

## Meeting with Canadian Representatives – December 5, 2013

Attendees: Donald McLennan (CHARS), Robert Saint-Jean (CSA), Godelieve Deblonde (EC), Carrie Taylor (EC), Peter Griffith (NASA/Sigma Space), Diane Wickland (NASA), Darren Janzen (NRCan), Catherine Ste-Marie (NRCan), Jeff Dechka (NRCan), Juha Metsaranta (NRCan), Mike Fullerton (NRCan-CFS), Jacques Gagnon (NRCan), Vincent Roy (NRCan), Dan Hayes (ORNL), Elizabeth Hoy (NASA/Sigma Space), Eric Kasischke (UMD), Laura Rostas (NRCan), Joost van der Sanden (NRCan), Sharon Smith (NRCan), Libby Larson (NASA/AAAS Fellow)

### Information on ABoVE

ABoVE (Arctic-Boreal Vulnerability Experiment) Science Definition Team (SDT) co-chair Dan Hayes began the meeting with an introductory presentation on ABoVE (additional information can be found at [above.nasa.gov](http://above.nasa.gov)). A discussion followed regarding aspects of ABoVE including the study domain, NASA proposer funding structure and leveraging existing resources for ABoVE. The work of CHARS was discussed, and it was noted that CHARS will be helping to bring together scientific research groups within the arctic and boreal regions of Canada as part of its mandate, and collaboration with CHARS could be beneficial to ABoVE. It was discussed that NASA's focus on remote sensing (including SMAP, Landsat, LiDAR, and other airborne and spaceborne sensors) would be helpful in studying the unique arctic and boreal regions which are difficult to access due to their remoteness. ABoVE would utilize remote sensing to create inputs for models and to do field validation; overall, the research for ABoVE would provide a new perspective to do integrated earth system science and would have societal needs as a focus (the vulnerability framework within the ABoVE experiment plan).

### Potential Areas of Collaboration

Considerable time was spent discussing existing and planned Canadian arctic and boreal research efforts, as well as ways in which NASA can collaborate with these efforts.

A new area of research is in combining large remote sensing datasets, such as the automated extraction of Landsat mosaics (the Canadian Center for Remote Sensing is currently working on this, and it will be ready in 1.5 years). Radarsat could also be useful to ABoVE, as could InSAR data in understanding aspects of permafrost. A new Radarsat mission will launch in 2018 and will provide additional data. Other remote sensing platforms which could be useful to ABoVE include SMAP, ESA products and SMOS. Using remote sensing, ABoVE could potentially contribute to the improved ability to monitor and map unmanaged forests within areas of the Yukon and the Northwest Territories in Canada (and Alaska in the United States). Insights into the methodologies Canadian programs are using to analyze arctic and boreal regions could be helpful to ABoVE as well. Methods to access data and methodologies were discussed.

Collaboration between ABoVE and Canadian agencies would also be helpful as ABoVE works to connect with local communities. ABoVE plans to have a strong societal dimension, and Canadian partnerships would be beneficial in reaching these groups. It was recognized that education and outreach will be included in ABoVE. Some of the ABoVE leadership team made a trip to western Canada during the summer of 2013 to meet with local representatives ([see trip report here](#)) to begin the process of locating potential local partners/collaborators.

Also discussed were ongoing joint activities between NASA and Canadian agencies, such as activities through CarboNA. Research conducted for ABoVE could be important to that program. It was stressed by ABoVE representatives that it is important for ABoVE to find activities compatible with Canadian goals and objectives in order for ABoVE to be meaningful to Canadian interests. Canadian representatives were encouraged to consider the types of activities that would be beneficial to their programs and to relate that information to the ABoVE leadership team such that this information can be considered in the creation of the ABoVE Concise Experiment Plan (ACEP).

Additionally, current Canadian programs with research that could potentially be relevant to ABoVE were mentioned including the Earth Observation Application Development Program (EOADP), Natural Sciences and Engineering Research Council of Canada (NSERC), and Social Sciences and Humanities Research Council (SSHRC). ABoVE may want to approach these organizations to discuss potential collaborations.

Overall, it was noted that a synergistic approach to research in arctic and boreal regions, with each program contributing in some facet, could create an overall greater impact than if only individual programs are considered.

### Action Items

A number of action items were discussed during the meeting (compiled by C. Ste-Marie and E. Hoy):

#### NASA:

- NASA CCE Office – Review the Canadian presentations and contact speakers to fill potential information gaps and clarify content, etc. (can discuss additional remote sensing products with D. Janzen)
- NASA CCE Office – Circulate current ACEP document ([available here](#))
- NASA CCE Office/ C. Ste-Marie – Ensure contact information is distributed to the group
- D. Wickland – Review existing agreement between NASA and CSA and consult R. Saint-Jean on how to use existing agreements and develop new ones
- D. Wickland – Contact SSHRC point of contact when it is sent (to be sent by M. Fullerton)
- D. Wickland – Explore the option of working with the US and Can embassies to increase visibility about and identify other mechanisms to accelerate bilateral science collaboration (as was done for health issues, suggested by J. Gagnon)

#### Canadian Representatives:

- Canadian representatives – Continue to inform other Canadian representatives about ABoVE
- Canadian representatives – Investigate ways that ABoVE can integrate with Canadian programs
- Canadian representatives – Review current version of the ACEP and send any inputs related to ABoVE to D. McLennan and J. Metsaranta so that Canadian issues addressed within ABoVE
- Canadian representatives – Email P. Griffith if you would like to receive updates related to ABoVE

#### Individuals:

- C. Ste-Marie – Coordinate an ABoVE related “support team”

- C. Ste-Marie – Will put ABoVE as a recurring item on the agenda of CarboNA teleconferences. CarboNA is identified as a key vehicle for pursuing discussions regarding collaboration related to ABoVE
- D. McLennan, C. Ste-Marie and J. Metsaranta – Hold a teleconference in the week of Dec 16 to discuss a plan for moving forward - DONE
- D. McLennan and J. Metsaranta – Ensure overall coordination on the Canadian side, with NRCan-CFS covering up to tree line, the limit of their mandate, and with CHARS coordinating GOC and territorial input north of the tree line.
- D. McLennan and J. Metsaranta – As part of the ABoVE SDT, Donald and Juha will continue sharing ABoVE information with the GOC support team and provide Canadian input to the ACEP
- D. McLennan – Follow up with key federal departments to increase awareness of ABoVE and stimulate engagement and contribution
- D. McLennan and J. Metsaranta – Draft a brief note to share with key contacts from participating federal departments in order to brief up in our respective departments
- J. Metsaranta – Send ABoVE briefings out to a larger group following SDT telecons and meetings
- M. Fullerton – Send information about Social Science and Humanities Research Council (<http://www.sshrc-crsh.gc.ca/home-accueil-eng.aspx>) to D. Wickland
- J. Dechka – Follow up with USFS inventory group to begin exploring improvement in collaboration / cohesion between respective inventory efforts
- J. Gagnon – Send Forest Health Summit report to C. Ste-Maire for distribution to ABoVE representatives
- C. Taylor – Will remain ABoVE's EC contact
- C. Taylor – Will read chap 3-4 of the CSP and remain engaged for identifying potential EC work to link with ABoVE and fostering collaboration
- L. Rostas – Will work at increasing NRCan ESS scientists awareness about ABoVE and stimulate engagement
- V. Roy – Will share information about ABoVE with peer-directors and analyze how ABoVE aligns with CFS research projects plans and framework
- R. Saint-Jean – Remains our CSA contact
- D. Janzen – Will provide a description of the long-term satellite data that could be made available for ABoVE