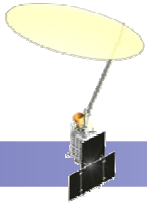


SMAP Algorithms and Cal/Val Workshop

Oxnard, CA, USA

June 9-11, 2009

Satellite Resources and Their Role in SMAP Cal/Val



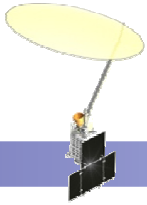
Satellite Products Cal/Val Priorities

- Pre-launch: Participate in the ALOS, SMOS, Aquarius, and GCOM-W missions
 - Validation of SMAP algorithms
 - RFI
 - Establish cross-reference between mission products
- Post-launch
 - Exploiting the sensor products (T_B and σ^0) from SMOS and Aquarius as cal/val resources
 - Exploiting the soil moisture products from SMOS, GCOM-W, EUMETSAT, and SAOCOM as validation resources
 - These sensor products should be produced **independently** from the SMAP project



Pre-Launch SMAP Science Data Product Validation

Data Product	Description	Satellite Products
L1B_S0_LoRes	Low Resolution Radar s^o in Time Order	Aquarius
L1C_S0_HiRes	High Resolution Radar s^o on Earth Grid	
L1B_TB	Radiometer T_B in Time Order	SMOS, Aquarius
L1C_TB	Radiometer T_B on Earth Grid	
L3_SM_HiRes_3km	Radar Soil Moisture on Earth Grid	PALSAR
L3_SM_40km	Radiometer Soil Moisture on Earth Grid	SMOS, AMSR-E
L3_SM_A/P_10km	Radar/Radiometer Soil Moisture on Earth Grid	SMOS
L3_F/T_HiRes	Freeze/Thaw State on Earth Grid	PALSAR
L4_SM	Soil Moisture Model Assimilation on Earth Grid	SMOS
L4_C	Carbon Model Assimilation on Earth Grid	



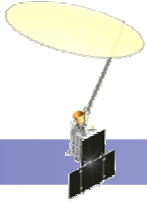
Post-Launch SMAP Science Data Product Validation

Data Product	Description	Satellite Products
L1B_S0_LoRes	Low Resolution Radar s^o in Time Order	Aquarius
L1C_S0_HiRes	High Resolution Radar s^o on Earth Grid	PALSAR, SAOCOM
L1B_TB	Radiometer T_B in Time Order	SMOS, Aquarius
L1C_TB	Radiometer T_B on Earth Grid	SMOS
L3_SM_HiRes_3km	Radar Soil Moisture on Earth Grid	SAOCOM
L3_SM_40km	Radiometer Soil Moisture on Earth Grid	SMOS, GCOM-W
L3_SM_A/P_10km	Radar/Radiometer Soil Moisture on Earth Grid	
L3_F/T_HiRes	Freeze/Thaw State on Earth Grid	
L4_SM	Soil Moisture Model Assimilation on Earth Grid	SMOS
L4_C	Carbon Model Assimilation on Earth Grid	SMOS, MODIS/NPP



Perspectives from Other Missions

- SMOS
- GCOM-W
- Aquarius
-



Summary

- Pre-launch: Participate in the ALOS, SMOS, Aquarius and GCOM-W missions
 - Validation of SMAP algorithms
 - RFI
 - Establish cross-reference between mission products
- Post-launch
 - Exploiting the sensor products (T_B and σ^0) from SMOS and Aquarius as calibration resources
 - Exploiting the soil moisture products from SMOS and GCOM-W as validation resources