Γεγονός: On 7–11 September 2015, a record-breaking dust storm hit Cyprus. According to MODIS (moderate resolution imaging spectroradiometer), the aerosol optical thickness (AOT) exceeded 5.0 at 550 nm over large parts of the eastern Mediterranean. The dense dust clouds originated from Middle East deserts, mainly from northeastern Syria and northern Iraq. Such strong dust storms are rather seldom.

Dust from Middle East deserts were transported northwest towards northern Iraq and northeastern Syria, and then to the west towards Cyprus. Dust advection occurred in two to three pronounced,

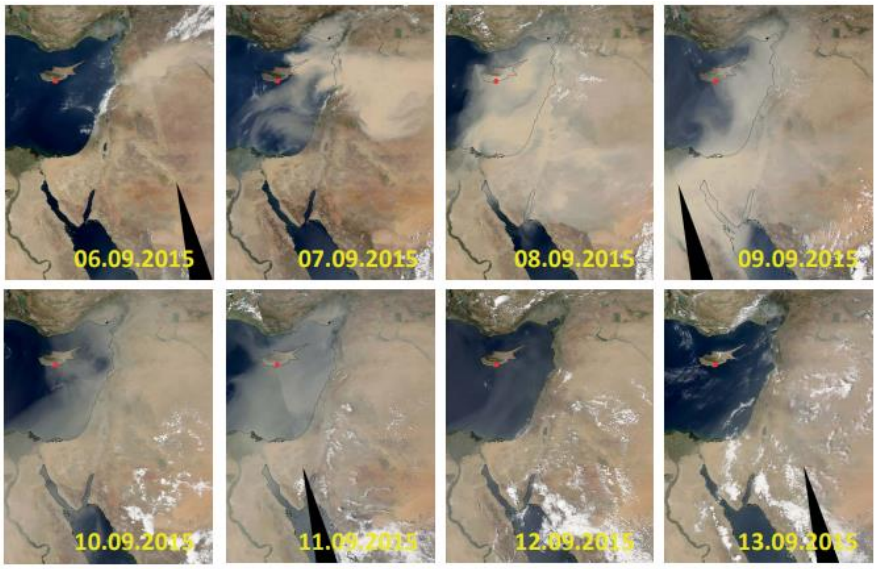

Figure 2. Dust outbreak towards Cyprus in September 2015 as seen from space (aqua-MODIS, 10:30–11:30 UTC overpasses, 13:30–14:30 EEST, Eastern European Summer Time). Red points indicate Limassol.

separated dust layers (below about 500–800 m height, and two layers with top heights of 1.5–1.7 km and 3.5–4.2 km height) on 7–9 September. A first thick dust layer crossed Cyprus on the evening of 7 September between 2 and 3.7 km height. We speculate that these layer structures also prevailed on 8 and 9 September. Such unique events may take place once in a decade or even less frequently and are thus obviously linked to unique meteorological conditions. (πηγή: https://www.atmos-chem-phys.net/16/13711/2016/acp-16-13711-2016.pdf)

Εικόνα 1: φωτογραφίες στη Λεμεσό.

Θέση πηγής:

1. Υπολογίστε την εξέλιξη της διασποράς του θυσάνου κατά την παραπάνω ημέρα επεισοδίου σκόνης
2. Υπολογίστε την οπισθοτροχιά των αέριων μαζών που βρίσκονται ανατολικά της Κύπρου στις 8 Σεπτεμβρίου (34,7° N, 35° E).

Χρήσιμα links (NOAA/ARL READY)

https://ready.arl.noaa.gov/index.php
https://ready.arl.noaa.gov/HYSPLIT.php
https://ready.arl.noaa.gov/hypub-bin/dispasrc.pl
https://ready.arl.noaa.gov/hypub-bin/trajtype.pl?runtype=archive