



SLOVAK REPUBLIC

REPORT CONTAINING ADDITIONAL INFORMATION WITH RESPECT TO THE IMPLEMENTATION OF THE GCOS PLAN

following the established reporting guidelines
FCCC/SBSTA/2007/L.14

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Monitoring programs

General climatic monitoring in Slovakia is done within a permanent monitoring program run by the Ministry of Environment called Partial Monitoring System (PMS). All the items described in this report refer to the PMS elements of Meteorology and Climatology, Environment Air (dealing with atmospheric composition) and Hydrology performed by Slovak Hydrometeorological Institute (SHMI). SHMI takes care for all the processes of observing, archiving and assessment of essential climate variables as described in FCCC/SBSTA/2007/L.14/Add.1. Monitoring methods are assessed also within the Slovak National Climate Program which is dealing mainly with climate change issues. The methods used in further monitoring systems run mostly by water management bodies and research institutes do not respect all the time general recommendations described in GCMPs.

Data sets

Main part of the climate variables is stored in a database called KMIS (Climate and Meteorology Information System). However, a relevant part of historical climate data is still not converted to the database and are stored on papers. Thus, further continuous digitizing of historical data remains a big task. All observed data are subjected to both manual and automatic control. Homogenization procedures are applied so far only on temperature and precipitation, further elements stay only with above described controls. Moreover, there is no clear guideline on homogenization procedures and different homogenization methods are used by different authors.

Basic historical climate data of a few stations go as far as to 1880, upper air data started in fifties, selected data of atmospheric composition can be obtained from the beginning of the seventies. The datasets from systematic observations on river discharge are available from thirties, some selected data are recorded from the beginning of 20th century. SHMI possess relatively good quality phenological data sets. Part of these data is sent step by step to European Phenological Database currently established by COST725^a. There were very few attempts done over the paleo-reconstructions. No glaciers, permanent snow cover or permafrost occur at Slovak territory. Seasonally frozen ground is observed at a number of climatic stations measuring the soil temperature and the depth of frozen soil.

Reporting to WDC

Selected atmosphere surface and upper air data are sent regularly to WDC and WRDC. Hydrologic parameters regarding river discharge, groundwater snow cover are monitored at a number of points but there is no reporting to any WDC. Both data and metadata of all observation points are available within KMIS but no special long term data sets for further analysis and reanalysis in cooperation with International Data Centers according to C11-13 were prepared

SHMI is in permanent contacts with relevant bodies of WMO. However, no direct communication with WMO experts on homogenization methods and time periods which should be used as a tool before submitting the data to WDCs was established.

Quantified report on the ECVs is provided in tables 1a, b and c. As an inland country Slovakia does not run any marine observations.

Table 1a. National contributions to the surface-based atmospheric essential climate variables

Contributing networks specified in the GCOS implementation plan	ECVs^a	Number of stations or platforms currently operating	Number of stations or platforms operating in accordance with the GCMPs	Number of stations or platforms expected to be operating in 2010	Number of stations or platforms providing data to the international data centres	Number of stations or platforms with complete historical record available in international data centres
GCOS Surface Network (GSN)	Air temperature	98	98	98	27	27
	Precipitation	640	640	640	27	27
Full World Weather Watch/Global Observing System (WWW/GOS) surface network	Air temperature, air pressure, wind speed and direction, water vapour	22	22	22	22	22
	Precipitation	22	22	22	22	22
Baseline Surface Radiation Network (BSRN)	Surface radiation					
Solar radiation and radiation balance data	Surface radiation	4	4	5	4	4
Ocean drifting buoys	Air temperature, air pressure					
Moored buoys	Air temperature, air pressure					
Voluntary Observing Ship Climate Project (VOSCLIM)	Air temperature, air pressure, wind speed and direction, water vapour					
Ocean Reference Mooring Network and sites on small isolated islands	Air temperature, wind speed and direction, air pressure					
	Precipitation					

^a Parties should note that the list of ECVs given for each network is indicative of the expected observations from that network. A single response/data entry is expected for each network except for those networks for which precipitation is reported, where a separate response/data entry is requested owing to its particular importance with regard to the Convention.

Table 1b. National contributions to the upper-air atmospheric essential climate variables

Contributing networks specified in the GCOS implementation plan	ECVs	Number of stations or platforms currently operating	Number of stations or platforms operating in accordance with the GCMPs	Number of stations or platforms expected to be operating in 2010	Number of stations or platforms providing data to the international data centres	Number of stations or platforms with complete historical record available in international data centres
GCOS Upper Air Network (GUAN)	Upper-air-temperature, upper-air wind speed and direction, upper-air water vapour					
Full WWW/GOS Upper Air Network	Upper-air-temperature, upper-air wind speed and direction, upper-air water vapour	1	1	1	1	1

Table 1c. National contributions to the atmospheric composition

Contributing networks specified in the GCOS implementation plan	ECVs	Number of stations or platforms currently operating	Number of stations or platforms operating in accordance with the GCMPs	Number of stations or platforms expected to be operating in 2010	Number of stations or platforms providing data to the international data centres	Number of stations or platforms with complete historical record available in international data centres
World Meteorological Organization/ Global Atmosphere Watch (WMO/GAW) Global Atmospheric CO₂ & CH₄ Monitoring Network	Carbon dioxide					
	Methane					
	Other greenhouse gases					

Table 1c (continued)

Contributing networks specified in the GCOS implementation plan	ECVs	Number of stations or platforms currently operating	Number of stations or platforms operating in accordance with the GCMPs	Number of stations or platforms expected to be operating in 2010	Number of stations or platforms providing data to the international data centres	Number of stations or platforms with complete historical record available in international data centres
WMO/GAW ozone sonde network ^a	Ozone					
WMO/GAW column ozone network ^b	Ozone	1	1	1	1	1
WMO/GAW Aerosol Network ^c	Aerosol optical depth					
	Other aerosol properties					

^a Including SHADOZ, NDACC, remote sensing and ozone sondes.

^b Including filter, Dobson and Brewer stations.

^c Including AERONET, SKYNET, BSRN and GAWPER.