The World Ozone and Ultraviolet radiation Data Centre (WOUDC)

Summary Report

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Environment Canada

* Software Solutions

Present Status – Data Inventory

<u>Ozone Data at the WOUDC</u> – Level 1 Processed Data "Reports"

Total number of **373 Platforms** (stations) that measure **Ozone** (Total Column & Vertical profile (Ozonesonde, Lidar and Umkehr) which represent **138 Agencies** from **74 countries** with **~185,000 total files**.

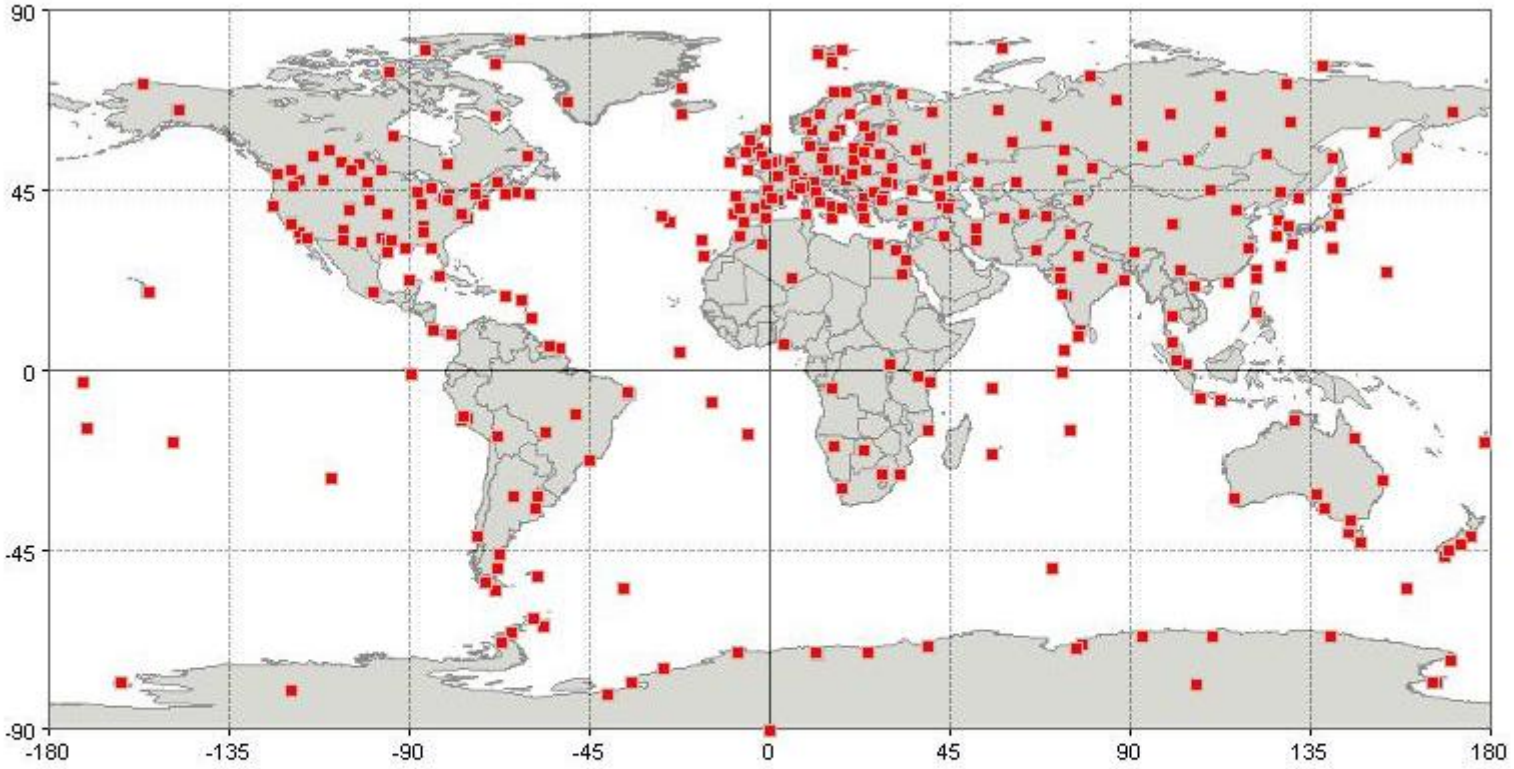
Largest Number of Requests are for <u>Ozonesonde</u> data, then Total Column Ozone

<u>Ozone Data at the Brewer Data Mgnt System (BDMS)</u> – Level 0 Primary Data

Total number of **96 Platforms** (stations) that submit (or have submitted) Level 0 (Primary) **Column ozone (in the form of a B-File)** data, which represent **36 Agencies** from **26 countries.**

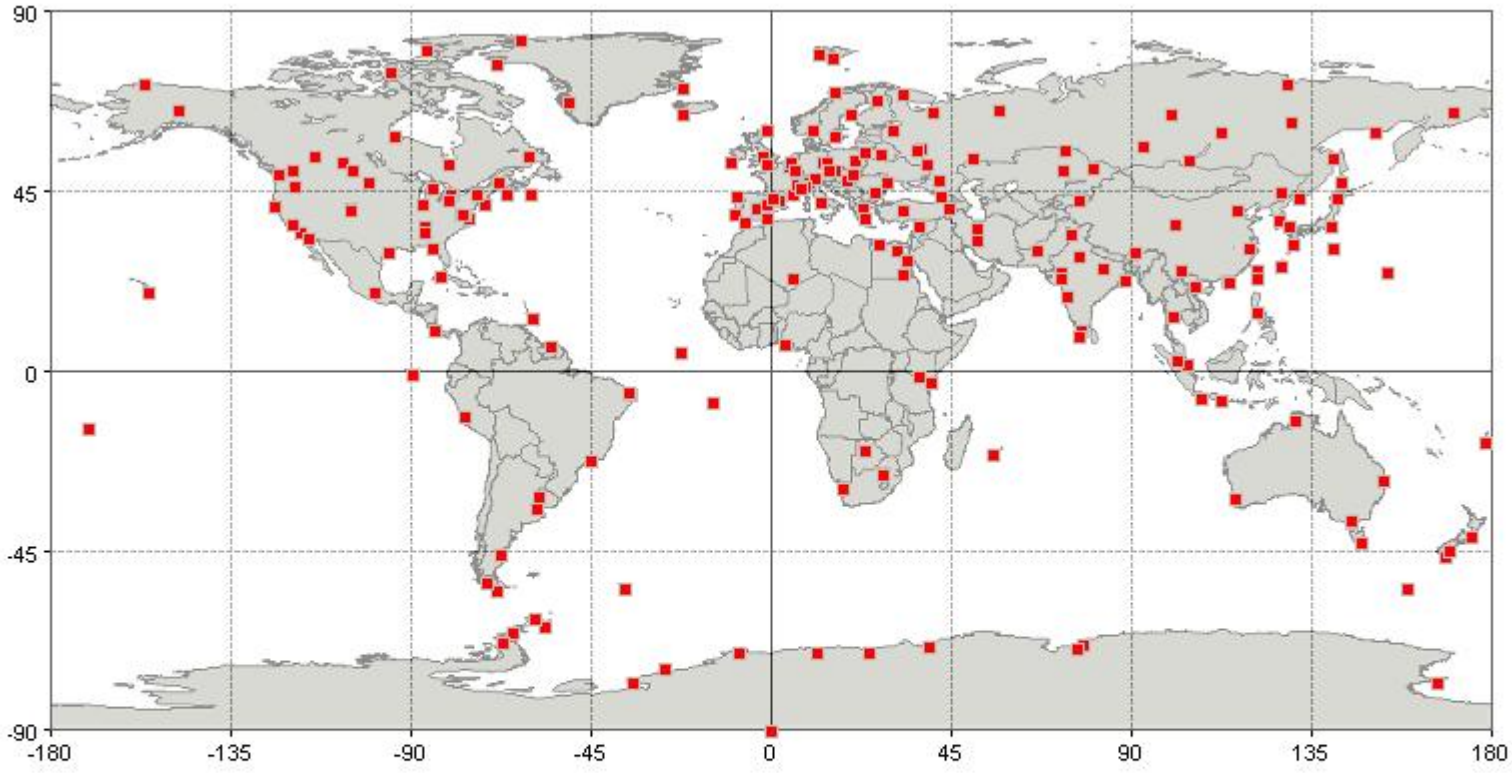
107 individual Brewers, >270,000 B files

Ozone Platforms (ALL data) in the WOUDC



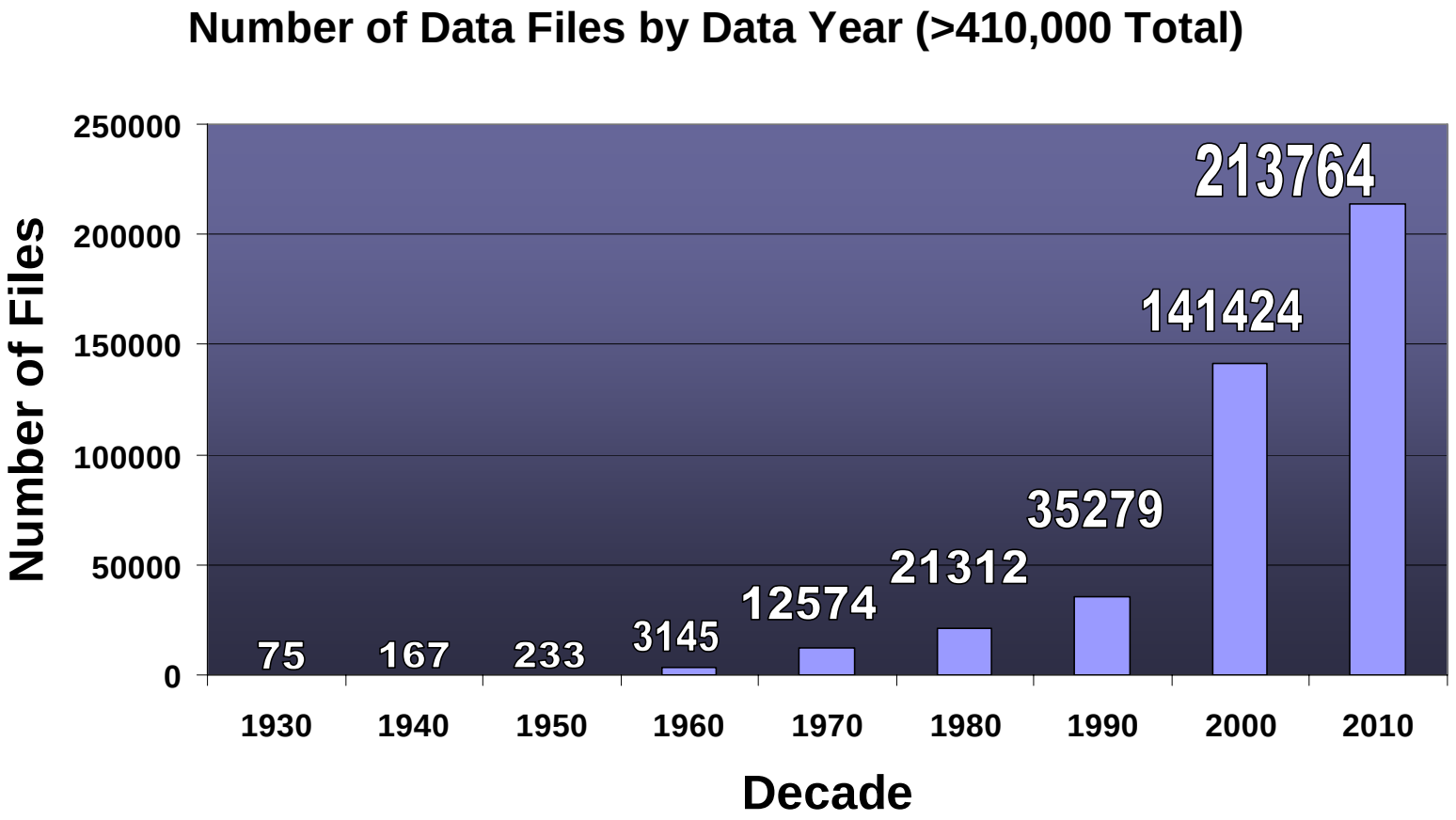
Report Date: 2010-03-18
Data Class: Ozone

Ozone Data (updated 2005+) in the WOUDC

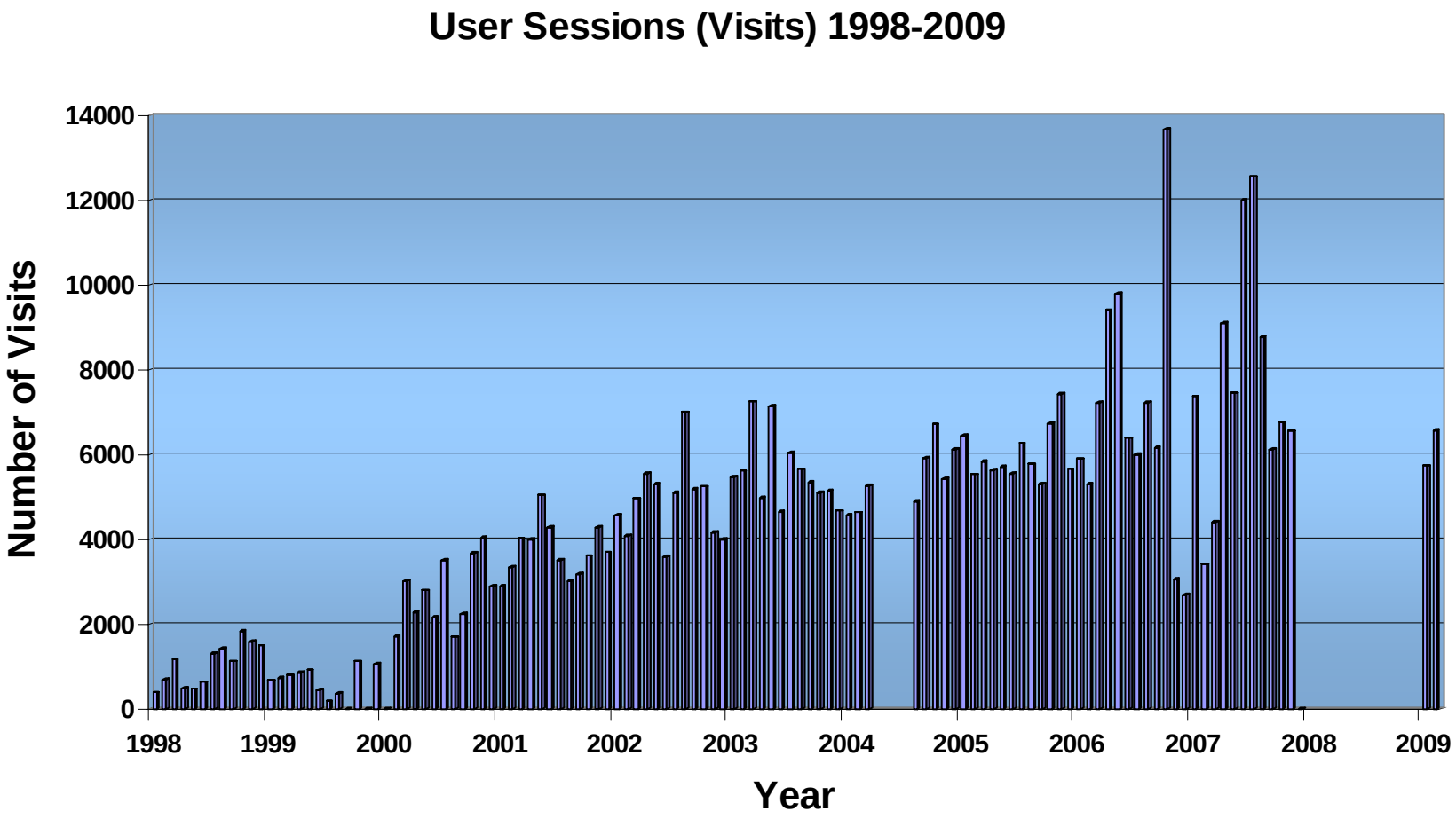


Report Date: 2010-03-19
Data Class: Ozone
Updated: 2005-01-01 *or later*

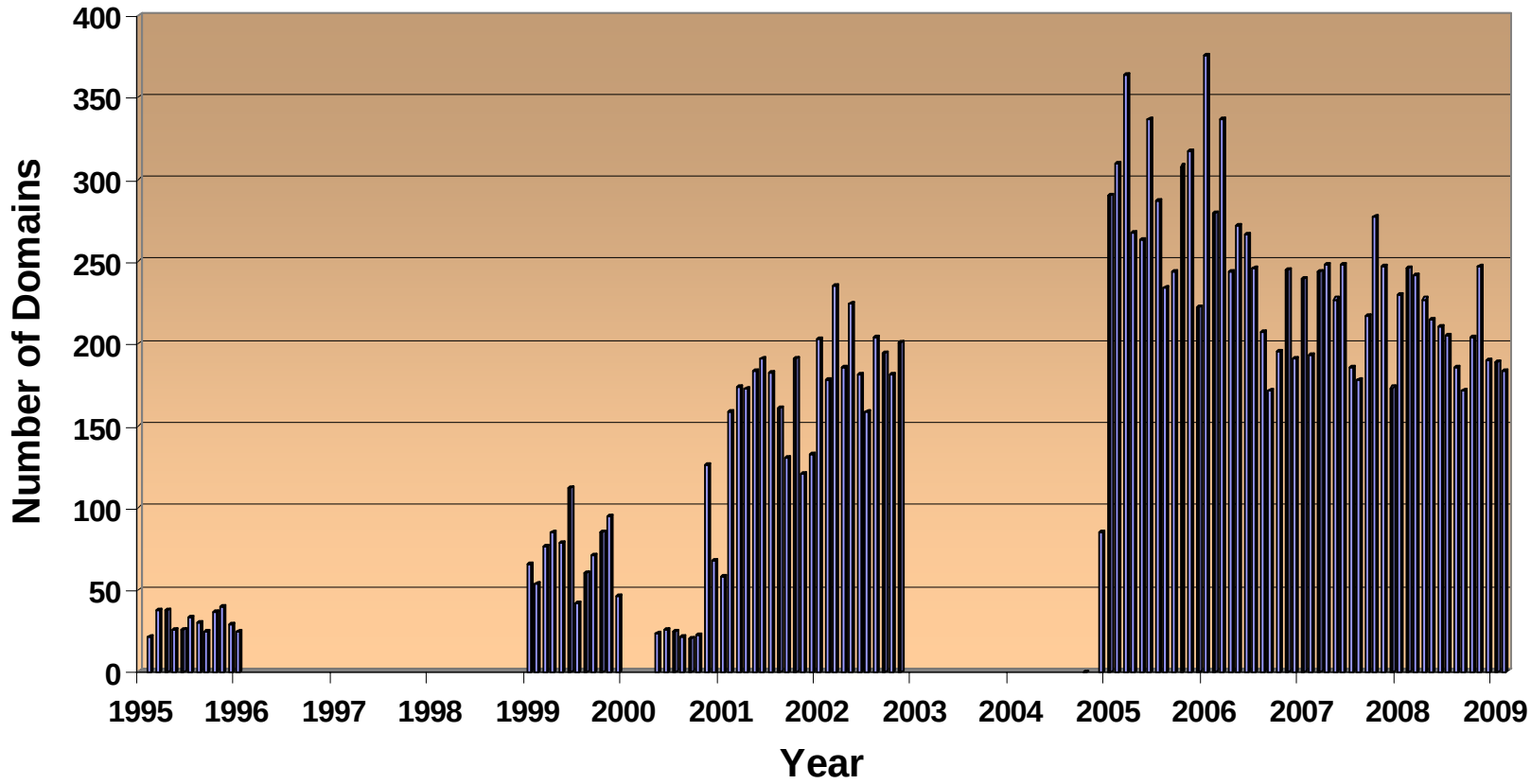
WOUDC – ALL Data Files by Decade



User Sessions (Visits) 1998-2009



FTP Data Retrieval – by Unique Domain



Follow-up Issues – SAG Ozone

1. Data file disclaimer header & citation to be added to each file (finalising for Ozone Data for the World DVD release).

2. The WOUDC staff would like to receive more Data Sponsorship Statements. The DSS received from Germar Bernhardt (NSF), is the “Gold Standard”

3. Brewer Letter was sent out in late 2009 and with about a 33% response (which is good) for access to calibration information and reports. IOS has been contacted and will work IOS staff to build access to a calibration report archive

4. Will be updating the data exchange to accommodate new tables in several different categories (ozone sonde, total ozone which includes new SAOZ data, lidar) – response to working group recommendations

The Issue of Citing WOUDC Data

- Data files to include a proper data citation, presently many journal articles are only giving the following www.woudc.org (no timestamp given – data updates are dynamic).

PROPOSAL: In the references, WOUDC (Year) + date the data were retrieved. Plus include the “authors” i.e. Agencies within tables of data or the data platforms within the text of the document.

- Citations will now accompany data and searches

- Metadata updates are reported dynamically on the web site and can be accessed for revision events: *http://www.woudc.org/updates_report_e.cfm*

WMO-WOUDC Data Disclaimer & Citation

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* ------------------------------------------------------------------------------------------
* WMO WOUDC Data Usage Disclaimer
*
* For scientific purposes, access to these [GAW] data is unlimited and provided without charge.
* By their use you accept that an offer of co-authorship will be made through personal contact with
* the data providers or owners whenever substantial use is made of their data. In all cases,
* an acknowledgment must be made to the data providers or owners and to the data centre
* when these data are used within a publication.”
* ------------------------------------------------------------------------------------------

* MSC. World Ozone and Ultraviolet Radiation Data Centre (WOUDC) [Data]. Environment Canada.
    Retrieved from http://www.woudc.org.

#CONTENT
Class,Category,Level,Form
WOUDC,Ozonesonde,1.0,1

#DATA_GENERATION
Date,Agency,Version,ScientificAuthority
2009-01-31,MSC,1.0,J. Davies

#PLATFORM
Type,ID,Name,Country,GAW_ID
STN,24,Resolute,CAN,72924

#INSTRUMENT
Name,Model,Number
ECC,Z,na

#LOCATION
Latitude,Longitude,Height
74.72,-94.98,30
```

WOUDC Data Acknowledgement - Concern

From a recent colleague of mine to a data client:

I am concerned, however, that **you mention using data from the WOUDC** and from (*with-held site name*), **and have added the (*with-held site name)* data provider as a co-author**.

Have you also offered co-authorship to the other data providers?

This is an important issue at the WOUDC, since **many data contributors have been reluctant in the past to submit their data to the WOUDC** in a timely fashion because they feared that as soon as it was in the WOUDC it would be considered public, and **they would no longer get scientific credit for their hard work in producing it**. The entire scientific community benefits from having easy access to everyone's data.

Data Quality & the Data Sponsorship Statement

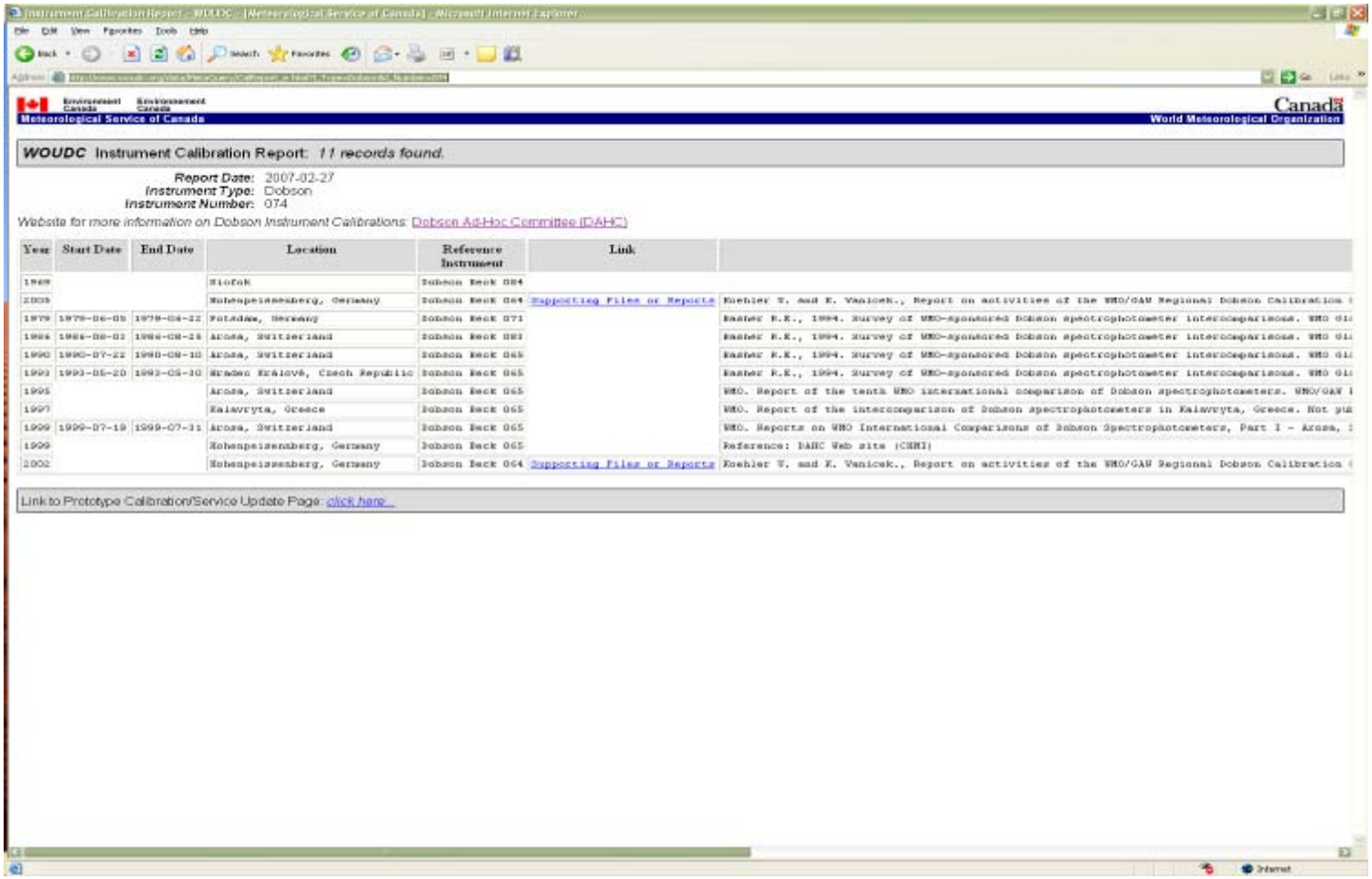
The “Data Sponsorship Statement” or DSS (formerly called the Scientific Sponsorship Statement) is a fundamental descriptor of many aspects of data quality, written by the data originators (PI). The DSS is now attached to each agency on the WOUDC web site. A sample template:

http://woudc.org/data/Metadata/DSS_Template.html

Aspects of a Data Passport:

- How data are measured and collected
- Network (site/platform) information and updates on any relevant changes such as obstructions etc. (where applicable)
- Compliance with SOP’s and other standards
- Calibration and revision histories
- Contact information

Calibration Histories



WOUDC Instrument Calibration Report: *11 records found.*

Report Date: 2007-02-27
Instrument Type: Dobson
Instrument Number: 074

Website for more information on Dobson Instrument Calibrations: Dobson Ad-Hoc Committee (DAHC)

Year	Start Date	End Date	Location	Reference Instrument	Link	
1969			Hradok	Dobson Beck 064		
2003			Hohenpeissenberg, Germany	Dobson Beck 064	Supporting Files or Reports	Koehler U. and K. Vanicek., Report on activities of the WMO/GAW Regional Dobson Calibration
1979	1979-06-05	1979-06-22	Potsdam, Germany	Dobson Beck 071		Basher R.E., 1994. Survey of WMO-sponsored Dobson spectrophotometer intercomparisons. WMO Gl
1986	1986-08-01	1986-08-16	Arosa, Switzerland	Dobson Beck 083		Basher R.E., 1994. Survey of WMO-sponsored Dobson spectrophotometer intercomparisons. WMO Gl
1990	1990-07-22	1990-08-10	Arosa, Switzerland	Dobson Beck 065		Basher R.E., 1994. Survey of WMO-sponsored Dobson spectrophotometer intercomparisons. WMO Gl
1992	1992-05-20	1992-06-30	Hradec Kralove, Czech Republic	Dobson Beck 065		Basher R.E., 1994. Survey of WMO-sponsored Dobson spectrophotometer intercomparisons. WMO Gl
1995			Arosa, Switzerland	Dobson Beck 065		WMO. Report of the tenth WMO international comparison of Dobson spectrophotometers. WMO/GAW
1997			Kalavryta, Greece	Dobson Beck 065		WMO. Report of the intercomparison of Dobson spectrophotometers in Kalavryta, Greece. Not yet
1999	1999-07-19	1999-07-31	Arosa, Switzerland	Dobson Beck 065		WMO. Reports on WMO International Comparisons of Dobson Spectrophotometers, Part I - Arosa,
1999			Hohenpeissenberg, Germany	Dobson Beck 065		Reference: DAHC Web site (CHMI)
2002			Hohenpeissenberg, Germany	Dobson Beck 064	Supporting Files or Reports	Koehler U. and K. Vanicek., Report on activities of the WMO/GAW Regional Dobson Calibration

Link to Prototype Calibration/Service Update Page: click here

http://www.woudc.org/data/MetaQuery/metaquery_e.cfm

Follow-up Issues – IGACO

Activity A5: Systematic comparison of total ozone measurements from ground and space – **More revised data entering the WOUDC**

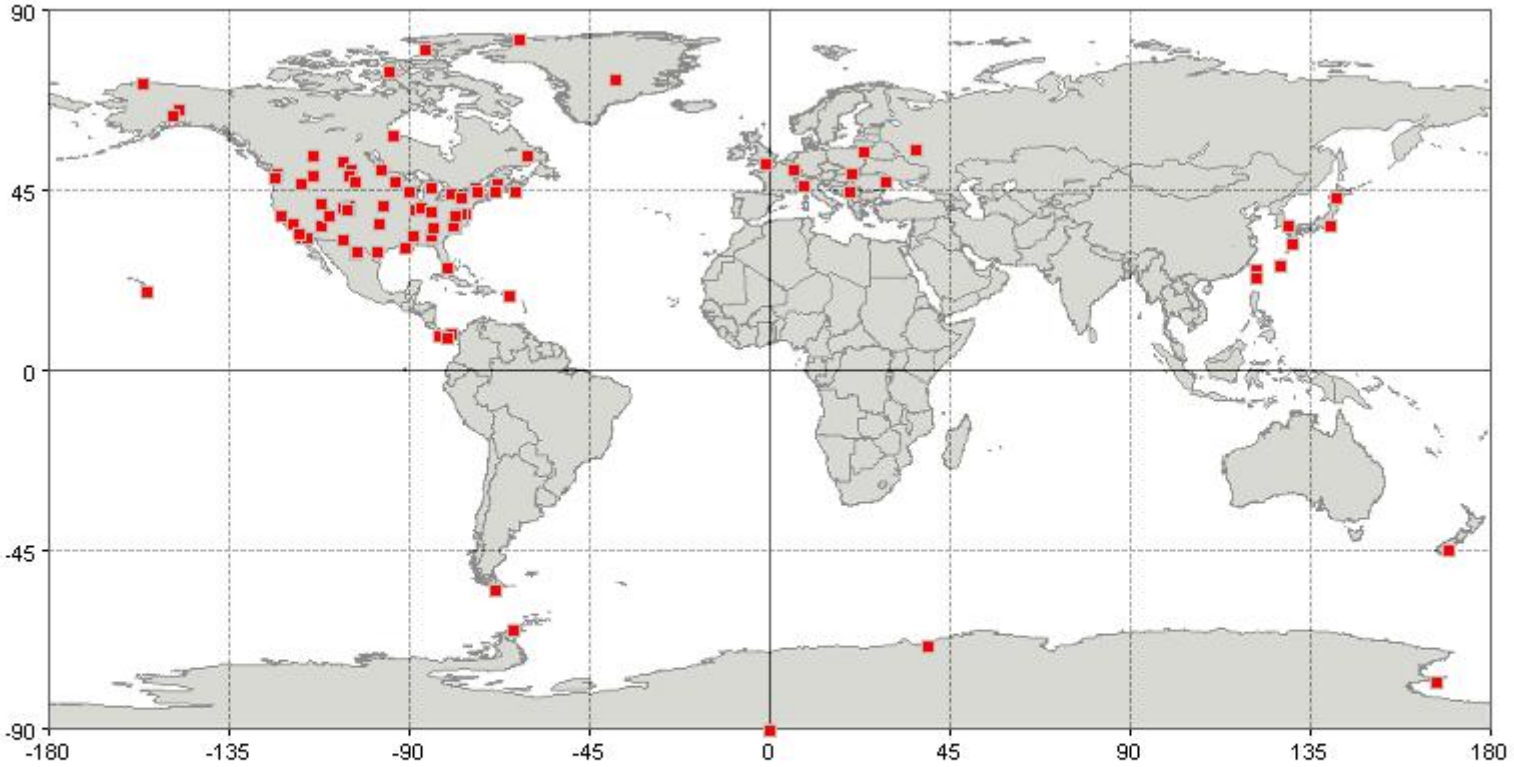
Activity A7: Acquire Brewer Umkehr data – **Responses have been positive as more B-file data are arriving**

Activity D1: Better data access and archiving, Activity D7: Multiple versions of same data & Activity D9: Overview of existing data services - follow-on – **The WOUDC staff will be hosting a joint WMO World Data Manager's meeting and a open data centre meeting (with NDACC, SHADOZ, BSRN, NILU and FMI reps invited) to discuss these issues.**

Activity D11: Identifying historical data – **To be determined**

Activity D4: Streamlining accessibility of UV data in WOUDC and EUVDB & Activity D5: Increase UV data in the WOUDC – **The WOUDC still awaits submission of EUVDB data (discussed at recent SAG-UV meeting) and the WOUDC has increased UV data holdings (Broad-band, Multi-band and Spectral), including a complete set from the NSF-Biospherical group**

UV Platforms (ALL data) in the WOUDC



Report Date: 2010-01-28
Data Class: UV Radiation

Collaborations

- The WOUDC is now adding campaign data such as IONS04/06
- Continuing collaboration with NASA-SHADOZ and NDACC (have begun working with the NDACC Lidar WG (thanks to Thiery and Sophie) and have begun to receive Lauder data
- WOUDC staff continues to provides feedback to data originators and recognises their efforts weekly

  http://www.woudc.org/currentcontributors_e.html
- WOUDC is working closely with IOS to share information about Brewer calibration data
- **The WOUDC values the close collaboration with each data originator and his/her respective agency/institute**

Demonstration of some WOUDC links

WOUDC Data Page (includes search form)

http://woudc.org/data_e.html

Summary Pages of Total Column and Ozonesonde Plots

http://es-ee.tor.ec.gc.ca/cgi-bin/totalozone/

http://es-ee.tor.ec.gc.ca/cgi-bin/ozonesondeflights/

Preliminary Summary Data (Gridded Ozonesonde Profiles)

ftp://es-ee.tor.ec.gc.ca/pub/ozonedata/ozonesonde/level/

BDMS Data Page

http://woudc.org/bdms/data_e.html

Demonstration of ozone Maps on USB Key

A demonstration of ozone mapping software available as an animation on a USB Key. Tom McElroy sent a copy of the demonstration to be displayed at the recent COP 15 meeting, Copenhagen, Denmark, December 2009.

The WOUDC Data Archive is “Ours”

- The staff at the WOUDC are listening and are willing to work with you to receive and post your data

- Your suggestions and ideas are always welcome and collaborations are imperative to the success of the WMO-GAW global network and Data Centre systems

Acknowledgements

Tom McElroy – Brewer Workshops

Volodya Savastiouk – Brewer QC & Cross-section work

Tom Mathews & Akira Ogyu (Env.Can) – EC & Int'l Ozone Maps

Ken Lamb (IOS) – Calibration and Data Submission

Brian Wannamaker (SeaScan) Mapping Software

Herman Smit – Ozone sonde work

Johannes Stahelin – SAG Issues

Thiery & Sophie for their Lidar WG involvement