

Update on the WMO/GAW activities of relevance to LRTAP Convention (January – September 2017)

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World Meteorological Organization
Organisation météorologique mondiale



Important technical meetings

- Workshop on Measurement-Model Fusion for Global Total Atmospheric Deposition (28 February - 2 March 2017)
- Ozone Research Managers (28 -30 March 2017)
- GAW Symposium (10 - 13 April 2017)
- VOC expert meeting (23 – 26 May 2017)
- 19th WMO/IAEA Meeting on Carbon Dioxide, Other Greenhouse Gases, and Related Measurement Techniques (27-31 August 2017)

Workshop on Measurement-Model Fusion for Global Total Atmospheric Deposition (MMF-GTAD)

28 Feb to 2 March, 2017, Geneva

- To review the state-of-the-science and establish a project on measurement-model fusion for generating global maps of total atmospheric deposition, selected gases and particles.
- Agreement to establish a formal 3-phase WMO/GAW MMF-GTAD Project:
 - **Phase 1 (Short Term)**. Ensemble Model-Measurement Fusion for the Year 2010, with initial focus on S, N and O₃.
 - **Phase 2 (Medium Term)**. Stitching of Global/Regional Measurement-Model Products.
 - **Phase 3 (Long Term)**. Global Reanalysis/Assimilation of Concentrations and Deposition Fluxes.
 - Include creation of an **Ad Hoc Data Group** to investigate needs for gathering data in the short-term and on a cyclical basis
- Developing a «**Roadmap for the Future**» to outline path forward.
- Will entail sustained collaboration among several SAGs and GAW partners.

www.wmo.int/pages/prog/arep/gaw/WorkshoponMeasurementModelFusion.html



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10th Meeting of the Ozone Research Managers

28 to 30 March, 2017, Geneva

- The WMO/UNEP Ozone Assessments and the ORMs complement each other
- The Ozone Assessment gives the status of ozone layer based on peer-reviewed literature, but it does not give recommendations on research needs
- The ORM gives an overview of the status of the observational system and provides recommendations on observations, research, data stewardship and capacity development.



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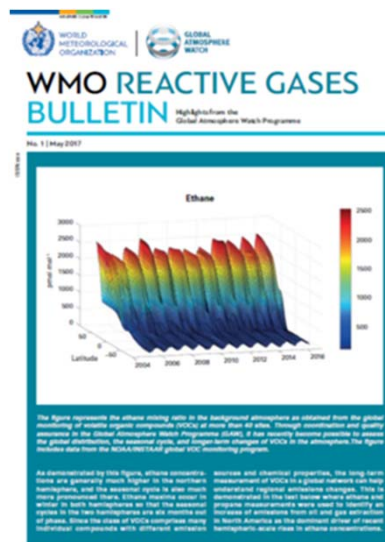
6th VOC Expert meeting, INSTAAR, Boulder

- Discussion on new measurement techniques (how to move away from gas chromatography, implementation of the fast observations and use of spectroscopic measurement methods),
- Calibration scales and quality control – single standard provider versus country-specific standards with links to central standard (comparability and traceability)
- Progress with VOC measurement guidelines (expected publication by the end of 2017).
- ***Technical maintenance of standards and scales, cylinder material and treatment, etc.***

First Reactive Gases Bulletin



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GAW Symposium

10-13 April

Results from the Symposium will be used as input for a revised version of the GAW IP.



Almost 130 participants, representing 43 nations

GAW Symposium

10-13 April

- Almost 130 participants, representing 43 nations
- Overarching topics:
 - Science for services (plenary 1)
 - Integrated observations (plenary 2)
 - Partnerships (plenary 3)
 - Modelling (break-out 1)
 - Quality assurance (break-out 2)
 - Data management (break-out 3)
 - Outreach and capacity building (break-out 4)

<http://www.wmo.int/pages/prog/arep/gaw/gaw2017symp.html>



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Value of GAW



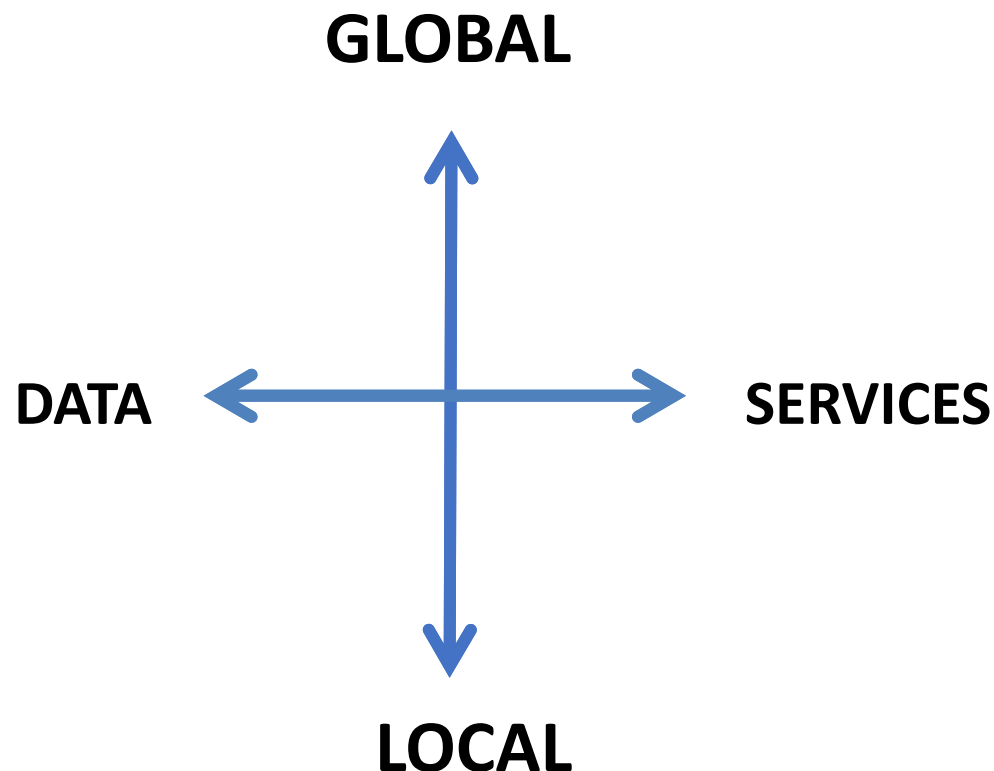
Some Priority areas



- To be successful GAW should deliver a **convincing and compelling story**
- GAW as a **global integrator** could provide better direction for groups that seek funding
- GAW as a **facilitator of cooperation** also in context of improving the observational network over Africa
- **Regional scale** needs covering **all sectors** of atmospheric composition – GHG, Aerosols
- Link between climate and air quality – **black carbon, SLCP**
- Urban scale – **low cost sensors**, local stations, remote sensing, modelling, cooperation etc.

Partnerships

- Two-ways collaborations already established
- Diverse organizations with common needs
- To avoid duplications, a better organisation of efforts is needed



World Bank, UNEP, BIPM, IAEA, WHO, ICLEI - Local Governments for Sustainability, GESAMP, **LRTAP Convention**, IGAC, SPARC

GAW-QA: Use of Small Sensors (part of QA Break-out)

- Still in pre-mature stage of being capable to do a reliable measurement
- Very unstable baseline: when application then only in combination with high-end instrumentation.
- “Finger printing measurements” to obtain a morphology of local or regional pollution
- The developments are going rapidly: GAW should encourage the QA testing of small sensors, particularly the optical sensors are promising for future applications
- **SAG Reactive Gases produced a short note on low cost sensors**
- **Expert group on low cost sensors was established after the Symposium with the purpose to develop a statement on the use of low cost sensors (workshop is planned in February 2018)**



19th WMO/IAEA Meeting on Carbon Dioxide, Other Greenhouse Gases, and Related Measurement Techniques (Empa, 27-31 August)

- Discussed QA for greenhouse gases observations in GAW, updated expert meeting recommendations
- Side events: improved quality of isotopic measurements, which was led by the International Atomic Energy Agency (IAEA); greenhouse gases observations over the ocean, where the follow up work will be undertaken to improve observations from the ship platforms; and greenhouse observations in the urban areas; O₂/N₂ observations.

168 participants
from 26
countries



Network update and Capacity development

- 32 course at the GAW Training and Education Centre (GAWTEC) in Germany, 30 April – 13 May 2017: on greenhouse gas observations – 2 participants from Europe
- 33 GAWTEC course, 17 - 30 September 2017: on aerosol observations – 3 participants from Europe

Svartberget and Norunda stations, Sweden, and the Cyprus Atmospheric Observatory (CAO) station, Cyprus has joined GAW as a Regional stations in 2017



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Science Summit
20-22 October 2017
Bali, Indonesia

Sessions:

- 1 Science for Services
- 2 Seamless Prediction in 2023
- 3 Future Infrastructures
- 4 Nurturing Scientific Talents
- 5 Innovation and Resources

**WMO
Commission
for
Atmospheric
Sciences
(CAS-17)
23-24
October**



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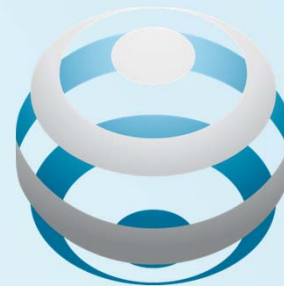
Thank you! Merci!

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TEMPS CLIMAT EAU



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