

NERO Fire Brief

Summary

Between June 25th and 28th 2025 nearly 150 fires broke out in Türkiye, due to prolonged drought, high temperatures, low humidity, and strong northeasterly winds. Most of the fires are under control; however, some are still ongoing.

On the morning of Friday, 27 June 2025, at approximately 07:15 UTC, a wildfire ignited in a forested area near the village of Hacıyakup, located in the Taraklı district of Sakarya Province in northwestern Türkiye (Fig. 1)

Driven by strong northeasterly winds, the fire rapidly spread through dense and extremely dry shrubland mixed with pine trees (Figs. 1, 2, and 3). As of 29 June, the fire was mostly under control; however, it is still ongoing.

Initial analysis using Sentinel-2 imagery indicated that the fire burned approximately 37 hectares of land within just nearly 1.5 hours, with the fire perimeter reaching nearly 3.8 km. The calculated rate of fire spread during this phase was about 660 m/h (Fig. 1). Spot fires were also observed up to 450–500 meters ahead of the main front (Fig 1b).

The prolonged drought in the region contributed to the abundance of dead fuels, while the extremely low atmospheric moisture on the day of ignition intensified the burning conditions (Fig. 2a).

The fire soon reached neighboring Bilecik Province. Nearly seven villages were evacuated, and houses and barns were destroyed in the villages of Urgancılar, Büyüksürmeli, and Kaşıkçı. Many animals perished as a result (Fig. 4).

On 27 June, synoptic fire weather was driven by an upper-tropospheric ridge over the Balkans and NW Turkey, with above-average temperatures and atmospheric aridity (Fig. 5). On 28 June, the ridge collapsed, bringing cooler, windier conditions. Mesoscale analysis (Fig. 6) shows very favorable fire spread conditions on 27 June due to low humidity (~30%) and moderate winds (20–30 km/h). On 28 June, stronger winds aided the fire spread but improved by evening as moisture recovered and winds dropped. The fire showed plume-dominated behavior on 27 June, producing a short-lived pyrocumulus cloud seen in MTG satellite imagery (Fig. 7). Fire-atmosphere analysis using FLAME data shows that despite weak low-level wind shear, a mid-tropospheric inversion, enhanced shear aloft, and a poorly mixed boundary layer (Fig. 8)

limited deep pyroconvection. The mid-level wind shear and dryness likely caused the pyroCu's tilted structure and brief duration (Figs. 7, 8).	
Date and Time	27 June 2025, 7:15 UTC
Wildfire Event Name	Sakarya, Tarakli Fire
Location	Türkiye, Sakarya, Tarakli, Lat: 40.40182, Long: 30.41691 (fire ignition)
Current Size (ha)	
Type	Surface fire and Crown fire
Weather Influence	Wind-driven fire
Fuels	Pine forest, shrublands (maquis), grass
Elevation (m asl)	500 - 600
Observed Fire Behavior	High fire rate of spread, pyroconvection, spotting
Other Information	https://gazeteoksijen.com/turkiye/bilecike-sicramisti-sakaryadaki-orman-yangini-2-gununde-245280 https://www.halk54.com/sakarya-tarihinin-en-buyuk-yangini-ucuncu-gunde-devam-ediyor https://www.dha.com.tr/gundem/sakaryada-orman-yangini-2-mahallede-tahliye-2667374

Figures

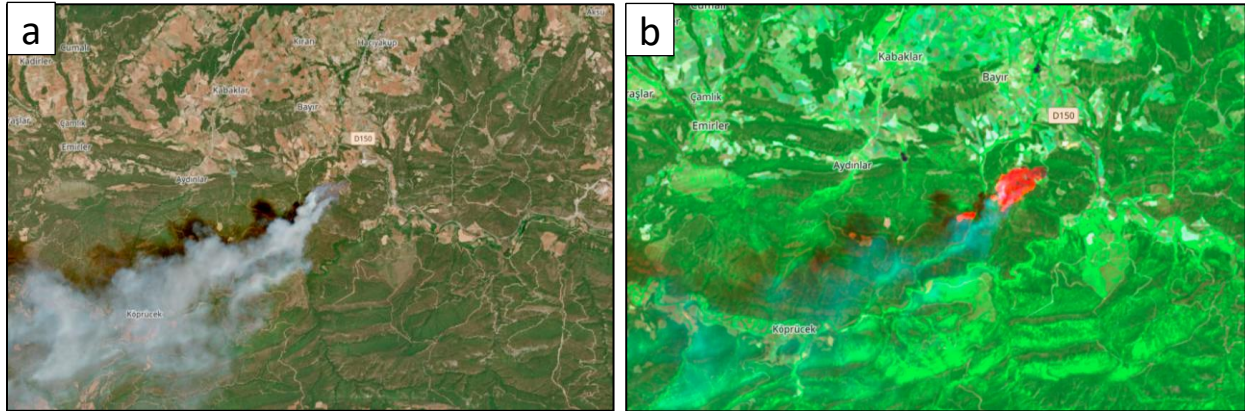


Figure 1. Sentinel-2 True Color Optimized (TCI) and Shortwave Infrared (SWIR) composite images of the ongoing fire, captured on 27 June 2025 at 08:46 UTC, approximately 1.5 hours after ignition. These satellite images reveal both visible and thermal characteristics of the fire, offering critical insights into its early spread and intensity. Source: ESA – Sentinel-2.

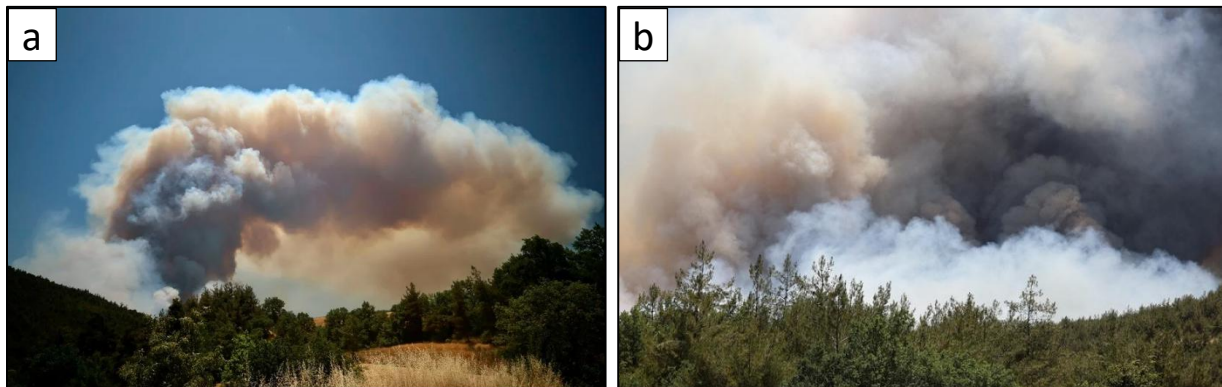


Figure 2. Convection column (a) and image of the ongoing Sakarya-Tarakli fire (a). Source: AA



Figure 3. NOAA-21 VIIRS True Color Corrected Reflectance (250 m) and VIIRS Thermal Anomalies (375 m, Day) for the western part of Türkiye on 27 (a) and 28 (b) June 2025. Source: NASA.

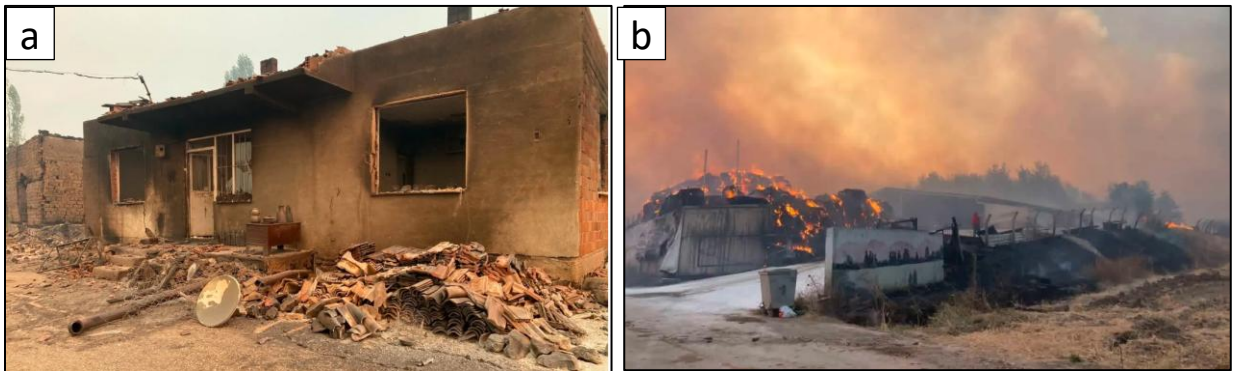


Figure 4. Damaged houses (a) and barns (b) caused by the fire. Source: Halk5

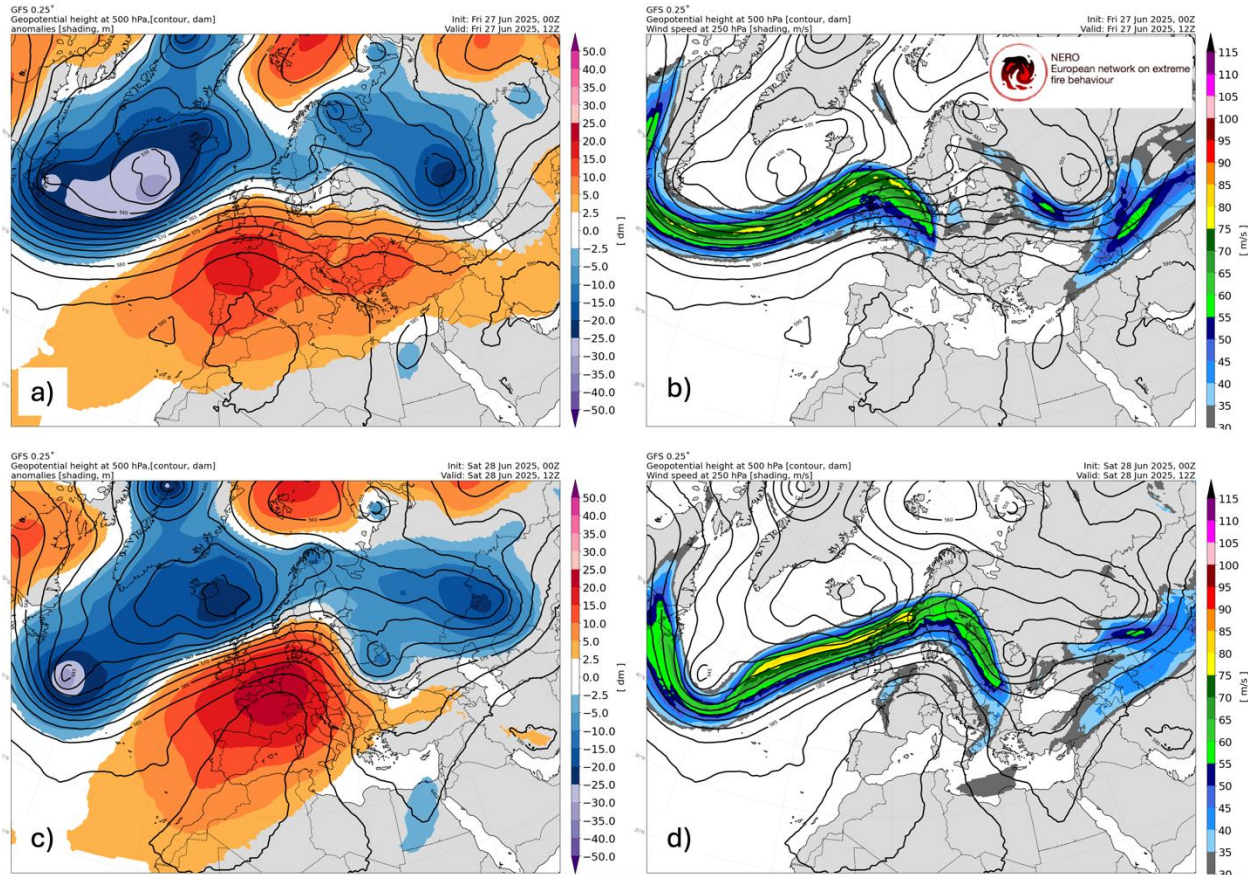


Figure 5. Synoptic conditions during June 27-28, 2025, based on short-term forecast data from NCEP/GFS data. Panels a) and c) show geopotential height (contours) and the associated anomalies (shading) with respect to climatology (1979-2010). Panels b) and d) show the jet-stream position and strength (shading).

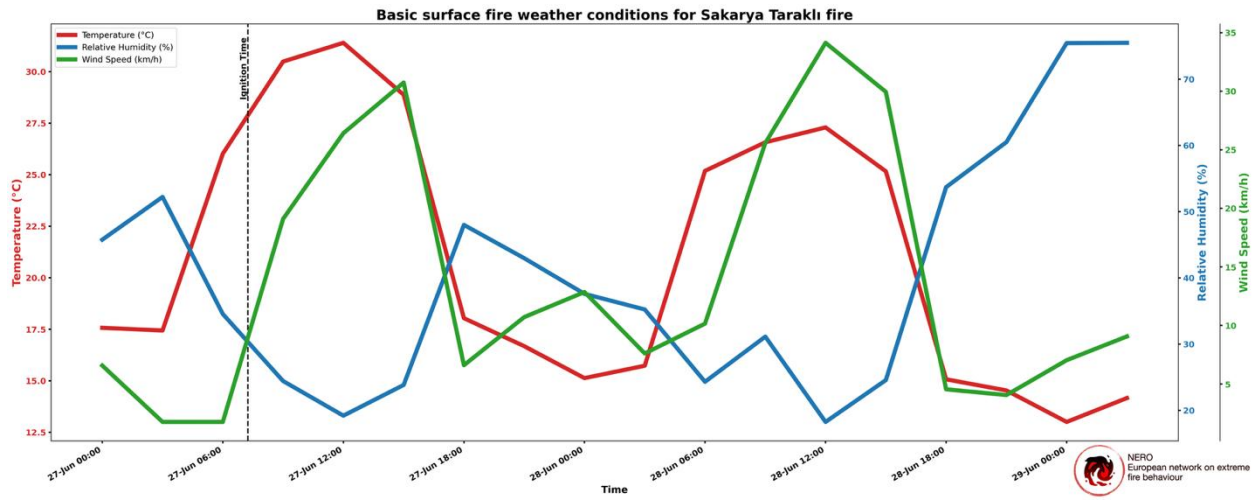


Figure 6. Basic surface fire weather conditions for Sakarya Taraklı fire during June 27-28, 2025, based on WRF forecast data (at 2km horizontal resolution) from the FLAME - Fire Meteorology Group of the National Observatory of Athens. The red line shows temperature at 2m (°C), the blue line shows relative humidity at 2m (%), and the green line shows wind speed at 10m (km/h).

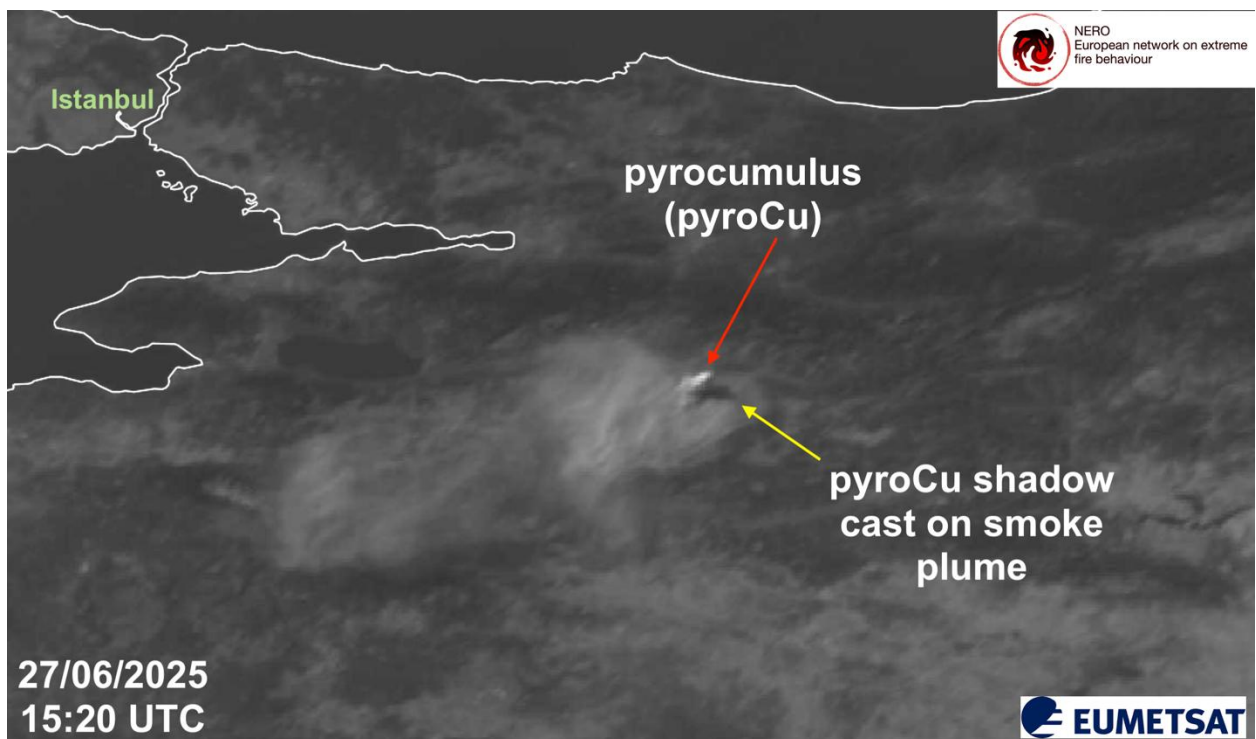


Figure 7. Satellite image of the brief formation of a pyroCu cloud on June 27, 2025, as seen from EUMETSAT's MTG satellite.

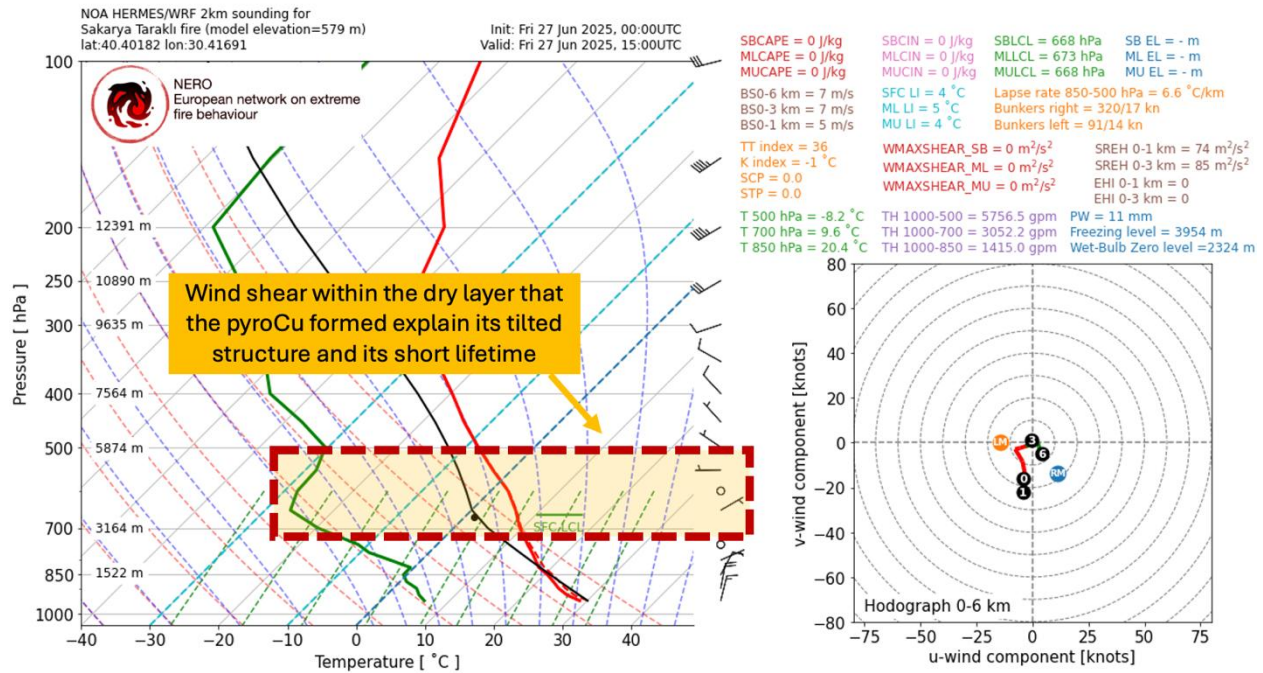


Figure 8. Atmospheric profile and dynamic and thermodynamic diagnostics for June 27, 2025, at 15:00 based on WRF forecast data (at 2km horizontal resolution) from the FLAME - Fire Meteorology Group of the National Observatory of Athens.