Implementation of the TPRCC-Network

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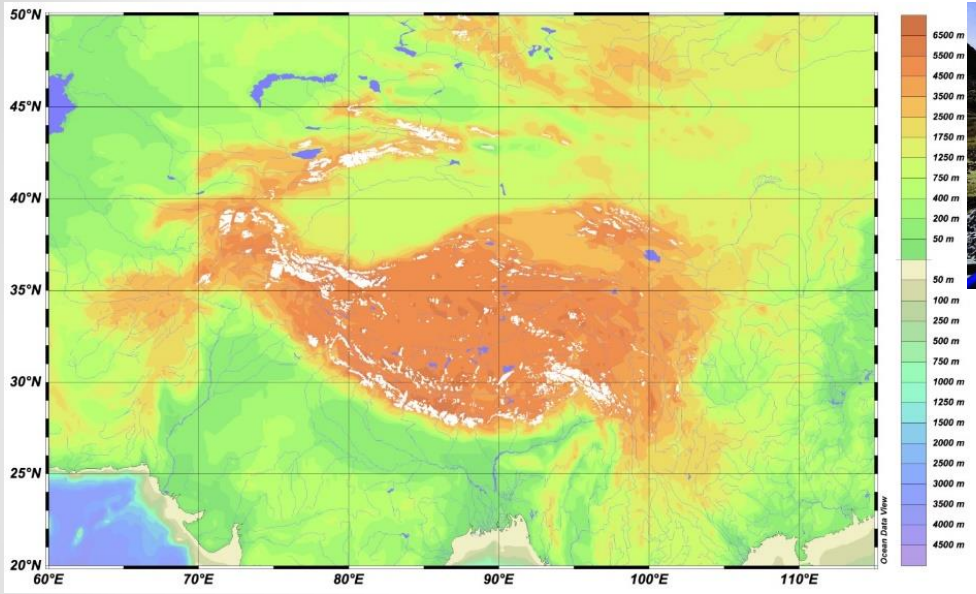
Opportunities and challenges

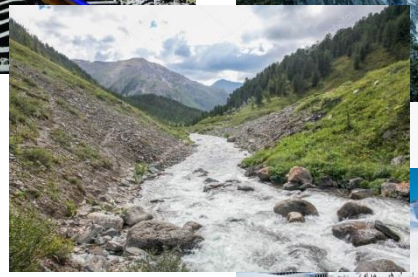


infrastructure construction

Advantage

Disadvantage

tourism



Water resources

leisure and recreation

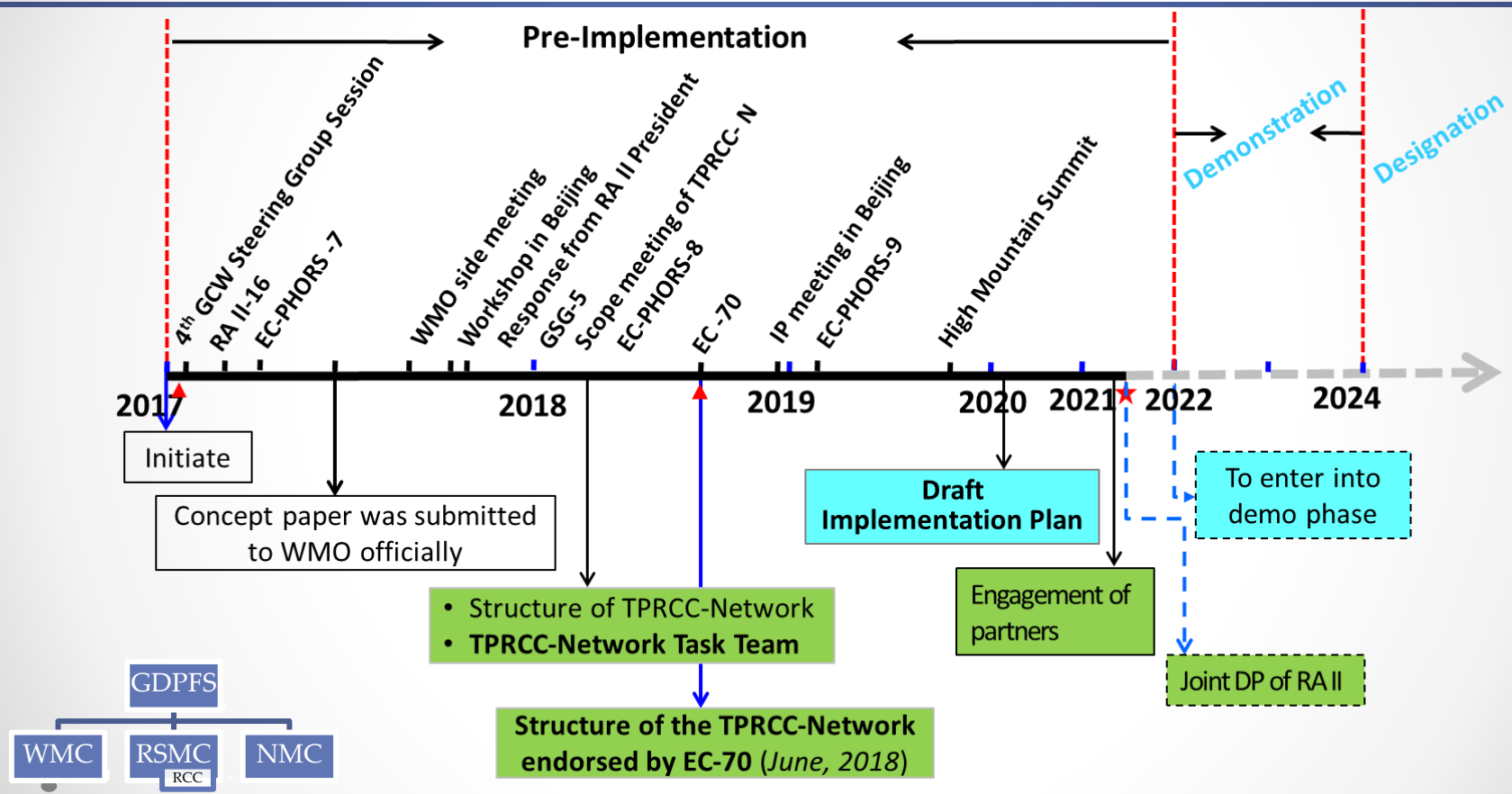
Glacier-dammed lake

snow disaster

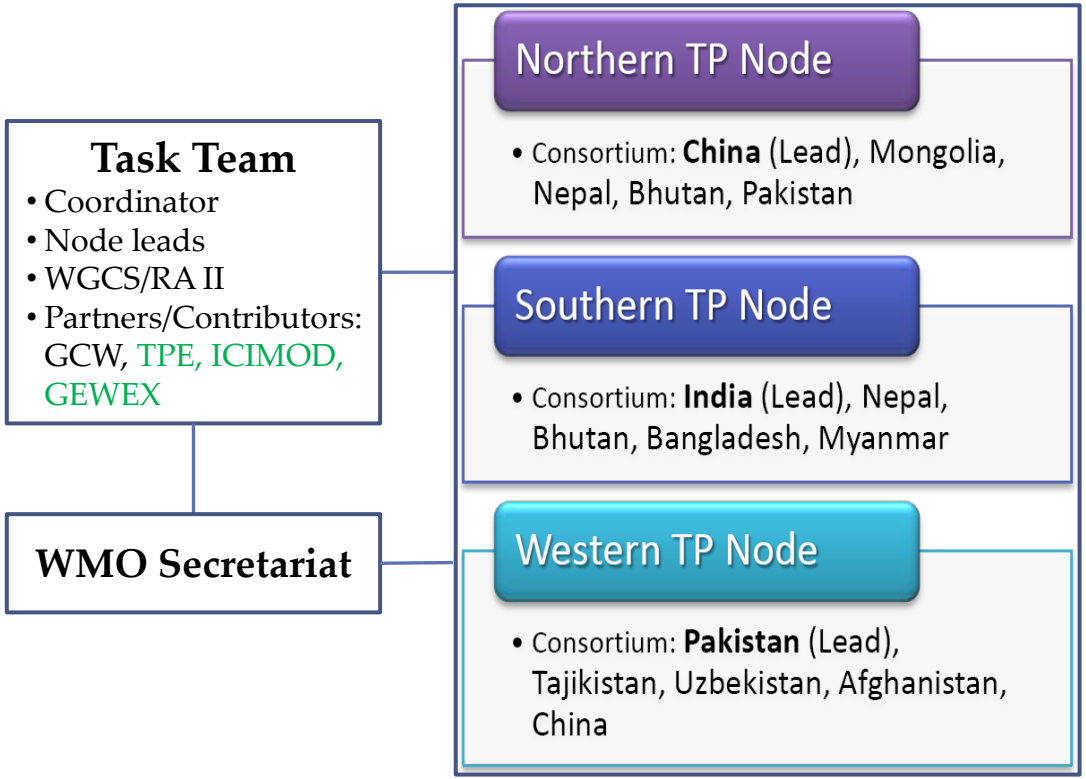
snow avalanche

Frost heaving disaster

Timeline of TPRCC-N

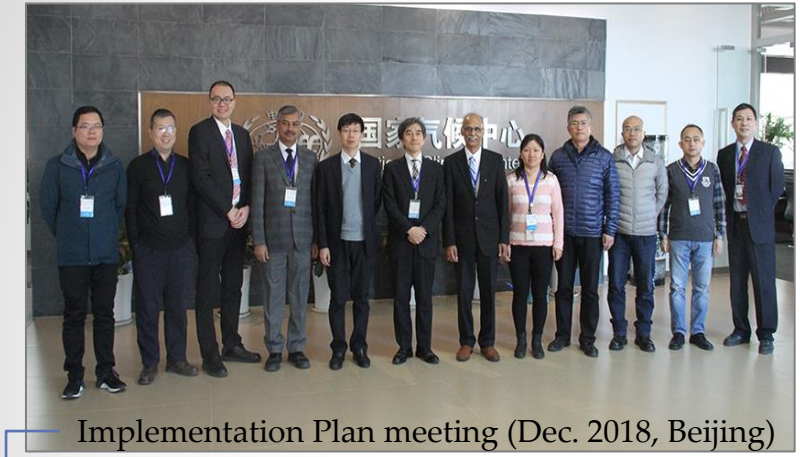


Decision 47 (EC-70) – Polar RCC and RCOF



To endorse the structure of the TPRCC-N based on geographical distribution of responsibilities with three nodes, …, with China as the overall coordinating node. … and invite the President of RA II to facilitate the development of a detailed implementation plan under the guidance of EC-PHORS, CCl and CBS and commencement of a demonstration phase;

Development of Implementation Plan



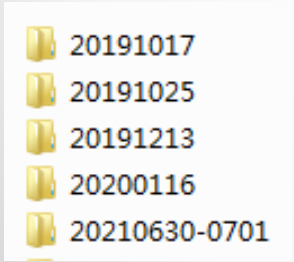
Implementation Plan meeting (Dec. 2018, Beijing)

RAII-17(II)/INF 6.3

WORLD METEOROLOGICAL ORGANIZATION

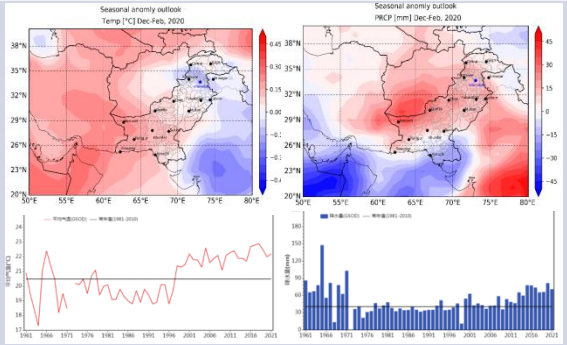
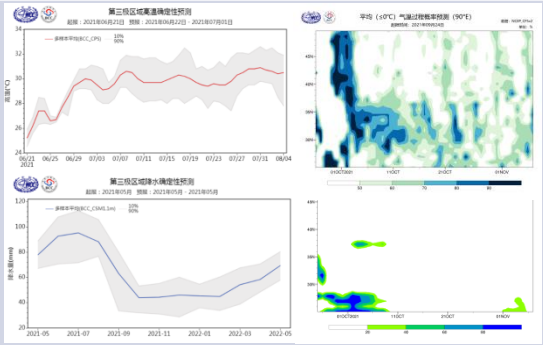
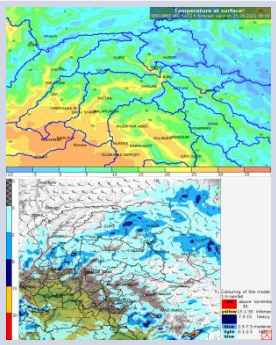
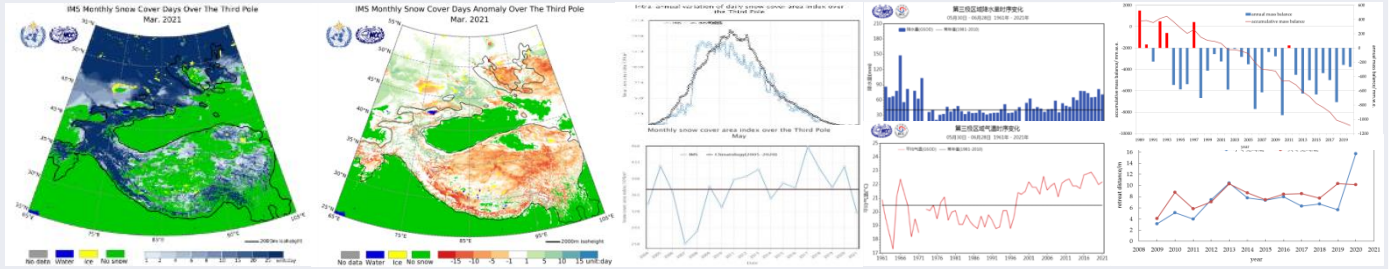
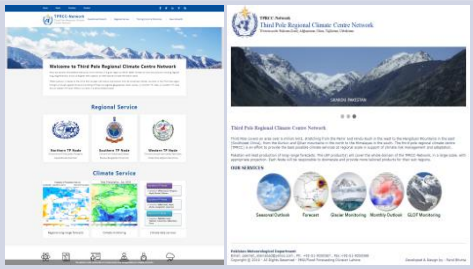
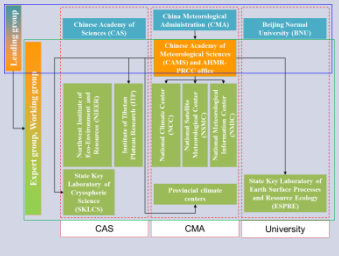
Third Pole Regional Climate Centre Network (TPRCC-Network) Implementation Plan

EC-PHORS-9 (March 2019) → WMO High Mountain Summit (Oct. 2019) → Video meeting of task team



Goal

- User-oriented and fit-for-purpose climate products and information services
- Specific cryosphere monitoring and prediction products and services for risk management
- Research on key climate-water-environment related scientific issues transformed into operational practice for climate risk management and adaptation

Functions	Products	Progress
Climate Prediction (LRF)	Mean, Max, Min Temperature, Precipitation prediction and verification; Deterministic & probabilistic prediction, GLOF Alert	 Seasonal and monthly prediction  deterministic and probabilistic prediction  hourly forecast for GLOF Alert
Climate Monitoring	Temperature, Precipitation, extremes, snow and glacier monitoring	
Web portal and websites Organization within node		   IMD, New Delhi; Indian Institute of Tropical Meteorology; NCMRWF; MoEF&CC, Mountain Division; SAC (ISRO), IMD; NCPOR, WIHG; Cryosphere Studies in the Himalaya; National Centre for Disease Control, New Delhi. Establishment of Specialized TPRCC Unit at PMD HQrs, incl. members from - GLOF team, - Meteorology, - Climatology, - Hydrology, - Engineering section, - Computer section

	Gaps
Techniques	• Fit for purpose **downscaling** techniques/**model interpretation techniques** for specific variable. • Techniques for **enhancing and verifying performance of prediction models**/reanalysis products in mountain areas.
Observations & Data sets	• **Scarcity of observations impact the accuracy of products,** esp. at **higher elevation** • Few **long-term monitoring** programs comprising meteorological, hydrological and glaciological data—lack of operational data with **higher resolution, long time series, and high accuracy** • New techniques are required to improve the spatial coverage and **representativeness of observations**
Mechanism & Standard	• Facilitate **access to long-range forecasts** from WMO **GPCs** and Lead-Centre for Long-Range Forecasts Multi-Model Ensemble (**LC-LRFMME**) and **to ground data** from the consortium members to validate the developed products; **Lack of mechanism** • Require **common standards, format and meta data** for different data types • Need **cross validation** of data and products, to ensure the accuracy of products

Next Step

- Enter into demonstration phase
- Deployment of web portal and websites—products being available for usage and feedbacks
- Provide climate database and archiving services, incl. data set for reference climatology and quality controlled regional climate datasets, gridded where applicable
- Stitch together various products to ensure consistency and regional coverage
- Workshop for addressing gaps on technical issues
- Third Pole Climate Outlook Forum (TPCOF) to engage consortia members

- Coupling of Meteo. and Hydro. models to evaluate the hydrological resources
- Impact based medium and long range forecast
- Expansion of GLOF risk forecast to the neighboring countries
- Hydro meteorological hazards and risks assessment
- Sub-region monitoring products, as needed, e.g. snowmelt, climatic drivers of GLOF
- During the development of the products, consideration will be given to reflecting them in the framework of GDPFS.

Invitation for Engagement

- Register observations, with priority of cryosphere and ancillary meteo. data
- Access to the available cryosphere and ancillary data in the framework of WIS and through the GCW Data Portal
- Verify remote sensing or reanalysis data and suggest applicable data
- Nominate Focal Point

No.	Country	No. of Reg. Station
1	China	23
2	India	13
3	Kazakhstan	3
4	Kyrgyzstan	3
5	Mongolia	6
6	Nepal	3
7	Pakistan	6
8	Uzbekistan	2
	total	59

Only 59 stations in the Third Pole region at above 2000m elevation were registered (any observation) in OSCAR/Surface.

WEATHER CLIMATE WATER
TEMPS CLIMAT EAU

Thank you

WMO OMM

World Meteorological Organization
Organisation météorologique mondiale