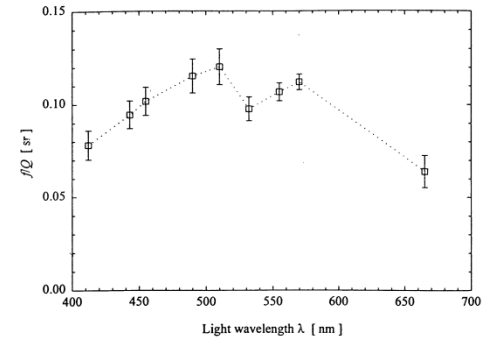
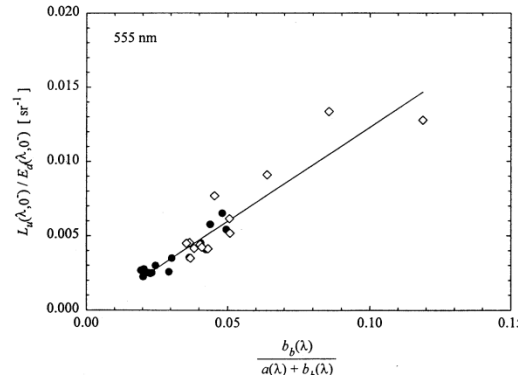
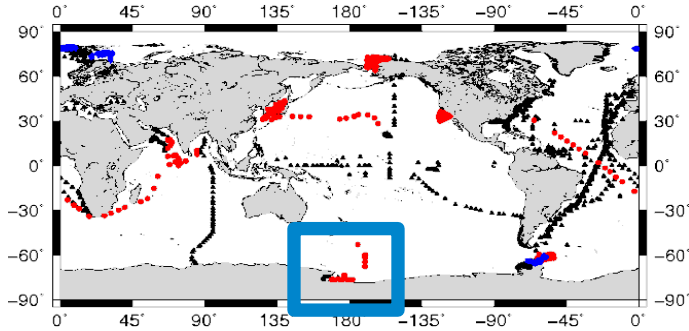
Water Samples	# Samples
ap	7616
as	6001
CHN	3955
Coulter Counter	679
Cyanobacteria	316
Nutrients	4375
Pigments Fluor	19703
Pigments HPLC	6416
PvE	1093
TSM	541
Flow Cytometry	4470
MAA	1376
PBP	809

# Data → MODELS!

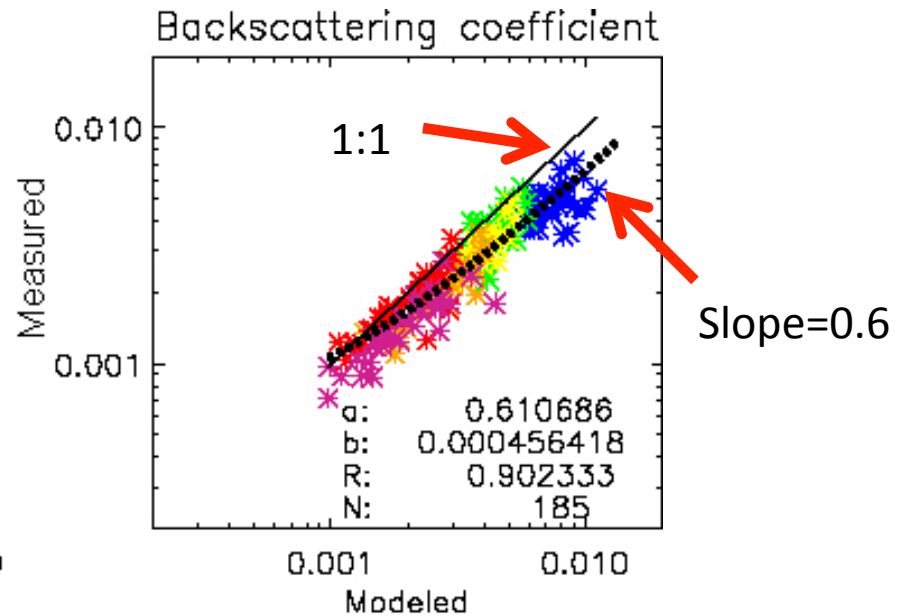
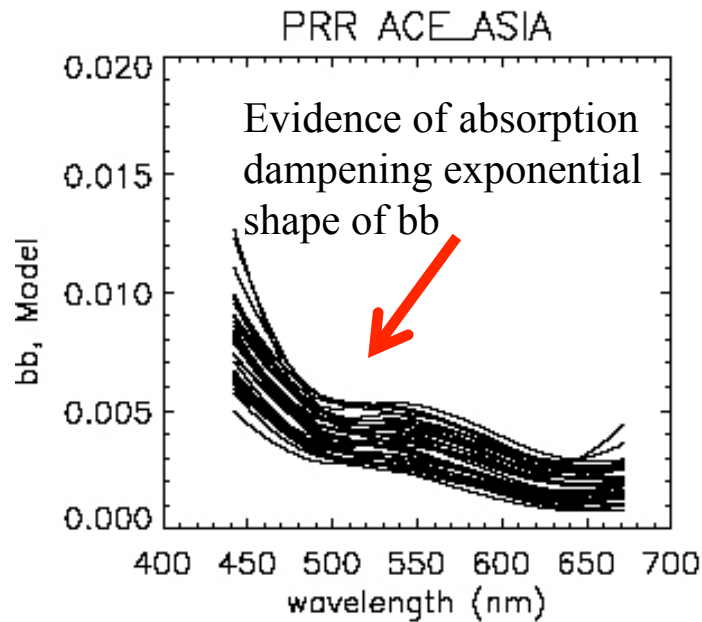
## JGOFS Southern Ocean

Reynolds, Stramski and Mitchell (2001) JGR 106(C4) 7125-7138

$$Rrs(\lambda) = f/Q \left[ bb(\lambda) / [ a(\lambda) + bb(\lambda) ] \right]$$



Hyperspectral extension applied to ACE-ASIA data



# How do you see yourself fitting with the PACE ST objectives and with the larger group? e.g. Engage Search for Ocean Color Holy Grail

- Data, QC, Details
- IOP/AOP methods and processing
- Forward Model parameterization
- Inverse Modeling

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