

NERO Fire Brief

Summary

On Sunday, 20 July 2025, at approximately 14:00 UTC (17:00 local time, UTC+3), a wildfire ignited in forestland near the village of Hacılar, located in the Gevye district of Sakarya Province in northwestern Türkiye (Fig. 1a, b).

Under generally light northeasterly winds (<10–15 km/h), the fire steadily advanced through dense and extremely dry pine forest. Preliminary analysis of analysis of satellite-based thermal anomalies indicates that the fire advanced approximately 9.2 km within nearly 5 hours, with an estimated spread rate of ~1.84 km/h on July 20.

On July 21, the fire continued spreading southeast (Fig. 2), under the influence of light northeasterly winds. Concurrent Fire Radiative Energy (FRE) data from EUMETSAT’s MSG-SEVIRI suggest this was the fire’s most intense phase (Fig. 3). During this period, multiple indicators point to the occurrence of strong fire–atmosphere interactions. Notably, a low-level (shallow) Fire-Generated Vortex (FGV) was observed near the active fire front (Fig. 4), along with fire whirls developing under convective and turbulent conditions (Fig. 5). The formation of the FGV appears to have occurred along the advancing fire line, and further analysis is required to assess the potential presence of a Counter-Rotating Vortex Pair (CRVP).

An initial differenced Normalized Burn Ratio (dNBR) analysis using Sentinel-2 imagery (22 July 2025, 08:45 UTC) indicated that the burned area of fire was approximately 6.380 hectares (Fig. 6). This burned area included all affected land cover types (e.g., forest, shrubland, agricultural, and residential areas). At that time, fire continued to advance toward the west and east (Fig. 7).

Nearly four villages were evacuated, and some roads were closed. As of afternoon on July 23, the fire was nearly under control, although some parts remained active.

Date and Time	20 July 2025, 14:00 UTC
Wildfire Event Name	Sakarya, Gevye Fire
Location	Sakarya, Gevye-Hacılar, Türkiye Lat: 40.462790° Long: 30.174167° (fire ignition)

Current Size (ha) (ongoing)	6.380
Type	Surface fire and Crown fire
Weather Influence	Wind-driven fire
Fuels	Pine forest, Shrublands (maquis), grass
Elevation (m asl)	100 - 750
Observed Fire Behavior	High fire rate of spread, spotting, fire-generated vortex, fire whirls
Other Information	https://www.aa.com.tr/tr/gundem/sakaryada-ormanlik-alanda-cikan-yangin-bilecik-arafina-sicradi/3637558 https://haber.mynet.com/kabus-bilecik-tarihinin-en-buyuk-yangini-anonslar-yapildi-koyler-bosaltildi-kilometrelerce-kuyruk-olustu-110107223458 https://www.hurriyet.com.tr/gundem/live-alevlerle-mucadele-suruyor-eskisehirde-cikan-orman-yangiyla-ilgili-afyonkarahisarda-bir-koy-bosaltildi-42888257#post-4

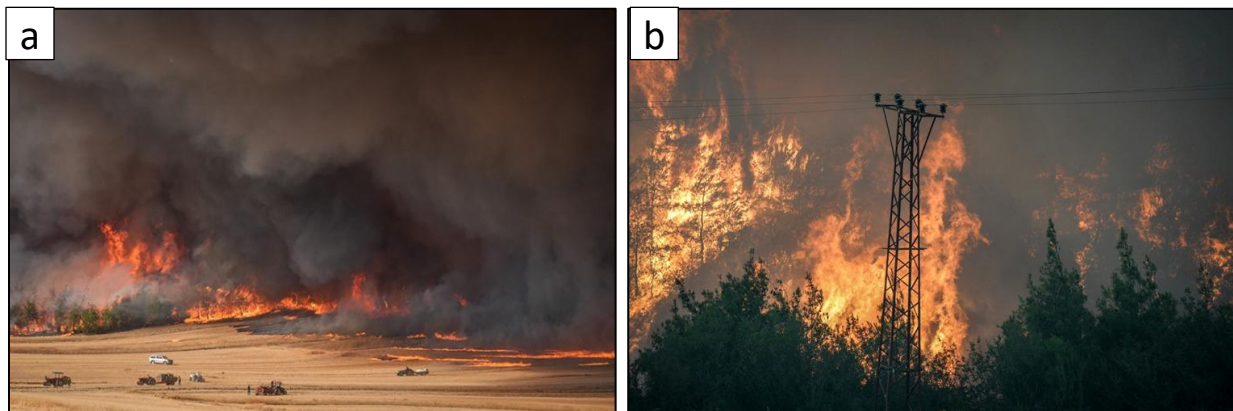


Figure 1. Images from ongoing fire (a, b) (21.07.2025). Source: AA



Figure 2. The MODIS (Aqua) Corrected Reflectance image (Bands 7-2-1) for this fire (21.07.2025)
Source: NASA

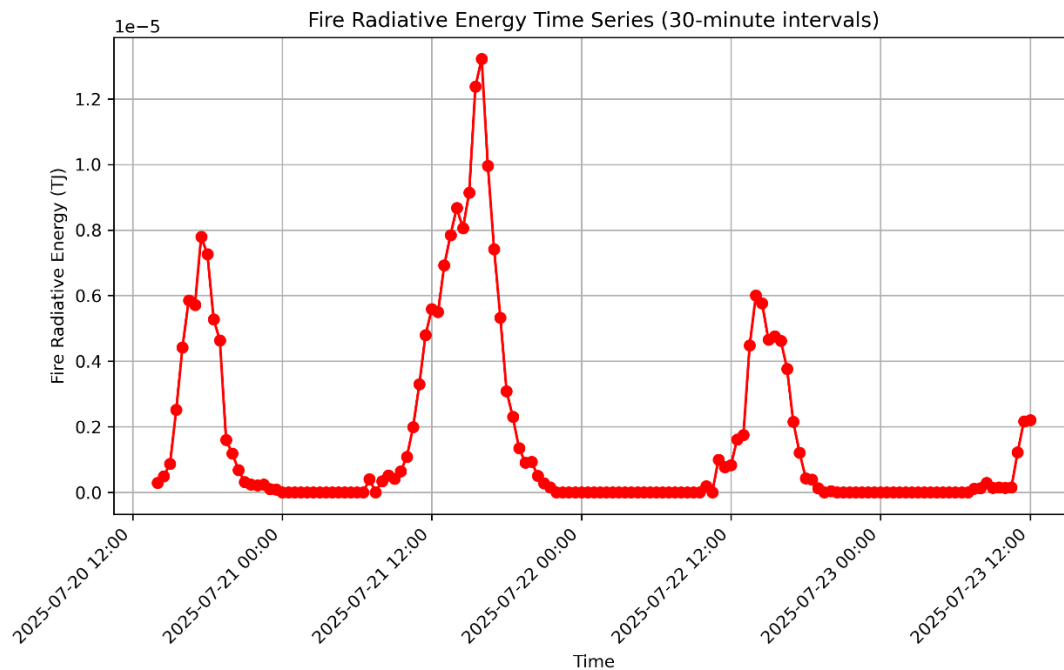


Figure 3. MSG SEVIRI Fire Radiative Energy diagram of the Gevye fire (Time-UTC), Source: EUMETSAT

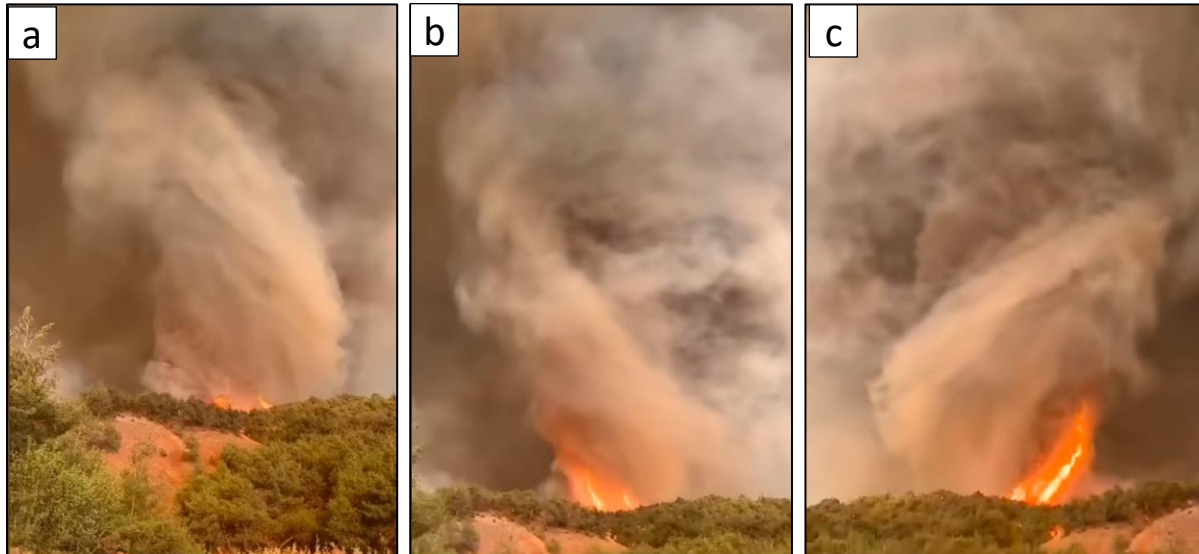


Figure 4. A low-level Fire-Generated Vortex (FGV) was observed during this wildfire, Source: GDF



Figure 5. Fire whirls occurred during this wildfire, Source: DHA

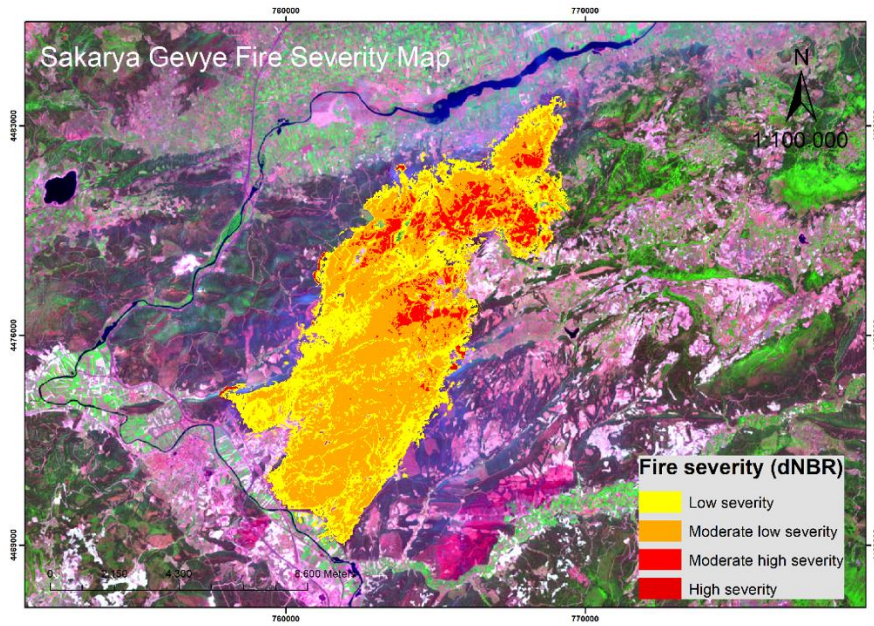


Figure 6. The results of initial differenced (or delta) Normalized Burn Ratio (dNBR) analysis of fires using Sentinel-2 images, captured on 22 July 2025 at 08:45 UTC. Source: ESA – Sentinel-2.

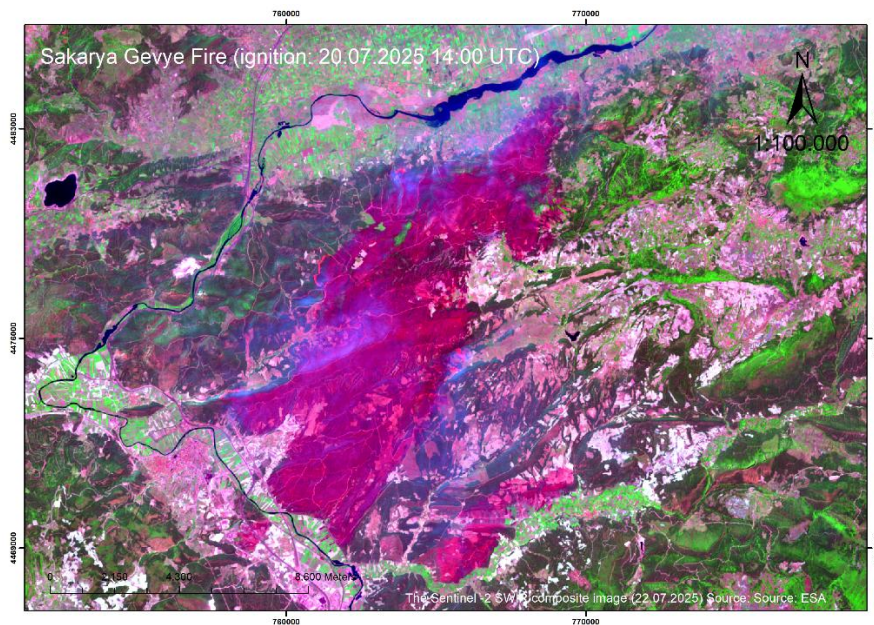


Figure 7. Sentinel-2 Shortwave Infrared (SWIR) composite images of the ongoing fire, captured on 22 July 2025 at 08:45 UTC. This satellite composite image reveal thermal characteristics of the fire, offering critical insights into its early spread and intensity. Active parts are visible. Source: ESA – Sentinel-2.