

Annex

Country: Israel

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Assessment of the seasonal forecast for the summer season

JJA 2020

1. SEECOF-23 Climate outlook for the 2020 summer season:

The SEECFO-23 temperature outlook assigned 60% chance for the “above normal” tercile, 30% for the “normal” tercile and 10% for the “below normal” terciles (fig. 1).

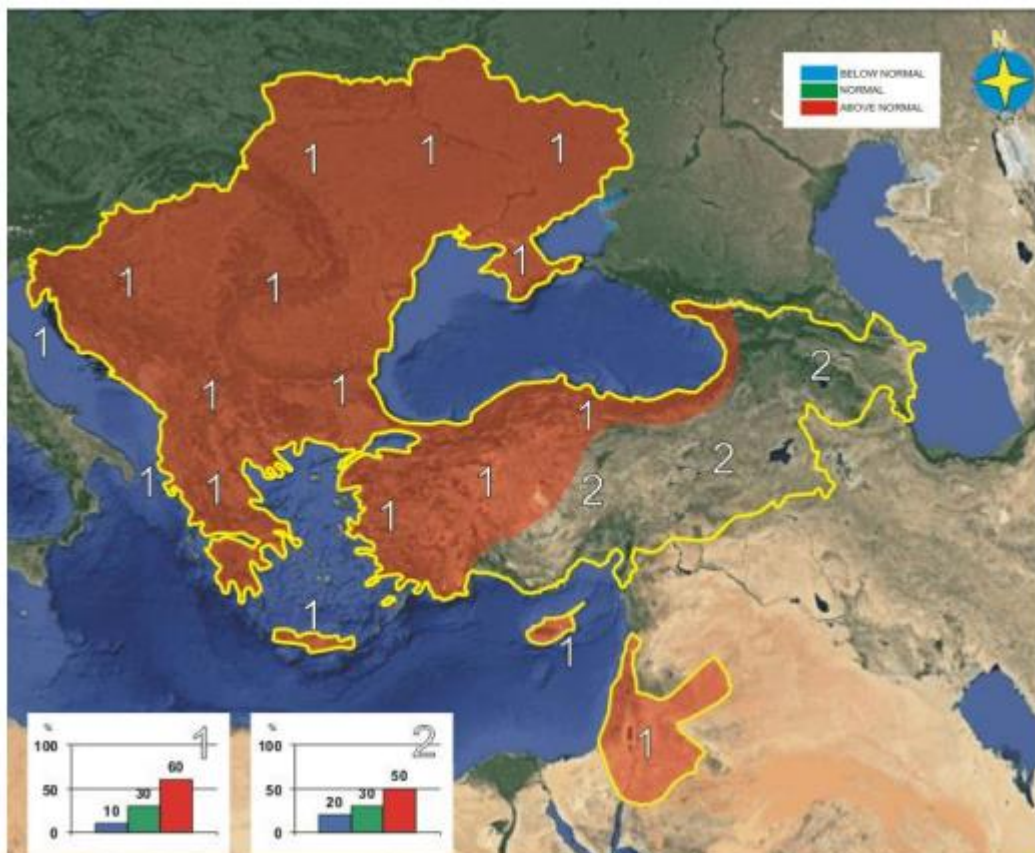


Fig. 1: Graphical presentation of the 2020 summer temperature outlook.

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 plain), 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 last 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 2 that the JJA 2020 average temperature resides in the “above normal” tercile for the 1981-2010 reference periods.

Anomaly of JJA T2m for 5 stations. The anomaly is relative to JJA 1981-2010

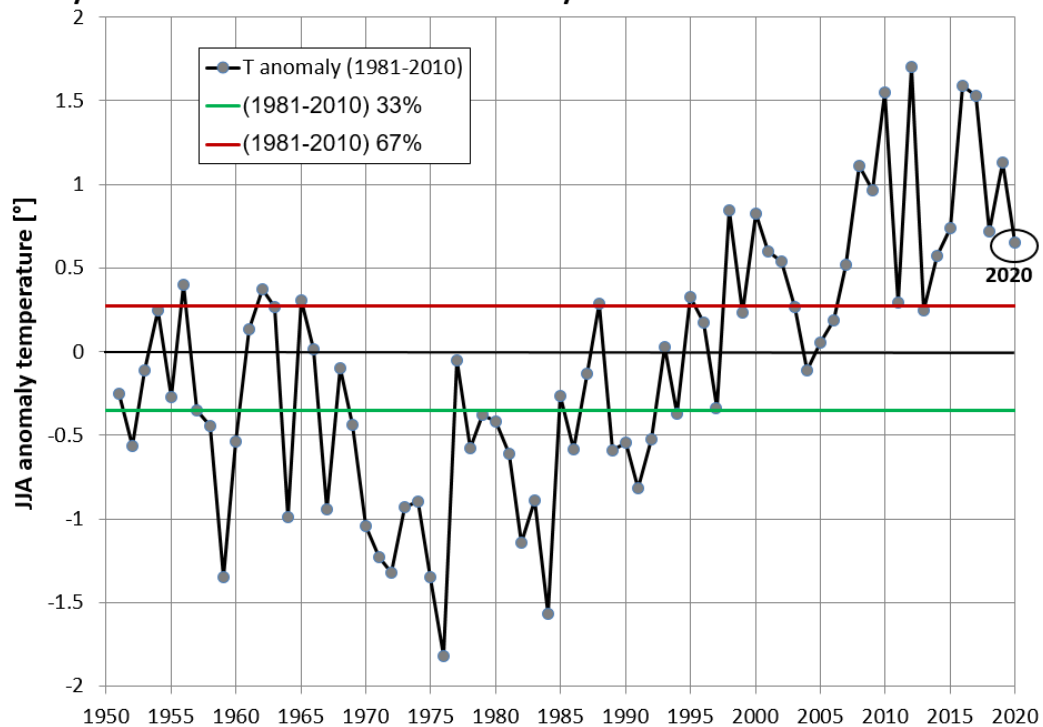


Fig. 2: JJA average temperature anomalies for Israel since 1950. The horizontal lines represent the upper and lower tercile thresholds for the 1981-2010 reference periods.

Precipitation

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

1. High Impacts Events:

JJA 2020 had no high impact events.

2. Verification of the SEECOF-23 climate outlook for the JJA 2020:

The table below is a verification summary of the climate outlook for the JJA 2020 to the reference period of 1981-2010. The RPSS indicates a positive skill for the summer forecast.

Country	Seasonal temperature (JJA)				Ranked Probability Skill Score*
	Observed	SEECOF-23 climate outlook for temperature			
Israel	above normal	A	N	B	0.69
		0.6	0.3	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 bust forecast.

3. Users' perceptions of the SEECOF-23 outlook

We provided the summer climate outlook.