



Using Copernicus EO data and services in primary education

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The Copernicus EO Programme offers information services based on vast amounts of satellite and in-situ data. This information content which is freely and openly available to all users, can directly impact teaching and learning systems by providing insights of our planet never available before. Specifically, the Copernicus ecosystem can enable students to develop a keen awareness of the intricate interrelationships that exist in the real world environment. The incorporation of Copernicus services and data in all levels of education is an ongoing effort which has been initiated with the establishment of the Copernicus Academy Network.

Here, we present an application of Copernicus services into the Greek upper primary school curriculum, delivered in the form of “ready-to-use” hands-on activities. We use case studies from the latest natural disasters which have raised public awareness and are believed to be concrete examples of local events that are personally relevant to students, thus engaging them in an experiential learning process. The activity shown is related to the Athens’ devastating forest fires during the summer of 2018 (Mati, Kineta forest fires). We use the Sentinel-hub EO Browser tool to approach the issue of forest fires in urban compare to rural sites. Through simple concepts developed from these examples, the students are introduced to science subjects such as the interaction of light with matter, the reflection of light by different land surfaces, and the extinction of the radiation by atmospheric constituents. The interdisciplinary approach used in the suggested classroom activities promotes the UNESCO vision for education that helps students better understand the world in which they live by addressing the complexity and interconnectedness of environmental problems and thus promoting sustainable development concepts.

Future work includes the use of additional natural phenomena and disasters or man-made emergency situations monitored by Copernicus in order to further promote a holistic approach in teaching and learning of Earth System Sciences. (e.g. floods, oil spills, algal blooms, desert dust outbreaks, volcanic eruptions etc.).