

AF3 FOREST FIRE MODELS WORKSHOP

Rome, ISA 22 – June 2017

**Planning and innovation for
Forest firefighting in Tuscany**

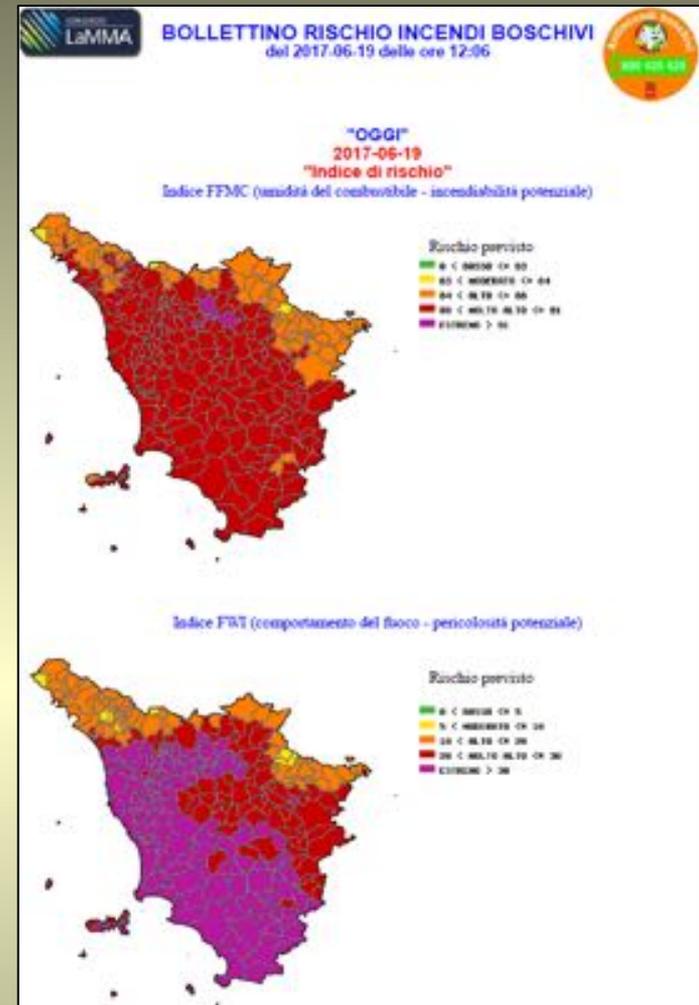
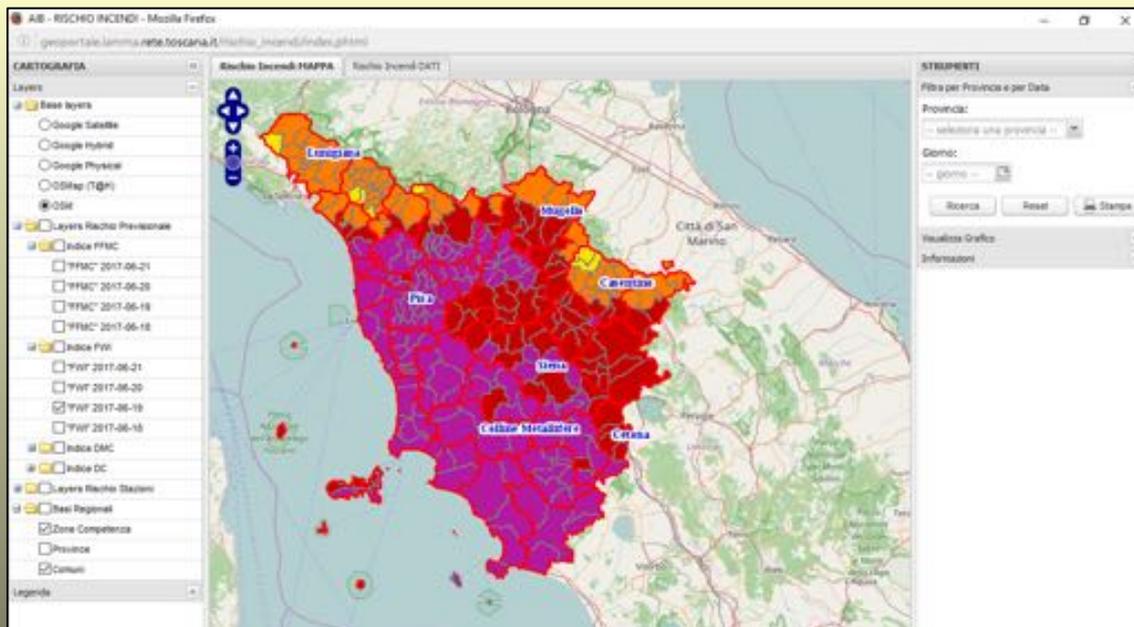
Paolo BATTELLI

REGIONE TOSCANA



EXAMPLE OF FOREST FIRE RISK BULLETIN DAY 06.19.2017

ONLINE VERSION

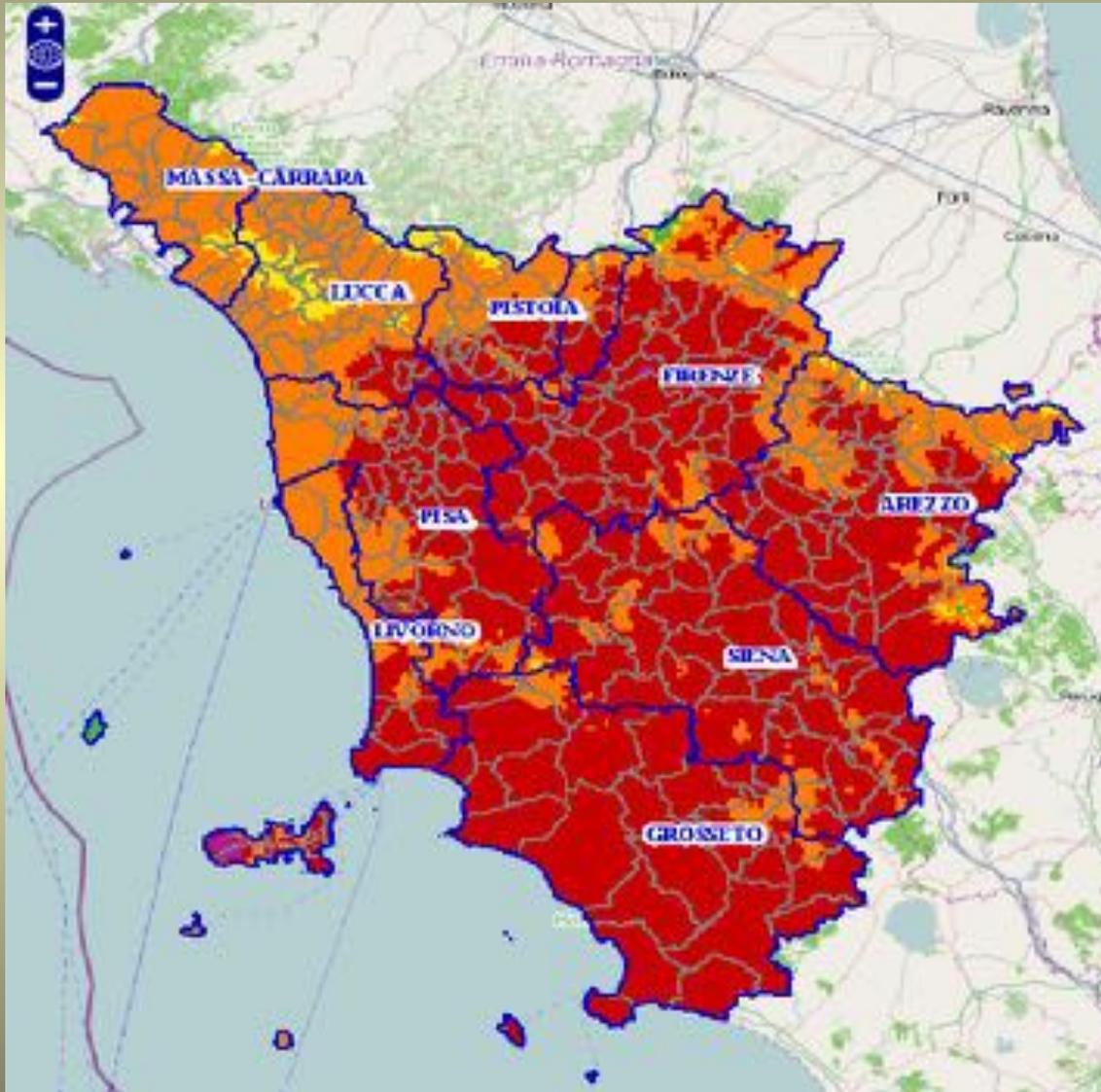


PRINTED VERSION

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SUMMER 2012



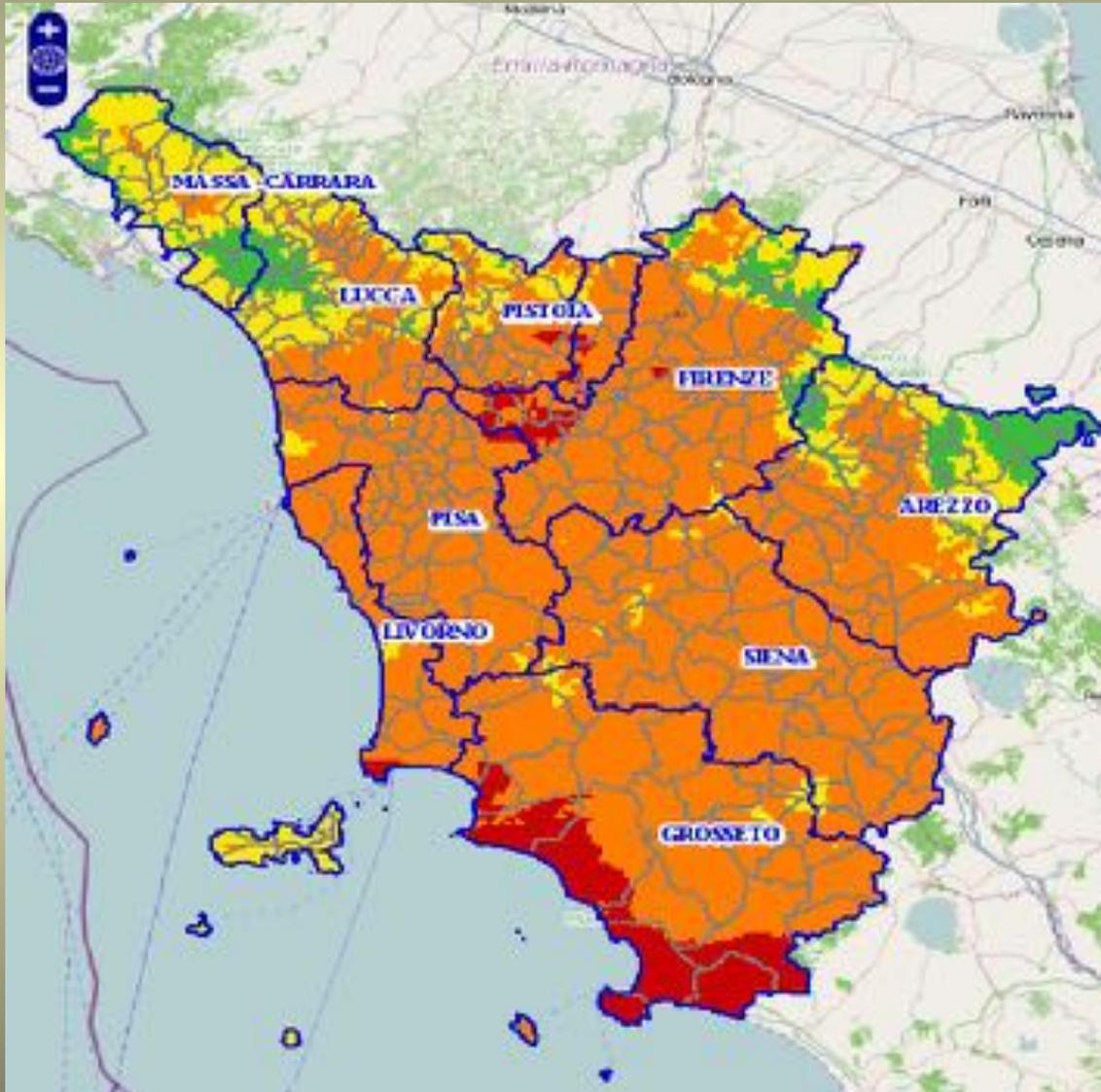
488 Forest fires

2.64 ha/fire

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SUMMER 2013



190 Forest fires

0.40 ha/fire

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SUMMER 2014



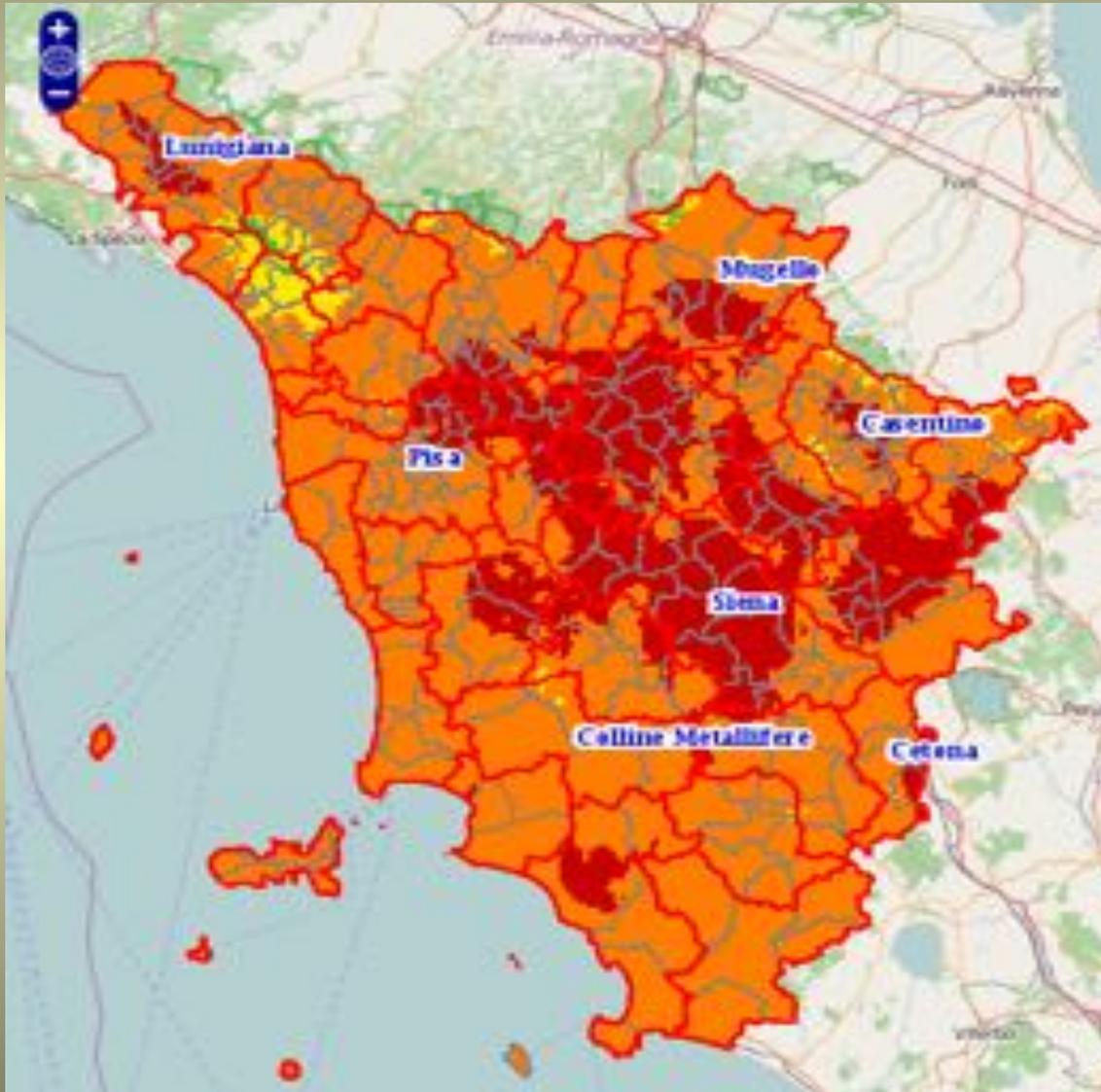
80 Forest fires

0.25 ha/fire

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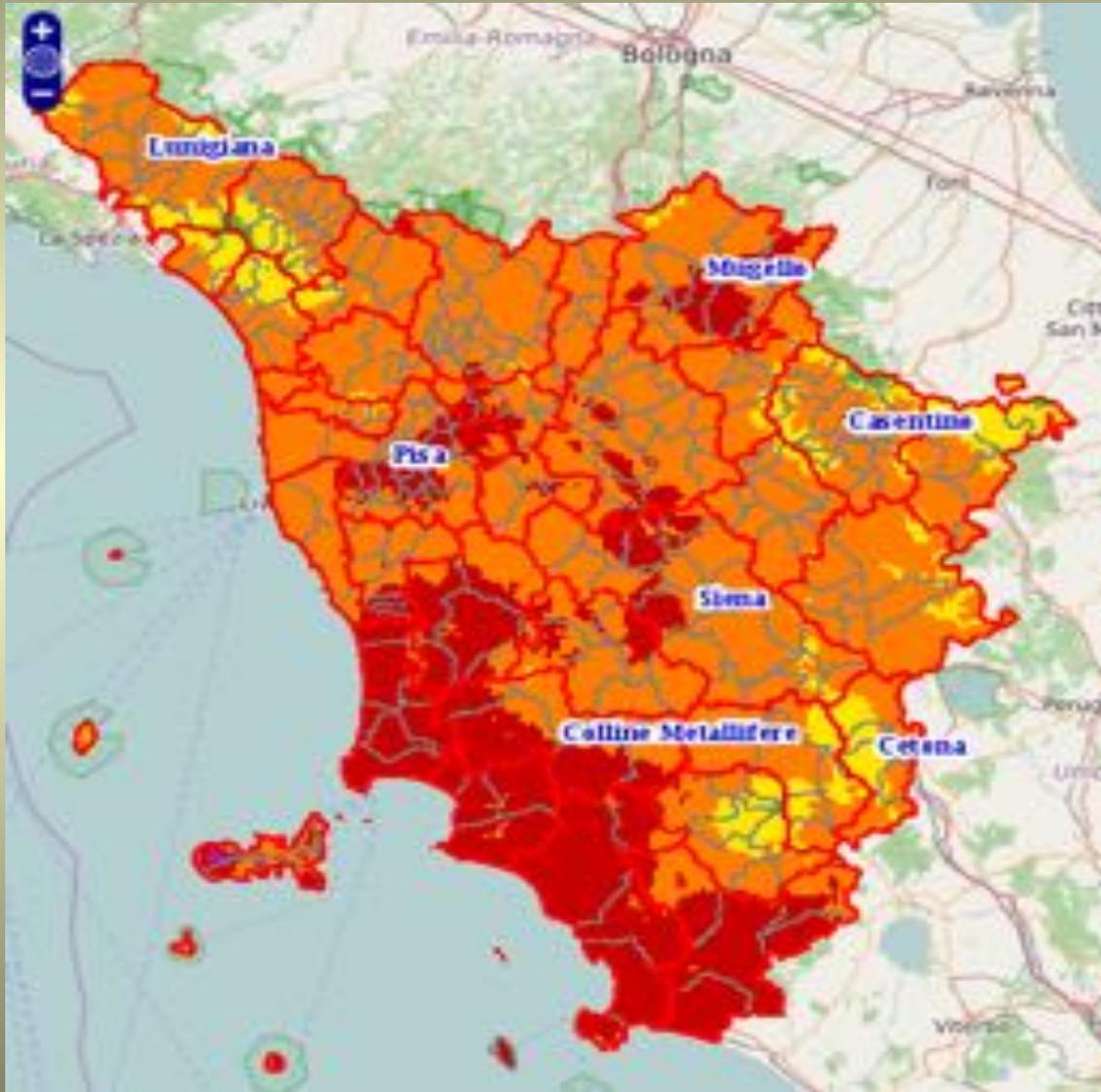
SUMMER 2015



261 Forest fires

0.60 ha/fire

SUMMER 2016



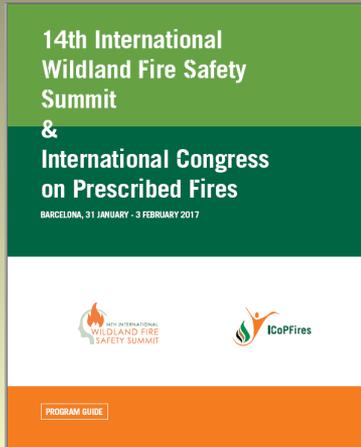
351 Forest fires

1.30 ha/fire

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14th INTERNATIONAL CONGRESS ON PRESCRIBED FIRE



BARCELONA
1 – 3 FEBRAURY 2017

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MONTSERRAT NATIONAL PARK PRESCRIBED FIRE WORK SITE



ODENA FOREST FIRE (1200 ha in 6 hours)



OTHER PERFORMED ACTIVITIES OF TOSCANA REGION

PRESCRIBED FIRE

**PROGETTO DI FUOCO PRESCRITTO
LOCALITA' CERASA**



Enti proponenti:
UC GARFAGNANA
REGIONE TOSCANA

PROJECT

 Regione Toscana 

Il fuoco per prevenire gli incendi boschivi

Sai che il fuoco può essere uno strumento utile per prevenire gli incendi?

In molte parti del mondo da anni il fuoco è utilizzato da personale esperto per limitare la quantità di materiale vegetale infiammabile nel sottobosco e per rendere le nostre foreste più resistenti agli incendi. Il tutto senza danneggiare il bosco e chi ci abita.

Questa tecnica si chiama **"fuoco prescritto"** e viene applicata seguendo scrupolosamente un progetto elaborato da personale abilitato. Gli operatori sono tutti esperti nell'uso delle tecniche di conduzione del fuoco.

Si procede solo in presenza di precise condizioni meteorologiche, in modo da non danneggiare il suolo, la fauna e la vegetazione che deve essere protetta.

Il fuoco prescritto è una pratica consolidata i cui effetti vengono studiati fin dagli anni Sessanta e in alcune realtà forestali europee è una prassi usuale.



In Italia sono già state realizzate diverse esperienze e in Toscana la legge forestale e il relativo regolamento fissano le norme dell'intero settore forestale, compreso l'uso del fuoco prescritto.

Anche il piano operativo regionale antincendi boschivi, quale strumento di pianificazione, riporta le modalità della progettazione, le finalità e le procedure operative per dare esecuzione al fuoco prescritto.

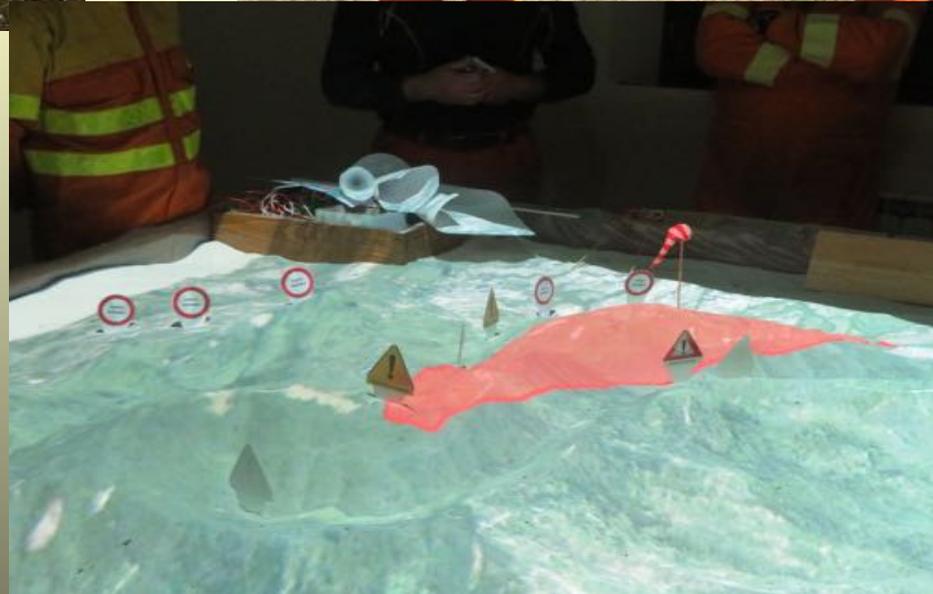
Operativa generale Compatibilità del settore Regionale e sviluppo delle competenze
Area Strategica Foresta - Settore Coordinamento, gestione del territorio e interventi Culturali per l'agricoltore

TRAINING

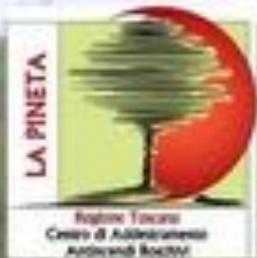
PRESCRIBED FIRE WORK SITE



FEBRUARY 2017 – 1st COURSE FOR FIRE BEHAVIOUR ANALYST



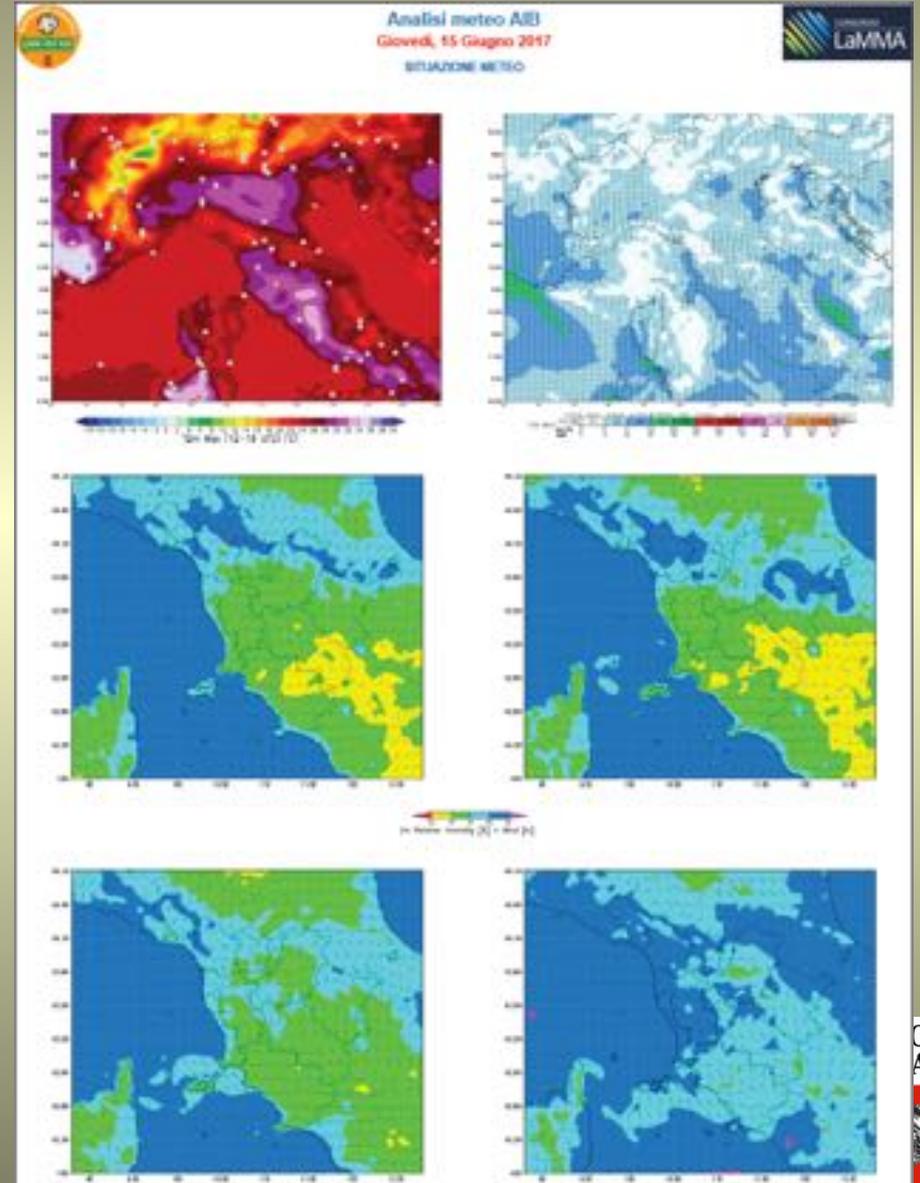
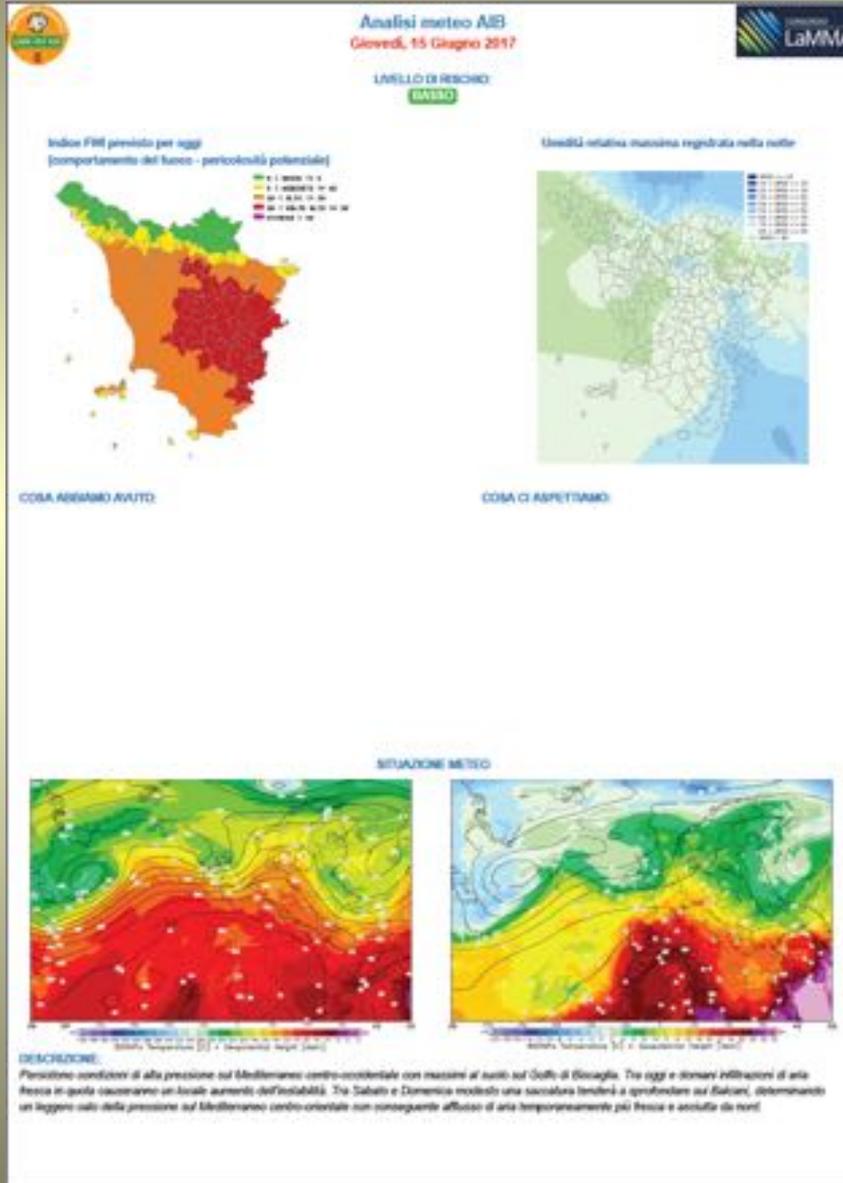
Banco de arena



1027 ANALISTI AIB



NEW MODEL OF WEATHER ANALYSIS BULLETIN



FOREST FIRE OPERATIONAL MAPS



PRINTED FORM



C.O.A.I.B. T-003 Pontremoli – Massa Carrara

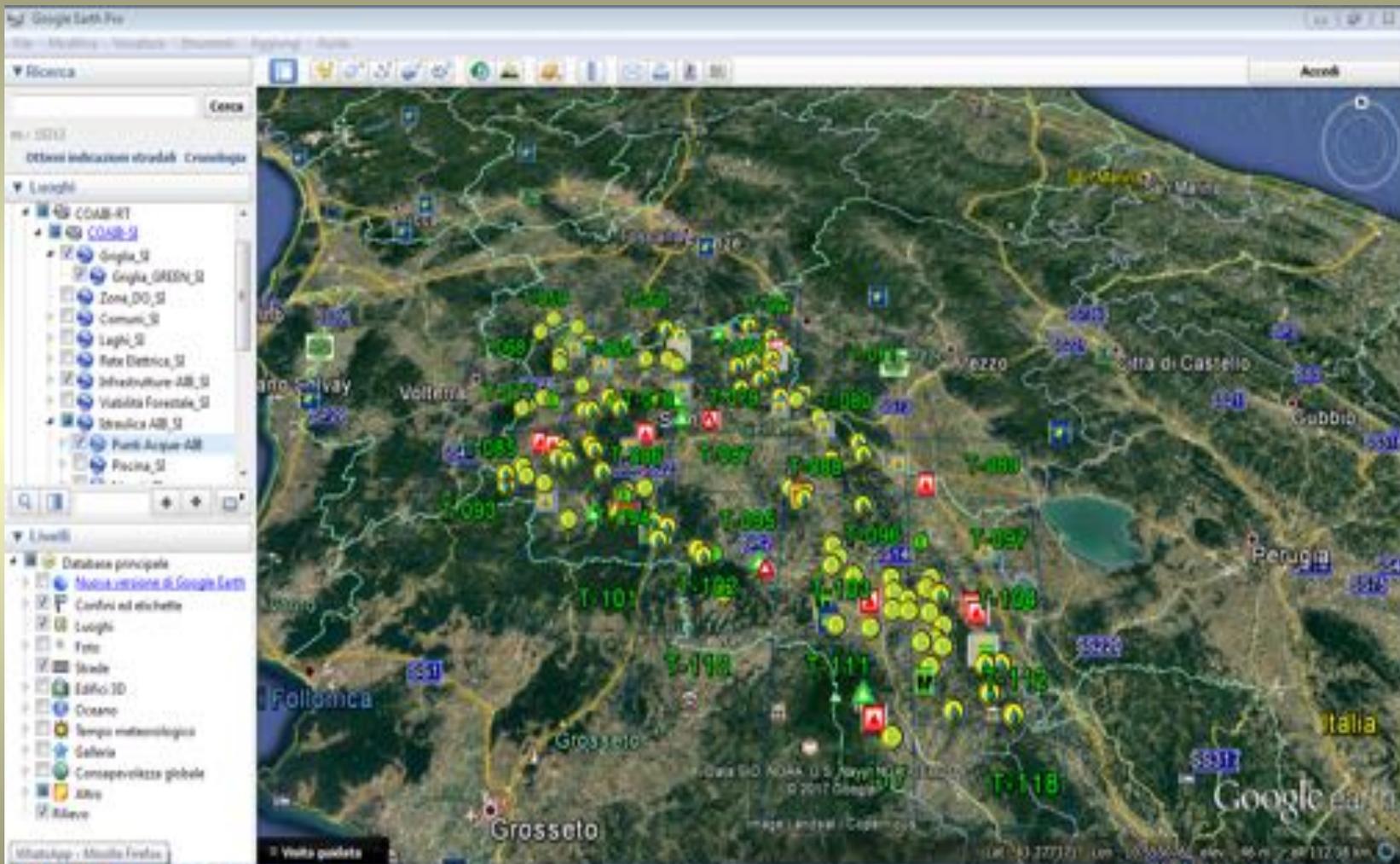


C.O.A.I.B. T-003 Pontremoli – Massa Carrara

REGIONE
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FOREST FIRE OPERATIONAL MAPS ONLINE VERSION



C.O.A.I.B. Google Earth Pro – Siena

REGIONE
TOSCANA



NEW DISTRICT PLANNING – MONTE PISANO (PI)





NEW DISTRICT PLANNING - MONTE PISANO (PI)



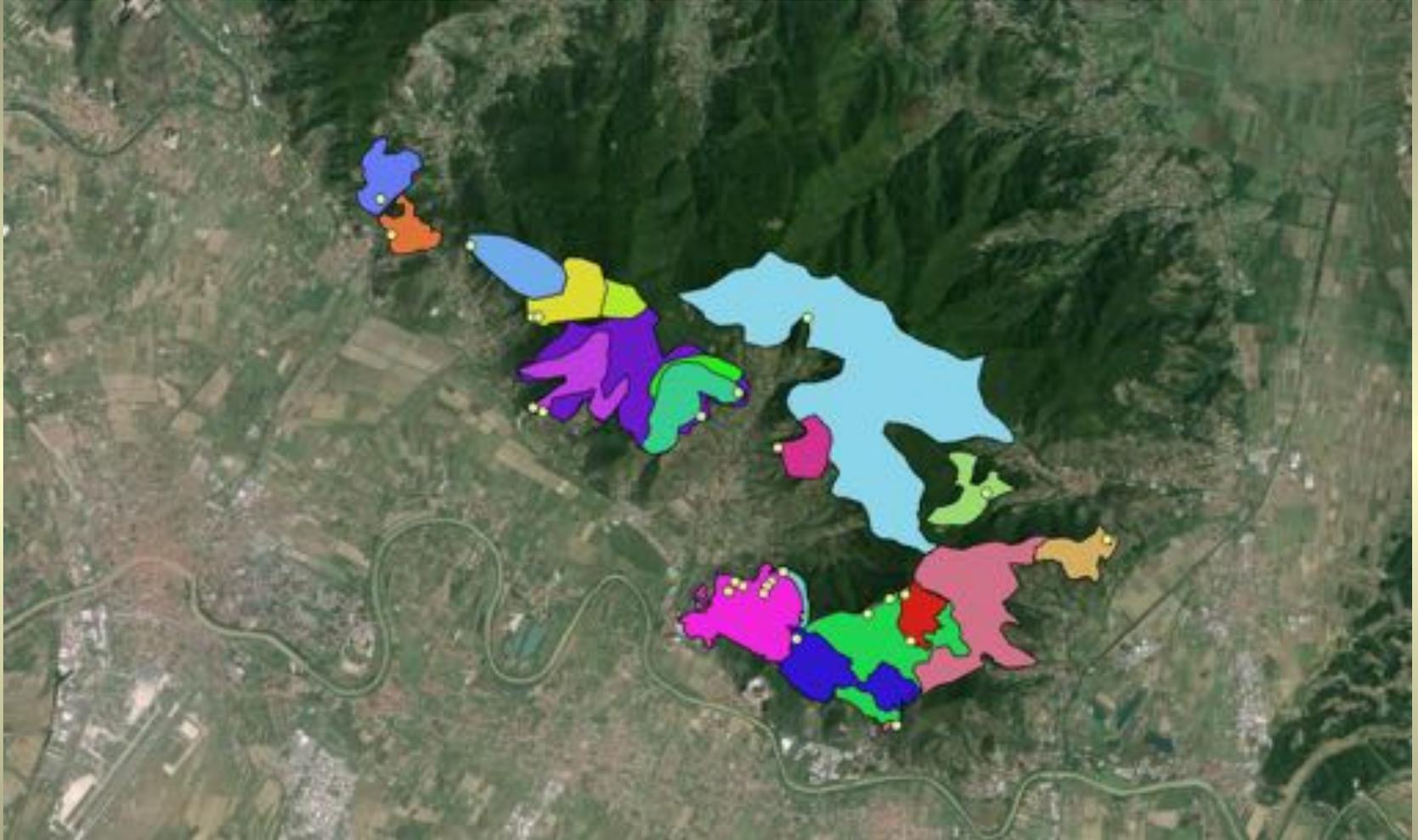
**HISTORICAL REGISTER FROM
CORPO FORESTALE DELLO STATO**

INCENDI MONTE PISANO PERIODO 1970-2015
Superficie totale >5 ha

ANNO	RETTI	Ha s.	CALCI	Ha	SAN GIULIANO TERME	Ha	VICOPISANO	Ha	TOT. N. INC. B.	TOT. SUPERF. (Ha)
1970	0		6	293,13	0		0		6	293,13
1971	0		0	1047,2	0		0		0	1047,2
1972	0		0		0		0		0	0
1973	0		0		0		0		0	0
1974	0		0		0		0		0	0
1975	0		0		0	242,73	0		2	242,73
1976	0		1	7,18	0	0	0		1	7,18
1977	0		0		0		0		0	0
1978	0		1	20,93	0		1	349,74	2	370,67
1979	0		1	7,8	0	211,20	0		4	219,00
1980	0		0		0		1	24,15	1	24,15
1981	0		1	48,8	1	31,86	0		2	80,66
1982	0		0		0		0		0	0
1983	1	5,29	0		0	511,93	0		4	517,22
1984	0		0		0	12,93	0		2	12,93
1985	0		0		0	72,6	1	8,95	1	81,55
1986	1	38,84	0		0		1	6,94	2	44,88
1987	0		1	8,63	1	8,34	2	619,57	4	637,54
1988	0		1	9,84	1	9,8	0		2	19,64
1989	0		4	68,97	2	27,12	0		6	96,09
1990	0		0		1	5,30	1	46,25	2	51,55
1991	1	12,75	0		0	79,17	0		2	91,92
1992	0		0		0		0		0	0
1993	1	7,16	0		0		1	189,2	2	196,36
1994	1	26,44	0		0	20,28	0		2	46,72
1995	0		0		1	6,5	0		1	6,5
1996	0		0		0		0		0	0
1997	0		1	121,16	0		0		1	121,16
1998	1	72,34	0		0		0		1	72,34
1999	0		0		1	6,26	0		1	6,26
2000	0		0		0		1	30,78	1	30,78
2001	1	10,51	1	8,63	0	15,11	0		3	24,25
2002	0		0		0		0		0	0
2003	0		0		1	5	0		1	5
2004	0		0		0		1	13	1	13
2005	1	9,04	0		0		0		1	9,04
2006	1	5,3	0		0		0		1	5,3
2007	0		0		0		1	9,36	1	9,36
2008	1	14,18	0		0		0		1	14,18
2009	0		1	106,04	1	13,75	0	54,7	3	174,49
2010	0		0		0		0		0	0
2011	0		1	41,96	0		0		1	41,96
2012	0		0		0	9,5	0		1	9,5
2013	0		0		1	11,44	0		1	11,44
2014	0		0		0		0		0	0
2015	0		1	10,82	0		0		1	10,82
totale	10	216,4	26	1891,1	28	1309,4	12	1353,3	76	4.761,28
media boschiva evento	21,6		72,7		46,4		112,8			62,6
totale 4 comuni pisani					N. 76 incendi totali - Superficie totale: 4.761,28 Media a evento: 62,6 ettari					

**LIST OF FIRES IN THE PERIOD
1970 - 2015**

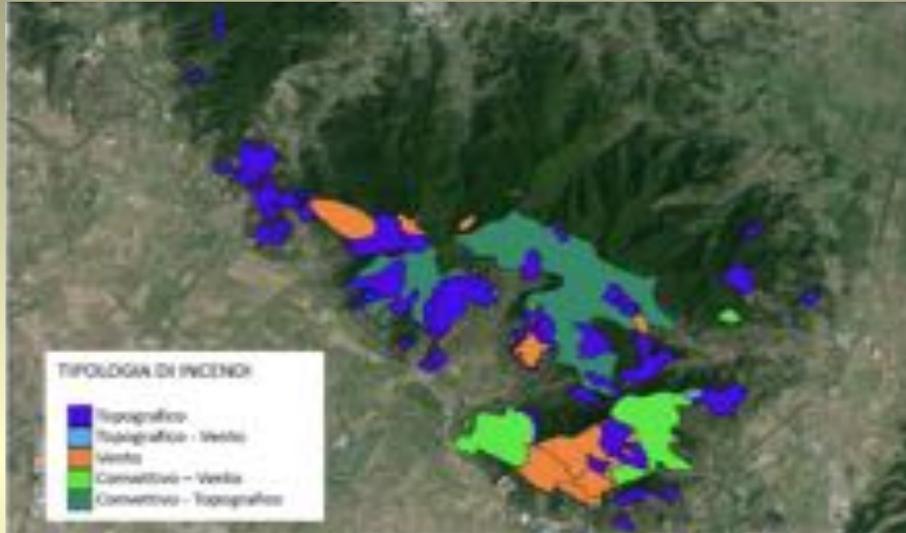
NEW DISTRICT PLANNING – MONTE PISANO (PI)



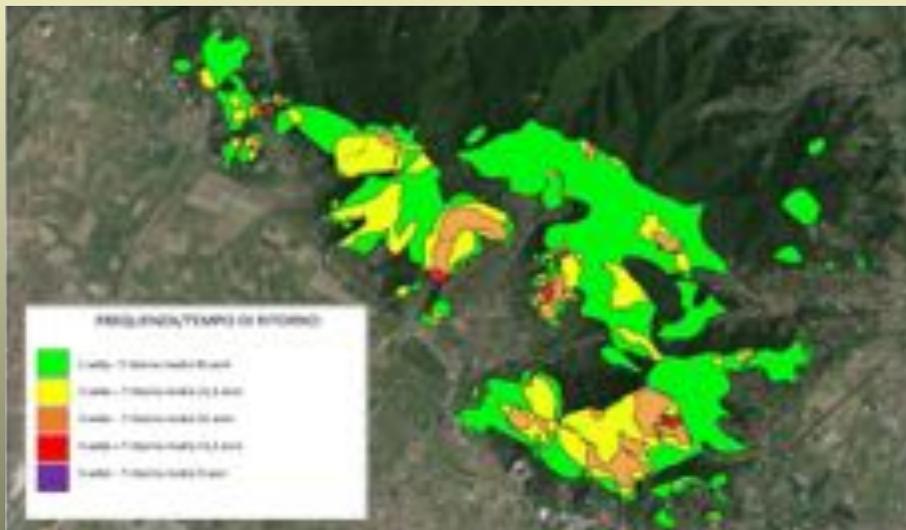
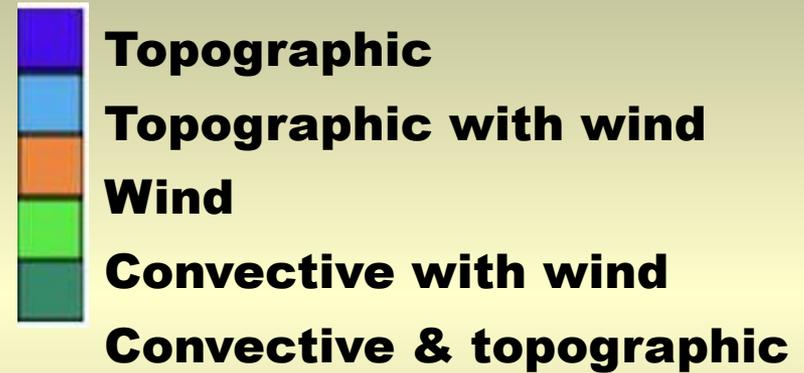
FIRES OVER 50 ha WITH THE ORIGIN POINT



NEW DISTRICT PLANNING – MONTE PISANO (PI)



TYPE OF FIRES



FREQUENCY/RETURN TIME



NEW DISTRICT PLANNING – MONTE PISANO (PI)



Fire guided by wind

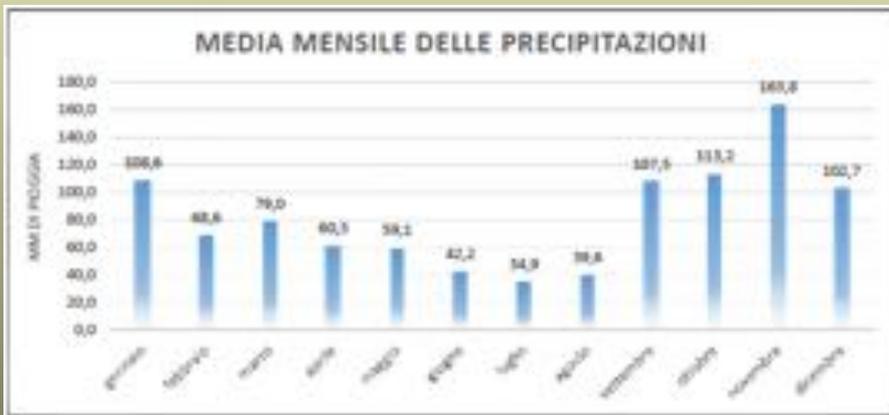
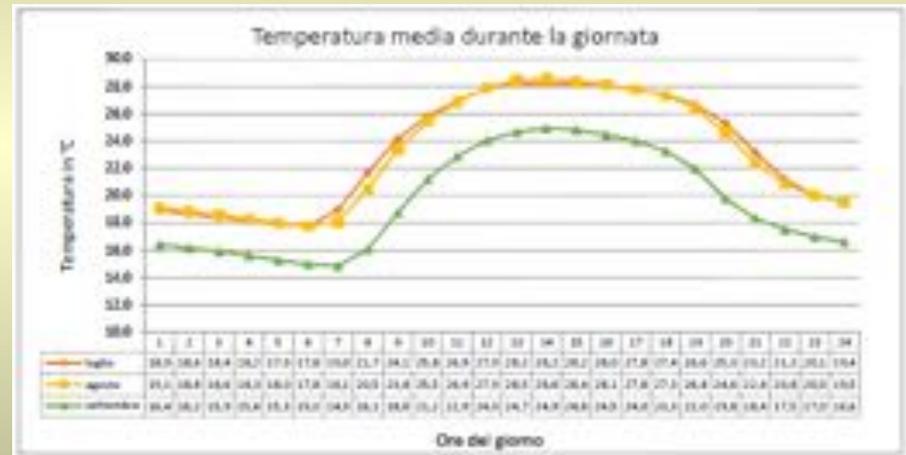
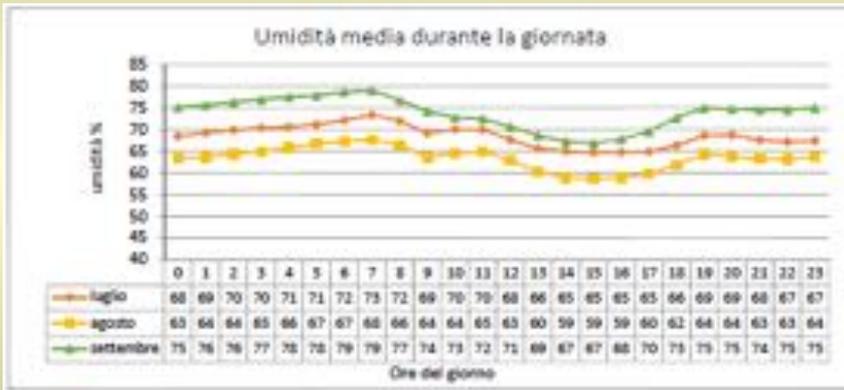
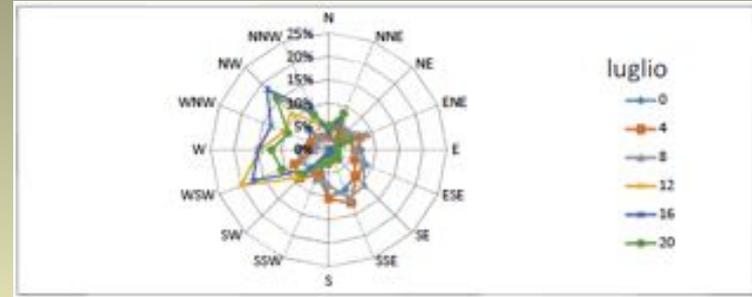
EXAMPLE OF DIFFERENT FIRE TYPE WITH THE ORIGIN POINT



Fire guided by topography



NEW DISTRICT PLANNING – MONTE PISANO (PI)



METEOROLOGICAL ANALYSIS

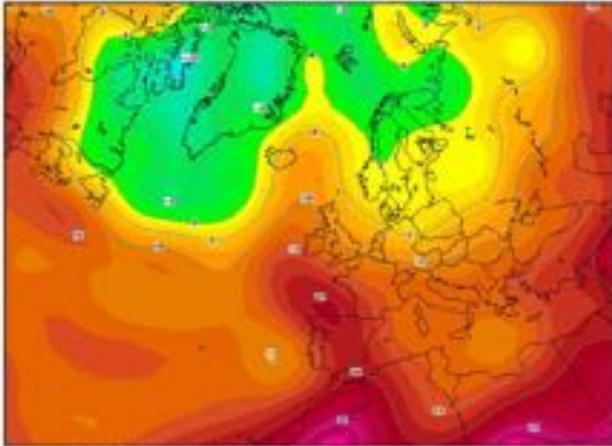


NEW DISTRICT PLANNING – MONTE PISANO (PI)

ANALYSIS OF SYNOPTIC SITUATIONS IN OLD GREAT FIRES

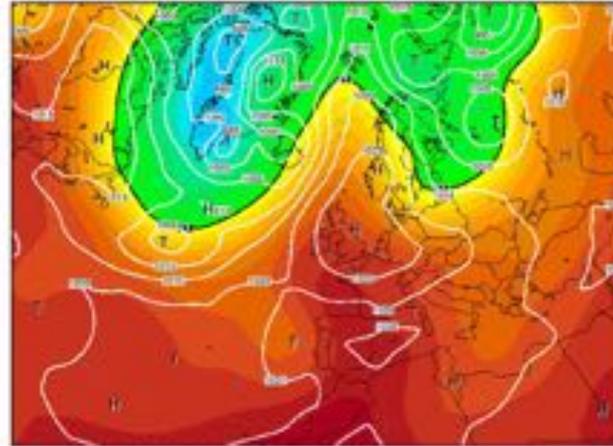
06 settembre 1971 (977 ha bosco)

06SEP1971 00Z
850 hPa Temperatur (Grad C)



Daten: Reanalysis des NCEP
(C) Wetterzentrale
www.wetterzentrale.de

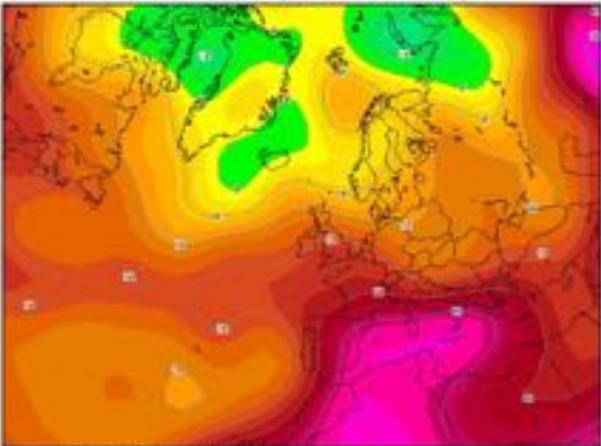
06SEP1971 00Z
500 hPa Geopotential (gpm) und Bodendruck (hPa)



Daten: Reanalysis des NCEP
(C) Wetterzentrale
www.wetterzentrale.de

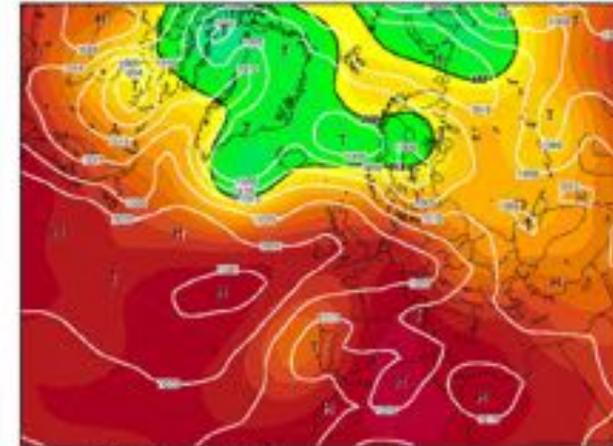
30 luglio 1983 (495 ha)

30JUL1983 00Z
850 hPa Temperatur (Grad C)



Daten: Reanalysis des NCEP
(C) Wetterzentrale
www.wetterzentrale.de

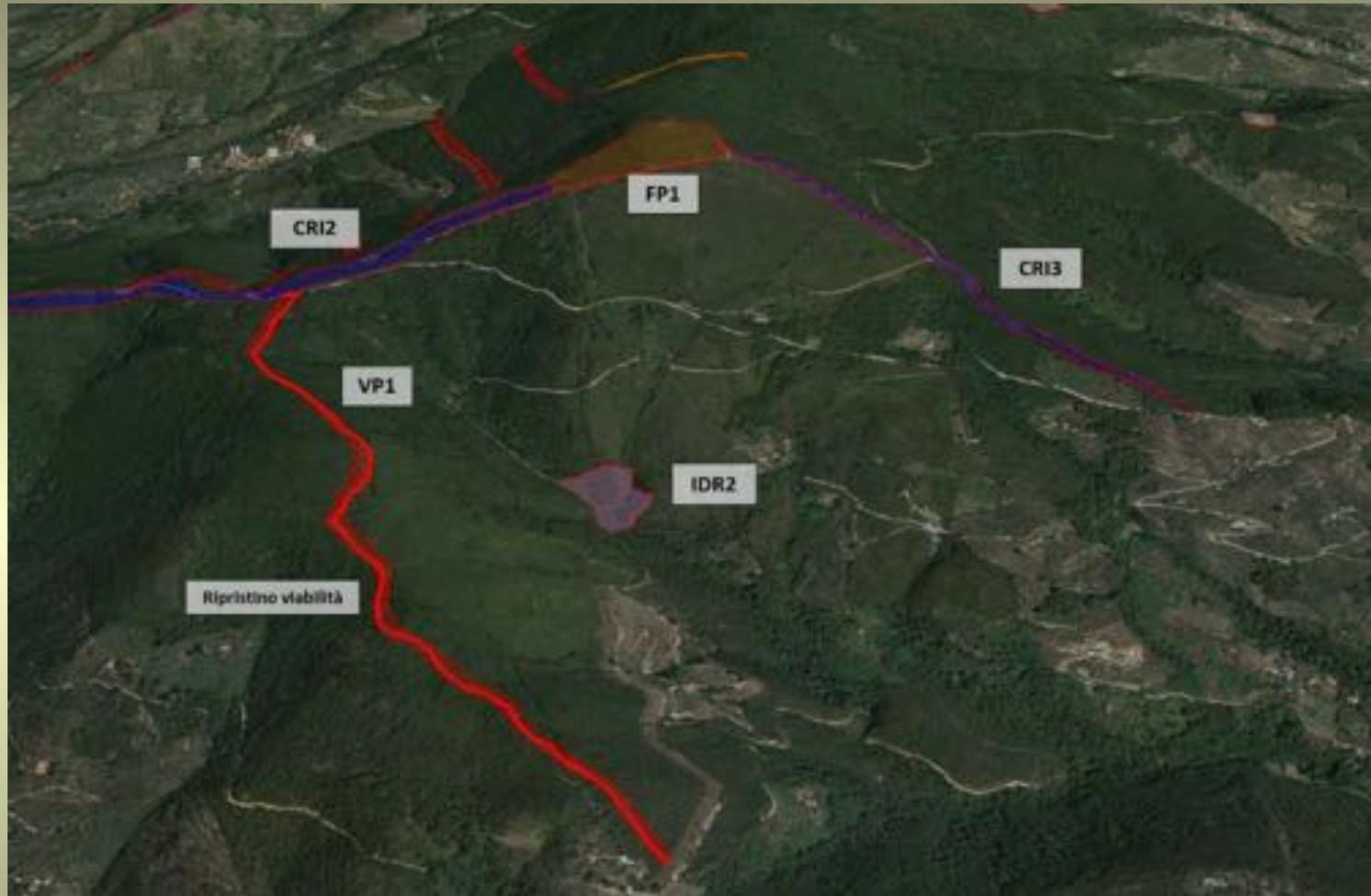
30JUL1983 00Z
500 hPa Geopotential (gpm) und Bodendruck (hPa)



Daten: Reanalysis des NCEP
(C) Wetterzentrale
www.wetterzentrale.de



NEW DISTRICT PLANNING – MONTE PISANO (PI)



**EXAMPLE OF
STRATEGIC MANAGEMENT POINTS
IN VICOPISSANO (PI)**

CRI – Ridge
IDR – Impluvium
VP – Fire breaks
Remake of two track roads

CONCLUSION

With this participation we have striven to highlight the amount of work that Toscana Region have put into prevention, analysis, field study, and the practice of forestry management in forest fires, in the belief that the answer can't be exclusively emergency but must also be **prevention**. We must return to woodland management and practice silviculture and preventive forestry aimed at reducing forest fires.

Antincendi boschivi

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TOSCANA



THANKS FOR YOUR ATTENTION