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The contribution of the Geohazards Exploitation Platform for the GEO Supersites community

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The European Space Agency (ESA) initiative for the creation of an ecosystem of Thematic Exploitation Platforms (TEP) focuses on the capitalization of Ground Segment capabilities and ICT technologies to maximize the exploitation of EO data from past and future missions. A TEP refers to a computing platform that complies to a set of exploitation scenarios involving scientific users, data providers and ICT providers, aggregated around an Earth Science thematic area. The Exploitation Platforms are targeted to cover different capacities and they define, implement and validate a platform for effective data exploitation of EO data sources in a given thematic area.
In this framework, the Geohazards Thematic Exploitation Platform or Geohazards TEP (GEP) aims at providing on-demand processing services for specific user needs as well as systematic processing services to address the need of the geohazards community for common information layers and, finally, to integrate newly developed processors for scientists and other expert users.
The GEP has now on-boarded over 40 European early adopters and will transition during 2016 to pre-operations by developing six new Pilot applications that will significantly augment the Platform's capabilities for systematic production and community building. Each project on the Platform is concerned with either integrating an application, running on demand processing using an application available in the platform or systematically generating a new product collection. The platform will also expand its user base in 2016, to gradually reach a total of about 65 individual users.
Under a Consortium lead by Terradue Srl, six new pilot projects have been taken on board: photogrammetric processing using optical EO data with University of Strasbourg (FR), optical based processing method for volcanic hazard monitoring with INGV (IT), systematic generation of deformation time-series with Sentinel-1 data with CNR IREA (IT), systematic processing of Sentinel-1 interferometric imagery with DLR (DE), precise terrain motion mapping with SPN Persistent Scatterers Interferometric chain of Altamira Information (ES) and a campaign to test and exploit GEP applications with the Corinth Rift Laboratory in which Greek and French experts of seismic hazards are engaged.
The consortium is in charge of the resources and services management under a sustainable and fair governance model to ensure alignment of the Platform with user community needs, broad collaboration with main data and service providers in the domain, and excellence among user initiatives willing to contribute.
In this work we show how the GEO Geohazards Supersites community can fully benefit from availability of an advanced IT infrastructure, where satellite and in-situ data, processing tools and web-based visualization instruments are at the disposal of users to address scientific questions. In particular, we focus on the contributions provided by GEP for the management of EO data, for the implementation of a European e-infrastructure, and for the monitoring and modelling of ground deformations and seismic activity.