

S04-2

The Contribution of Operational and Research Applications from the Joint Polar Satellite System to Societal Benefits

Mitchell David Goldberg

NOAA JPSS

Applications of satellite data are paramount to transform science and technology to product and services which are used in critical decision making. For the satellite community, good representations of technology are the satellite sensors, while science provides the instrument calibration and derived geophysical parameters. Weather forecasting is an application of the science and technology provided by remote sensing satellites. The Joint Polar Satellite System, which includes the Suomi National Polar-orbiting Partnership (S-NPP) provides formidable science and technology to support many applications and includes support to 1) weather forecasting – data from the JPSS Cross-track Infrared Sounder (CrIS) and the Advanced Technology Microwave Sounder (ATMS) are used to forecast weather events out to 7 days - nearly 85% of all data used in weather forecasting are from polar orbiting satellites; 2) environmental monitoring -data from the JPSS Visible Infrared Imager Radiometer Suite (VIIRS) are used to monitor the environment including the health of coastal ecosystems, drought conditions, fire, smoke, dust, snow and ice, and the state of oceans, including sea surface temperature and ocean color; and 3) climate monitoring – data from JPSS instruments, including OMPS and CERES will provide continuity to climate data records established using NOAA POES and NASA Earth Observing System (EOS) satellite observations. To bridge the gap between products and applications, the JPSS Program has established a proving ground program to optimize the use of JPSS data with other data sources to improve key products and services. A number of operational and research applications will be presented along with how the data and applications support a large number of societal benefit areas of the Global Earth Observation Systems of Systems (GEOSS).