

Comparison of first generation reanalysis data for climate change study over Siberia

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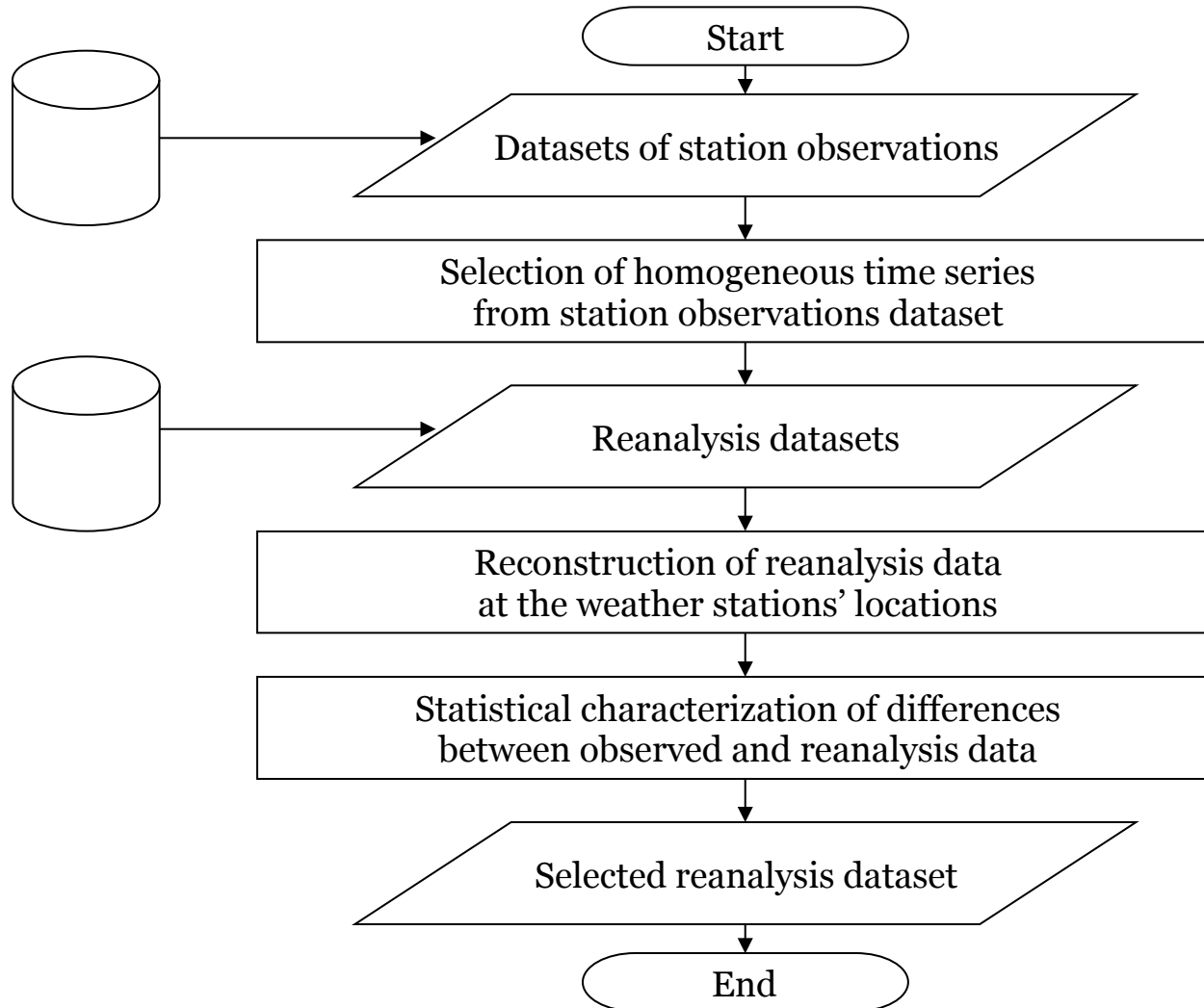
Objective

***To assess reliability with which Reanalysis data describe
observed climate change characteristics
over Siberian region.***

Datasets

<i>Dataset</i>	<i>Organization</i>	<i>Time period</i>	<i>Resolution</i>	<i>Assimilation</i>	<i>Data format</i>
<i>Station observation datasets</i>					
9092c Global Synop. Network (2095 stations)	RIHMI-WDC	1881-2001	8h(up to 1935) 6h(up to 1965) 3h (since 1966) 684 stations	-	ASCII
Dataset of daily temperature and precipitation (518 stations)	RIHMI-WDC/ CDIAC	1881-2010	daily 221 stations	-	ASCII
<i>Modeled datasets</i>					
NCEP/NCAR Reanalysis	NCEP/NCAR	1951-2001	12 h., 2,5°×2,5° 17 pres.lev.	3D-Var	GRIB 1
NCEP/DOE Rean. AMIP II	NCEP/DOE	1973-2003	6 h., 2,5°×2,5° 17 pres.lev.	3D-Var	NetCDF
ECMWF ERA-40 Reanalysis	ECMWF	09.1957-08.2002	6 h., 2,5°×2,5° 23 pres.lev.	3D-Var	NetCDF
ECMWF ERA Interim Rean.	ECMWF	1979-present	6 h., 1,5°×1,5° surface	4D-Var	NetCDF
APHRODITE JMA Precipitation dataset	JMA	1951-2007	1 d. 0,25°×0,25° surface	Weight mean interpolation method	NetCDF

Data comparison technique



Task

Area: Siberia

Time period: 1979 – 2000

To select the modeled datasets of:

- air temperature,
- precipitation,
- atmospheric pressure

The following modelled datasets are reproduced the statistics of observed climate features in Siberia more accurately:

- ERA Interim – for air temperature
- APHRODITE JMA – for precipitation amount
- ERA Interim – for atmospheric pressure.

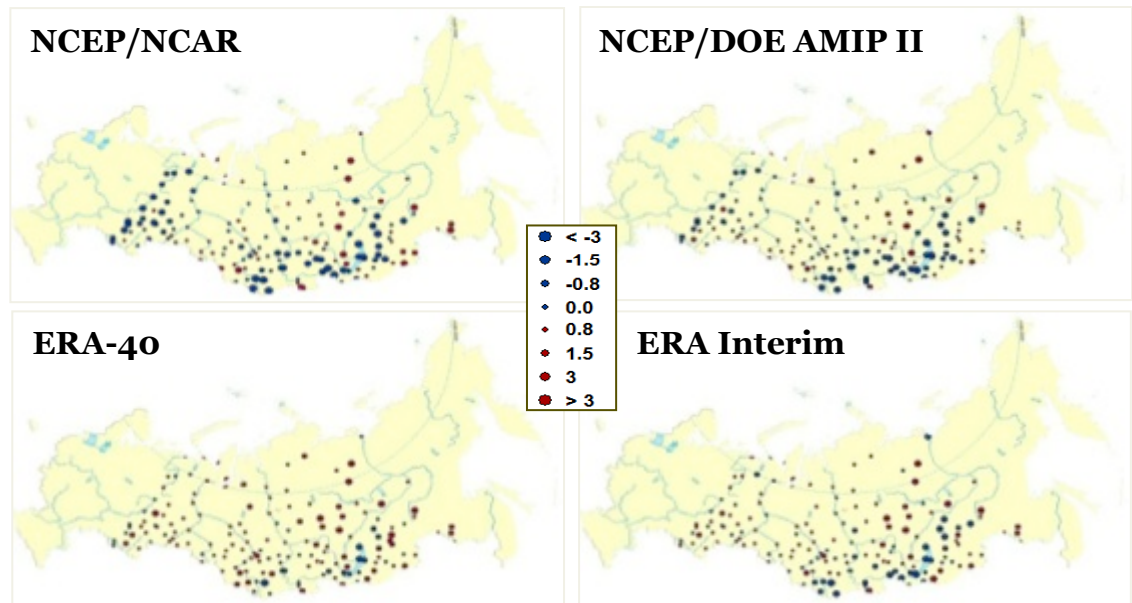


Fig.1. Difference of annual mean temperature values calculated based on reanalysis data and station observations for the period 1979 – 2000.

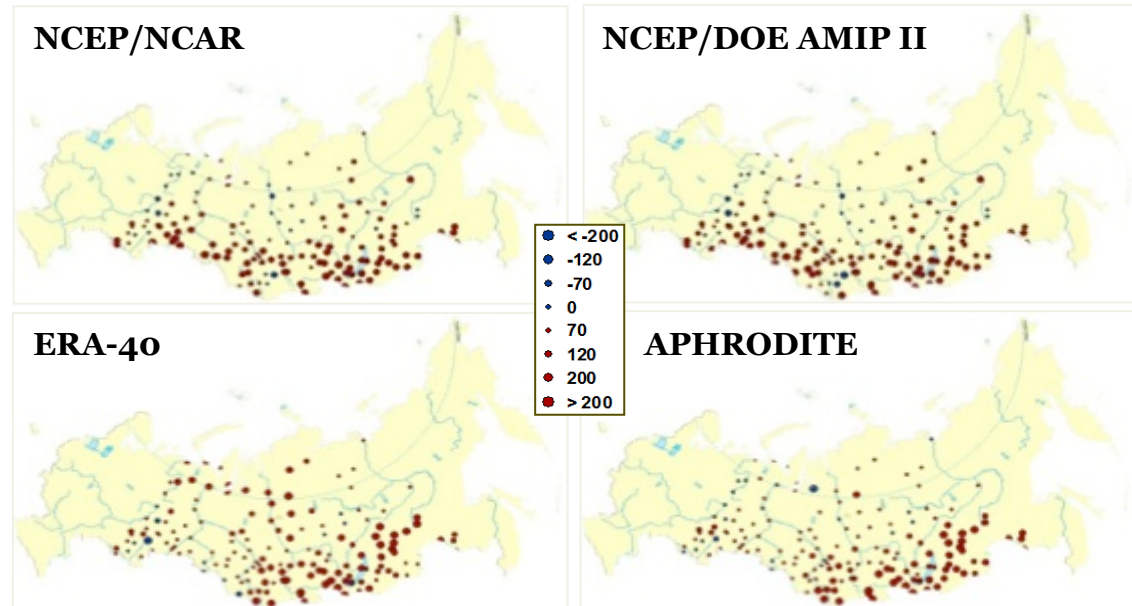


Fig.2. Difference of annual precipitation sums calculated based on reanalysis data and station observation for the period 1979 – 2000.

**THANK YOU
FOR YOUR ATTENTION!**