

## Annex

Country: Israel

Institute: Israel Meteorological Service

Name: Itzhak Carmona

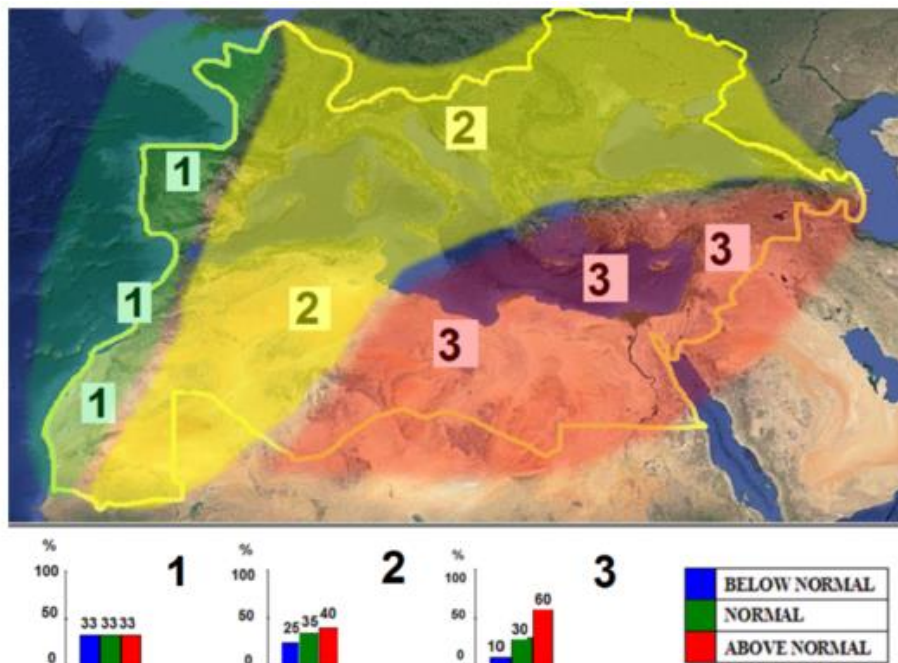
E-mail: carmonai@ims.gov.il

### Assessment of the seasonal forecast for the summer season

JJA 2016

#### 1. MedCOF-6 Climate outlook for the 2016 summer season:

The MedCOF-6 temperature outlook assigned 60% chance for the “above normal” tercile, 30% for the “normal” tercile and 10% for the “below normal” terciles (fig. 1).



### 2016 SUMMER TEMPERATURE OUTLOOK

## 2. Analysis of the 2016 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 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 3 that the JJA 2016 average temperature resides in the “above normal” tercile.

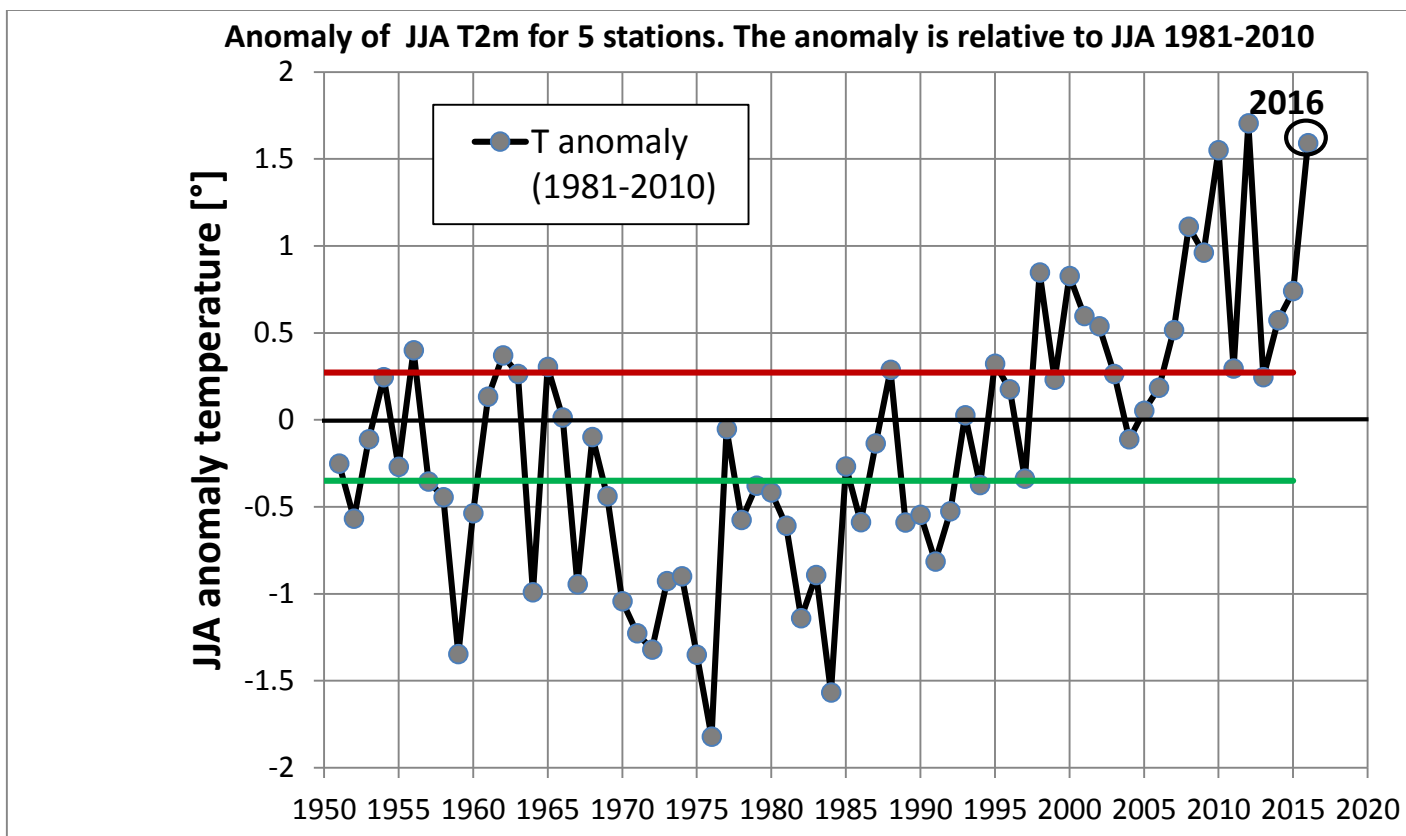


Fig. 3: JJA average temperature anomalies for Israel since 1960. The horizontal lines represent the upper and lower tercile thresholds for the 1981-2010 reference periods.

### Precipitation

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

### 3. High Impacts Events:

JJA 2016 had no high impact events.

### 4. Verification of the MedCOF -6 climate outlook for the JJA 2015:

The table below is a verification summary of the climate outlook for the JJA 2016 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	MedCOF-6 climate outlook for temperature			
Israel	above normal	A	N	B	<b>0.69</b>
		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 wrong (opposite?) forecast.

### 5. Users' perceptions of the MedCOF-6 outlook

We provided the summer climate outlook.