Level: PhD

Course title: PhD study of Geoscience (Geography)

Subject title: Global hydrology influences

Status: elective

ECTS: 11
Requirements: None

Learning objectives

Define the main regularities of hydrology processes and phenomena in global sea. Understanding the main hydrology terms and characteristics of the oceans and seas. The main goal is overview the global impacts of worldwide water areas (oceans and seas) on global climate and on the Earth in general.

Learning outcomes

Provide students with the knowledge of main phenomena in oceans. Acquire competences in causal analysis of issues related with hydrology processes and phenomena in oceans and its impacts on global natural processes.

Syllabus

Theoretical instruction

Global sea – division and development

Global sea – horizontal division

Relief of the Global sea

Salinity – horizontal and vertical division

Optical properties of sea water

Temperature of sea water

Sea ice – spatial distribution, consequences of ice core melting

Sea waves – genesis, dimension and impact on coast

Sea currents – genesis, patterns in global sea, impacts on environment

Tide and ebb – impacts on environment

Temperature oscillation of Global sea – influences on air temperature, winds, precipitation patterns, etc.

Practical instruction

Creation the patterns of ocean currents

Preparation of the scientific paper