



Funnel cloud in the region of Campo de San Juan, La Mancha, and May 22nd 2004.

Antonio J. Galindo Navalón. "Cumulogenitus"
email: supercelulatornadica@yahoo.es

May 22th 2004, 16:20 standard time, region of the Campo de San Juan, confluence of the municipal terms of Alcázar de San Juan (Ciudad Real), Campo de Criptana (Ciudad Real) and Quero (Toledo). During 13 minutes it is observed what can be described at least as a Funnel Cloud, followed visually from the locality of Ciudad Real of Campo de Criptana, showing a southwest-northeast displacement. The shown photos are taken in slide with a traditional reflex camera a Nikon F 80 and Nikon objective 28-105 mm, scanned later with an Epson 3170 Photo and retouched with the edition program Adobe Photoshop Elements 2.0.

About 16:10 h. I was delighting with a fabulous menu of rice with mushrooms delicious to me, and simultaneously I observed the movement of Meteored forum; that day was specially intense because of the appearance in Madrid of several Funnel Cloud, and in a last message I post in some topic that I was enjoying so much watching and reading all the related about the vortex appeared in the morning in Madrid and that, after eating I would go of chase given the propitious conditions of the atmosphere... I did not imagine that in ten minutes I would enjoy a mystical experience without comparison...

Before going I showed my head by the window in west direction and I noticed that a wonderful cumulonimbus was forming, did not spend nor twenty seconds when my eyes paid attention automatically to a small detail: in the well formed and massive bases of those gentlemen of storm I observed that began to stand out a "small slip", yes... it was a very thin and tiny line that aimed downwards, then I suspected that it was going to be witness of a great event... it was 16:20 h. and with the camera at hand (as is habit in me lately). Here you have the first image.



And it continued growing, aiming downwards little by little, as it shows the following sequence of images, in chronological order.



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We are about 16:22 h., following its evolution.

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At those moments, a photo including the cumulonimbus source of such wonder.



Simultaneously moving slowly from southwest to the northeast, which is very well appraised taking like reference the lampposts (the south is represented to the left of the photo and the north to the right).

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About 16:25 h. it showed his most heavy and massive aspect, apparently it did not touch the ground, stressing the term "apparently". As an authentic ray, I come down to the second plant and I make the pursuit from the street.

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Here an enlargement.



I get to catch an impressive panoramic of all the cumulonimbus with its associated Funnel Cloud.



The conditions were the most propitious; you can taste the great threatening aspect of the same cumulonimbus with his funnel, taking with the great angular.



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Shortly before the 16:30 h. it developed to an evident "Collar Cloud" and it begins to style itself. More than two eyes observe the party of this evening.



It is about 16:30 h, here it is when it shows an aspect almost linear and much extended towards the ground, simultaneously that inclines obviously



An enlargement of this same moment done with Photoshop:

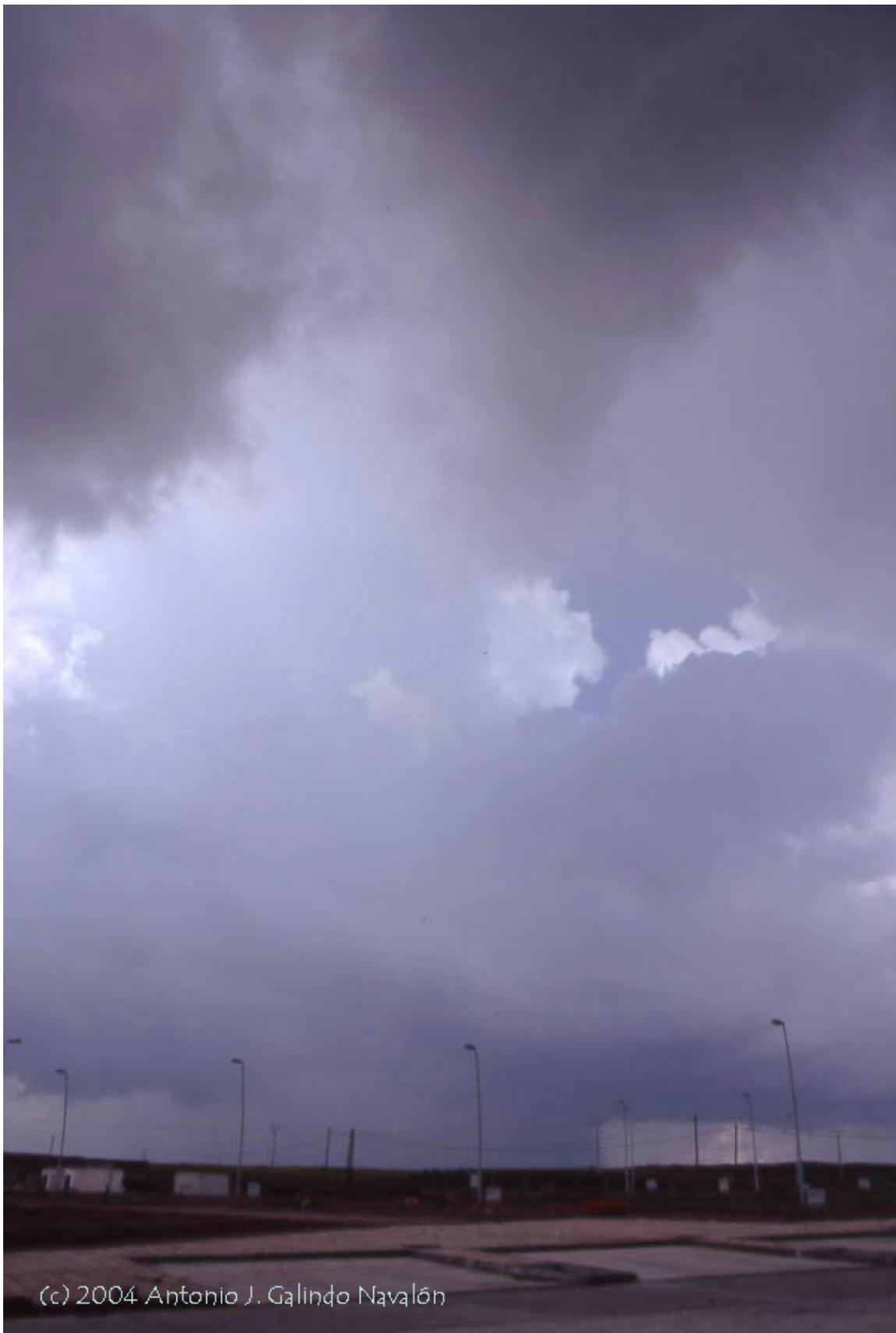


Almost immediately I return to go up to see the spectacle from the window, and almost, almost... it escapes to me..., it seems that "it is framed" next to the white building on the right, continuing his trajectory towards the northeast.

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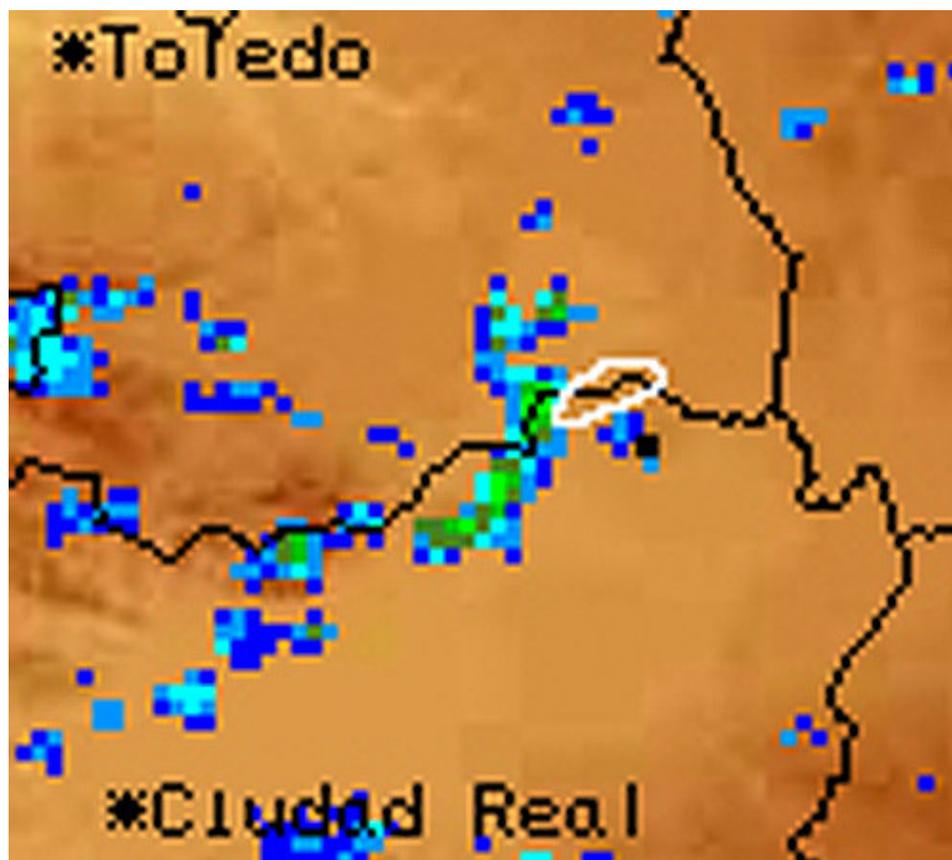
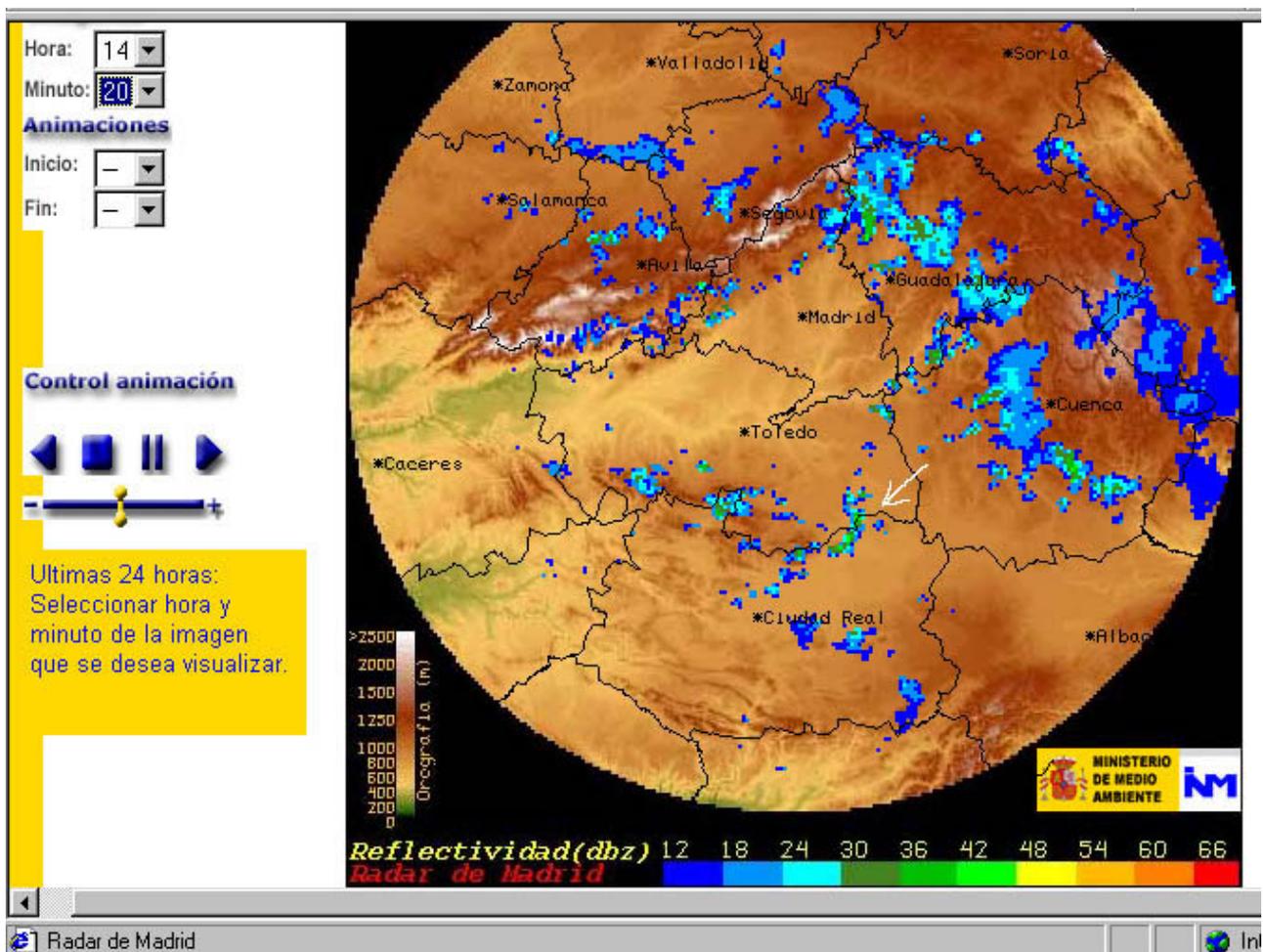


It is 16:33 h. and it gives its last death rattles, disappearing as if nothing had occurred, the only thing that stays later is the "mother" cumulonimbus and its unstable atmospheric conditions with intense showers... that are not little.

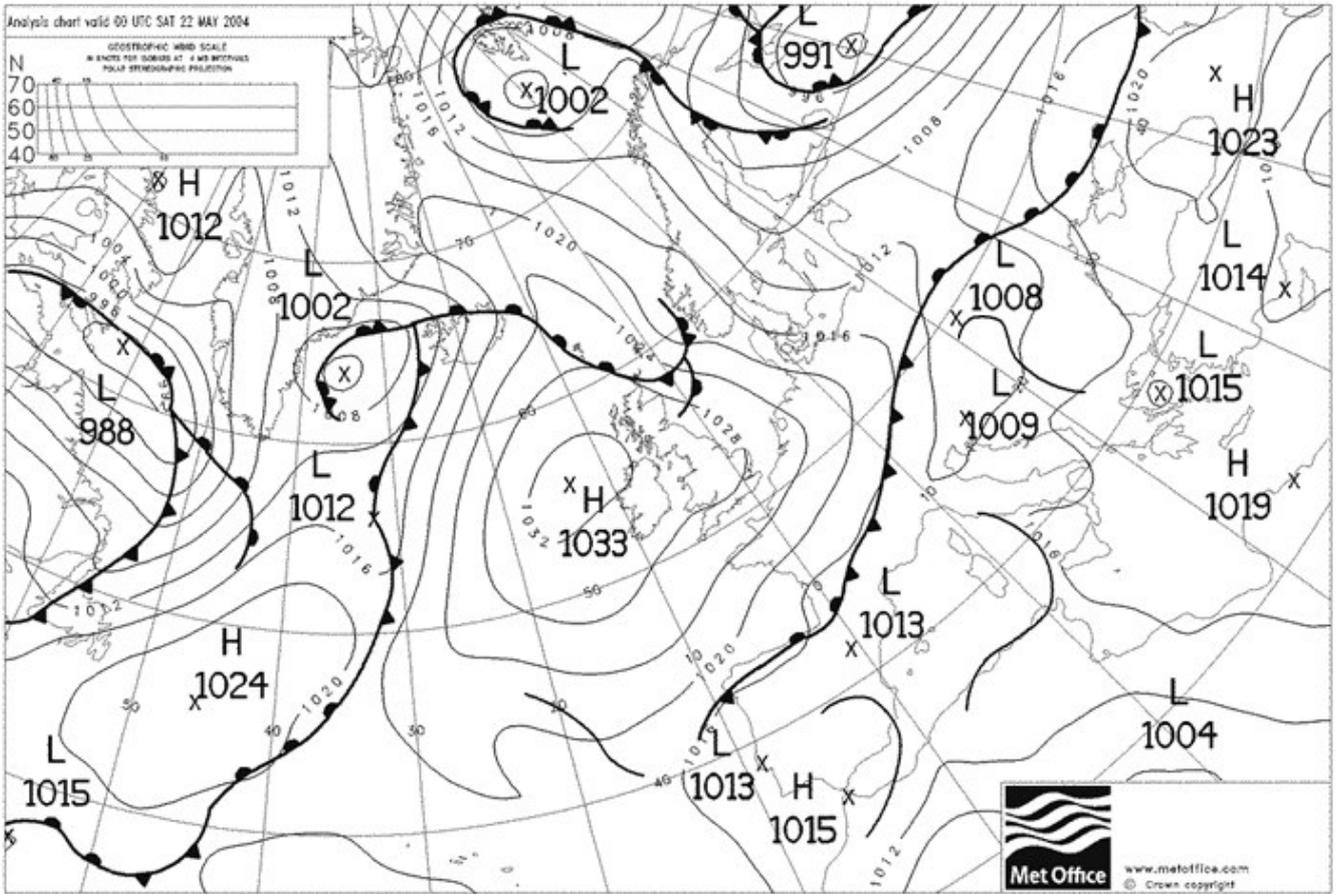


Until the moment I have not known news referred to possible damages or effects on the surface, with which of being thus, it was described as "tornado" , only mention that on the vertical of the sighting there are great extensions of dry land crops, predominating vineyard and herbaceous. To emphasize that throughout the time, the wind at level of ground did not move a hair.

Making use of the availability of the image of the radar of Madrid (copyright INM) at 16:20 standard time (moment of the beginning of the episode) it appears in her the location of the event with a white arrow. It is necessary to observe the proximity of precipitation associated at multicellular storms, with maximum values around the 40 dbz. With more detail, underneath, it appears the area at issue, framing with a white line the approximated zone of displacement of the Funnel Cloud, and indicating with a black little square the position of the locality of Campo de Criptana.



According to the information of the British meteorological service (copyright MetOffice) for that day, hours before, as it is showed down, in surface the situation on the Iberian Peninsula was of flat low with relative low pressures, conditioned this synoptic configuration by a powerful anticyclone of blockade centered in front of the British Islands, which can mean a certain instability in the atmosphere, although a priori is a circumstance of ambiguity for the Meseta Sur. Also slides a front zone next to the Cantabrian coasts, but with much debilitated aspect.

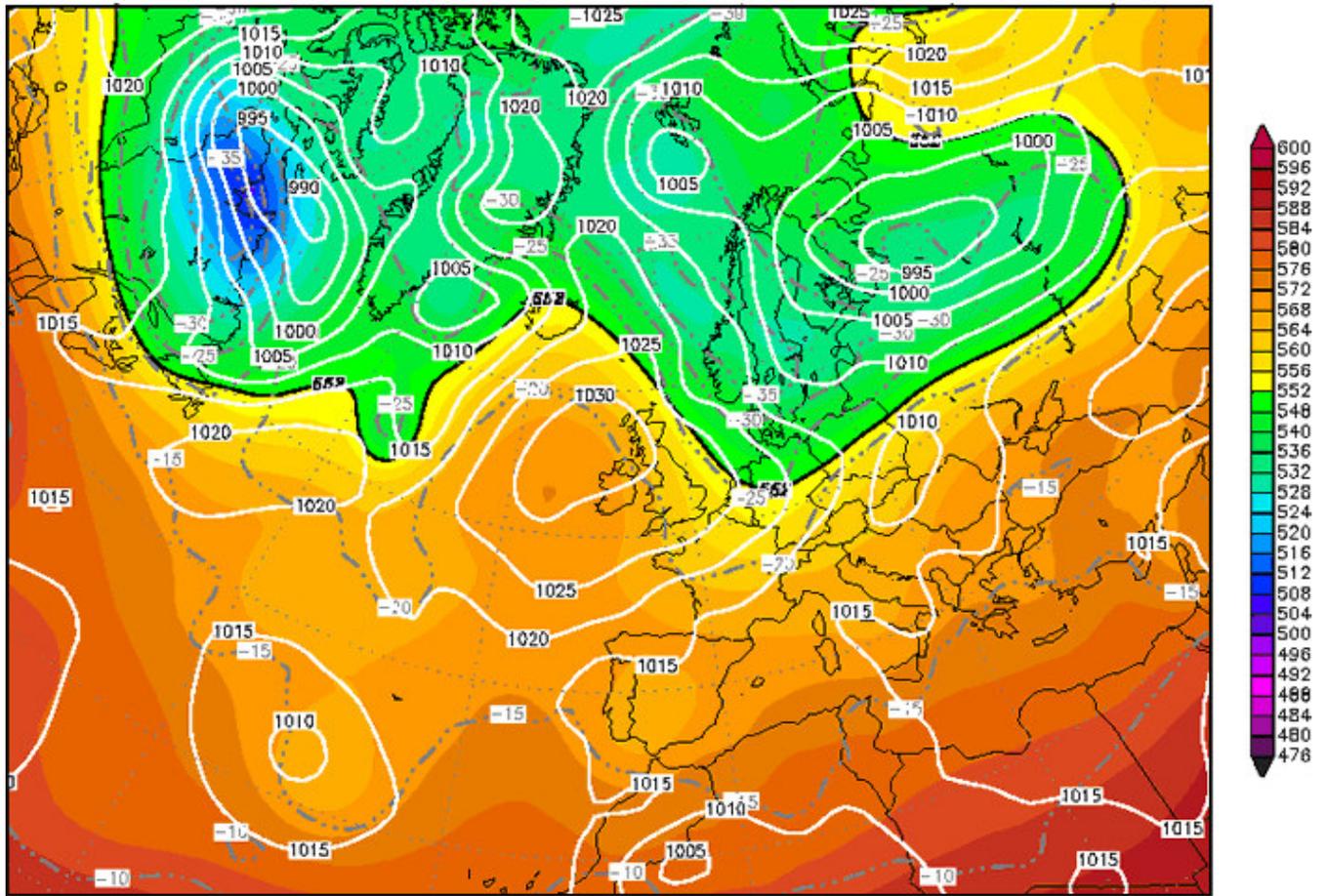


Having the 500 hPa absolute topography (copyright Wetterzentrale), it is well appraised in height (about 5500 msnm.) something that in surface was obvious, a marked undulation of the circumpolar vortex (general west winds belt of the media latitudes) drawing clearly a ridge on the North Eastern Atlantic in front of the British Islands, dropping by its Southeastern edge a small DANA in the vertical of the peninsular center, not very marked but enough to cause instability and stormy phenomena in the Meseta Sur, fact that was verifiable all the day.

Init : Sat,22MAY2004 00Z

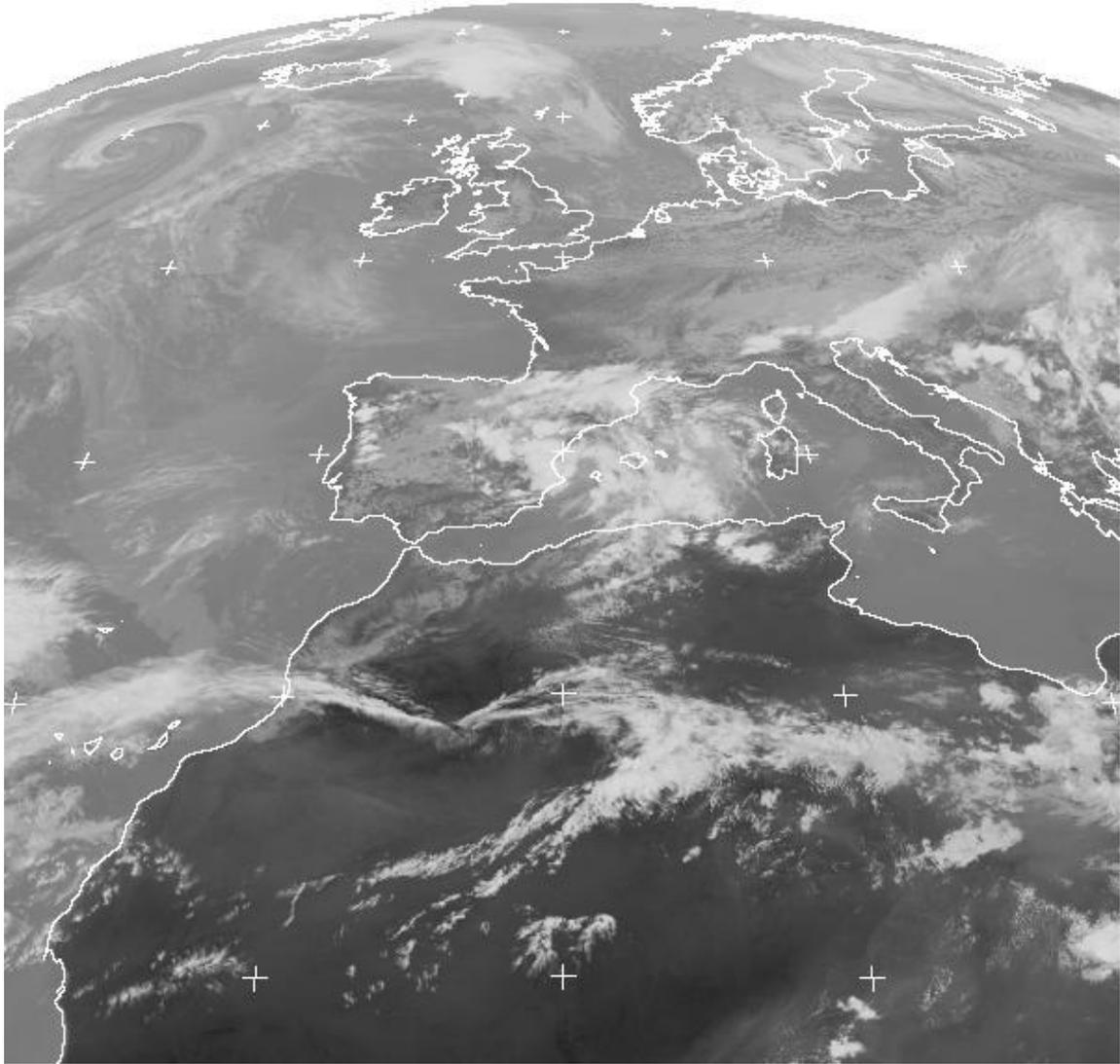
Valid: Sat,22MAY2004 00Z

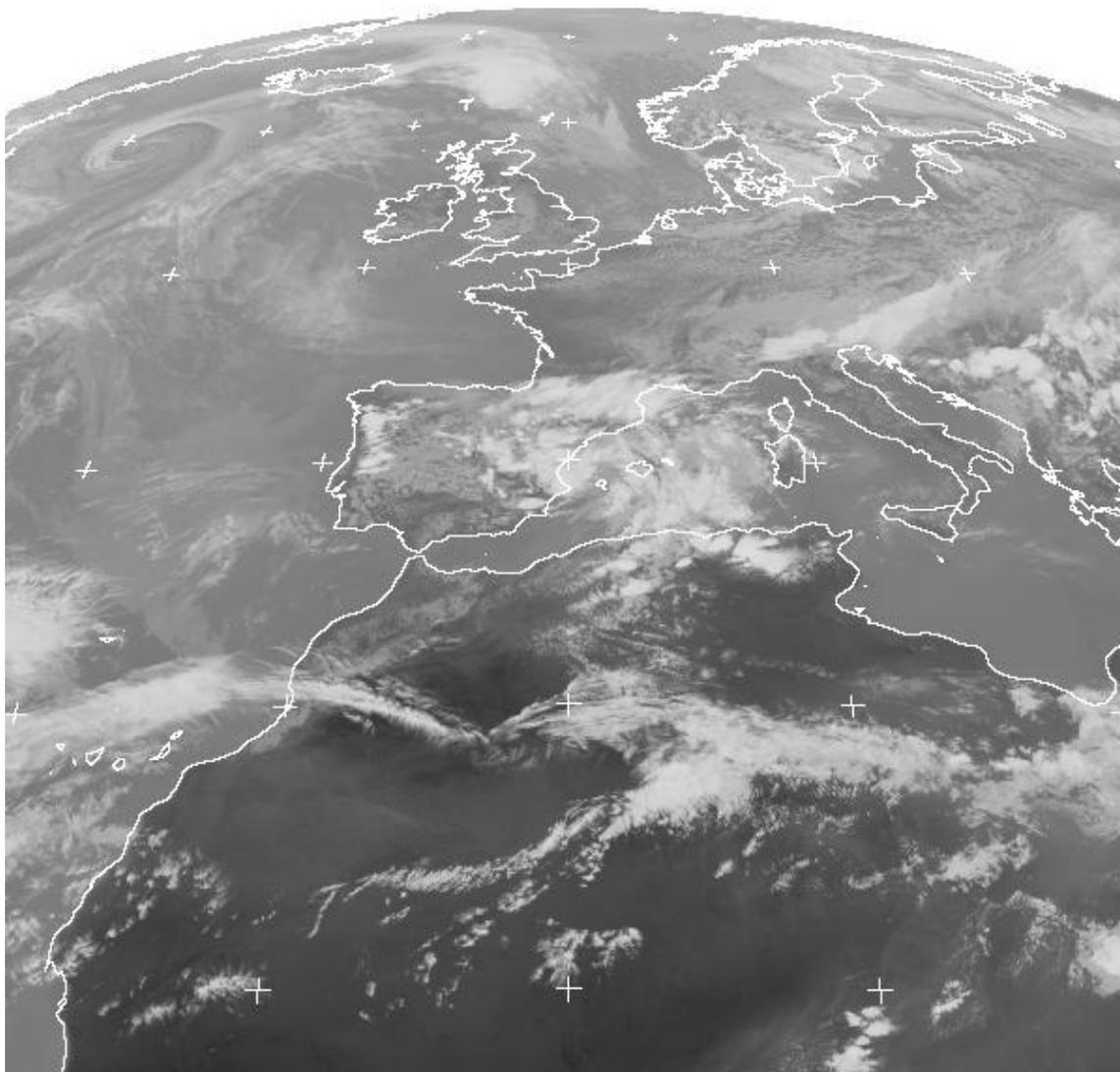
500 hPa Geopot.(gpm), T (C) und Bodendr. (hPa)



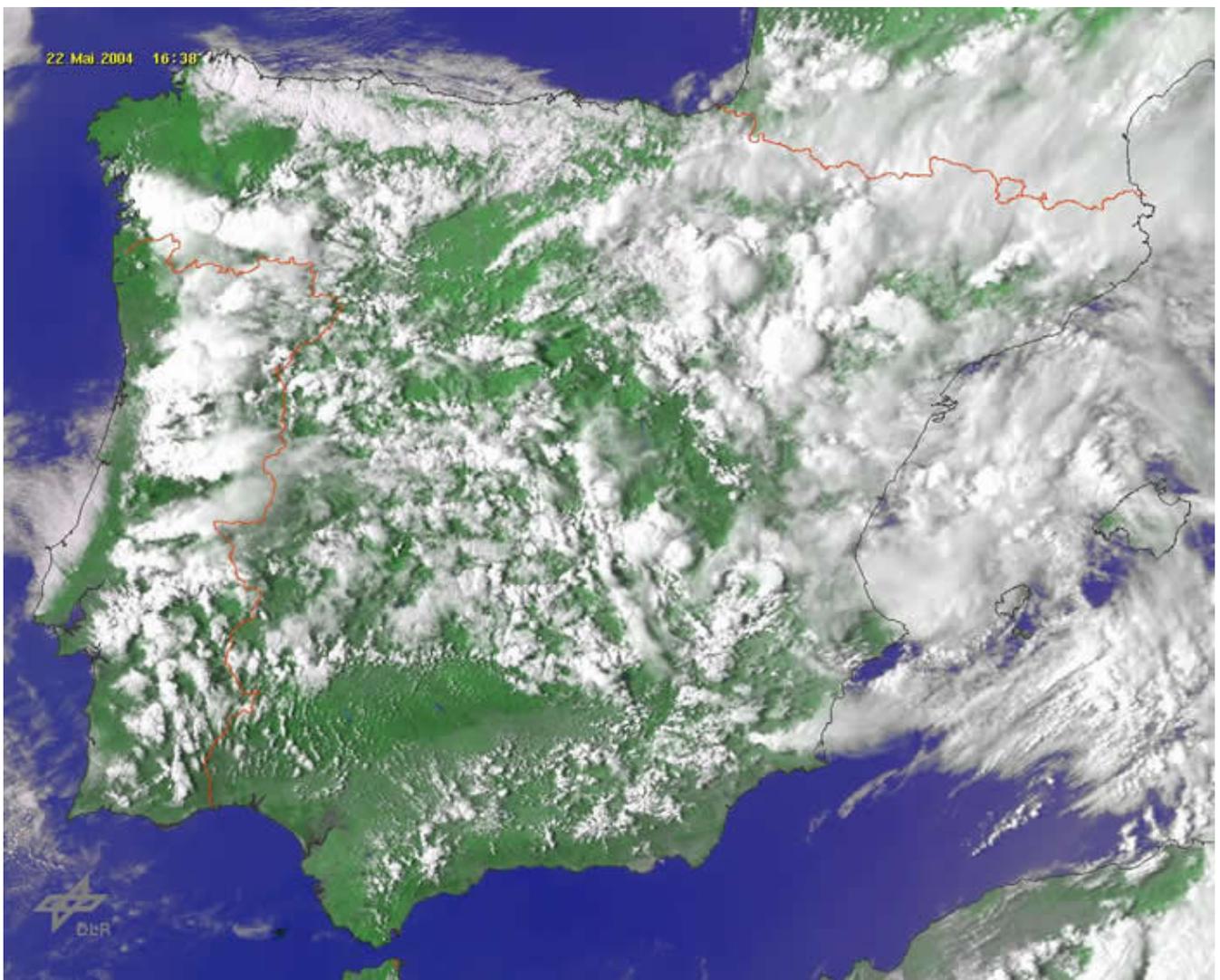
Daten: GFS-Modell des amerikanischen Wetterdienstes
(C) Wetterzentrale
www.wetterzentrale.de

From the heights, the infrared images of Meteosat-8 (SG) (copyright EUMETSAT), with dispersed stormy nuclei, they are quite enlightening, with two snapshots including all the period, at 16:00 h. and 17:00 h. (local time). It is appraised clearly as the center of the depressionary vortex in spiral of DANA is moved towards Levant from its previous position in the peninsular interior, being despite closely together and in addition touching the western flank to the depression.



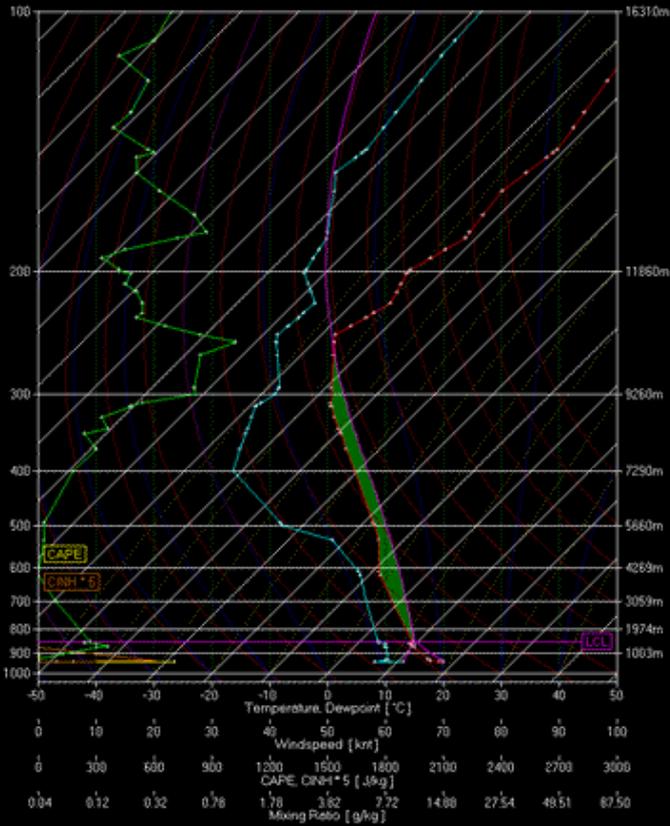


Here an image treated and coloured with great detail coming from satellite NOAA (copyright University of Karlsruhe) hours later, at 18:38 local time. The observed convective activity was remarkable in the Meseta Sur, Iberian System and Valley of the Ebro.



The 14:00 local time sounding of the nearest locality, Madrid (copyright Benhard Oker), indicates, in most of its indices the storm possibility, and although apparently, the formulated valuation does not contemplate the appearance of tornadoes, it detects appreciable shear in the wind direction, particularly in low levels, also agreeing with an maintained increase of the intensity until the 850 hPa where it inverts its tendency.

Station: 08221 Date: 22 May 2004 Time: 1200Z



Parameter	Value	Unit	Comment
850 Wet-Bulb Theta-E:	13.02	[°C]	
Stc - 700 Mean Rel Hum:	67.99	[%]	
Convective Temperature:	16.32	[°C]	
Snowfall Height:	2270.51	[m]	
Skew-T Using Surface Values			
Lifted Index:	-2.04	[°C]	Scattered Thunderstorms expected
CAPE:	705.52	[J/kg]	Scattered Thunderstorms expected
CRH:	0.00	[J/kg]	
Normalized CAPE * 100:	8.06	[m/s²]	
850-600 Lapse Rate:	18.69	[°C]	
Wet-Bulb Zero:	2505.23	[m]	
Fawcush-Miller Hail Size:	0.6 - 1.3	[cm]	
Exp. Hail Size:	---	[cm]	
LCL:	847.90	[mB]	
LFC:	847.90	[mB]	
EL:	257.28	[mB]	
Misc Indices			
Showalter Index:	3.29	[°C]	Scattered Thunderstorms expected
Modified Thompson Index:	33.44	[°C]	Scattered Thunderstorms expected
Total Totals Index:	47.40	[°C]	Scattered Thunderstorms expected
KD Index:	-8.51	[t]	Widespread Thunderstorms expected
Crowen SigSt / 1000:	3.41	[m³/s³]	No Severe Thunderstorms expected
Supercell Composite Param:	0.00	[t]	Supercells not likely
Significant Tornado Param:	0.05	[t]	Tornadoes not likely
CS Index:	745.91	[J/kg * m²/s²]	No Thunderstorms expected
SWISS 12 Index:	-2.70	[t]	Thunderstorms expected (78%)
Wind Parameters			
Storm Direction:	205.89	[°]	
Storm Motion:	2.31	[knots]	
Wind Shear Dir Stc - 3000:	70.84	[°]	
Wind Shear Stc - 3000:	6.11	[knots]	
Wind Shear Dir Stc - 6000:	12.74	[°]	
Wind Shear 3000 - 6000:	4.61	[knots]	
Wind Shear Dir Stc - 6000:	46.24	[°]	
Wind Shear Stc - 6000:	9.40	[knots]	
Bulk Richardson Number:	1262.38	[t]	Multicells expected
Storm Relative Helicity:	34.62	[m²/s²]	Supercells not likely
Effective SRH:	34.62	[m²/s²]	Supercells not likely
Energy Helicity Index:	0.15	[t]	Supercells not likely

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