

## ED53B-3476 Hands-on Approach to Prepare Specialists in Climate Changes Modeling and Analysis Using an Information-Computational Web-GIS Portal "Climate"

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Friday, December 19, 2014 01:40 PM - 06:00 PM  
*Moscone South  
Poster Hall*

A problem of making education relevant to the workplace tasks is a key problem of higher education in the professional field of environmental sciences. To answer this challenge several new courses for students of "Climatology" and "Meteorology" specialties were developed and implemented at the Tomsk State University, which comprises theoretical knowledge from up-to-date environmental sciences with computational tasks. To organize the educational process we use an open-source course management system Moodle ([www.moodle.org](http://www.moodle.org)). It gave us an opportunity to combine text and multimedia in a theoretical part of educational courses. The hands-on approach is realized through development of innovative trainings which are performed within the information-computational web GIS platform "Climate" (<http://climate.scert.ru/>). The platform has a set of tools and data bases allowing a researcher to perform climate changes analysis on the selected territory. The tools are also used for students' trainings, which contain practical tasks on climate modeling and climate changes assessment and analysis.

Laboratory exercises are covering three topics: "Analysis of regional climate changes"; "Analysis of climate extreme indices on the regional scale"; and "Analysis of future climate". They designed to consolidate students' knowledge of discipline, to instill in them the skills to work independently with large amounts of geophysical data using modern processing and analysis tools of web-GIS platform "Climate" and to train them to present results obtained on laboratory work as reports with the statement of the problem, the results of calculations and logically justified conclusion. Thus, students are engaged in the use of modern tools of the geophysical data analysis and it cultivates dynamic of their professional learning. The approach can help us to fill in this gap because it is the only approach that offers experience, increases students involvement, advance the use of modern information and communication tools.

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