



Report on Workshop CAMS-NCP

Source Apportionment

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Introduction

On Wednesday May 22nd, the subcontractors of CAMS-NCP in The Netherlands (TNO, KNMI, RIVM) held a workshop in Utrecht, The Netherlands on the topic of Source Apportionment. The goal of this workshop was to spread awareness of the manners in which CAMS data is used in The Netherlands. Additionally, potential users of CAMS data within the Dutch community were brought together to discuss relevant topics. The attendees of this three-hour workshop provided feedback about how they would ideally make use of a potential tool for determining the sources of particulate matter. This report aims to create an overview of the lessons learned during the organized workshop.



1. Attending organizations

A mix of attendees with different backgrounds in air quality was chosen.

- DCMR

This is the environmental organization for the province of South-Holland and thirteen municipalities in the Dutch Rijnmond area. Additionally, it carries out some work regarding large risk corporations in the Dutch province of Zeeland. DCMR has three main tasks: permitting, supervision and enforcement, and advice and monitoring.

- RIVM

RIVM, the Dutch National Institute for Public Health and the Environment, is part of the CAMS-NCP as the main user of CAMS data in The Netherlands. Attendees from the Emission Registration team, the measurement team, and modeling team (?) were present.

- Citizen Scientists

One invitee was from the organization 'Behoud de Parel' ("Keep 'de Parel'") that promotes the sustaining of nature area 'De Parel'. This is a citizen science initiative in the province of Limburg.

- Omgevingsdienst Noordzeekanaalgebied

This is the environmental agency of the harbor and industrial area of the 'Metropolitan Area of Amsterdam'.

- Netherlands Space Office (NSO)

The Netherlands Space Office is the national point of contact for the Copernicus programme and is part of the Copernicus Committee

2. Workshop

2.1 Timetable

9:00-9:30 – Walk in

9:30-9:45 – Welcome by CAMS NCP. Includes introduction about CAMS (available services) and intro about CAMS-NCP, what it is, how it relates to CAMS etc.

9:45-10:15 – Short introduction guests (*+ what question are they bringing to the workshop (email this beforehand, so that they come prepared) (including interactive start: what does everybody know about TOPAS? Could use sticky notes or do it popcorn style),*

10:15-10:45 presentation TNO – what is source apportionment, what is TOPAS-NL, how can it be used? *also include some slides on the European CAMS source apportionment and what kind of information can be found there* 20 minutes presentation, 10 minutes questions



10:45-11:00 Coffee break

11:00-11:15 DCMR presentation – on how they use TOPAS.

11:15-11:20 RIVM presentation – on their use of TOPAS.

11:20-12:00 – Interactive with guests (Ask: how do you think this could be useful for you? Are adjustments needed in the labeling or other adjustments? Can you think of an example of a question/topic in your organization that could use a tool like this?)

12:00 – 12:30 Round-up and check/get back to the questions people brought along

2.2 Discussed content

The interactive session aimed to gather feedback on making the TOPAS tool more effective and useful for the (potential) users. The feedback on future developments was divided into six sub-categories:

1. Spatial resolution (national, provincial, city, hotspots; model resolution)
2. Temporal resolution (past, present, future; hourly, daily, yearly)
3. Sources (areas or industries)
4. Compounds/Indicators: e.g. yearly average budget exceedances
5. Output format (types of graphs, downloads data, automatic warnings)
6. Other (linking to health effects or technical interventions)

During the session, the participants were first encouraged to write down their own ideas quietly. Next, groups were formed to discuss the ideas that had been individually formed. Finally, for each group the ideas were gathered into a document which was presented to the rest of the group

2.3 Retrieved feedback

The different participants provided feedback reflecting the needs and preferences of their organizations.

1. Spatial resolution
 - Local (about tens of kilometers)
 - Provinces
 - Hotspots
 - Region around industry
 - Large sources/emitters
 - Neighborhood level (< 1km)
 - City-level, 2km
2. Temporal resolution
 - Year or season



- Day/hour possibly for studies
- Seasons and climate change
- Multiple options in dashboard: annual average, month, day, hour, time can be self-defined
- Minutes (tens)
- Future forecast for comparison and outliers
- Nowcast
- Time scale dependent on substance and on policy (trend, report, incident)
- Multi-year trend analysis

3. Sources

- Industry, company level?
- Difference between ordinary traffic and electric traffic
- View of wood burning
- Shipping and maritime shipping
- Profile of the source

4. Compounds/Indicators

- UFP
- UFP (numbers of particles)
- NO_x
- CO
- O₃ (peak intervention) 'More study than service' (????)
- O₃
- Soot
- Ammonia + secondary aerosol
- Secondary particulate matter and which substances affect it? + action perspective
- Substances with health impact (regulated & non-regulated)
- Substances with nature impact
- Fragrant substances
- Air quality index

5. Output format

- API for data
- API with parameter for substance, time
- Right mouse button with 'download data' button
- Data export
- Bar chart
- Visualization for policy maker
- Data availability: public download
- Download
- Time series (year)

6. Other

- Comparing incident (/day) to annual averages



- Use deviations to verify emissions (is this possible?)
- Wind/meteorological information
- Definition of different sectors (what is boundary for example?)
- Identify uncertainties
- Interaction technology and policy making locally
- Interaction exposure, health risk
- Health, align with SLA (Dutch 'Clean Air Agreement')
- For which target group? Combine or separate products
- Documentation with explanation for sectors
- Preferably with an info button in the dashboard

3. Take-aways and concluding remarks

The feedback obtained during the workshop provided a clear view on the needs and wishes from users regarding a national source attribution service. The collected user needs have been digested into a user requirement document and will be evaluated for their relevance and feasibility. This user requirement document will be used as input for the next implementation plan, and the follow-up plans of CAMS2_72-NL in the second phase of CAMS-NCP.



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