Geo-graphical Representation for Future Challenges in e.Education

by Agata
Lo Tauro

This article is an opportunity to discuss how well investments in the development of surveying and mapping, through programmes such as GMES, may translate into operational, useful and relevant tools for environment professionals in the territory.

The Wealth of new geomatic applications has been developed over the last years using data from several instruments (e.g. the 4-tonne Japanese Advanced Land Observing Satellite – ALOS, etc.). Under the terms of a cooperative agreement, International Research Institutions has been delivering data to users across Europe and Africa. In particular, some leaders in geomatic applications, have made significant contributions to the Earth Observation mission employing innovative algorithms for estimation of soil moisture from L-Band telemetry. Furthermore Member States have recently approved the new principles for the Sentinel Data Policy, which establishes full and open access to data acqui-

red by the upcoming Sentinel satellite missions. The Sentinels comprise five new missions being developed by ESA specifically for the operational needs of the Global Monitoring for Environment and Security programme (GMES). GMES is an EC-led initiative to ensure the provision of Earth observation (EO) services that are tailored to the needs of users, both public policymakers and citizens, on a sustainable basis. As part of the ESA-led GMES Space Component, which guarantees access to a variety of EO data and the EC worked together to define the principles and implementation scheme of the Sentinel Data Policy.
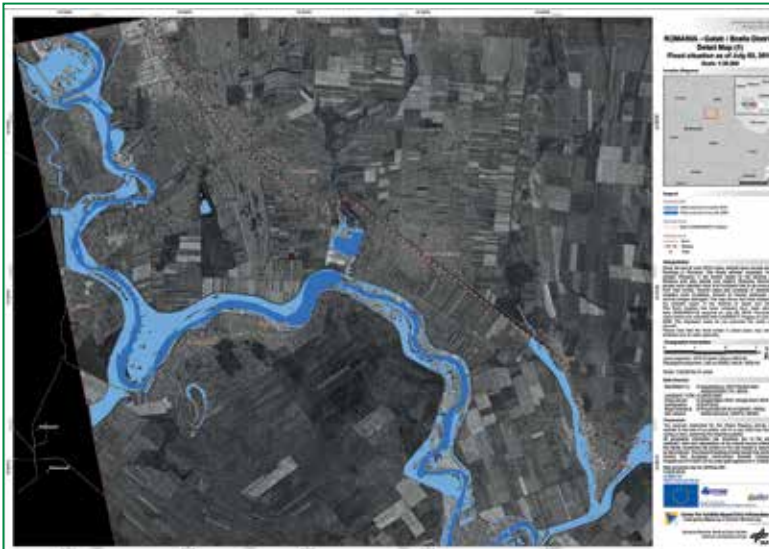
Land Use Sampling and Analysis

The analysis includes thematic mapping, a flexible data base editor, formula editing, stati-

stics, charting, matrix manipulation, network generation, models and algorithms, and hooks to external procedures. Novel "Open" Land cover analysis with temporal evolution of NDVI provides an example of thematic mapping in order to understand patterns and changes in "risk zones".

The implementation of algorithms for innovative classification methods, after choosing training sets describing environmental stress, water pollution and brownfields are the main task of the methodology: subdivision in cluster with an unsupervised algorithm or new implementations and identification of cluster typologies with a collection of spectral firms. This analysis has proven to be one of the most effective solution for the remote and accurate mapping of pesticides and monitoring their displacements. Despite the advances of the GIS based project, the processes involved in data fusion are still currently under development. The data fusion method will focus on enhancing the appearance of a hybrid high-resolution image to facilitate visual image exploitation.

Cloud platform and open data

Lowest costs, flexible scaling, increased reliability, and the decoupling of management at the operating system and application levels are just a few of the main benefits that Cloud Technology provide us. Single points of failure are eliminated with Cloud Web from not

Results and Conclusions

The framework presented here represents an important contribution to the future prospects of novel RS automated approach, in situ analysis and GIS integration for the management of natural resources. The experiment results demonstrated automated approach is an effective method in remote sensing image classification and its average performance is better than traditional classification methodologies. The localization of areas of values will help to ensure improved environmental management through the timely detection of areas requiring protection and improved environmental supervision. Development of a growth management strategy and valorization of cultural resources involves a balanced combination of planned growth and environmental integrity. The integrated framework presented in this research has the potential to provide for each of these items. Different types of hyperspectral and RS data could be take into consideration, together with the estimation of several spectral-derived indexes that turn out to be fundamental for a preliminary detection of possible sites of interest. New policies must be implemented to ensure planned growth as opposed to existing random development patterns.

only the software, but hardware levels as well. We can deploy, scale, or migrate entire servers in just a few moments, which is much faster than a traditional Web Hosting environment. No longer are Web Hosting "servers" tied to a physical machine. When you have an account with Cloud Web, your account is instantly, and constantly replicated across multiple machines and multiple storage locations. If your website is running on a physical server that crashes, it is instantly restarted on one that is available. You may have read about massive cloud failures with other companies, however many of those were due to a single point of failure on the underlying engine. Each one of our private clouds run off of an underlying engine, or distribution server which manages the applications running on each cloud and physical server. In Cloud Web, we replicate this engine in real time across multiple physical machines so in the event of a failure, the backup engine is automatically and instantly restarted on another server. Our custom implementation provides the benefits a cloud provides, but environments are also separated into smaller, scalable applications similar to that of a traditional
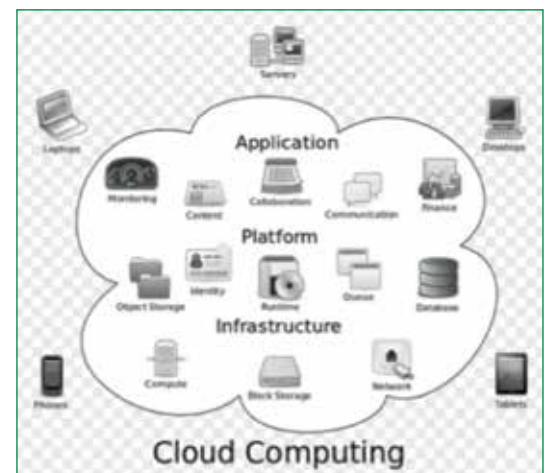
Shared Web Hosting provider. At Google I/O, it is possible to introduce new set of products to Google Cloud Platform that help developers get value from Big Data, build great mobile applications and monitor the performance of their cloud applications.
It is possible to add tooling to Android Studio, which simplifies the process of adding an App Engine backend to mobile app. In particular, Android Studio now has three built-in App Engine backend module templates, including Java Servlet, Java Endpoints and an App Engine backend with Google Cloud Messaging. Since this functionality is powered by the open-source App Engine plug-in for Gradle, It is possible to use the same build configuration for both app and and Continuous Integration environments.
Free and open source softwares on a *smartphone* (e.g. Android is a Google product) are designed and built from the ground up to integrate with Google services and be a cloud-powered OS. A lot of Android is open source. With some work, it's possible to turn a modern Android smartphone into a Google-less, completely open device.

However, these policies cannot be devised without adequate information related to the location and form of new development, and this is where the integrated framework can make a substantial contribution to planning and policy formation with the support of "open data" and Cloud Web in e.Education and Research (e.g. core curriculum DL n. 297 del 16/4/1994). Novel technologies enable better decision-making and increase knowledge of how citizens may be impacted by those decisions. Multi-media tools and innovative methodologies for developing professor competence under novel educational frameworks and "autonomous CLIL and Inclusion in education are planning through the European Union and International Programmes.

Today's educators need to have an understanding of all the ways in which communication and innovative technologies can drive institutional success. From tools to technique, this research will focus on how higher and marketers can position themselves – and empower their community – to help their institutions thrive in this era of convergence.

In particular the project asks the user to respond to a set of questions on teaching through a foreign language in relation to community, communication, culture, cognition and innovative e.Education solutions.

REFERENCES

Lo Tauro, A. (2009). Georeferencing of Cultural Heritage and Risk Chart: research of novel applications, in EVA 2009 Florence, Proceedings, pp. 151-156.

Lo Tauro, A. (2010): "Uso della Geomatica per analizzare i Piani Paesaggistici Regionali, in Proceedings of the 12th ASITA Conference, Italy 2010, pp. 1355-1360

Lo Tauro, A. (2012): Geospatial Analysis and Data Integration for Cultural Resources Evaluation: A collection of articles on analytical geomatics and their applications. BAR International Series 2313 , 2011 pp. 90 - http://www.archaeopress.com.

Lo Tauro, A. (2015): Geomatics for cultural and natural heritage conservation and valorisation, BAR International Series, http://www.archaeopress.com.

ABSTRACT

This research is an opportunity to discuss how well investments in the development of surveying and mapping, through programmes such as GMES, may translate into operational, useful and relevant tools for environment professionals in the territory. Environmental analysis will be given the floor to provide the feedback on the experience with geomatic applications, and their needs under a pluri-disciplinary approach. The suitability of existing applications will be analyzed, as well as the efficiency of current support mechanisms for regions wishing to take up innovative applications and open data for sustainable management, heritage conservation and e.Education.
The interdisciplinary research will analyze the following topics: territorial planning, environmental impact assessment, cultural heritage conservation, etc. from regional, national, European and International Strategies. This is a work in progress.

AUTHOR

Agata Lo Tauro
agata.lotauro@istruzione.it
MIUR, http://www.miur.it, Italy