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Author: Mr. Timothy Stryker

USGS Land Remote Sensing Program, United States

TRANSATLANTIC LAND REMOTE SENSING SATELLITE COLLABORATION FOR CLIMATE
CHANGE ADAPTATION AND MITIGATION

Abstract

Europe and the U.S. have long demonstrated global leadership in the full, free, and open availability of publicly funded satellite Earth observations (EO). The strong heritage of global operational meteorological satellite leadership by the U.S. National Oceanic and Atmospheric Administration and the European Organization for the Exploitation of Meteorological Satellites has led to a nearly seamless open meteorological satellite data ecosystem for their users. And the longstanding collaboration between the U.S. and Europe first on the Landsat 50-year data record, and more recently with the Copernicus-Sentinel 2 seven-year data record, have provided crucial information to many thousands of users. Recent developments with the U.S. Landsat Next mission and Europe's Copernicus-Sentinel Next-Generation missions enable both parties to enhance their existing land-imaging collaboration so that their two sovereign systems may together offer a more seamless set of remote sensing data and information services to European, U.S., and global users. Such collaboration would enable users to better monitor, and ultimately forecast, climate-induced changes to landscapes, surface waters, and coastal regions from local to global scales. It would allow all users in the government, private, academic, and non-profit sectors to better understand, and help their societies adapt to and mitigate, the impacts of global climate change. Much like transatlantic weather satellite coordination, this collaboration would support a multi-source, multi-modal land-imaging "ecosystem" for science and services. This ecosystem would enable access to interoperable Sentinel 2, Landsat, and joint Sentinel 2-Landsat data products, and inter-calibration and usage of multiple other government and commercial EO sources. This session will provide attendees with an update on transatlantic land imaging collaboration under the Europe-U.S. Civil Space Dialogue. This update will review work by the U.S. Geological Survey, the European Commission, the U.S. National Aeronautics and Space Administration, and the European Space Agency on user needs and requirements; specifications and future mission architectures; data acquisition and initial processing; product definition, generation, and interoperability; product storage, delivery, and access architectures; instrument calibration and data validation; and, connection to global climate observations activities.