

Abstract

The project investigates how to detect and prevent the regional environmental health hazards caused by increases in heat-waves frequency and intensity due to climate change. The overall objective is to develop, based on the U.S. experience, key elements necessary for creating a National Heatwave and Health Warning System (HHWS) in Moldova. The project's **approach and methods** address three principal components of an effective HHWS: (1) the *meteorological component* aims to reliably forecast heatwaves through the development of local heat stress indicators; both simple and complex methods used for heat early warnings in the U.S. will be adapted for Moldova; (2) the *epidemiological, statistical and biometeorological component* develops understanding of exposure–response relationships between the thermal environment and health; time–series studies will be used to quantify the relationship between deaths/diseases and air temperature across the whole temperature range; the record-breaking hot summer in Moldova in 2007 will be used to estimate the excess cases in different population groups; (3) the *public health component* will design effective response measures to be implemented within the window of the time provided by the warning. The project will develop a multi-staged early warning approach that scales a response plan, based on the confidence in the forecasts. *The basic (passive) response* is planned as a public warning of heat stress conditions through the mass media; a more *active approach* includes health service warning and planned intervention activities best suited to local needs. *Evaluation of the system* will be carried out through comparison of the predicted and observed mortality and morbidity during hot periods. The **potential results** include: filling priority knowledge gaps in Moldova's adaptation to adverse human health consequences due to heatwaves through transfer of the U.S. knowledge and experience, and coupling methods used in the two countries; epidemiological estimation of the potential impacts of climate change on heat-related morbidity and mortality in Moldova; identification of heat stress vulnerabilities, including particularly vulnerable populations; and preparation of the scientific basis and recommendations for development of the national HHWS.