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.

Bruce Chapman, JPL
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.

Bruce Chapman, JPL
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

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
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.

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.

Rosenqvist et al, 2002
SCANSAR mosaics for mapping inundated wetlands

- Time schedule

Bruce Chapman, JPL
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

Bruce Chapman, JPL