

Completion of work from Phase 1

- **The plan**
 - Produce prototype HH/HV mosaics of North and South America
 - Original proposal did not include ortho-rectification. We are ortho-rectifying the data to the SRTM DEM.
 - Some gaps in coverage need to be filled in
 - Radiometric refinement for each strip that requires it.
 - Distribution of image mosaics

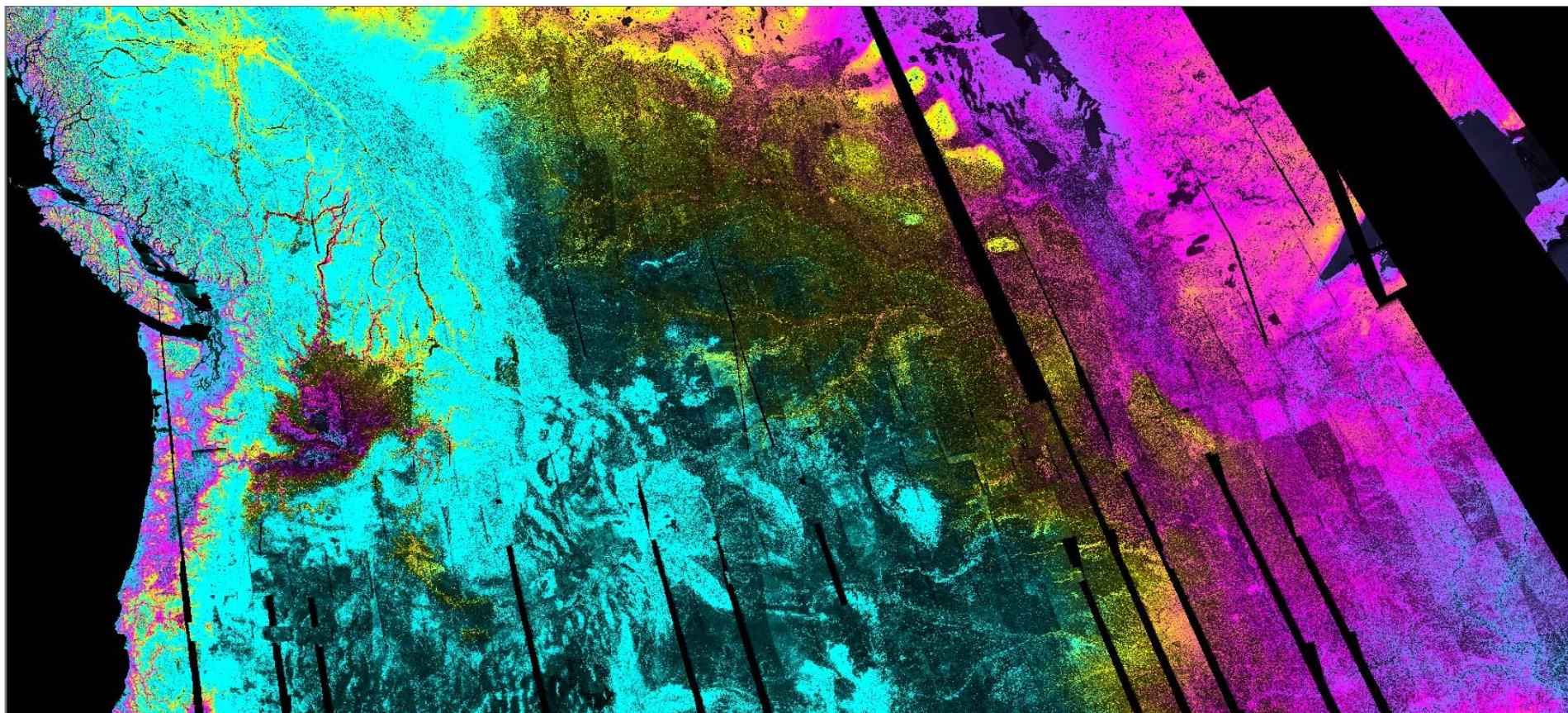
Completion of work from Phase 1

- **Dual Polarized mosaics of North America**
 - So far, we have ortho-rectified about 250 of the 300 North America dual-pol image strips
 - The rest of in-hand data will be ortho-rectified in January, 2009.
 - North America mosaic version 1 finished by February 2009
 - Version 2 will include Radiometric calibration
 - Date for this product depends on the difficulty in implementing this correction
 - Gaps in coverage will be filled with best effort with what is available.

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North America



HH: Brightness
Height: SRTM color wrap (1000m)

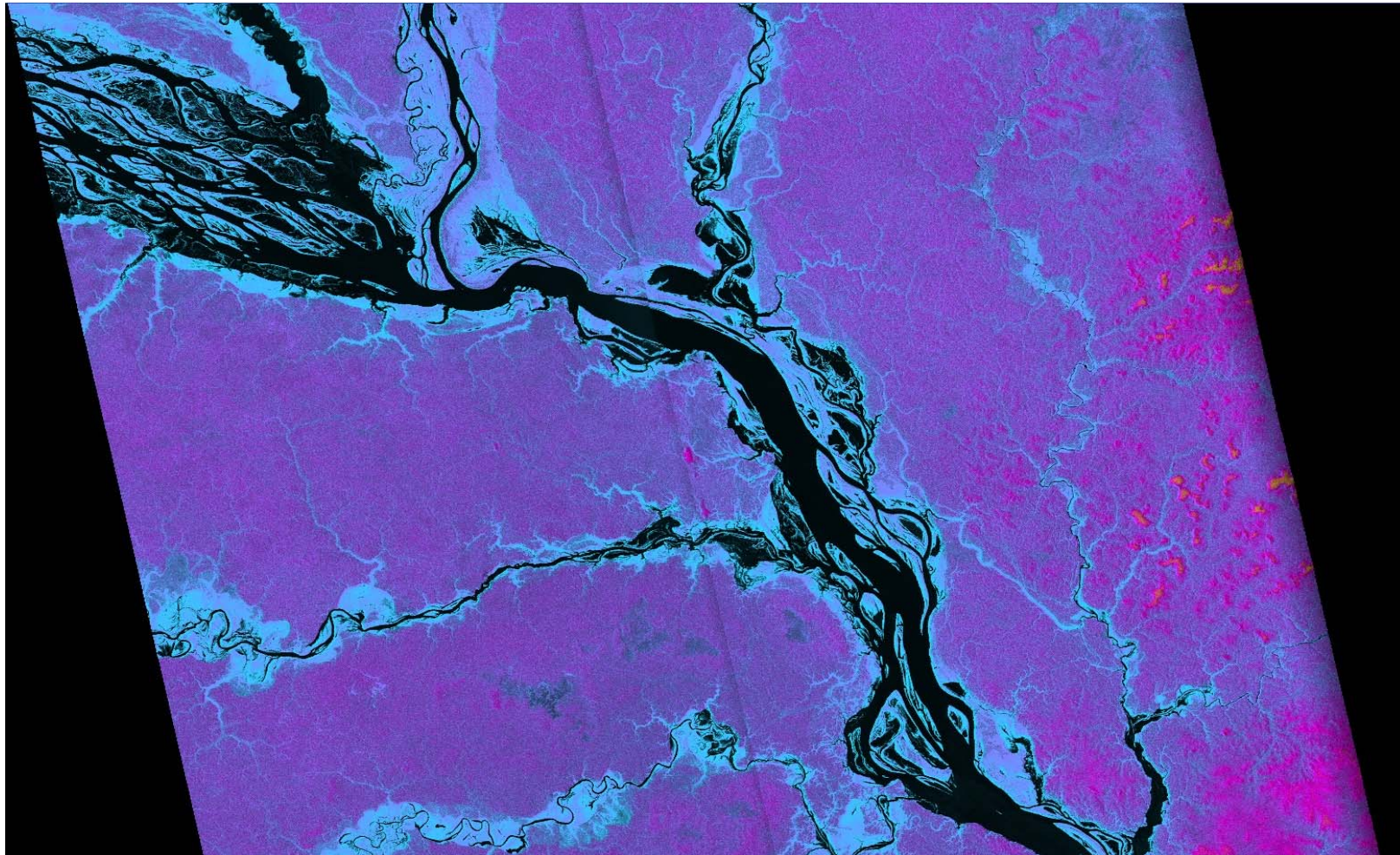
Completion of work from Phase 1

- **Dual Polarized mosaics of South America**
 - Most of the South America data must be radiometrically corrected using software from JAXA/EORC.
 - Image strips may require a slight additional radiometric correction.
 - South America mosaic version 1 will be completed in May 2009. (about 150 image strips)
 - Version 2 with full radiometric correction will follow.
 - Gaps in coverage will be filled with best effort with what is available.

ALOS

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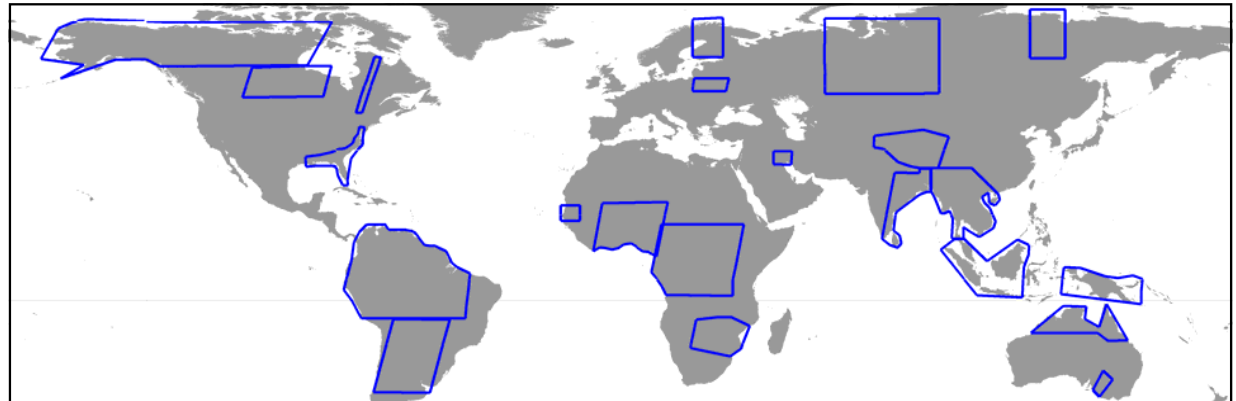
Two image strips over Rio Negro



Brightness : HH
Color : height

Extension Phase: SCANSAR mosaics for mapping inundated wetlands

Multi-temporal
ScanSAR mosaics of
ScanSAR regions



ALOS Wetlands ScanSAR Acquisitions (Descending swaths)																																					
<i>PALSAR cycle</i>	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30													
<i>Year</i>	2006						2007						2008						2009																		
<i>Month</i>	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O
Alaska & Canada BOREAS, Quebec, SE U.S.																																					
Northern S America Pantanal & La Plata																																					
Congo Basin, Sudd Niger Delta & Senegal																																					
Okavango, Zambezi																																					
Central Siberia & Finland Pripet-Biebrza marshes																																					
Lena delta; Tibetan plateau																																					
East India & Sri Lanka Southeast Asia																																					
Tigris marshes																																					
Malaysia, Indonesia, PNG Alligator River																																					
Murray-Darling River																																					

Bruce Chapman, JPL

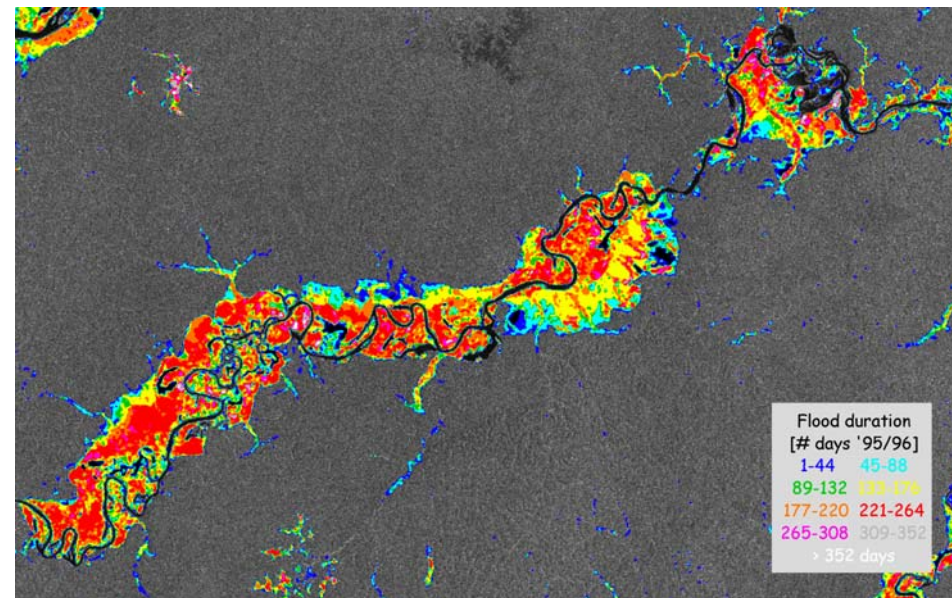
SCANSAR mosaics for mapping inundated wetlands

- Extend this work to mapping global inundated wetlands, primarily using SCANSAR PALSAR data, from the SCANSAR regions that are currently acquired or scheduled to be acquired.
- Mosaic dual-pol data from scanSAR mosaic regions not mosaicked by other KC investigators, for validation purposes.
- Funded by NASA Measures program. (Kyle McDonald, PI)
- In order to accomplish this, we must have SCANSAR mosaics spanning at least a year, as this will allow us to examine the seasonal dynamics of the flooding cycle in these wetland regions identified in the acquisition plan.
- The deliverables will be SCANSAR mosaics for each repeat interval for each region.
- These products will also be valuable to others in the KC science team. We plan to make these mosaics available to JAXA and distribute them to the public over the internet.

Bruce Chapman, JPL

We would like to produce a product similar to below for entire scanSAR regions, but at a minimum, Maximum and Minimum Inundation. First, we need to ortho-rectify and mosaic the imagery for this analysis.

Flood duration for a sub-region of the Amazon Basin based on JERS-1 SAR. The colors indicate flooding duration over a 1 year period, or 8 cycles of coverage.



Rosenqvist et al, 2002

SCANSAR mosaics for mapping inundated wetlands

- Time schedule

Milestone chart for mosaicking

Activity by quarter	Year 1				Year 2				Year 3				Year 4				Year 5			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1. Data Acquisition and Assembly																				
a. Prototype mosaics (ScanSAR and Dual Pol)																				
a. Dual Polarization PALSAR Mosaic for ScanSAR regions of North and South America																				
b. Mosaics of S. America ScanSAR data																				
c. Mosaics of N. America ScanSAR data																				
d. Dual polarization PALSAR mosaic for scanSAR regions of Africa and S.E. Asia																				
e. Mosaics of Africa ScanSAR data																				
f. All other Dual polarization mosaics																				
g. All remaining ScanSAR mosaics																				



We are right about here

SCANSAR mosaics for mapping inundated wetlands

- **Deliverables**

- ScanSAR mosaics every cycle for each region
- Maximum/Minimum Inundation mosaic for each region

- Data requirements

- Multi-temporal ScanSAR data
- Every cycle for ScanSAR regions for at least one full year
- Slant range strip map from EORC