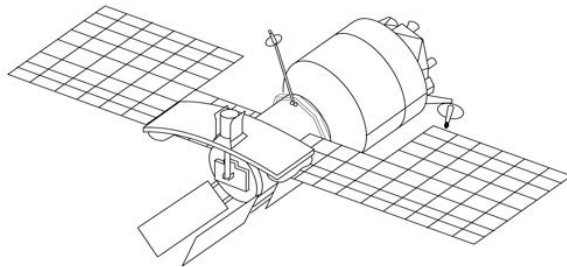




Operational services for the management of forest wildfires, using space-based technologies



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17/07/2014



FP7-Regpot-2012-23-1

Real-time Fire Monitoring Service

<http://ocean.space.noa.gr/fires>



Key characteristics

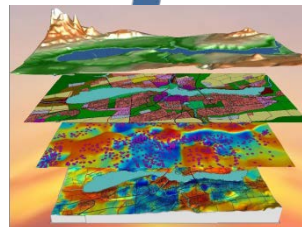
- Early detection of a fire on a 0-15' minutes time window
- Monitoring of active fires every 5' minutes
- Database of past fire events,
- Animations of the evolution of forest wildfires

} Emergency Response

} Post crisis analysis

Innovation aspect

- Integration of space technologies, with geospatial information and meteorological data for accurate and real-time detection & monitoring of forest wildfires



Real-time Fire Monitoring Service

<http://ocean.space.noa.gr/fires>



Firefox | E.A.A. - ΑΡΧΙΚΗ | SEVIRI Monitor - NOA GIS

ocean.space.noa.gr/seviri/fen...new/index_screen.php

SWeFS

<http://ocean.space.noa.gr/fires>

Status Info:
Modic:
Time Window:
Total #HotSpots:
Latest #HotSpots: 1 @ 2013-07-27 14:10:00 GMT

Google Earth
LSO/VLSO
Toponyms
Opacity Slider
CORINE LC 2000

Fire Monitoring Service based on MSG SEVIRI

Raw Refined Realtime Archive

Detected Hotspots - Snapshot

Hotspot: [Color Scale]

Confidence Level: >=1.0 >2.8 >4.6 >6.4 >8.2 <=10.0

Snapshot Query Data

ID	RANK	Municipality	Date	Sensor	Conf
1988417	186	"ΔΗΜΟΣ ΡΟΔΟΥ"	2013-07-27 14:10:00	MSG2_RSS	9.760968
1988272	186	"ΔΗΜΟΣ ΡΟΔΟΥ"	2013-07-27 14:10:00	MSG2_RSS	6.375032
1988285	186	"ΔΗΜΟΣ ΡΟΔΟΥ"	2013-07-27 14:10:00	MSG2_RSS	6.732865
1988299	186	"ΔΗΜΟΣ ΡΟΔΟΥ"	2013-07-27 14:10:00	MSG2_RSS	7.080364
1988335	186	"ΔΗΜΟΣ ΡΟΔΟΥ"	2013-07-27 14:10:00	MSG2_RSS	8.094172
1988334	186	"ΔΗΜΟΣ ΡΟΔΟΥ"	2013-07-27 14:10:00	MSG2_RSS	8.031967
1988333	186	"ΔΗΜΟΣ ΡΟΔΟΥ"	2013-07-27 14:10:00	MSG2_RSS	7.955828
1988332	186	"ΔΗΜΟΣ ΡΟΔΟΥ"	2013-07-27 14:10:00	MSG2_RSS	7.873687

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Detailed Mapping of Burnt Areas Service

<http://ocean.space.noa.gr/bsm>

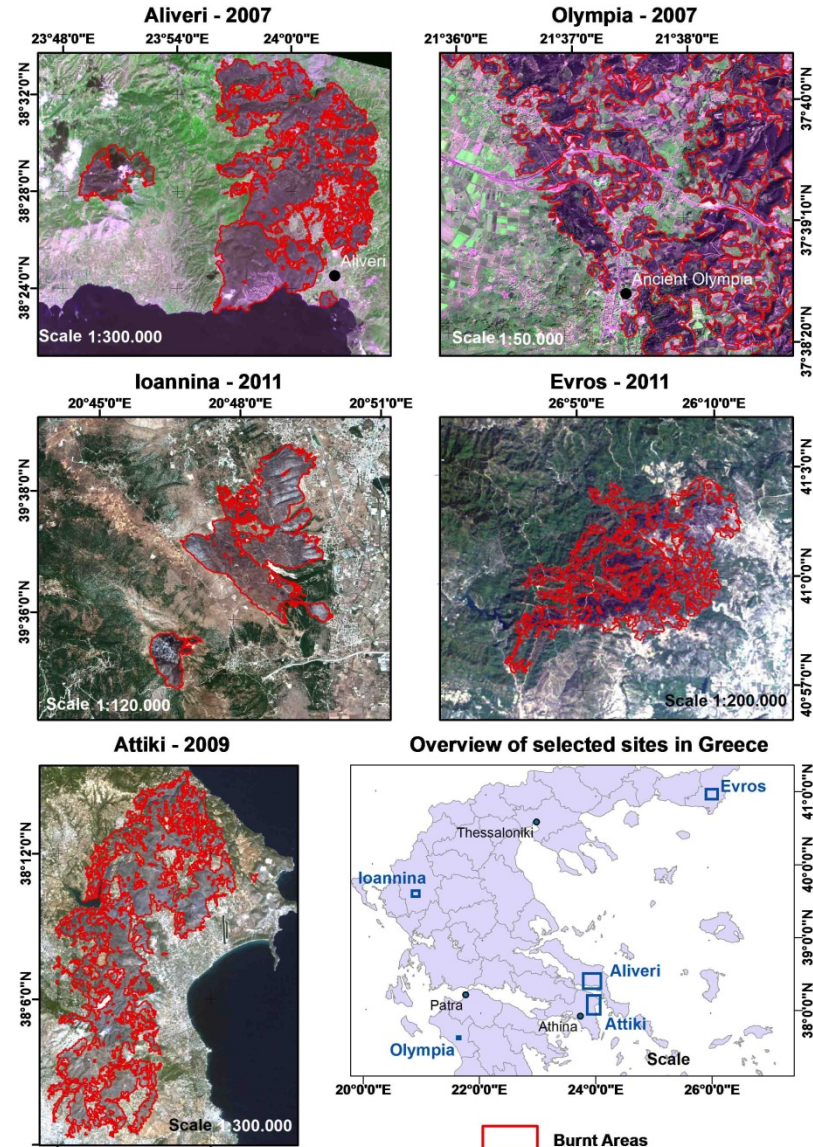


Key characteristics

- Mapping of burnt areas
- Detailed information on the impact of all fires to the natural and built environment
- Diachronic mapping and damage assessment of all forest fire events during the last **30** years

Innovation aspect

- Incorporation of in-house developed algorithms for the robust and fully automatic generation of the burnt areas



Detailed Mapping of Burnt Areas Service

<http://ocean.space.noa.gr/bsm>



Firefox | E.A.A. - ΑΡΧΙΚΗ | Diachronic BSM - NOA GIS | ocean.space.noa.gr/diachronic_bsm/index.php

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#Fires: 1 @Years: 1984

Fire Layers:

- Diachronic BSM
- ANNUAL Fire Mapping
- Fire Frequency

 Background Layers:

- Google Earth
- LSO/VLSO
- Landsat Mosaic

 Auxiliary Layers:

- CORINE LC 2000
- HEATMAP
- Areas not studied

The diachronic inventory of forest fires over Greece provides information on the total forested area burned in Greece from 1984 to today

Diachronic Inventory of Forest Fires based on LANDSAT

CLC code	311	312	313	321	322	323	324	Other	Total
Municipality	0	0	0	21,7	0	79,6	115,4	14,3	231,4
Prefecture	0	241,4	0	862,3	0	3098,9	635,2	1733	6871
Total Greece	1214,8	1286,3	2884,7	16252,8	43,4	20118,3	8491,9	15917,7	68586,9

CORINE NOMENCLATURE: 311 | Broad-leaved forest, 312 | Coniferous forest, 313 | Mixed forest, 321 | Natural grassland, 322 | Moors and heathland, 323 | Sclerophyllous vegetation, 324 | Transitional woodland/shrub, Other

Diachronic BSM
 Colourbar: 1984 1985 1986 1987 1988 1989 1990 1991 1995 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 -> 2012

Geotype: Populated (Population)

- ★ Athens >3000000
- ★ Larisa >100000
- Chania >50000
- Tripoli >10000
- Epanomi >10000
- Ateopoli >500
- Xelimo >100
- Pitala >30

Geotype: Mountains (Height [m])

- ▲ Mt.Olympus >22500
- ▲ Mt.Pelion >15000
- ▲ Mt.Metamor >10000
- ▲ Mt.Livadia >3000

Geotype: Islands (Area [km²])

- N.Crete >23000
- N.Rhodes >1000
- N.Andros >1000
- N.Thira >100
- N.Paros >100
- N.Naxos >100

Year & [1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012]

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Competitive advantages



Supported by BEYOND Center of Excellence

- Unique infrastructure: satellite ground stations
- Mandate: support evidence based decision making process of public and private bodies

Technical expertise

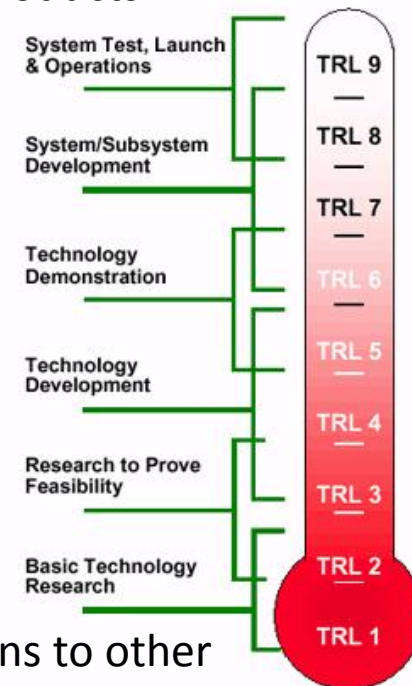
- Management, processing and dissemination of EO-based data & products
- Software and algorithm development
- Fully automated procedures
- Everything on the Net!

Quality of Service

- Qualification within several EC, GMES & ESA projects – TRL 9
- European Standards
- Patent pending
- Professional interface and design

Scalability

- Transparent processes to allow the transferability of the applications to other climatic and geographic zones at a European scale



Market analysis



User base (indicative)

- The Forest Fire Management Center of the Fire Brigade, on a 24/7 basis
- General Directorate for Civil Protection
- Ministry of Environment and Climate Change
- Forestry Services and Local Administrative Authorities
- The Civil Protection Agency of the European Union
- Hellenic Telecommunications Organization (OTE S.A.)



- Rapidly expanding user base: Operational launch of the services on 2013 – now we have more than 500 independent connections at a daily basis (institutional users)

Foreseen market penetration

- Business-to-business services (e.g. business continuity management)
- Mobile applications industry (e.g. alerts, advanced real-estate consultation, navigation)
- European citizens to support transparent environmental governance



Team



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