

CWEEDS Revision History

2023

This dataset has been updated with the most recent changes made in March 2023. There are now files for 644 Canadian locations compared to 564 in the 2020 release. The period has been extended by three years for the North (2018 to 2020), and the South (1998 to 2000). There are six new locations at northern sites incorporating solar data in a gridded data set derived from polar-orbiting meteorological satellites (see 2020 release notes). All 101 locations north of 58° N in this release now incorporate solar data from this new northern gridded solar data set, equivalent to a resolution of 0.1° x 0.1° (11 km x 11 km grid) for all of Canada.

2020

The dataset released in 2020 included 564 Canadian locations compared to 492 in the 2016 release. The period was extended three years to 2017. There were 72 new locations added at northern sites incorporating solar data in a gridded data set derived from polar-orbiting meteorological satellites, developed in a cooperative project involving Natural Resources Canada, SUNY (the State University of New York), and NASA (the U.S. National Aeronautical and Space Administration). Previously, the 23 northern locations incorporated solar radiation estimated by the MAC3 cloud-layer model described in the 2016 release notes below.

2016

The dataset released in 2016 included 492 Canadian locations with at least 10 years of data for the period between 1998 and 2014. The 2016 version of the CWEEDS files had several different characteristics compared to the previous major release of CWEEDS files from Environment Canada in 2005. For locations where solar irradiance observations were not available (the vast majority), solar values were primarily based on satellite-derived solar estimates using methods developed at SUNY (State University of New York) and provided to Natural Resources Canada and Environment and Climate Change Canada by Clean Power Research. SUNY data sets were available at about 10 km grid spacing for 1998-2014 for all of Canada South of 58° N, and about 100 km grid spacing for North of 58° N. Previously, the CWEEDS solar irradiance fields were primarily based on the MAC3 model estimates using sky condition and cloud layer type and cloud amount observations from 24/7 staffed weather stations.