Geophysical Research Abstracts
Vol. 12, EGU2010-4453, 2010
EGU General Assembly 2010

Modelling of accidental released toxic gases for emergency responders in Austria, Kosovo and Bulgaria.

Sirma Stenzel (1), Kathrin Baumann-Stanzer (1), Salih Gashi (2), Bashkim Thaci (2), Ekaterina Batchvarova (3), and Tatiana Spassova (3)

(1) Central Institute for Meteorology and Geodynamics (ZAMG), Environmental Meteorology, Austria (sirma.stenzel@zamg.ac.at), (2) University of Prishtina, Kosovo, (3) National Institute of meteorology and Hydrology (NIHM), Bulgaria

In the case of accidental release of hazardous gases in the atmosphere, the emergency responders need a reliable and fast tool to assess the possible consequences and apply the optimal countermeasures. A number of models for the prediction and simulation of hazard areas affected by accidental releases of toxic gases are available worldwide. Modelling accidental releases may be required for a variety of reasons: for analyzing different accidental toxic release scenarios ("worst-case scenarios"), for preparing emergency response plans and optimal countermeasures as well as for real-time risk assessment and management (e.g. in the frame of the SEVESO directive). Depending on the demand and the particular purposes, the choice of the appropriate model is up to the authorities.

The one year project was funded by the Austrian Science and research liaison Office (ASO, www.aso.zsi.at) as a part of the program: Research Cooperation and Networking between Austria, the public higher education institutions in Kosovo and South Eastern Europe. The project was conducted by the Central Institute for Meteorology and Geodynamics (ZAMG, http://www.zamg.ac.at) in cooperation with the University of Prishtina (Kosovo, www.uni-pr.edu and the National Institute of meteorology and Hydrology (NIHM Bulgaria, www.meteo.bg). One of the main purposes of the project was to provide the both partners with basic knowledge in modelling with accidental release of toxic gases, based on the practical experience of the meteorologists from the ZAMG in the area. This knowledge can be used as scientific response to society driven current or upcoming problems especially in Kosovo. The activities involved know-how transfer on European standards and practice among the project partners, as well as joint efforts to adapt and disseminate the scientific methods and results in Kosovo. Within the project, the partners from Kosovo and Bulgaria were introduced to the atmospheric dispersion model (ALOHA - Areal Location of Hazardous atmosphere) and proceeded several model runs based on reference scenarios for chemicals of concern. ALOHA is one of the tools developed by EPA's Office of Emergency Management (OEM) and the National Oceanic and Atmospheric Administration Office of Response and Restoration (NOAA), to assist front-line chemical emergency planners and responders. In the frame of the project the partners in Kosovo and Bulgaria also undertook first steps in establishing cooperation connections with decision makers for emergency response planning, fire brigades and chemical plants.

This presentation focuses on basic issues and problems in handling with accidental release of toxic gases, as well as on communication difficulties among the emergency responders, modellers and authorities in the three countries.