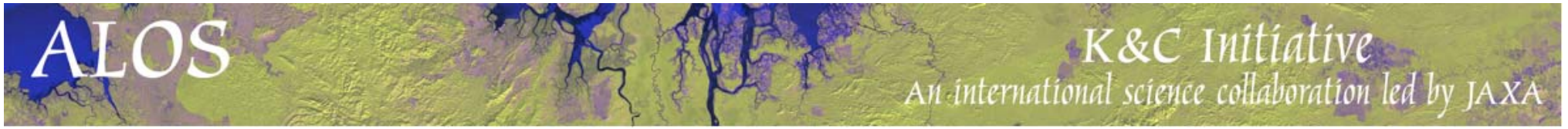

Product Delivery Report for K&C Phase 2

Kyle McDonald
Jet Propulsion Lab
California Institute of Technology

Science Team meeting #15
JAXA TKSC/RESTEC HQ, Tsukuba/Tokyo, January 24-28, 2011

K&C deliverables

Papers and Reports

1. Published

- K&C Phase-1 report
- 1 published contributions to K&C Booklet

  McDonald, K. C., 2010. A Wetlands Map of Alaska Derived from Spaceborne Radar: Characterizing Crucial Ecosystems Across America's Last Frontier. Results from Phase I of JAXA's Kyoto and Carbon Initiative, Ake Rosenqvest and Masanobu Shimada, editors, Tsukuba, Japan: The Japanese Aerospace Exploration Agency.

- Papers:

  Schroeder, R. M. A. Rawlins, K. C. McDonald, E. Podest, R. Zimmermann and M. Kueppers, 2010. Satellite Microwave Remote Sensing of North Eurasian Inundation Dynamics: Development of Coarse-Resolution Products and Comparison with High-Resolution Synthetic Aperture Radar Data. Environmental Research Letters, special issue on Northern Hemisphere high latitude climate and environmental change, 5 (2010) 015003 (7pp) doi:10.1088/1748-9326/5/1/015003.Paper xx (journal/proceeding reference)

K&C deliverables

Papers and Reports

1. Published

McDonald K.C., B. Chapman, S. Flores, J. Hall, E. Podest, J. Kimball, M. Moghaddam, J. Whitcomb and L. Hess, 2010. Data System Design and Implementation for Query and Analysis of Synthetic Aperture Radar Data Sets in Support of Global Scale Mapping of Inundated Wetlands, *Proceedings of IGARSS 2010, 25-30 July 2010*, Honolulu, Hawaii (invited).

- McDonald, K. C., B. Chapman, E. Podest, R. Schroeder, K. Willacy, L. Hess, J. Whitcomb, M. Moghaddam, J. S. Kimball, 2010. Global Monitoring of Wetlands Extent and Dynamics: An Earth System Data Record of Inundated Wetlands, *Proceedings of the International Conference on Flood Pulsed Wetlands*, 1-5 February 2010, Maun, Botswana.
- Podest, E., K. McDonald, R. Zimermann, V. Horna, and L. Hess, 2010. Remote Sensing of Palm Swamp Distribution and Flooding Status over Sub-Regions in the Upper Amazon Basin for Assessing Carbon Dioxide and Methane Release, *Proceedings of the International Conference on Flood Pulsed Wetlands*, 1-5 February 2010, Maun, Botswana.
- Podest E., K. C. McDonald, R. Schroeder, J. Whitcomb, M. Moghaddam, 2010. A Comparison of Inundated Wetland and Open Water Distribution for Alaska Between High and Low Resolution Radar Remote Sensing Data, *Proceedings of IGARSS 2010*, 25-30 July 2010, Honolulu, Hawaii
- McDonald, K. C., 2009. Arctic Water Cycle Connections to the Earth System: Linking Terrestrial Water and Carbon Cycles through Remote Sensing, *International workshop on Synthesizing International Understanding of Changes in the Arctic Hydrological System*. 30 September - 2 October 2009, Beijer Institute, Royal Swedish Academy, Stockholm, Sweden. (invited)
- McDonald, K., 2009. Climate Change Impacts to the Terrestrial Carbon Cycle: Observations with Satellite Remote Sensing, *JPL Public Science Symposium on Climate Change*, 24 October 2009, Pasadena, California. (invited)

K&C deliverables

Papers and Reports

1. Published (continued)

- McDonald, K. C., E. Podest, B. Chapman, R. Schroeder, L. Hess, M. Moghaddam, J. Whitcomb, J. Kimball, L. Jones, 2009. The use of ALOS PALSAR in Global-Scale Mapping of Inundated Wetlands*, Proceedings of the 2009 ALOS PI Meeting*, 9-13 November 2009, Honolulu Hawaii.
- Podest, E., K. C. McDonald, and R. Schroeder, 2009. Global Monitoring of Inundated Wetland Ecosystems with Integrated Satellite Remote Sensing. *33rd International Symposium on Remote Sensing of the Environment*, May 4-8, 2009, Stresa, Italy.
- Podest E. , K. McDonald, R. Schroeder, T. Bohn , and D. Lettenmaier, 2009. Mapping and Monitoring Boreal Wetlands within the NEESPI Domain Using Spaceborne Synthetic Aperture Radar for Assessing Carbon Release, *Proceedings of the Fall 2009 meeting of the American Geophysical Union*, 14-18 December 2009, San Francisco, California.
- Podest E., K. McDonald, B. Chapman, J. Kimball, L. Hess, M. Moghaddam, E. Matthews, and C. Prigent, 2009. Assembly of an Inundated Wetlands Earth System Data Record: Global Monitoring of Wetlands Extent and Dynamics, *Proceedings of IGARSS 2009*, 12-17 July 2009, Cape Town, South Africa.
- Podest, E., K. C. McDonald, R. Schroeder, 2009. Global Monitoring of Inundated Wetlands Ecosystems, with Integrated Satellite Remote Sensing, *Proceedings of IGARSS 2009*, 12-17 July 2009, Cape Town, South Africa.

  Schroeder, R., K. McDonald, E. Podest, R. Zimmermann, 2009. Global Wetland Inundation Dynamics derived from Passive and Active Microwave Remote Sensing, *Proceedings of IGARSS 2009*, 12-17 July 2009, Cape Town, South Africa.

  Schroeder, R., K. C. McDonald, M. A. Rawlins, E. Podest, J. Whitcomb, M. Mogahddam, R. Zimmermann, 2009. Coarse-Resolution Daily Inundation Dynamics over the Alaska-Yukon Region: Comparison with High-Resolution Inundation Products and Influences from Atmospheric Drivers, *Proceedings of the Fall 2009 meeting of the American Geophysical Union,* 14-18 December 2009, San Francisco, California

K&C deliverables

Papers and Reports

2. Submitted/In prep

- K&C Phase 2 report (coming shortly)
- Papers (in prep)

  Bohn et al., Integration of microwave remote sensing data sets within a land-atmosphere methane flux process model

  Podest et al., Open water mapping in Alaska with SAR

  Schroeder et al., Global monitoring of surface inundation with microwave remote sensing

  Whitcomb et al., Characterization of Decadal change wetlands ecosystems of boreal North America with L-band SAR
- Several conference contributions coming on 2011 (ISRSE, IGARSS, et al)

K&C deliverables

Data sets and Thematic products

Completed (to be delivered):

- *Alaska wetlands map*
- *Ground validation data used in derivation the Alaska wetlands map*