

## **FLOOD HAZARD MAPPING IN ALLUVIAL PLAIN (PO PLAIN - NORTHERN ITALY)**

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The principle objective of this paper is to define the criteria necessary to draw up maps to indicate flood hazard in river environments with particular focus on the Po river plain in Italy. The Po plain, particularly in its lowest areas, has always been subject to destructive overflowings, a situation which has left its mark on the life and growth of the communities who have settled there over the centuries. At present it is not possible, either from an economic point of view or from the present state of technology, to intervene in river systems in order to completely eliminate the likely event of a flood. It is, however, possible to try to limit damage to the environment as much as possible, through the rational planning of any settlements and landworks in the region. The morphological features of the region and the distribution of infrastructure systems are taken into consideration. The construction of the digital elevation model of the plain is fundamental in that it not only shows the surface features of the land but also, through the use of calculators, shows the direction that the flood waters will take after they break over the dykes. The infrastructure systems present on the plain are most important in determining the spread of the floodwaters. These can be either partially or totally blocked by raised structures such as highways and railways, while canal systems could favour their distribution.