Geophysical Research Abstracts
Vol. 14, EGU2012-1886, 2012
EGU General Assembly 2012

Free Flyer Total and Spectral Solar Irradiance Sensor (TSIS) and Climate Services Mission

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NOAA's planned Total and Spectral Solar Irradiance Sensor (TSIS) mission will fly along with the NOAA user service payloads Advanced Data Collection System (ADCS) and Search and Rescue Satellite Aided Tracking (SARSAT). In order to guarantee continuity in the 33-year solar irradiance climate data record, TSIS must be launched in time to overlap with current on-orbit solar irradiance instruments. Currently TSIS is moving towards a launch readiness date of January 2015. TSIS provides for continuation of the Total Irradiance Monitor (TIM) and the Spectral Irradiance Monitor (SIM) currently onboard NASA's Solar Radiation and Climate Experiment (SORCE) platform, launched in January 2003. The difficulty of ensuring continuity has increased due to the launch failure of NASA's Glory mission with its improved TIM. Achieving the needed overlap must now rely on extending SORCE, and maintaining the TSIS schedule. TSIS is one component of a NASA-NOAA joint program (JPSS) planned to transition certain climate observations to operational mode. We summarize issues of continuity, improvements being made to the TIM and SIM sensors, and plans to provide for traceability of total and spectral irradiance measurements to ground-based cryogenic standards.