

COURSE TITLE:

GLOBAL AND REGIONAL CLIMATE CHANGE

COURSE DESCRIPTION:

Natural and anthropogenic factors of climate change. Radiation processes of atmosphere and surface. Concentrations of atmospheric gases and their changes. Natural and anthropogenic greenhouse effect. Changes of atmospheric ozone concentrations. Climate system. General circulation of atmosphere. Sulphur and nitrogen compounds in precipitation. Acid rain. Role of the oceans and hydrosphere in climate system. Biosphere. Cryosphere. Components of climate system and their interactions. Possible reasons of climate change. Perspectives of global warming. Theory of operation of global climate models, main types. Possibilities and limitations of climate modelling.

LITERATURE:

Greadel T.E., Crutzen P.J. (1993): Atmospheric Change. An Earth System Perspective. Freeman and Company. New York, p. 446

Lutgens K.F., Tarback J.E. (2001): The Atmosphere, Prentice Press, New York, p. 484.

IPCC (2001): Climate Change 2001: (a) Third Assessment Report. (b) The Scientific Basis. Cambridge University Press, Cambridge, UK

Ernst W.G. (1994): Earth Systems: Process and Issues. Cambridge University Press, Cambridge, pp

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