

IAF EARTH OBSERVATION SYMPOSIUM (B1)
Future Earth Observation Systems (2)

Author: Dr. Karen St. Germain

National Oceanic and Atmospheric Administration (NOAA), United States, karen.st.germain@noaa.gov

Dr. Frank Gallagher

National Oceanic and Atmospheric Administration (NOAA), United States, frank.gallagher@noaa.gov

Ms. Kate Becker

NOAA/NESDIS, United States, kate.becker@noaa.gov

PROGRESS ON THE NOAA SATELLITE OBSERVING SYSTEM ARCHITECTURE STUDY AND
THE WAY-AHEAD**Abstract**

The National Oceanic and Atmospheric Administration (NOAA) has begun launching its next generation of weather satellites both in polar and geostationary orbit. Over the next decade, NOAA will launch the remaining three polar satellites and two geostationary satellites. Based on the projected lifetimes of these satellites, NOAA needs to launch the next generation of weather satellites around 2030. NOAA conducted a study, titled the NOAA Satellite Observing System Architecture (NSOSA) study, to plan for the next generation of weather satellites. This study provided an opportunity to design a modern architecture with no pre-conceived notions regarding instruments, platforms, orbits, etc., but driven by user needs. The study formally concluded in the fall of 2017 and NOAA has begun to initiate projects to develop the new satellite constellation. This paper will provide an update on progress on the ongoing work since that time. We will focus on a discussion of approaches being considered for future low earth orbit weather satellite systems, including partial disaggregation and potential augmentation systems, additional refinement of geostationary system options, including legacy continuation and more diversified approaches, preferred and refined approaches to space weather observation, and lessons learned from community engagement and market research. The result of this work will lead to the ongoing acquisition of essential environmental remote sensing data for use by the meteorological and climatological community.