

Annex

Country: Israel

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Assessment of the seasonal forecast for the summer season

JJA 2024

1. SEECOF-31 Climate outlook for the 2024 summer season:

The SEECOF-31 temperature outlook assigned 70% chance for the “above normal” tercile, 20% for the “normal” tercile and 10% for the “below normal” terciles (fig. 1).

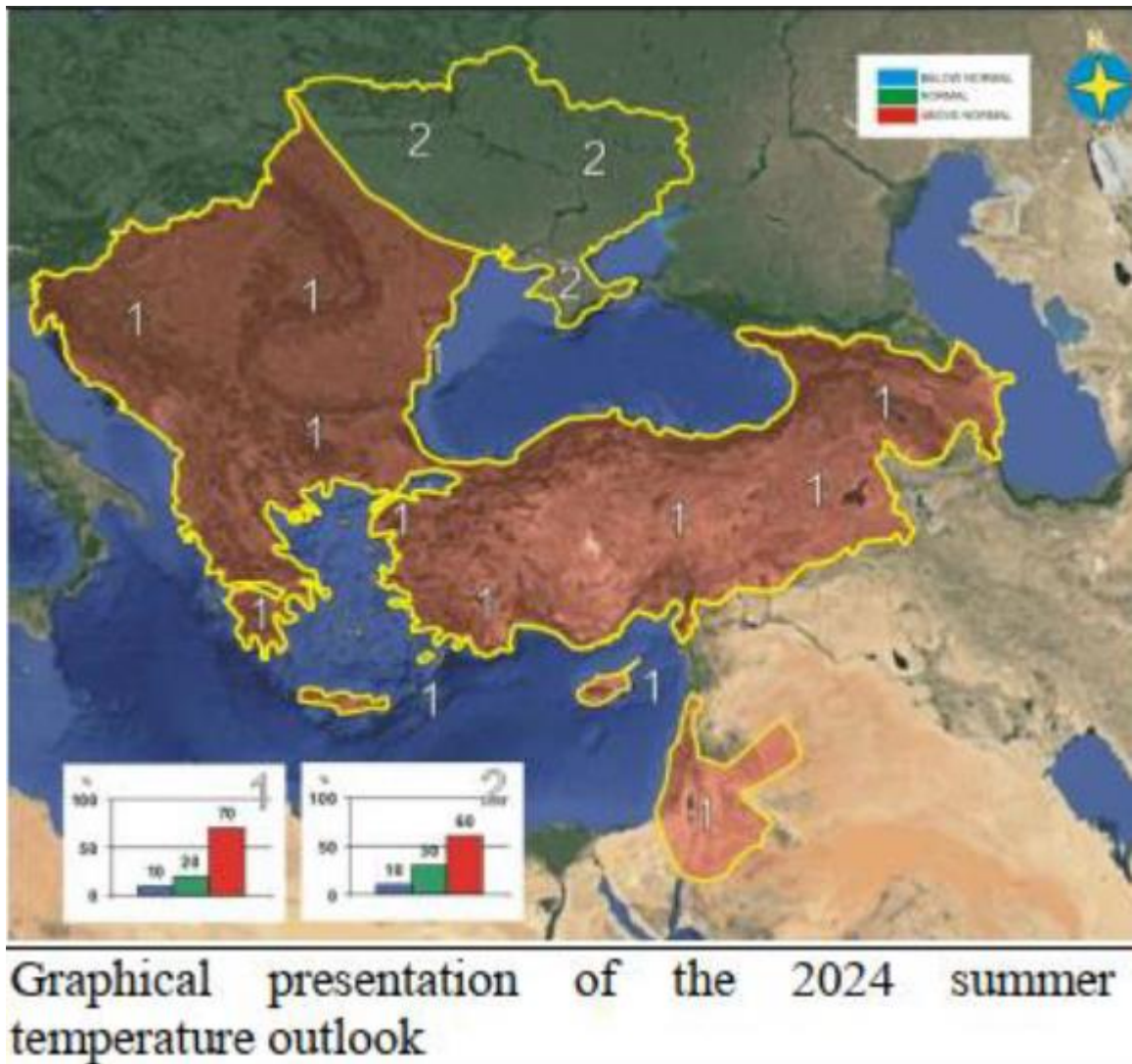


Fig. 1: SEECOF-31 temperature prediction for summer (JJA) 2024

2. Analysis of the 2024 summer season:

Temperature

The country average temperature was calculated by the average of five stations, which represent most of the country's climate regime. The stations used are: Eilat (southern Israel) Negba (southern coastal plan), Bet-Gimal (central low mountain ridge), Jerusalem (central mountain ridge) and Zefad (Northern mountain ridge). The choice was proved to be correct as these stations' average temperature for the decade (2001-2010) turned out to be almost identical to the average temperature calculated from 39 stations spread all over the country.

It can be seen from figure 3 that the JJA 2024 average temperature resides in the “above normal” tercile. The JJA 2024 average temperature resides above the 99% quintile. The anomaly JJA 2024 average temperature is +2.06°C relative to JJA 1991-2020.

Anomaly of JJA T2m for 5 stations. The anomaly is relative to JJA 1991- 2020

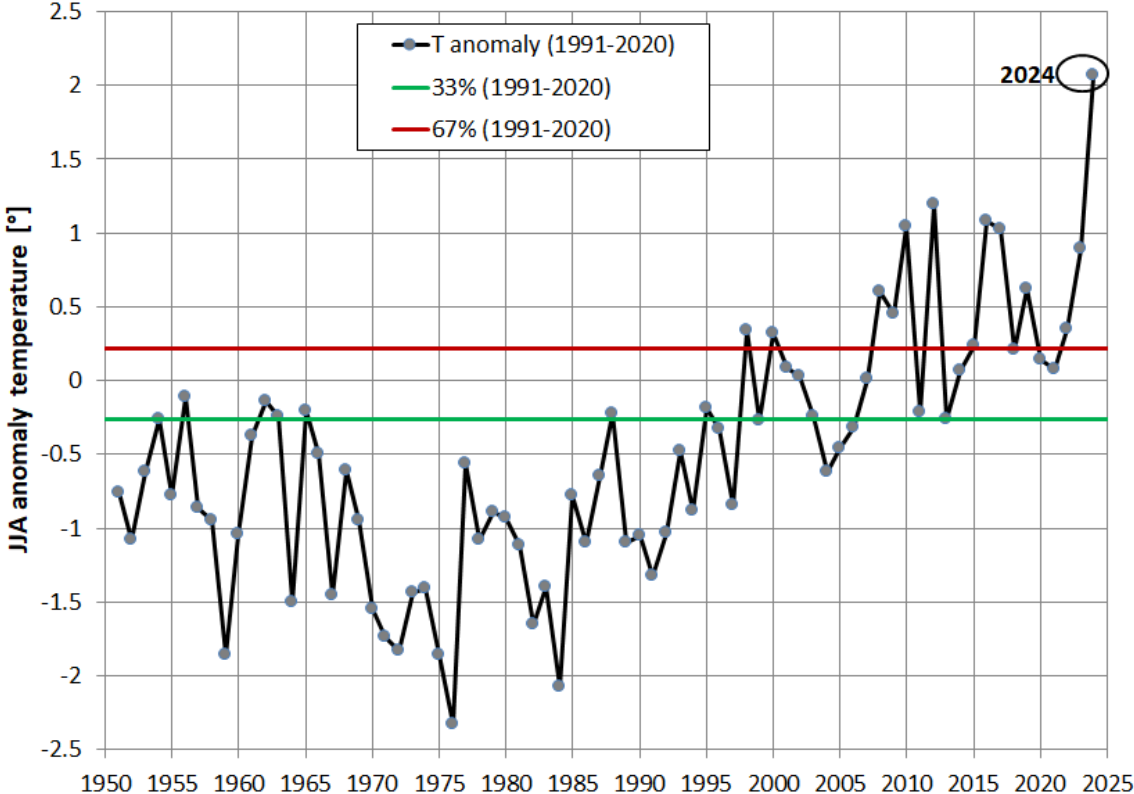


Fig. 2: JJA average temperature anomalies for Israel since 1951. The horizontal lines represent the upper and lower tercile thresholds for the 1991-2020 reference periods.

Precipitation

As there is no precipitation during JJA there is no need for seasonal forecast.

3. High Impacts Events:

JJA 2024 had no high impact events.

4. Verification of the SEECOF - 31 climate outlook for the JJA 2024:

The table below is a verification summary of the climate outlook for the JJA 2024 to the reference period of 1991-2020. The RPSS indicates a positive skill for the summer forecast.

Country	Seasonal temperature (JJA)				Ranked Probability Skill Score*
	Observed	SEECOF-31 climate outlook for temperature			
Israel	above normal	A	N	B	0.82
		0.7	0.2	0.1	

*The Rank Probability Skill Score (RPSS) is essentially an extension of the Brier score to 3 event situation.

$$RPS = \sum_{m=1}^j \left[\left(\sum_{j=1}^m F_j \right) - \left(\sum_{j=1}^m O_j \right) \right]^2$$

Where F and O denotes the Forecast and Observed values, respectively for tercile forecasts j=3.

The skill score is defined by:

$$RPSS = 1 - \frac{RPS}{RPS_{clim}}$$

Where RPS_{clim} is obtained by assigning equal probability of 33.33% to all categories. The RPSS values vary from 1 for a perfect forecast (100% probability for the observed tercile) to -3.5 for a wrong (opposite?) forecast.

5. Users' perceptions of the SEECOF – 31 outlook

We provided the summer climate outlook.