Accessibility to and Analysis of NASA's New Large Volume Missions **[1]**

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Abstract:
Each new satellite mission continues to produce larger volumes of data than the last. This is especially true with the new NASA satellite missions NISAR and SWOT, launching in 2020 and 2021, which will produce petabytes of data a year. A major concern is how will users be able to analyze such volumes? This presentation will show how cloud storage and analysis can help overcome and accommodate multiple users' needs. While users may only need gigabytes of data for their research, the data center will need to leverage the processing power of the cloud to perform search and subsetting capabilities over the large volume of data. There is also a vast array of user types that require different tools and services to access and analyze the data. Some users need global data to run climate models, while others require small, dynamic regions that require lots of analysis and transformations. There will also be a need to generate data that have different inputs or correction algorithms that the project may not be able to provide as those will be very specialized for specific regions or evolve quicker than what the project can reprocess. By having the data and tools side by side, users will be able to access the data they require and analyze it all in one place. By placing data in the cloud, users can analyze the data there, shifting the current "download and analyze" paradigm to "log-in and analyze". The cloud will provide adequate processing power needed to analyze large volumes of data, subset small regions over large volumes of data, and regenerate/reformat data to the specificity each user requires.

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