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HARNESSING SPACE FOR EARTH

**Abstract**

Space-based Earth Observations have transformed our knowledge of the planet over the past 60 years. A renaissance in satellite and sensor technology, space transportation, computer modeling and data storage has opened up new opportunities in space-based research and applications. In the United States, decades of investment in aligned programs at NASA, NOAA and USGS, along with policies that incentivize private sector investments allow us to observe our planet comprehensively and contribute to our economy, national security, personal health and safety. This paper will propose U.S. government policies that would build upon existing capabilities to maximize humanitarian and societal benefits from Earth Observation data related to the climate crisis. We will recommend key elements of U.S. climate science policy related to Earth Observation data gathering and sharing mechanisms including: Data infrastructure for meaningful access to climate data. The U.S. Federal government has collected data sets that are critical to address global climate change. And yet the full scope and scale of these data are not available to scientists, developers, and even state and local governments — the groups that convert the data into actionable information. A significant, unknown segment of these data assets remain inaccessible/stranded assets because they sit idle on Agency servers without meaningful digital access infrastructure, or they remain needlessly classified. This paper will review relevant programs to make scientific data more accessible, including api.data.gov and the discontinued MEDEA program. Climate Data Information Partnership. In 2015, a GAO Report on Climate Information found “the climate information needs of federal, state, local, and private sector decision makers are not being fully met” and called for the creation of “a national climate information system with defined roles for federal agencies and non-federal entities with existing statutory authority.” In 2017, as the U.S. federal government abdicated its role and formally questioned the threat of global climate change, cities and states began to organize and take action to address the challenges they faced within their own jurisdictions. This paper will outline how the U.S. federal government could step-up to this coordination role, building upon the networks already in place and recommend potential structural options for a national climate data information partnership. Climate Corp Establishment of a Climate Corp – based on the Peace Corp model to prepare, embed and coordinate trained scientists and engineers within Congressional districts and potentially around the world to address local needs by translating data for evidence-based decision-making.