The number and impacts of disasters have increased in Europe in the period 1998-2009, a new report by the European Environment Agency (EEA) concludes. The report assesses the frequency of disasters and their impacts on humans, the economy and ecosystems and calls for better integrated risk management across Europe.

The report addresses three different types of hazards: hydrometeorological or weather related (storms, extreme temperature events, forest fires, droughts, floods), geophysical (snow avalanches, landslides, earthquakes, volcanoes) and technological (oil spills, industrial accidents, toxic spills from mining activities). These hazards caused nearly 100,000 fatalities and affected more than 11 million people during 1998-2009. Natural hazards caused significant financial losses, estimated at over €150 billion in the 32 member countries of the European Environment Agency. However, technological hazards caused more damage, both immediate and long-term damage, to ecosystems than natural hazards.

The report finds that the 2003 heat wave over western and southern Europe was the hazard that caused the highest number of fatalities, estimated at around 70,000, while the 1999 earthquake in Turkey caused 17,000 fatalities. Flooding (213 events), storms (155 events) and extreme temperatures (101 events) caused the highest numbers of disastrous events, while industrial accidents (339 events) topped the list of technological hazards.

In terms of economic impacts, flooding cost about €52 billion and storms about €44 billion during the study period. Extreme temperature is thought to have cost around €10 billion and drought around €5 billion. Ecosystems were hit hardest by oil spills from tankers (Erika in 1999 and Prestige in 2002) and toxic waste spills from mining activities (Aznacollar, Spain in 1999 and Baia Mare in Romania in 2000).

The report suggests that increases in human activity, accumulation of economic assets in hazard-prone areas and better reporting contributed to an increase in the number and impact of disasters. It also suggests that the potential harm caused by a hazard depends crucially on how vulnerable an exposed community is to the hazard. Policy makers have a role to play in developing measures that can reduce the impact of hazards on human health and the economy. For example, stricter regulation of the oil shipping industry appears to have reduced the number of oil spills.

It is not known to what extent climate change has contributed to the increase in disasters. However, projections reveal that the severity and frequency of extreme weather events are expected to increase and thus the share of losses attributable to climate change could also increase in future.

The report calls for better Integrated Risk Management across Europe, covering prevention, preparedness, response and recovery for all hazards. Policymakers should in particular consider actions to reduce the vulnerability of communities to hazards, including:

- Improved early warning systems and increased efforts to raise public awareness. This could help reduce the impact of storms and floods in the future.
- More precise forecasting of extreme temperature events and new tools to help integrate forecasts with other data, such as socio-economic factors that affect vulnerability to extreme heat. Heat related deaths are largely preventable, so strategies should focus on delivering the infrastructure needed to support those at risk.
- Better prevention of forest fires, an issue which is inter alia addressed in the EC Green Paper on Forest Protection and Information in the EU.

1. [http://ec.europa.eu/echo/civil_protection/civil/prevention_overview.htm](http://ec.europa.eu/echo/civil_protection/civil/prevention_overview.htm)


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