The Egyptian Vulture in Italy

Distribution, consistence and trends

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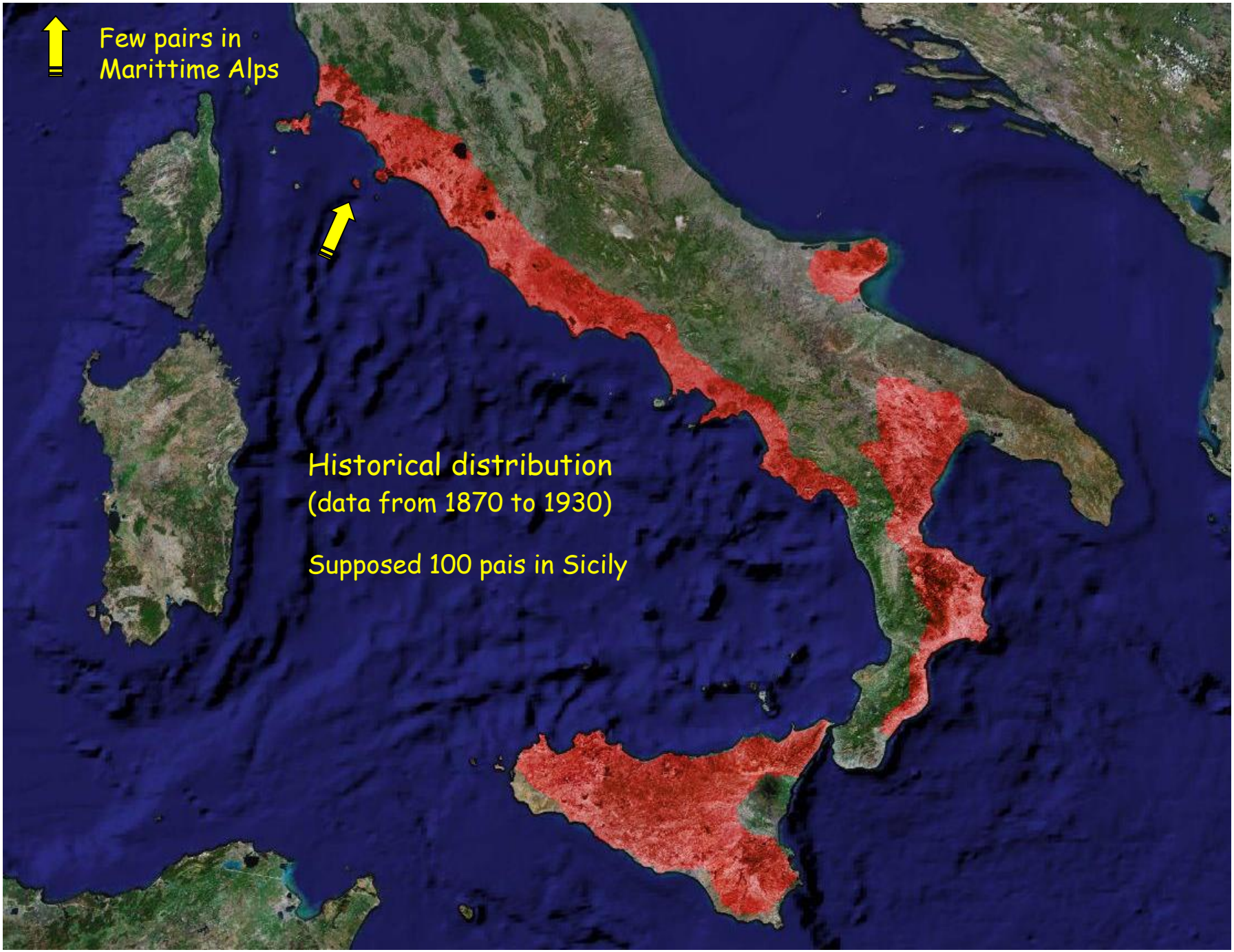
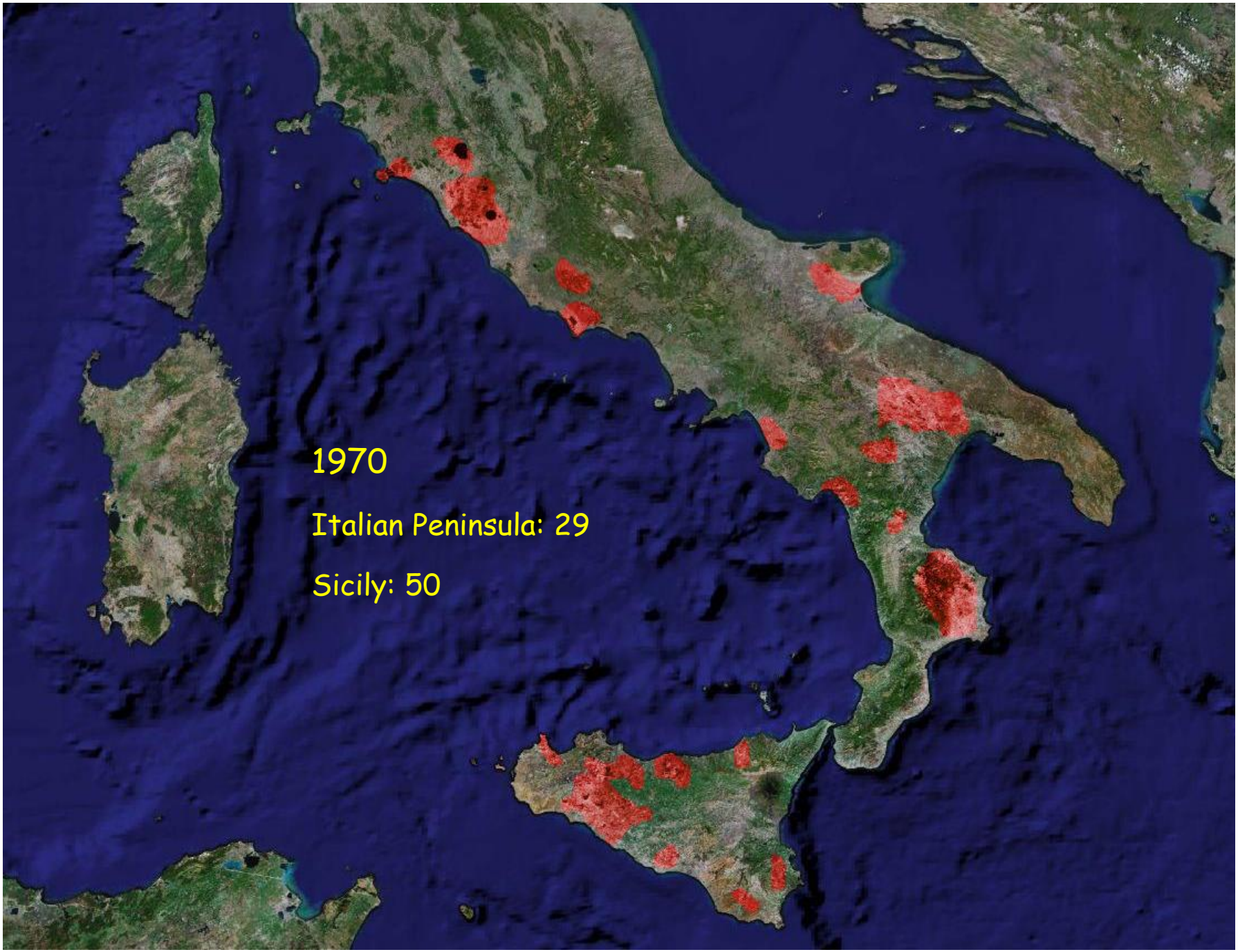
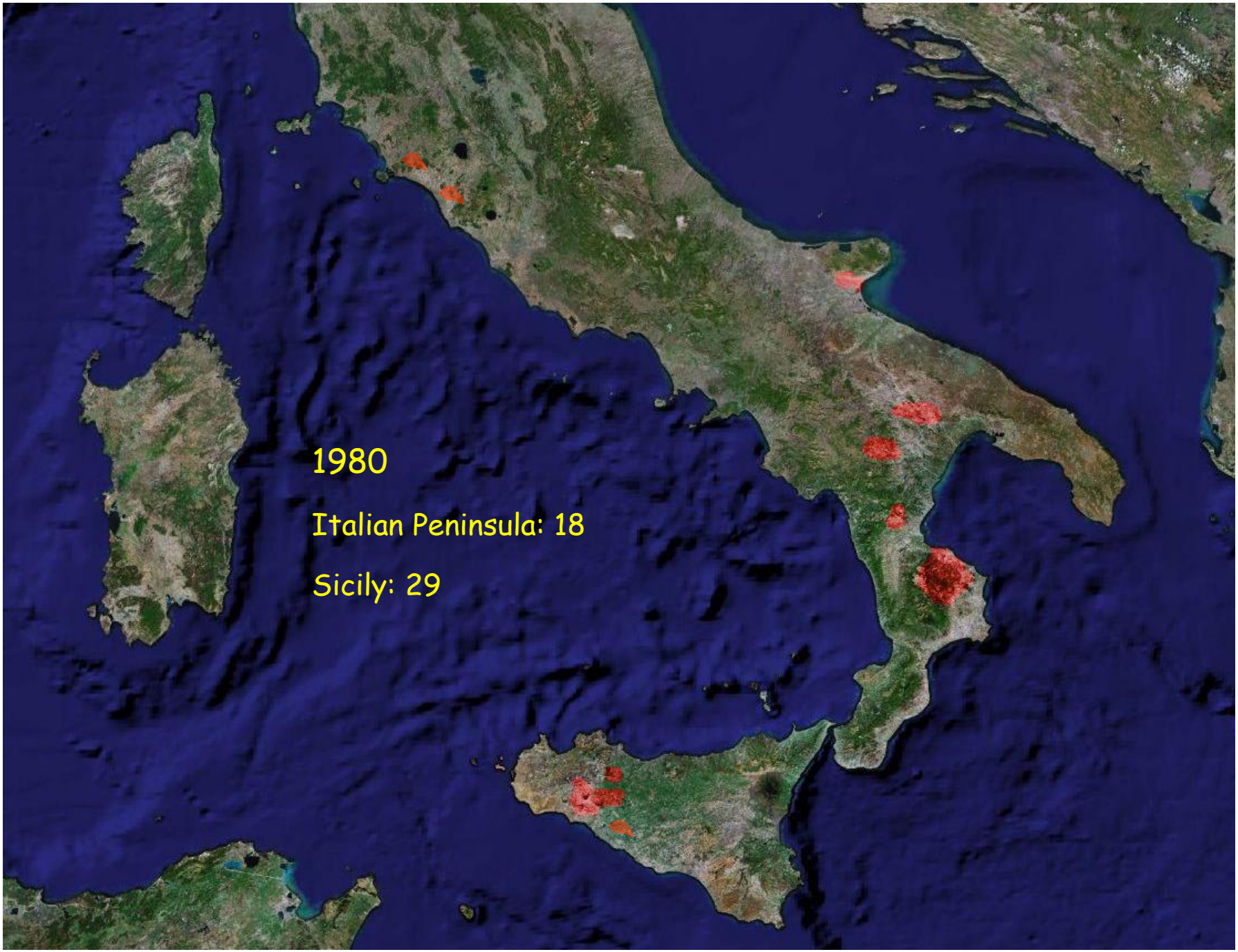
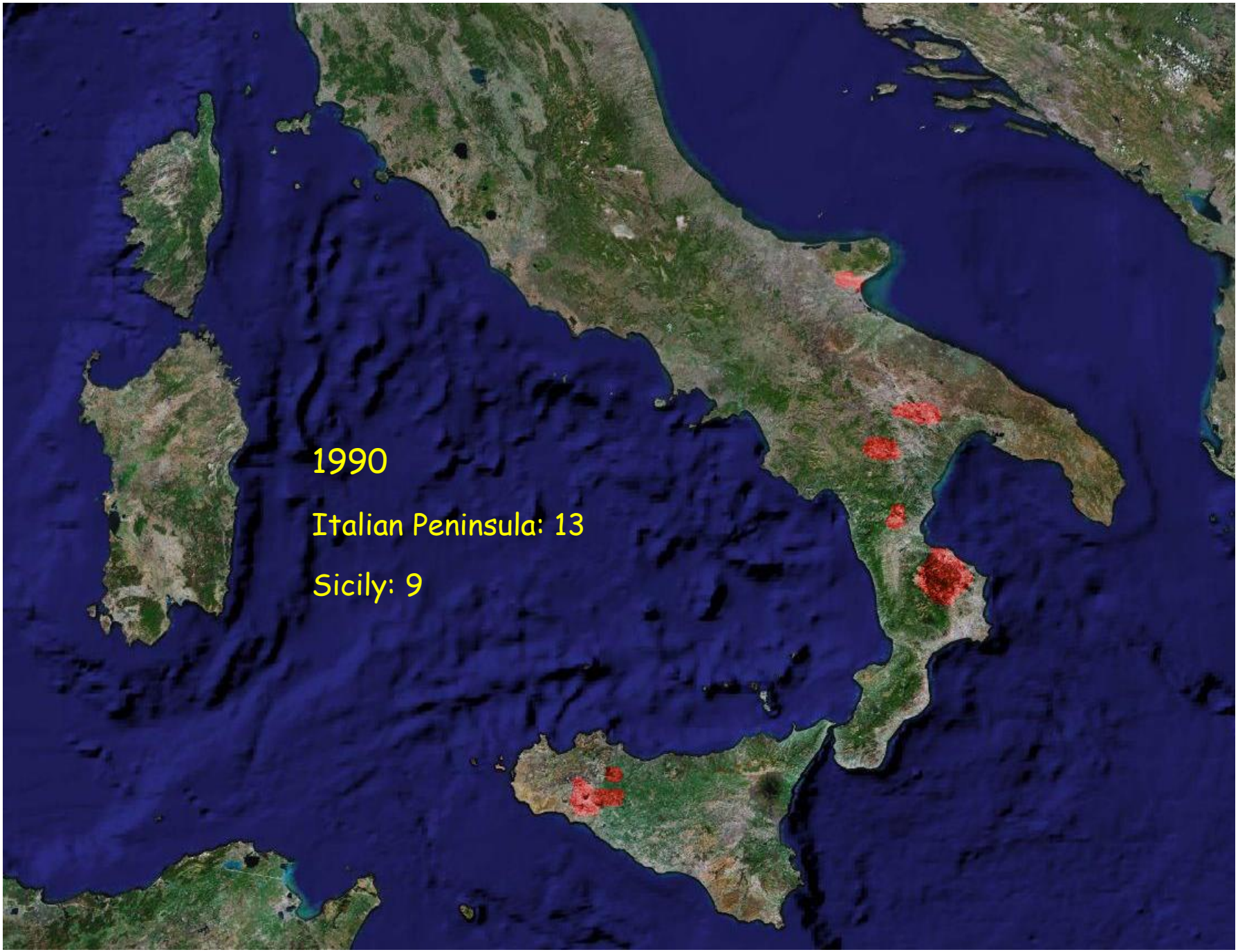
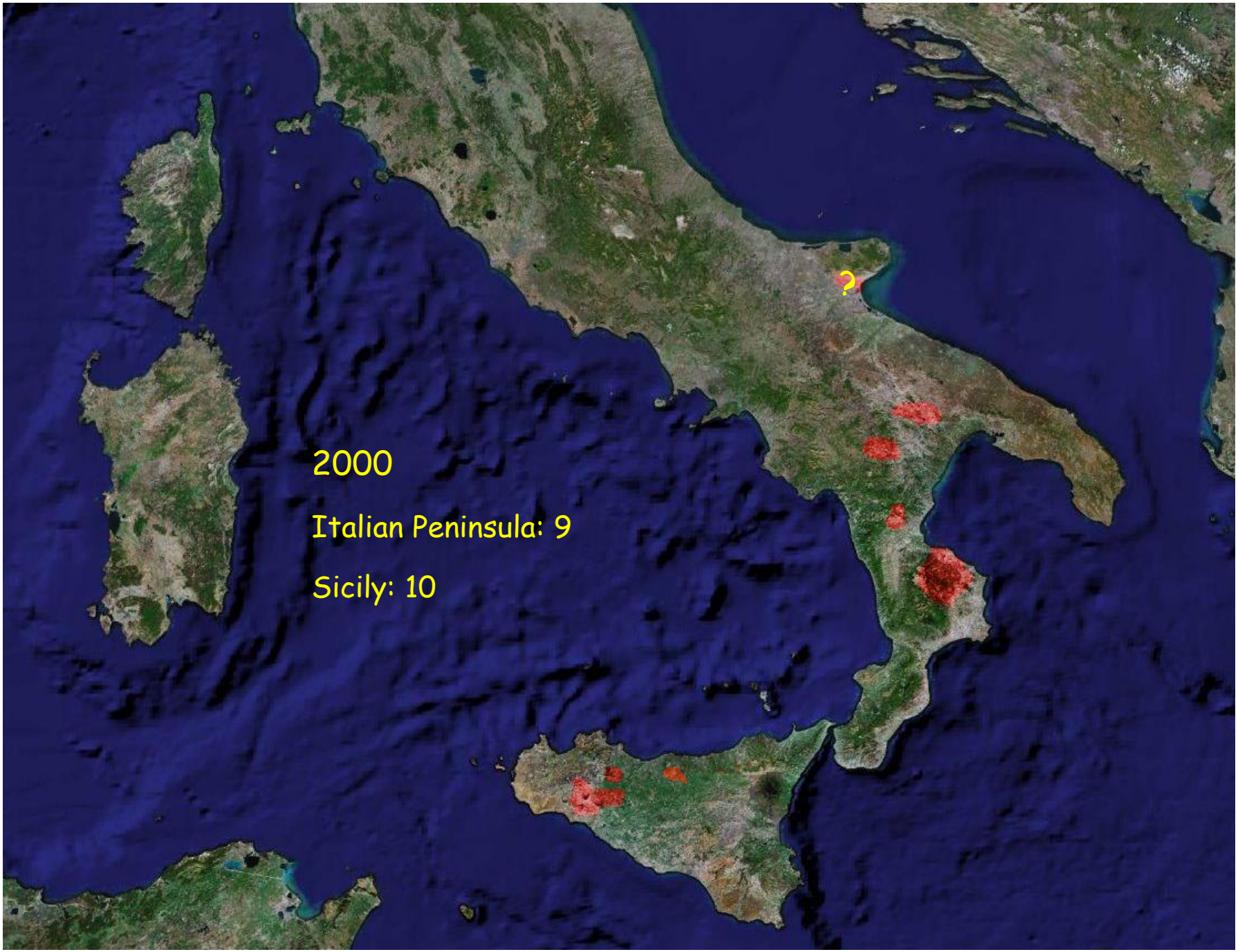
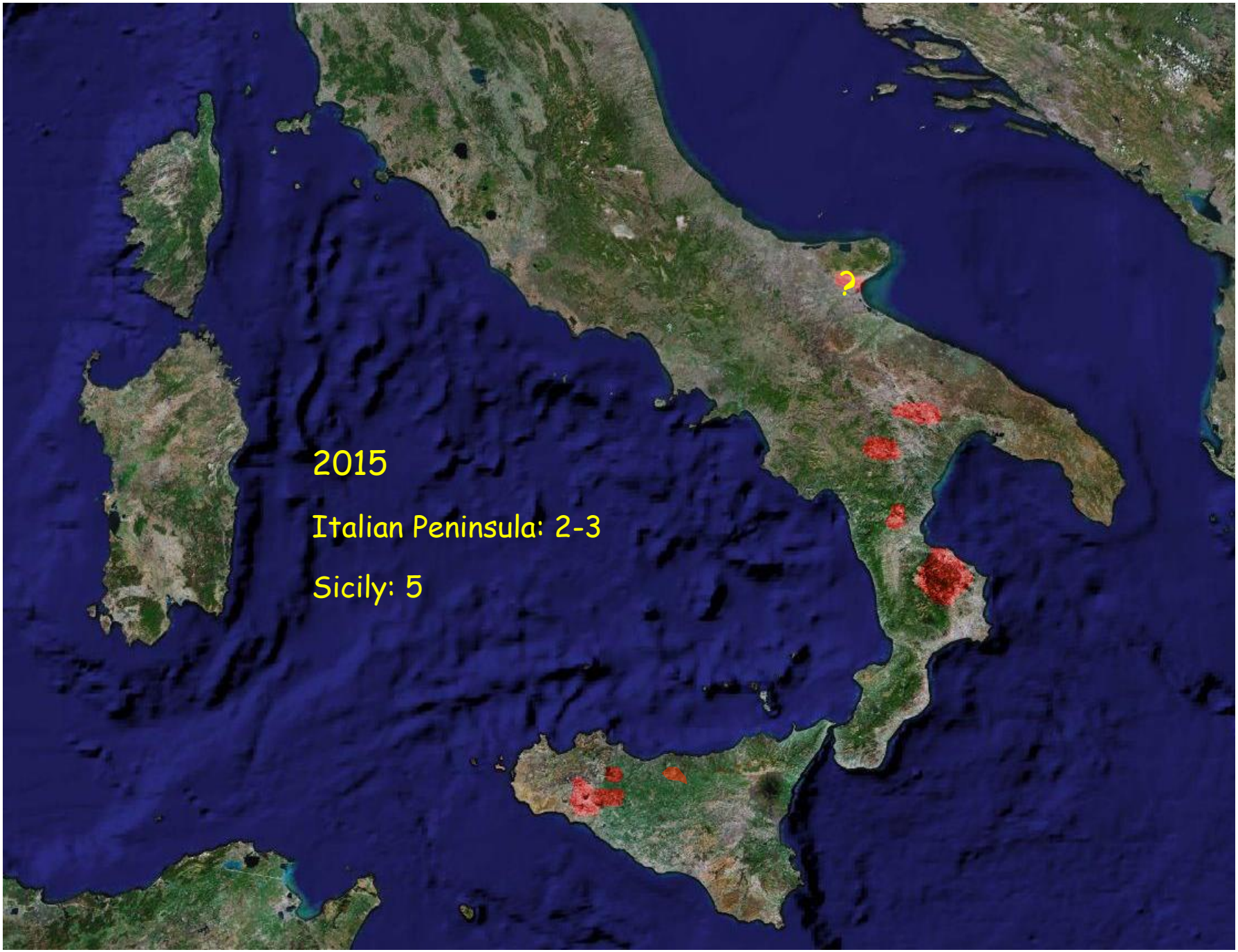

Few pairs in
Marittime Alps
Historical distribution
(data from 1870 to 1930)
Supposed 100 pais in Sicily


1970
Italian Peninsula: 29
Sicily: 50


1980
Italian Peninsula: 18
Sicily: 29


1990
Italian Peninsula: 13
Sicily: 9


?
2000
Italian Peninsula: 9
Sicily: 10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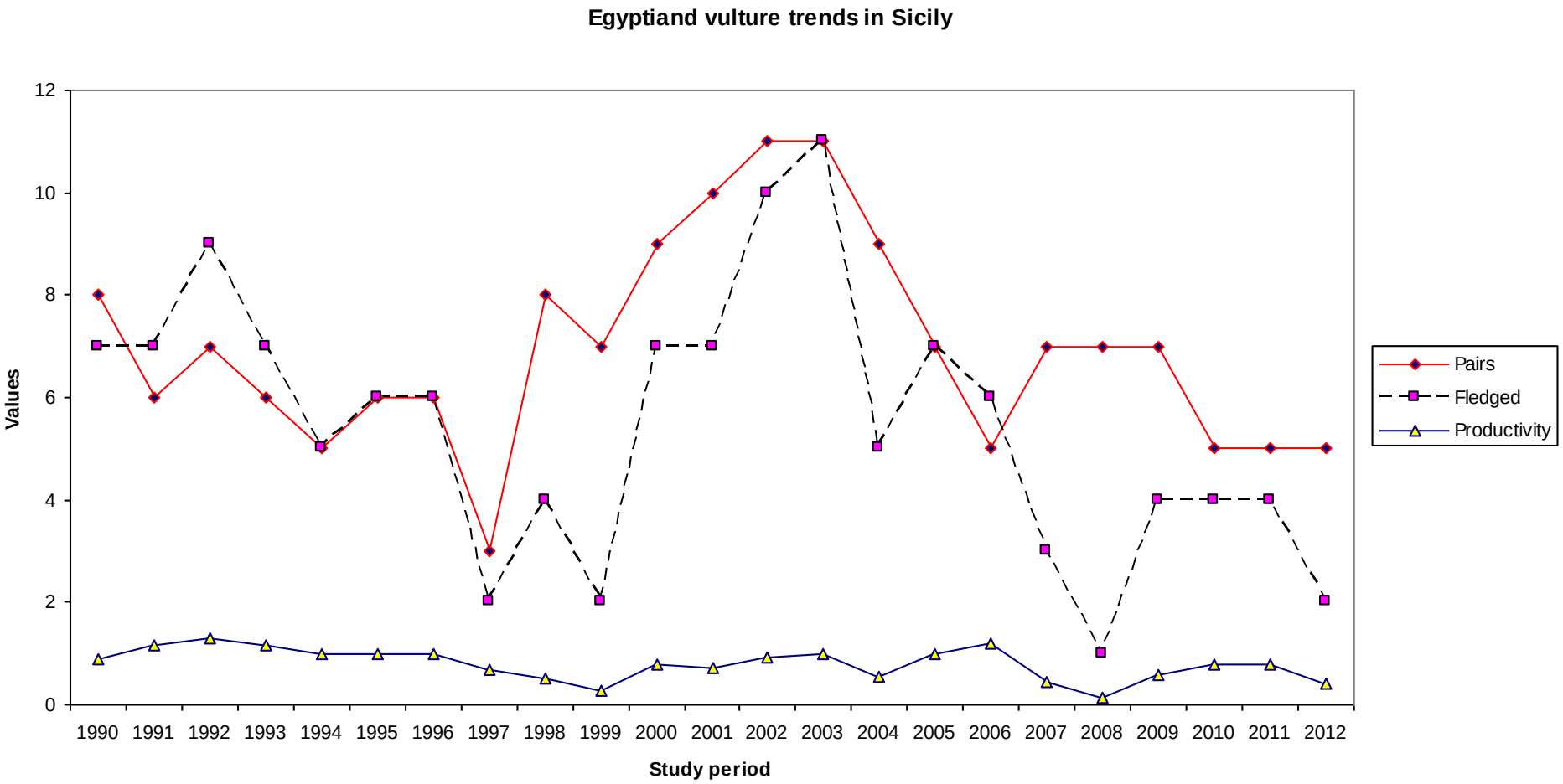
2015
Italian Peninsula: 2-3
Sicily: 5

The Italian population of the Egyptian vulture has declined by over 80% in the last 50 years.
With only seven pairs left, the species is on the brink of extinction. In Italy at present, the breeding distribution is restricted to only two areas: Southern Italy, where 2 pairs are counted, and Sicily, where 5 pairs are counted.

Situation in Sicily

The Sicilian population was estimated at 30 pairs in the latest' 80 (Iapichino and Massa 1989), but after this period it decreased gradually due to the intensification of agriculture and reductionin the traditional livestock management (Sarà *et al.* 2009).

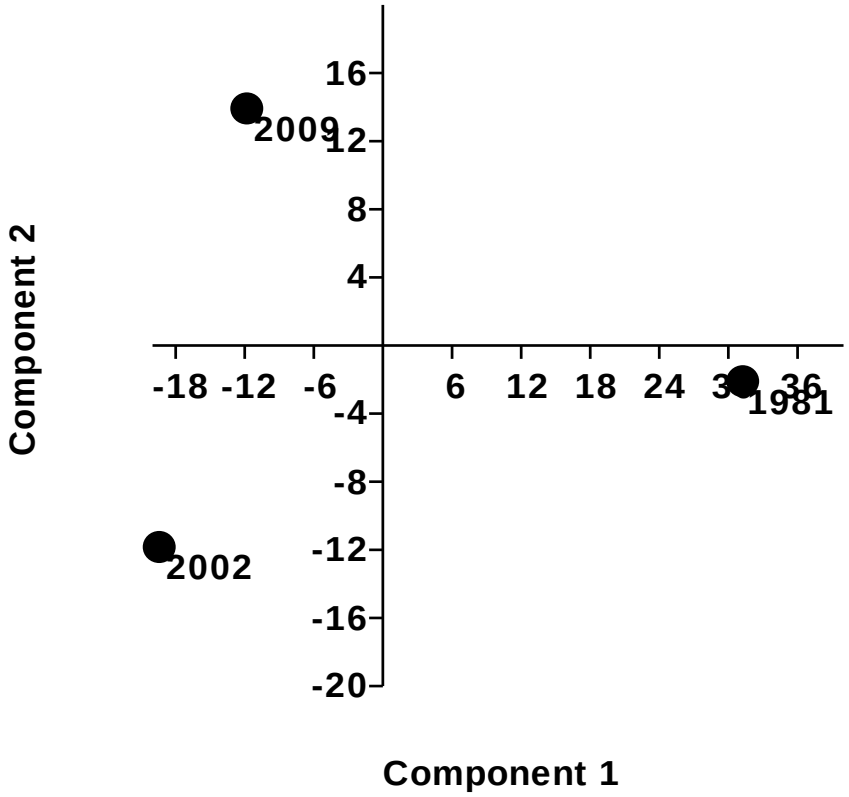
- From 1990 to 2014 checked 182 breeding attempts.


Egyptiand vulture trends in Sicily
Values
Study period
0
2
4
6
8
10
12
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
Pairs
Fledged
Productivity

	1981	2002	2009
Fishes-Reptiles-Amphibia	36,36	11,03	7,48
Passerinae	1,82	0,00	1,36
Raptors diurnal and nocturnal	0,91	2,94	1,36
Corvidae	8,18	4,78	8,16
Columbiformes	0,91	2,57	8,84
Poultry	0,00	2,21	11,56
Aves sp	0,91	0,37	3,40
Livestock and domestic mammals	41,82	60,29	33,33
Wild mammals	9,09	13,97	24,49
Mammals sp	0,00	0,74	0,00
Invertebrates	0,00	1,10	0,00
Totals	100,00	100,00	100,00

The food of the Egyptian vulture in Sicily differed significantly in the periods before and after the change of livestock ownership (χ^2_{44} = 315.44, P<0.000), with the reduction of livestock remains and the increase of wild medium size mammals and birds. These dietary changes were accomplished with increasing in the diversity of diet and in the dietary breadth, and showing consequently a very low dietary overlap between the two analyzed periods

Principal Component Analysis (VARIMAX rotated) of the Egyptian vulture's diet composition of in Sicily across different periods.



The relationship between variation in diet diversity and vulture nesting productivity might suggest a causal link between variation in diet and reproductive output (Margalida *et al.*, 2012; Milchew*et al.*, 2012), and the following population decline

Habitat degradation and decrease of food resources

From 1990 to 2000, happened in Sicily an increase (+12.6%) regarded the irrigated cropland, which corresponded to a decrease (-11.1%) in traditional dry cereal farming, with the increase, as consequence, of wooded and closed areas.
Livestock and husbandry decreased strongly (-24% sheep, -38% goats, -40% domestic fowl, -58% pigs).
Nest disturbance are other important factors of breeding failures.

Yoongs robbery on the nest for falconry

High values of arsenic and lead and DDT (Tab 1) in Egyptian vultures eggs.

Species	Arsenic ppb	Cadmiunppb	Cooper ppb	Mercury ppb	Lead ppb	Chrome	Selenium	Zink	DDT *	HCH (hexachlorocicloheхane)*	PBDE (polychlorinateddiphenyls)*	DBDPE (decabrome-diphenolate)*	PBB (polybrominateddiphenyls)*
Neophron percnopterus	66.6	<2	<50	<2	98.49	<15	<40	<20	3245	42.8	35.2	<2	<2
Neophron percnopterus	59.7	<2	<50	<2	117.63	<15	<40	<20	3428	35.3	47.1	<2	<2

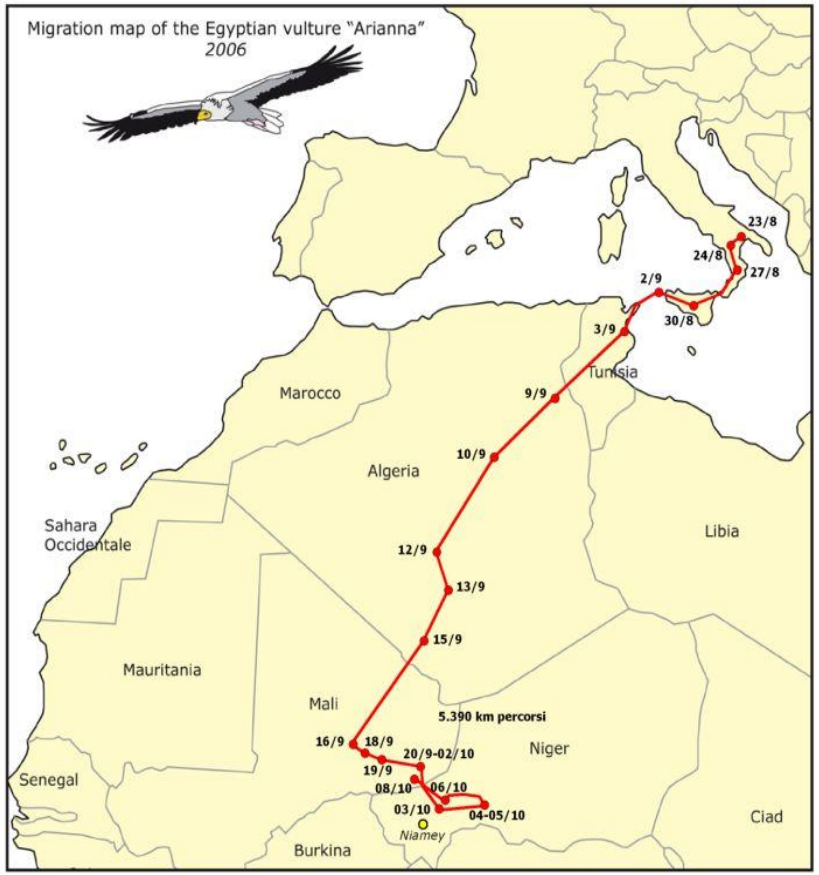
Ppb= parts per billion

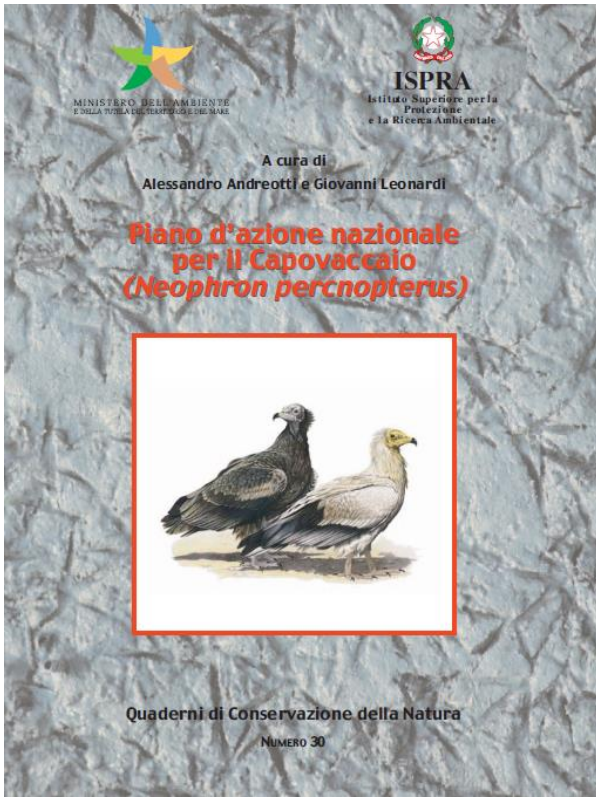
* ng/g dry weight

Captive breeding and releases

- Semproniano CERM center (stock of 32 specimens)
- Successfull captive breeding (26 borns) and release of more youngs in Sicily (1) and peninsula (11)

The actions of restocking, started in 2004, they have resulted in the release of 12 young people born in the CERM, of which 11 have started migrating. For 3 people it was found the return in Italy, also through satellite telemetry techniques, demonstrating the utility of this technique





Il piano d'azione nazionale per il Capovaccaio

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Factors

High mortality:the most important factor

Poaching and youngs robbery on the nest

Ecotoxicology factors

Lead in diet and environment

Wind farms and power lines

Habitat degradation

Habitat loss

Loss of nesting sites

Food resources riduction

Human disturbance

Habitat degradation

Habitat loss

Loss of nesting sites

Food resources riduction

Human disturbance

Conservations measures

Habitat conservation

Threats controll

Conservations measures

Habitat conservation

Threats controll

Objectives

Mortality controll

Feeding stations

Poison controll

Pesticides reductions

Lead reductions

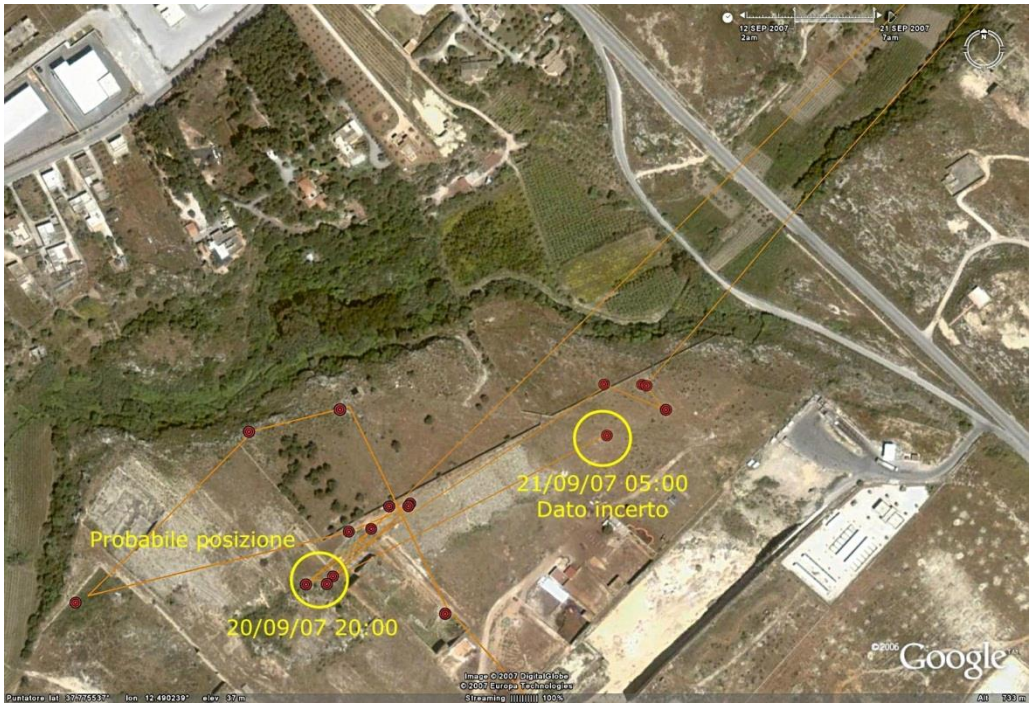
Habitat restore

Objectives

Habitat conservation/restauration

- breeding areas

- migration routes



Objectives

Captive breeding improve

Releases programm
Restocking

The main targets to be achieved are the following:
- demographic increase of the Egyptian vulture Italian population;
- preserving the breeding areas;
- supplying supplementary feeding resources;
- reducing the mortality factors;
- increasing the knowledge of the factors negatively affecting the population dynamics;
- creating an European network for exchanging knowledge and collaborating on the conservation of the Egyptian vulture both at Italian and European level.
monitoring and guarding the nesting areas, to avoid human disturbance of breeding pairs and allow the quietness necessary for their breeding success;
• creation of a feeding stations network in the reproductive areas and along the migration route;
Increase the program of captive breeding and release

Illegal trade and traffic

Discovered in Sicily in 2010:

3 Egyptian vultures seized from Colletionist

Thanks
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