Presentation Title: Overview and Demonstration of the ABoVE Science Cloud

Authors and Contributors:
Ellen Salmon[1], Laura Carriere[1], Jim Shute[1], Scott Sinno[1], Ben Bledsoe[1], Elizabeth Hoy[2], Peter Griffith[2], John Thompson[1], Garrison Vaughan[1], Julien Peters[1], Daniel Duffy[3]

1. NASA Center for Climate Simulation (NCCS), NASA Goddard, Code 606.2
2. NASA Carbon Cycle and Ecosystems Office (CCEO), NASA Goddard
3. Computational and Information Technology and Sciences Office (CISTO), NASA Goddard, Code 606

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Abstract:
The NASA Center for Climate Simulation (NCCS – https://www.nccs.nasa.gov/) has partnered with the NASA Carbon Cycle and Ecosystems Office (CCEO) to provide a high performance science cloud to accelerate the pace of science for the ABoVE field campaign. Resources from the Advanced Data Analytics Platform (ADAPT – https://www.nccs.nasa.gov/services/adapt) have been reserved to create the ABoVE Science Cloud (ASC). The ASC combines high performance computing, storage, and purpose built virtual environments to create an environment specifically designed for the analysis of big data. Through this architecture, the ASC provides an agile environment that contributes to data integration, geospatial product generation, modeling, data stewardship and long-term data preservation by aiding researchers through the entire process of the data lifecycle. The ASC can provide one scientist with hundreds of virtual machines custom-configured to accelerate computation and visualization. It also serves as a Geographical Information System proximate to petascale high-resolution imagery. Furthermore, by using the ABoVE Science Cloud as a shared and centralized resource, researchers reduce costs for their proposed work, making proposed research more competitive. This presentation will provide an introduction to the ASC, discuss how to access the system, tools and data sets available, and show examples of how the ASC is being used to meet the needs of the ABoVE campaign. In addition, this presentation will provide a demonstration for how to log into the system, access data, and run applications.