Project no.: 38489

Project acronym: SEEWIND

Project title: South East European Wind Energy Exploitation

Instrument: STREP

Thematic Priority: SUSTDEV-1.1.1 TREN-4

D-6.1 Development and configuration of the meso-scale modelling system

Due date of deliverable: Month 10
Actual submission date: Month 36

Start date of project: 20th of May 2007 Duration: 52 months

Organisation name of lead contractor for this deliverable: DEWI

Revision: Final

Project co-funded by the European Commission within the Sixth Framework Programme (2002-2006)		
Dissemination level		
PU	Public	X
PP	Restricted to other programme participants (including the commission Services)	
RE	Restricted to a group specified by the consortium (including the Commission Services)	
CO	Confidential, only for members of the consortium (including the Commission Services)	

Description of Deliverable

The first aim of WP6-1 was to provide a configuration of the meso-scale model MM5 suitable for the long term simulation of the wind conditions over the pilot sites. Objective of the configuration was the choice of input data, boundary conditions, resolution, physical parameterization, nesting, number of domains. The configuration was chosen in order to combine computational speed and accuracy of results.

Table 1 reports the complete set of input data and parameters used for the simulation of the wind conditions with the MM5 model.

Input data	Initial and boundary conditions	NCEP GSF final (FNL) Analysis (GRIB) Period 01-2000 – 12-2008	
	Terrain Elevation	GTOPO 30 (1 km resolution)	
	Land Cover	24 categories USGS	
Domains	Domains (Number of points)	Domain 1	80 × 80
		Domain 2	121 × 121
		Domain 3	169 × 205
	Domains (Resolution)	Domain 1	27 km
		Domain 2	9 km
		Domain 3	3 km
	Nesting	Two-way	
	Vertical sigma levels	27	
Physics	Boundary Layer	Mellor-Yamada, one-dimensional prognostic turbulent kinetic energy scheme	
	Surface Layer	Janjic similarity with Monin-Obukov length approach and thermal roughness length	
	Land surface	Noah land surface scheme	
	Cumulus convection	Kain-Fritsch scheme	
	Long-wave radiation	Cloud scheme	

Table 1: Configuration of the MM5 model