

CLIMATIC EXTREMES: LONG-TERM CHANGES AND THEIR IMPACTS

Summary

Material damages caused by weather-related extreme events have dramatically increased worldwide in the last few decades. Explanations of these events can be sought *via* changes in physical, terrestrial, climate and socio-economic systems. Some types of weather events have become increasingly extreme and strengthening of this tendency is projected for the future. Increase in intense precipitation resulting from world warming has been already observed, with all possible consequences of flooding. Human encroaching into the harm's way and increase in the damage potential in floodplains are often the dominating factors in the rising flood

damages. Projections for the future, based on regional climate models, indicate increased risks of flood in many areas. Yet, risk of snowmelt and ice-jam floods has decreased for the most part of Europe. Increase in very dry land areas has been already noted. Further increase in dry land areas, and intensity, frequency, and severity of droughts is projected, due to ubiquitous higher temperatures and reduced, annual or seasonal, precipitation in some regions. Heat waves become increasingly frequent in summer affecting ageing European society. Impacts of extreme weather events are discussed, including the environmental track.