Paper ID: 52163
oral

30th IAA SYMPOSIUM ON SPACE AND SOCIETY (E5)
Space Assets and Disaster Management (4)

Author: Mr. Pierre-Alexis Lagadrilliere
DLR (German Aerospace Center), Germany

Dr. Michael Nolde
DLR (German Aerospace Center), Germany
Dr. Torsten Riedlinger
DLR (German Aerospace Center), Germany
Mr. Thomas Ruppert
DLR (German Aerospace Center), Germany
Mr. Maximilian Schwinger
DLR (German Aerospace Center), Germany

NEW FUNCTIONALITIES OF THE EUROPEAN FOREST FIRE INFORMATION SYSTEM WHICH ADVANCE DISASTER MANAGEMENT AND SUSTAINABLE DEVELOPMENT GOALS

Abstract

The European Forest Fire Information System (EFFIS) provides timely and reliable information on wildland fires in Europe since 1998. EFFIS supports agencies in charge of the protection of forests within the European Union. The services comprise the daily analysis and publication of weather based fire danger information, as well as the timely delivery of active fire locations and recently occurred burnt areas. As part of Copernicus Emergency Management Service, EFFIS contributes directly to the disaster management in Europe and helps monitoring indicators of the Sustainable Development Goals.

The Earth Observation Centre from the German Aerospace Centre (DLR) has been entrusted with modernizing the EFFIS service and with improving the near real time products delivery by shortening timeliness. The new main functionalities comprise analysis, derivation and delivery of burnt areas from Sentinel-3 and MODIS data. In this regard, a methodology has been developed, as well as implemented and tested, to efficiently derive reliable and accurate burnt area perimeters for different optical earth observation satellites. Another main functionality is the active fire and hotspot detection. This element has been updated with the newest available components which improve fire detection and reduces false alarms. The processing chain is fully automated and comprises the pre-processing of satellite data. In addition for burnt areas, it comprises histogram matching, mosaic generation and functions for the tracking growth over time.

EFFIS new functionalities are integrated and validated in an operational environment. Results of these functionalities benefit the fire situation monitoring in Europe through faster, more reliable and accurate detections and bring considerable progress towards achieving the SDGs.