



Topography/landscape variations and perception of the flooding hazard and risk in coastal lowlands and floodplains

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Urbanization and economic exploitation of coastal lowlands and of floodplains or of lagoons around deltas has highly modified the pattern of flooding in a global scale, especially in the last 30-100 years. Dykes along streams and rivers or sewage systems in cities are oriented to offer protection against common floods, but tend to intensify the effects of strong or of extreme flooding events because of floodwater trapping. The flow of the river water is also constrained by various buildings and other constructions which are exposed to flooding and other type of damage. Reclaimed and protected land of different types, including that by dams, dykes and river by-passes is exposed to deformation (subsidence, slow slumping towards the depocenter), as recent geodetic, mainly data reveal, with the risk of flooding highly amplified by the amount of subsidence. Modification of openings of lagoons, especially to serve harbours, amplifies the mass of intruding water and the rates of flooding. In addition, changes in the landscape uphill (deforestation etc.) amplifies the flow of water in both normal and extreme precipitation events.

All these, in combination with abundance of global-scale, usually nearly real-time, dramatized information, give the impression of recent substantial changes in the primary causes of flooding (natural effect-hazard), shadowing effects which practically control the highly increased risk (amount/possibility of damage- societal impact), and tend to overestimate the climatic factor.