

WRF EMM 2 (1.1*) Km Italy 7 (6*) Km Europe *after postprocessing	
Model name	Explicit EMM derived by ARW solver
Type	No hydrostatic limited area model (Eulerian Mass Model)
Original resolution	model 2,0 km (1.1 Km, after post processing) covering Italy, Slovenia, Croazia, Albania, Serbia, Switzerland and South of Austria 7 Km (6 Km after post processing) covering Europe
Domain inzialization	GFS 0.25 +WRF Europe 180 hrs 7 Km+ 4DVAR
Vertical level (hybrid sigma-P)	80 at 2 Km 60 at 7 Km
Integration	84 h at 2 Km 180 h at 7 Km
Grid	Arakawa E staggered grid
Foundamental time step:	5 sec a 2,0 km 15 sec at 7 Km
Scheme	Convention e cloud model Explicit Microphysic Thompson 2-moment 6 class (summer) Millbrand-Yau 3-moment 7 class (winter) Surface layer NYNN (summer) QNSE (winter) PBL layer NYNN (summer) QNSE (winter)

	<u>Radiation Scheme</u> RRTMG (long+shortwave) <u>Surface Physics</u> Unified Noah land surface model <u>Urban Physics</u> Single layer Urban Canopy Model
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WRF EMM		
OUTPUT PARAMETER		
CLASS	Parameter	Output parameter
Precipitation		
	Rain	-cumulate mm/1h -cumulate mm/3h -cumulate mm/6h -cumulate mm/24h
	Fallen snow	-cumulate cm/1h -cumulate cm/3h -cumulate cm/6h -cumulate cm/24h
	Cumulate snow	-cumulate cm/1h -cumulate cm/3h -cumulate cm/6h -cumulate cm/24h
	Snow	Snow precipitation probability(%)
TEMPERATURE		
		Temperature 2m (°C)

	Temperature(°C) + Geopotential (m)	- 975 hpa level - 950 hpa level - 925 hpa level - 900 hpa level - 850 hpa level - 700 hpa level - 500 hpa level
	Dew point temperature	- 2 m on ground level - 975 hpa level - 950 hpa level - 925 hpa level - 900 hpa level - 850 hpa level - 700 hpa level - 500 hpa level
	Zero thermal height (m)	-lower troposferic layer calculated - higher troposferic layer calculated

HUMIDITY		
	Relative umidity (%)	- 2 m on ground level - 975 hpa level - 950 hpa level - 925 hpa level - 900 hpa level - 850 hpa level - 700 hpa level - 500 hpa level
WIND		
	Intensity (m/s) and direction	- 10-100 m on ground level - 975 hpa level - 950 hpa level - 925 hpa level - 900 hpa level - 850 hpa level - 700 hpa level - 500 hpa level
	Maximum gust(m/s) and	- 10-100 m on ground level

	streamlines	
	Vertical velocity (m/s) and streamlines	- 1000 hpa level - 975 hpa level - 950 hpa level - 925 hpa level - 900 hpa level - 850 hpa level - 700 hpa level - 500 hpa level
	Moisture Convergence and wind vector	- 0-30 mb on ground level - 30-60 mb on ground level - 60-90 mb on ground level
	Storm Relative Helecity (integration over 0 -3000 m) and Storm Motion (integration 0 - 6000 m)	
	Storm Relative Helecity (integration 0 -1000 m) and Storm Motion (integration 0 - 6000 m)	

VISIBILITY		
	Visibility(%)	- 10 m on ground level
CLOUD COVER		
	Cloud cover	-last hour mean value
THERMODYNAMICINDEX		
	soundings with index and odograph	
	CAPE (convective available potential energy)	- calculated from ground - calculated on 0-90 mb layer - calculated on 0-180 mb layer - calculated on 0-255 mb layer
	K index - Totals Totals, lifted index	

	Severe Weather Threat index (SWEAT) + Lifted index 500/1000 hpa	
RADAR REFLECTIVITY		
	Predicted radar reflectivity	- 400 m level - 1000m level - Maximum composite
RADIATION		
	RRTG Global shortwave radiation	
	RRTG Global longwave radiation	
CROSS SECTION		
	Cross logitudinal section with 0.02° resolution	
	Cross latitudinal section with 0.02° resolution	

Weather model for USA, South America, Africa (part) , Asia (part) are WRF NMM version at 3-12 Km of resolution