EDUCATION AND RESEARCH ON CLIMATE CHANGE AT THE UNIVERSITY OF SOFIA

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University of Sofia, Faculty of Geology and Geography (brief introduction)

- ***The University***

❖ 1 October 1888 – Bulgarian Higher Education School was opened

The University - academic structure

Biology
Chemistry
Classical and Modern Philology
Economics and Business Administration
Education
Geology and Geography
History
Journalism and Mass Communication
Law
Mathematics and Informatics
Medicine
Philosophy
Physics
Pre-school and Primary School Education
Slavic Studies
Theology

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Faculty of Geology and Geography University of Sofia

- **Students - about 1200**
- **Teaching staff - 83 Professors, Associate Professors and Assistant Professors**
- **Researchers - 46 specialists**

➢ **specialties:**

Geography, Tourism, Geology and Regional Development and Policy

➢ **degree levels**

Bachelor, Master of Science and PhD

- **additional education and post-graduated qualification**

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Climatology

- Global and regional climate
- Regime and spatial distribution of climate elements
- Climate of Bulgaria
- Applied Climatology
- Climate change and variability on global and regional time scale and their impacts on man activity

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The Masters degree program
"Hydro-climatic Resources Management"

One of the main tasks for modern science and society is the development and implementation of measures for improving the relationship between researchers, policy and decision-makers and public participants.

Faculty of Geology and Geography
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The Masters degree program
"Hydro-climatic Resources Management"

The main subject:

- methods for resource assessment;
- climate and the influence of water resources on different human activities;
- principles of climate and water resources use;
- the influence of anthropogenic activity and
- legislative aspects

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The Masters degree program
"Hydro-climatic Resources Management"

Professional experience in the following areas:

- environmental protection (and especially air and water quality control),
- water economy,
- water and climate amelioration,
- energy resources (renewable resources),
- tourism and
- agriculture

Climate research at the Faculty of Geology and Geography

Main tasks:

- to determine the regional climate trends
- to reveal if there is a cyclic variability in air temperature and precipitation
- to show if the climate variability observed in Bulgaria is consistent with climate variability in other Balkan countries and with global climate also;
- to determine, to what extent temperature and precipitation variations over Bulgaria are related with natural mechanisms of climate change
- to study if anthropogenic activity is the most important cause for climate change

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Climate research at the Faculty of Geology and Geography

Results:

- Positive trend of air temperatures in north part of Bulgaria; Negative trend of air temperatures or close to 0 in South part
- Negative trends for monthly and annual precipitation totals
- Enhance of occurrence of extreme events
- NAO:
  - positive correlation between air temperature and NAOI
  - negative correlation between rainfall and NAOI for most of months and annual values
- The relation between climate variability in Bulgaria and natural mechanisms is not clearly expressed. It is necessary to explore other factors that determine climate variability and change
- The climate variability observed in Bulgaria is consistent with climate variability in other Balkan countries.

Expectations towards the project on climate change

The results from the projects related to climate change should have two aspects:

- fundamental theoretical (to give actual information about past, current and future climate, to enhance knowledge about the climate system, their changes, the consequences for the socio-ecosystems);
- applied (to help for developing various strategies for mitigation and adaptation to climate change and for effectively tackling environmental problems).

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Expectations towards the project on climate change

It is expected the work on climate change project to have effect in four main areas:

- Innovations: application of new methods for study climate change
- Progress in cooperation in research activities: creating of effective forms of scientific cooperation between project partners and opportunities to expand the cooperation with other scientific and public organizations on local and regional scale.
- Exchange of knowledge and experience: creating an environment for training and technology transfer between project partners and wide range of experts and stakeholders by presenting the results, by development, publication and provision of methodological guidance and information to assess and analyse the causes, dynamics and consequences of climate change.
- Improving decision making: to contribute to the formulation of good climate change policy and to develop various strategies and plans in order to reduce, avoid, and better understand the risk associated with the climate change and effectively cope the environmental problems.

THANK YOU

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