A.48 ADVANCED INFORMATION SYSTEMS TECHNOLOGY

NOTICE: The Advanced Information Systems Technology (AIST) program will not be competed in ROSES-2020. It is anticipated that the Advanced Information Systems Technology program will be competed again in ROSES-2021.

1. Objectives

The objectives of the Advanced Information Systems Technology (AIST) program are to identify, develop, and (where appropriate) demonstrate advanced information system technologies which:

- Reduce the risk, cost, size, and development time of Earth Science Division (ESD) space-based and ground-based information systems;
- Increase the accessibility and utility of science data; and
- Enable new observation measurements and information products.

2. Program Description

NASA's Advanced Information Systems Technology (AIST) Program identifies, develops, and supports the adoption of novel information systems that respond to future Earth Science's needs in a 5-10-year timeframe. ESTO's AIST program employs an end-to-end approach to evolve technologies – from the design of future observation systems and strategies to the space segment, where the information pipeline begins, and finally to the end user, where knowledge and data intelligence is advanced. Information provided to a nationwide community of users will result in significant leaps of knowledge of Earth science dynamics that benefit the global community.

At the start of the pipeline, the AIST New Observing Strategies (NOS) thrust optimizes measurement acquisition using many diverse observing capabilities, collaborating across multiple dimensions and creating a unified architecture. This includes utilizing Distributed Spacecraft Missions (DSM) and diverse observations from multiple vantage points, as well as inter-spacecraft communications and onboard analysis and decision making. On the user side of the pipeline, AIST Analytic Center Frameworks (ACF) enhance and enable focused science investigations by facilitating access, integration and understanding of disparate datasets using groundbreaking visualization and analytics tools as well as relevant computing environments. This will allow flexibility for science investigators to choose among a variety of datasets and tools, while reducing repetitive work in data access and pre-processing.

3. Programmatic Information

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