NPOESS ENVIRONMENTAL DATA RECORD (EDR) PRODUCTION, QUALITY AND LATENCY

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Abstract

The National Oceanic and Atmospheric Administration (NOAA), Department of Defense (DoD), and National Aeronautics and Space Administration (NASA) are jointly acquiring the next-generation weather and environmental satellite system; the National Polar-orbiting Operational Environmental Satellite System (NPOESS). NPOESS replaces the current Polar-orbiting Operational Environmental Satellites (POES) managed by NOAA and the Defense Meteorological Satellite Program (DMSP) managed by the DoD. The NPOESS satellites carry a suite of sensors that collect meteorological, oceanographic, climatological, and solar-geophysical observations of the earth, atmosphere, and space. The ground data processing segment for NPOESS is the Interface Data Processing Segment (IDPS), developed by Raytheon Intelligence and Information Systems. The IDPS processes NPOESS satellite data to provide environmental data products (aka, Environmental Data Records or EDRs) to NOAA and DoD processing centers operated by the United States government. The IDPS will process EDRs beginning with the NPOESS Preparatory Project (NPP) and continuing through the lifetime of the NPOESS system. Northrop Grumman Aerospace Systems Algorithms and Data Products (A&DP) organization is responsible for the algorithms that produce the EDRs, including their quality aspects.

Together, IDPS and A&DP must support the calibration, validation, and data quality improvement initiatives of the NPOESS program to ensure the production of atmospheric and environmental products that meet strict requirements for accuracy and precision. In support of this activity, A&DP and IDPS continually updates the estimated performance of the NPOESS system with respect to both latency and data quality, using the latest

operational implementation of the data processing software and information from instrument test activities. This poster will illustrate and describe the processing chains that create the data products, as well as describe the latency and data quality associated with each of the deliverable products, updated to reflect the current state of knowledge.

Bibliography

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