



# **Minutes of the Dobson Ad Hoc Committee Meeting**

prepared by: R.D. Evans, Head of DAHC, July 2001

## **Date and place of the meeting:**

Hradec Králové, Czech Republic, Hotel Cernigov,  
24.05.2001

## **Participants**

This meeting was attended by the following members of DAHC:

Gerrie Coetzee, South Africa  
Robert D. Evans, USA  
Bruno Hoegger, Switzerland  
Ulf Koehler, Germany  
Michael Proffitt, WMO  
Karel Vaníček, Czech Republic

Other invited Dobson Program Operators and scientists present:

Hugo DeBacker, Belgium  
David Moore, United Kingdom  
Bonawentura Rajewska-Wiech, Malgorzata Degorska, Poland  
Johannes Staehelin, Switzerland  
Martin Staněk, Czech Republic  
Zoltan Toth, Zoltan Nagy Hungary  
Jose Vilaplana, Spain

## **Topics discussed from the approved agenda**

### **1. News from WMO/GAW related to the Dobson Network:**

Michael Proffitt reported that he has written a proposal for capacity building in developing countries, and is encouraged by the response so far. The funds requested include establishing five new ozonesonde stations, helping to establish Regional Dobson Calibration Centers in Africa and South America, and lending help to the Russian filter

instrument system. This is a proposal for a five year programme, and does not include permanent financial support.

## **2. Reduction of Dobson observations at the combined Dobson/Brewer stations – replacement of Dobson instruments at long-term sites, with Brewer instruments.**

This discussion was prompted by the stopping of the Dobson measurements in Hungary (station Budapest - a site with a record back to 1970) – in favor of the Brewer instrument. This decision came was based on economics. It is expected that there could be more future replacements of Dobson spectrophotometers with Brewer instruments, as the Brewer is an automated instrument that can be used not only total ozone and Umkehr measurements but also UV scans. The question is how is this to be done for a station with a long record of Dobson measurements, so that the long-term consistency of data series is maintained - mainly for trend studies. Some procedure must be defined and published so that the proper overlap period of both measurements is obtained. The Brewer measurement program and data then could be used in some manner to be a proxy for the Dobson being retired. An other possibility would be to keep the Dobson instrument in limited observation schedule as verification of the proxy time series. The experiences gathered by specialists from combined stations (e.g. Canada, Germany, Switzerland, Belgium) would be useful in this problem. Note that the Dobson instrument is the only specified instrument for total ozone with in the GAW program, thus these “stoppages” affect this program considerably.

Other interested parties – such as Brewer experts, data users, etc – should be included to help define the relationship of the data sets. A “letter of concern” will be drafted by Bob Evans and sent to Mike Proffitt for review – deadline 01 July 2001. There was a discussion about who should sign this letter, and where it should be sent (i.e. IOC, as well as the WMO/GAW

To perform first steps for such study, Johannes Staehelin was appointed by DAHC to contact managers of combined Dobson/Brewer stations of the GAW network and to ask them for participation and providing their data in the project.

The DAHC strongly recommend that Dobson instruments taken out of service should be “recovered” for use at other site, if at all possible.

## **3. Absolute (Langley plot) calibrations of regional reference instruments during 2002 with D083.**

The scheme of calibration within the GAW for Dobson is one primary standard, to which regional standards are calibrated, to which individual (or National Standards) are calibrated. This is so that all reporting stations have a calibration traceable to the single primary reference instrument. This scheme has some dangers in that the single standard is vulnerable to damage, more so than a triad of standards as an example. As insurance, the idea of doing Langley plot calibrations to other instruments, such as regional

standards, has been suggested. (Reid Basher's report on intercomparisons prior to 1995, WMO/GAW report number 19.)

The process for D083's Langley plot calibration is both time consuming and expensive, as it done over a period of several months at Mauna Loa Observatory. One idea would be to take regional standards to MLO (or perhaps Izaña Observatory in the Canary Islands). Also, if Regional Standard D064 (Europe) is to participate, Ulf Koehler needs to know the schedule, as repairs are scheduled for fall 2001, which need an absolute calibration afterwards and changes to the intercomparison schedule 2002 at Hohenpeissenberg might be necessary. Robert Evans will contact NASA/TOMS science team, for input, as they supply funding for the year calibrations. Ulf Koehler will contact Emilio Cuevaz, whether this would be feasible for the campaign to be conducted at Izaña Observatory.

#### **4. Contacts with satellite ozone people – call for joint projects on validation.**

NASA satellite ozone people have been involved with intercomparisons and other projects for several years. Dr. Winkler (director of Ulf Koehler) will contact the European satellite people and Volker Mohnen in regard to this topic.

#### **5. Plan of intercomparisons for 2002 and 2003**

An intercomparison of Dobson instruments will take place at New Zealand's Lauder site this coming Nov-Dec. Mike Proffitt is seeking funding for intercomparisons in South Africa and Argentina during 2002 and 2003, and also reported that Japan is planning an intercomparison for their region during 2002.

There was some discussion of what to do with the two instruments in Boulder that are being rebuilt (D067, and a Shimatzu). Input from the data users is needed, but sites in developing nations, and supporting ozonesonde stations are the most likely candidates.

#### **6. Recommendations of Stations for training at SOO-HK**

Karel Vanicek informed about the training of Dobson operators from the Kunming (P.R. China) and Nairobi (Kenya) stations at SOO-HK in 2001. DAHC members were asked for a recommendation of potential Dobson operators from the global network to be trained in the coming years. Other possible candidates mentioned were Peru and Botswana.

#### **7. Other discussions included: (some came later in the week)**

- Problems in Africa with the Botswana station, the Kenya instrument after returning to the station from the IC in Pretoria, and the broken instrument in the Seychelles. Pretoria will look into establishing the nature of these problems.
- Problems with the UK observing program after reorganization.

- Problems with maintaining instruments with the absorption of Ealing by Coherent. Dave Moore will look into this through his contacts, and look in the UK Met office for documentation on the Dobson instrument.
- Jose Vilaplana suggested the possibility of organization of a combined biennial Brewer/Dobson meeting at his site (El Arenosillo, Spain)