Geophysical Research Abstracts
Vol. 16, EGU2014-42-4, 2014
EGU General Assembly 2014

Hands-on approach to teaching Earth system sciences using a information-computational web-GIS portal "Climate"

Yulia Gordova (1), Valentina Gorbatenko (2), Yulia Martynova (1), and Tamara Shulgina (1)
(1) SCERT/IMCES SB RAS, Tomsk, Russian Federation (yulia@scert.ru), (2) Tomsk State University, Tomsk, Russia

A problem of making education relevant to the workplace tasks is a key problem of higher education because old-school training programs are not keeping pace with the rapidly changing situation in the professional field of environmental sciences.
A joint group of specialists from Tomsk State University and Siberian center for Environmental research and Training/IMCES SB RAS developed several new courses for students of “Climatology” and “Meteorology” specialties, which comprises theoretical knowledge from up-to-date environmental sciences with practical tasks. To organize the educational process we use an open-source course management system Moodle (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 platform “Climate” (http://climate.scert.ru/) using web GIS tools. These trainings contain practical tasks on climate modeling and climate changes assessment and analysis and should be performed using typical tools which are usually used by scientists performing such kind of research. Thus, students are engaged in n the use of modern tools of the geophysical data analysis and it cultivates dynamic of their professional learning.
The hands-on 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. The courses are implemented at Tomsk State University and help forming modern curriculum in Earth system science area.
This work is partially supported by SB RAS project VIII.80.2.1, RFBR grants numbers 13-05-12034 and 14-05-00502.