



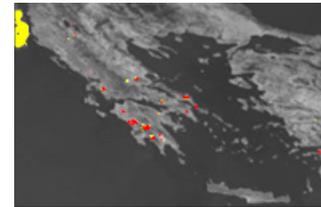
# FireHub: A Space based Fire Management Hub

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**Ioannis PAPOUTSIS**  
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**NATIONAL OBSERVATORY OF ATHENS**  
**INSTITUTE OF ASTRONOMY & ASTROPHYSICS,**  
**SPACE APPLICATIONS AND REMOTE SENSING**



**BEYOND** participated in the  
**Best Service Challenge**  
**Copernicus-Masters competition**  
with the operational EO based fire  
management service, known as:



SEVIRI MIR 070825\_0945 UTC



## “FireHub: A Space Based Fire Management Hub “

**The service consists of three pillars:**

1. The real-time fire detection and monitoring application
2. The large scale Burnt Scar Mapping during and after wildfires and the Diachronic BSM
3. The fire smoke dispersion forecasting tool



## “FireHub: A Space Based Fire Management Hub “





BEYOND

FireHub



The Earth Monitoring Competition

Copernicus  
masters

WINNER  
BEST SERVICE CHALLENGE  
2014

10:00 AM

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AM

BEYOND  
FireHub

“FireHub: A  
Space Based  
Fire  
Management  
Hub “





BEYOND

FireHub



“FireHub: A  
Space Based  
Fire  
Management  
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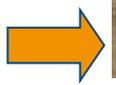
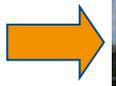
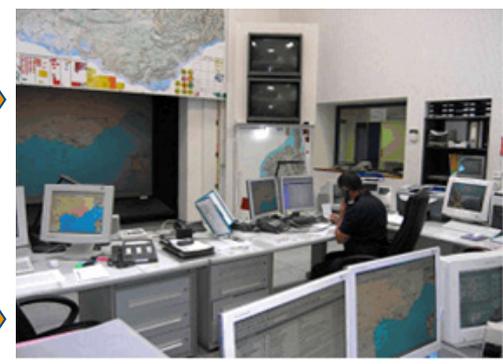
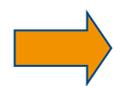
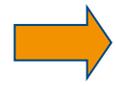
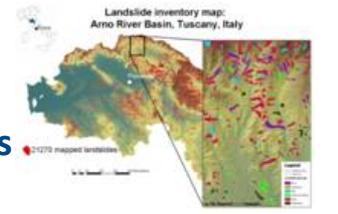
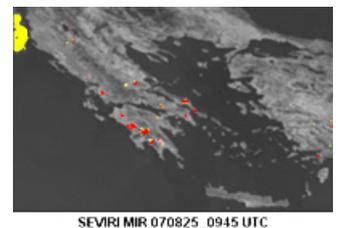


FireHub





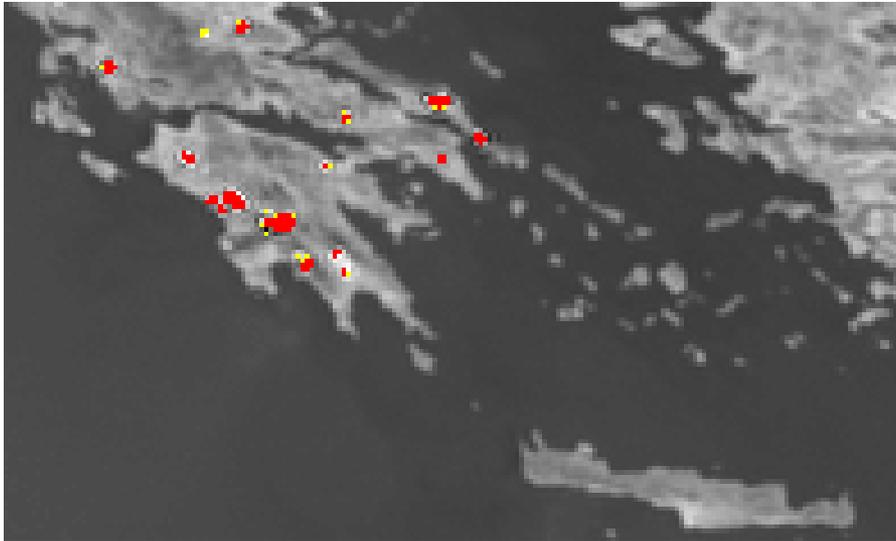
Institutional End Users and stakeholders in Greece and Europe receive the fire disaster services:



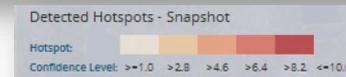
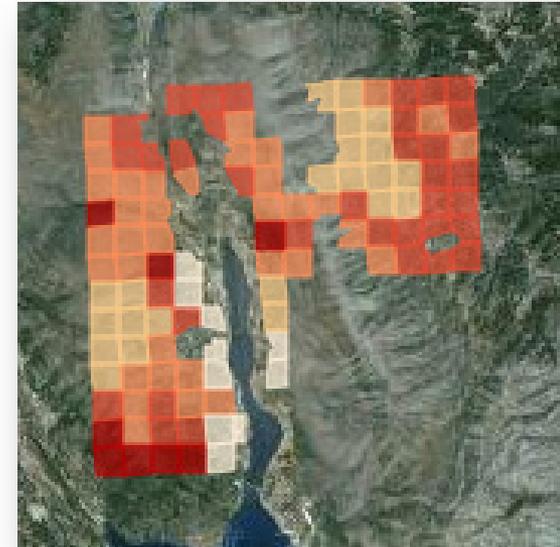
- 🌐 The European Copernicus Program (EMS service)
- 🌐 The Fire Brigades Control Room (199)
- 🌐 The Ministry of Env. (Directorate for Forests Protection)
- 🌐 The Gen. Sec. Civil Protection
- 🌐 The Forestry Services over Greece and Europe
- 🌐 The National Cadastral Organisation
- 🌐 The Local Authorities & Environmental Organisations
- 🌐 The Greek Army
- 🌐 The Private sector



# Regional Real Time Fire Monitoring Service based on EUMETSAT MSG SEVIRI Data Monitoring

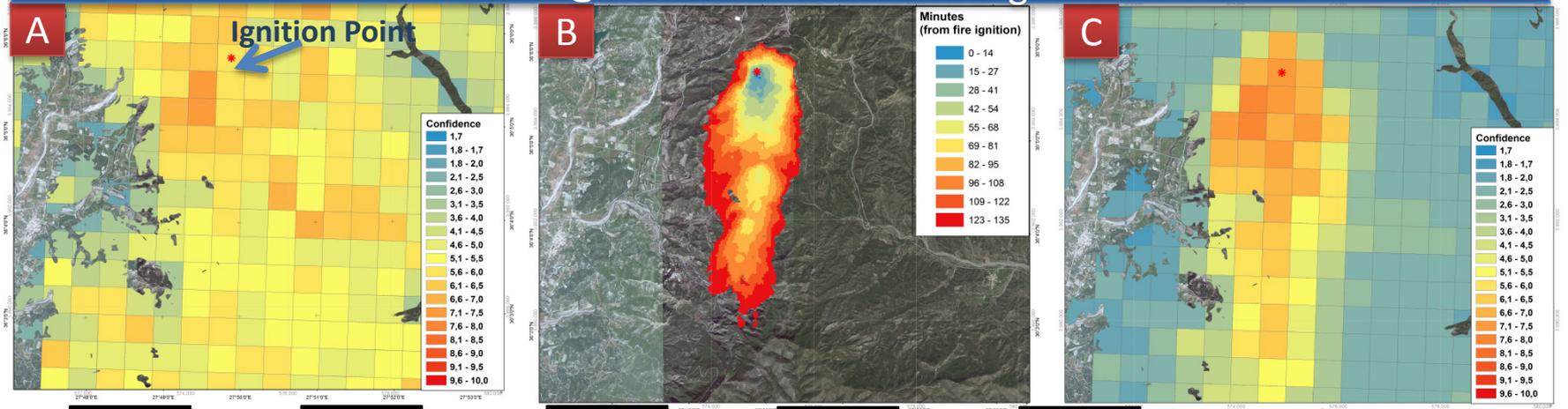


Raw resolution: 3.5x3.5 km  
wide pixel over entire

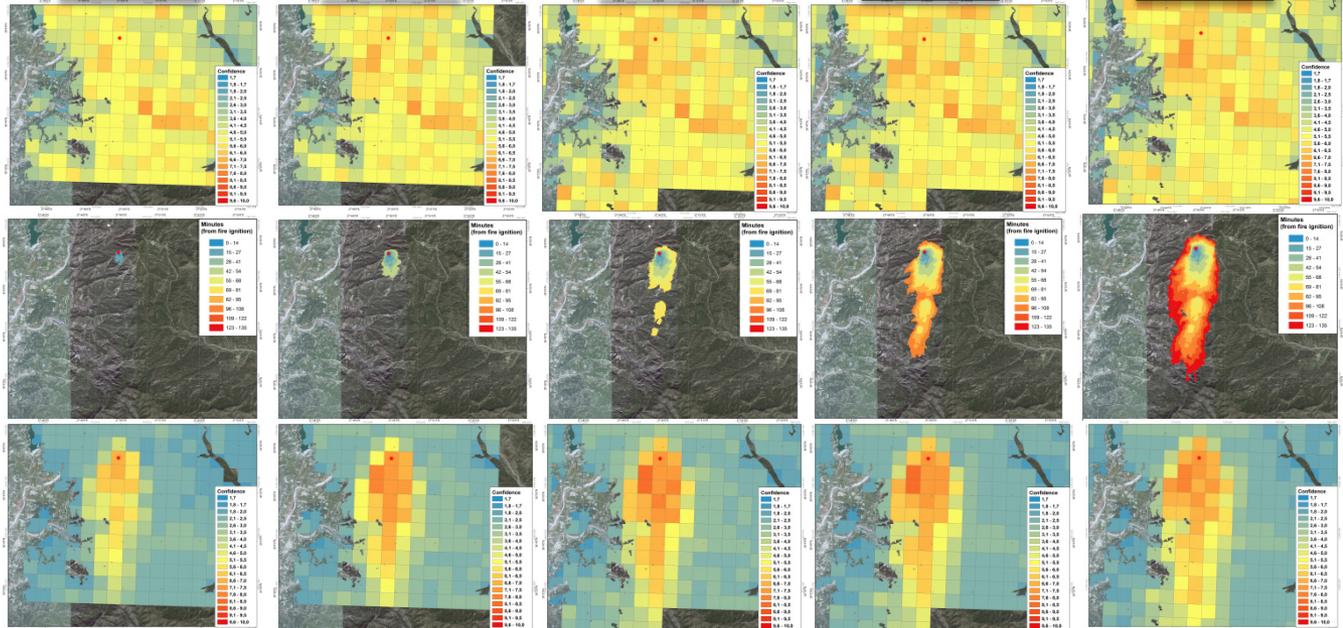


Refined resolution: 0.5x0.5 km  
wide pixel over entire Greece

Results @ 150 minutes after fire ignition



+30m      +60m      +90m      +120m      +150m      → Timeline



Real-time fire monitoring service **A**

FlamMap fire behaviour mapping and analysis software **B**

Enhanced real-time fire monitoring service **C**



Firefox SEVIRI Monitor - NOA GIS

papos.space.noa.gr/fend\_static/index.html

Most Visited Getting Started Latest Headlines Γενική Γραμματεία Ερε... TeleiosWiki: Additiona... rts

TELEOS SWoFS gmes strabon EUMETSAT

Status Info:  
 Mode: Archive  
 Beginning Time: 2012-08-21T21:00:00 GMT  
 End Time: 2012-08-27T21:00:00 GMT  
 Total #HotSpots: 2361  
 Latest #HotSpots:

Aggregated Query Data					
HID	RANK	Municipality	Duration	Ignition	End
0	1910	ΔΗΜΟΣ ΚΥΜΗΣ-ΑΛΙΒΕΡΙΟΥ	27.25	2012-08-24T23:10:00	2012-08-26T02:20:00
2	1910	ΔΗΜΟΣ ΚΥΜΗΣ-ΑΛΙΒΕΡΙΟΥ	26.17	2012-08-25T01:45:00	2012-08-26T03:50:00
4	1910	ΔΗΜΟΣ ΚΥΜΗΣ-ΑΛΙΒΕΡΙΟΥ	17.83	2012-08-25T10:15:00	2012-08-26T04:00:00
5	1910	ΔΗΜΟΣ ΚΥΜΗΣ-ΑΛΙΒΕΡΙΟΥ	17.75	2012-08-25T10:15:00	2012-08-26T03:55:00
6	1910	ΔΗΜΟΣ ΚΥΜΗΣ-ΑΛΙΒΕΡΙΟΥ	11.83	2012-08-25T10:10:00	2012-08-25T21:55:00
10	1910	ΔΗΜΟΣ ΚΥΜΗΣ-ΑΛΙΒΕΡΙΟΥ	11.83	2012-08-25T10:10:00	2012-08-25T21:55:00
12	1910	ΔΗΜΟΣ ΚΥΜΗΣ-ΑΛΙΒΕΡΙΟΥ	10	2012-08-25T00:55:00	2012-08-25T10:50:00
13	1910	ΔΗΜΟΣ ΚΥΜΗΣ-ΑΛΙΒΕΡΙΟΥ	16.33	2012-08-25T10:20:00	2012-08-26T02:35:00
14	1910	ΔΗΜΟΣ ΚΥΜΗΣ-ΑΛΙΒΕΡΙΟΥ	10.67	2012-08-25T12:40:00	2012-08-25T23:15:00

Fire Monitoring Service based on MSG SEVIRI

Realtime Archive

Year: 2012 Month of Reference: May Jun Jul Aug Sep

Submit Ignition Fire End Duration

All Detected Hotspots End Time (Days | Hours). From 2012-08-27T21:00:00 to 2012-08-21T21:00:00

Geotype: Populated (Population)  
 ☆ Athens ≥300000 ☆ Larisa ≥100000 □ Chania ≥50000 ■ Tripoli ≥10000  
 ○ Epanomi ≥1000 ● Areopoli ≥500 ● Kalamos ≥100 ● Platania ≥0

Geotype: Mountains (Height | m)  
 ▲ M. Olympus ≥2500 ▲ M. Piloni ≥1500 ▲ M. Ymittos ≥1000 ▲ Mavrovouni ≥0

Geotype: Islands (Area | km2)  
 N. Crete ≥3000 N. Rhodes ≥1000 N. Andros ≥100 N. Thira ≥10 N. Platera ≥1 N. Piloni ≥0

NOA Implementation Team: Haris Kontoes; Themistoklis Herekakis; Dimitris Michail; Ioannis Papoutsis  
 Contact Email: malto:kontoes@noa.gr

Powered by Leaflet

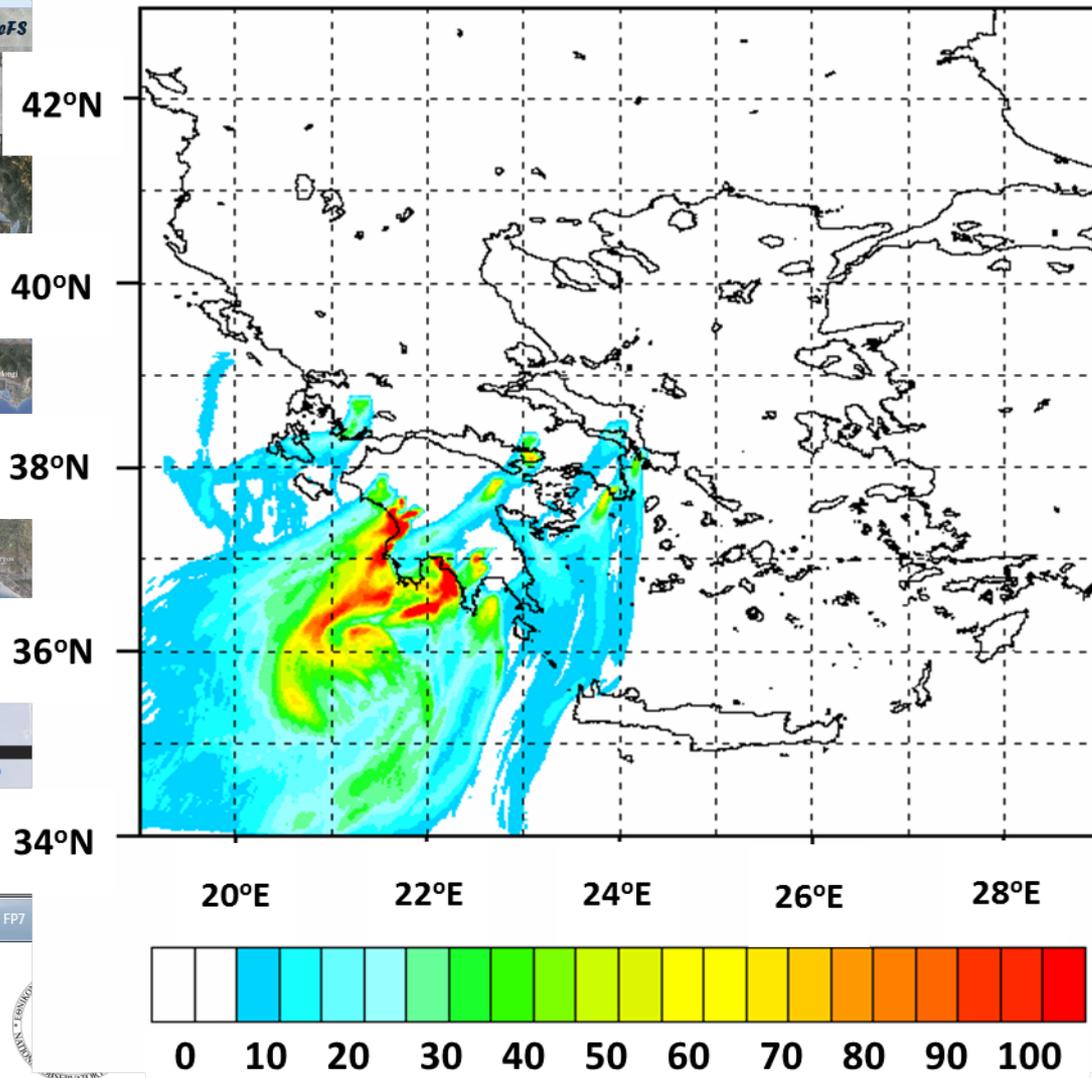


**FLEXPART – NOA**  
**Biomass Burning (Organic Carbon – OC)**



**Valid Date: 26-08-2007 0900UTC**  
**Model layer: Integrated Column (ng m<sup>-3</sup>)**

Firefox | SEVIRI Monitor - NOA GIS  
 papos.space.noaa.gr/fend\_static/index.html  
 Most Visited | Getting Started | Latest Headlines  
 TELEOS | SWoFS | gmes | stral | EUMETSAT  
 Fire Monitoring S  
 Year: 2012 | Month of Reference: May | Jun  
 Fire Simulation  
 NOA Implementation Team: Haris Kontoes; Themistoklis Herekakis; Dimitris Michail  
 FP7 Calls > Co... | REGPOT FP7



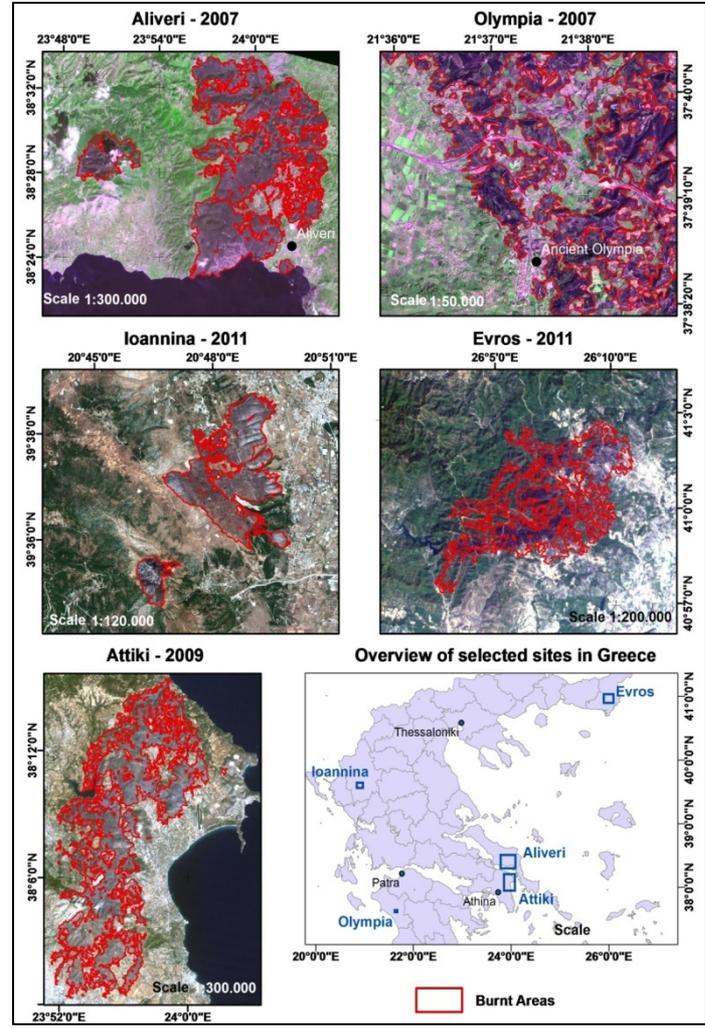
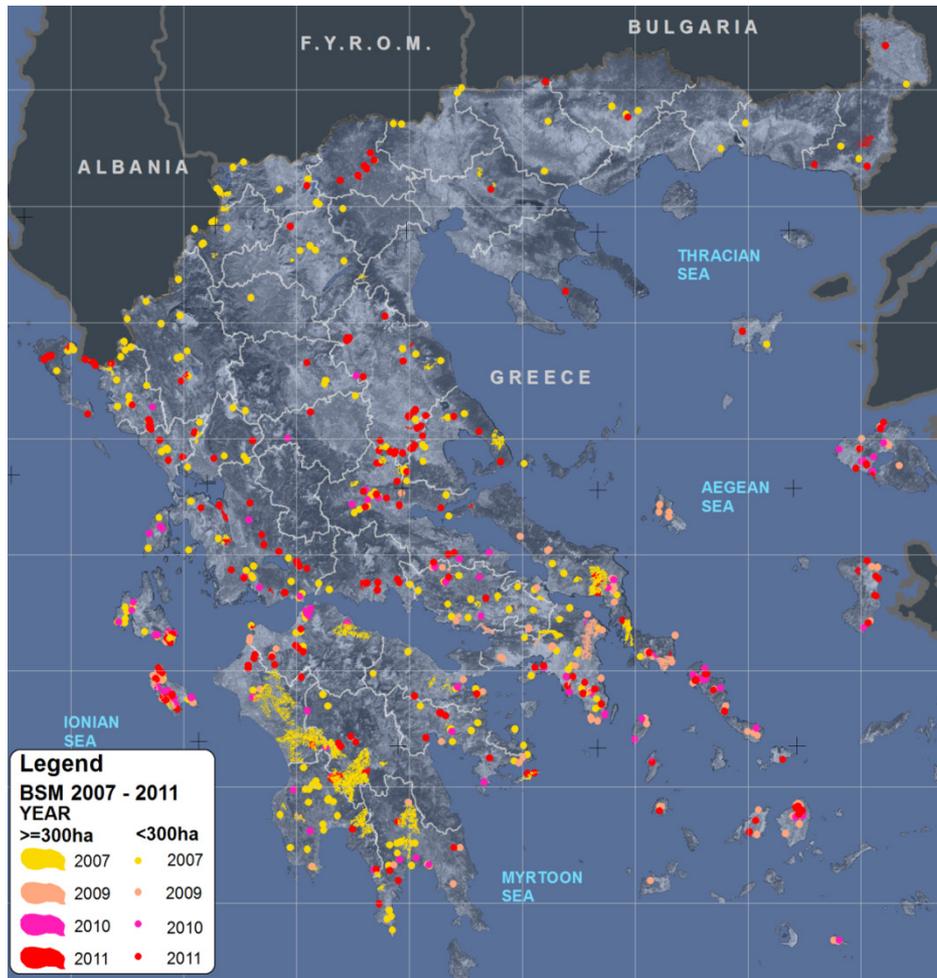
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Duration	Ignition	End
27.25	2012-08-24T23:10:00	2012-08-26T02:20:00
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17.75	2012-08-25T10:15:00	2012-08-26T03:55:00
11.83	2012-08-25T10:10:00	2012-08-25T21:55:00
11.83	2012-08-25T10:10:00	2012-08-25T21:55:00
10	2012-08-25T00:55:00	2012-08-25T10:50:00
16.33	2012-08-25T10:20:00	2012-08-26T02:35:00
10.67	2012-08-25T12:40:00	2012-08-25T23:15:00

View 1 - 39 of 39

T21:00:00 to 2012-08-21T21:00:00  
 20j0h -10j12h -10j0h -00j12h 00j0h  
 a ≥50000 ■ Tripoli ≥10000  
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 Powered by Leaflet  
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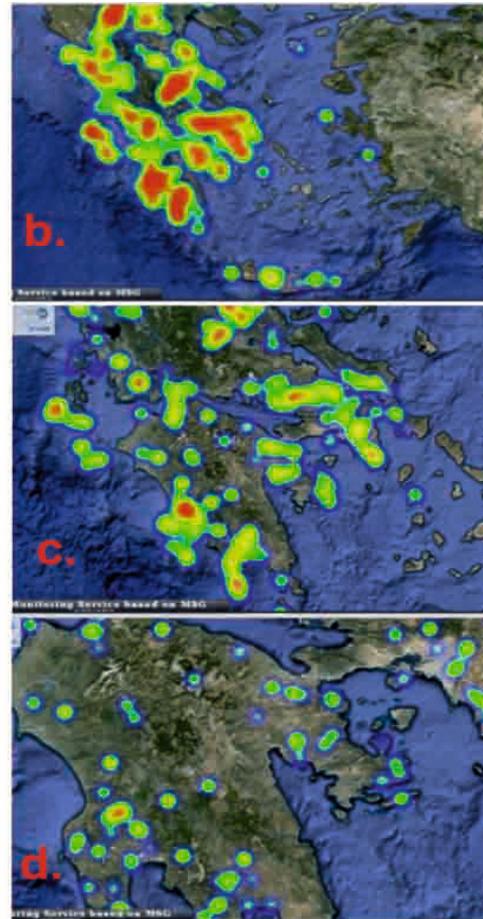
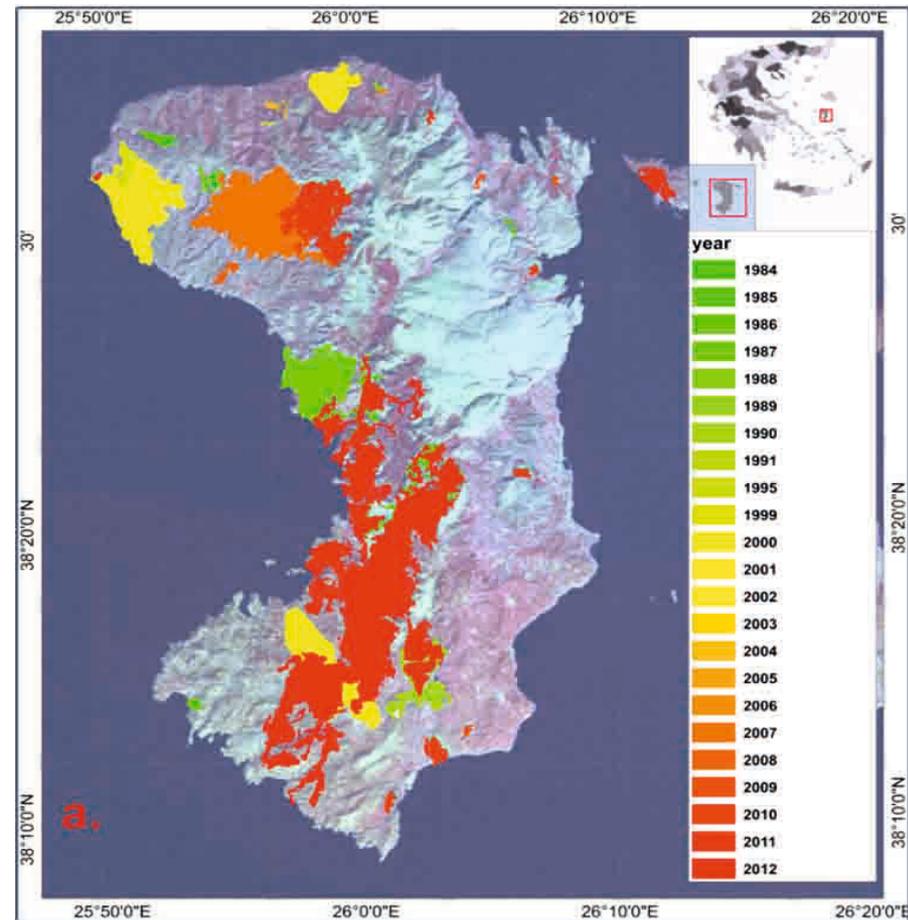
[http://ocean.space.noa.gr/diachronic\\_bsm/index.php](http://ocean.space.noa.gr/diachronic_bsm/index.php)

1) More than 450 Landsat TM images acquired over Greece in the period 1984-2013 residing on USGS archives were downloaded and processed fully automatically using the NOA processing chain.

2) Yearly maps of Burned Areas have been produced

3) Yearly statistics per land cover type and administrative data have been generated

4) On-line dissemination of the produced maps and statistics through the NOA's dedicated web interface





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FireHub

# FireHub

## A Space based Fire Management Hub





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**Thank you for your attention!**

**For more information**

**[ocean.space.noa.gr/FireHub](http://ocean.space.noa.gr/FireHub)**