Advanced Fire Information System

Supporting Risk Reduction activities
Towards a European Forest Risk Facility (FRISK)

Connect - Collect – Exchange

Case Study Portugal: Pilot Project with a customized AFIS Service

Case Study Ireland: Fire Investigation
Case Study: Norway forest fire exchange
Case Study: Slovenia, Spain, France…..
The Advance Fire Information System (AFIS) is an integrated ICT solution developed by the CSIR to provide relevant information to support the prediction, detection, monitoring and assessment of wildfire on a local, regional and global scale.

2001 animation provided by Dr David Roy

1km MODIS active fire detections (red) superimposed on MODIS 16 day NDVI composites
AFIS Objectives

WildFire Prediction
- Improve Preparedness
- Support Pro-active fire management

Wildfire Detection
- Reduce Respond times to uncontrolled wildfires
- Build a database containing all fire events

Post-Fire Assessment
- Improve Post Fire rehabilitation
- Assist in planning of controlled burning
AFIS Technology Stack

Data

ICT Core

Analytics

User Experience

- Fire Danger Forecasting
- Active Fire Monitoring
- Burn area mapping
- Vegetation Dryness

Geo-Spatial Processing Platform
AFIS Customized Products

**WildFire Prediction**
- Fire Weather Forecast 10 day hourly,
- Private weather stations
- Fire Risk Model based on FDI, fuel load, condition, topography, high value areas (lodges, population density, high value products)
- Vegetation condition estimates

**Wildfire Detection**
- MSG, MODIS, VIIRS plus PlanetLabs & Landsat 8
- Fire Spread Modelling & 3D tactical
- Alert – SMS/email/internet push notification
- Crowd sourcing detection – Mobile app

**Wildfire Assessment**
- Landsat Burned area 30 year history (30m)
- Fire Spread Analysis post fire
- Fire Forensic analysis
AFIS Fire Danger Products

Operational Fire Danger Forecasting

Daily Fire Danger Forecast maps
Based on the Canadian Fire Weather Index (FWI) model produced daily. Example of Portugal. Calibrated for any region of interest.

Specific location Fire Danger forecasts
Provide point based FWI queries via our Mobile Application

Fire Danger Email Reports
Automated Fire Danger Forecast reports emailed to clients
AFIS Mobile App

- Available on iOS and Android platforms
- 5 day Fire Danger forecasts
- Fire reports (date of last burn, fire frequency, vegetation curing)
- Geo-tagged picture uploads to the AFIS server
- Map of active fires within a radius of my location
- Track my location on the AFIS viewer (using the phone as a tracking device)
- View all my assets equipped with the AFIS GPS tracking device
AFIS Mobile App

Available on the App Store
Available on the Android App Store
The AFIS Watchtower app allows users to report the location of fires by pointing the Watchtower app in the direction of the fire through the phone camera. Both distance and direction to the fire is recorded and a latitude and longitude coordinate is produced and sent to the AFIS viewer.
AFIS Global Footprint

Online and mobile data queries: 2015 Statistics
Contact Info

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