

**Statement by Kevin Conole, United States Representative, on
Agenda Item 7, “Matters Related to Remote Sensing of the Earth by Satellite,
Including Applications for Developing Countries and Monitoring of
the Earth’s Environment” -- February 12, 2020**

Thank you, Madame Chair and distinguished delegates. The United States is committed to maintaining space as a stable and productive environment for the peaceful uses of all nations, including the uses of space-based observation and monitoring of the Earth’s environment. The U.S. civil space agencies partner to achieve this goal. NASA continues to operate numerous satellites focused on the science of Earth’s surface and interior, water and energy cycles, and climate. The National Oceanic and Atmospheric Administration (or NOAA) operates polar-orbiting, geostationary, and deep space terrestrial and space weather satellites. The U.S. Geological Survey (or USGS) operates the Landsat series of land-imaging satellites, extending the nearly forty-eight year global land record and serving a variety of public uses. This constellation of research and operational satellites provides the world with high-resolution, high-accuracy, and sustained Earth observation.

Madame Chair, I will now briefly update the subcommittee on a few of our most recent accomplishments under this agenda item. After a very productive year of satellite launches in 2018, in 2019 NASA brought the following capabilities on-line for research and application users. The ECOsystem Spaceborne Thermal Radiometer Experiment on the International Space Station (ISS) has been used to generate three high-level products: evapotranspiration, water use efficiency, and the evaporative stress index — all focusing on how plants use water. The Ice, Cloud and land Elevation Satellite is using its rapid-firing lasers to measure the height of Earth’s changing glaciers, ice sheets, and sea ice, all in unprecedented detail. The Global Ecosystem Dynamics Investigation is distributing its high-resolution laser-ranging observations to map the 3-D structure of the Earth for carbon and nutrient cycling, habitat quality and biodiversity, forest health and productivity, hydrologic cycling, and effects of natural and human caused disturbances.

In addition, in May 2019, NASA launched the Orbiting Carbon Observatory 3 instrument to the ISS, which is critical in the continuation of global carbon dioxide measurements. These measurements can be combined with evapotranspiration and biomass measurements to study process details of the terrestrial ecosystem.

NOAA and NASA, along with our European partners, continue to study the oceans with the Jason-3 mission. NOAA transitioned GOES-17 into operations as GOES-West, NOAA's primary geostationary satellite for detecting and monitoring Pacific storm systems, fog, wildfires, and other weather. Together NOAA's GOES-East and GOES-West satellites provide high-resolution visible and infrared imagery as well as lightning observations of more than half the globe – from the west coast of Africa to New Zealand, and from near the Arctic Circle to the Antarctic Circle. Together with NOAA-20, the first satellite of NOAA's Joint Polar Satellite System, the GOES satellites provide decision makers and the public with 24-hours-per-day/7-days-per-week access to highly accurate, high resolution observations critical for improved weather predictions and environmental monitoring.

The USGS, NASA, and NOAA continue to develop and deploy new satellite-based drought monitoring systems to support the U.S. Agency for International Development's (USAID's) Famine Early Warning Systems Network and the GEOGLAM Crop Monitor for Early Warning. Extreme food insecurity continues to impact more than 80 million people. Ever-improving integrated monitoring and forecasting systems help identify the most vulnerable at-risk populations, guiding timely and effective humanitarian assistance.

NASA and USAID continue to partner with leading technical organizations around the world to strengthen the capacity of partners in more than 50 countries, using satellite data to improve development outcomes, resilience, and self-reliance. SERVIR has active hubs in eastern and southern Africa, West Africa, the Hindu-Kush Himalaya, lower Mekong, and the Amazonia regions. SERVIR enables evidence-based decisions related to food security, water resources, natural disasters, and land use. During 2019, this included enabling an agricultural insurance system in Kenya, and developing a Regional Drought and Crop Yield Information System for the Mekong region.

Similarly, USGS and USAID partner to implement the U.S. Government SilvaCarbon program, which provides capacity building to 23 countries in the use of satellite data to monitor deforestation and forest degradation to manage their lands to achieve sustainable development goals. The SilvaCarbon program has been assisting governments in forested countries to reduce their forest loss since 2011. U.S. academia, non-governmental organizations, and the private sector are collaboratively developing open-source tools and methodologies that can be used worldwide across the tropics. Three countries in the Amazon Basin, two countries in the Congo Basin, and three countries in the Mekong area have developed

transparent National Forest Monitoring Systems with the assistance of the SilvaCarbon program.

Landsat satellites continue to add approximately 37 million square kilometers of land observations daily. In 2019, the USGS distributed more than 29 million Landsat products to users around the globe. USGS operates the Landsat 7 and Landsat 8 satellites, both of which enable international cooperators to receive direct downlinks of imagery for their location. The Landsat 9 mission is scheduled to launch no earlier than December 2020. Additionally, the joint USGS-NASA Sustainable Land Imaging program Architecture Study Team is in the process of finalizing its report and recommendations regarding an approach for the second phase of a sustainable spaceborne system to provide global, continuous Landsat-quality multispectral and thermal infrared measurements from approximately 2026 to 2041. All Landsat data in the USGS archive are freely available to users.

Madame Chair, the United States will continue to actively collaborate with the international community to help ensure comprehensive, coordinated, and sustained Earth observation capabilities for the benefit of humankind. Thank you, Madame Chair.