# Anatomy of a Flash Flood in a Hyperarid Environment: From Atmospheric Masses to Sediment Dispersal in the Sea

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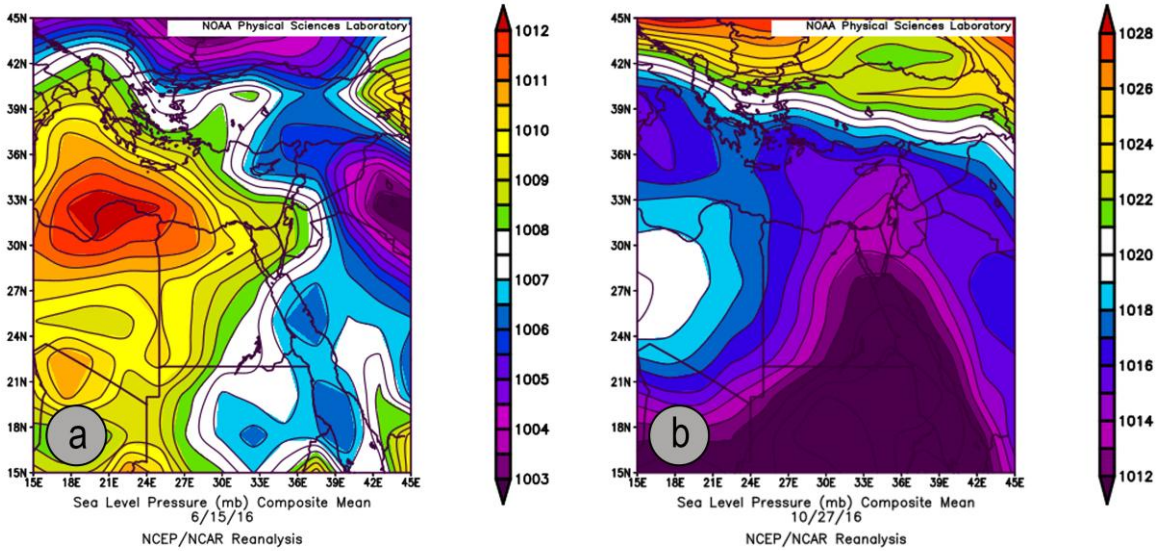
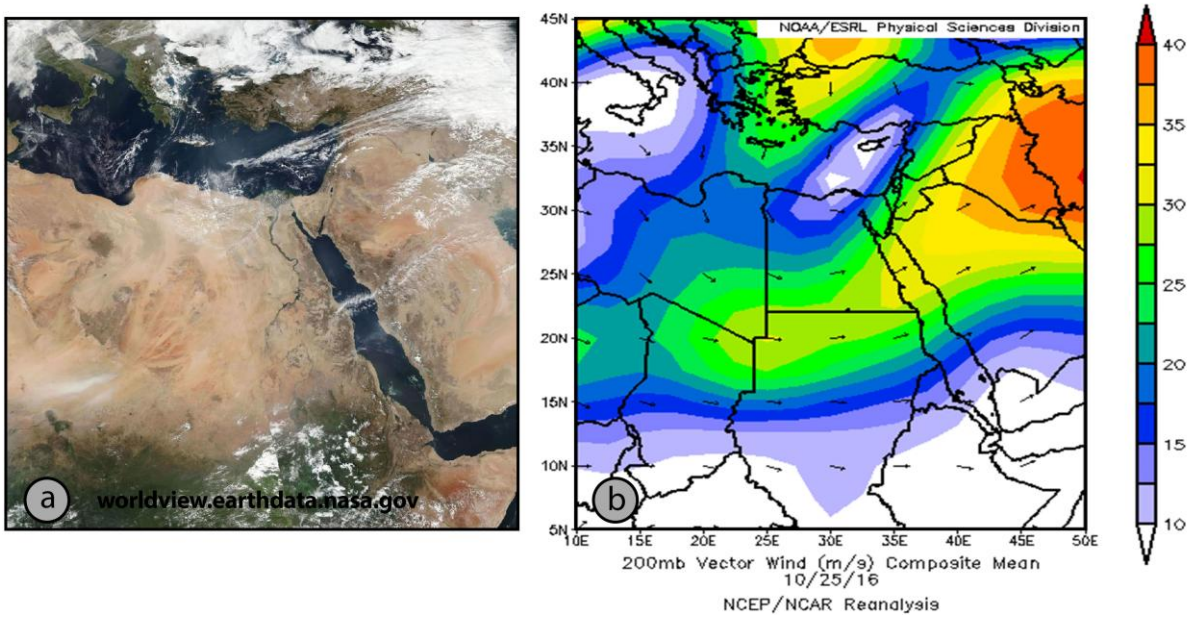
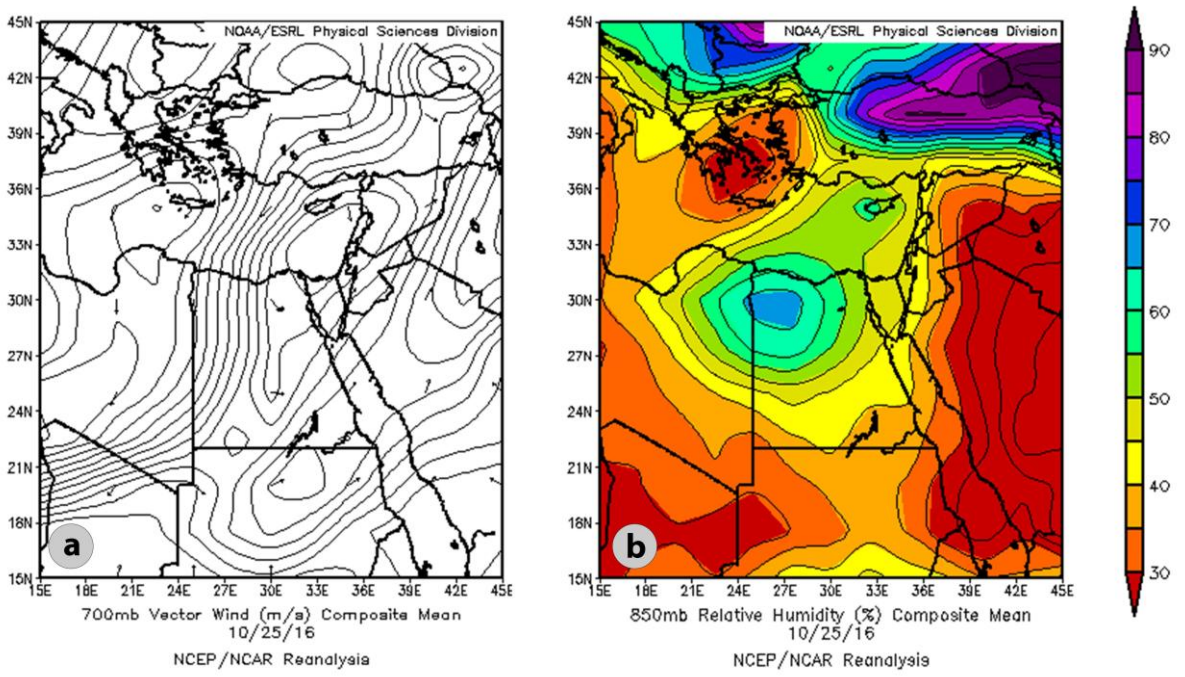
## Supplementary Figures



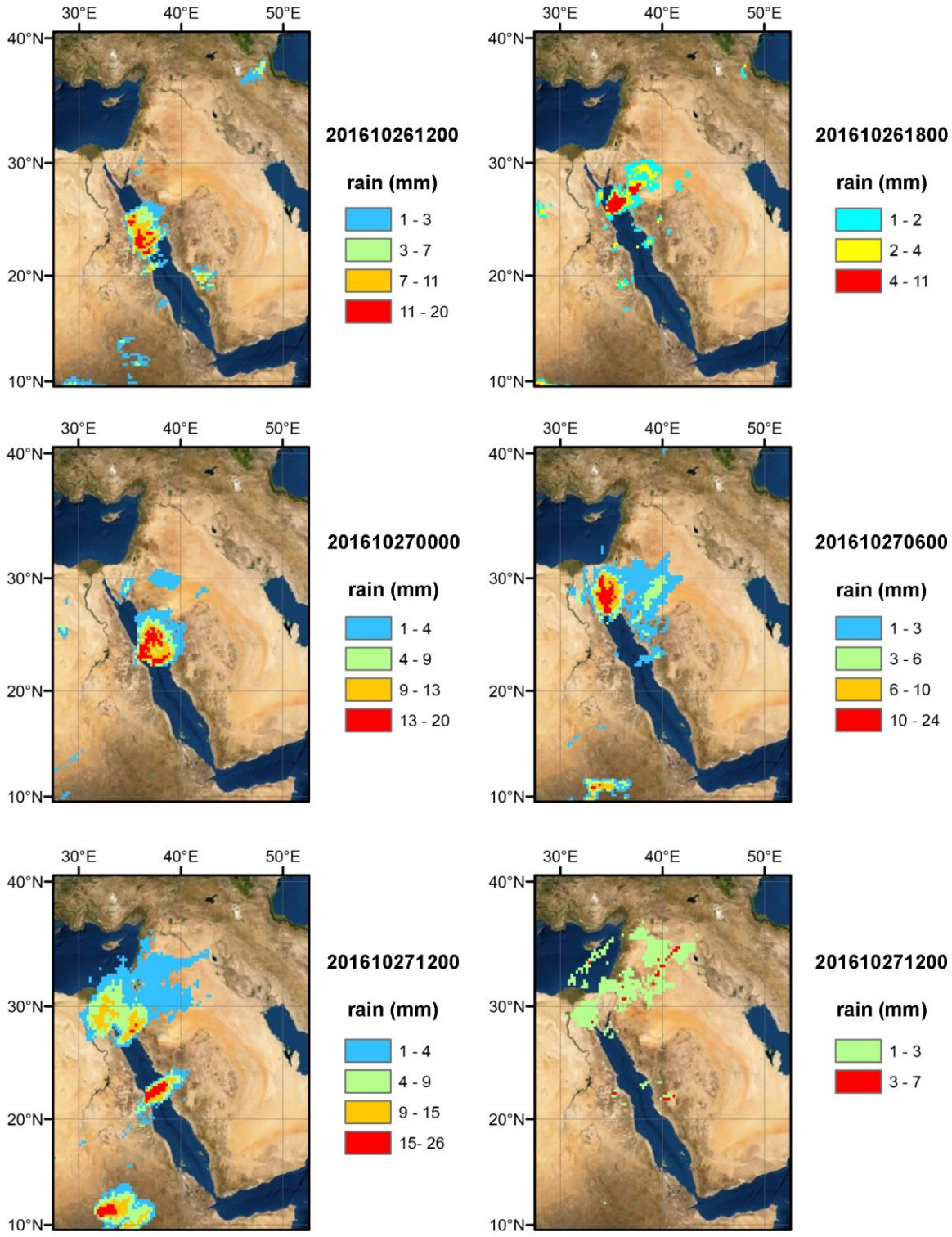

**Supplementary figure 1: Sea-level pressure patterns over the Red Sea in two cases.** (a) A summer scenario without the presence of the Red Sea Trough (RST). (b) A case where the RST is present on the flooding day in Eilat, illustrating its influence on regional pressure distribution.




**Supplementary figure 2 Influence of the subtropical jet (STJ) on cloud formation.** (a) Satellite image showing cloud cover over the mid-Red Sea. (b) 200 hPa vector wind composite map indicating that the observed clouds formed due to the intensification of the STJ.




**Supplementary figure 3: Moisture transport towards the Red Sea.** (a) 700 hPa vector wind composite map showing the wind flow patterns. (b) 850 hPa moisture map indicating that moisture was transported at this level from the Libya-Egypt border toward the Red Sea.




**Supplementary figure 4: Advancement of precipitation centers.** PERSIANN data with a 0.25° x 0.25° spatial resolution showing the movement of precipitation centers from the mid-Red Sea towards the northern tip of the Gulf of Aqaba-Eilat. Over the course of a day, these precipitation centers advanced approximately 1000 km, reaching Eilat, where the rainstorm triggered a flash flood that eventually drained and transported sediment into the sea.