ABoVE Modeling Working Group

SYNTHESIS TOPICS 2020

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6 COURSE SYNTHESIS TOPICS

MENU

BOTTOM-UP AND TOP-DOWN MODELS

What is the carbon budget over the ABoVE domain? Can we reconcile top-down and bottom-up estimates of C-budgets?

$ RESOLUTIONS & DOMAINS $

Abhishek Chatterjee, Brendan Byrne, Lei Hu

STATE OF ABR ECOSYSTEM PROCESSES

Some models have more "advanced" ABR process representation than others. Of interest to the scientific community is a roadmap of these differences.

$ 1ST PHD CHAPTER $

Market Price

SUB-GRID VARIABILITY

Fine spatial resolution landscape features drive ecosystem functioning in the ABR. What are different approaches to integrating sub-grid variability? What are their impacts?

$ REMOTE SENSING → MODELING $

Ben Poulter, Jennifer Watts

ARCTIC BOREAL VULNERABILITY EXPERIMENT

credit: canva

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MENU

INDIVIDUAL-BASED AND PFT MODELS

ABR ecosystem modeling activities in ABoVE are broadly grouped into two camps: individual-based models and PFT/trait-based models. How can strengths from each group be combined?

$ ED, UVAFME, CLM ↔ CLM-FATES $

Shawn Serbin, Jackie Shuman, Erik Larson

DRIVERS AND RUN PROTOCOLS

Specification paper needed on agreed-upon model drivers and run protocols for ABR model runs. See, e.g., Huntzinger et al. (2020) for importance of spin-up on soil carbon stocks.

$ DAYMET, MESONET, CRU-NCEP, GSWP $

Erik Larson, Nick Parazoo, Kevin Schaefer, Andy Fox, Min Chen

ABOVE DATA FOR MODELS

Deep dive into entire ABoVE database. Extraction of functional relationships and benchmarks.

$ UNCERTAINTY, INTEGRATION $

Josh Fisher, Dan Hayes, Andy Fox, Shawn Serbin

ARCTIC BOREAL VULNERABILITY EXPERIMENT

credit: canva

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