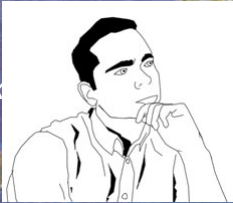
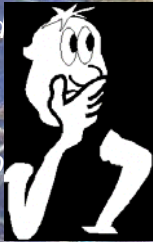
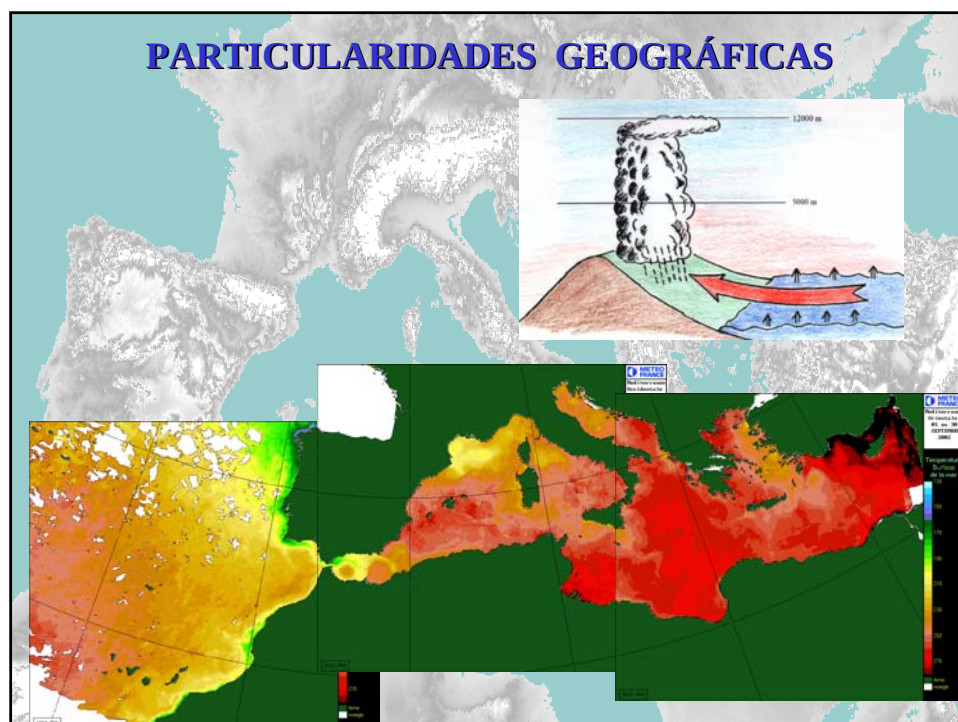




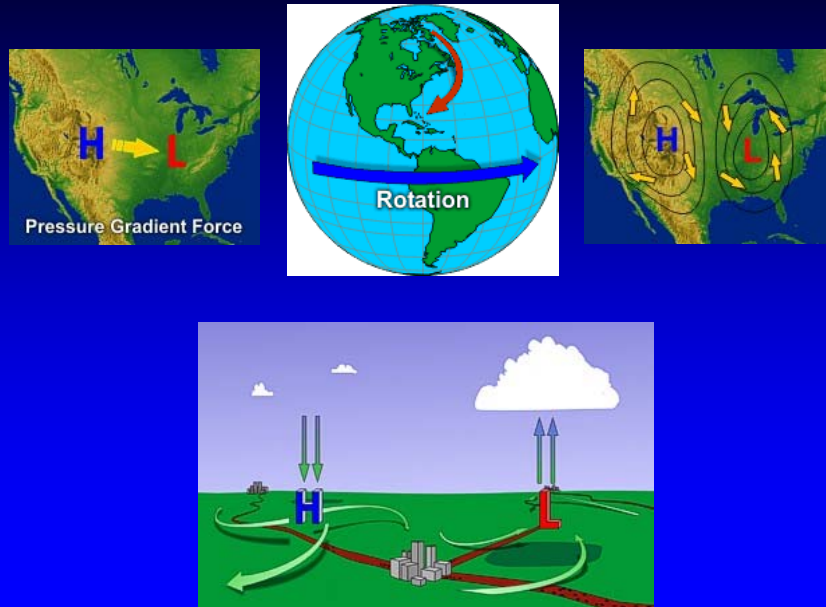
ESTRUCTURA

- 1) Ideas previas
- 2) Ciclones extratropicales de latitudes n
- 3) Ciclones cuasitropicales o "med"
- 4) Tormentas y fenómenos severos

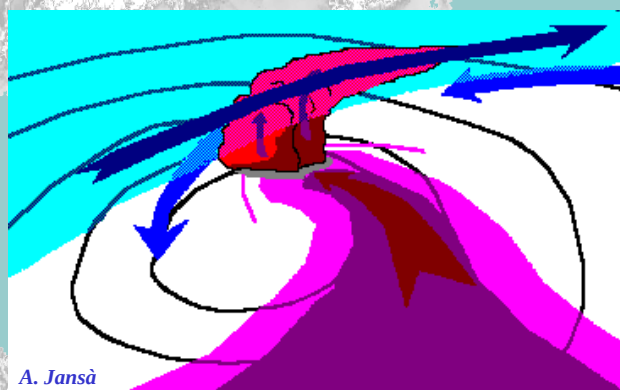



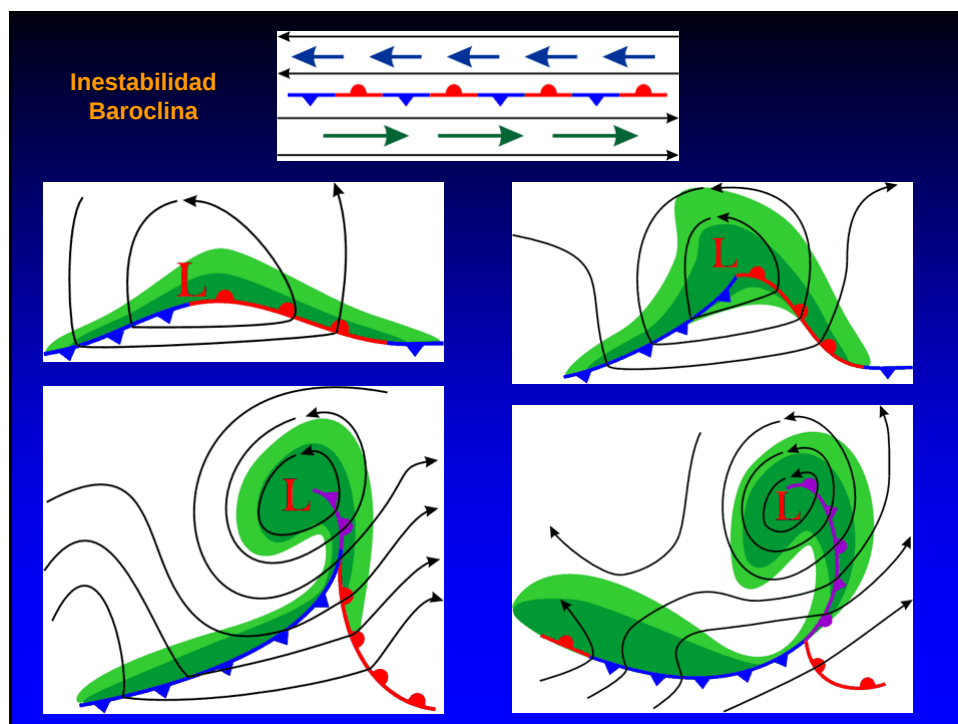
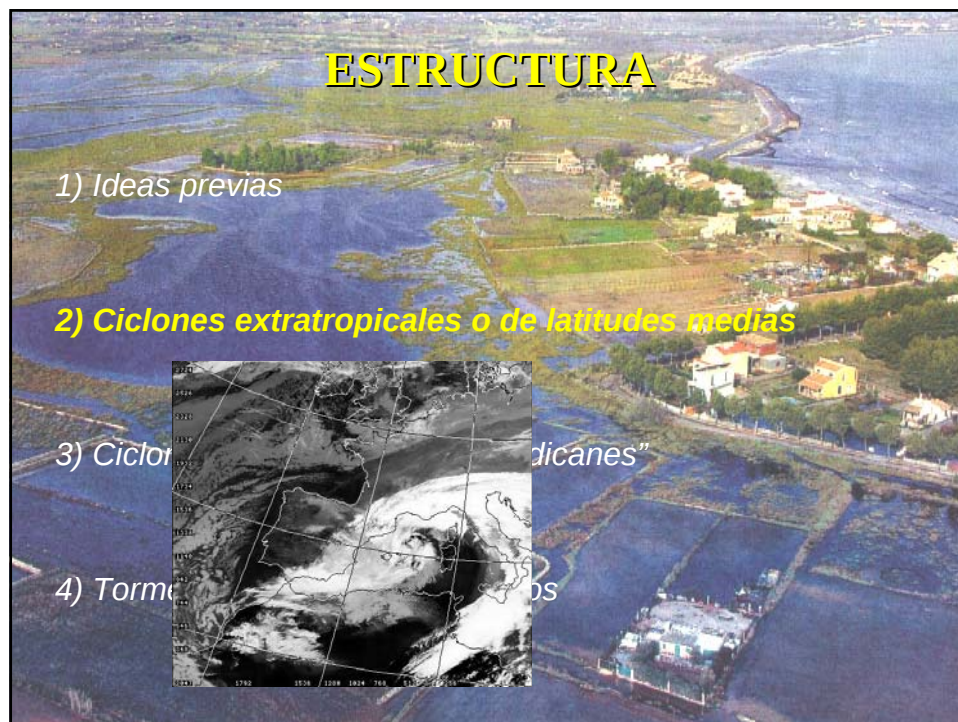



EL PAPEL DEL CICLÓN



EL PAPEL DEL CICLÓN





An example: The November 2001 superstorm

Mid-Upper levels (H 500 / T 500)



ILLES BALEARS

Hemeroteca | Agenda cultural | Cartelera | Titulares | Tienda | Restaurantes | De copas | Loterías | Clasificados

il·les balears

Sábado, 1 de noviembre de 2003 Actualizado a las 00:46

SIN PRECEDENTES.
El mar inunda Es Molinar y arroja rocas de más de un kilo a las calles de Ciutadella

«Nunca había visto así la playa de Cala Galdana», reconoce el alcalde de Ferreries - Una «lluvia» de plásticos procedentes del vertedero cayó sobre los habitantes de Formentera

BALEARES 24HORAS
 Opinión
 Illes Balears

Valid: Fri,31OCT2003 00Z
 500 hPa Geopot.(gpm), T (C) und Bodendr. (hPa)

ra línea de Es Molinar
 de barrio de Palma ya
 cada vez que solpa
 s y muchos de los
 que deja entra el agua,

Temporales marítimos

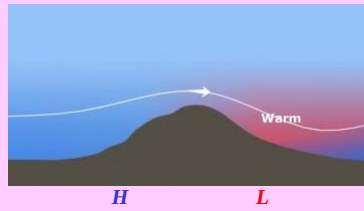
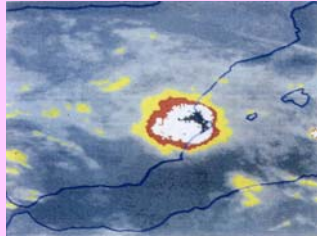
Storm tide (+17 feet)
 Storm Surge (+15 feet)
 Normal High Tide (+2 feet)
 Sea Level

Olas de cinco metros y vientos de hasta 100 km/h obligan a cerrar todos los puertos de Baleares

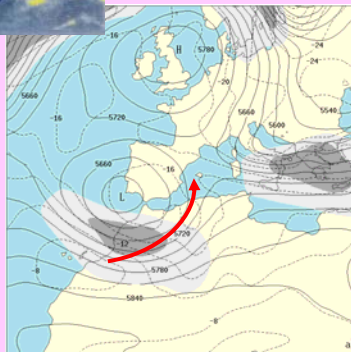
Todos los puertos del archipiélago cerrados, tejas, comisas y árboles caídos por doquier, barcos a la deriva tras soltarse de sus amarres... Estas fueron las principales causas del vendaval con vientos de 100 kilómetros por hora que todo el día de ayer azotó las islas.

GANDÍA (3-4 Nov. 1987)

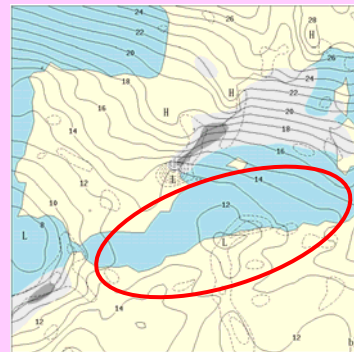
MCS (33 h)
Circular shape (~200 km diameter)
>800 mm / 36 h in Gandía



**Bajas orográficas
de sotavento**



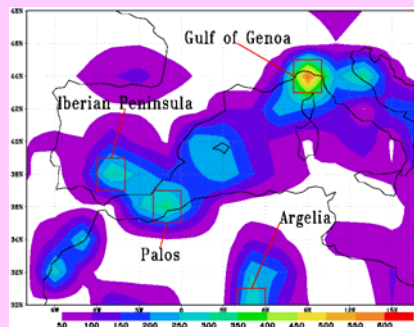
MID- UPPER LEVELS



LOW LEVELS

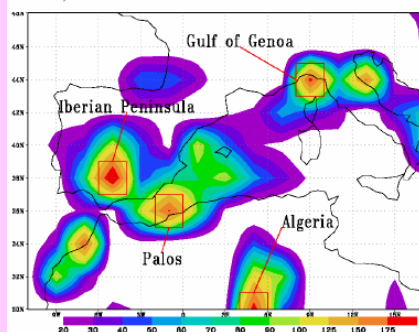
Source: INM – Balears

**NUMBER OF
CYCLONES
(June 1995 – May 2002)**

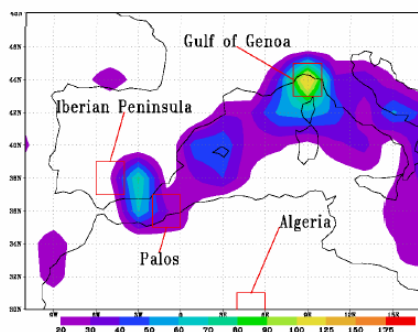


Total

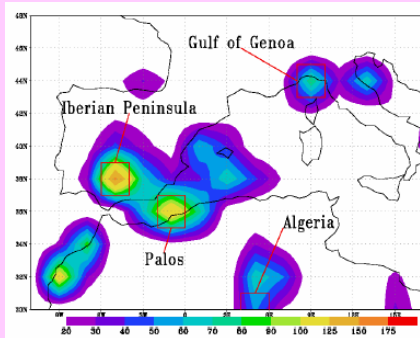
Summer



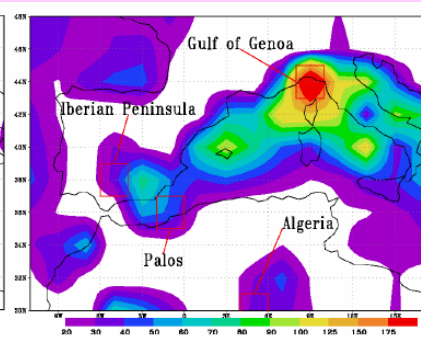
Winter



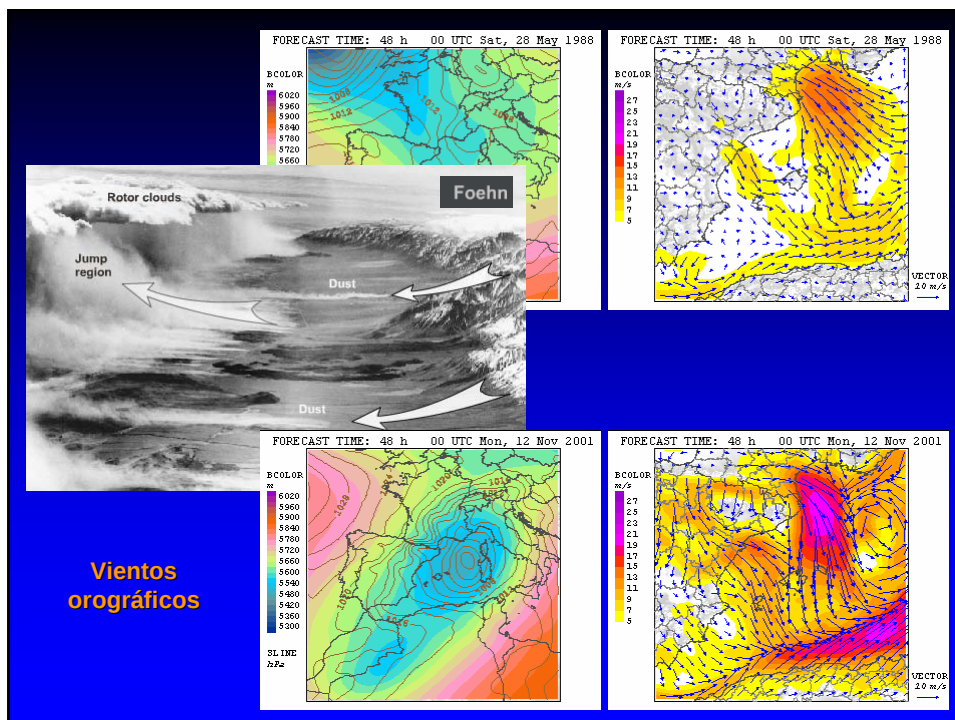
Shallow (1000-925 hPa)



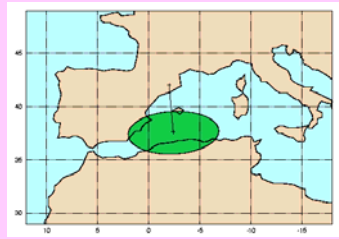
Deep (1000-300 hPa)



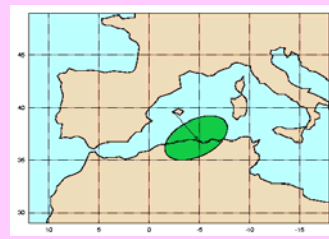
	Summer	Autumn	Winter	Spring	G Genoa	Palos	Iberian	Algeria
Shallow	70.5	43.6	31.8	46.3	41.9	79.6	80.7	79.0
Medium	9.5	12.1	11.7	12.1	14.6	6.0	8.4	9.5
Deep	20.0	44.3	56.5	41.6	43.5	14.4	10.9	11.5



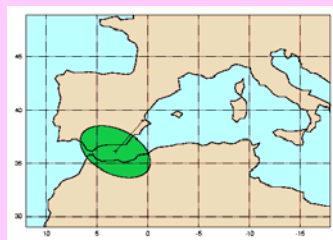
Simultaneity Cyclone-Heavy Rain



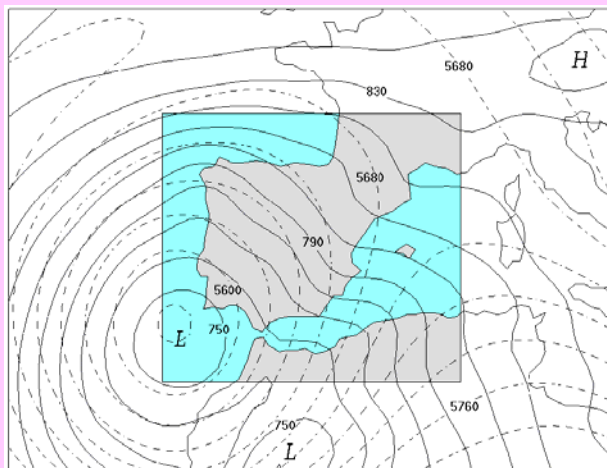
Catalonia



Balearic Islands

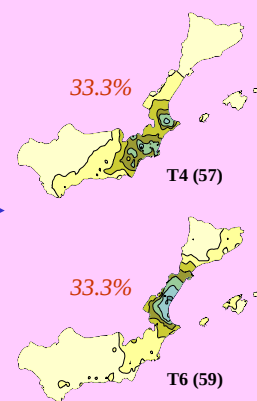


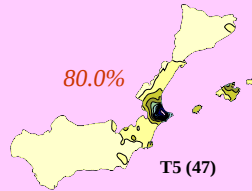
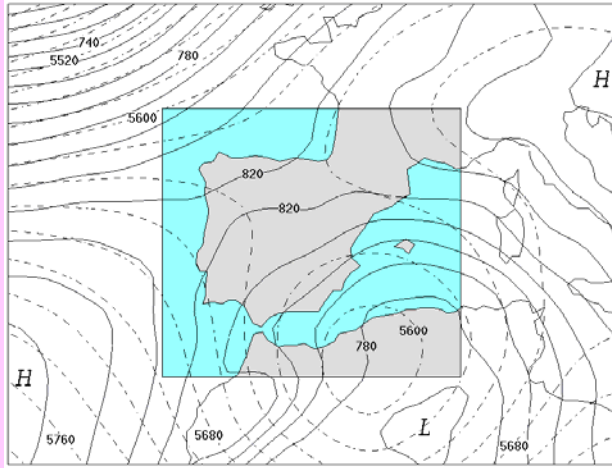
Valencia



AP6

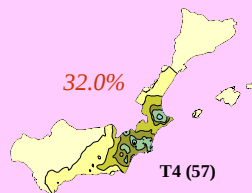
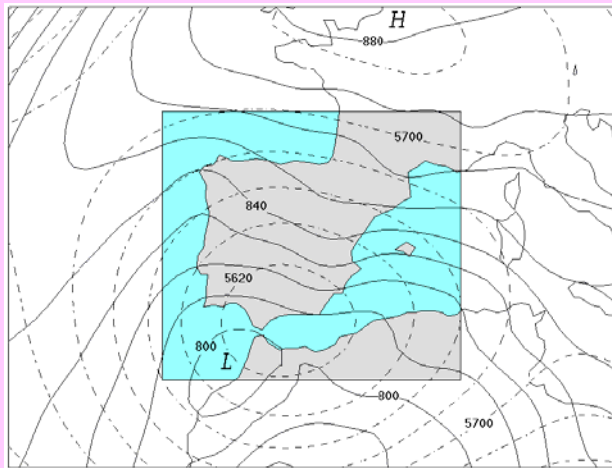
Spr 33.3%
Heavy 23.1%





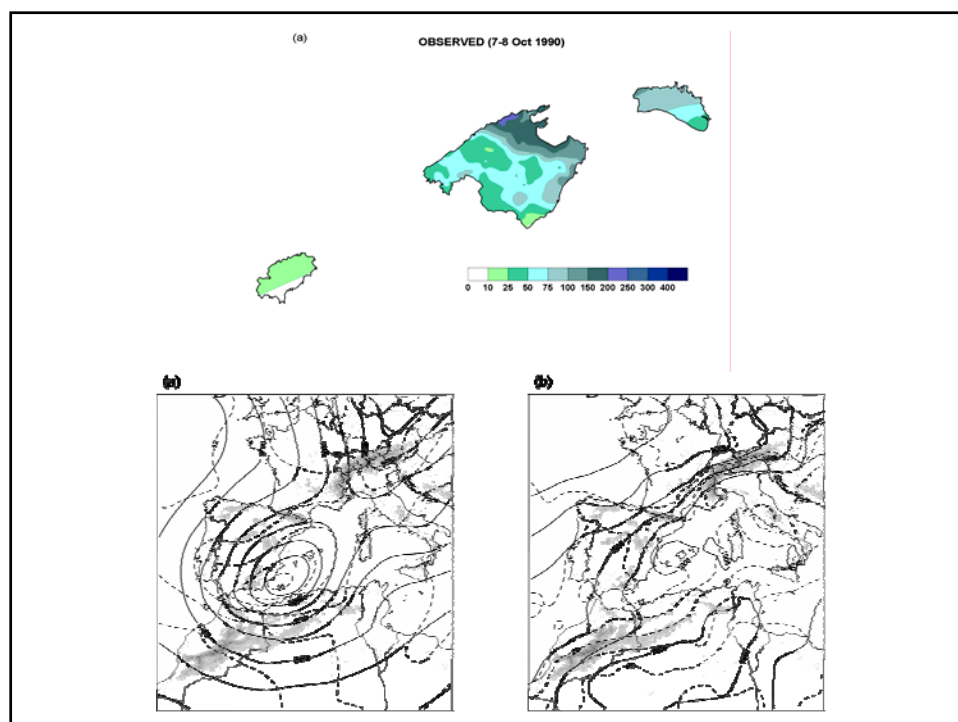
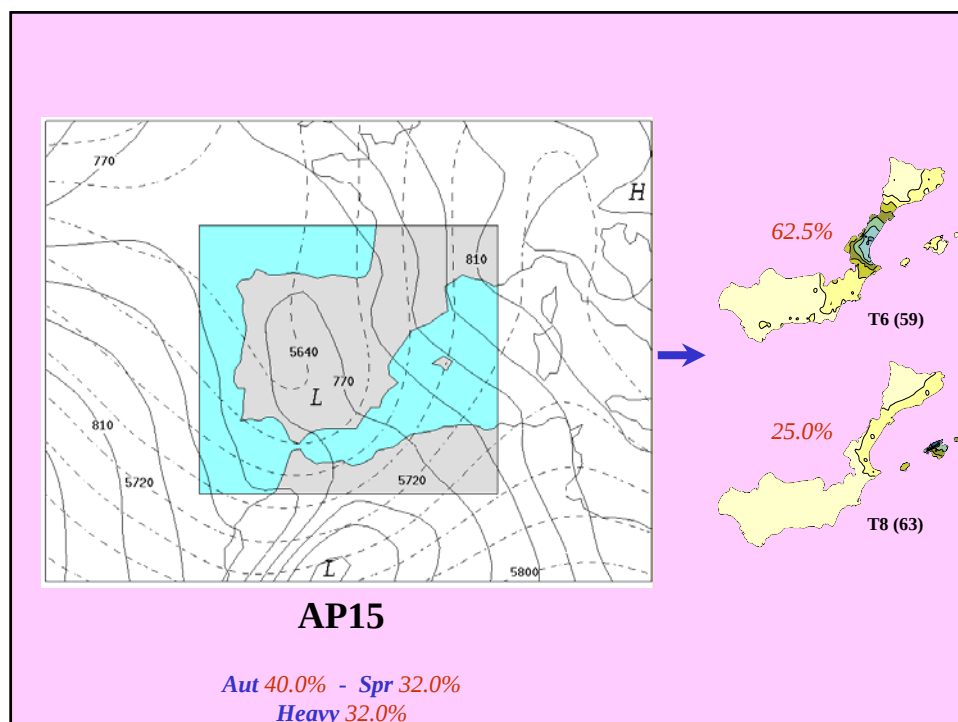
AP12

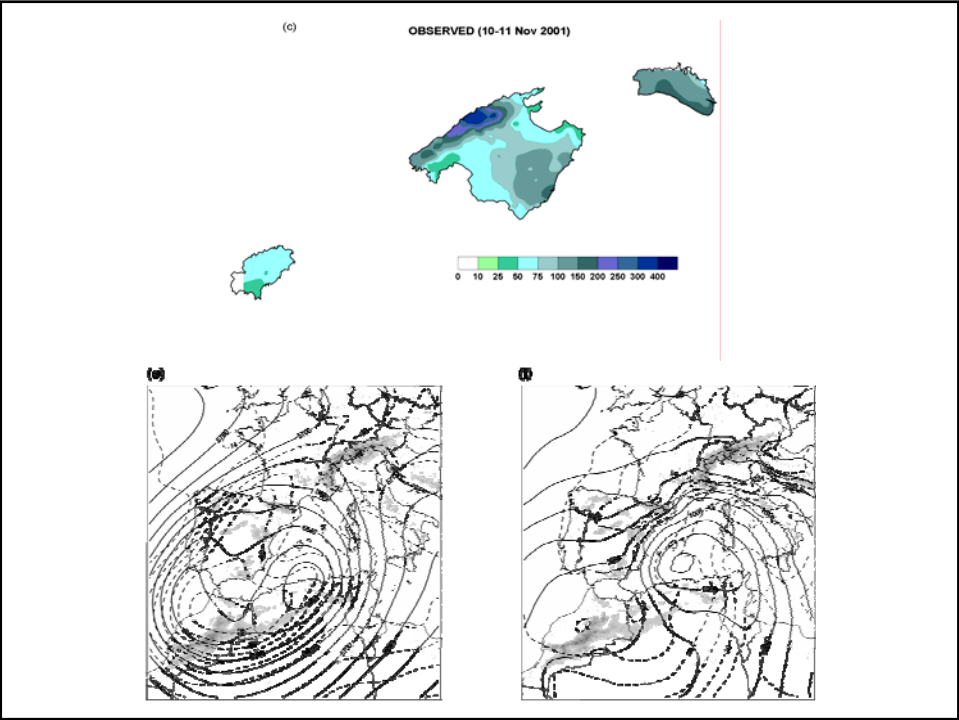
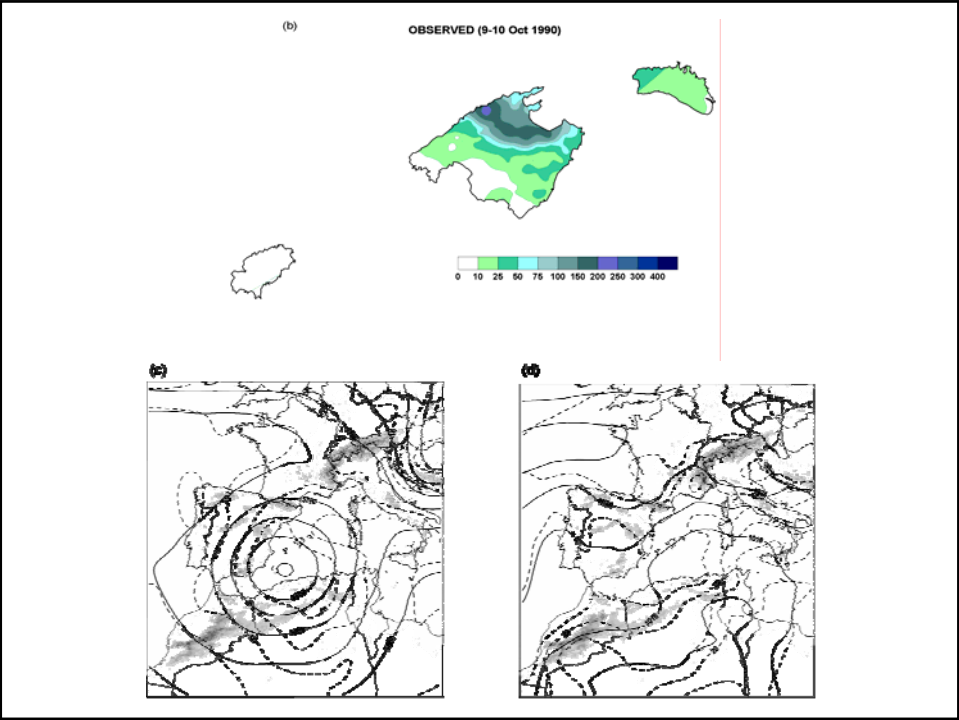
Win 47.8% - Aut 34.8%
Heavy 21.7%

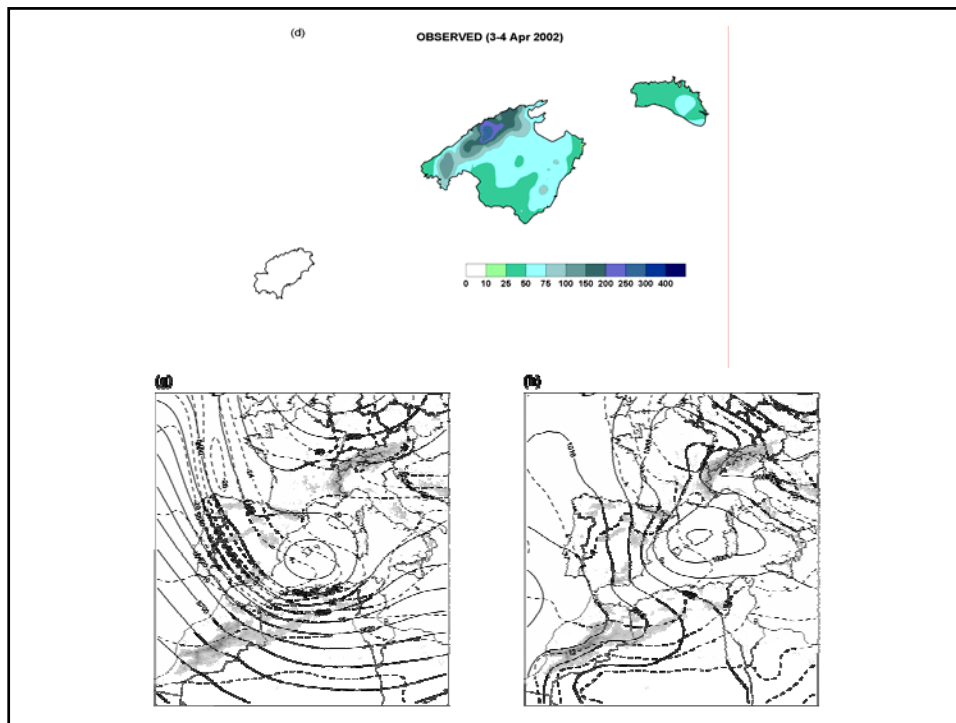


AP13

Win 53.0%
Heavy 37.9%



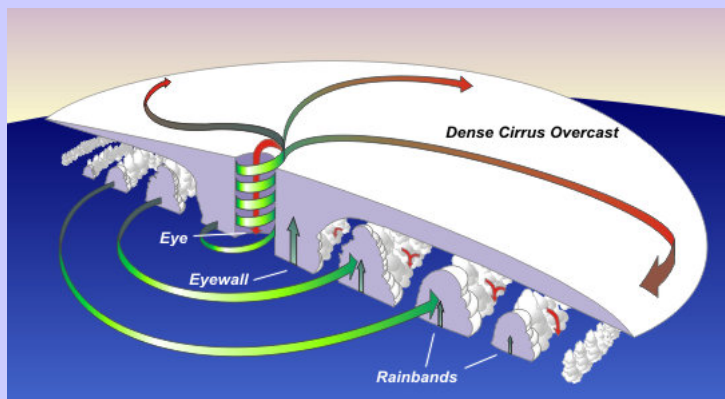
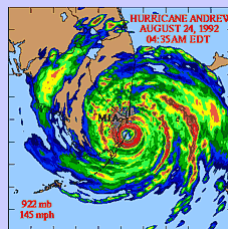
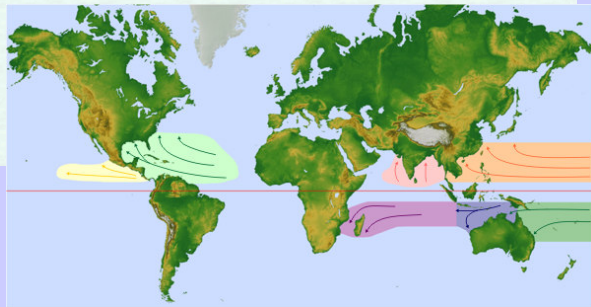
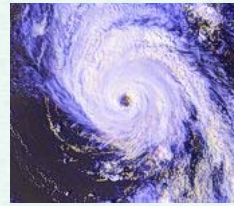




ESTRUCTURA

- 1) Ideas previas
- 2) Ciclones extratropicales
- 3) Ciclones cuasitropicales o "medicanes"
- 4) Tormentas y fenómenos severos

Tropical Cyclones



5 The warmed air continues to rise with moist air from the ocean taking its place creating more wind.

4 Condensation releases heat into the atmosphere making the air lighter.

3 As the water vapor rises, it cools and condenses into liquid droplets.

2 Water vapor rises into the atmosphere.

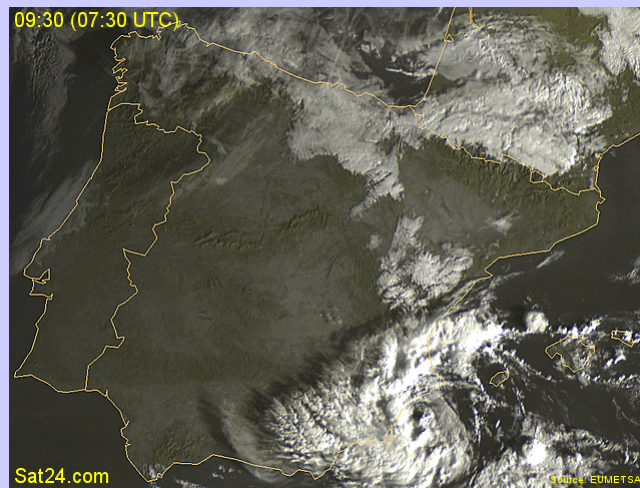
1 Warm moist air moves over the ocean.

Escala Saffir-Simpson

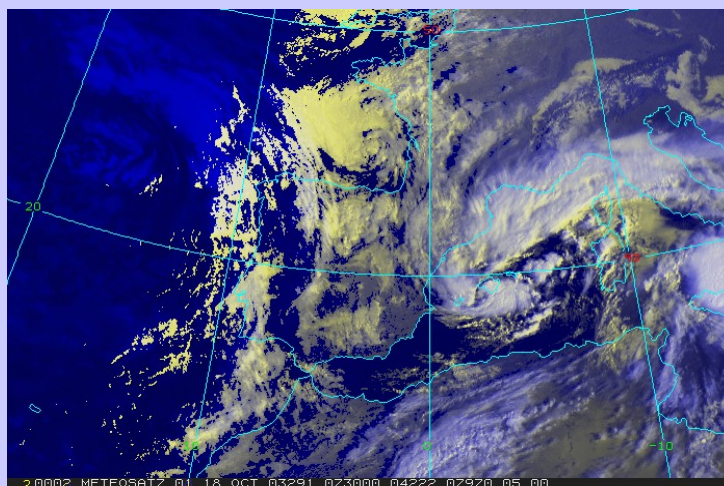
Cat.	Speed	Damage
1	74-95 mph 64-82 kts 119-153 km/hr	No real damage to building structures. Damage primarily to unanchored mobile homes, shrubbery, and trees. Some damage to poorly constructed signs.
2	96-110 mph 83-95 kts 154-177 km/hr	Some roofing material, door, and window damage of buildings. Considerable damage to shrubbery and trees with some trees blown down. Considerable damage to mobile homes, poorly constructed signs, and piers.
3	111-130 mph 96-113 kts 178-209 km/hr	Some structural damage to small residences and utility buildings with a minor amount of curtainwall failures. Damage to shrubbery and trees with foliage blown off trees and large trees blown down. Mobile homes and poorly constructed signs are destroyed.
4	131-155 mph 114-135 kts 210-249 km/hr	More extensive curtainwall failures with some complete roof structure failures on small residences. Shrubs, trees, and all signs are blown down. Complete destruction of mobile homes. Extensive damage to doors and windows.
5	Greater than 155 mph 135 kts 249 km/hr	Complete roof failure on many residences and industrial buildings. Some complete building failures with small utility buildings blown over or away. All shrubs, trees, and signs blown down. Complete destruction of mobile homes. Severe and extensive window and door damage.

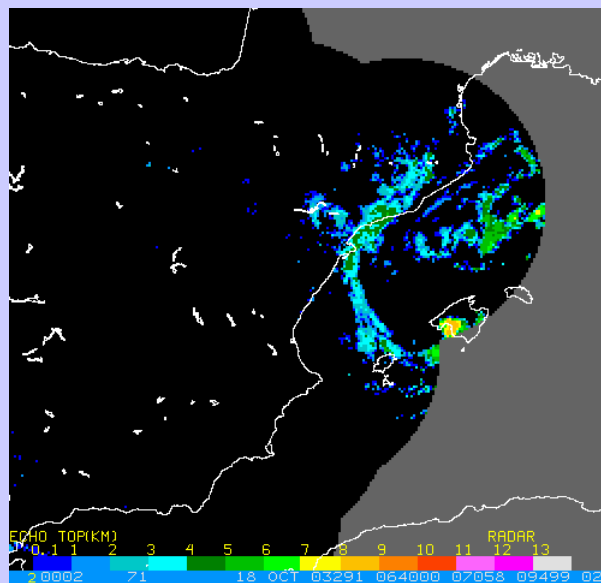
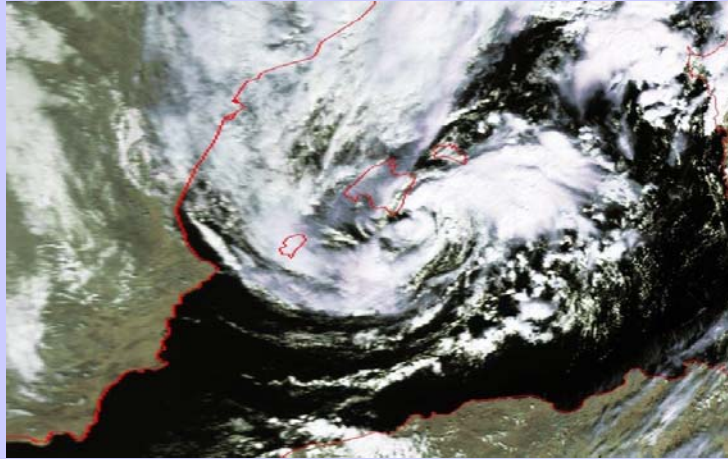
Medicane del 15-17 Enero 1995

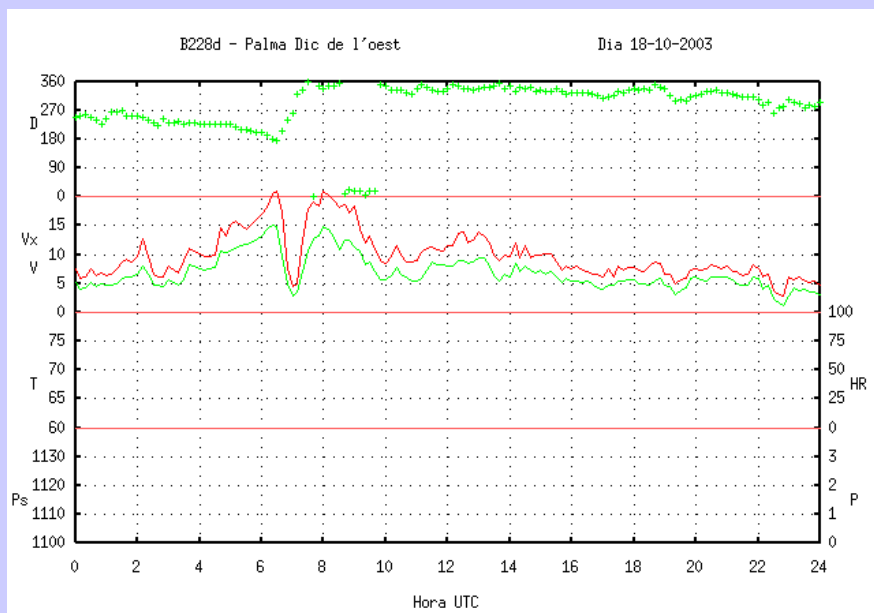
Medicane del 18 Octubre 2007

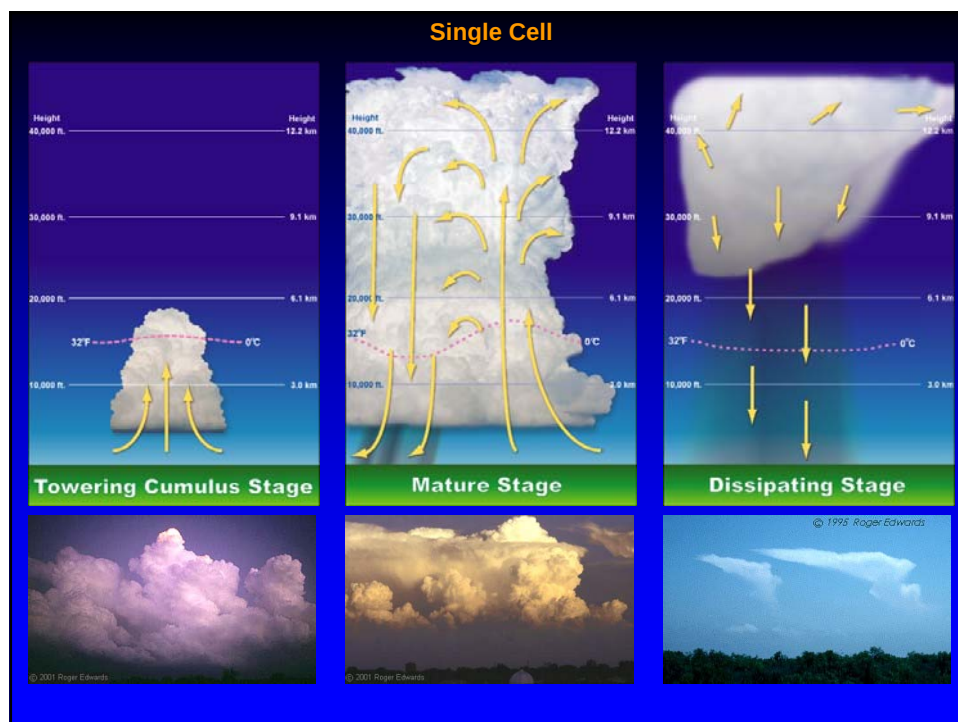


Medicane del 18 Octubre 1996

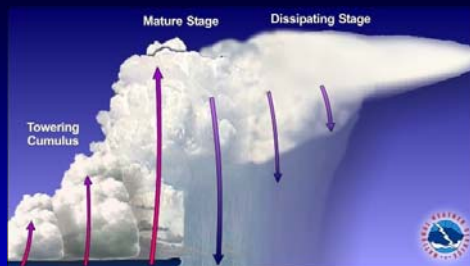




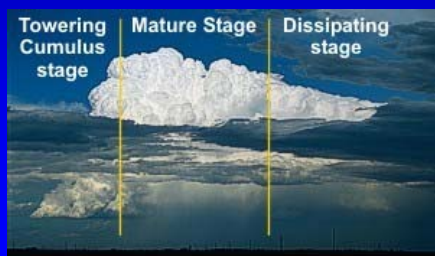
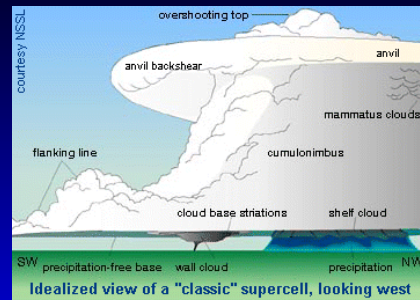




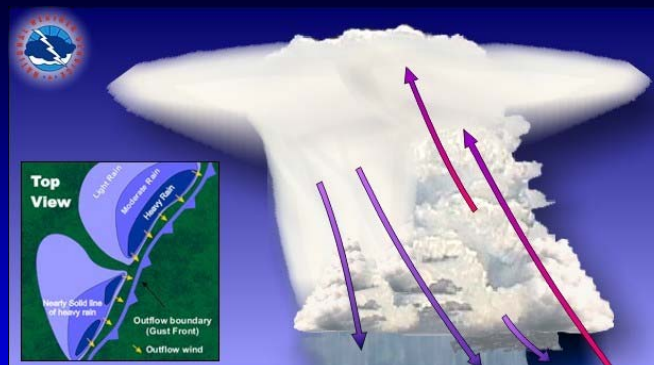
Multicell



Supercell



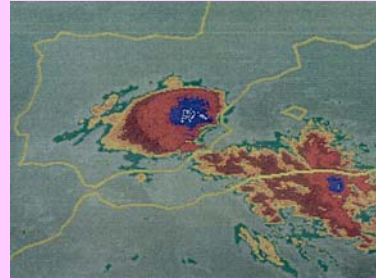
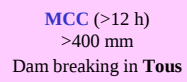
Squall Line



Damaging winds



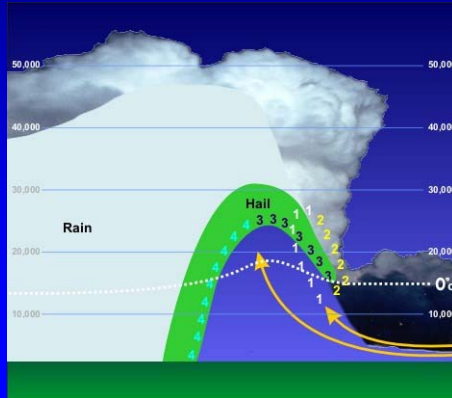
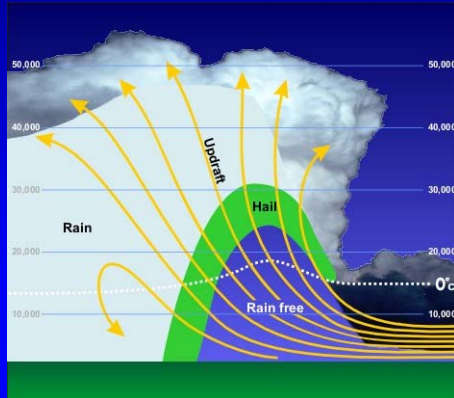
MCS (33 h)
Circular shape (~200 km diameter)
>800 mm / 36 h in **Gandia**



Mesoscale convective systems



Hail



An example: The severe hail storm in Alcañiz (16th August 2003)





Supercell Mesocyclone

