AEROSOL DESCRIPTION OF THE MED-CORDEX PHASE-2 BASELINE RUNS

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Med-CORDEX phase2 baseline runs									
Institute	Model	Evaluation runs				Scenario runs			
		Aero classes	Climatology	Spatial pattern	Temporal variability	Aero classes	Climatology	Spatial pattern	Temporal variability
CNRM	CNRM-RCSM6	5 classes: sulfate (SU), black carbon (BC), sea salt (SS), desert dust (DD), organic carbon (OC)	yes, Nabat et al. 2013 dataset	2D maps for each class + one vertical profile per class	yes, seasonal cycle for each class and trend for SU (see Nabat et al. 2013, 2014, 2015a)	same as evaluation runs	Same as in the driving GCM (CNRM-CM 6-1 or CNRM-ESM 2-1)	Yes, Same as in the driving GCM	yes, same as in the driving GCM following RCP scenarios
ENEA	ENEA-RegCM-ES								
GUF	GUF-CCLM5NEMO								
LMD	LMD-LMDZMED								
IPSL	IPSL-RegIPSL	5 types:organic carbon, black carbon, sulfate, sea	Tegen et al. (1997)	5° x 4° + vertical profiles	Monthly climatology	Same as evaluation runs	From the driving GCM	As in GCM	monthly

		salt, dust							
CMCC	CMCC-COSMOMED								
UNIBELGRADE	UBEL-EBUPOM								
ITU	ITU-RegESM1.2								
AWI-GERICS	AWI-GERICS-ROM								
ICTP	ICTP-RegCM-ES	12 classes (4 Dust, 2 Sea salt, 4 Carbon, 2 Sulfate) interactive scheme	No	3D on model grid, boundary condition from CAM	Yes, with advection, diffusion by turbulence, vertical transport by deep convection, surface emissions, dry and wet removal processes (Solmon et al., 2006). Dust and sea-salt aerosols are emitted with generation modules (Zakey et al., 2006, 2008), anthropogenic	Same as evaluation run	Same as evaluation run	Same as evaluation run	Same as evaluation run

				aerosols emissions are related to inventories based on reference years.				