

Topics (T)

Earth Observing Missions and Systems to Address Climate Change and Its Impacts [2] (3B)

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THE EARTHDAILY CONSTELLATION - A GLOBAL DAILY SCIENTIFIC MONITORING MISSION
FOR THE ENVIRONMENT

Abstract

Climate change poses a significant threat to our planet, and it is crucial that we have the necessary tools and data to understand and address its impacts. Earth observing missions and systems play a critical role in this regard, providing valuable information on how the Earth's landmass is evolving over time. While today's governmental science missions provide a wealth of information, there is a need for more frequent higher-resolution scientific quality monitoring to fully understand and address the changes taking place on our planet.

EarthDaily Analytics is addressing this need with the development of the EarthDaily Constellation (EDC), a revolutionary earth observation system designed to provide daily global coverage of the Earth's entire landmass with scientific-grade geometric and radiometric quality, spectral bands ranging from visible to long-wave thermal infrared, high signal-to-noise ratios, and a resolution capable of observing small-scale natural features (5 meters). EDC's ten satellite constellation, launching in 2024, will collect and archive an unprecedented 100 TB of data per day for a long 10-year design life, providing policy makers and governments with the information they need to understand and address the impacts of climate change.

The EarthDaily Constellation is equipped with 22 spectral bands that have been carefully modelled after today's science missions to ensure both compatibility and continuity with historical archives which will support our long-term understanding of Earth's evolution. The EDC mission is designed to support a wide range of applications, including food security, biodiversity, carbon verification, water management, greenhouse gas emissions (methane detection), and natural disaster monitoring and management. The data collected by the EDC mission will be made available to a wide range of stakeholders through subscription services and will be made accessible through a cloud-native ecosystem called the Earth Data Store. This talk will focus on the EDC mission parameters, design, products, and value-added services that will help support today's most pressing environmental challenges.