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The Complex Network within Bushfire Investigation Strategy

An international comparative analysis between post-bushfire investigative departments

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ROADMAP

The worldwide incidence and impact of bushfires

Causes and reasons of bushfires
- Australia
- Italy

Issues in bushfire investigation

Research questions

The organizational context

Significance of the project

Next steps

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THE INCIDENCE AND IMPACT OF BUSHFIRES

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21st Century **The Earth**	21st Century **Europe**
Population: 6.300.000.000	Population: 700.000.000
Annual reported fires: 7.000.000 – 8.000.000	Annual reported fires: 2.000.000 -2.500.000
Fire deaths: 70.000 – 80.000	Fire deaths: 20.000 –25.000
Fire injuries: 500.000 –800.000	Fire injuries: 250.000 –500.000

Centre of Fire Statistics - Wagner, 2006

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Bushfires in europe (2000 – 2008)

COUNTRY	NUMBER	AREA (HA)
Bulgaria	709	15.944
Croatia	4.800	46.926
Czech Republic	933	356
Estonia	143	995
Finland	837	616
France	4.362	22.935
Germany	942	430
Greece	1.765	50.782
Hungary	382	1.889
Italy	7.463	85 .047
Latvia	875	1.007
Lithuania	699	367
Poland	10.371	7.566
Portugal	24.819	157.066
Romania	272	1.449
Slovakia	433	570
Spain	18.664	125.687
Sweden	5.290	2.662
Switzerland	62	216
Turkey	2.128	11.067

Source: EFFIS (*European Forest Fire Information System*), 2009

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F.I.R.E. 5 project

The Force D'intervention Rapide Europeenne - 2008

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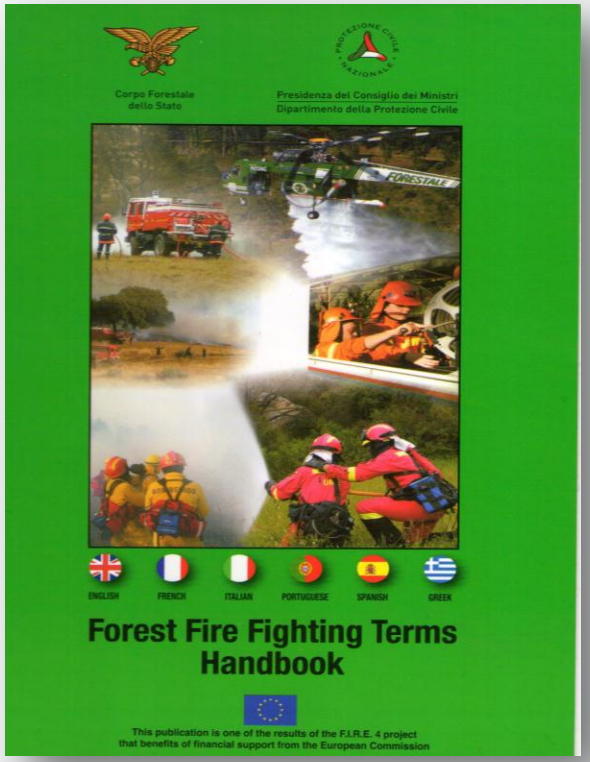
Italy

Portugal



Spain

France

Greece

The project aims to create a shared culture of European disaster management so to become "experts" in the process of exchanging of information, experience, knowledge

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Bushfires in Australia

Between 1967 and 1999, bushfires in Australia resulted in more than 220 deaths and 4,000 injuries, at a total cost of $654 million (AIC, 2004)

Bushfires claimed more lives than floods, severe storms, tropical cyclones or earthquakes

Bushfires created 48 per cent of the total death and injury cost from natural disasters in Australia

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CAUSES AND REASONS OF BUSHFIRES

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~~Natural phenomena~~

Almost 90% of all bushfires can be attributed to humans

(Provincia di Genova, 2003; Willis, 2004; Kapardis, 1983; Bryant, 2008)

All bushfires should be investigated at some level and data collection should be consistent

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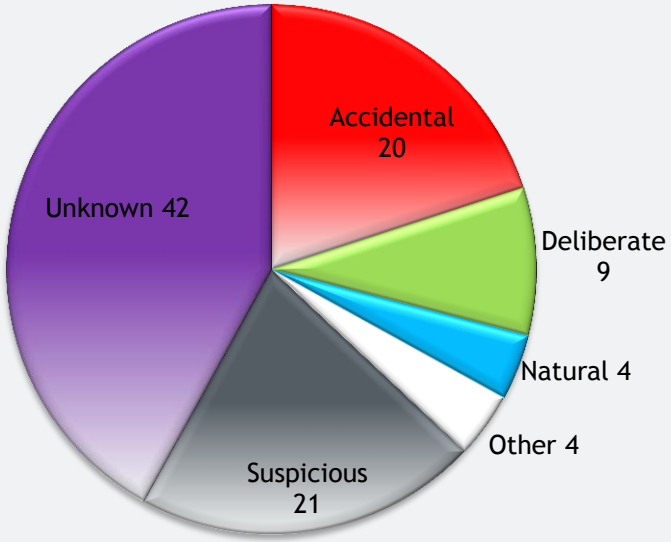
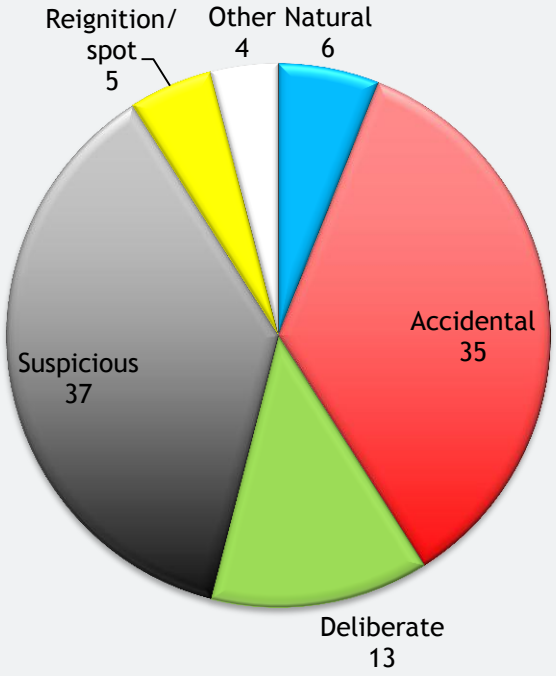
Proportion of vegetation fires in Australia by assigned cause

2007



Source: Productivity Commission 2007 (AIC Computer File - Combined Australian fire agencies)

2009



Source: Combined Australian fire agencies [computer data file]- October 2009, AIC

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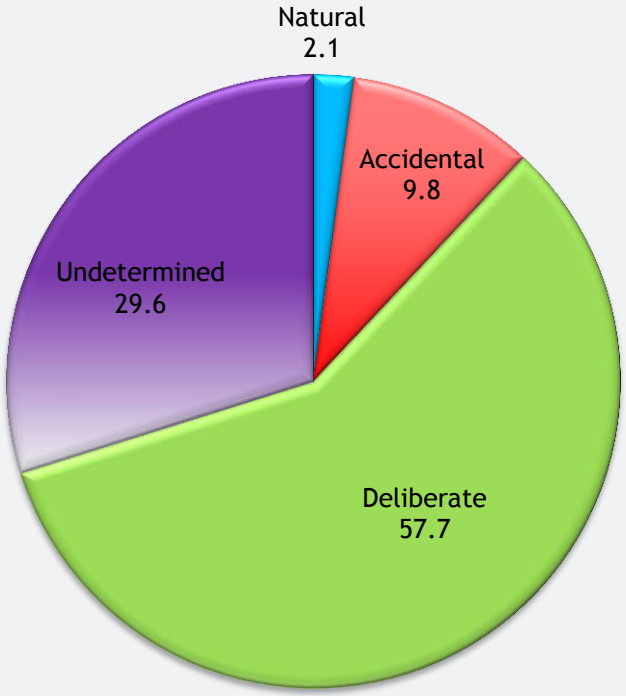
Proportion of fires in Italy by assigned cause

2007



Italian Fire Brigate, 2007

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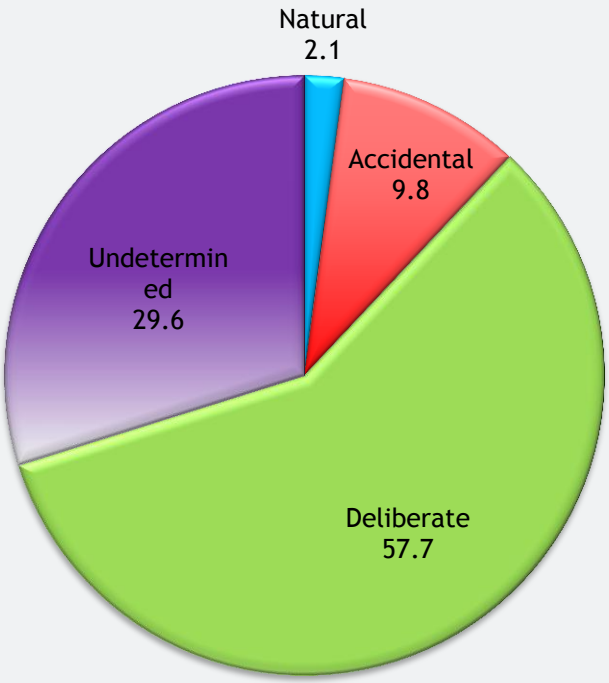
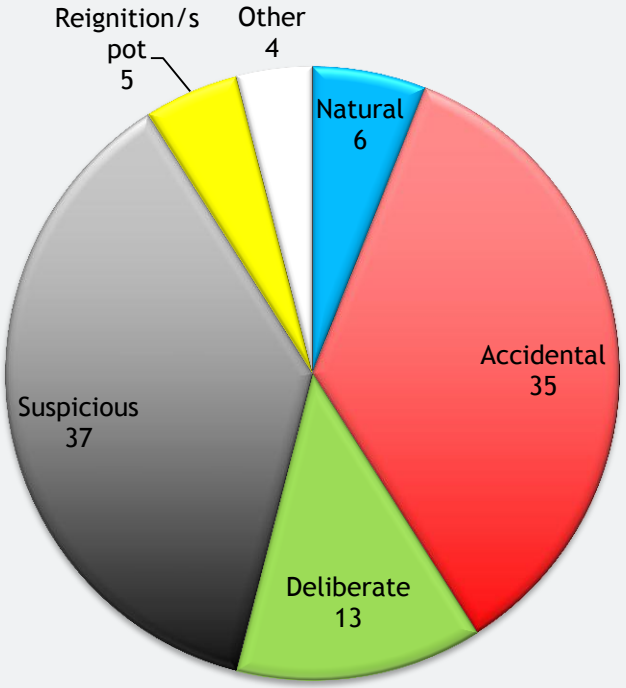
A comparison ...

Proportion of fires in Italy by assigned cause



Proportion of vegetation fires in Australia by assigned cause



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ISSUES IN BUSHFIRE INVESTIGATION

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- The lack of reliable data of the cause and reason of a fire (Drabsch, 2003)

- Inconsistencies exist between and within agencies in recording data

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DO WE REALLY KNOW CAUSES AND REASONS OF BUSHFIRES?!

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CAUSES

Italian Fire Brigade 2007	National Forest Corps 2008	AIC 2007	AIC 2009
Undetermined 30%	Uncertain 14%	Unknown 42%	Suspicious 37%
Accidental 10%	Accidental 1%	Accidental 20%	Accidental 35%
Deliberate 58%	***Arson 67%***	Deliberate 9%	Deliberate 13%
Natural 2%	Natural 1%	Natural 4%	Natural 6%
	Negligent 17%	Suspicious 21%	Reignition 5%
		Other 3%	Other 4%

REASONS

Italian Fire Brigade 2007

Uncertain reasons
60%

National Forest Corps 2008

Uncertain reasons
52%

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THE NEED

Improved captured data quality over a much larger area in order to increase our understanding of wildfires

THE MOST CHALLENGING ASPECT

Working in a COORDINATED and more EFFICIENT manner

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THE ORGANIZATIONAL CONTEXT

Organizational vision appears to strongly influence the level of commitment of agencies which is essential for an effective inter-organizational collaboration

Organizations involved in the post bushfire investigation have a common organizational feature; they are Emergency Service Organizations

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RESEARCH QUESTIONS

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✓How do organizations deal with post bushfire investigation and what is their remit?

✓What are the conditions that enable or prevent effective collaboration within bushfire investigation?

✓How does professional communication within and between organizations lead to a successful complex collaboration?

✓How can organizations structure themselves to deal effectively with a post bushfire investigation? Should be there an international dimension to such investigation?

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Project aims

To: identify strengths and weaknesses of the sharing of knowledge between bushfire investigative related agencies

By: conducting a comparative analysis through the lens of the professional communication

And: analysing their internal practices and procedures in undertaking bushfire investigation

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Proposed method

A qualitative case study research that is international in its scope, cross-sector in its breadth, and multidisciplinary in its conceptualization

- Focus groups
- Semi-structured interviews
- Documentation review and archival records
- Events analysis

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Case study

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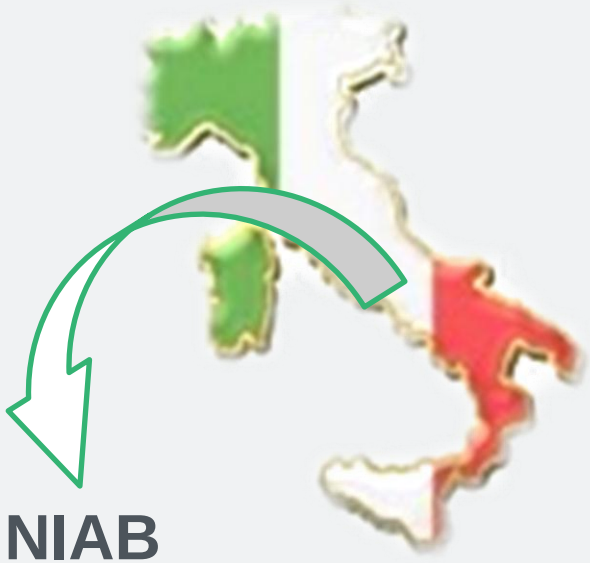
Five post bushfire investigation departments

Victoria Police
DSE
CFA



NIAB
NIA

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SIGNIFICANCE OF THE PROJECT

Collaboration and partnerships are fundamental elements of organizational learning

This learning is based on common language and shared culture

SOCIAL KNOWLEDGE

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NEXT STEPS

- Finalize literature review
- Conduct interviews and event analysis
- Interpretation of collected data
- Outcomes and dissemination of findings

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Thanks for listening ...

QUESTIONS?

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