



PMT Teleconference #9

13 February 2014

Meeting Minutes

1. Introduction

The ninth PMT Meeting was organized in the form of a teleconference on Thursday the 13th of February 2014.

The teleconference started at 10h00 and ended at 11h20.

2. Participants

Name		Short name	Role in project	Institute
Martine	De Mazière	MDM	Project Coordinator	BIRA-IASB
Nathalie	Kalb	NK	Project Manager	BIRA-IASB
Bavo	Langerock	BL	Scientist	BIRA-IASB
Andreas	Richter	AR	WP4 Lead	UBremen
Stephan	Henne	SH	WP5 Lead	EMPA
Maud	Pastel	MP	Collaborator in WP6	CNRS
Matthaeus	Kiel	MK	Representing WP7 Lead	KIT
Frank	Hase	FH	Representing WP7 Lead	KIT
Leo	Breebaart	LB	Collaborator in WP8	S&T
Emmanuel	Mahieu	EM	WP9 Lead	ULg

Excused:

Name		Short name	Role in project	Institute
Klemens	Hocke	KH	WP3 Lead	UBern
Sophie	Godin-Beekmann	SGB	WP6 Lead	CNRS
Thomas	Blumenstock	TB	WP7 Lead	KIT
Sander	Niemeijer	SN	WP8 Lead	S&T

3. Agenda

1. Status of the project and progress of work packages
2. Status of deliverables
3. Status of milestones
4. NORS White Paper and follow-on.
5. NORS Final Workshop
6. Status of action items
7. AOB

4. Minutes

MDM welcomes the participants.

4.1. Status of the project and progress of work packages

4.1.1. WP1 Project coordination

All minutes of meetings can be found on the private part of the website (documents). NK will circulate the minutes of this teleconference for correction and load the final version up on the website.

4.1.2. WP2 Project outreach

The public part of the website contains publications, presentations and deliverables that are of public nature. The private part of the website contains the deliverables that are of restricted nature and working documents. To access the private part of the website, one needs an account (see bottom of the Login Form to create an account).

MDM says that she, as well as Christof Petri and Karolien Lefever, gave presentations about NORS at the MACC Open Science Conference. NORS was quite well represented at the meeting.

In the week of 17 February, MDM will present NORS at the CEOS working group on calibration and validation. She has been invited by Bojan Bojkov.

MDM mentions that we published an e-book in Adjacent Government Company (<http://www.adjacentgovernment.co.uk/wp-content/uploads/2014/01/Belgian-Institute-ebook-web.pdf>) to make publicity to the European Commission. This e-book is also available on the NORS webpages under Outreach/Brochures

4.1.3. WP3 Rapid data delivery at 4 NDACC stations

KH could not attend the teleconference and sent a brief progress report prior to the meeting.

Data inventory (5 Feb. 2014):

- Bern, MW (UBern), O3 : until end of January 2014, H2O until end of December 2013
- Izana, FTIR (KIT): CH4, CO, NO2, O3 until begin of January 2014;
UV/VIS DOAS (INTA): NO2, O3 until mid of December 2013
- Jungfraujoch, FTIR (ULg): CH4, CO, O3 until end of January 2014
UV/VIS MAXDOAS (BIRA): O3, NO2 until end of October 2013
- Ny Alesund, MW (UBremen): O3 until end of January 2014;
FTIR (UBremen): just one file for 20020318
- OHP, Lidar (CNRS): O3 until end of January 2014;
UVVIS DOAS(CNRS-LATMOS): NO2, O3 until end of January 2014
- Reunion, FTIR (BIRA): CH4, CO: just 12 files until September 2013;
UVVIS DOAS (CNRS-LATMOS): NO2, O3: until end of December 2013
- Reunion_maido, FTIR (BIRA): CH4, CO, O3, just 13 files until begin of December 2013
- Seoul, MW (UBern + local partner), H2O: until September 2013

- Xianghe, UVVIS MAXDOAS (BIRA + local partner), aerosol, NO₂ until end of December 2013

MDM asks AR to check the status of FTIR at Ny-Alesund with CP to see what the problem is.

MDM asks MP about why there are still no Lidar files at La Reunion. MP says the data are ready but they have problems to send them. They will work on this and give a time schedule for the delivery.

Progress:

- Since the last telecon, there has been progress in rapid data delivery for DOAS and Lidar (La Reunion and OHP).
- In addition DOAS at Izana is now very close to rapid data delivery.
- Seoul, MW started with data delivery (H₂O)

Tasks:

- directory names for La Reunion have not changed yet and there are almost no data from FTIR (Reunion) in RDDS
- Jungfrauoch, DOAS is a few months behind rapid delivery

BL says that the new St-Denis files have not been uploaded with the new name yet. LB mentions that the server is ready to receive them.

For discussion:

- last week there was a discussion (Ian Boyd, Mathias Palm) about adding an optional parameter (H₂O column density) to the GEOMS files (MW, O₃, Ny Alesund). KH: "I would support that data providers can put some more optional parameters into the GEOMS files, since we could avoid many discussions, save time and the data providers would be more happy. However it seems that the NDACC check-in routines do not like unregistered optional parameters, if I understood right."

This discussion point will be discussed during the report on WP4.

4.1.4. WP4 Advanced characterisation of NORS data products

AR reviews the work progress reports collected from the participants in WP4.

Task 4.1 Data Formats

IASB

- The new GEOMS UVVIS.DOAS data format has been made available on AVDC in collaboration with Ian Boyd. In this new format, separate files will be created for each of the three viewing geometries (zenith, off-axis, and direct-sun), with geometry name appearing in the file name. By this way, the number of variables with only fill values are significantly reduced with respect to the previous format in which all the variables for the three geometries were declared as mandatory. The new file format has been implemented in the BIRA-IASB automated DOAS retrieval chain and new data files for Xianghe and Jungfrauoch have been submitted to the NORS/RD database. These files are currently being tested in the NORS validation server by S & T. After the

feedback from S & T, it will be asked to all DOAS groups to implement the new file format.

Task 4.2 Information Content and Harmonization of Networks / Techniques

INTA:

- Extension of work on comparisons FTIR vs. MAX-DOAS in Izana including the effective SZA correction
- SZA correction was also included in comparisons to satellite data
- One year of comparison to SLIMCAT indicating problems in photochemical box model for some regions and time periods possibly related to the double tropopause observed in subtropical regions in summer.
- O3 comparison from Brewer, FTIR, MAX-DOAS in Izana. The report on this work should be an addendum to the already delivered deliverable D4.5.

MDM asks if there is a link between INTA's work and the photochemical correction tool developed by FH for the stratospheric NO₂. She suggests INTA and FH should coordinate about this matter.

AI-PMT9-79: AR to make INTA and FH coordinate about the photochemical correction tool.

UB:

- The different sensitivity of NDACC and TCCON regarding the FTIR CO retrieval is being investigated in more detail. For that the results of an aircraft campaign from 2010 will be included and a crosswise retrieval will be made (TCCON retrieval in the NDACC area and vice versa). Depending on the outcome, the results will be published. MDM asks about which aircraft campaign we are talking. AR is not sure.
- For MAX-DOAS, work is ongoing to link horizontal gradients and temporal evolution of NO₂ columns observed in Athens in different viewing directions to meteorology and boundary layer developments. The results will be presented at the EGU in Vienna (A. Richter)
- Using observations of shipping emissions in Neuwerk at the coast close to Bremen, a detailed comparison is under way of MAX-DOAS observations of NO₂ and SO₂ and simultaneous in-situ measurements. The observation geometry (moving point sources at a distance of about 2 km) in combination with wind driven transport and optical averaging is interesting and challenging. Results will be presented at the EGU (F. Wittrock).
- MAX-DOAS data from Nairobi and Athens have been analysed for HCHO and glyoxal and results are being compared to satellite observations. The results will be presented at EGU (L. Alvarado).
- Work on improving the characterisation and correction of liquid water absorption on MAX-DOAS measurements from ships or at coastal stations is continuing and will be presented at the EGU (E. Peters).

MPIC:

- Main achievement during the last months is the progress for a method for the radiometric calibration of MAX-DOAS instruments. The main improvement was caused by the use of vector radiative transfer model. Absolute calibration methods are important for the comparison of results of radiative transfer simulations with measurements. Eventually they might allow to use standardised thresholds for colour

indices and radiances in cloud classification algorithms. This method will be presented in the upcoming EGU conference.

ULG:

- Recent progress wrt WP4 deals with DOAS data and model results for H₂CO and comparisons with FTIR data. An abstract has been submitted to EGU2014 by Francois.

IASB:

- Continuation of the work on the development of a method for the retrieval of tropospheric NO₂ columns from daytime zenith-sky scattered sunlight observations (lead: F. Tack): A paper on this study is currently under preparation and an abstract has been submitted for a presentation at the EGU 2014/session AS3.12/GI2.10 (MAX-DOAS: Towards vertical profiles of aerosols and tropospheric trace gases).
- Continuation of the work on the development of an empirical cloud filtering method for MAX-DOAS observations based on the color index (lead: C. Gielen): This cloud screening approach is currently being implemented in the BIRA-IASB automated DOAS retrieval chain. A paper on this study is currently under preparation and an abstract has been submitted for a presentation at the EGU 2014/session AS3.12/GI2.10 (MAX-DOAS: Towards vertical profiles of aerosols and tropospheric trace gases).
- MAX-DOAS retrieval of tropospheric NO₂ at the Jungfraujoch station (lead: F. Hendrick): Preliminary comparison results with in-situ measurements show a good agreement between both data sets (work done in collaboration with S. Henne from EMPA; also in relation with WP5).
- MAX-DOAS retrieval of tropospheric H₂CO at the Jungfraujoch station (lead: F. Hendrick): Comparisons with FTIR and model results are currently under progress (work done in collaboration with B. Franco and E. Mahieu from ULg). An abstract on this study has been submitted for a presentation at the EGU 2014/session AS3.12/GI2.10 (MAX-DOAS: Towards vertical profiles of aerosols and tropospheric trace gases).
- The BIRA paper on MAX-DOAS observations of HONO and NO₂ at the Xianghe station has been published in ACP (Hendrick et al., Atmos. Chem. Phys., 14, 765-781, 2014).
- Effort has been put on the retrieval of SO₂ from MAX-DOAS observations at the Xianghe station. We plan to include SO₂ in the BIRA-IASB automated DOAS retrieval chain although it is not officially a NORS molecule. A paper on this study has been recently submitted to ACPD (Wang et al., 2014) and an abstract has been submitted for a presentation at the EGU 2014/session AS3.12/GI2.10 (MAX-DOAS: Towards vertical profiles of aerosols and tropospheric trace gases).

Task 4.4 Comparison to Satellite Observations

INTA:

- Working on D4.7, expected draft submission in March.

MDM says that there has been some work on the UV-vis template. MDM, BL and SN attended a telecon with the Geoms Meta Data Board. They have discussed a few changes in the intercomparison algorithms. MDM will send the minutes to the NORS consortium. MDM

asks when we want to implement these changes, knowing that the re-analysis deliverable is coming up.

BL says the deadline is end of February. The changes will take more time. We are submitting data now that could not be compliant with the latest template in June. All the templates should contain layer boundaries for the regridding and partial column of airmass profile. The regridding is made this way that we have conservation of number of particles.

AR agrees that it is not realistic to apply the template changes now, but says it should definitely be done within this project.

AI-PMT9-80: MDM to send the minutes of the GEOMS Meta Data Board telecon and request feedback.

BL mentions that even when a new template is introduced, data can still be delivered in a previous template. He summarizes that we will apply a new template at the end of the project and that BIRA will follow this new template, so that there will be at least some data in the new template.

FH, BL and MDM discuss the opportunity of including the airmass profile calculation in the retrieval software. BL and MDM are in favor, for user-friendliness' sake, to provide the best information possible in the files themselves. FH fears that the more (possibly redundant) information we provide, the higher the risk of provoking internal inconsistencies will be.

AI-PMT9-81: BL to send around the algorithm document to discuss the opportunity to provide the airmass profile calculation in the files.

4.1.5. WP5 Integration of tropospheric products

SH says that he is working on the MAXDOAS comparisons for NO₂ at Jungfraujoch. FH has provided MAXDOAS data for the years 2010 and 2011. The data contain the horizontal viewing distance which is used in the transport simulations to obtain the representativeness of the MAXDOAS observations. The batch processing is now starting. INTA has not provided data from Izana yet, but promised to do so before the end of the month. FH will present some of this work at EGU.

4.1.6. WP6 Integration of ozone products

MP summarizes the work progress in WP6.

Since December, bias corrections between the instruments and the measurements errors have been implemented in the algorithm.

There are now two programmes: one for Izana, La Réunion and Ny-Alesund and another one for the Alpine station.

The first tests have been made for the Alpine station because of its complexity. The first results show that the parameters (nb of nodes and iterations) used in the training phase of the neural network analysis need to be adjusted. Tests are still undergoing, but in good progress.

At the end of this month MP will request data from Ny-Alesund.

4.1.7. WP7 Reanalysis of ground-based time series back to 2003

FH represents TB who could not attend the telecon.

Microwave (NyAlesund + Bern): ok, data are available

Lidar: pending

DOAS:

JJoch ok, data available

NyA: no feedback until now

The reanalysis of Bremen DOAS is underway, but might not meet the deadline.

FTIR:

Ny-Alesund: according to Mathias Palm, there is a delay due to a computer hardware problem (but no request has been raised during this telecon to extend deadline, so we assume that this is under preparation)

JFJ: nearly finalized, in progress, will be closed in time. EM comments that he still has to upload the methane time series and that this will be done before the end of the week.

In table form:

Station	MWR	Lidar	DOAS	FTIR
NyAle	ok	NA	?	?
Alps	ok	?	ok	ok
Izana	NA	NA	ok?	ok
Reunion	NA	NA	NA	ok

For the LIDAR instruments:

O3 Lidar data at OHP have been reprocessed from 1985 until now. The data will be sent to the NDACC database before the end of February.

There might be some delay for Reunion data.

For the SAOZ instruments

Whole datasets of stratospheric ozone and NO2 data at OHP and Reunion since 2003 were processed in version V3 in January 2014 and will be stored with the new UVVIS template in the NORS/NDACC consolidated database in March 2014.

BL comments that he will meet the deadline (end of February) for the La Reunion FTIR data. He has some delay because the uncertainties in the ozone profiles are much higher than what he found in the literature.

MDM asks LB if the server is ready to deal with the reanalysed time series once they become available as for the validation with MACC data. BL comments that it's the same data, but consolidated instead of rapid data delivery. The data cover several years. The problem is that there are no MACC data before February 2013. BL says that we have more MACC data at BIRA than what has been sent to S&T. This should thus not be an issue anymore once the server has moved to BIRA. LB says there could be some performance issues, because the MACC data are so large. It could take a lot of time to generate the reports.

4.1.8. WP8 Web-based server for validation of GAS products using NORS data products

LB reports about the progress of work in WP8. Lots of progress has been made with regards to the issues reported in the feedback report. The transition from test status to live status went fine. Very positive feedback was received. The switch from 1 UV-Vis to 2 instruments went fine. Many more reports are generated, among others the NO₂ reports. The known issues page has shrunk considerably. Only a few major items remain. Unfortunately some of them are really tricky. During the Christmas holiday there have been problems in the implementation of the metadata catalog updates. Some reports could not be generated because of this.

The server is not yet ready and solid enough to be moved to BIRA. LB says it should be a matter of weeks, but could be more.

BL comments that the versioning issue (double files) has been discussed at the NDACC GEOMS format meeting. LB says that the algorithm now handles this issue correctly. At this meeting it was also decided to share the S&T algorithm on the server site, so that in case of conflicting situations, the data submitters would be contacted to solve the issues.

MDM says that the NORS server is now live. Henk Eskes from the MACC validation sub-project has been asked to add a link on the MACC pages.

LB comments that since the server went live, there have been more requests for VIP user accounts.

AI-PMT9-82: S&T to share the algorithm that deals with versioning issue.

4.1.9. WP9 Validation of GAS products for O₃, NO₂, CO, CH₄, H₂CO, aerosol

EM says they need the server and the data to be fully operational to start this work package. Up to now they have looked at the reports for their usefulness. EM suggests solving the remaining issues specie by specie. He says CO could be a good option since we are on time with it. LB agrees to prioritize CO.

MDM says that NORS has been visible in the last two MACC validation reports for ozone validation. It would be nice to submit something for another molecule in the report of May/June.

4.1.10. WP10 Capacity building and sustainability

KIT:

Addis:

- Dr. Gizaw Mengistu Tsidu (Physics Dept of Addis Ababa Univ.) has got a Georg Forster stipendium from Humboldt-Foundation and is visiting us this year.
- Data analysis of Addis FTIR spectra is conducted right now.
- Bruker 125M is in operation, but N2 liquifier at Addis Univ. is broken at the moment. Repair of this machine (which belongs to the Chemistry Dept.) will be done soon.

Mexico:

- FTIR spectrometer (Bruker 125HR) in Altzomoni, close to Mexico City, is in operation. Data analysis is ongoing.
- NDACC certification is in preparation and will be conducted this year.
- Prof. Michel Grutter from UNAM (University Mexico City) is going to attend EGU and the annual meeting NDACC/IRWG meeting this year.

Tomsk:

- At Tomsk a Bruker 125M is operated. Originally dedicated for lab spectroscopy, a solar tracker has been added and atmospheric measurements have been conducted since last year.
- A co-worker of Prof. Leonid Sinitza, University Tomsk, visited us end of last year.
- Frank provided the latest version of PROFFIT to analyse Tomsk spectra.

IAP-Bern:

- The microwave radiometers MIAWARA-C and WIRA have been transported in September 2013 to La Reunion and measure water vapor and wind in the middle atmosphere
- The ozone microwave radiometer GROMOS-C started in January 2014 a measurement campaign on Jungfrauoch
- Ansgar Schanz (IAP) works on intercomparison of NORS, MACC and WACCM data of stratospheric ozone. Simon Chabrilat (BIRA) gives advices concerning MACC. Some of the results are shown at Day of IAP (14 Feb. 2014) at University of Bern.

MPIC:

Currently we are working with our Chinese partners on the following topics:

- retrieval of SO₂ DSCDs
- retrieval of HCHO DSCDs
- preparing an automatic analysis scheme using the zenith measurements of individual elevation sequences

These improvements will be applied to the MAX-DOAS measurements at Beijing from 2008 to present.

CNRS:

- Retrieval for stratospheric O₃ and NO₂ SAOZ data in version V3 is ready for RT and consolidated data of Rio Gallegos station in Argentina. The automatic delivery with the new UVVIS template HDF format will be ready in March.

4.1.11. WP11 Project management

Extension of the project:

The four months extension of the project (without additional budget) that we asked for has been accepted. The official end of the project is now 30 November 2014. All deliverables,

milestones and final reporting that were due at M33 are now due at M37. BUT nothing changes for the deliverables and milestones that were due between now and M33.

Electronic only submission:

We took the opportunity of this amendment to choose for the possibility to use electronic-only signature and transmission of the financial statements (Form C) and the electronic-only transmission of the certificates on financial statements and certificates on the methodology (forms D and E), abolishing thus the parallel submission of paper forms. This simplification measure has been proposed by the Commission and the REA to reduce the administrative burden.

Since this option concerns the consortium as a whole, this means that all beneficiaries need to switch to the electronic-only process and that all of them have to appoint a LEAR, which is anyway already the case for most of, if not all, the NORS partners. A guidance note "FP7 Quick Information letter on the electronic-only signature and transmission of Form C and electronic-only transmission of certificates (Forms D and E)" will be sent by email. It provides an overall view of the new reporting modality and includes a complete list of frequently asked questions on this matter.

MDM has sent an email recently about the follow-on of NORS in CAS. MDM thinks that even if there is no funded continuation for the whole consortium in between now and the operational phase of CAS, it's very positive that NORS has been included in MACC-III via BIRA. MDM insists that she will continue lobbying for the continuation of NORS activities. AR comments that within this project there is no funding to produce data, only to integrate, debug, maintain, etc. MDM says it was impossible to get more funding.

4.2. Status of deliverables

4.2.1. D8.4 Ready-to-use Validation Server (M21 > M24 > M25)

submitted

4.2.2. D7.1 Re-analysed time series (M27 > M28)

One month of delay has been requested and accepted for the delivery of D7.1. No additional delay is needed.

4.2.3. D4.7 Consistency with satellite data (M30)

A draft will be circulated between the partners in March.

4.2.4. D6.2 Integrated Ozone profile data (M30)

MP says she's not sure if she will get the Reunion data in time. At the next telecon we should discuss the eventual need of a delay.

4.2.5. D6.3 Integrated Ozone tropo- and stratospheric column data (M30)

Same issue.

4.2.6. Other deliverables due at the end of the project (M33>M37)

D2.3 Publications / Communications (NK)

D2.4 Final NORS Workshop & report (MDM/NK)

- D3.3 Final documentation of data delivery system (KH)
- D5.3 Cross comparisons report (SH)
- D9.2 Assessment of GAS products (EM)
- D10.1 NDACC Capacity report (MDM)
- D10.2 NDACC status report (MDM)
- D10.3 NORS capacity and sustainability (MDM)
- D10.4 NORS as an in-situ GAS component (MDM)

4.3. Status of milestones

One month of delay has been requested and accepted for the next milestone (M27=January -> M28=February 2014) which is linked to D7.1. At the end of February we should report about:

- MS18 Readiness for validation of the GAS reanalyses (WP7, KIT)

4.4. NORS meetings schedule

Month	Meeting Name	Venue	Date	Time
M2	Kick Off Meeting	BIRA-IASB	Wednesday, 14 December 2011	9:30 AM
M4	PMT Teleconference 1		Thursday, 9 February 2012	10:00 AM
M6	SC Teleconference 1		Thursday, 12 April 2012	10:00 AM
M8	PMT Teleconference 2		Tuesday, 26 June 2012	2:00 PM
M11	PMT Teleconference 3		Thursday, 13 September 2012	10:00 AM
M13	First Progress Review/Meeting	BIRA-IASB	Tuesday 20 & Wednesday 21 November 2012	
M14	PMT Teleconference 4		Thursday, 13 December 2012	10:00 AM
M16	PMT Teleconference 5		Thursday, 26 February 2013	10:00 AM
M18	SC Teleconference 2		Thursday, 18 April 2013	10:00 AM
M20	PMT Teleconference 6		Thursday, 20 June 2013	2:00 PM
M22	PMT Teleconference 7		20 August 2013	3:00 PM
M24	Second Progress Review/Meeting	BIRA-IASB	Thursday 17 & Friday 18 October 2013	9:00 AM
M26	PMT Teleconference 8		Thursday, 12 December 2013	10:00 AM
M28	PMT Teleconference 9		Thursday, 13 February 2014	10:00 AM
M30	SC Teleconference 3		Monday, 14 April 2014	10:00 AM
M32	PMT Teleconference 10		Thursday, 12 June 2014 (TBC)	10:00 AM
M34	PMT Teleconference 11		Thursday, 4 September 2014 (TBC)	10:00 AM
M37	Final Project Review/Meeting/Workshop	BIRA-IASB	November 2014 (TBD)	9:00 AM

NORS final Workshop

The NORS final WS will be held in concert with the 2014 NDACC Steering Committee meeting in the week of Nov. 3 in Brussels. We will benefit of the facilities of Belspo (Belgian Science Policy), located quite centrally in Brussels and easily accessible from the main rail stations and airport. To broaden the interest, we intend to make it a common NORS, NDACC and GAW workshop. We also want to link with ACTRIS through a session on “Aerosols, Clouds and Trace Gases”

Draft agenda with suggestions for key-note speakers:

NORS/NDACC/GAW Workshop on ground-based data for the Copernicus Atmosphere Service

Sessions

1. Satellite calibration and validation
Keynote talk by ESA (B. Bojkov ?)
2. Validation of Copernicus Atmosphere Service products
Keynote talk by H. Eskes
3. Decadal time series for trend and climate studies
Keynote talk by J.-P. Van Ypersele
4. Ozone and the Montreal Protocol
Keynote talk by Wolfgang Steinbrecht / N. Harris / B. Hassler
5. Aerosols, Clouds and Trace Gases
Keynote talks by Paolo Laj or G. Pappalardo and M. Schulz (GAW reactive gases)

Timing: plus/minus 20 talks per day
Plus/minus 10 papers / session ⇔ 50 papers ⇔ 2.5 days
No posters

Suggestion for Schedule:

start Day 1 afternoon, Day 2 am + pm + Dinner, Day 3 am;
Day 3 pm: NORS Steering Committee + project review

Comments from the team:

KH suggests as a keynote speaker for the NORS workshop Ansgar Schanz (IAP-Bern) “The daily cycle in stratospheric ozone derived from NORS observations, MACC reanalysis and WACCM simulation data”. He has a lot of new results about this topic which has a large impact on reliable trend detection in long-term ozone series. It would fit in the session “Decadal time series for trend and climate studies”. MDM wants to link with IPCC and invite Jean-Pascal van Ypersele. EM agrees and comments that NDACC lacks visibility in IPCC.

The next teleconference will be one with the Steering Committee. NK will send a doodle to all and the SC.

4.5. Status of action items

AI #	Description	Assigned to	Status
AI-PMT6-55	AR to check the reporting about the uncertainties in the files.	Andreas Richter	Open
AI-PMT9-79	AR to make INTA and FH coordinate about the photochemical correction tool.	Andreas Richter	Open
AI-PMT9-80	MDM to send the minutes of the GEOMS Meta Data Board telecon and request feedback.	Martine De Mazière	Open
AI-PMT9-81	BL to send around the algorithm document to discuss the opportunity to provide the airmass profile calculation in the files.	Bavo Langerock	Open
AI-PMT9-82	S&T to share the algorithm that deals with versioning	Leo	Open

AI #	Description	Assigned to	Status
	issue	Breebaert	