

Global Subseasonal Excessive Heat Outlook System

Global-SEHOS Monitoring & Forecast issued 18 June 2018

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Disclaimer: This product is experimental and addresses educational and research purposes only.



Brief description of the Global-SEHOS

The core of the CFS based Global-SEHOS i.e., the definition of an excessive heat event, is the Excess Heat Factor (Nairn, J., and R. Fawcett, 2014). A variant of this index including information about humidity explicitly is the wet EHF which uses the maximum between the temperature and the heat index instead of only temperature.



Section 1 monitors the quantile of the maximum daily EHFs from the week prior to the forecast, presents a press review of heat waves, and depicts the 30-day observed temperature anomaly prior to the forecast (acclimatization). **Section 2** presents forecast of the probability for daily EHFs above the 50% and 85% percentile within Week-2 and Week-3 and shows time series of the EHF for all forecast member for featured cities against their 50%, 85%, and 95% percentiles. **Section 3** highlights past/future evolution at 'hot spots'.

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Section 1: Monitoring

(a) Monitoring of the quantile of the maximum daily EHF within the seven-day period prior to the forecast.

(b) Heat events in the News

(c) Anomalous temperature for the month prior to the forecast (acclimatization).

Weekly monitoring of Excessive Heat

Quant. of obs. dry EHF (ECDF) for: 11-Jun-2018 to 17-Jun-2018





Quant. of obs. wet EHF (ECDF) for: 11-Jun-2018 to 17-Jun-2018



0.5

0

Quantile of the observed maximum daily EHF for the week prior to the forecast. Quantiles are computed using data from 1999 to 2010.

Wet EHF

Weekly monitoring of Dry Excessive Heat

Conditions from Previous Bulletin

Current Conditions



Quant. of obs. dry EHF (ECDF) for: 11-Jun-2018 to 17-Jun-2018



Quant. of obs. dry EHF (ECDF) for: 11-Jun-2018 to 17-Jun-2018



Weekly monitoring of Dry Excessive Heat

Conditions from Previous Bulletin

Current Conditions

0.5

1

0.5

0





Observed previous 30-day anomalous temperature (in °C)





5

0

-5

Section 2: Forecast

Probability of a day with EHF > 50% and 85% percentile within a given week (Week-2 or Week-3).

Forecast of probability of exceedance of 50% and 85% percentile for Daily Dry EHF

Week-2

Week-3



50%

85%

Prob. for dry EHF > 85% perc. Week-2. Valid: 25-Jun-2018 to 01-Jul-2018









Prob. for dry EHF > 85% perc. Week-3. Valid: 02-Jul-2018 to 08-Jul-2018



Daily EHF forecast of individual ensemble members (red) and ensemble mean (black) for featured cities compared to 50%, 85%, and 95% percentile levels



Section 3: Highlights



Ensemble forecast of dry/wet EHF (red/blue) for the grid point closest to Chicago. Each row represents a forecast with initial conditions from 09, 11, 13, 15 and 17 June 2018.

Monitoring of Wet EHF: Quantile of the hottest EHF day during a 7-day period

Quant. of obs. wet EHF (ECDF) for: 03-Jun-2018 to 09-Jun-2018



Quant. of obs. wet EHF (ECDF) for: 06-Jun-2018 to 12-Jun-2018



Quant. of obs. wet EHF (ECDF) for: 09-Jun-2018 to 15-Jun-2018





Quant. of obs. wet EHF (ECDF) for: 07-Jun-2018 to 13-Jun-2018



Quant. of obs. wet EHF (ECDF) for: 10-Jun-2018 to 16-Jun-2018



Quant. of obs. wet EHF (ECDF) for: 05-Jun-2018 to 11-Jun-2018



Quant. of obs. wet EHF (ECDF) for: 08-Jun-2018 to 14-Jun-2018



Quant. of obs. wet EHF (ECDF) for: 11-Jun-2018 to 17-Jun-2018

