## Making an IMPACT: From Open Data to Open Science

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Since the TIROS-1 weather satellite launch in 1960, the availability of Earth observation and satellite remote sensing data has expanded significantly. The increased availability of Earth observation data has bolstered Earth science research and has provided new data for decision making and other societal applications. As the owner of the single largest open access repository of heterogeneous Earth observation data, NASA is committed to investing the effort and resources needed to ensure these data remain and will continue to remain available to all users. NASA’s data archives have been very successful in upholding this commitment to the scientific research community. However, NASA’s Earth Science Data System (ESDS) Program recognizes that new strategies are needed to continue to meet the research community’s needs and encourage the use of Earth observation data by a broader user base. First, there is a need to adapt to the rapid improvements in technology that are changing how data is managed, distributed, and archived. Second, there is an ongoing need to improve the discovery, access, and use of NASA’s Earth observation data beyond the scientific research community. Third, the recognition of the idea that open sharing of data, information, and knowledge is fundamental to the understanding and success of scientific research within the scientific community and the broader public.

The ESDS Program established the Inter-Agency Implementation and Advanced Concepts Team (IMPACT) Project at MSFC to address these needs. IMPACT focuses on three areas:

1. Building partnerships with other Federal agencies, the applications communities, decision-makers, NGOs, and other organizations to encourage the adoption of NASA’s Earth observation data into the workflows and operational models
2. Enhancing NASA’s existing data infrastructure, tools, and services to promote broader use of NASA’s data for all users
3. Enabling technology and innovation to lower the barriers to entry associated with using complex Earth observation data.

This talk will present an overview of NASA’s Earth Science Data System (ESDS) Program and the IMPACT Project and its portfolio. It will also describe the concept of open science and how data programs can play a pivotal role in accelerating the path to open science.

