

North EurAsia
Climate Centre



ACF
Arctic Climate Forum

North EurAsia Climate Center Arctic RCC - network

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INAUGURAL SESSION OF THE THIRD POLE CLIMATE FORUM
4 – 6 June 2024, Lijiang, Yunnan Province, China



- ❑ NEACC has **served** as a WMO Regional Climate Center in RA VI and RAI **since 2013**.
- ❑ NEACC is **coordinated by the Hydrometcenter of the Russian Federation** and generates and delivers data, products and services to nine members of the Commonwealth of Independent States (CIS).

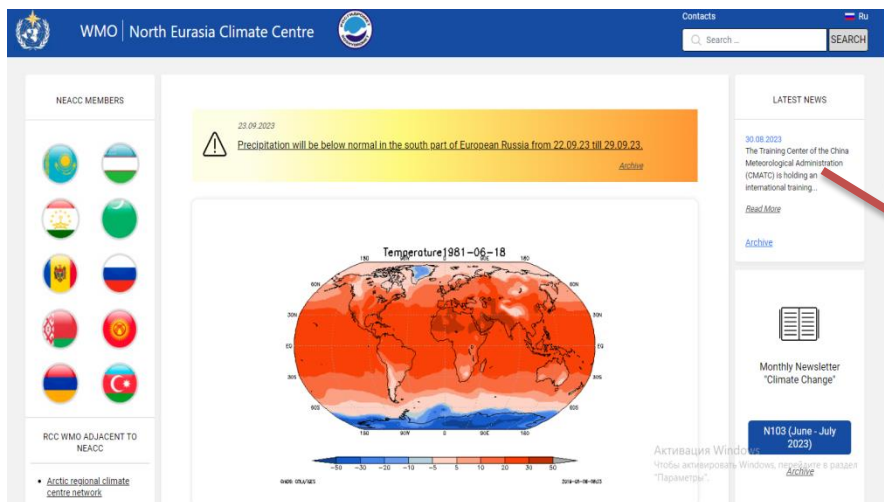
- ❑ NEACC has linkage with WMO Regional Climate Centers
- ❑ NEACC serves as a Node for Long-Range Forecasting (RCC Node-LRF) in the Regional Association VI (Europe) RCCNetwork.
- ❑ NEACC collaborates with RCC-Tokyo, RCC-Beijing and the Arctic RCC-Network.

Long-range forecasting

- ❑ Monthly and seasonal forecasts of key parameters such as air temperature, rainfall, sea surface temperature, air pressure, wind at different levels, etc.
- ❑ Seasonal forecasts of atmospheric circulation indices
- ❑ Provides extreme event forecasts on intraseasonal time scales
- ❑ Regional Climate Outlook Forum consensus forecasts of precipitation and air temperature
- ❑ Verification of RCC-Moscow forecast products

Climate monitoring

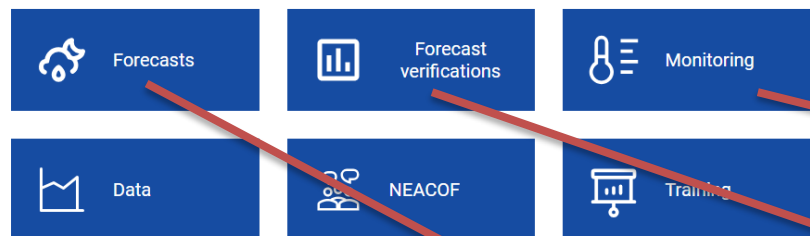
- ❑ Seasonal and annual reports of precipitation and air temperature anomalies and long-term trends
- ❑ Monthly overviews of the main features of the atmospheric circulation in the Northern Hemisphere
- ❑ 10-day monitoring of atmospheric and soil drought
- ❑ Weekly Climate Watch Advisories



NEACC fulfills a set of mandatory functions related to long-range forecasting, climate monitoring, data services and training.

Provision of those performed by NEACC through Web page:

<http://seakc.meteoinfo.ru/en/>



CLIMATE SERVICE



Agriculture



Health



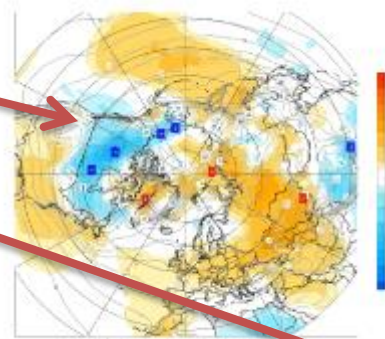
Energy sector



Water resources

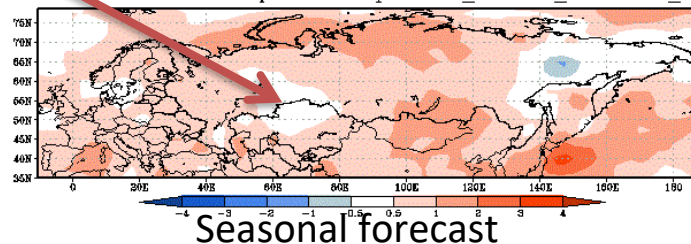


Tourism

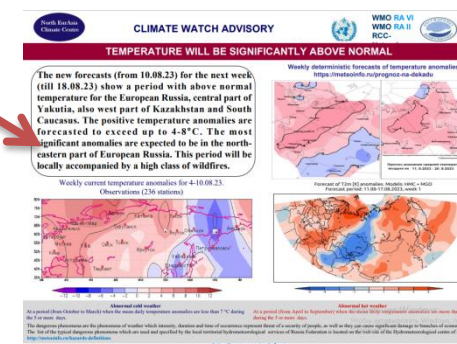


Macro circulation analysis

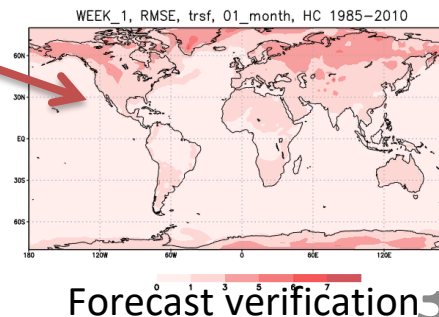
T2m seasonal anomalies. Producer: HMC+MGO
Forecast period: September October November 2023



Seasonal forecast



Climate watch advisory



Forecast verification

NEACC capacity development activities as RCC

Coordination

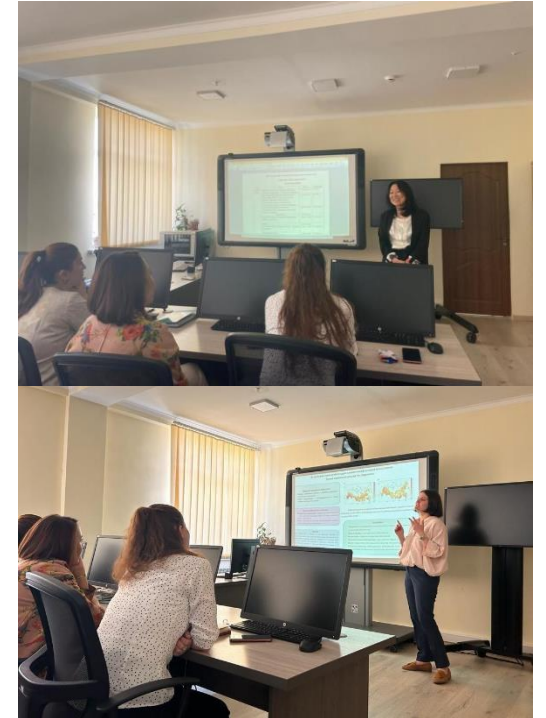
- ❑ Collaboration and coordination of climate service provision and climate-related operational and research activities among CIS NMHSs
- ❑ Interact with the CIS Intergovernmental Council on Hydrometeorology on climate issues
- ❑ Collaboration with neighboring RCCs
- ❑ Organization of RCOFs and other multi-disciplinary workshops
- ❑ Training courses on climate product generation and analysis
- ❑ Assist NMHSs with the development of media and public awareness strategy on climate services

Training

- ❑ NEACC publishes manuals, guidance materials and tutorials and organizes training workshops.
- ❑ Training on long-range forecasting and climate monitoring are conducted in collaboration with the WMO Regional Training Centre in Moscow (RTC-Moscow).

Research

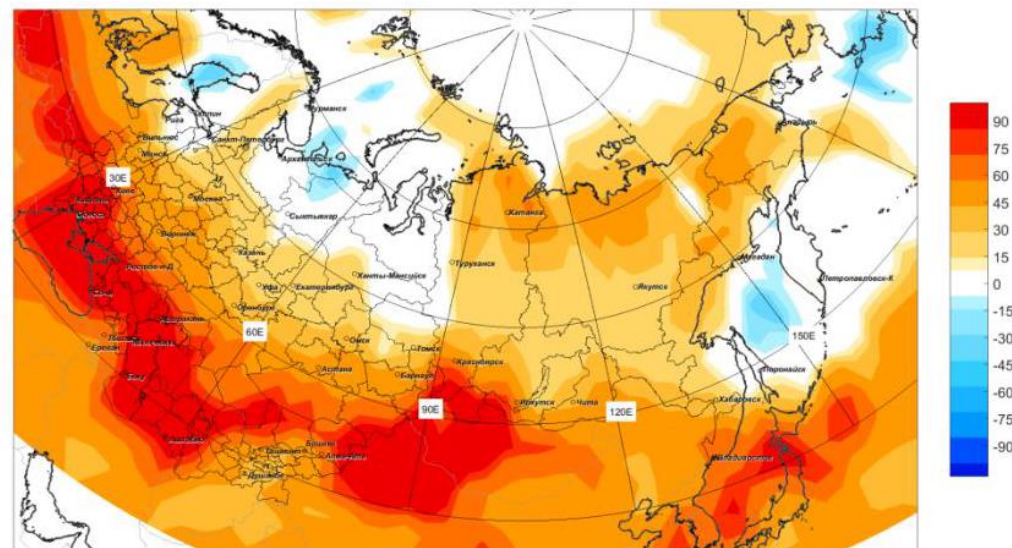
- ❑ The most important innovative project of national importance - forecast assessments of the state of the Earth system based on ensemble calculations with a model for a period from a season to 5 years, updated promptly at intervals of one month and one year, respectively, for the needs of regional climate modeling and modeling of global economic processes
- ❑ NEACC cooperates to RAS Marchuk institute of numerical mathematics



NEACC coordinates and organizes the North Eurasian Climate Outlook Forum (NEACOF)

- ❑ The purpose of NEACOF is to **assess the current climatic anomalies in Northern Eurasia**, to compile a consensus forecast of air temperature and precipitation for the coming season and to discuss the possible consequences of the expected anomalies on the economy and social sphere.
- ❑ Twice a year, during NEACOF, **NEACC issues a bulletin on the possible consequences of temperature and precipitation anomalies on various socio-economic areas** – from the economy and water resources to agriculture, health, etc – during the warm and cold seasons.
- ❑ NEACC operates NEACOF web page for sharing its activities (etc. presentation materials)
- ❑ NEACC has been cooperating by participating in or providing materials to other RCOFs such as FOCRAII, EASCOF, ACF, SEECOF

<https://seakc.meteoinfo.ru/en/neacof>



2M temperature forecast. JJA 2024 (Rus Composite Probabilities)

Map of the consensus forecast of the mean seasonal air temperature anomaly for the summer of 2024 in a probabilistic form, calculated based on the interpretation of data from 3 Russian models (INM, SL-AV, MGO).

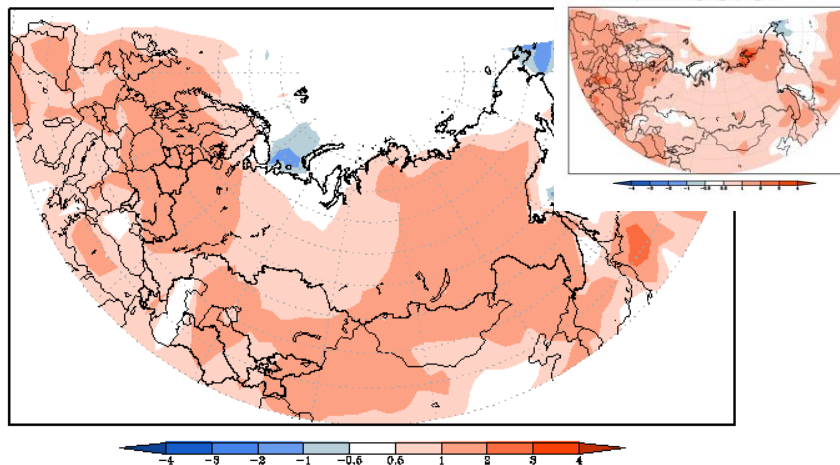
NEACOF

The main objective of the NEACOF forum is to unite the efforts of scientists and specialists in the field of long-term forecasting to improve the quality of climate system behavior forecasting for the upcoming season. The purpose of NEACOF is to assess the current climatic anomalies in Northern Eurasia, to compile a consensus forecast of air temperature and precipitation for the coming half-year and to discuss the possible consequences of the expected anomalies on the economy and social sphere.

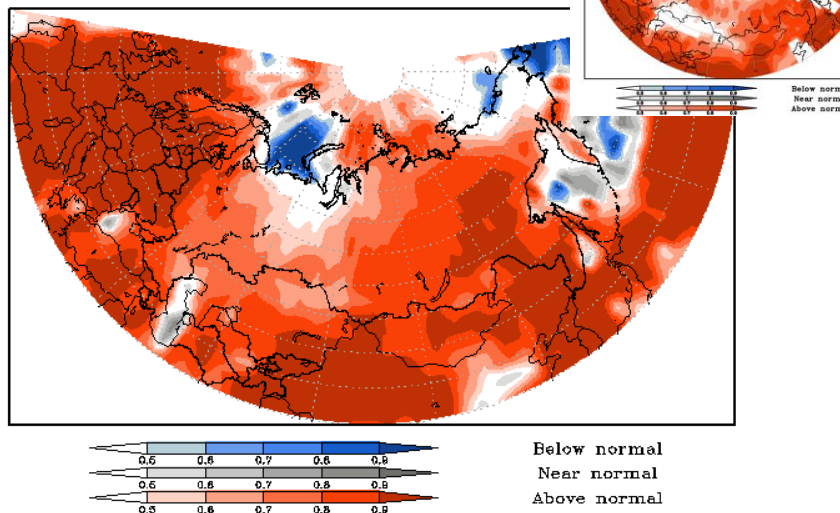
NEACOF-26	NEACOF-25	NEACOF-24
NEACOF-23	NEACOF-22	NEACOF-21

The screenshot shows the NEACC website with a navigation menu on the left containing categories like FORECASTS, INDICES, and MONITORING. A central alert box dated 24.05.2024 states: "Precipitation will be below normal in Central Federal District and Buryatia from May24 to May30." Below this, a grid of buttons includes "Seasonal forecast" (circled in red), "Indices", "Ped Index and SPI", "Subseasonal forecast", "Extreme events", "Decadal forecast", "Outlook of the expected anomalies", "Forecast for the heating/growing period", "Statistical interpretation of forecasts issued by the model of the Hydrometeorological Center of Russia", "Specialized forecasts", "Consensus forecast", and "Forecasts of global producing centers". A "LATEST NEWS" section on the right lists recent events from May 2024. At the bottom, there are links for "El Niño outlook 06 June // basic information on El Niño outlook", "Global outlook of the seasonal forecasts // basic information on the global outlook of the seasonal forecasts", and "Interannual and decadal forecasts".

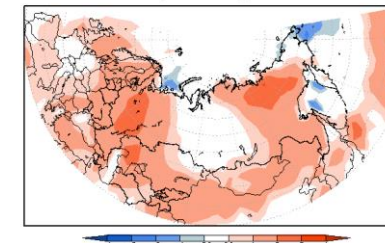
T2m seasonal anomalies. Model: SLAV+MGO
Forecast period: June_July_August_2024



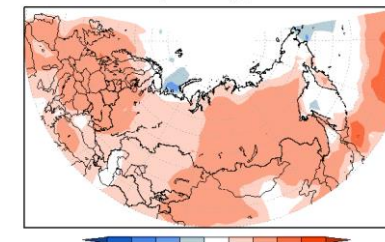
Composite probabilities of categorical forecast outcomes for T2m seasonal anomalies. Model: SLAV+MGO
Forecast period: June_July_August_2024



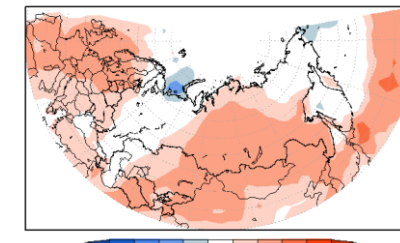
T2m seasonal anomalies (grad K). Model: SLAV+MGO
Forecast period: June_2024



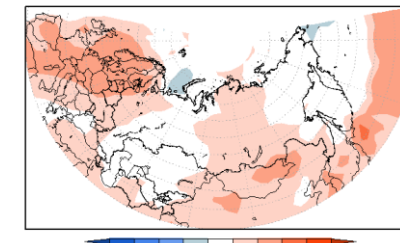
T2m seasonal anomalies (grad K). Model: SLAV+MGO
Forecast period: July_2024



T2m seasonal anomalies (grad K). Model: SLAV+MGO
Forecast period: August_2024



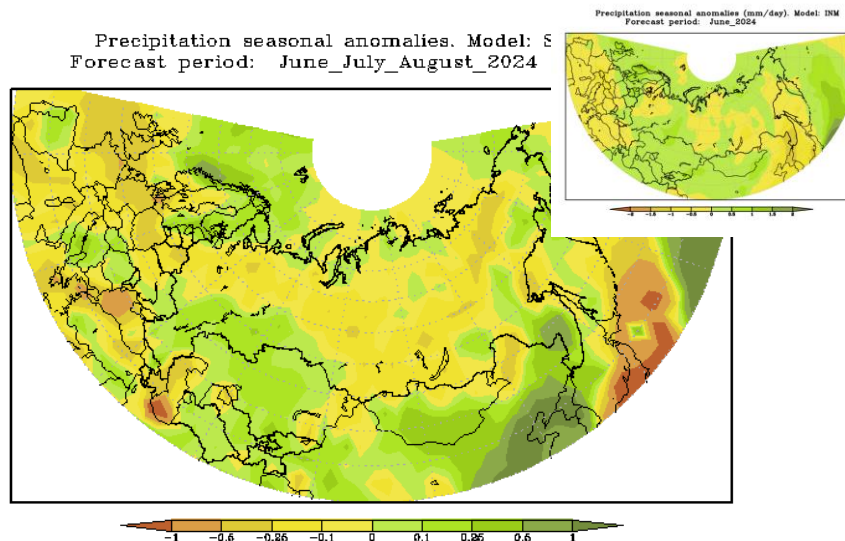
T2m seasonal anomalies(grad K). Model: SLAV+MGO
Forecast period: September_2024



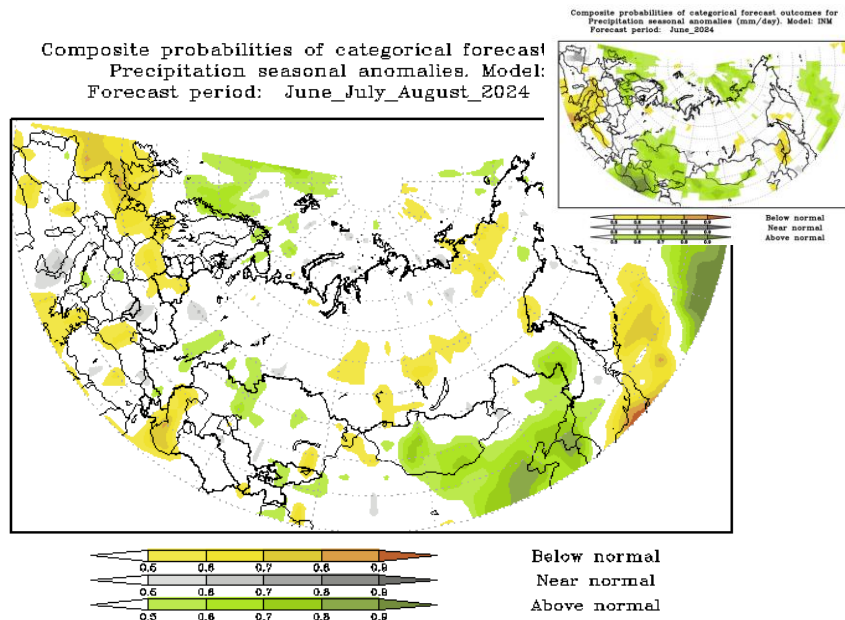
Forecasts of Hydrometeorological centre of Russia (SL-AV),
Voeikov Main Geophysical Observatory (MGO), and
Institute of Numerical Mathematics RAS (INM)

The screenshot shows the NEACC website with a navigation menu on the left and a central content area. A red circle highlights the 'Seasonal forecast' button. A yellow alert banner at the top reads: '24.05.2024 Precipitation will be below normal in Central Federal District and Buryatia from May24 to May30. Archive'. The 'LATEST NEWS' section on the right contains three news items with dates and brief descriptions.

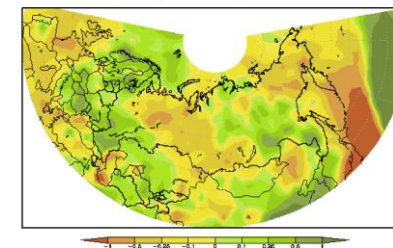
Precipitation seasonal anomalies. Model: S
Forecast period: June_July_August_2024



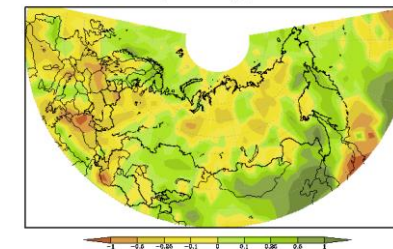
Composite probabilities of categorical forecast
Precipitation seasonal anomalies. Model:
Forecast period: June_July_August_2024



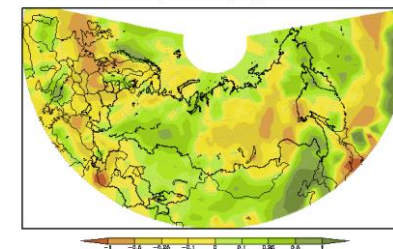
Precipitation seasonal anomalies (mm/day). Model: SLAV+MGO
Forecast period: June_2024



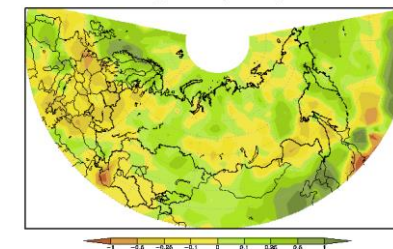
Precipitation seasonal anomalies (mm/day). Model: SLAV+MGO
Forecast period: July_2024



Precipitation seasonal anomalies (mm/day). Model: SLAV+MGO
Forecast period: August_2024



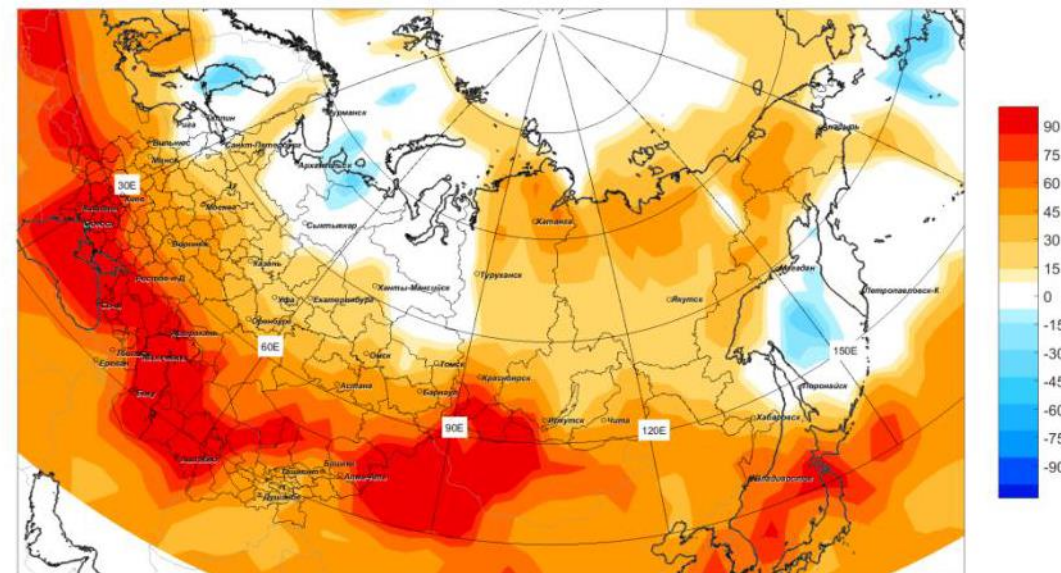
Precipitation seasonal anomalies (mm/day). Model: SLAV+MGO
Forecast period: September_2024



Forecasts of Hydrometeorological centre of Russia (SL-AV),
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Institute of Numerical Mathematics RAS (INM)

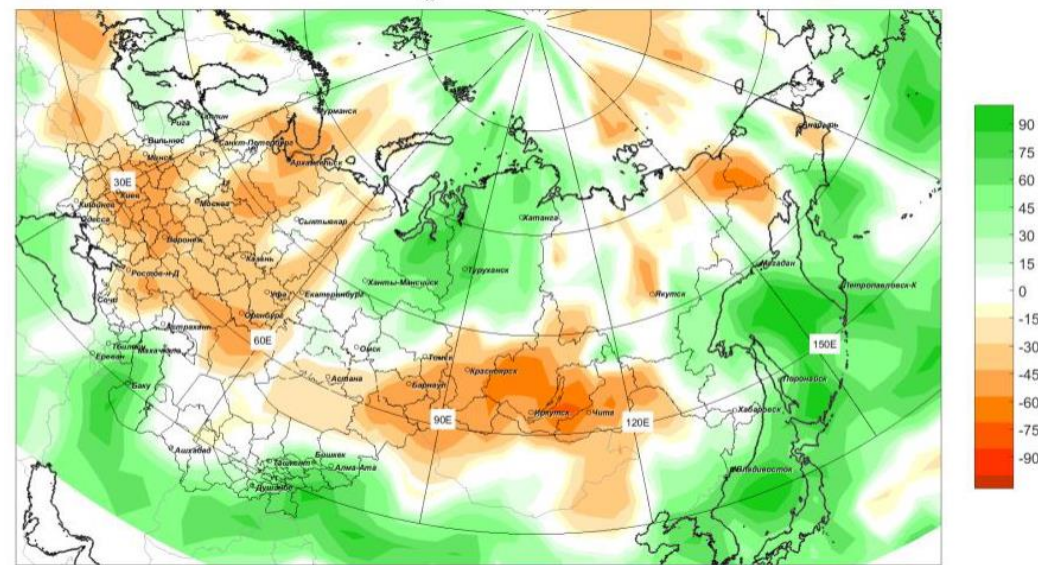
- ❑ Following consensus of participant forecast for summer 2024 was made on the basis of data from three Russian models SL-AV, MGO and INM with equal weight coefficients.
- ❑ The summer season of 2024 in most of the territory of Northern Eurasia is expected to be warmer than the norm with positive anomalies with a high probability (75-90%) are expected in Southern Europe, the south of the ER, excluding the eastern regions, south and east of Central Asia, south-west of the Siberian Federal District...
- ❑ In the north of the ER with a probability of 30%, the summer season of 2024 is expected to be colder than normal in some places.
- ❑ Precipitation will be below average (45-75% probability) in most of Eastern Europe, most of the ER, Southern Urals, south of Siberian Federal District and north-west and east of Kazakhstan...
- ❑ Precipitation above average is expected in the southeast of Yakutia, in the center and north of Khabarovsk Krai, Primorye and the south of Magadan Oblast (30-45% probability)
- ❑ Additional sources used for consensus statement:
The APEC Climate Center - APCC (Korea), International Research Institute for Climate and Society (The IRI's) (USA), WMO Lead Center for MME LRF, European Center for Medium-Range Forecasts (ECMWF), Tokyo Climate Center (TCC), US Climate Prediction Center (CPC), Meteorological Services Canada (ECCC/MSC CanSIPsv2 model), French weather service (Météo-France, France), Australian Meteorological Bureau (The Bureau of Meteorology, Australia)
- ❑ Within cooperation with TPRCC domain of the products may be extended (but not the consensus statement itself)

https://seakc.meteoinfo.ru/images/media/images-seakc/seakc/neacof26/Consensus_statement_eng.pdf



2M temperature forecast. JJA 2024 (Rus Composite Probabilities)

Maps of the consensus forecast of the mean seasonal air temperature and precipitation anomalies for the summer of 2024 in a probabilistic form, calculated based on the interpretation of data from 3 Russian models (INM, SL-AV, MGO).

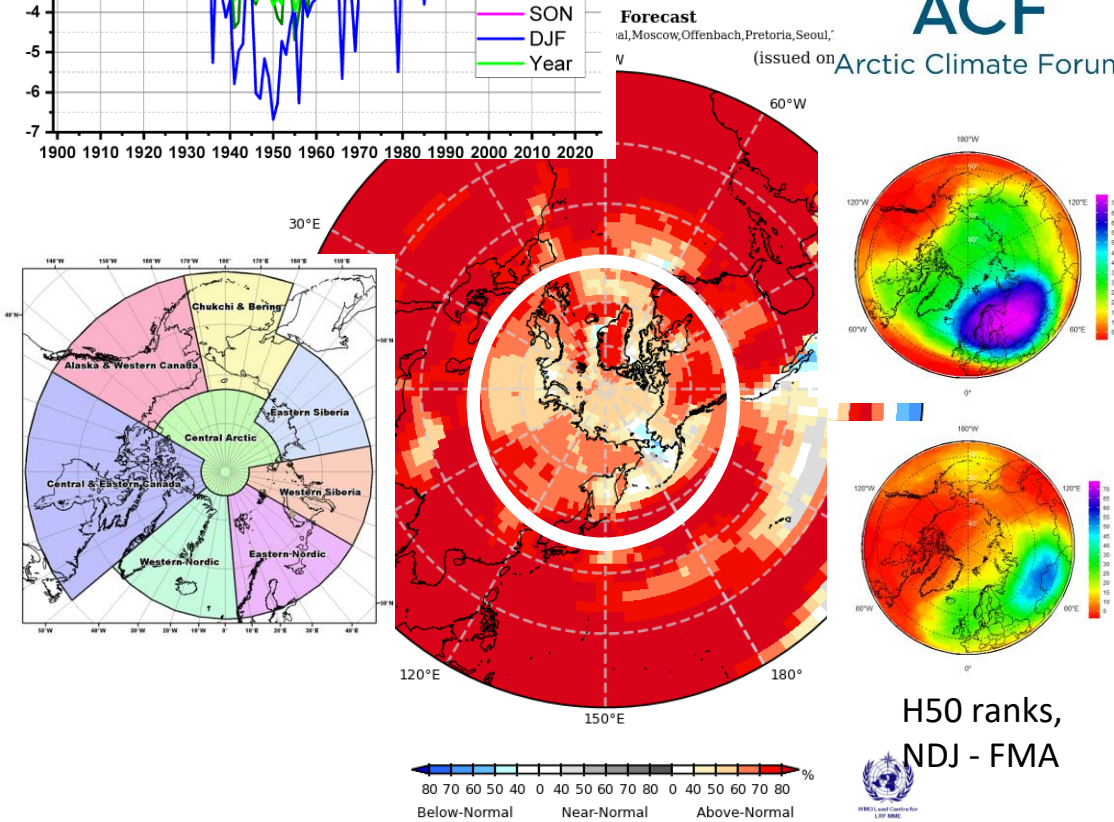
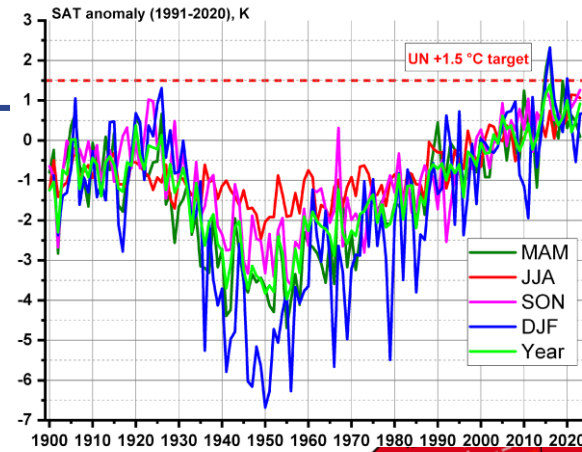


Precipitation forecast. JJA 2024 (Rus Composite Probabilities)

ACF-13 (22-23 May 2024)

For the June-September 2024 period, there is a probability of 50% or more that temperatures will be above normal in most of the regions across the Arctic. The highest probabilities for an above-normal summer (60-80% or more) are in Western Nordic, Greenland, parts of Central and Eastern Canadian Arctic. Below normal temperatures are expected for Chukchi, parts of Bering and Greenland Seas with probability 40-50% and for southern parts of Barents and Kara Seas (0-40%).

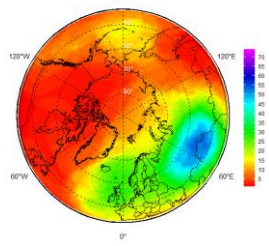
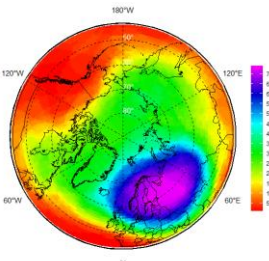
Arctic Region	MME Temperature Forecast Agreement	MME Temperature Forecast
Alaska and Western Canada	Low (eastern part), moderate to high (western part)	Above normal with exception of western part adjacent to Bering Strait and Chukchi Sea
Central and Eastern Canada	High (continental part), low (some marine parts)	Above normal for most of area, normal or below normal in parts of Hudson Bay and Labrador Sea
Western Nordic	High (Greenland, Icelandic waters, eastern part), low (parts of Greenland Sea)	Above normal (Greenland, Icelandic waters), below normal (parts of Greenland Sea)
Eastern Nordic	Moderate to low	Above normal
Western Siberia	Low to no agreement	Above normal with exception of normal for southern parts of Barents and Kara Seas
Eastern Siberia	Moderate	Above normal
Bering and Chukchi	Moderate (in continental part), low to no agreement (marine part)	Above normal with exception of below normal for Bering Strait, adjacent area of Bering Sea and Chukchi Sea/
Central Arctic	Low to moderate	Above normal



Multi model ensemble probability forecast for temperature for June, July, August 2024. Red indicates warmer conditions, blue colder conditions and white, no agreement amongst the models. Source: www.wmolc.org.



ACF Arctic Climate Forum



H50 ranks, NDJ - FMA

ACF-13 (22-23 May 2024)



ACF

Arctic Climate Forum

For the June – August 2024 period over the largest part of the Arctic region, there are no model agreements or expectancies for near normal precipitation with probabilities of 40% or less. Above normal precipitation is expected for Iceland, Greenland, Labrador Sea, parts of Canadian Archipelago and Chukchi peninsula with probability expectancies of 40-50%.

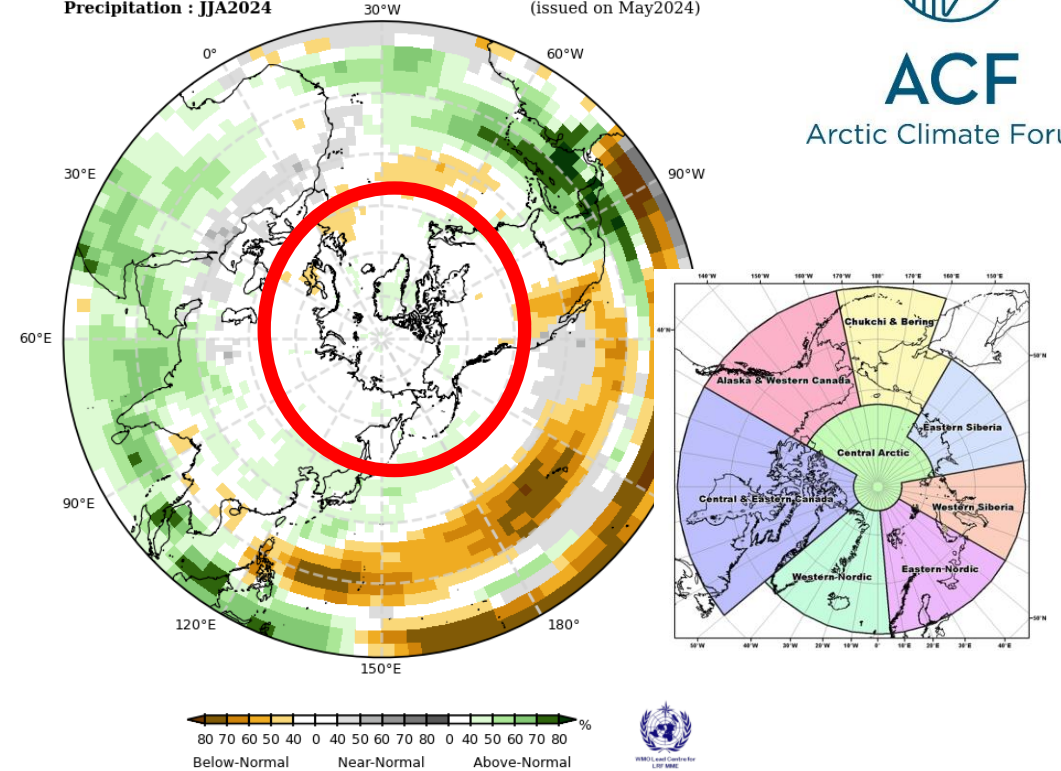
Region	MME Precipitation Forecast Agreement*	MME Precipitation Forecast
Alaska and Western Canada	Low to moderate	Above normal over continental Alaska, no model agreement for other areas
Central and Eastern Canada	Low to moderate	Above normal for Labrador Sea and parts of Canadian Archipelago, no model agreement for other parts
Western Nordic	Moderate to low	Above normal over Greenland, parts of the Greenland Sea and Icelandic waters
Eastern Nordic	Low to moderate	Mostly no model agreement, above normal in the northmost part of Scandinavia, below normal in the southern part of Bothnia Bay
Western Siberia	Low	No model agreement, above normal south of Gulf of Ob
Eastern Siberia	Low	No model agreement
Chukchi and Bering	Low	Above normal in parts of Chukchi and Kamchatka peninsulas, western Aleut islands, southern parts of the Sea of Okhotsk
Central Arctic	Low	Above normal northward of FJL archipelago and North Pole region

Probabilistic Multi-Model Ensemble Forecast

Beijing, CMCC, CPTEC, ECMWF, Exeter, Melbourne, Montreal, Moscow, Offenbach, Pretoria, Seoul, Tokyo, Toulouse, Washington

Precipitation : JJA2024

(issued on May2024)



Multi model ensemble probability forecast for precipitation for June, July, August 2024. Green indicates wetter conditions, orange drier conditions and white, no agreement amongst the models. Source: www.wmolc.org.



Thank you for attention!

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