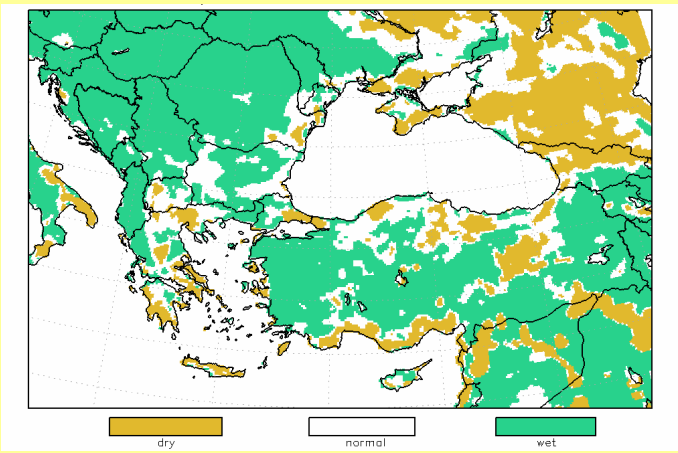
DROUGHT MONITORING BULLETIN

7th July 2010

Hot Spot

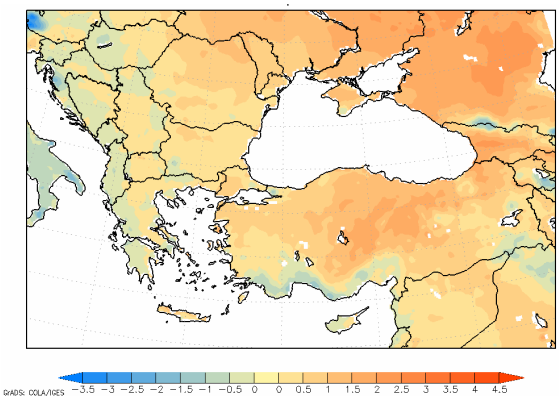


Numerical weather prediction model simulations for the time period 21 April - 29 June 2010 indicate wet conditions throughout the SE Europe region. Surface water balance is ranked to be among wettest 33% (upper tercile) with respect to long term average (1989-2009) for this time period over entire region (left figure). Temperatures in this time period were approximately same or slightly higher than 1989-2009 average.

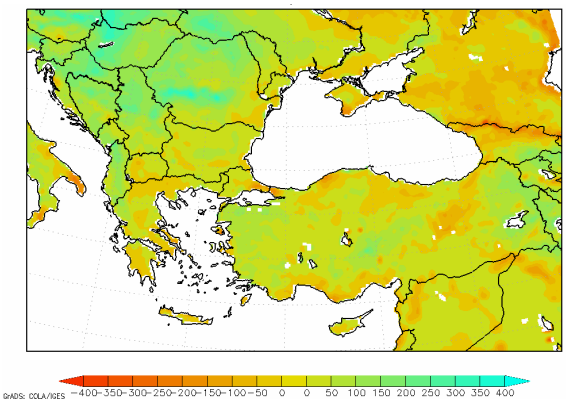
Methodology

Drought monitoring bulletin is based on numerical weather prediction (NWP) model simulations over SE Europe and SPI index calculations. Precipitation data is provided by Global Precipitation data Centre (GPCC; gpcc.dwd.de). NWP simulations are performed with Non-hydrostatical Meso-scale Model (NMM, see: http://www.dtcenter.org/wrf-nmm/users/). Historical DMCSEE model climatology was computed with NMM model for time period between 1st January 1989 and 31st December 2009. European Center for Medium Weather Forecast (ECMWF) ERA-Interim data set (see: http://www.ecmwf.int/research/era/do/get/era-interim) was used as input data. Long term averages (1989 - 2009), used for comparison of current weather conditions, are obtained from this data set. For the current conditions, operational (truncated) ECMWF data set is used as input for simulations. Comparison of current values to long term averages provides signal on potential ongoing drought severity.

Air temperatures and surface water balance

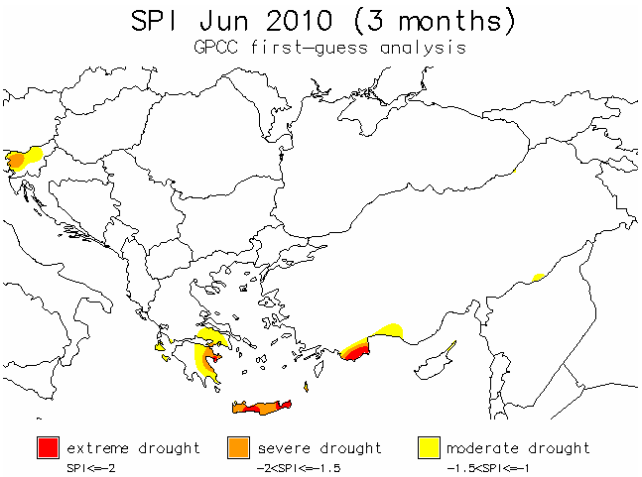


The comparison of air temperature for period 21st April – 29th June to long term average is presented in left figure. In eastern part of the Balkan and northern Turkey temperatures exceed long term averages for up to 1 degree over most of the area and up to 2 degreed over smaller regions. Over western Balkans and some coastal regions temperatures remained near long term averages.



Surface water balance (difference between precipitation and potential evapotranspiration) doesn't show large negative anomalies for period 21st April – 29th June with respect to long term average (see figure). Negative anomalies remained below 100 mm in some isolated areas in southern part of the region. Majority of the northern part of the region recorded positive anomalies, in some regions (Danube and southern Carpathian region) positive anomaly exceeded several hundred millimeters and resulted in floods in early summer.

SPI Index

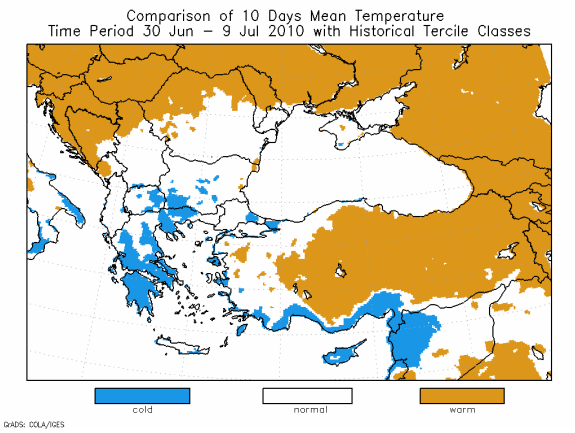


SPI index for all accumulation periodes (from 1 month to 6 months) shows favourable conditions throughout the whole region. Small isolated areas with indications of negative SPI values don't indicate possible drought occurrence.

Impact reports

Currently there are no drought impacts or water shortages reported in the region.

Outlook



First days of July will not bring significant changes of the status. Temperatures will remain above long term averages (except in southern Balkan).