

**WRF NMM 3 Km Central Europe - 10 Km Rest of the Europe - 10 Km USA
16 Km Africa, Asia, South America (after regridding and postprocessing)**

Model name	Explicit NMM
Type	No hydrostatic limited area model
Original model resolution	3-13 Km Europe 12 Km USA 18 Km Africa –S America
Domain inizialization	GFS +4DVar+short term satellite correction
Vertical level (hybrid sigma-P)	50 to 85
Integration	168 h
Grid	Arakawa E staggered grid
Foundamental time step:	6-10 sec
Scheme	<u>Convention e cloud model</u> Explicit <u>Surface layer</u> Eta Microphysics scheme <u>PBL layer</u> MELLOR –Yamada.Janijc <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

WRF NMM		
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 tropospheric layer calculated - higher tropospheric layer calculated
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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 (sigma layers) - 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 streamlines	- 10-100 m on ground level
	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 Helicity (integration over 0 -3000 m) and Storm Motion (integration 0 - 6000 m)
	Storm Relative Helicity (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
THERMODYNAMIC INDEX	
	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	other parameters avl on request*
	Global shortwave radiation

CROSS SECTION

Global longwave radiation

Cross logitudinal section with 0.02°resolution

Cross latitudinal section with 0.02°resolution