



## Supplement of

## A new view of heat wave dynamics and predictability over the eastern Mediterranean

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Serial number	Station name	Latitude (°)	Longitude (°)	Altitude (m)	WMO number
1	Elat	29.55	34.95	22	401990
	(desert)				
2	Negba	31.66	34.68	95	
	(Coastal plain)				
3	Beit-Jimal	31.72	34.98	355	
	(low land)				
4	Jerusalem-	31.78	35.22	810	402900
	center				
	(mountainous)				
5	Zefat Har-	32.98	35.51	936	401530
	Kenaan				
	(mountainous)				

**Table S1** The five homogenous representative daily maximum temperature stations over Israelused for computing the absolute error of the model.



**Figure S1** The five homogenized stations on top of the average summer (July-August) temperature over Israel computed for 1995 - 2009 (<u>https://ims.gov.il/he/node/1611</u>; shaded in color - °C).



**Figure S2** The portion of trajectories over land, as defined by the ERA-Interim land-sea mask, for heat waves (red line) and cool days (blue line). The x-axis shows time lags (in h) relative to the first day of  $CSI \ge 90\%$  or  $CSI \le 10\%$  and at 12UTC (0 h in the Figure).



**Figure S3** Same as Figure 5 but showing forecast valid time in (a, c, e) and showing CDFs for the forecasts with lead time 69h, valid at 0 h in (b, d, f).



Figure S4 Same as Figure 9 but showing forecast valid time.