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The final published text can be found in

Proceedings 2019, 24(1), 10; <https://doi.org/10.3390/IECG2019-06222>

Extended Abstract

Online Analyses of Terrains for Environment and Engineering Geology Studies †

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† Presented at the 2nd International Electronic Conference on Geosciences, 8–15 June 2019; Available online: <https://iecg2019.sciforum.net/>.

Published: 27 September 2019

Keywords: topographic and geological maps; satellite images; Google Street View; QGIS

Geology is, from its foundation, a subject strongly based on field studies. Nonetheless, offsite studies can frequently play a relevant role in surveying large areas and in preliminary assessments of specific sites, and they could give important contributions to the planning of onsite works. Diverse online tools, including topographic and geological maps, satellite images and onsite images (Google Street View), are freely available and can be integrated into a GIS (Geographic Information System) environment such as QGIS (A Free and Open Source Geographic Information System licensed under the GNU General Public License [1]). The potential and limitations of these tools can be discussed in the context of subjects relating to environmental and engineering geology. The discussion can be supported by some case studies related to examples of these issues, based on observations of terrains (including observations of built structures). Diverse perspectives can be considered, such as restraints to structure development, hazard assessment and hydrological studies, as well as the potential of sites to be used for the teaching of concepts related to these subjects.

Funding: The Lab2PT-Landscapes, Heritage and Territory laboratory-AUR/04509 is supported by the Portuguese FCT—“Fundação para a Ciência e a Tecnologia” (Portuguese funds and where applicable the FEDER co-financing, in the aim of the new partnership agreement PT2020 and COMPETE2020—POCI 010145 FEDER 007528).

Conflicts of Interest: The authors declare no conflict of interest.

References

1. QGIS A Free and Open Source Geographic Information System. Available online: <https://qgis.org/en/site/> (accessed on 26 October 2019).

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Proceedings 2019, 24, 10; doi:10.3390/IECG2019-06222 www.mdpi.com/journal/proceedings