

This notice lists major updates on the NOAA stratospheric temperature Climate Data Record (CDR) derived from SSU, AMSU-A and ATMS observations:

- May 2011: SSU Version 1.0 CDR released. This is the SSU-only dataset from late 1978 to 2006 with spatial resolution of 2.5° latitude by 2.5° longitude
- April 2012: Paper on SSU Version 1.0 CDR published: Wang, L., C.-Z. Zou, and H. Qian (2012), Construction of stratospheric temperature data records from Stratospheric Sounding Units. *J. Climate*, Vol 25, 2931-2946, DOI: 10.1175/JCLI-D-11-00350.1
- July 2014: SSU Version 2.0 CDR released. This is again the SSU-only time series from 1978 to 2006.
- December 2014: Paper on SSU Version 2.0 published: Zou, C.-Z., H. Qian, W. Wang, L. Wang, and C. Long (2014), Recalibration and merging of SSU observations for stratospheric temperature trend studies, *J. Geophys. Res. Atmos.*, 119, 13,180-13,205, doi:10.1002/2014JD021603
- March 2015: A improved bias correction scheme was applied to NOAA-8 channel 2 during 1983-1984. NOAA-8 ch2 had no overlaps with any other satellites since NOAA-7 channel 2 was unusable. In the original Version 2.0 first released in July 2014, NOAA-8 channel 2 was connected to NOAA-6 by extrapolation. This was found to be problematic for NOAA-8 latitudinal structure during 1983-1984. In this update, NOAA-8 was connected to NOAA-6 using a global mean constant bias which was independent of latitudes. This was based on the fact that inter-satellite biases between other satellite pairs had negligible latitudinal dependency. The global mean constant bias, being -0.19K, was determined by considering consistency between ch1, ch2 and ch3. This update only affects channel 2 latitudinal structure during 1983-1984. It had no effect on channel 2 global mean time series and trend. Channel 1 and Channel 3 were unchanged with this update.
- May 2016: SSU/AMSU-A Version 3.0 CDR released. This is an extended SSU CDR where AMSU-A was used to derive SSU equivalent channels to merge with the SSU Version 2.0. The merged time series spans from late 1978 to present. The spatial and time resolutions for the SSU/AMSU-A 3.0 are the same as the SSU Version 2.0.
- September 2016: Paper on SSU/AMSU-A Version 3.0 published: Zou, C.-Z., and H. Qian, 2016: Stratospheric Temperature Climate Data Record from Merged SSU and AMSU-A Observations, *J. Atmos. Oceanic Technology*, Vol 33, 1967-1984, doi:10.1175/JTECH-D-16-0018.1 This publication is the reference for using the SSU/AMSU-A V3.0 which contains detailed description on the merging approaches and accuracy of the dataset.
- February 2021: Observations from the Suomi NPP ATMS channels 8-15 (Baseline version of the S-NPP ATMS reprocessed TDR data) during December 2011 to present were included in the time series. Meanwhile, several AMSU-A channels onboard Aqua were cut since July 2017 and all Aqua/AMSU-A channels were cut since August 2020 due to quality issues.
- December 2025: ATMS observations from the Suomi NPP, NOAA-20, and NOAA-21 satellites were included in the time series.