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Update on long-term surface irradiance observations from the NOAA globally-remote background network

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Previous reports of protracted interannual variations in basic surface radiation budget components at multiple and diverse surface sites have stimulated a broad interest in the true magnitude and impact of such variations on different spatial and temporal scales. A globally-remote baseline reference network was established by NOAA in the early 1970s to monitor radiatively important trace atmospheric constituents and their impact on surface radiation. That network has been continually operated since and today provides much of the baseline information on the agents of anthropogenic climatic forcing as well as major international contributions to global surface energy budget observations and computations. The surface radiation measurements at the NOAA network have been recently reprocessed and recalibrated incorporating the latest advances in that measurement community to address the recent questions related to long-term variability in the surface solar irradiance records. The latest available data from this will be examined with respect to other recent observational efforts and reports concerning long-term surface solar irradiance variability. Also, the spatial representativeness of surface radiation measurement at these sites, and other constituting an international cooperative surface irradiance network, will be address using cross correlation with related satellite-derived observations.