

Welcome/Introduction – TSIS & SORCE Status Overview

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The theme of the 2018 Sun-Climate Symposium was *The State of the TSI and SSI Climate Records at the Junction of the SORCE and TSIS Missions*. At the meeting we symbolized the connection and continuity between SORCE and TSIS with a relay baton being passed from SORCE to TSIS. It is almost two years since that meeting and SORCE has steadfastly refused to relinquish its grip on the baton. Despite a recurrence of battery problems that have plagued SORCE for years, initially triggering an acceleration of the SORCE decommissioning plan, NASA decided to extend SORCE operations first into January and then February, 2020, based solely upon the compelling science that SORCE continues to provide.

As planned, the Total Solar Irradiance Calibration Transfer Experiment (TCTE) ended on June 30, 2019, acquiring measurements of total solar irradiance (TSI) for five and a half years. TCTE met its primary mission requirement to ensure continuity of what is now a 41-year long TSI climate data record, confirming the TSI value of 1361 W/m².

As TCTE has finished its journey, linking the SORCE TSI calibration scale with TSIS-1, and SORCE looks to conclude its historic mission next month, TSIS-1 continues to produce high quality solar irradiance data on its perch aboard the International Space Station. The TSIS-1 Total Irradiance Monitor (TIM) has provided further validation of the SORCE and TCTE calibration scales. Meanwhile, the TSIS-1 Spectral Irradiance Monitor (SIM) has reduced uncertainties from SORCE SIM by approximately one order of magnitude in the visible and even more in the near-infrared. TSIS-1 is nearing the end of the second year of a 5-year prime mission. Preparations for TSIS-2 have already begun, with a launch-readiness date of February, 2023.