

### **3<sup>rd</sup> Canadian SMAP Workshop**

Agriculture and Agri-Food Canada (AAFC) Central Experimental Farm  
Carling avenue, Ottawa, Canada  
20-21 March 2013

#### **Day 1, Wednesday March 20<sup>th</sup>: 9:00 to 10:30** **(Chair: Stéphane Bélair, EC)**

- Practical details about the workshop (Heather McNairn, AAFC, and Stephane Belair, EC) (10 min)
- Welcome from Dr. Siddika Mithani (ADM at AAFC), introduced by Dr. Jaspinder Komal (DG at AAFC) (10 min)
- A word from CSA (Robert St-Jean, CSA, or Thomas Piekutowski, CSA) (15 min)
- Update on SMAP (Dara Entekhabi, MIT) (30 min)
- Update on the SMAP-Canada project and agenda of the workshop (Stephane Belair, EC) (20 min)

#### **Day 1, Wednesday March 20<sup>th</sup>: 10:45 to 12:00, and 13:00 to 17:00 (with break at 15:00)** **Soil moisture Cal-Val (CanEx-SM10, SMAPVEX12, Core validation sites)** **(Chair : Heather McNairn, AAFC)**

##### *General presentations on the core validation sites and on field campaigns*

- Tom Jackson, USDA: SMAP cal-val plan (30 min)
- Ramata Magagi, U. Sherbrooke: Brief update on the CanEx-SM10 field campaign (20 min)
- Heather McNairn, AAFC: The SMAPVEX12 field campaign (20 min)
- Aaron Berg, U. Guelph: Update on the validation sites in Kenaston Saskatchewan (20 min)

##### *More specialised presentations (15 min each presentation)*

- Mike Cosh, USDA: Temporary in situ network in the BERMS domain in 2010 (CanEx-SM10)
- Mike Cosh, USDA: Temporary in situ network analysis in the SMAPVEX12 domain
- Tracy Rowlandson, U. of Guelph: Calibration of the field-based soil moisture probes during SMAPVEX12 (CanEx-SM10 and / or SMAPVEX12)
- Brian Miller and Paul Bullock, U. of Manitoba: Factors affecting the accuracy of surface soil moisture content estimation with a combination of active and passive microwave data
- Djamai et al., U. Sherbrooke: Downscaling of SMOS soil moisture using MODIS spectral products over an agricultural site
- Hosseini et al., U. Sherbrooke: Using statistical methods to disaggregate the spatial resolution of SMOS derived soil moisture
- Mike Cosh, USDA: Vegetation water content imaging during SMAPVEX12
- Kim, Seungbum, JPL: vegetation component of SMAPVEX12

*Discussion on the Canadian core validation sites and on a possible post-launch field campaign in 2015.* (Tom Jackson, USDA, Stephane Belair, EC, Heather McNairn, AAFC).

Posters:

- Justin Adam, Aaron Berg, Heather McNairn. Vegetation contributions to soil moisture variability and scaling during SMAPVEX 2012
- Hida Manns, Aaron Berg. Evidence for soil carbon control on large scale soil moisture variability
- Parinaz Rahimzadeh-Bajgiran, Aaron Berg. Estimation of Soil Moisture using Optical/Thermal Infrared Remote Sensing
- Swapan Roy, Aaron Berg, Tracy Rowlandson. Spatial and temporal variability of simulated soil moisture in SMAPVX12 fields

*Early evening: Social dinner at the Heart and Crown pub*  
(<http://www.heartandcrown.ca/preston.aspx>)

---

**Day 2, Thursday March 21<sup>st</sup>: 09:00 to 12:00 (with break at 10:30)**  
**Applications, Freeze/thaw, and carbon**  
**(Chair, Aaron Berg, U. of Guelph)**

(all presentations are 15 min)

*Soil moisture*

- Heather McNairn and Jarrett Powers, AAFC: Soil moisture retrieval and plans to implement soil moisture mapping for monitoring in Manitoba.
- Rotimi Ojo and Paul Bullock, U. Manitoba: Integration of weather, soil and remote sensing data for soil profile moisture content modeling
- Marco Carrera, EC: Assimilation of L-band data into the Canadian Land Data Assimilation System

*Freeze / Thaw*

- Kyle McDonald, CCNY: SMAP Level 3 Freeze/Thaw product validation
- Chris Derksen, EC: FT campaign with L-band radiometer in 2013-14
- Parvin Kalantari, INRS-ETE: Development of SMAP Freeze/Thaw algorithms using SMOS data over the Canadian Tundra
- Alexandre Roy, U. Sherbrooke: Analysis of SMAP data retrieval for soil temperature under snow cover

### *Vegetation and carbon*

- John Kimball, U. Montana: The NASA SMAP level 4 carbon product
- Stéphane Bélair and Shunli Zhang, EC: Progress on the inclusion of vegetation in EC's land surface modeling and assimilation systems
- Jing Chen and Jane Liu, U. Toronto: Assimilation of soil moisture in an ecosystem model for improving carbon and water cycle simulations

*Discussion on the interactions / collaborations concerning land data assimilation systems for energy, water, and carbon cycles.*

**Day 2, Thursday March 21<sup>st</sup>: 13:30 to 16:00 (with coffee and snacks available at 14:45)**  
**Wrap-up, organizational**  
**(Chair, Stéphane Bélair, EC)**

### *Applications and outreach*

- Vanessa Escobar, NASA/GSFC: SMAP applications program (20 min)
- Stéphane Bélair: Applications / products plan for Canada, outreach to provincial and territorial organizations (20 min)
- Pierre Pellerin: Outreach at EC / products (20 min)

*Links with other missions (CoRe-H2O, GPM, SWOT, GRACE, ABoVE) (in attendance: Chris Derksen, EC, Dave Hudak, EC, Alain Pietroniero, EC, John Kimball, U. Montana)*

*Plans for funding the rest of the project (for FYs 2014-15, 2015-16, 2016-17)*

*Varia (upcoming meetings, special sessions, web site)*

END of MEETING