

Precipitation_Dataset_Inventory.doc

An Inventory of Precipitation Data Sets and Sources Prepared for the Study of Environmental Arctic Change (SEARCH) Program

Florence Fetterer

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These tables include a selection of precipitation data sets that were evaluated for possible use by the SEARCH Reanalysis team, with information on bias corrections applied to the data sets, where to obtain the data, and overlaps in data sets. The shaded data sets are judged to be potentially most useful in a reanalysis.

Russia or FSU Precipitation Data Sets

NSIDC Reference	Date (mo, yr) Info Was Checked	Data Set Name	Available From	Date Range	No. Stations	Monthly or Daily	Adjustments?	URL	Overlaps	Notes
R1	11/01	Former Soviet Union Monthly Precipitation Archive, 1891-1993	No longer available from NSIDC	1891-1993	622	Monthly totals	Yes, but info provided to back out uncorrected data	http://nsidc.org/data/nsidc-0059.html	R2	From P. Groisman. A subset of earlier version of R2. Was removed from NSIDC catalog. Superseded by R2
R2	7/03	USSR Monthly Precipitation For 622 Stations 1891-1999	NCDC DSI-3720	1891-1999	622	Monthly totals	K1 gauge type adj applied and provided individual stations. K2 wind correction provided (but not applied) K3 wetting correction applied and provided. Re-adjusted	http://www4.ncdc.noaa.gov/ol/docum entlibrary/datasets.html	R1	Has all stations that GHCN has, and more. Prepared by P. Groisman. Improved over an earlier 1891-1993 version.

							version to account for wetting biases also provided.			
R3	7/03	Six- and Three-hourly Meteorological Observations from 223 U.S.S.R. Stations	CDIAC ORNL/CDIAC-108, NDP-048	Through 1990	223	Daily	Post 1966 wetting correction	http://cdiac.ornl.gov/epubs/ndp/ndp048/ndp048.html		In cooperation with NCDC via Working Group VIII
R4	7/03	Russian State Hydrological Institute (GGI)	NSIDC	1966-1990	105 in early version, 216 in published (G02170) version.	Monthly totals	Post 1966 wetting correction	http://nsidc.org/data/g02170.html		Provided by V. Vuglinsky. NSIDC had a research version of these data that was added to before publishing as G02170. About 190 are apparently unique.
R5		"Yang" North Pole drifting station precip, Arctic Ocean	NSIDC	1957-1990		Monthly totals (per EWG doc. Daily also available ?))	Trace, wetting, and wind.			Unpublished data set NSIDC has permission to publish it. (11 May 99 email from D. Yang)
R6	7/03	Meteorological Data from the Russian Arctic, 1961-2000	NSIDC ds G02141	1960-2000	51	Monthly totals	Post 1966 wetting correction	http://nsidc.org/data/g02141.html	R1R2	Publication complete. 19 apparently unique stations (not in R4,R1, or W4)
R7	7/03	Daily Precipitation Sums at	NSIDC ds G02164	Through 1990	53	Daily totals	Post 1966 wetting correction	http://nsidc.org/data/g02164.h	R1	Coastal stations. 18 are also in R1, but believe 35 are unique (Need to check

		Coastal and Island Russian Arctic Stations, 1940-1990						tml		uniqueness against "new" R1).
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Canada, Alaska Precipitation Data Sets

NSIDC Reference	Date (mo, yr) Info Checked	Data Set Name	Available From	Date Range	No. Stations	Monthly or Daily	Adjustments?	URL	Overlaps	Notes
C1 C1	11/01 7/03	Canadian Monthly Precipitation	NCDC data set TD-9816	Beginning of record to 1990	6692	Monthly totals, per NCDC documentation	Wind, wetting, changes in gauge type. Unadjusted data also available.	http://www4.ncdc.noaa.gov/ol/documentlibrary/data-sets.html search for "Canada n"	C2	Prepared by P. Groisman. Doc has Jan 03 date, but no indication that the data set has been revised
C2	11/01	Adjusted Monthly Precipitation, Snowfall and Rainfall for Canada (1874-1990)	No longer available from NSIDC	Beginning of record to 1990	6692	Monthly totals	Wind, wetting, changes in gauge type	http://nsidc.org/data/nsidc-0072.html	C1	Prepared by P. Groisman. Same as C1. Was removed from NSIDC catalog. Duplicates C1.
C3 C3	11/01 7/03	Historical Adjusted Climate Database for Canada, Version December 2002 Rehabilitated Precipitation and	Climate Monitoring and Data Interpretation Division of the Climate Research Branch, Meteorological	1948 to "present"	495	Monthly totals	Wetting, wind, trace, evaporation	http://www.cccma.bc.ec.gc.ca/hccd/ http://www.cccma.bc.ec.gc.ca/hccd/data/precipitation_documentation .	C1	Subset of stations from C1. Processed in a different way. (Mekis and Hogg 99). "a database of long-term and homogeneous precipitation series that are specifically designed for climate change analyses in Canada." Documentation linked from C3 documentation describes how differs from C1. Updated annually.

		Homogenized Temperature Data Sets	Service of Canada					html		
C4	11/017/03	NOAA/CMDL World Climate Data, Global Historical Climatology Network for Alaska	NSIDC arcss014	To 1990.	39	Monthly totals	? Believe as for GHCN	http://nsidc.org/data/arcss014.html	W1	"Collected by Oak Ridge National Laboratory and prepared for NOAA/CMDL by Jon K. Eischeid" Subset of W1.
C5	8/03	Alaskan Historical Climatology Network (HCN) Serial Temperature and Precipitation Data	CDIAC db1004	1828-1990	47	Monthly totals	No	http://cdiac.esd.ornl.gov/n dps/db1004.html		Companion to the Historical Climatology Network (HCN) database for the contiguous United States, but without adjustments
C6		Monthly Precipitation Data For U.S. Cooperative & NWS Sites July 1999	NCDC	1915 – 1997. (1998 on in related data set TD3220)	8000 current, many more inactive (all U.S)	Monthly totals	No	http://lwf.ncdc.noaa.gov/oa/climate/online/coop-precip.html#NOTES		These data are taken from NCDC digital database TD3220 (http://cdo.ncdc.noaa.gov/CD O/cdo , search for Monthly surface data). Potentially more data for AK than in the GHCN, but QC could be a problem.
C7		Canadian Daily Climate Data CD-ROM, CDCD (2002)	Meteorological Service of Canada	1840-2000	7000	Daily totals	?			Info from APDA site. Was unable to find documentation on Green Lane site.

Greenland and Northern Europe Data Sets

NSIDC Reference	Date (mo, yr) Info Checked	Data Set Name	Available From	Date Range	No. Stations	Monthly or Daily	Adjustments?	URL	Over-laps	Notes
E1	8/03	EUROPEAN CLIMATE ASSESSMENT & DATASET (ECA&D)	http://www.knmi.nl/samenw/eca/	1951-1999 (Iceland) 1943-2001 (Norway) 1900-2001 (Sweden) 1908-1999 (Finland)	5 (Iceland) 12 (Norway) 7 (Sweden) 3 (Finland)	Daily totals	? (Did not access documentation)	http://www.knmi.nl/samenw/eca/		Information taken from APDA site
E2	8/01/03	NORDKLIM - DataSet	Swedish Meteorological and Hydrological Institute	1870-2001 (Iceland) 1867-2001 (Norway) 1873-2001 (Sweden) 1890-2002 (Finland)	5 (Iceland) 29 (Norway) 48 (Sweden) 26 (Finland)	Monthly totals	Documentation unclear. Believe at least some have been adjusted.	http://www.smhi.se/hfa_coord/nordklm/nkds.htm		Some information taken from APDA site
E3		Monthly and annual total precipitation for Greenland, (Ohmura, 1997)	ETH Zurich, Switzerland	1873-1991	32	Monthly totals				Information taken from APDA site
E4		The	Danish	1958-	27	Monthly	(Info may be in	http://www		Information taken from

		Observed Climate of Greenland, 1958-99, Technical report No. 00-18 (152 pp)	Meteorological Institute	1929		totals	documentation)	w.dmi.dk/f%2bu/publikation/tekrap/tekniskerap.html		APDA site
E5		Observed Daily Precipitation, Maximum Temperature and Minimum Temperature from Ilulissat and Tasiilaq, 1873-2000 Technical report No. 01-11	Danish Meteorological Institute	1873-2000	2	Daily totals	(Info may be in documentation)	http://www.dmi.dk/f%2bu/publikation/tekrap/tekniskerap.html		Information taken from APDA site
E6		Nordic Climate Data Collection 2001, update of: NACD, REWARD, NORDKLIM and NARP datasets, Version 0 Technical report No. 01-20	Danish Meteorological Institute	1873-2000	7	Monthly totals	(Info may be in documentation)	http://www.dmi.dk/f%2bu/publikation/tekrap/tekniskerap.html		Information taken from APDA site

World Precipitation Data Sets

NSIDC Reference	Date (mo, yr) Info Checked	Data Set Name	Available From	Date Range	No. Stations	Monthly or Daily	Adjustments?	URL	Over-laps	Notes
W1	11/01 7/03	The Global Historical Climatology Network: Long-Term Monthly Temperature, Precipitation, Sea Level Pressure, and Station Pressure Data (1992)	CDIAC NDP-041	To 1990	7500	Monthly totals	Can't find documentation. Presume like GHCN.	http://cdiac.esd.ornl.gov/e pubs/ndp/ndp041/ndp041.html	W4	Compiled "as part of GHCN project". Does this mean records were added to GHCN and are now in GHCN v1 or v2? "The database was created from 15 source data sets, including: * The National Climatic Data Center's (NCDC's) World Weather Records * CAC's Climate Anomaly Monitoring System (CAMS) * NCAR's World Monthly Surface Station Climatology CIRES' (Eischeid/Diaz) Global precipitation data set
W2	11/01 7/03	World Monthly Surface Station Climatology, 1738-cont	NCAR ds570.0	To 1998	4700	Monthly		http://dss.ucar.edu/datasets/ds570.0/	W4	Data from (NCDC) Monthly Climate Data of the World and other sources, QC'd at NCAR, updated yearly.
W3		Federal Climate Complex Global Surface Summary	NCDC's Climate Services Branch	1973 on		Daily		ftp://ftp.ncdc.noaa.gov/pub/data/global/sod/readme.t		From the synoptic/hourly observations contained in TD9956 (USAF DATSAV3 Surface data. Extensive automated QC at NCAR.

		Of Day Data Version 6						xt		
W4	7/03	The Global Historical Climatology Network V2	NCDC		More than 20,000 (only 7500 in V1)	Monthly totals	? Raw and "adjusted for inhomogeneities" file provided. Not described further. On-line documentation at NCDC is not clear. Cannot find documentation for v2 precipitation	http://www.ncdc.noaa.gov/oa/climate/data.html search for GHCN	W2, W1, W4	The GHCN version 2 temperature data set was released in 1997 while the version 2 precipitation data was made available in July 1999. Version 2 has significant improvements over version 1: more data (e.g., the precipitation data set has data from over 20,000 stations) From "readme.precip.v2: v2.prcp_adj contains far fewer station records than the raw data set, contains data that has been adjusted for inhomogeneities. Not only are these station records free of inhomogeneities, contain additional records for some stations, particularly those in the former Soviet Union.
W5	7/31	Global Daily Climatology Network, V1.0	NCDC data set 9101	1840-2001	32,857	Daily totals.	No adjustments	http://www4.ncdc.noaa.gov/ol/documentlibrary/data-sets.html		Tmax, Tmin, and precip only. QC'ed with erroneous data flagged or removed. Sources: NCDC scientists collected most through cooperative research exchanges. Per P. Groisman, has all of the Canadian and about half of the Russian national network stations.