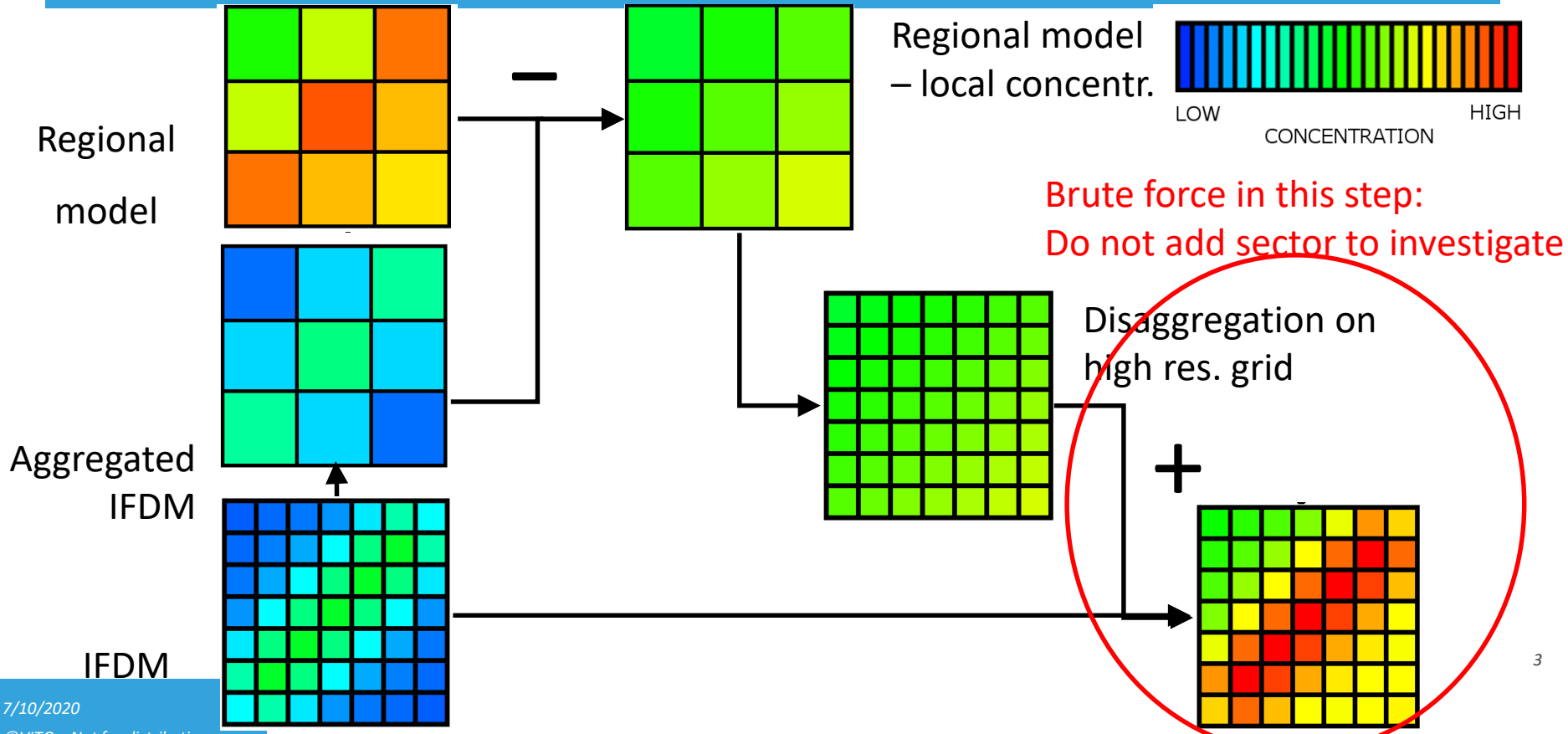# LOCAL SCALE SOURCE APPORTIONMENT IN FLANDERS

Wouter Lefebvre, Willem Gruyters, Stijn Janssen

- Two communities in Northern Belgium wanted to know the air quality and the major **local** sources of air pollution in their communities.

- Pollutants: NO_2, $PM_{2.5}$, nitrogen deposition (all annual mean).

- Model: ATMO-Street model: combination of intelligently interpolated measurements (RIO) with Gaussian modelling (IFDM) and street canyon modelling (OSPM).
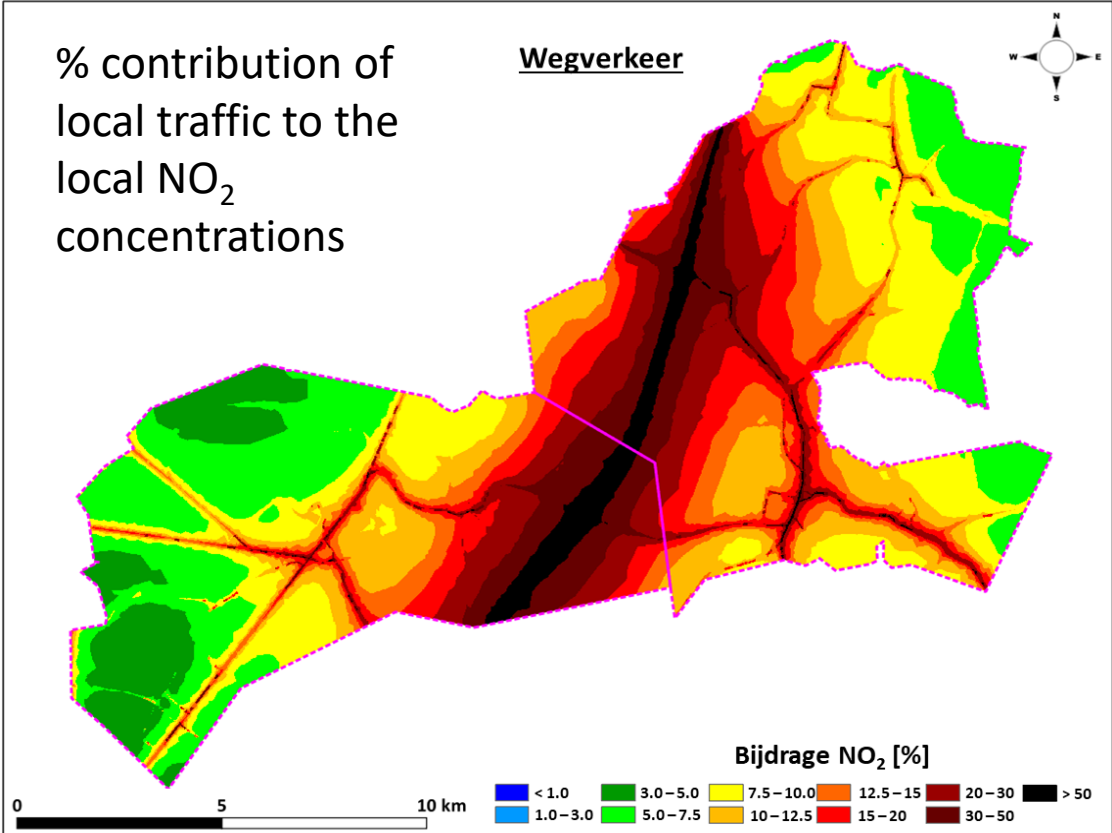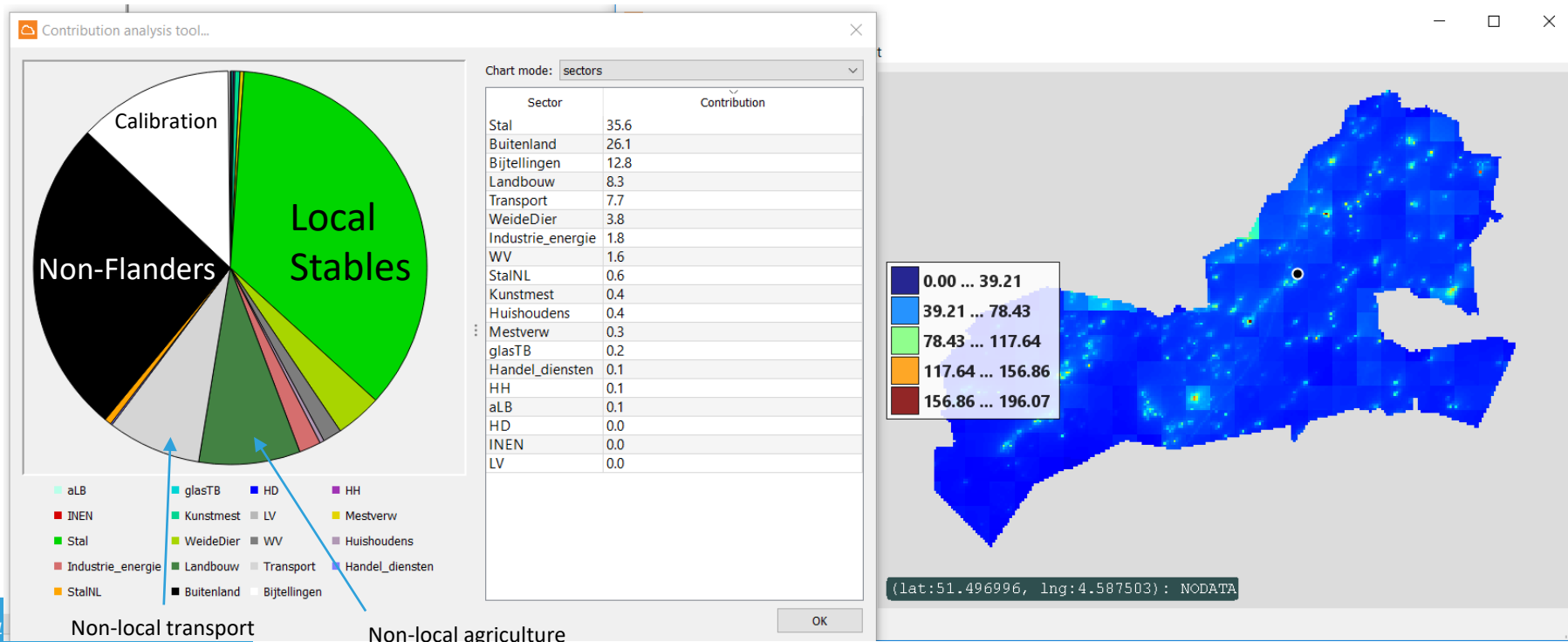
METHODOLOGY

Regional model

Regional model – local concentr.

Brute force in this step:
Do not add sector to investigate

Disaggregation on high res. grid

Aggregated IFDM

IFDM

LOW   CONCENTRATION   HIGH

% contribution of local traffic to the local NO$_2$ concentrations

Wegverkeer

Bijdrage NO$_2$ [%]

< 1.0	3.0 – 5.0	7.5 – 10.0	12.5 – 15	20 – 30	> 50
1.0 – 3.0	5.0 – 7.5	10 – 12.5	15 – 20	30 – 50	

0   5   10 km

Source apportionment of nitrogen deposition at a specific location

- Only for local contributions: Gaussian model should stay applicable
- Results only as good as model, and as emissions database!