



Increasing of severe hydrological events in the Po basin under global warming

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It has been long recognized as the global changes are leading to increase the occurrence of severe weather events and, in the last few years, many critical hydrological situations have actually been observed in many areas of the world. North Italy seems to be a most vulnerable region since it has been interested by many floods in the recent years, especially during fall season. In these work we used a distributed Hydrological Model, forced with a Regional Climate Model, to investigate possible trends of flood events occurrences in the upper Po basin and surrounding areas. In order to evaluate such trends we used two different alarm indices, tested and operationally used for flood alarm mapping; the analyses are carried out for years 1960-2050 and the main goal is to verify if a positive trend in the occurrence of flood events is actually expected and which segments of the drainage network that are most affected by such trend. Detailed description of the alarm indices will be given and emphasis will be placed on the possibility to use the proposed approach to map flood risks for the future climatic scenarios in the whole Europe.