



Observing the Earth from an Astronaut's View – Applied Remote Sensing in Schools

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Since spring 2014, NASA conducts the High Definition Earth Viewing (HDEV) mission at the International Space Station (ISS). HDEV consists of four cameras mounted at ESA's Columbus laboratory. They continuously observe our earth in three different perspectives. Hence, they provide not only footage showing the Sun and the Moon rising and setting but also regular images of landscapes that are difficult to access, such as mountain ranges, deserts, and tropical rainforests. The German educational project "Columbus Eye", which is executed by the University of Bonn and is funded by the German Aerospace Center (DLR), aims at the implementation of the HDEV imagery and videos in a teaching portal: www.columbuseye.uni-bonn.de. Pupils should be motivated to work with the footage in order to learn about pattern and processes of the coupled human-environment system like volcano eruptions or deforestation. The material is developed on the experiences of the FIS (German abbreviation for "Remote Sensing in Schools") project and its learning portal (www.fis.uni-bonn.de/en). Recognizing that in-depth use of satellite imagery can only be achieved by the means of computer aided learning methods, a sizeable number of e-Learning contents in German and English have been created throughout the last 7 years since FIS' kickoff. The talk presents the educational valorization of ISS and satellite borne imagery data as well as their interactive implementation for teachers and pupils in both learning portals. It will be shown which possibilities the topic of earth observation from space holds ready for teaching the regular STEM curricula. A report of first experiences of a nationwide road show accompanying the mission of the ESA astronaut Alexander Gerst will be given. Among others it involved an event during which pupils from a secondary school in North Rhine-Westphalia have talked to the astronaut via ham radio. Accordingly, the presentation addresses the question of how synergies of human space travels can be used to enhance the fascination of earth observation imagery in the light of problem-based learning in everyday school lessons.