The Ionosphere Prediction Service: an EC project to support GNSS users

Joaquim Fortuny-Guasch, Maria Angeles Aragon (Italy), Eric Guyader (Belgium), Claudio Cesaroni and Luca Spogli (Italy)

SUMMARY

The Ionosphere Prediction Service (IPS) is a project funded by the European Commission, concluded in February 2019 with the opening to the users of the IPS service prototype. The project has been led by TELESPAZIO (IT) in collaboration with the Istituto Nazionale di Geofisica e Vulcanologia (INGV-IT), the University of Nottingham (UNOTT-UK), the University of Rome "Tor Vergata" (UTOV-IT), the Nottingham Scientific Ltd (NSL, UK) and TELESPAZIO VEGA (DE). The scope of IPS was to design and develop a prototype capable of providing in real-time prediction products at regional and global scales to assist GNSS users anticipate potential degradation of GNSS performance. It offers to GNSS users and service providers early warnings, nowcasting and forecasts of Sun behavior, ionosphere content and dynamic, as well as the related impact at GNSS user level.. The core scientific contribution of the project is represented by the research activities carried out by the project's research partners (i.e. INGV, UNOTT and UTOV) aiming to go beyond the state of the art in understanding the impact of significant ionospheric-related geophysical events on present day technology-based society. The outputs of the research activities are nowcasting and forecasting tools, dealing with different topics: Solar activity related products (UTOV), Ionospheric activity related products (INGV), GNSS user receiver (UNOTT) and Service related products (TELESPAZIO) addressed to aviation. TELESPAZIO implemented the IPS prototype as a chain of processors capable of describing the Space-Weather phenomena affecting the GNSS service provider and users community. The prototype will remain active for the users and it is now deployed at the Joint Research Center premises in Italy, in order to continue to test the platform capability and its further potential. This presentation gives an overview of the IPS prototype through a real-time session and shows the possibility for the users to customize the service to their own needs.

The Ionosphere Prediction Service: an EC project to support GNSS users (10209)
Joaquim Fortuny-Guasch, Maria Angeles Aragon (Italy), Eric Guyader (Belgium), Claudio Cesaroni and Luca Spogli (Italy)

FIG Working Week 2019
Geospatial information for a smarter life and environmental resilience
Hanoi, Vietnam, April 22–26, 2019