The EMEP model in the new grid; What does it mean for WGE?

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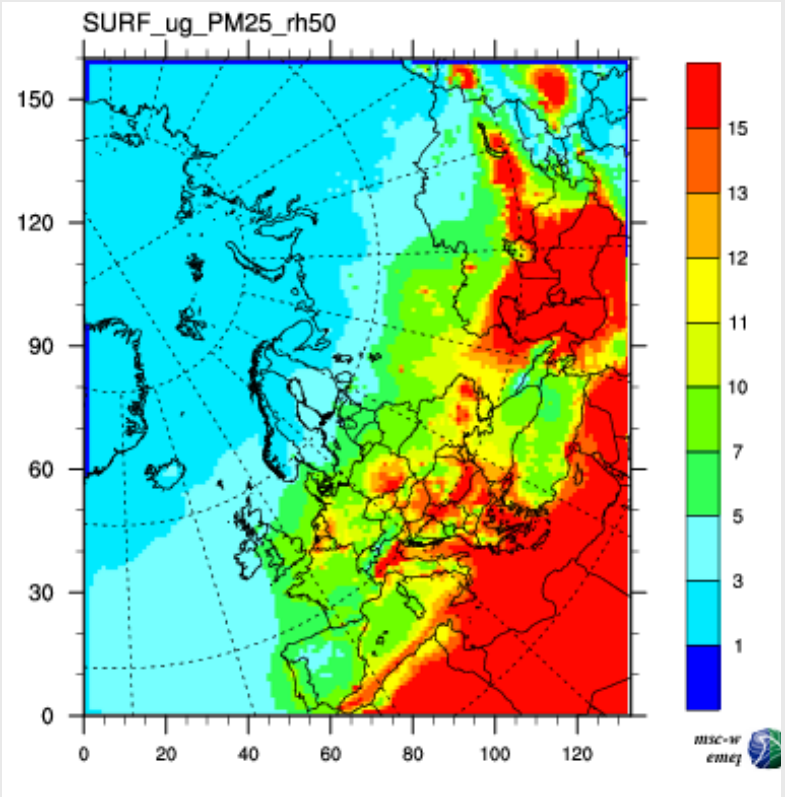
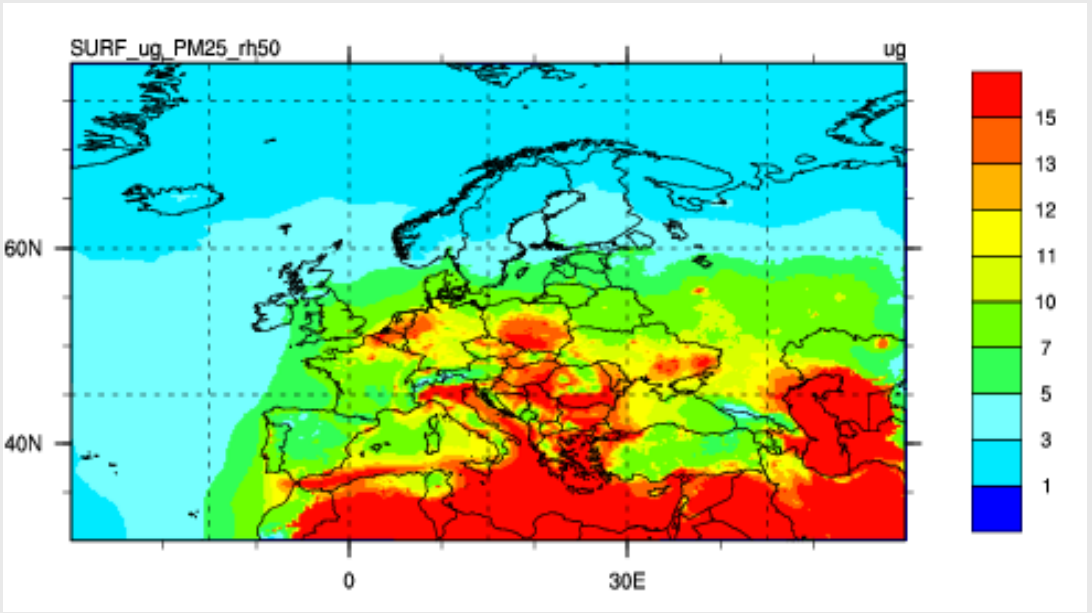
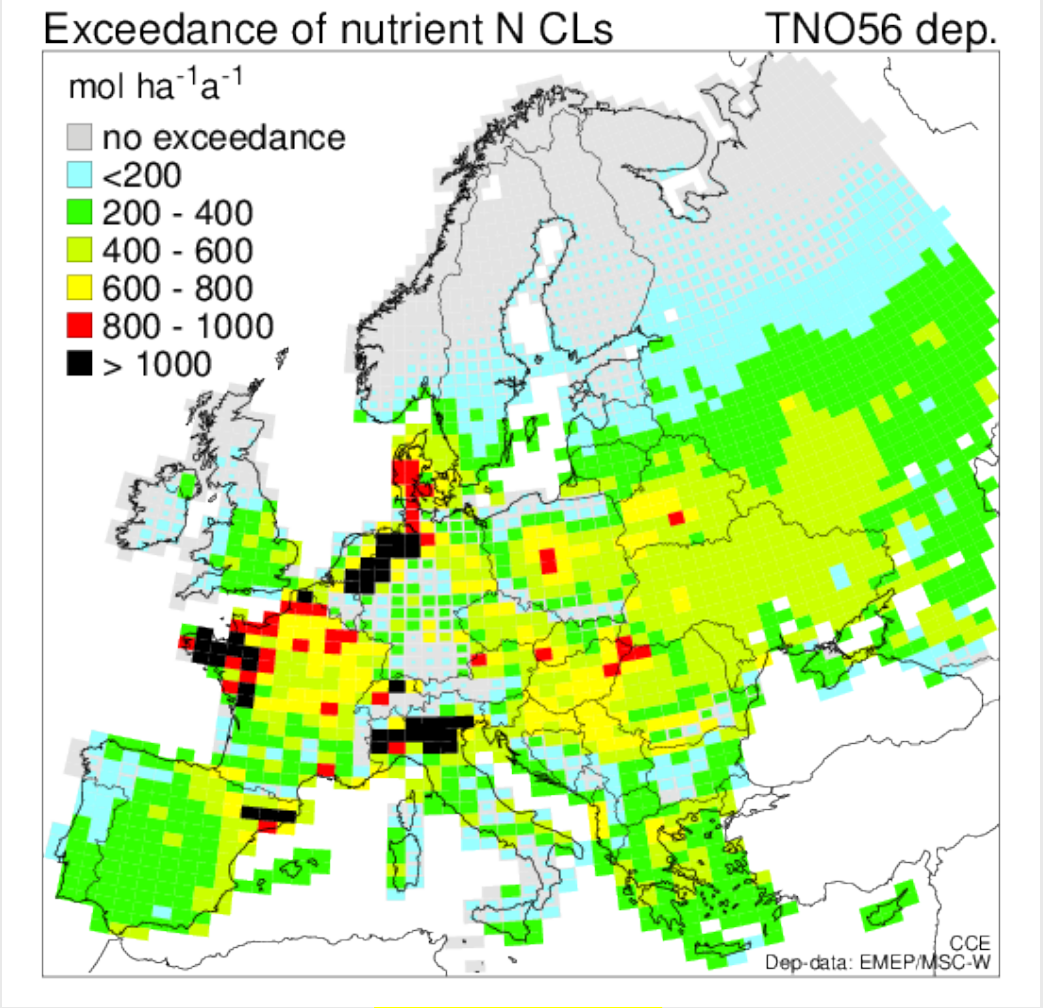
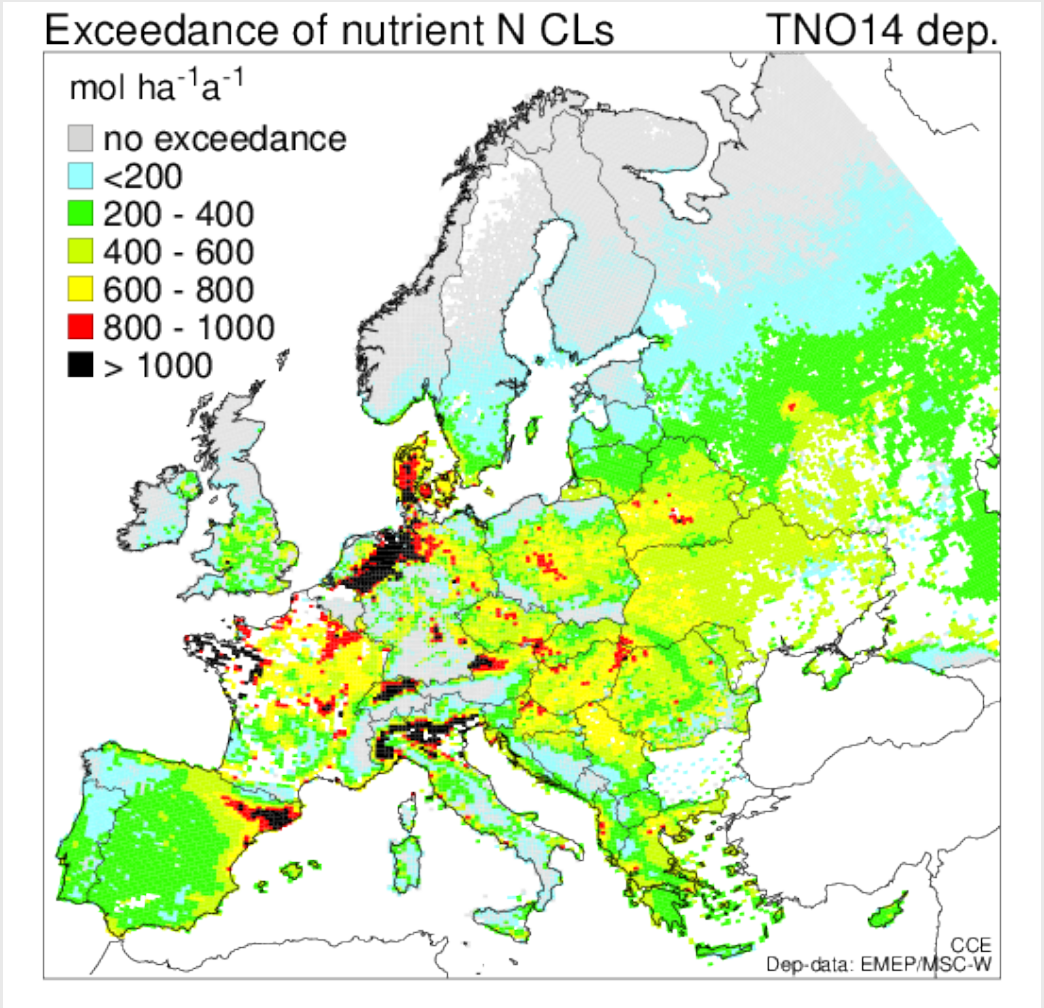
The EMEP model in new resolution

- 50 x 50 km2 -> 0.1 x 0.1 degree
- Increased resolution of surface level
- New emissions









56 km2

14 km2

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Critical load exceedances in different resolutions

Table 4.1: Ecosystem area exceeded and average exceedance (AAE) for acidity and nutrient N critical loads in the EU28 region and in the whole of Europe using depositions modelled on the TNO56 and TNO14 grid, using meteo and emissions from 2009. Corresponding results from this years report of 2011 conditions are given for comparison.

Region	Grid	Acidity Critical Loads		Nutrient N Critical Loads	
		Area exc. (%)	AAE (mol $ha^{-1}a^{-1}$)	Area exc. (%)	AAE (mol $ha^{-1}a^{1}$)
EU28	TNO56	8.54	30.0	65.4	260.0
	TNO14	8.18	28.2	64.4	243.7
	EMEP-2011	6.8	19.9	63.4	230.5
Europe	TNO56	5.90	18.6	58.8	193.6
	TNO14	5.78	17.4	58.1	184.1
	EMEP-2011	4.8	12.9	59.5	180.0

No systematic differences due to scale only

BUT

- **If emissions have a qualitatively different distribution, differences might be larger!**
- Exceedances/fluxes resulting from the model with a finer surface level have not been calculated/tested

PLANS

- New call for CL data on 0.1*0.05 degree (consistent with the SR-data used in GAINS: 0.5*0.25 degree)
- Together with CCE, compare
  - -exceedances of 50 km model data
  - -exceedances with 0.1 degree data
- **Before we change to the new grid operationally, discussions are needed both in EMEP and WGE**
  - -What do WGE need before the transition? Timeseries? GP Baseyear?