

# **BULGARIA**

## **1. Ozone monitoring**

### **Total ozone**

One of the goal, outlined in the Recommendations of the fourth meeting of the Ozone Research Managers is the systematic measurements, which provide the basis for understanding the ozone regime, its trends and validation the effects of the measures requested by the Montreal Protocol.

In Bulgaria, the first total ozone measurements were initiated to the early 1960s, under the supervision of Prof. Dr R.D. Bojkov. Germany carried them out using Dobson spectrophotometers #64 provided for about 5 years. After a few years interruption Russian filter ozonometers started to be used in the Bulgarian National Institute of Meteorology and Hydrology. In 1998 with the financial support from WMO two Russian ozonometers M-124 were renovated and calibrated at Main Geophysical Observatory - St. Petersburg. The measurements at only one station (NIMH-Sofia) could be maintained.

The comparison between the monthly variations of the total ozone over Sofia for 2000 and 2001 is presented at Fig.1.

The monthly variations of the total ozone over Sofia for 2000, compared with those ones over Potsdam and Rome are presented at Fig.2.

All data are being sent every month to the WMO World Ozone and UV Data Center operated by the Canadian AES in Toronto.

### **Vertical Ozone Distribution**

In the period 1983-1992, balloon ozone soundings were released once a week at the NIMH-Sofia. For that purpose were used ozonesondes OSE - manufactured in the former German Democratic Republic. The activities were interrupted largely due to financial difficulties resulting from transition to market economy. From May 2001 a Vaisala DigiCORA III - a PC based radiosounding system for measuring pressure, temperature and humidity has replaced the Russian radiosounding system. The present financial status doesn't allow us to expand the measurements of the ozone vertical profiles with the above-mentioned Vaisala system, because of the expensive additional equipment (ozone sensors, special balloons, etc.).

### **UV-radiation Monitoring**

At the present moment we do not have a modern spectral UV-radiation monitoring. Such kind of regular measurements are very desirable to be developed in our country, but again there is a shortage of funds.

Figure 1

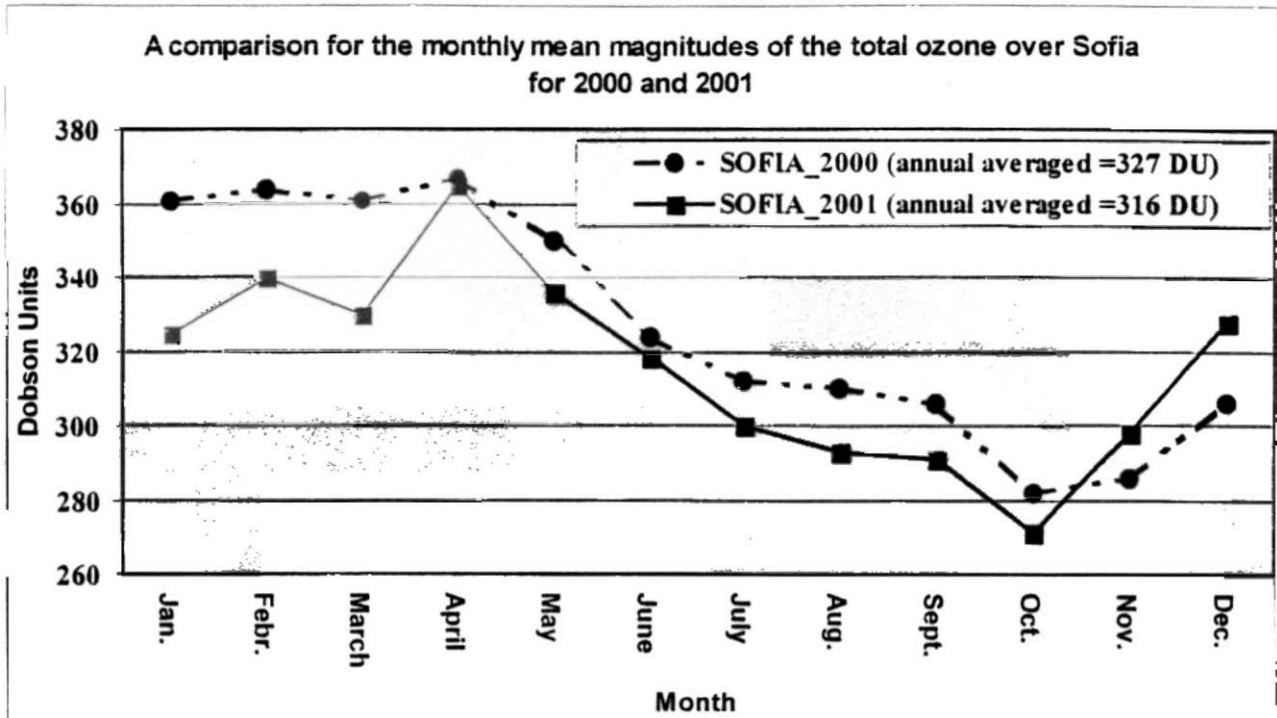


Figure 2

