

# **CAMS-84**

## **Minutes of the PM3 telecon**

Minutes compiled by  
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KNMI

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## Agenda

Agenda WebEx meeting 13 May 2016, 9:30 - 12:30 CET

1. Welcome
2. Announcements by the Service Manager (Jacques):  
reporting, subcontracts, KPIs, news from last CAMS SLB, DWD-MPG, RedMine, actions last time ...
3. NRT validation report (Vincent & all) (WP1 and WP4):  
all: prepare 1 or 2 slides with highlights, developments, status new activities, mention delays if any. Keep it short.

(coffee break)

4. Web sites (WP 2):  
short update status work S&T (Sander)
5. E-suite, WP3 (status)
6. Evaluation of regional models (WP5):  
contributions from KNMI, AA, BIRA, CNRS-LA, DWD, IUP, MPG (2x), MET-NO
7. Comparing regional and global models (Eleni, WP6)
8. WP 8: development plan (Henk)
9. AOB

## Participants

Hannah Clark, CNRS-LA  
Simon Chabrillat, BIRA-IASB  
Yves Christophe, BIRA-IASB  
Eleni Katragkou, AUTH  
Kaj Mantzius Hansen, AU  
Anna Benedictow, MET-NO  
Emilio Cuevas, AEMET  
Anne-Marlene Blechschmidt, IUP-UB  
Natalia Sudarchikova, MPG  
Henk Eskes, KNMI  
Jacques Claas, KNMI

Michael Schulz, MET-NO  
Sara Basart, BSC  
Bavo Langerock, BIRA-IASB  
John Kapsomenakis, AA  
Annette Wagner, MPG/DWD  
Harald Flentje, DWD  
Augustin Mortier, MET-NO  
Michel Ramonet, CEA-LSCE  
Thorsten Warnecke, UBC  
Vincent Huijnen, KNMI  
Richard Engelen, ECMWF

## Action items and deadlines

- All: provide slides (WP 1 and WP 5) to KNMI (using the \_Inbox), to be added to the minutes.
- Henk, 17 May: Distribute emails on discussion between CAMS-50 and ECMWF on dust.
- Henk, 17 May: check coordinates of De Bilt in the station files (to explain NO2 results of Anne B).
- Henk, 17 May: send orography of Lotos-Euros model to Annette (for WP5).
- Henk, 20 May: Introduce color coding for regional models.
- Henk, 23 May: circulate agenda for the Athens meeting.
- Henk, 1 June: check if T,p of ECMWF can be provided in the WP5 data files.
- Simon, 1 June: write a short note on MLS versions to be sent to Antje Inness (for reanalysis).
- Simon: explain by email to Henk the actions taken to obtain DOIs for the MACC validation reports.
- Richard: publish the WP 8.1 observations description document (completed on 17 May).

## Summary of the meeting

### Announcements by the service manager (Jacques):

#### Reporting:

- The CAMS-84 Quarterly Report 2016/Q1 and the related deliverables have been sent to ECMWF.
- KNMI is now waiting for the letter of acceptance from ECMWF, after which the 2016/Q1 invoice process can start.

#### Invoice process:

- The invoices from the subcontractors over Q4/2015 are currently being processed by KNMI.
- Note that only subcontractors with a signed contract can issue their invoice.

#### Sub-contract status since previous meeting:

- The CNRS-LA, MPG and IUP-UB contracts have been signed since previous meeting. This means that in total 10 contracts have now been signed
- The following sub-contracts are still being worked on: UBC, CEA-LSCE and DWD.

#### KPI status:

- KPI 4: "Uptime of validation websites": the URL's of the websites that are being monitored have been updated to take the transition from MACC to CAMS-84 into account. Monitoring results will be included in the Quarterly Reports.

- KPI 2: Thomas Popp has produced a new draft document "Updated definition of key performance indicators". The user satisfaction KPI will be handled in a CAMS-wide way.

#### CAMS-SLB:

- The CAMS-SLB#4 and SLB#5 webex meetings were held on March 4<sup>th</sup> and April 8<sup>th</sup>. The next SLB#6 webex meeting will be held on May 13<sup>th</sup>. A few remarks from these SLB meetings:
  1. Any communication with magazines etc. on results from the CAMS work should be coordinated with ECMWF.
  2. There will be no Open Office Support for the various CAMS templates.
  3. CAMS assembly in Athens, Greece, 14-16 June: register asap if you have not done already. KNMI will organize a special CAMS-84 session on Monday afternoon, June 13<sup>th</sup>. Please let KNMI know if you do not plan to attend this session.
  4. ECMWF has issued the VAT exemption form to KNMI.

#### Redmine:

- A Wiki page is now available on Redmine ([dev.knmi.nl](http://dev.knmi.nl)) providing some guidelines and rules. Check the News page regularly to stay up to date on any CAMS-84 development (e.g. action items, telecom dates, news etc.)

#### Conferences:

- Henk attended EGU-2016 and gave a talk on CAMS-84. The slides are on Redmine.

#### Action items from last meeting

All actions in grey from the last meeting have been completed:

- All, 11 feb: send high-quality logo with transparent background of your institute to KNMI.
- Henk, 12 feb: send logo's to Vincent-Henri.
- All, end of February: Provide input to KNMI for the CAMS implementation plan (if any).
- All: Keep track of the number of observations available for the validation (part of the KPI on uptake of "sub-orbital" and other validation datasets).
- Henk, 9 feb: send WP5 draft plan to all.
- Henk, 14 feb: circulate WP5 draft plan to CAMS-50 and ECMWF
- Henk, 26 feb: final plan WP5 to ECMWF
- Richard: CAMS template for websites.
- Annette, next NRT report: Show longer time series.
- Eleni, end of February: Report for WP 5.

(The status of the KNMI actions may be monitored on Redmine)

We propose to discuss the tracking of the number of observations during the WP 2 telecon of 23 May 2016, which will focus on the development work and "Specification and Design" document from S&T.

### Some dates

- 23 May: WP 2 telecon
- 13-17 June: CAMS Assembly

### Discussion with Richard

Qu to Richard:

- Can you publish the WP 8.1 observations description document ? Richard will take care of this.
- When will the reanalysis start, what are the features?  
Richard: End of September, tests over the Summer  
Simon: How about the preparation of MLS? Reanalysis could have worse quality than NRT (especially UTLS tropics) when it uses off-line. Simon will write a short note on MLS versions to be sent to Antje Inness.  
Features of the reanalysis: T255/L60, 4D-Var. Archiving 3h at least, hourly for surface (to be confirmed). Start 2003, but in parallel check if it is feasible to go back a few years (with less data). Focus is now to address issues with the aerosol model.
- Henk: The "latest validation report" points to the one after last report (of december). Richard will update the link.
- Simon: It is important to have DOI identifiers for the validation reports (Richard: this was discussed in CAMS, but has to be discussed again)  
Simon: has taken action to get doi's for the MACC reports.

### Third WP1 (WP4) report: short presentations of all contributions

Vincent Huijnen discussed the second report.

Editors: Annette Wagner, Michael Schulz, Simon Chabrillat, Michel Ramonet.

#### *Timeline 3rd WP1 report:*

- 2 May 2016: individual contributions ready
- 13 May 2016: third general CAMS-84 telecon (draft available 12 May)
- 16 May 2016: release of draft version for review by the modellers and ECMWF
- 25 May 2016: deadline feedback from modellers
- 27 May: public release of the report

#### *General remarks:*

- All contributions are in place! The content of the report is growing.
- Please use the previous NRT report (including use of styles etc) as starting point for the new report. Otherwise editing by KNMI will be tedious.

*Michel (LSCE):*

Michel presented the ICOS work. The greenhouse gas section is new. At this moment 15 stations are used, based on the French contribution to ICOS. As soon as stations are labelled in ICOS, the number of sites will be extended to other stations in Europe. Model runs: gf39 and ghqy. Mixed results, depending on site (sometimes diurnal cycle CH<sub>4</sub> not good, seasonality in biases). Biomass burning: good timing, but overestimate of CO<sub>2</sub>, underestimate of CH<sub>4</sub>. Tall tower results > 50m are the best. Outliers need to be studied independently, e.g. Finokalia, which shows a mismatch model grid and location of site (at coast).

Remark Richard: in S5P validation work there is an activity to include the US TCCON stations.

Remark Richard: nice to see these new results, which are very valuable for ECMWF.

Vincent: question on runs. Run "gcbt" had perhaps issues, Richard will also check.

*Bavo (BIRA), and Thorsten (UBC):*

Discussion of figures in the report: Very high variability at Reunion, sometimes very pronounced discontinuities. For gf39 results look much better. Reunion has big discontinuity, especially for the later run. CO: o-suite much better than high-res run. Thorsten remark on CO<sub>2</sub>: it seems the growing season starts to late in model, shift of seasonal cycle.

*Harald (DWD):*

Aerosol profile evaluation with 80 German ceilometer backscatter is also a new contribution to the WP1 report. Backscatter/altitude plots. Good correlations for dust cases. Sea salt: increasing bias with distance from the coast, but correlation OK. Selection of events over the reporting period: dust, biomass burning, sea-salt.

Michael: what do you correlate? Harald: correlations computed for the vertical shape of the profile.

*Michael (MET-NO):*

- Correlation of total AOD is high since September, probably related to Deep Blue MODIS.
- Sea salt (also discussed by Harald, Sara): overestimation in coastal stations, too much in model.

*Sara (BSC-AEMET):*

- PM<sub>10</sub>: o-suite overestimates more than control. Dust well described. Sea salt overestimated.

Richard: there is an ongoing interaction with regional modellers on dust, and CAMS-84 should participate. Sara used PM<sub>10</sub> and PM<sub>2.5</sub> from MARS. ECMWF is checking sea-salt formulation.

*Simon (BIRA):*

Stratospheric ozone. MLS comparisons could be removed (Vincent will do this). MLS off-line shows large oscillations. Arctic ozone hole: nice case study of the very large vortex developed in winter.

*Kaj (AU):*

Meetings with IASOA network, now setting up contacts with other stations to discuss NRT data delivery.

*Anne (IUP-UB):*

Very similar results as before. Now forecast evaluation has been included, but results are very similar. New way of presenting the results. There is a difference in behavior between Mozart runs and C-IFS runs:

Richard: this could be due to the coupled system. 2 and 4-day forecasts of NO<sub>2</sub> and CH<sub>2</sub>O show essentially identical biases as the 0-day forecasts. The need for evaluation of these forecasts will be discussed.

*John (AA):*

Added forecast evaluation: correlations drop after D+2, especially in Arctic. Bias in tropics very low in this reporting period. Strong overestimate of free-model run in Southern Hemisphere: modelling issue that needs to be picked up. Mediterranean: Indications of strong model underestimation of ozone during night (Bujaraloz). New stations added.

*Annette (DWD-MPG):*

Not much difference from earlier reports. Small difference in Europe, where ozone in control is better. Control run not so good in Southern Hemisphere. Features related to save mode of MODIS.

*Hannah (CNRS-LA):*

Business as usual for O<sub>3</sub> and CO. Comparable results over Amsterdam and Frankfurt.

*Natalia (MPG):*

Also included forecasts: D+4 over N-Africa underestimates BB. Control better in winter (as concluded by Annette). Overestimates of GFAS over N-America (MODIS save mode related).

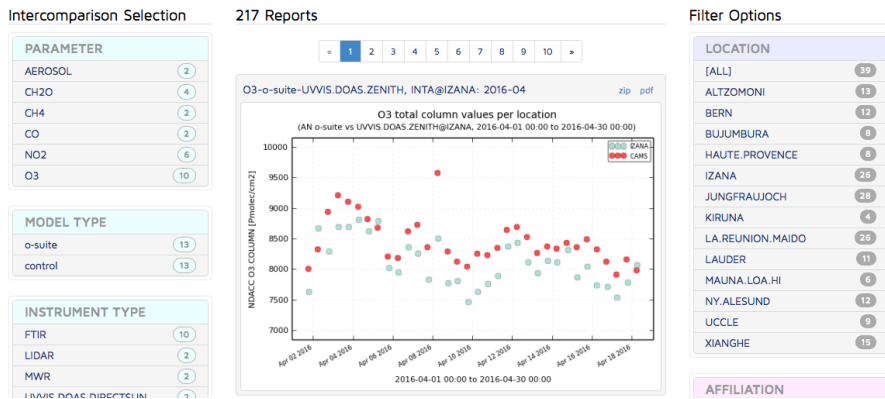
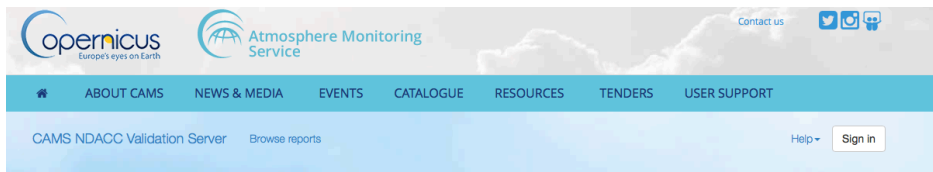
All: provide slides to KNMI (using the Inbox), to be added to the minutes.

### Web sites (WP 2)

Henk has updated a short document listing all sites ("status websites March 2016", available on Redmine).

ECMWF has updated the NRT GAW monitoring site and the Aeronet/MODIS monitoring site. The content is now up to date.

NDACC evaluation in stratosphere and troposphere (the NORS server, BIRA):  
S&T (Sander) has updated the NORS server using the CAMS website template.



## WP 2: Status work S&T (Sander)

S&T has produced a draft "Specification and Design" document which became available on 15 April. The following steps are planned:

- 18 May: end of review period, send feedback to Sander
- 23 May: telecon to discuss document and plans
- Final document text to become available before the end of May.

## WP 3: e-suite

The e-suite report was delivered to ECMWF on 29 April, with a positive advice on the upgrade. Simon was the prime editor of this report. The file is publicly available:  
[http://atmosphere.copernicus.eu/sites/default/files/repository/CAMS84\\_2015SC1\\_D84.3.1\\_2016Q2\\_20160428\\_0.pdf](http://atmosphere.copernicus.eu/sites/default/files/repository/CAMS84_2015SC1_D84.3.1_2016Q2_20160428_0.pdf)  
<http://atmosphere.copernicus.eu/implementation-ifs-cycle-41r1camshires>

On 10 May, Richard has announced that the implementation of the new o-suite is planned for 21 June 2016.

## WP 5: Evaluation of regional models

KNMI (Henk) has finalised the validation plan for WP 5 based on all feedbacks. The final version became available 1 April (no joke) and is on Redmine in the WP 3 folder.

KNMI has been downloading the full distribution of forecast fields from Meteo-France. A complete database of collocated model results on the set of 231 stations is now available from 20160219 to 20160512 (three months). Alternative downloads have been set up by CNRS-LA (to map model results along the IAGOS flight tracks), IUP-UB (for satellite comparisons), MPG (for satellite comparisons).



The proposed time schedule for the WP5 report:

- 10 May: send WP 5 contributions to KNMI.
- 20 May: KNMI will produce a first draft report, identifying gaps, missing info etc.
- 27 May: feedback from CAMS-84 partners involved, and additional input.
- 3 June: draft report to CAMS-50 for feedback.
- 20 June: Final version to ECMWF

During the telecon, the first results were presented:

*Michael and Augustin Mortier (MET-NO):*

EARLINET climatology. Rough estimates of mass extinction. Extinction and backscatter vertical profiles. First impressions: large spread models. Lidar profiles more steep. More aerosols in higher layers in models.

*John (AA):*

Background rural airbase stations at high altitude, above 1 km. Nearest level of model accounting for orography. MNMB and correlation vs country.

*Harald (DWD):*

No results yet (focus on global models first), but data is available. Next report will include Ceilometer evaluations.

*Annette (DWD-MPG):*

O3 comparisons for March-April for different models. Simplified T and p has been used (to be improved). Annette has used surface layer, which is not the best approach: Henk will send info on the surface orography as used in Lotos-Euros, as was sent earlier to John.

*Hannah (CNRS-LA):*

Unfortunately lost part of the data base, because of a swich to the corrupted new data dissemination of Meteo-France. IAGOS results for O3 and CO in line with other results and global model results.

*Natalia (MPG):*

No results at this moment.

*Anne (IUP-UB):*

MAX-DOAS comparisons vs Ensemble, period of 3 months. Uccle looks fine, OHP model results more variable than observations, De Bilt shows strangely low model results (is geolocation OK? Henk to check).

Richard referred to latest validation report of MOCAGE, which discusses a bug influencing ozone, and which may impact NO2 as well.

## WP 6: Comparing regional and global models

Eleni showed new results for the boundary conditions of the regional models. Ozone Hoffmuller diagrams now included. Clear issues identified for multiple models. PM for global model is sum over all components "PM20". Global model sea salt problem observed.

Richard mentioned again the discussion with CAMS-50: here the mechanisms in the models are compared. First draft report available end of May.

The new WP 6 report will become available in June. First draft end of May.

### WP 8: development plan

In response to a request from Richard, we have updated the two documents for WP 8.1 and 8.2 at the end of January. The two new docs are on Redmine.

For task 1, a major re-write was produced in March. This new document provides detailed "traceability information on data source and characteristics, and validation methods.

Next in line is Task 2. We propose to start the reviewing of the scoring document

Proposal for a timeline:

- Initiate review: last week of May (email Henk).
- Deadlines for the review: second week of June.
- Telecon: third week of June / discussion in Athens.
- Publish in last week of June.

### AOB

Michael proposes to suggest a telecon with CAMS-50 to discuss the results. Note that these are first results, and additional checks on the approaches may be needed.

Henk will circulate an agenda for the Athens CAMS-84 meeting.