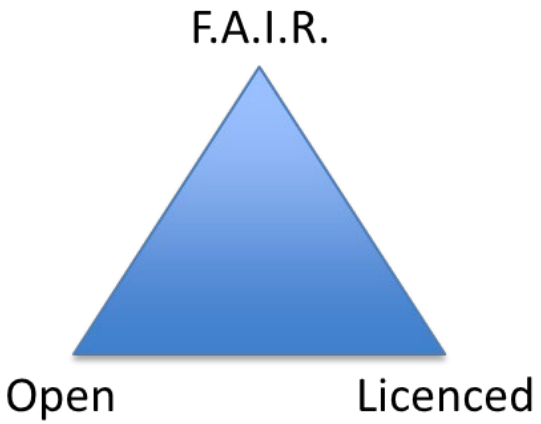
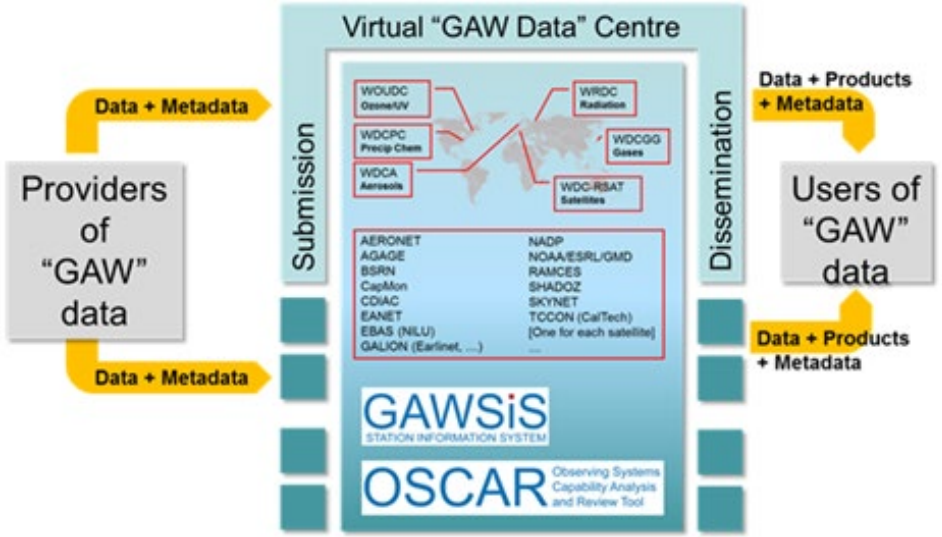
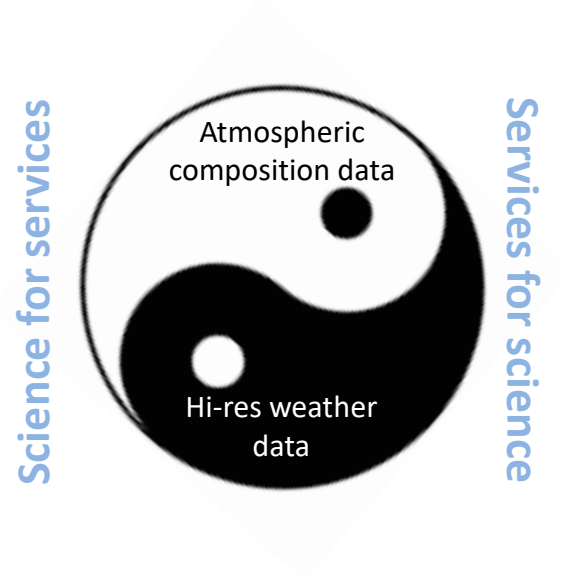
Requirements and approaches for

Data collection and exchange of atmospheric composition data in WMO

WMO Expert Team on Atmospheric Composition Data Management







A unified WMO data policy supporting Open and F.A.I.R. exchange of all data and the application of licences is welcomed by atmospheric composition data providers and users and will help to improve science and services for the benefit of society.

WMO OMM

GAW

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Origin of atmospheric composition data

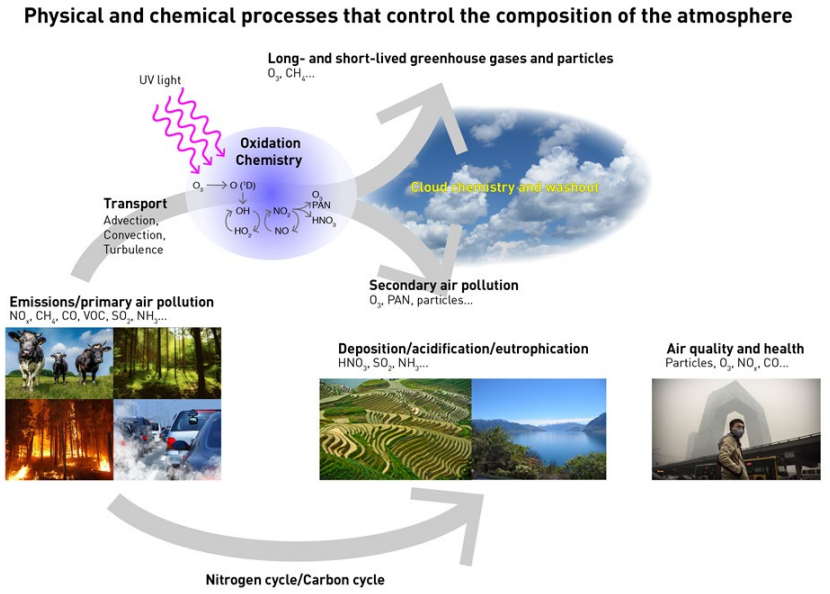
Observations: surface based and satellite based

Models: from global to local

Actors involved: government organizations including NMHSs, inter-governmental organizations, academia, private sector.

Observations coordinated by GAW:

GAW stations and contributing networks (ground-based measurements and aircraft)

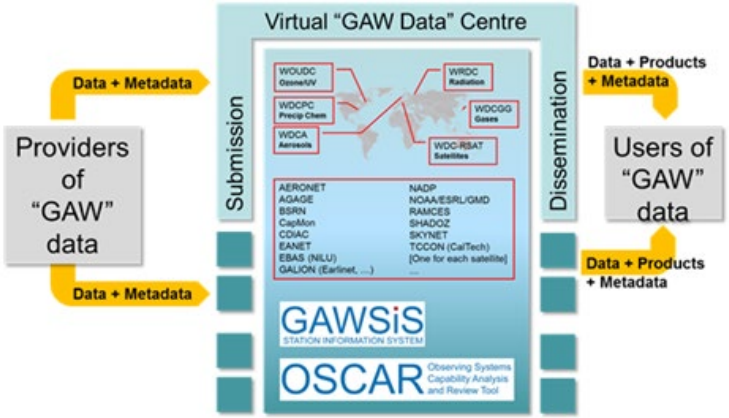


Atmospheric composition matters to climate, weather forecasting, human health, terrestrial and aquatic ecosystems, agricultural productivity, aeronautical operations, renewable energy production and so forth.

Data management in GAW

Federated data management approach: data from GAW stations are shared by the thematic World Data Centers and data from contibuting networks are shared by respective conributing data centers

Substantial use of data requires acknowledgement, but data are shared free and openly.



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Requirements

Research data required by diverse service providers, operational data required by research

- Data on atmospheric composition with appropriate spatial and temporal resolution and adequate metadata.
- Access to high resolution meteorological information to drive atmospheric transport and process models.

Approaches

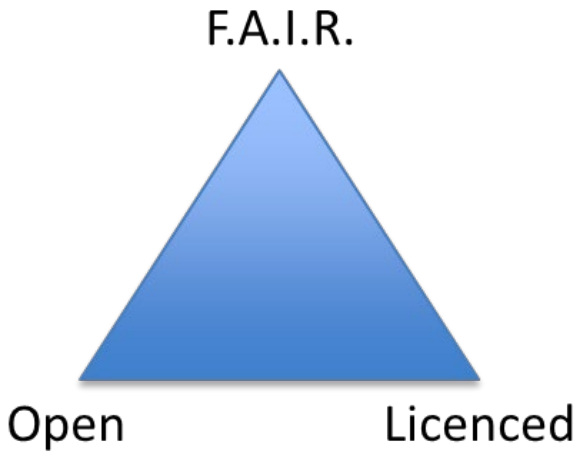
Atmospheric composition observations range from legally required to scientifically driven, but almost exclusively **publicly funded**

- Diverse Ownership of data
- Different but similar data policies in place:

  Mostly based on **open and fair exchange**;

  Data licences dominated by Creative Commons (CC)

WMO OMM



'**Open**' means 'free and unrestricted'.
'**F.A.I.R.**' data are findable, accessible, interoperable and reusable.
A '**data licence**' is a legally binding agreement between the data provider and the data user that may or may not impose restrictions on the use of the data.

Role of WMO Resolution 42

It is recommended that WMO encourages **Open and F.A.I.R. data exchange** for all data and endorses an approach where all data exchanged (essential and additional) carry a **licence** that clearly documents conditions and restrictions (or no conditions) on their use.

Atmospheric composition research needs free access to hi-res weather data!