CROATIA

Introduction

UV-B monitoring and research activities in Croatia are conducted by Meteorological and Hydrological Service of Croatia (MHSC) and Geophysical Institute of the University of Zagreb.
Continuous tropospheric ozone measurements are conducted by Meteorological and Hydrological Service of Croatia (MHSC), Rudjer Boskovic Institute of Physics and Chemistry (RBI), Zagreb and Institute of Medical Research and Occupational Medicine (IMI).
Generally, there is continuous cooperation and exchange of information between institutes and research groups. Scientific and research activities are supported by the Ministry of Science and Technology and Ministry of Environment and Spatial Planning.
Total column ozone concentrations are not measured since these measurements are highly resource demanding. Hence, there is no plan in the near future to start these measurements. Data neded for the analysis and research are inferred from web sites that provide free access to satelite data and ground level based stratospheric ozone observations.

Ground based UV-B measurements

Meteorological and Hydrological Service of Croatia and Geophysical Institute carry out continuous measurements of UV-B. At present there are three operational sites – one in Zagreb (GI) operating since mid 1998 (UV-Biometer) and two (UVB Pyranometers) along the Northern part of Croatian Adriatic coast line operating since 1997 and 1999 (MHSC).

Table 1. Currently operating UVB stations in Croatia

Station	Latitude	Longitude	Hight a.s.l. (m)	Operate since	Instruaments
Opatija	45° 20’	14° 19’	5	1997	Kipp&Z., at 306 nm
Umag	45° 27’	13° 32’	10	1999	Kipp&Z., at 306 nm
Zagreb	45° 50’	16° 01’	158	1998	Solar Light

The new UV-B monitoring network is under development and will be established within a national meteorological monitoring network by the end of 2002 (Table 2). Spatial site distribution is given at Figure 1.

Table 2. New Croatian UV-B monitoring network

Station	Latitude (N)		Longitude (E)		Measurements
	deg.	min.	deg.	min.	
Bilogora	**45**	**53**	**17**	**12**	**UVA, UVB**
Zagreb	**45**	**49**	**15**	**59**	**global, direct, diffuse, UVA, UVB**
Parg	**45**	**36**	**14**	**38**	**UVA, UVB**
Pula	**43**	**30**	**17**	**8**	**UVB**
Zadar	**44**	**8**	**15**	**13**	**global, diffuse, UVA, UVB**
Hvar	**43**	**10**	**16**	**27**	**UVB**
Dubrovnik	**42**	**39**	**18**	**5**	**UVB**

Research

The main goal for conducting continuous measurements of UV-B in Croatia is to establish, evaluate and describe the processes that control UV-B levels and develop predictive capability for a short time range. At present, UV-B index forecasting for public for the summer period is under development.
In addition, measurements should encourage and support the analysis and investigation of the effects of UV-B radiation on the terrestrial and aquatic ecosystems as well as human health.

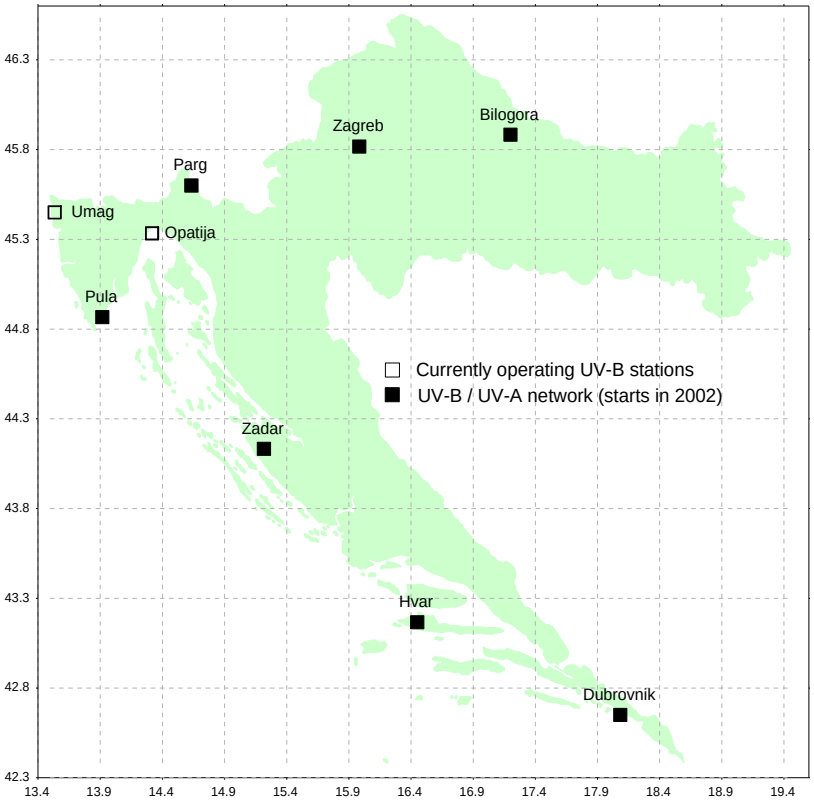

Figure 1. Spatial distribution of UV-B monitoring sites in Croatia

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