ASTM-7

Leadership Group
Goetz, Miller, Griffith, Larson, Hoy, Hodkinson, Margolis, Falkowski

Special thanks to
WG Leads
ABoVE Support Office

+ All who contributed data, results, outreach & interpretation
ABoVE & Beyond the call..

above.nasa.gov
### ABoVE Concise Experiment Plan (2014)

<table>
<thead>
<tr>
<th>Phase I</th>
<th>Phase II</th>
<th>Phase III</th>
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<tbody>
<tr>
<td>Yr1</td>
<td>Yr4</td>
<td>Yr7</td>
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<td>Yr2</td>
<td>Yr5</td>
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<td>Yr3</td>
<td>Yr6</td>
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#### Intensive Study Period

<table>
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<tr>
<th>Research Activity Focus (4.2)</th>
<th>Yr1</th>
<th>Yr2</th>
<th>Yr3</th>
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<th>Yr5</th>
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<th>Yr7</th>
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<td><strong>Field-based research (4.2.1)</strong></td>
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<td>Collection of field observations</td>
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<td>Synthesis, integration and scaling of field-based research</td>
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<td><strong>Societal Drivers, Consequences &amp; Responses Research (4.2.2)</strong></td>
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<td>Societal drivers, consequences and responses to change</td>
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<td>Decision support information product development</td>
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<td><strong>Remote Sensing Research (4.2.3)</strong></td>
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<td>Airborne data collection</td>
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<td>Data product development - Ecosystem Dynamics</td>
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<td>Data product development - Ecosystem Services</td>
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<td><strong>Modeling Research (4.2.4)</strong></td>
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<td>Initial benchmarking with existing data</td>
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<td>Refinement &amp; assessment with ABoVE data</td>
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<td>Integrated modeling - diagnosis and prediction</td>
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<td><strong>Integration &amp; Scaling Research (4.2.5)</strong></td>
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<td>Integration of existing data and identification of gaps</td>
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<td>Spatial-temporal integration across individual studies</td>
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<td>Cross-activity, cross-disciplinary synthesis</td>
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ASTM-7 Objectives

- Wrapup of Phase 1 & continued transition to Phase 2 projects
- Reports on Phase 2 and Airborne projects
- Review, discuss, refine & advance:
  - 2021 field / airborne campaign plans
  - Overall research progress
  - Integration of projects (synthesis activities)
  - Modeling (of all types)
- Identify any issues & opportunities to maximize impact
- Coordinate with partners & land managers (despite inability to directly coordinate w/ an AFSC workshop...
ABoVE peer-reviewed Publications thus far..

325 publications reported by 65 projects*

272 publications by NASA funded projects
   (67 ABoVE + 26 other NASA projects = 94)
   +59 pubs by affiliated projects (n=27)*

*Not including ABoVE Partners (NGEE-Arctic, POLAR, CFS, NEON)

Please upload your publications to the ABoVE web site & keep posting MSR and WWL slides w/your pubs.

ABoVE ST currently has 808 members,
   incl. ~130 graduate students.
Currently 1568 participants
   (science team, resource managers, others following)
Environmental Research Letters

Resiliency and Vulnerability of Arctic and Boreal Ecosystems to Environmental Change: Advances and Outcomes of ABoVE (the Arctic Boreal Vulnerability Experiment)

Guest Editors
Scott Goetz, Northern Arizona University
Natalie Boelman, Colombia University
Abhishek Chatterjee, NASA Goddard Space Flight Center
Roisin Commane, Harvard University
Joshua Fisher, NASA / Caltech Jet Propulsion Laboratory
Peter Griffith, NASA Goddard Space Flight Center
Mike Goulden, University of California at Irvine
John Kimball, University of Montana
Tatiana Loboda, University of Maryland
Michelle Mack, Northern Arizona University
Charles Miller, NASA / Caltech Jet Propulsion Laboratory
Sue Natali, Woods Hole Research Center
Christopher Neigh, NASA Goddard Space Flight Center
Brendan Rogers, Woods Hole Research Center
Merrit Turetsky, University of Guelph
Jennifer Watts, University of Montana

http://iopscience.iop.org/journal/1748-9326/page/ABoVE
53 papers published / accepted as of May 2021
Others in review
Acceptance rate well above the ERL norm (IF = 6.67)
Data Publications *thus far*..

163 Data sets archived
+16 publicly available
+6 in preliminary / early release status
another 120+ planned

Data archiving / publishing is critical for future research mining what we’ve measured and learned.

Early data release / sharing is valuable for collaborative efforts across projects and working groups, including synthesis activities

ABoVE and the DAAC have tools, resources and personnel to help you make data available. *Please take advantage of this!*
Thematic / Disciplinary Science Working Groups

Carbon Dynamics (Chatterjee)
Wetlands (Bourgeau-Chavez, French, Loboda)
Snowscapes (Boelman & Prugh)
Modeling Framework & Comparisons (Fisher)

Partner presentations
Canadian Forest Service (Edwards)
Polar Knowledge Canada (Houben)
Northwest Territories Science (Applejohn)
Yukon Science (Suitor)
NGEE-Arctic (Wullschleger)
NEON (Adler)
Alaska Fire Science Consortium (York)

Parallel Session short presentations
Fire and Insect Disturbance
Hydrology & Permafrost
Modeling Framework & Comparisons
Snowscapes & Wetlands
Day 2

Thematic / Disciplinary Science Working Groups

Hydrology & Permafrost (Kimball)
Fire & Insect Disturbance (French, Bourgeau-Chavez)
Multi-Disturbance Synthesis (Foster)
Vegetation Dynamics & Distribution (Epstein & Rogers)
Vegetation Structure & Function (Montesano)
Spectral Imaging (Huemmrich)
SAR RS of ALT (Schaeffer)

Parallel Session short presentations

Carbon Dynamics
Vegetation Dynamics and Distribution
Vegetation Structure & Function