



On the “Heat Bomb” of July 27th 1983.

I. Gallai (1), D. B. Giaiotti (1,2), G. Mordacchini (3), S. Nordio (1), **F. Stel** (1,2)

(1) OSMER – ARPA FVG, Visco (UD), Italy, (2) European Severe Storms Laboratory, DLR-IPA, Oberpfaffenhofen, Münchner Str. 20, 82234 Wessling, Germany. (3) CNMCA - Pratica di Mare, 00040 Pomezia (RM), Italy. (fulvio.stel@osmer.fvg.it)

This work studies the “heat bomb” that interested portions of Friuli Venezia Giulia (Italy) during the night of July 27th, 1983. The summer of 1983 was extremely warm in Europe and in particular on the Italian peninsula, from the Alps up to Sicily. Nevertheless, the day of 27th July 1983 in Friuli Venezia Giulia deserves special attention, because the maximum temperatures observed did not occur during day-light but during night-time (from 23:00 up to 24:00 LT, 21:00-23:00 UTC). Peaks of 34.8 °C and values of relative humidity of the order of 28% were registered by the official network of weather stations. Unofficial amateurs’ weather stations, thanks to their high spatial density, registered peaks even higher than 40 °C. This event did not interested all the Friuli Venezia Giulia region, but mainly the northeastern part of the plain, a few km far from the Slovenian border. The thermal peaks lasted up to an hour and then temperatures decreased toward values more usual for the climate of the month.

The analysis of that “heat bomb” was already performed several times in the past, but a physical answer to that event was never achieved. Nowadays, with the aid of newly developed numerical models (in particular with the aid of WRF, a fully non hydrostatic NWP), and of the ECMWF analysis the weather of those days can be reproduced looking for a possible solution of that meteorological enigma.

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