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NOAA: Current and Future Satellite Systems

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Our planet is incredibly complex and constantly changing. High-quality, timely, and global observations from Earth observing satellites are needed to forecasting weather, understand climate trends and changing ecosystems, monitor land and sea surface changes, monitor environmental hazards, and observe space weather.

To meet these challenges NOAA is evolving our business model to stay current with the expanding complexity of Earth observing contributors including our partners among the meteorological satellite agencies of Asia. NOAA operates 16 environmental satellites. Over the past five years, NOAA's advanced geostationary and polar-orbiting satellites, the GOES-16, GOES-17, and NOAA-20 (JPSS series) have become operational. GOES-18, which launched in March 2022, will become operational in early 2023. NOAA will launch JPSS-2 on November 1, 2022. NOAA plans to launch one additional GOES series and two additional JPSS series satellites between 2023 and 2031. These missions, along with other NOAA collaborations (COSMIC, JASON, DSCOVR, etc.) are key contributions to the WMO space-based portion of the Global Observing System (GOS).

In addition, NOAA is evolving our approach to common ground systems, satellite architecture, data stewardship, data distribution, and user preparedness to ensure we are a more mission-effective, integrated, adaptable organization that anticipates and responds efficiently to changing technology (e.g. CubeSats, Cloud), emerging partnerships and evolving observation requirements. This evolution requires a new approach to our satellite observing system architecture as well as to our product development and prioritization processes. In particular, we are examining how to maximize our resources and effectiveness through partnerships for observations and blended products (e.g. LEO/GEO Flood Forecasting).

No one country alone can afford to effectively monitor the entire Earth. NOAA continues to forge partnerships around the globe to share the Earth observation on a full and open basis and to ensure users have the information they need to address pressing policy concerns. We collectively improve our forecasting strength by sharing data with countries around the world.

In this presentation, we provide not only an overview of NOAA's current satellites and plans for future satellites, but also a review of our important partnerships and examples of our products and applications of potential interest to users in Asia and Oceania.