

THE CYCLE OF CLIMATE AND CIVILISATION, and HAZARD MANAGEMENT

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The interaction of climate and mankind is bi-directional. Among the four basic control-factors (physical, chemical, biological, and anthropic), the anthropic impact very often played the most crucial role. The entire belt where "western" civilisation developed (Sahara, Mediterranean, Middle East, Mesopotamia, Indus Valley, and Silk Route) almost completely desertified, and mankind is likely to be co-responsible for this. Climate affected history mankind and the development of its civilisation, and mankind affected environment and climate. Such a crossed feedback perhaps still plays a crucial role, and for sure there are disquieting aspects such as e.g. urban waste disposal, sustainable development, demographic increase and pressure from less developed countries, hazard, risk, and catastrophe management, etc. all problems that are a frequent concern for present governments, that have relevant crossed feedbacks with environmental science, and difficult implications for decision-makers. Mankind is a proxy-data recorder, and an important perturbing agent. Man's history is therefore a unique experiment, spanning a multi-millennial range, by which long range phenomena can be investigated in order to focus on the relative importance of natural factors compared to Man's use of territory. The analysis of such an unusual database, from the strict viewpoint of the mathematical data handling that is typical of exact science, can be accomplished by suitable although eventually unconventional approaches. A short presentation of such an entire logical perspective is given, with some emphasis on mathematical aspects, on the meaning of the term "prevision", and on the related social implications and emergency management.