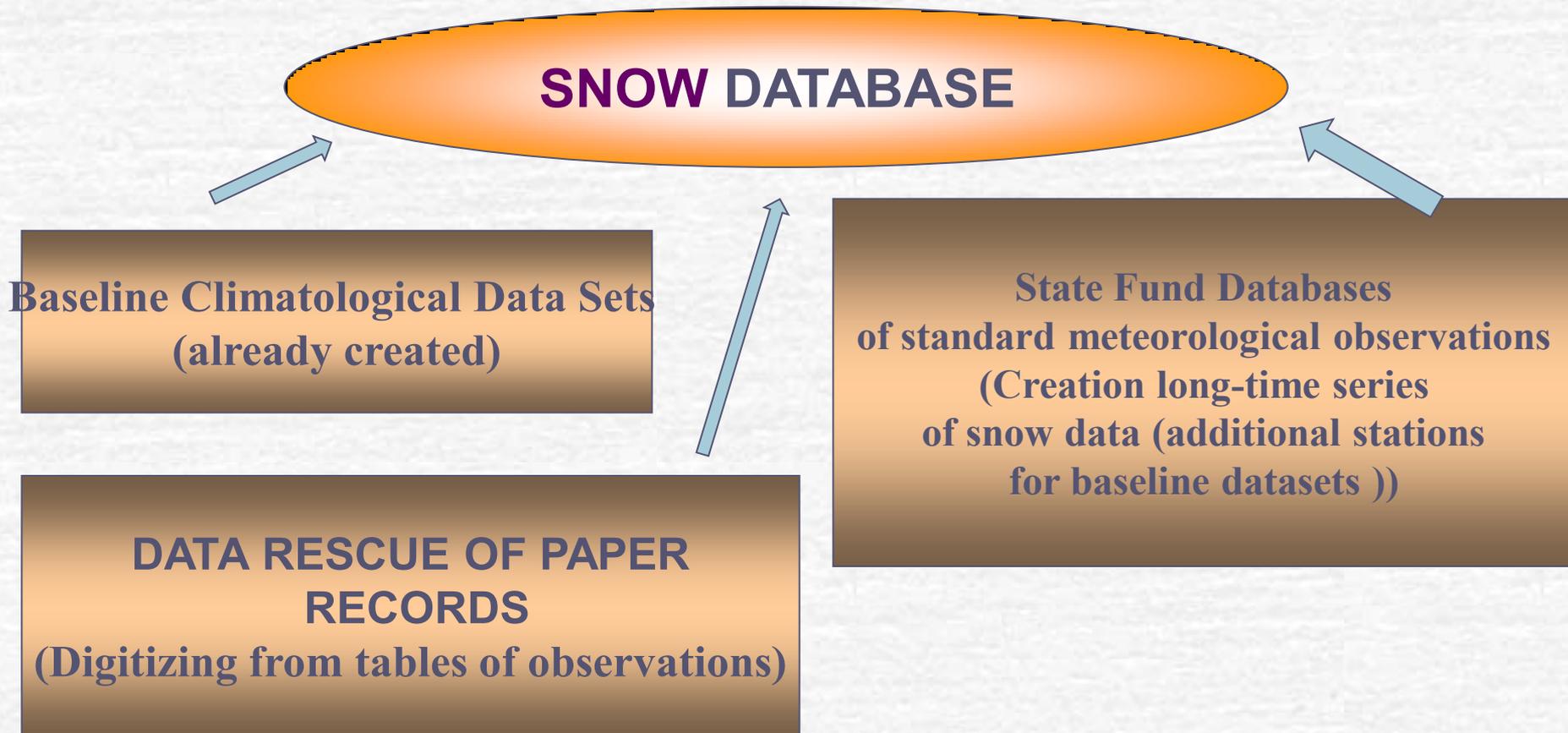


# **SNOW DATA ACCESS AT ROSHYDROMET**

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# Main sources of SNOW DATA information: Three sources of Roshydromet



## Baseline Climatological Data Sets

In open and free access at:  
<http://www.meteo.ru/climate/>

- 1. Data Set “Snow Cover Characteristics From Russian Meteorological Stations and from some meteorological station Over The Former USSR Territory” – 600 station**
- 2. Data Set “Routine snow surveys” – 517 Russian meteorological station**

## State Fund Databases of standard meteorological Observations (Creation long-time series of snow data (additional stations for baseline datasets ))

➤ Creation of long-time series of meteorological observations on computer-readable media from different State Fund Databases (problem of OBS time!!!!!!)

Years	Times\day	Format
1891 - 1935	Three (7, 13, 21 Local Time)	A
1936 - 1965	Four (1, 7, 13, 19 LT)	B
1966 - 1976	Eight (3, 6, 9... Moscow Time)	C
1977 - 1984	Eight (3, 6, 9... Moscow Time)	D
1985 - 1992	Eight (3, 6, 9... Moscow Time)	E
1993 - now	Eight (3, 6, 9... Greenwich Time)	E

# The contents and format of data set of snow cover characteristics for stations site observations

<b>Field number</b>	<b>Field contents</b>	<b>Notes</b>
<b>1</b>	<b>WMO index of station</b>	
<b>2</b>	<b>Year</b>	
<b>3</b>	<b>Month</b>	
<b>4</b>	<b>Day</b>	
<b>5</b>	<b>Snow depth</b>	<b>In cm</b>
<b>6</b>	<b>Extent of snow cover around the station</b>	<b>In numbers on ten-number scale, see Table 2 on next slides</b>
<b>7</b>	<b>Q- Complementary flag of snow depth</b>	<b>See Table 3 on next slides</b>

## **Extent of snow cover around the station**

<b>Observation period</b>	<b>Extent of snow cover around the station</b>	<b>Value Q</b>
<b>Before July 1959</b>	<b>50% and less than 50% of the area around the station</b>	<b>0</b>
	<b>More than 50% of the area around the station</b>	<b>1</b>
<b>From August 1959 up to the present day</b>	<b>Extent of snow cover around the station is estimated from ten-number scale. For example, the lack of snow is 0, 20% of the area around the station covered with snow is 2, 50% of the area around the station covered with snow is 5, etc.</b>	<b>From 0 to 10</b>

## Complementary flag of snow depth

<b>SITUATION</b>	<b>FLAG</b>
<b>Value of snow depth is correct</b>	<b>0</b>
<b>Continuous snow melting</b>	<b>1</b>
<b>Snow cover absent at site, however there is snow in the neighbor vicinity and a state of it is specified.</b>	<b>2</b>
<b>Snow cover is less than 0.5 cm</b>	<b>3</b>
<b>Observations were not made or value is rejected</b>	<b>9</b>

## The format of data set of snow cover state characteristics

N	Field contents
1	Index WMO
2	Latitude
3	Longitude
4	Year
5	Month
6	Day
7	Route ( Path ) type 1 - field environment; 2 - forest environment; 3 – ravine (canions)
8	Extent of snow cover over route surroundings (0 -10)
9	Extent of snow cover along a route (0-10)
10	Extent of crust along a route (0-10)

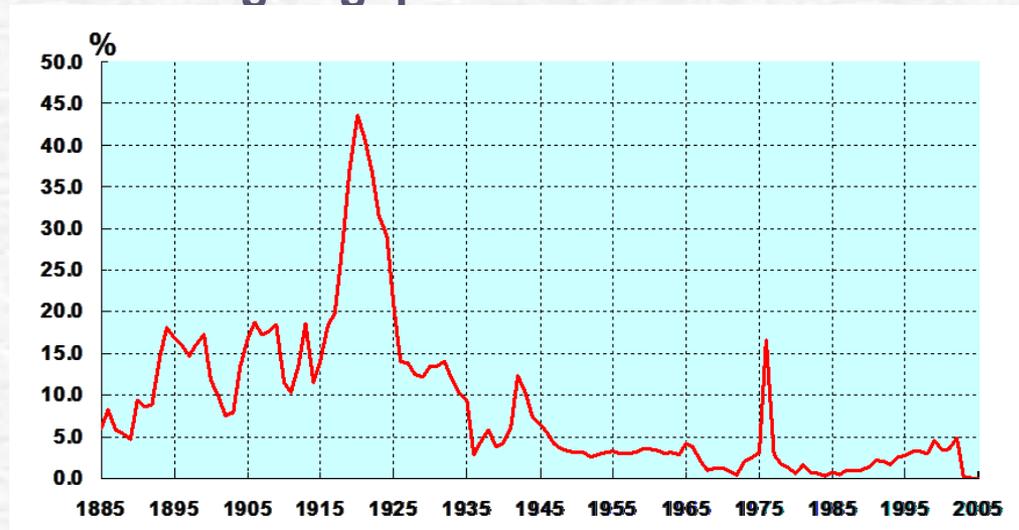
N	Field contents
11	Snow cover depth average (sm)
12	Snow cover depth maximum (sm)
13	Snow cover depth minimum (sm)
14	Snow density (g/sm <sup>A3</sup> )
15	Thickness of crust layer (mm)
16	Thickness of water-inundated snow cover (sm)
17	Thickness of pure water (sm)
18	Water equivalent of snow cover (mm)
19	General water amount (mm)
20	Snow covering type
21	Snow cover type

Core-Climax Coordination Meeting

The data set contains data for 1966-2013  
 03.12.2014

Global Archive of  
 Historical In Situ Snow Data

## ➤ Data rescue and filling in gaps in databases



*The missing data in standard meteorological observations  
( On computer-readable media in RIHMI-WDC )*

## ➤ Formation of metadata sets;

➤ Elimination of inhomogeneity in meteorological data series that is caused by the change in observation and processing procedures, instrumental change, etc.

➤ Ensuring the opportunity of regular update of data sets with current information.

Core-Climax Coordination Meeting  
Towards a Global Archive of  
Historical In Situ Snow Data



# Some remarks for discussion

- The future steps can be planned depending on priorities. They can be oriented to:
  - Data rescue and extended wider data collection
  - Reanalysis projects (we need to put every value to a proper place in 4D space)
  - Monitoring
  - Research
  - Climate applications and services
  - What else?



# Some remarks for discussion

- The existing snow in situ data are hardly to be acceptable for integration to a single database “as is”, without transformations, variable selection, and so on
- To preserve pluses of existing datasets, they can be left disseminated but connected by a good metadata database
- For reanalysis, NEW (!) database should be created as a derivative, oriented to reanalysis data requirements (easier than directly integrate to reanalysis the set of existing databases)
- For other needs – depends on the priorities...
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**THANK YOU!**