

## REPUBLIC OF CROATIA Meteorological and Hydrological Service (DHMZ)

## **Report by the Director of DHMZ**

The Meteorological and Hydrological Service (DHMZ) is continuously following its previous activities under the patronization of the Ministry of Environmental and Nature Protection. In the past year the Ministry has for the first time exposed its position to interfere radically to the DHMZ performance. The interference is based on the position of the DMHZ as the state air quality measurement authority what was hampering the position of the private sector. In a moment of time, the private sector have waved the authority of DHMZ by an unfair lobbing at the Ministry and opened the treat that the whole DHMZ is going to be dissolved under the Croatian Environment Agency, and, in the same time, taken out from operative air quality activities. Luckily, before executing any decision, Minister has resolved the situation to the tiny details exclusively with the DHMZ and finally has accepted DHMZ arguments and strongly supported the DMHZ mission, performance and authority. All these were shortly after reflected in the intervention of the Ministry to the existing Law of Air Quality by radical law-making improvement of the position of the DHMZ including the funding related to the air quality measurement performance.

Furthermore, the continuing treat for the DHMZ is also related to the well known budget decrease and stuff cut. It was additionally radicalised in the last fiscal year by the lack of the sufficient membership budget funds for the international organizations and associations. Luckily, it was successfully compensated, mostly by the EUMETSAT Working Capital Fund, and partially by the DHMZ, so called, commercial activities. Good news is that this year DHMZ has got sufficient budget dedicated to the membership fees. Then again, DHMZ is sharing sudden budget cuts with other Governmental organizations channelled by the budget rebalance. The recent one was reflected in February this year when DHMZ was ordered to cut 0,71 M€, what is 5,3 % of the total DHMZ budget, including commercial activities and ongoing projects. In the same time there is still no political will to intervene to the real savings at the ~ 2,5 M€ per year relating hail suppression activity using dual hail suppression system by the rocket and by the ground generator component. Minister of Environment intervened to the Ministry of Agriculture, as a hail suppression State coordination body, for resolving the hail suppression issue in Croatia, but got no respond.

However, in 2014 DHMZ is successfully continuing compensation of the budget cut by rising commercial (non profit) activities thus contributing with its amount approximately 10 % of 13,4 M€ total DHMZ budget. The key income of the commercial activity (75%) is given by the Croatian Waters, who has become the main strategic partner. Moreover, there is finalisation of the agreement with the Meteorological Service at the Croatian Air Traffic Authority what will increase the current commercial income by nearly 20 % and secure their status as the second DHMZ strategic partner. Rising potentials of the commercial branch are supporting DHMZ efforts on the capacity development, primarily trough the human resource mobilisation by using the opportunity to make contract with experts, partly in context of IPA projects, and by utilizing mechanism of contracting, so called, "volunteers", young unemployed experts, in all spectrum of needed expertise.

For the first time DHMZ is exercising its role as a stakeholder towards other partners. Thus, DHMZ is investing together with the Croatian Waters and a strong partnership with the Slovenian Environment Agency (ARSO) - the implementation of the hydrological model Mike 11 for Sava and Kupa river basin. DHMZ has also started implementation of the oceanographic model for the Adriatic Sea by the engagement of the experts from the Croatian Institute Ruđer Bošković for the support of the WIS DCPC / WIGOS Marine Meteorological Centre for the Adriatic Sea Area.

Currently DHMZ is continuing the process of EU structural fund utilization by the several projects, hopefully starting execution from 2015 until 2020. There is a progress in shaping of the two EU projects under the leadership of the Ministry of Environmental and Nature Protection: (1) the modernisation of the meteorological network (28 M $\in$ ) and (2) the modernization of the air quality network (18 M $\in$ ).

At this time EU structural fund related to the new Headquarters building (25 M€) is successfully shifted under the leadership of the Ministry of Education and Science and on-going partnership with the Zagreb University. In addition to that, Croatian Waters, just recently, are offering DHMZ joined participation in the project "Vepar" for the development building in hydrology - also under the support of the EU structural fund.

By this moment DHMZ succeeded to get ISO 17025 Accreditation Certificate for the 7 calibration methods performed by the Laboratory of Meteorological Instrument Calibration: 4 related to temperature, 2 related to carbon monoxide and 1 related to ozone. Our Laboratory is the only one accredited in Croatia for the calibration of the thermometer based on resistance as well as analyzers for carbon dioxide and ozone. Chemical laboratory also succeeded to get an ISO 17025 Accreditation Certificate for the two methods, both of them related to the ion chromatography analysis of major ions in precipitation, one for the anions and the other for the cations. In the near future it is planned further accreditation of new methods related to the air quality monitoring and control.

DHMZ is operating 41 main meteorological, 117 climatological, 336 precipitations and 23 rain storage, 12 background and 10 urban state air quality stations. Automated weather stations are co-located at 34 main meteorological station (MMS) sites, and 43 uncompleted automated weather stations are performing at other locations. DHMZ is also operating 452 hydrological stations for surface waters (83 are automatic stations owned and operated by the DHMZ, and 151 are overseen by the Croatian Waters) and 714 stations for ground water. DHMZ still takes care of the two radio-sounding systems in Zagreb and Zadar, 2 Doppler S band + 6 small S band weather radars and one sodar.

DHMZ is continuing the most of the research and development activities. Under the IPA Regional and Development Component in Croatia has started the two projects (1) Weather Intelligence for Wind Energy – WILL4WIND as a project leader and (2) Enhancement of Research, Development and Technology Transfer Capacities in Energy Management System for Buildings – ENHEMS Buildings as a project partner. DHMZ also continued participation in three previous started IPA projects: "Climate of the Carpathian Region", "Climate Change Adaptation: assessing vulnerabilities and risks and translating them to implementation actions at the regional and local levels" (ORIENTGATE) and Adriatic integrated Radar-based and weboriented information processing system Network to support hydro-meteorological monitoring and civil protection decision (ADRIARADNET). Some of the projects are still supported by the Croatian Ministry of Science, Education and Sport in collaboration with Academia including universities and the Croatian Academy of Art and Sciences. We are now in the transition in policy of funding research from the Ministry to Croatian Science Foundation.

DHMZ is continuing its proactive involvement with the WMO (particularly RA VI activities), GEO, EMI entities as well as with ICCED / ICSEED, ALADIN / RC LACE, HyMeX, GCOS, JCOMM and EMEP communities. Additionally, DHMZ hosted the WMO / UNISDR DRR Workshop on Quality Management related to IPA2012 Phase II Project "Building Resilience to Disasters in Western Balkans and Turkey".

DHMZ continues active partnership with the Drought Management Centre for Southeastern Europe (DMCSEE), the Regional Instrument Centre in Ljubljana (Slovenia) and regular bilateral meetings with the ARSO (Slovenian NMHS). During the RA VI XVI Session, DHMZ has signed the MoU with the Italian NMS (SMA-USAM). We are very proud that DHMZ, as the NMHS Croatia, has signed the MoU with the NMHS of Bosnia and Herzegovina that is - for the first time - equally and jointly represented by The Federal Hydrometeorological Institute in Sarajevo and the Republic Hydrometeorological Service in Banja Luka.

With no important changes, DHMZ still continues active partnership with all kinds of media, particularly with the national radio and television.

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