



Materials Science & Technology

GAWSIS (and ET-WDC)

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Empa

GAW QA/SAC Switzerland

ET-WDC Meeting, 12-14 May 2010, Environment Canada, Toronto, Canada

Activities since 2009 for ET-WDC

- New web site: <http://sites.google.com/site/wmoetwdc>
- WIGOS/WIS pilot project
 - Improved XML representation of GAWSIS (cf. doc_4.3)
 - Set-up geonetwork server
 - Developed first draft of 'GAWDAP' – data access facilitator
 - Coordination and reporting
 - Progress report (doc_3.1)
 - Evaluation report (doc_3.2)
 - Lessons-learnt report (input to doc_3.3)
- Meetings and presentations
 - CAS-XV, 17-25 Nov 2009, Seoul
 - GCOS Round-table, 27 Jan 2010, Zurich
 - EC-WG WIGOS/WIS-3, 24.-26.3.2010, Geneva

Activities since 2009 for GAW SIS

- Integration of data centres
 - EBAS/EMEP operational, but incomplete
 - NDACC operational, comprehensive
- Discussions launched
 - Procedure for accepting new GAW stations
 - Classification of mobile stations
- Added Features
 - vCards
 - .csv download of lists
 - Overview of global AOD network (draft)

Challenges

- Maintenance of metadata information
 - Responsiveness of station managers
- Identification of metadata items obtained from data centers (vocabularies!)
- Need to decide what stations/programmes to include and establish trusted relationships
- Renewal of GAWSIS architecture

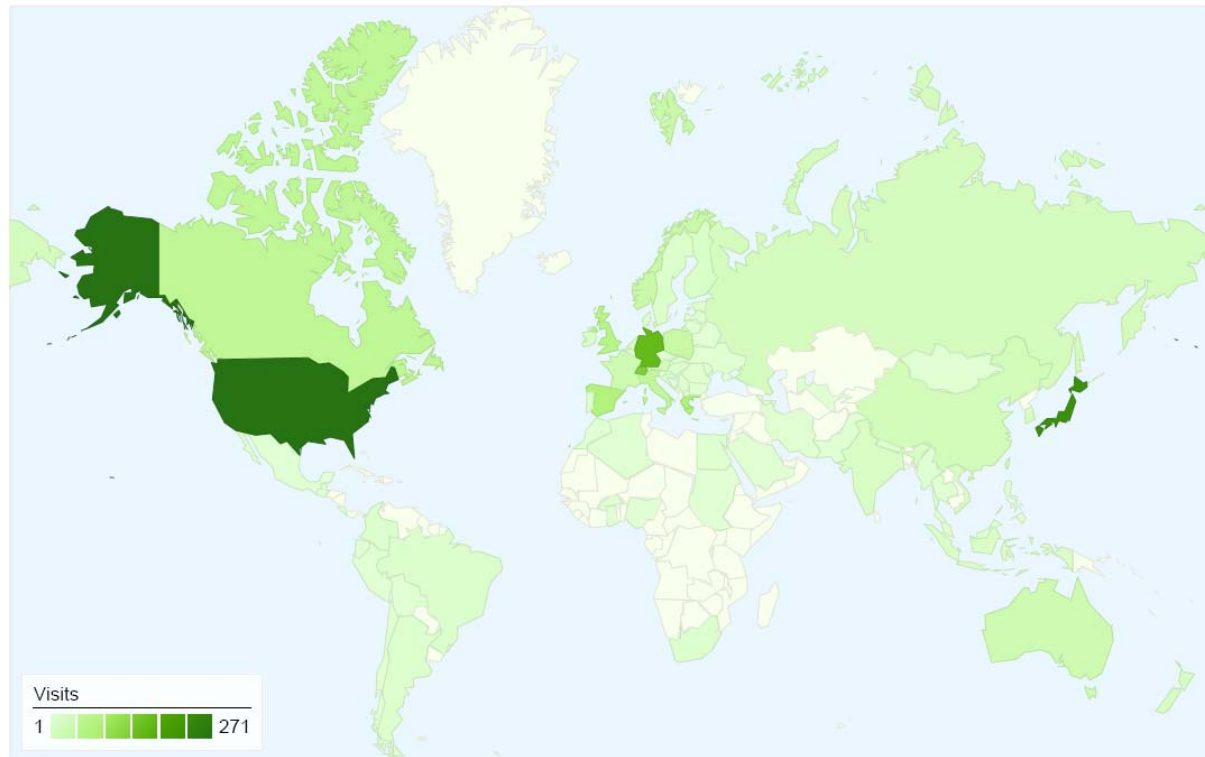
Future Plans (~18 months)

- Include AERONET, SKYNET, EANET if possible
- Migrate GAWSIS to MeteoSwiss
- Improve GAWSIS' capabilities to use and offer web services
- Improve vocabularies
- Improve and extend information on data quality
- Establish GAWSIS as a World Metadata Centre for GAW and DCPC for WIS (as per recommendation by CAS-XV)

GAWSIS Web Statistics

gaw.empa.ch/gawsis
Map Overlay

Apr 12, 2010 - May 12, 2010
Comparing to: Site

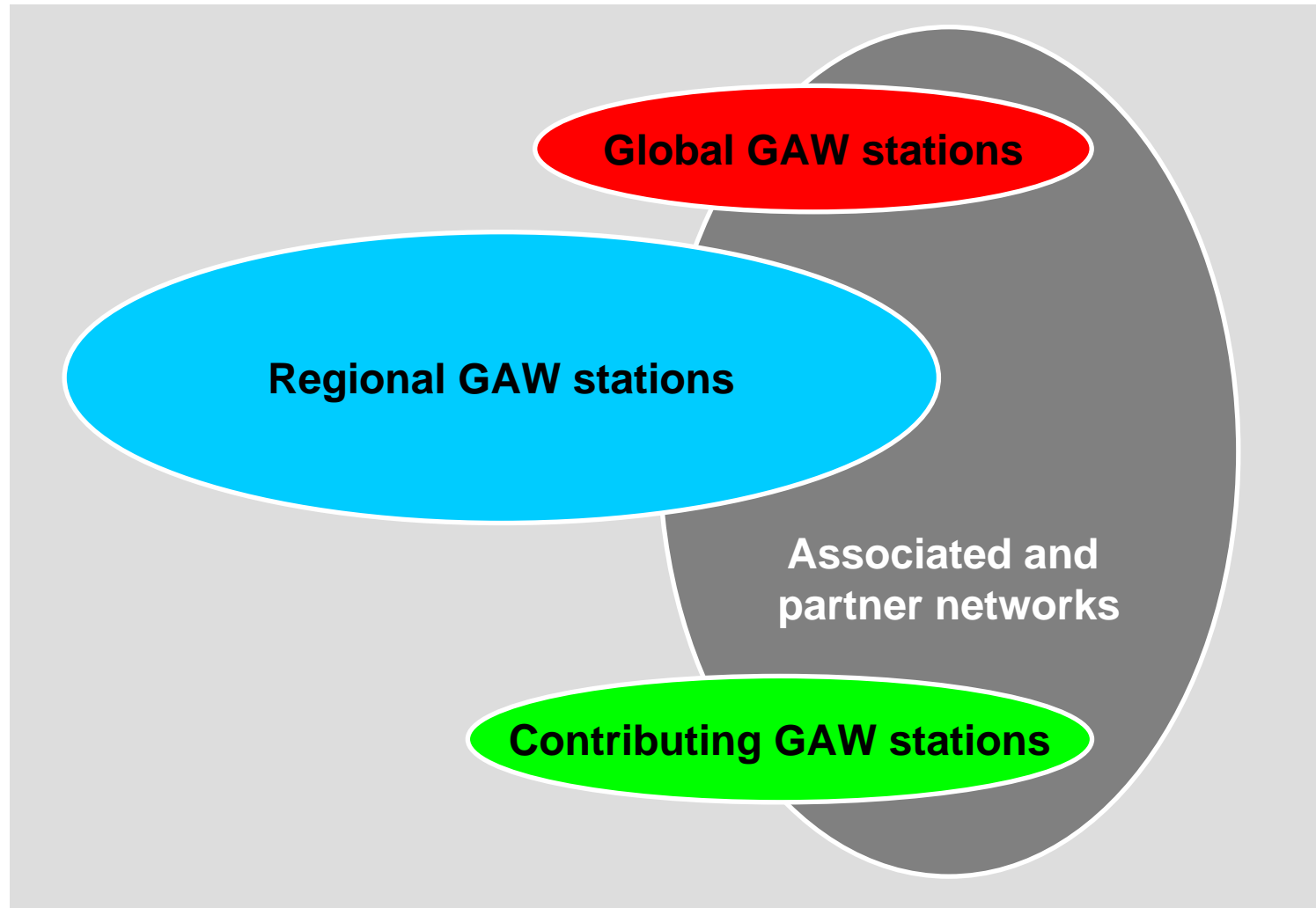


1,558 visits came from 82 countries/territories

Site Usage

Visits 1,558 % of Site Total: 100.00%	Pages/Visit 3.39 Site Avg: 3.39 (0.00%)	Avg. Time on Site 00:03:09 Site Avg: 00:03:09 (0.00%)	% New Visits 50.51% Site Avg: 50.39% (0.25%)	Bounce Rate 60.53% Site Avg: 60.53% (0.00%)
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GAWSIS Scope



GAWSIS Design Principles

- K.I.S.S. (keep it small & simple)

- No Flash etc.
- No plug-ins
- Little Javascript

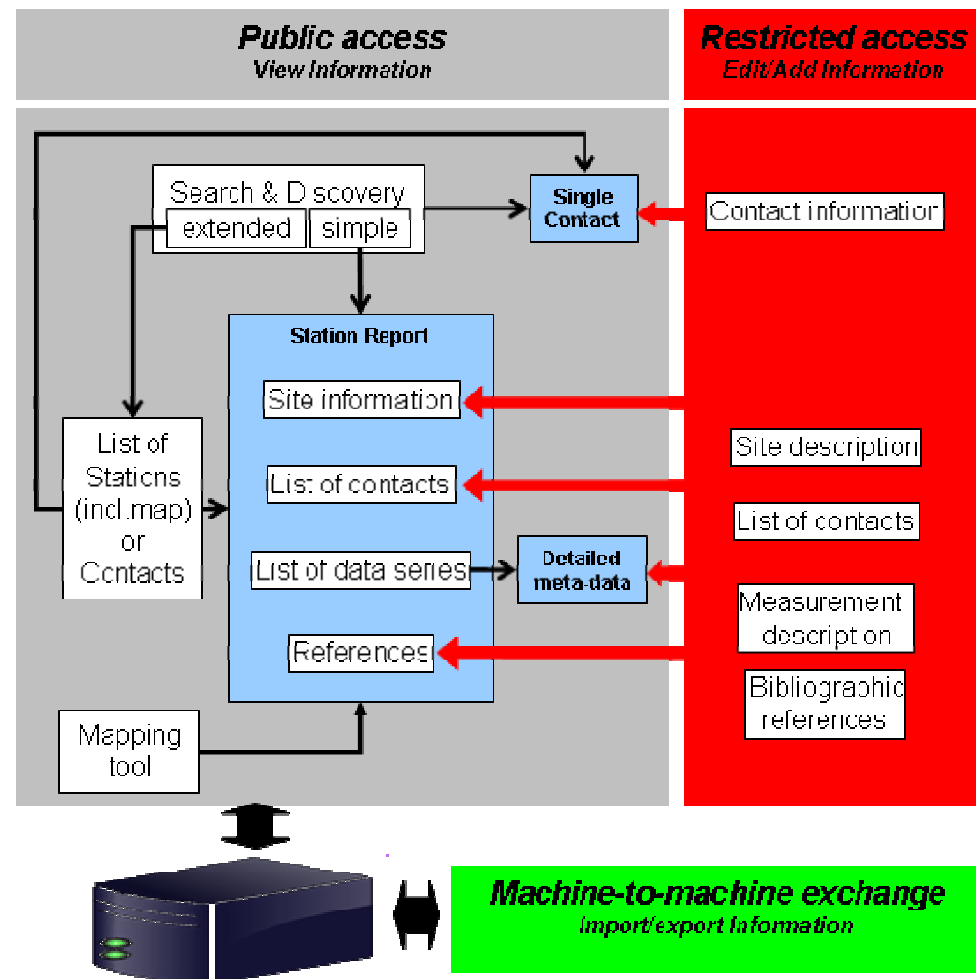
- Involve the user

- Public for viewing
- Password-protection for editing

- Machine-to-machine metadata exchange

- Regular updates

- Self-maintaining (well ...)



GAWSIS Discovery Tools

- Simple search
- Advanced search
- Links to WDCs
- GoogleEarth™ port

GAW World Data Centres

[WDCGG \(Gases\)](#)

[WRDC \(Radiation\)](#)

[WOUDC \(Ozone/UV\)](#)

[WDCA \(Aerosols/AOD\)](#)

[WDCPC \(Precip.,
Chem.\)](#)

[WDC-RSAT \(Remote
Sens.\)](#)

GoogleEarth Port



[gaw.kml](#) for a different GAWSIS experience!

GAWSIS Main Features

- Lists (and maps) of stations
- Lists of contacts
- Station reports
 - Site characterization
 - Measurement program
 - Meta data for each series
 - Hyperlinks to data archive
 - Contacts
 - Bibliographic references
- Clearinghouse for 3-letter station codes (incl. GAW IDs)



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Introduction

This web site is a managed list of unique station identifiers to identify clearing house for registering such identifiers for sites not (yet) affiliated is to assign a unique 3-letter code to each known station with a long consensus as much as possible. We invite the community to participate is essential!

Please share this web address with anyone you know might have :

Enter Station Identifier ↕

Request Station Identifier for a Registered Station ↕

Register a New Station and Request Identifier ↕

running provided by meteoswiss is gratefully acknowledged.

GAW SIS: vCard

by QA/SAC Switzerland

Find Information

John A. Ogren - Contact

2009-05-07/0
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fax +1 (303) 497
mailto: John.A.Ogren
url www.esrl.noaa.gov
GAW SAG member,
function
contact for Alert, Barrow
E13 (OK), Sou

EMPA
Materials Science & Technology QA/SAC S
Fu

Full Name... Dr. John A. Ogren
Company: NOAA ESRL GMD
Job title:
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Display as: Dr. John A. Ogren (John.A.Ogren@noaa.gov)
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IM address:
Phone numbers
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Home...
Business Fax... +1 (303) 497-5590
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Addresses
Business... 325 Broadway
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Boulder 80305
United States
http://www.esrl.noaa.gov

Notes
[GAW functions] SAG member, Member of SAG Aerosol; [Contact for] Alert, Barrow (AK), Bondville (IL), Lulin, Mauna Loa (HI), Sable Island, Samoa (Cape Matatula), South Great Plains E13 (OK), South Pole, Trinidad Head (CA); [vCard from] <http://gaw.empa.ch/gawsis>

GAW SIS: Global Overview on AOD

GAW SIS STATION INFORMATION SYSTEM

by QA/SAC Switzerland

Home | Advanced Search | Edit/Add Information | GAW IDs | Feedback | FAQs & Glossary | About

Stations by country: [Dropdown]

Stations by affiliated network: [Dropdown]

- AERONET
- Aerosol Optical Depth
- AGAGE/SOGE/NIES
- BSRN
- CAPMoN
- EANET
- EMEP
- GALION
- NADP
- NDACC
- NOAA-ESRL (CCG)
- RAMCES
- SHADOZ
- TCCON
- WDCGG (Gases)
- WRDC (Radiation)
- WOUDC (Ozone/UV)
- WDCA (Aerosols/AOD)

Select by Station type: Global Regional Contributing

Select by Parameter: [Dropdown]

Overview of the global AOD network (total: 103 sites)

The global AOD observational network is co-sponsored by a number of agencies and/or programmes, in particular:

- AEROCAN, federated to AERONET
- AERONET
- PHOTONS, federated to AERONET
- GAW (PFB)
- PolarSO2
- German AOD network
- SIBRAD, and
- SKYNET

In the table below, all stations are listed that are registered with GAW SIS in an attempt to provide a global picture on AOD observations. At some stations, more than one programme is active.

Map | Satellite | Hybrid

Legend: GAW Global, GAW Regional, GAW Contributing, Other, QA/SAC Switzerland

Station	GAW ID	Station Type	Operating Status	Coordinates	Elevation (m a.s.l.)
I - Africa					
1 Amsterdam Island	AMS	Global	full operation	37.80°S 77.54°E	70
1 Ascension Island	ASC	Regional	full operation	7.98°S 14.42°W	91
1 Cairo	CAI	Regional	full operation	30.08°N 31.28°E	35
1 Croizat	CR2	Regional	full operation	46.43°S 51.83°E	120
1 Ilorin	ILO	Contributing	intermittent operation	8.53°N 4.57°E	350
1 Izaña (Tenerife)	IZO	Global	full operation	28.31°N 16.50°W	2373
1 La Réunion	RUN	Regional	full operation	21.08°S 55.48°E	80

GAW SIS: Metadata from NDACC



by QA/SAC Switzerland

GAW SIS

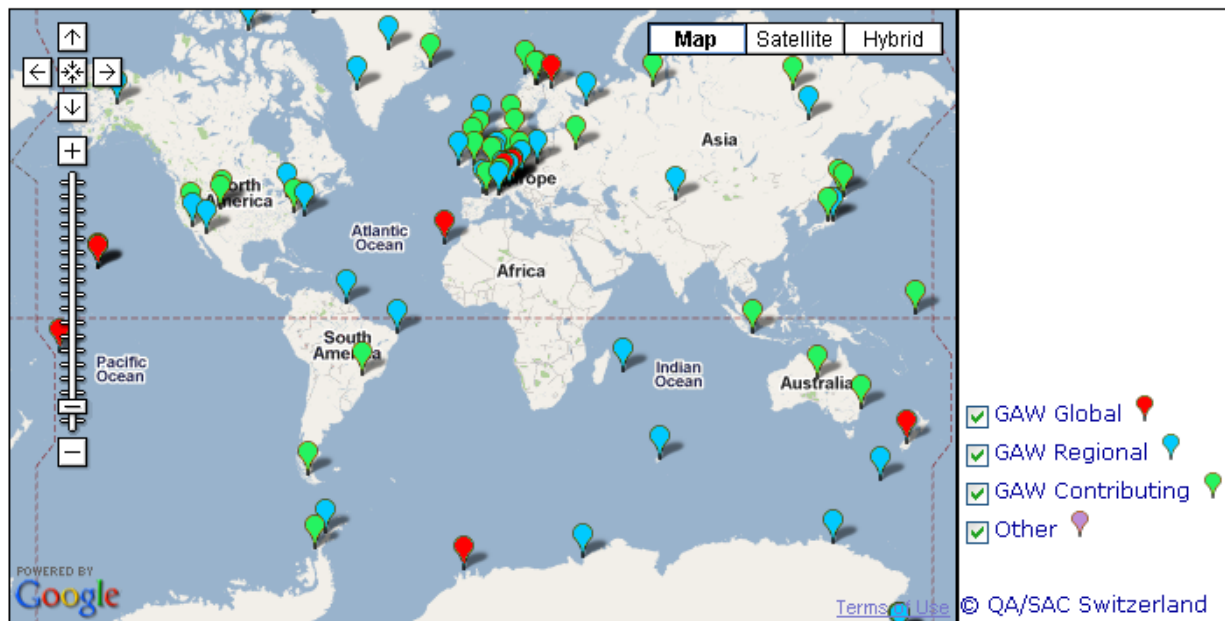
STATION INFORMATION SYSTEM

- Find Information
- Edit/Add Information
- Provide Feed-back



- Home
- Advanced Search
- Edit/Add Information
- GAW IDs
- Feed-back
- FAQs & Glossary
- About

Stations registered for GAW-affiliated network 'NDACC' (total: 83)



Station	GAWID	Station Type	Operating Status	Coordinates	Elevation (m a.s.l.)
I - Africa					
Izaña (Tenerife)	IZO	Global	full operation	28.31°N 16.50°W	2373
La Réunion	RUN	Regional	full operation	21.08°S 55.48°E	80
Port-aux-Français (Iles Kerguelén)	KER	Regional	full operation	49.35°S 70.28°E	29
II - Asia					

Interoperability of data centers

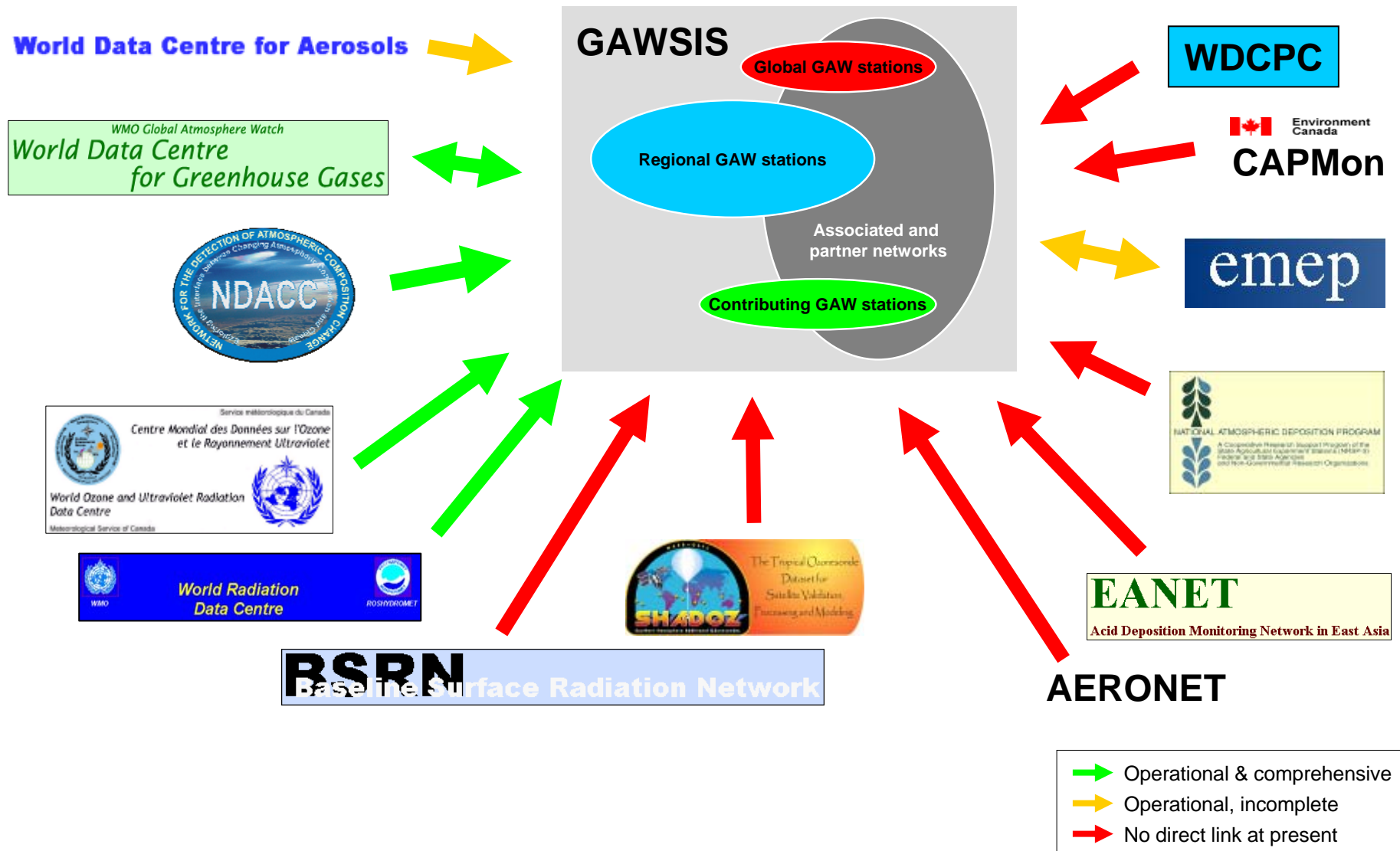
- Facilitate discovery
 - Find information regardless of origin
 - Find everything about a station
 - Find all sites measuring a given variable

- Converge towards international standards
 - Same vocabularies
 - Same quality standards

- Facilitate network management and development

- Increase visibility and traffic to archives

GAWSIS – Metadata Integration for WIS





GAWDAP by QA/SAC Switzerland

DATA ACCESS PORTAL powered by GAW WDCs



Select Station

Station Jungfrauoch (JFJ)

Request Data from Station 'Jungfrauoch'

Period from to

Variables

Greenhouse Gas

CH4 [method: GC-FID; submitter: Empa; archive: WDCGG; data generation:Continuous]

N2O [method: GC-ECD; submitter: Empa; archive: WDCGG; data generation:Continuous]

SF6 [method: GC-ECD; submitter: Empa; archive: WDCGG; data generation:Continuous]

Ozone

Surface ozone [method: UV photometry [general]; submitter: Empa; archive: WDCGG; data generation:Continuous]

Reactive Gas

CO [method: Non-dispersive IR (NDIR); submitter: Empa; archive: WDCGG; data generation:Continuous]

NO [method: Chemiluminescence (CL) [general]; submitter: Empa; archive: WDCGG; data generation:Continuous]

NO2 [method: Chemiluminescence (CL) [general]; submitter: Empa; archive: WDCGG; data generation:Continuous]

NOx [method: Chemiluminescence (CL) [general]; submitter: Empa; archive: WDCGG; data generation:Continuous]

SO2 [method: Ion Chromatography (IC) [general]; submitter: Empa; archive: WDCGG; data generation:Continuous]

Data Type hourly

Your e-mail

Terms & Conditions On any publication using data from the individual station, the author must contact the data submitters concerning co-authorship or acknowledgments, and make proper descriptions on the data sources in their references. I agree.



QA/SAC Switzerland is hosted by the Swiss Federal Laboratories for Materials Testing and Research (EMPA), Dübendorf, Switzerland. Funding provided by MeteoSwiss is gratefully acknowledged.



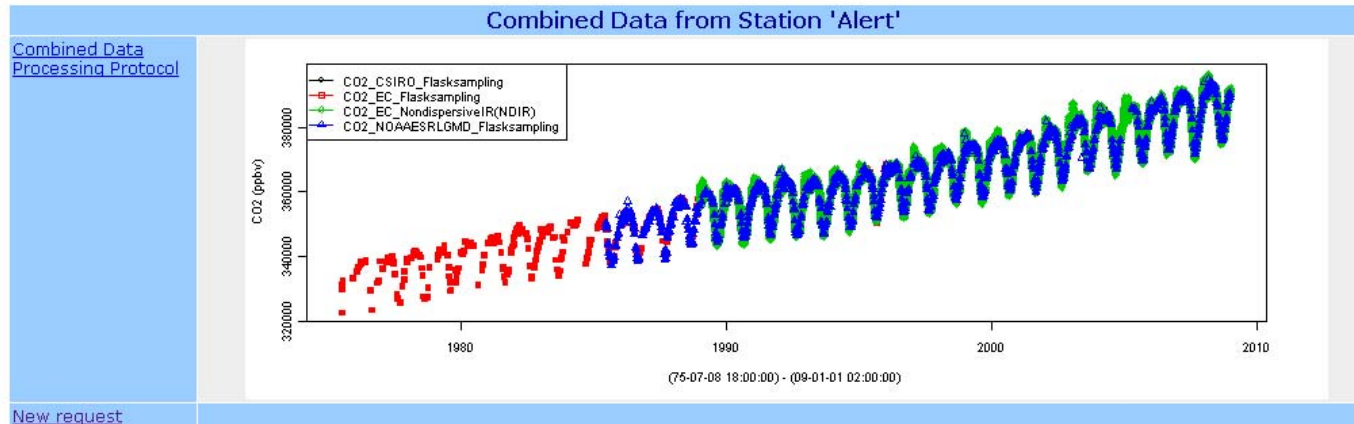
Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Federal Department of
Home Affairs FDHA
Federal Office of Meteorology
and Climatology MeteoSwiss



GAWDAP by QA/SAC Switzerland

DATA ACCESS PORTAL powered by GAW WDCs



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Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Federal Department of
Home Affairs FDHA
Federal Office of Meteorology
and Climatology MeteoSwiss



Metadata XML representation

← ch.empa.GAWSYS.Surfaceozone_c30m.JFJ_Empa [XML](#)

File identifier: ch.empa.GAWSYS.Surfaceozone_c30m.JFJ_Empa

Language: eng

Character set: iso-8859-1

Metadata standard name: ISO 19115:2003/19139

Metadata standard version: 1.0

+ Metadata Contact

+ Reference System Info

← Identification Info

Title: Surface ozone values from GAW station JFJ (data generation: continuous , reporting interval: 30)
Abstract: Time series of Surface ozone measurements (type:Ozone) at Global Atmosphere Watch station Jungfrauoch (station type: Global). Measurements are Continuous. The measurement interval is 30 Minute(s). The measurement method is UV photometry [general] . The high alpine research station Jungfrauoch is situated on a mountain saddle between the two mountains Jungfrau (4158m asl) and Mönch (4099m asl). The station is located in the center of Europe at an altitude of 3580m asl and is surrounded by highly industrialized regions at much lower altitudes. This special geographical situation offers the opportunity to monitor background concentrations but also to investigate the transport of anthropogenic pollutants from the boundary layer to the free troposphere.

revision: 2009-10-05

+ Responsible Party

← Extent

Description: position where dataset was acquired

Geographic Identifier: Switzerland

Geographic Identifier: VI - Europe

Bounding box:

46.548 (°N)

7.9867(°E) 7.9867(°E)

46.548(°N)

Vertical extent: 3580 - 3580 m above sea level

Temporal extent: 1986-01-01 - 2008-12-31

+ Distribution Information

+ Data Quality Info



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