



Integrated services to support detection, prevention and planning of the agricultural-forest-rural land against fires

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Objective of the document is to define lines of development and distribution of the services to support detection, prevention and planning of the agricultural-forest-rural land against fire.

The services will be a valid support on hand of the Regional and National Administrations involved in the agricultural-forest-rural activities (Ministry of Agricultural and Forestry Policies, National Forest Police, ecc..), through the employment of the SIAN "National Agricultural Informative System", that is the integrated national information system for the entire agriculture, forestry and fisheries Administration.

The services proposals would be distributed through the GIS (Geographic Information Systems) of the SIAN: the GIS database is a single nation-wide digital graphic database consisting of:

- Ortophotos: Aerial images of approx. 45 km² each with ground resolution of 50 cm;
- Cadastral maps: Land maps;
- Thematic layers: Land use and crops identification

The GIS services can take full advantage of the benefits of SIAN architectural model designed for best integration and interoperability with other Central and Local P.A. bodies whose main items are:

- Integration of information from different sources;
- Maintenance of the internal coherence of any integrated information;
- Flexibility with respect to technical or organizational changes

The "innovative" services described below could be useful to support the development of institutional tasks of public Agencies and Administrations (es. Regions or Civil Protection agencies) according to than previewed from the D.Lgs. 173/98.

Services of support to the management of the phenomenon of wildland fires

The activities outlined in below figure, don't have a linear and defined temporal sequence, but a dynamic and time integration. It guarantees not only the integrated use of the various information, but also the value of every product, for level of accuracy, coherence and timeliness of the information.

Description of four main services proposed.

- rapid alert: individuation and fast location of fires, also eventually in their starting phase (fire start), carried out through use of satellite data to high and most very high cycle (every 15 minute) to concur and organize a more effective fight to spread fire;
- perimeter of the area burned by the fire, with generation of polygons (compatible scale with the cadastre maps and data) through photo interpretation of spectral images, colours and infrared, at highest resolution (50 cm),

and through fine aerial missions purposely planned during summery season, in substitution or in integrate way of the relief in field for: big fires, zones difficult to reach, isolated uneven area (reference scale from 200 to 400 kmq)

- validation activity: services for quality control and validation of the activities of covered detail and relief perimeter of the area burned by the fire carried out through the employment end integration of the acquired data from land/aerial/satellite reliefs in application of law 353/2000. Data supplied to the municipalities, the regions and the prefecture for institutional adoptions.
- damage statistics: Services of support to the generation of statistics through analysis of the damage and the vegetation resumption in relation to the type of forest with the use of different platform: satellite, aerial and land observation, for a temporal analysis.