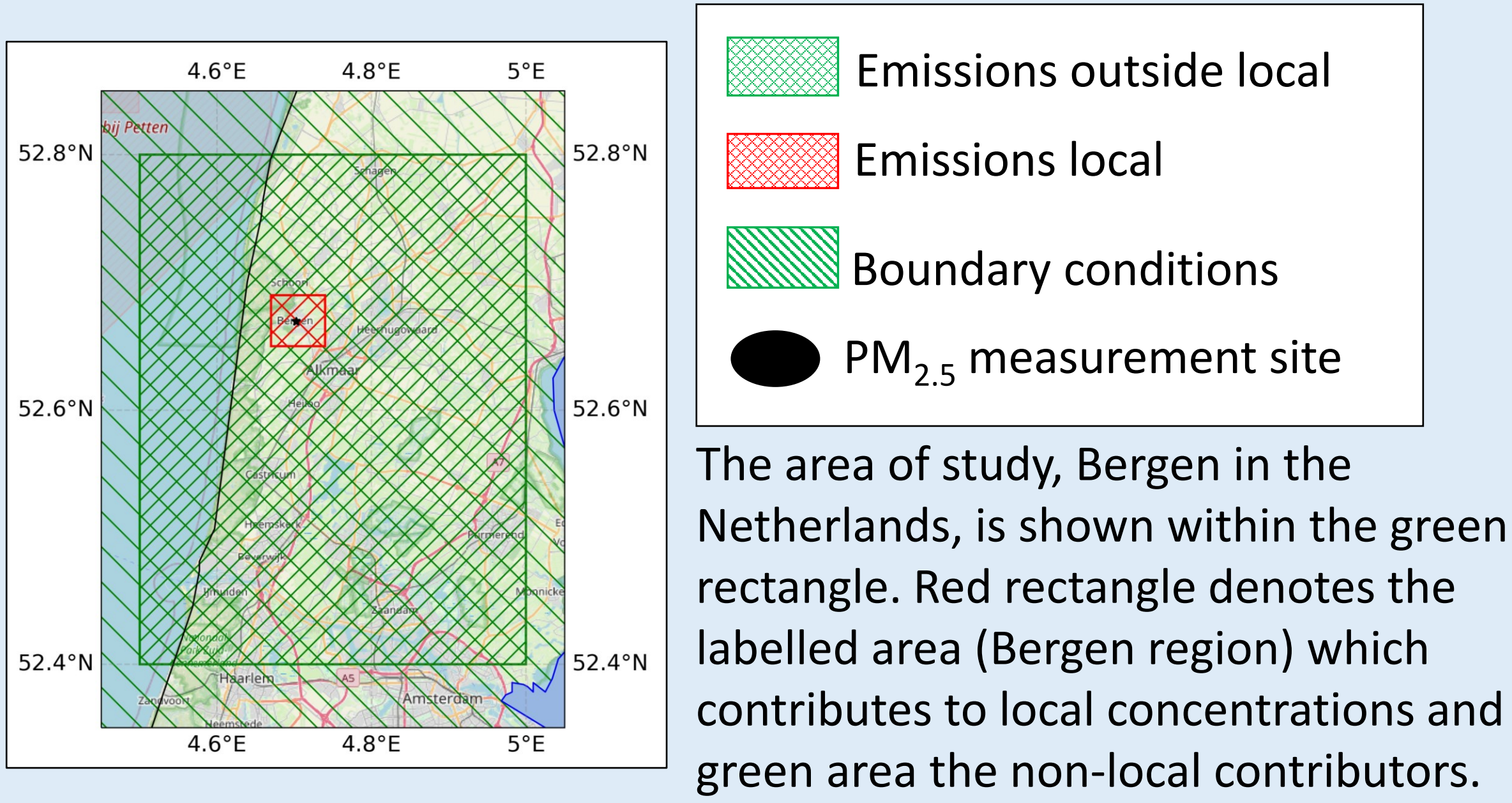


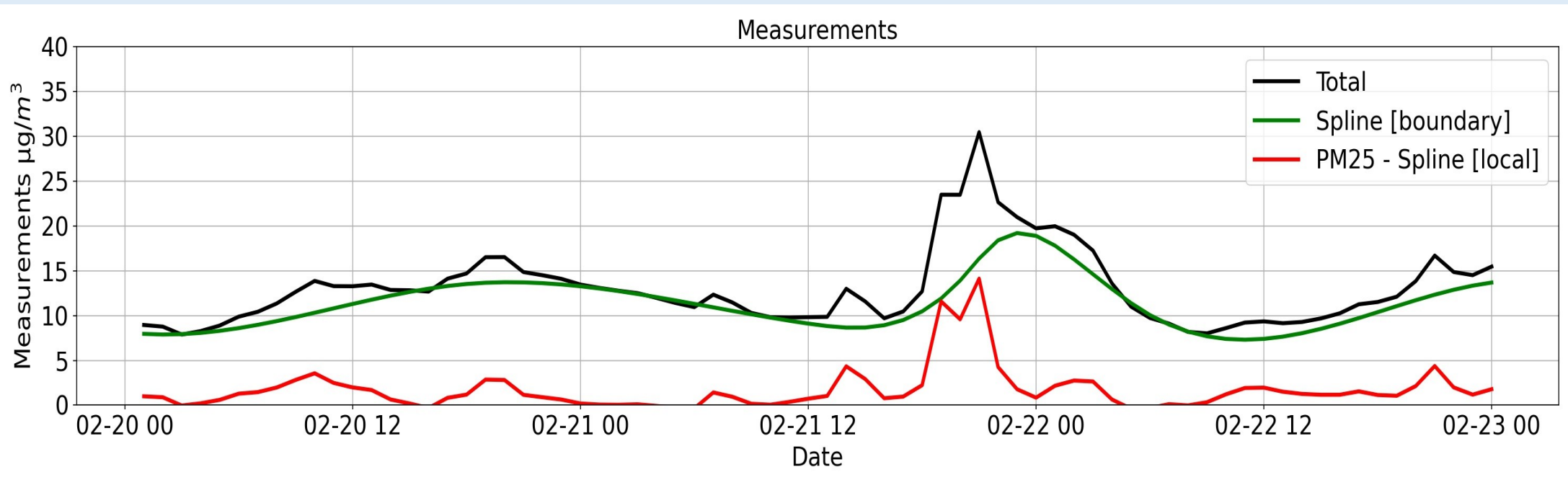
COMBINING DATA ASSIMILATION AND SOURCE APPORTIONMENT TECHNIQUES TO MODEL LOCAL AND BACKGROUND CONTRIBUTIONS TO PM CONCENTRATIONS

Introduction

Air pollution over urban environments is a mix of pollutants emitted locally as well as pollutants advected from different regions. To give policy makers the possibility to take effective measures within their domain it is of relevance to discriminate between local and background contributions. In this study we investigate an integrated approach using the source apportionment and data assimilation modules of the regional Chemical Transport model (CTM), LOTOS-EUROS. The aim is to provide an innovative way of assimilating measurements within the model by separating between dependencies on local emissions and background contributions.

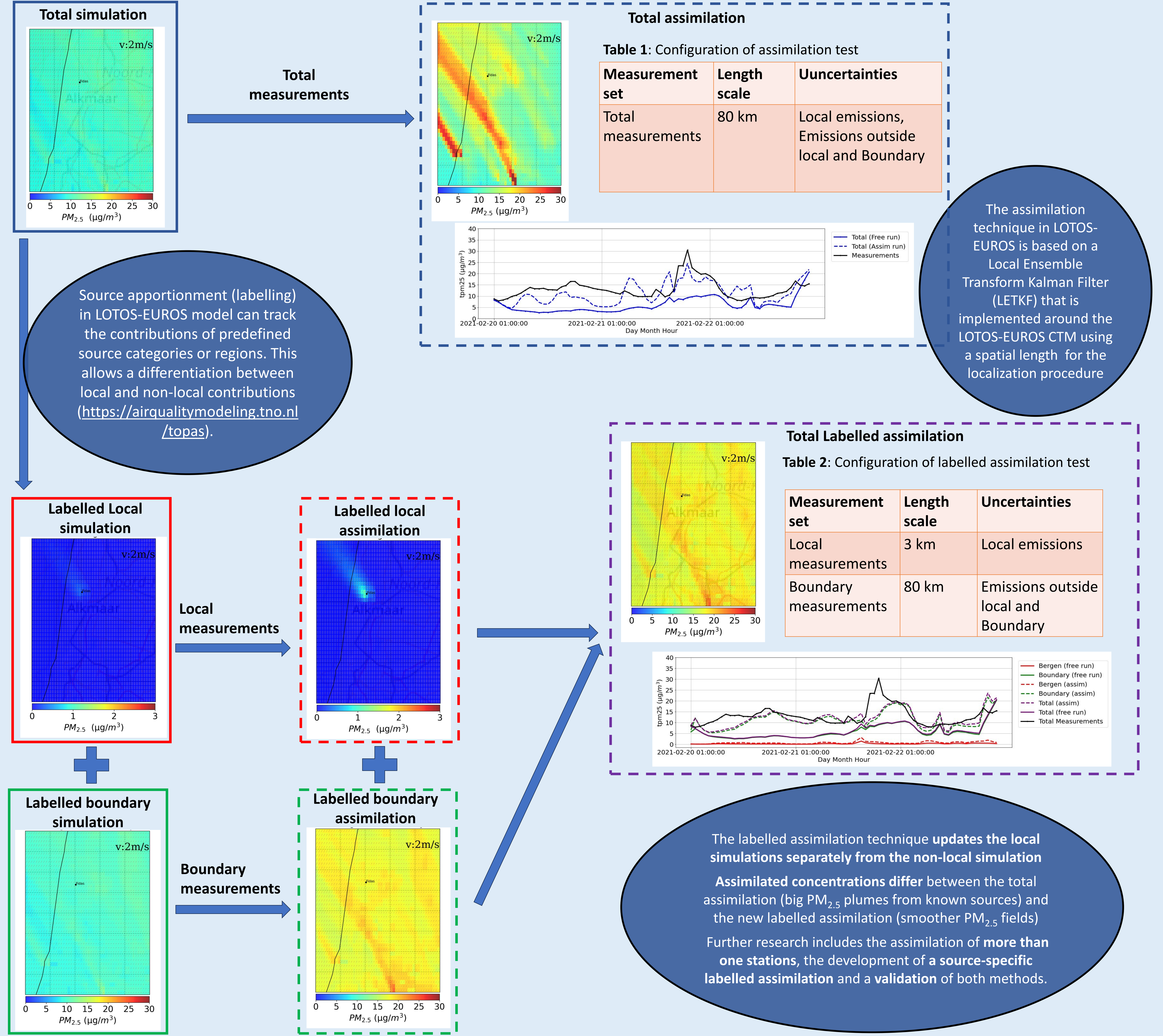


Area of study and measurements



During the project “Samenwerking Houtrookonderzoek”¹ a FIDAS instrument was installed in the region of Bergen, the Netherlands, measuring PM_{2.5}. The total measurements are separated in two timeseries; the local and the background-boundary. The spline of minimums, time-series based method is used.

Concept and Methodology



Acknowledgements

¹This data was gathered within the project “Samenwerking Houtrookonderzoek” a collaboration between TNO, RIVM, Utrecht University and GGD Amsterdam.