

Climate information decision support tool for heat in Europe

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Heat waves are an emerging public health problem in Europe. A major heat wave occurred in western Europe in August 2003. All over Europe about 35000 deaths had been attributed to this heat wave. It has been shown in the United States that Heat Health Early Warning Systems can help to prevent some of the heat related morbidity and mortality.

Heat Health Warning Systems (HHWS) with a forecast horizon of up to two days have been established in several European countries during the last decade, especially as a reaction to the heat wave in 2003. In addition, it seems useful to complement an HHWS by advance heat information that contains a corresponding forecast with lead times of up to 10 days (medium range weather forecasts). This early heat information is useful for the health sector for preparation purposes. Unfortunately, the uncertainty of a forecast increases with its lead time. Probabilistic forecasts can be used to estimate this uncertainty of medium range weather forecasts.

In the framework of the EU funded EuroHEAT project (“improving public health responses to extreme weather events”) a climate information decision support tool for Europe is currently developed. This tool focuses on information about imminent heat waves and its main target group is the public health community.

The climate information decision support tool consists of two main parts. One part is a map covering all European countries which displays information about the probability that a heat wave will occur within the next three to ten days. The user of this tool will be able to display relevant situations based on his individual cost-loss ratio. The probability forecast bases on the ECMWF ensemble prediction system. This medium range heat information is not a warning, but is thought to help health authorities to get prepared that warnings might be issued during the next ten days.

The other part of the climate information decision support will gather all available heat warnings in Europe issued for the next 0 – 2 days by the responsible national and / or regional authorities. Links to all national / regional “heat warning web-sites” will be included. The added value of a web-site that gathers all available heat information is that all persons involved in the heat warning processes are able to see which actions are taken in the other European countries. As heat waves often have a large spatial

extend this piece of information may support decisions to be taken in a country.