LITHUANIA

Observational network

The Lithuanian Hydrometeorological Service (LHMS) follows the standard programme of observations of the World Meteorological Organization recommendable for hydrometeorological services. The state of ozone layer is monitored at the Kaunas meteorological station (Index No. 312). Total ozone measurements have been carried out with the M -124 filter ozonometer since 1 January 1993. The Kaunas station is located close to the center of Lithuania.

The ultraviolet solar radiation measurements have been carried out in Kaunas and Palanga (by the Baltic Sea) since 2000. Mean and maximum daily radiation is monitored using the UV-Biometers type 501 A, version 3 (in Kaunas – UV-A and UV-B, in Palanga – UV-B).

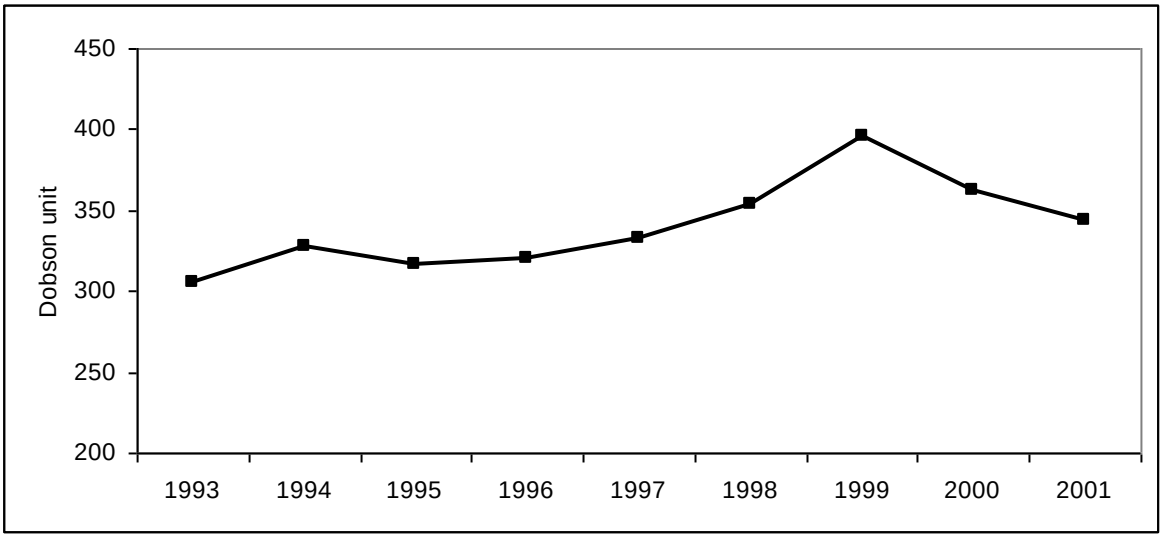
Instrument calibration

The M -124 filter ozonometer is calibrated every two years at the Remote Sensing Scientific Research Centre of the Main Geophysical Observatory in St Petersburg, Russia.

The UV-Biometers were calibrated by the LHMS Meteorological Laboratory in 1999. Local standard meters should be re-calibrated using a higher-class standard instrument in 2002.

Data analysis

All observational data are stored and processed. Because of comparatively short series of observations, they are insufficient for a comprehensive study. Last year the LHMS Division of Climatology and Methodology completed a study titled “Ozone In the World and In Lithuania” (lead researcher Dr Audronė Galvonaitė), however, due to rather limited amount of observational data (less than 10 years), its conclusions might be considered as preliminary.



Total ozone column over Kaunas, 1993 – 2001

Last year the LHMS Division of Meteorology started to originate the UV Index forecasts on a trial basis. It also monitors the state of ozone in Lithuania and carries out analyses of its quantitative changes. In case of significant ozone layer depletion, the division originates warnings communicated through the mass media.

International cooperation

The ozone measurement data are sent on a regular basis to the World Ozone and Ultraviolet Data Centre in Toronto, Canada.

The Italian – Lithuanian Counterpart Fund supported the establishment of UV monitoring network in Lithuania. Polish Institute of Meteorology and Water Management has assisted LHMS in application of the UV Index forecasting model.

Future

Observations of the ozone layer and UV radiation will be continued. However, our current ozone meters are not the very precise ones. Our ozone and ultraviolet measurements data would be much better quality provided we could obtain a Brewer Spectrophotometer. It is a modern and highly precise instrument (pricing about USD200,000), used worldwide since 1980-ties. Besides the direct measurements, it can be used as a standard meter for calibration of the UV-Biometers. Its purchase and installation will form a good basis for the further acquisition of the ozone and ultraviolet information and its scientific and practical applications.

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