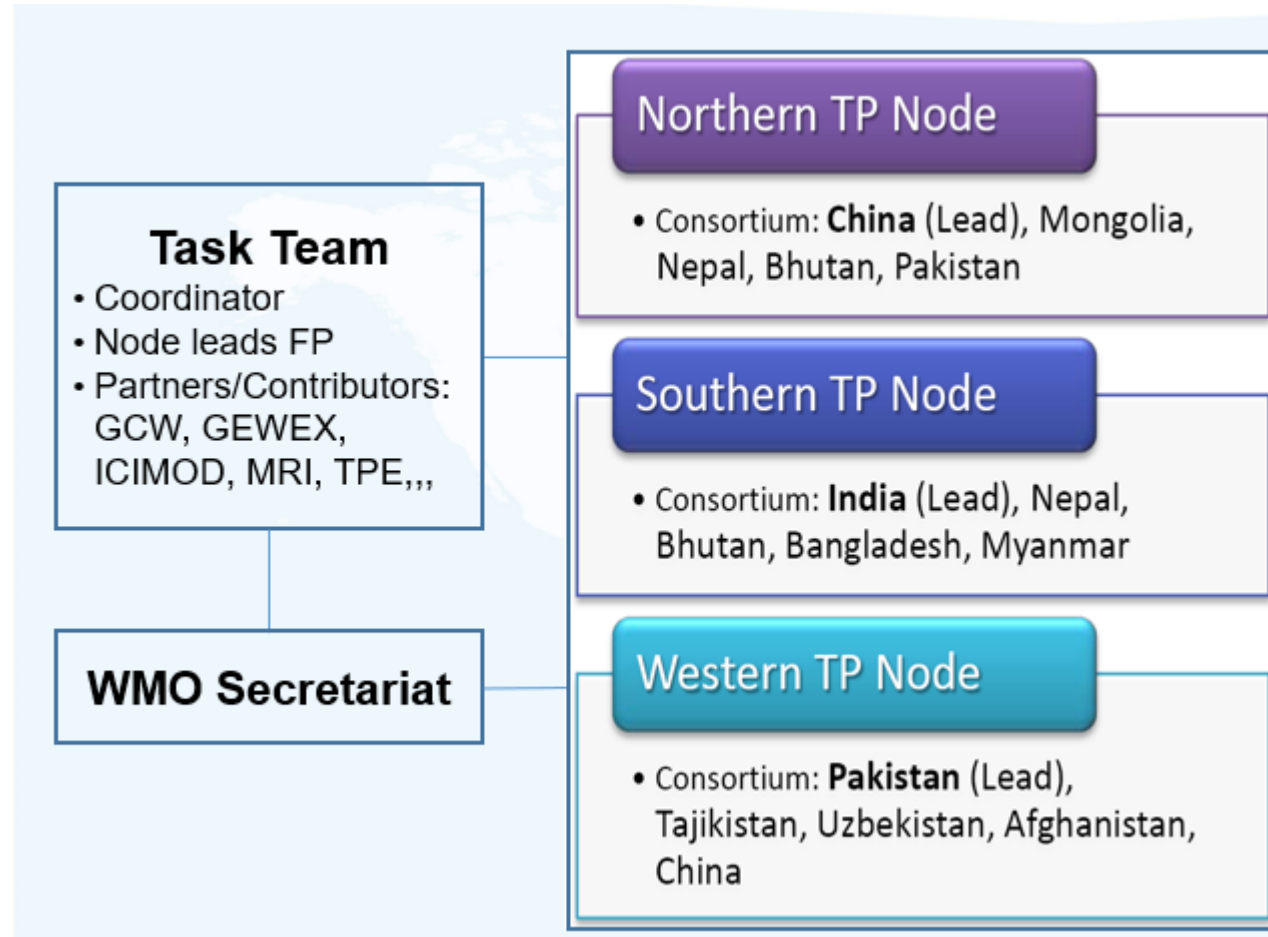# 1st Third Pole Climate Forum Consensus Statement (TPCF1)

Outlook for June to September 2024

Contributing institutions

Task Team
- Coordinator
- Node leads FP
- Partners/Contributors: GCW, GEWEX, ICIMOD, MRI, TPE,,,

WMO Secretariat

Northern TP Node
- Consortium: **China** (Lead), Mongolia, Nepal, Bhutan, Pakistan

Southern TP Node
- Consortium: **India** (Lead), Nepal, Bhutan, Bangladesh, Myanmar

Western TP Node
- Consortium: **Pakistan** (Lead), Tajikistan, Uzbekistan, Afghanistan, China

Approach of reaching consensus on seasonal outlook…

a. Each node can prepare the climate prediction of the following season i.e., JJAS for TPCF in May and DJF for TPCF in November, for the entire domain of TPRCC-N, with verification, and provide PMD with the information prior to the TPCF meeting.

b. It is recommended that the verification should be based on the same reference data sets with the same spatial resolution.

c. Based on the inputs from geographical nodes, PMD will prepare consolidated CS and share the draft with lead nodes before TPCF meeting.

d. During the TPCF meeting, representatives from consortia members may share their country presentation presenting the climate prediction/outlook of the target seasons, for their respective geographical domain.

Approach of reaching consensus on seasonal outlook

a. All participants to discuss predictions and their potential impacts. Also share insights, exchange information, and identify areas of agreement and disagreement on **scientific basis**.

b. Through dialogue and deliberation, representatives from nodes and consortia members to work together towards reaching a consensus on the seasonal outlook. This may involve identifying common trends across different models and datasets and addressing uncertainties and divergent views.

c. To improve the robustness of the consensus statement, we may consolidate the outcome from regional climate forums whose geographical domains overlap with the Third Pole region.

d. The consensus seasonal outlook to be communicated to relevant stakeholders, including policymakers, farmers, water resource managers, and the public. This communication may take various forms such as reports, presentations, press releases, and online platforms.

Methodology of Seasonal Outlook

Models utilized for outlook

Institute / Model	No. of ensembles	Hindcast data
APCC_SCoPS	10	1982-2013
BCC_CSM1.1m	24	1991-2015
BOM_ACCESS-S2	11	1990-2012
CMCC_SPS3.5	50	1992-2017
CWA_TCWA1Tv1.1	30	1982-2019
KMA_GLOSEA6GC3.2	42	1991-2016
METFR_SYS8	51	1991-2016
NCEP_CFSv2	20	1982-2010
PNU_CGCMv2.0	35	1980-2020
UKMO_GLOSEA6	42	1991-2016
ECCC_CANSIPSv2.1	20	1980-2020

- *Quantitative Forecast*
  - Simple Composite Method (SCM)
  - Represented as the Anomaly from the long term normal conditions.

$$F_t = \frac{1}{N}\sum_{i=1}^{N}\left(F_{i,t} - \bar{F}_i\right)$$

- *Probabilistic Forecast*
  - Tercile based probabilistic forecast, incorporating the set of all the ensemble members.
  - Represented as probabilities of Above/Near/Below normal of each parameter.

Model Skills for data averaged over the TP domain

Precipitation			
Models	**Correlation**	**IA**	**RMSE**
APCC	-0.03	0.18	1.27
BCC	0.40	0.44	0.36
BOM	0.48	0.23	1.01
CMCC	0.64	0.18	1.33
CWA	-0.21	0.24	0.85
ECCC	0.71	0.31	0.70
KMA	0.48	0.26	0.86
METFR	0.59	0.20	1.17
NCEP	0.29	0.35	0.52
PNU	0.64	0.20	1.27
UKMO	0.55	0.25	0.95
MME	0.53	0.24	0.93

Temperature			
Models	**Correlation**	**IA**	**RMSE**
APCC	0.63	0.12	3.96
BCC	0.75	0.39	1.04
BOM	0.75	0.53	0.59
CMCC	0.67	0.45	0.69
CWA	0.63	0.45	0.78
ECCC	0.75	0.48	0.68
KMA	0.75	0.45	0.78
METFR	0.82	0.32	1.25
NCEP	0.64	0.51	0.59
PNU	0.64	0.21	2.20
UKMO	0.81	0.59	0.50
MME	0.78	0.71	0.35

Correlation in RED indicates statistical significance at 95% confidence level

Probabilistic Precipitation Forecast

Relative to: 1991-2020

CMA

IMD

PMD

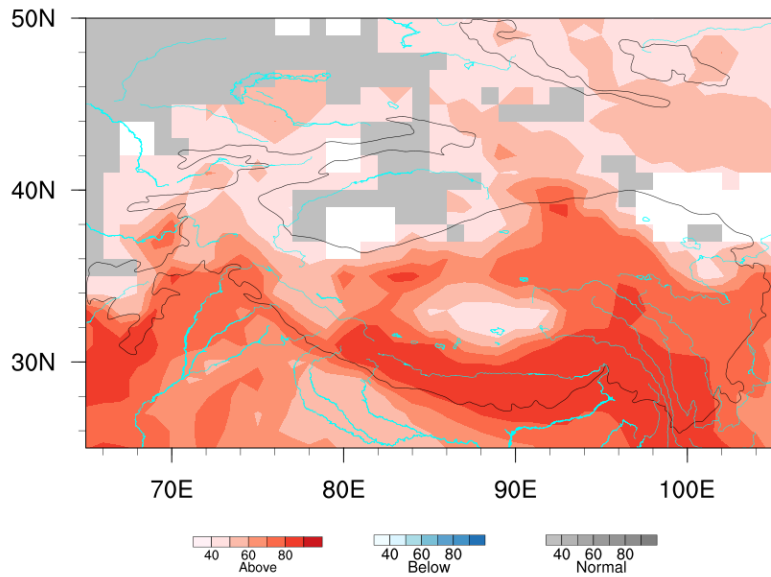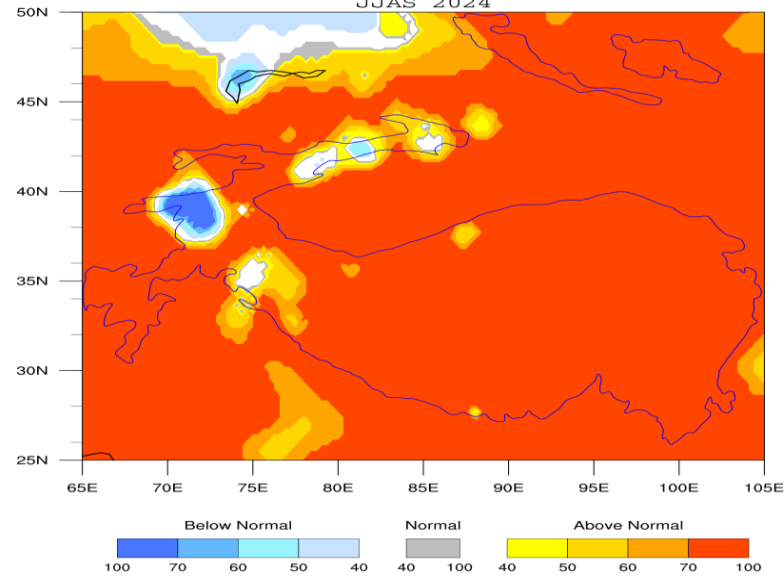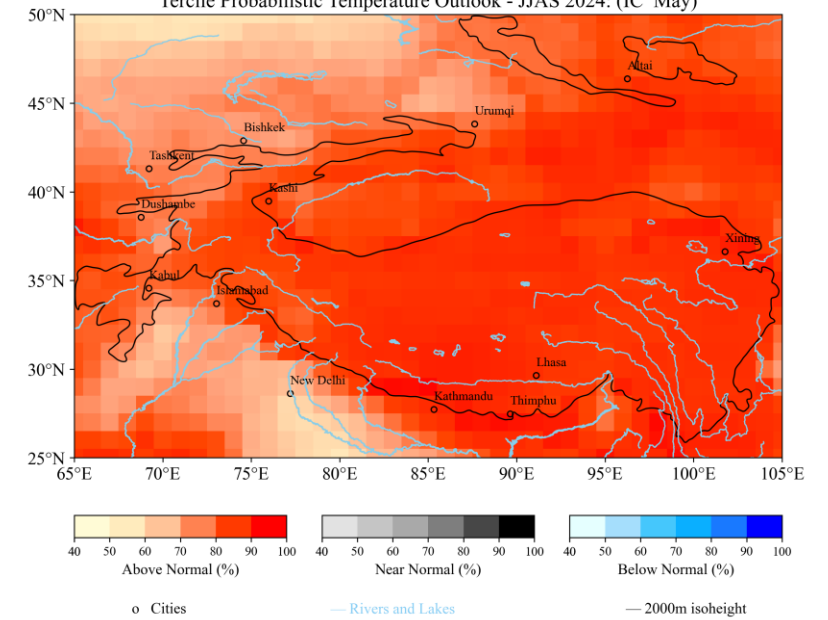# Probabilistic Temperature Forecast

CMA

Tercile Probabilistic Temperature Outlook-JJAS 2024:(IC May)

IMD
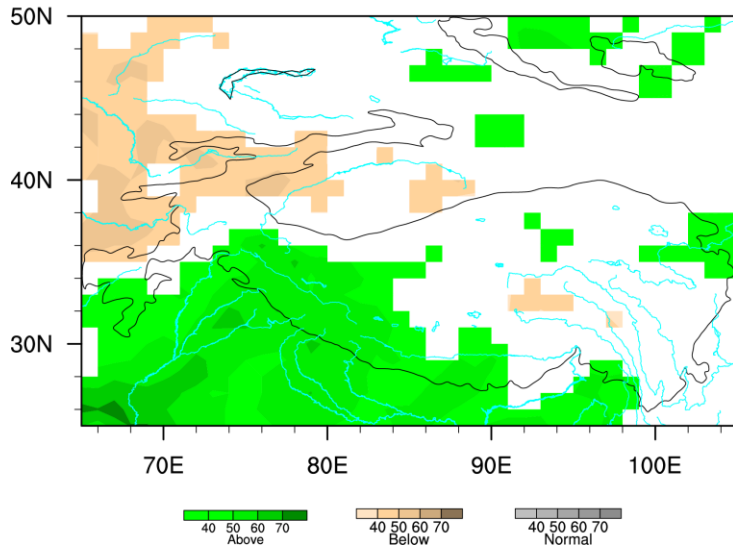
MMCFS Mean Temperature % Probability:MayIC 2024
JJAS 2024

PMD

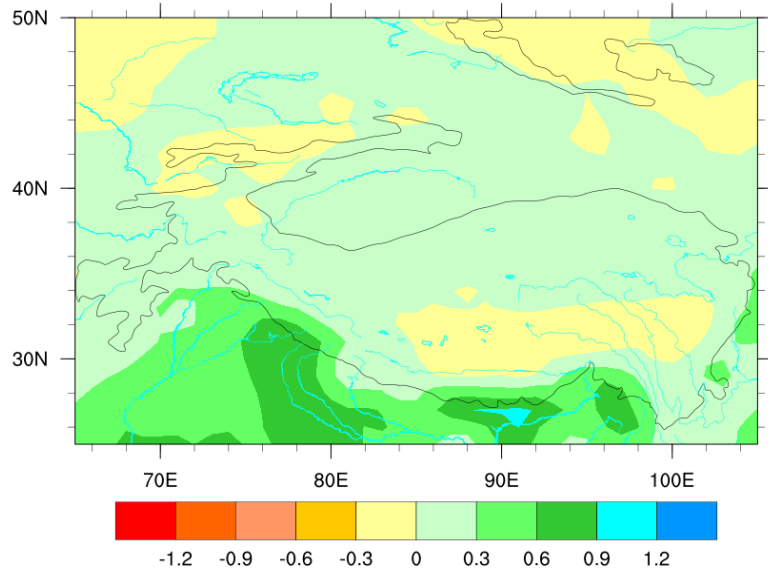Tercile Probabilistic Temperature Outlook - JJAS 2024: (IC May)

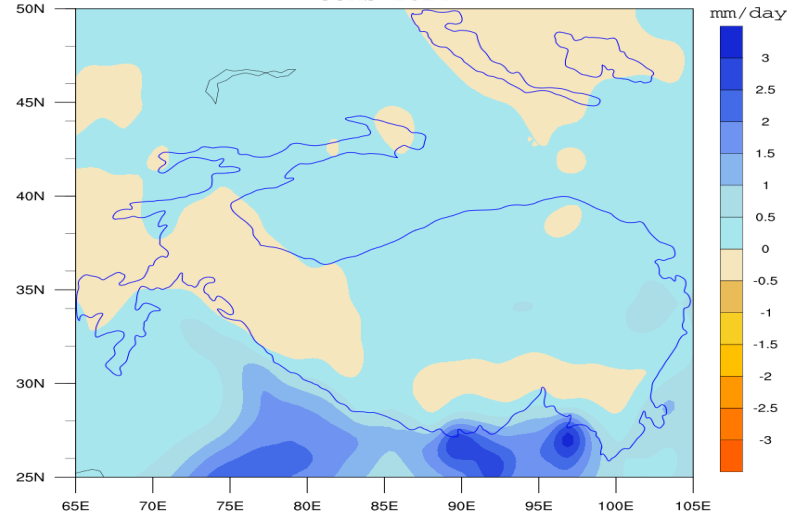# Anomalies/Deterministic Forecast Precipitation

CMA

IMD

PMD
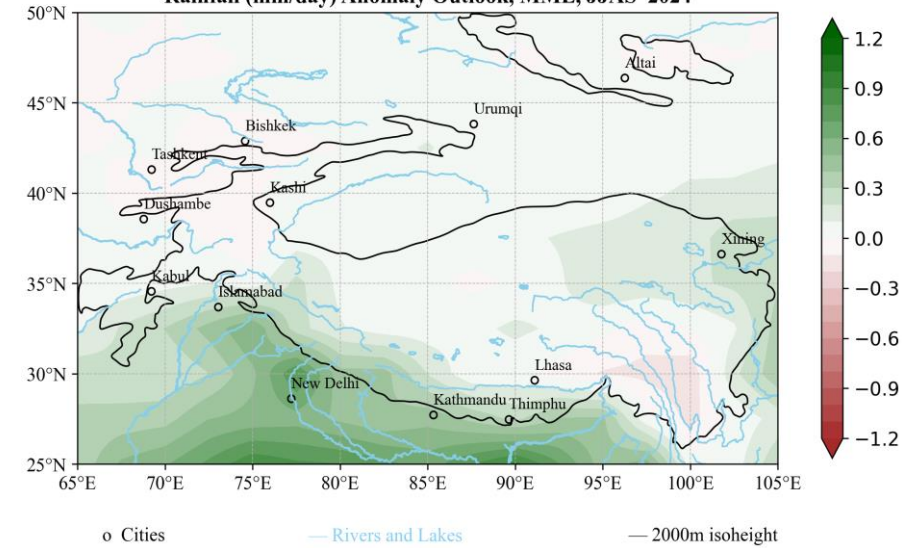
Anomalies/Deterministic Forecast Temperature

CMA

IMD

PMD
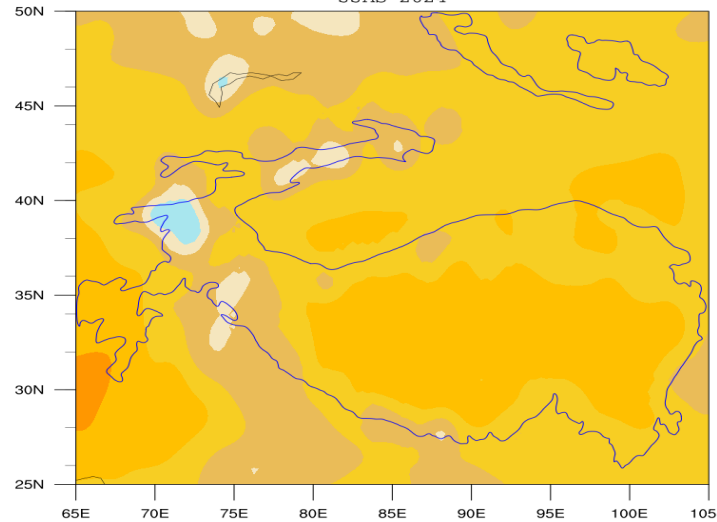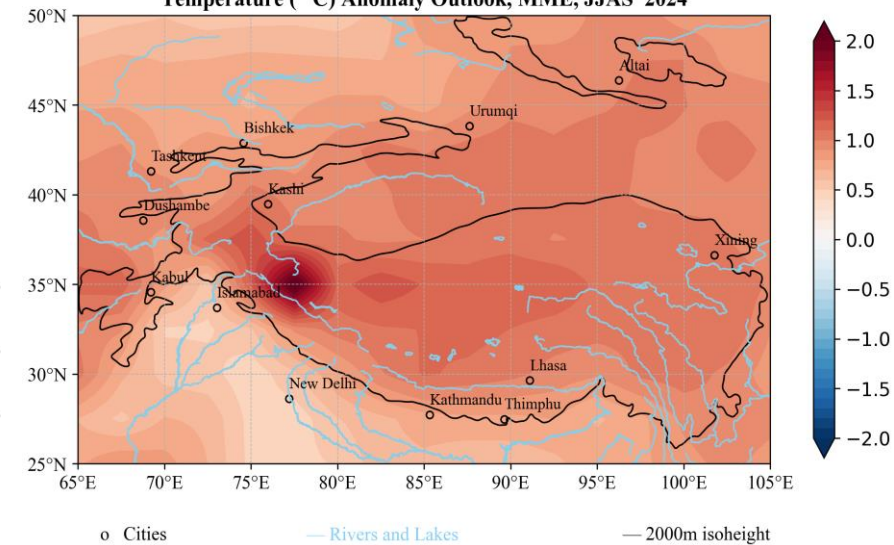
Highlights

- It is likely to have normal to above normal precipitation over most parts of the TP region during JJAS 2024. However, there is a moderate probability of below-normal precipitation in the western part of TP region.

- Southwest of TP region is likely to receive above normal precipitation during JJAS 2024.

- Above normal temperatures are most likely over most parts of the TP region.

- Southwest and northwest parts of TP region are likely to have normal temperatures.