Satellite Overlap Requirements for Building Long-term Continuous Records – SORCE/TSIS Case Study

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The amount of satellite overlap needed to create a useful long-term dataset depends on the agreement between the two satellites and the level of accuracy needed in the final product. The expected factors affecting overlap time were outlined in a Weatherhead _et al._ paper in 2017. With the TSIS/SORCE overlap period, we now have the ability to look at impacts of overlap time by wavelength for this important datasets, testing the assumptions put forward in Weatherhead _et al._ Results show that initial burn-in period, long-term drift, offsets and unexplained spikes all impact overlap requirements. Results of this effort are applicable to many other long-term observational datasets. However, the need for appropriate overlap is most important when the satellite data have little or no additional observational sources for validation.