

The *pozzines* of Corsica : Global change and Trout Population



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- Origin and Evolution
- Physic Caract.
- Ecology of Trout
- Management



Origin and Evolution

Glacial Origin
15 000 years ago



Origin and Evolution

- Sediment Accumulation / Deposition
- Filling





Nino Lake

Surface area : 6,5 ha

Depth max : 11 m

Altitude : 1743 m

Nino Pozzines
Stream order 1 Strahler
Tavignano



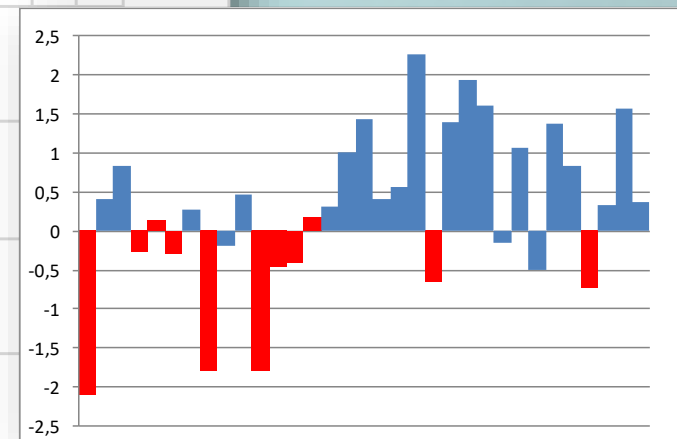
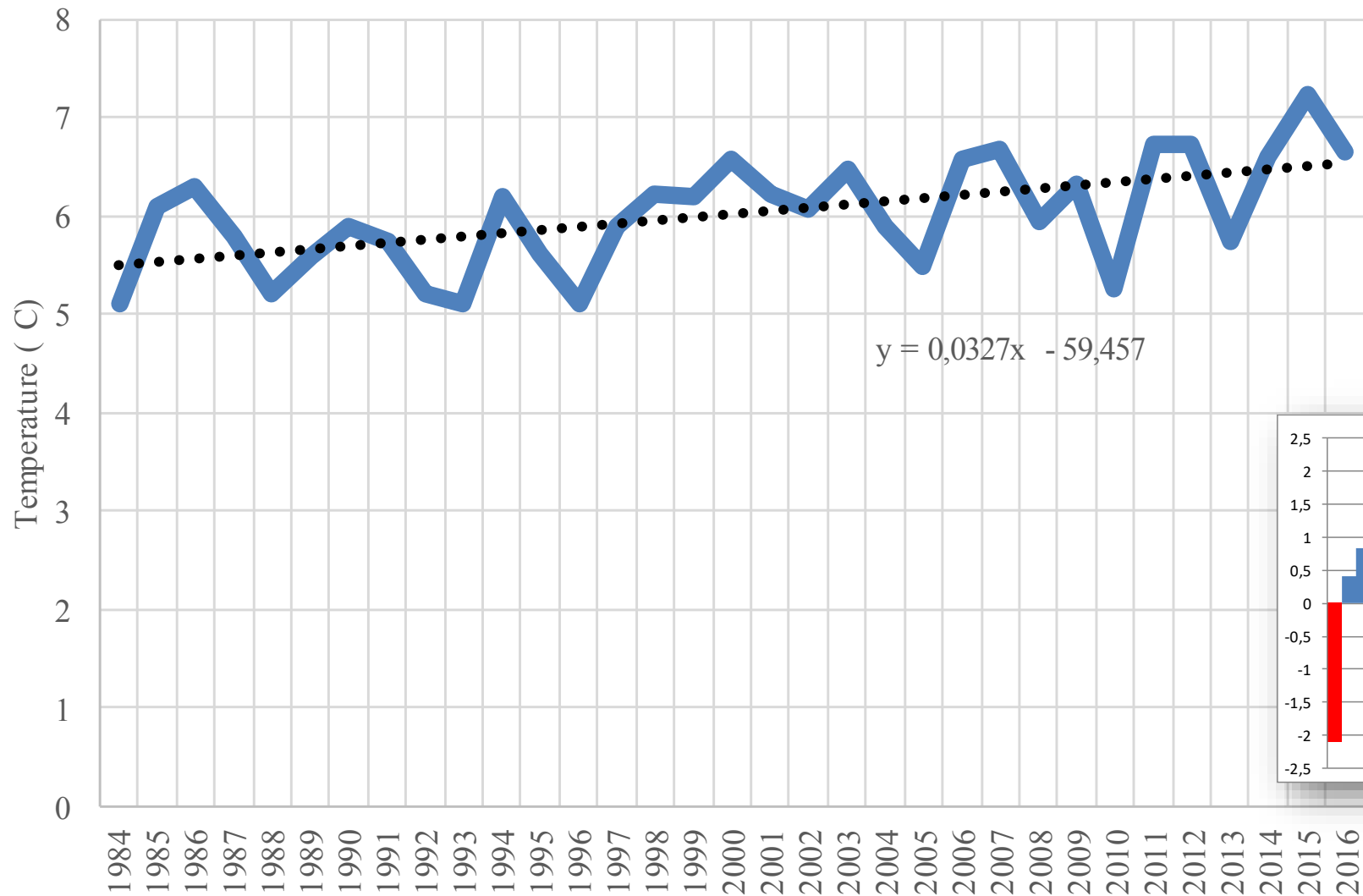
Nino Valley

Site sampling

Tavignano River

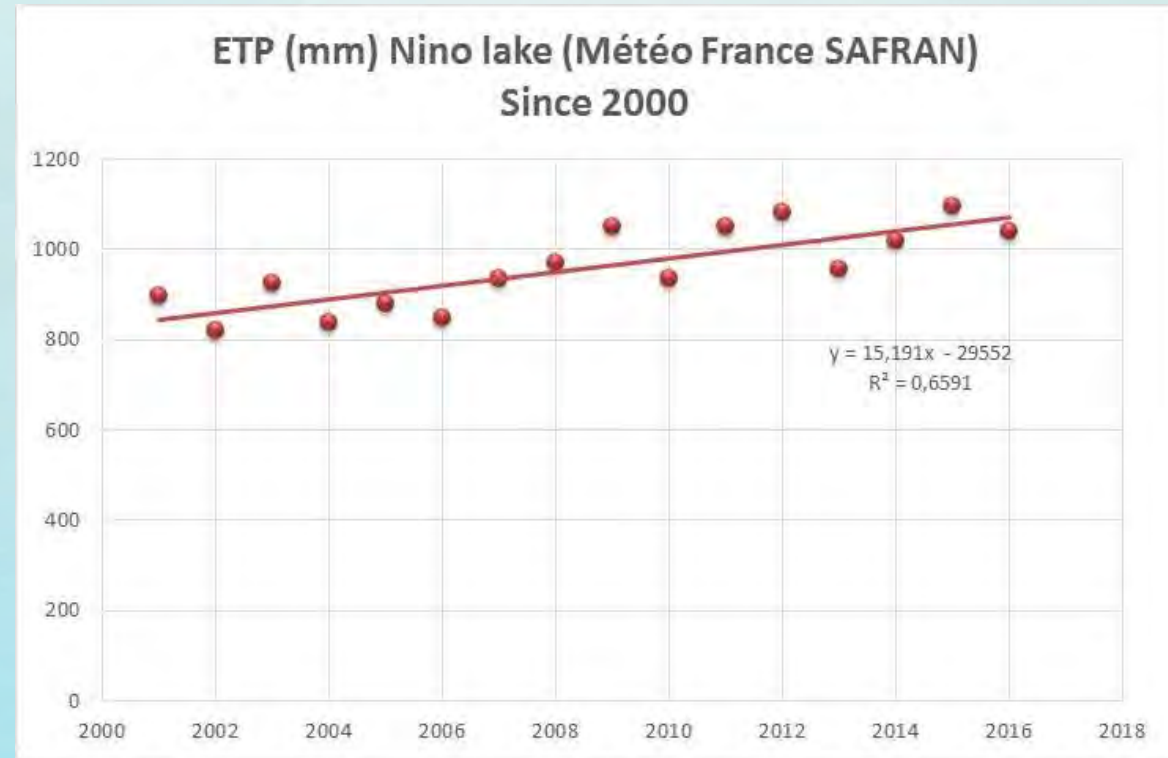
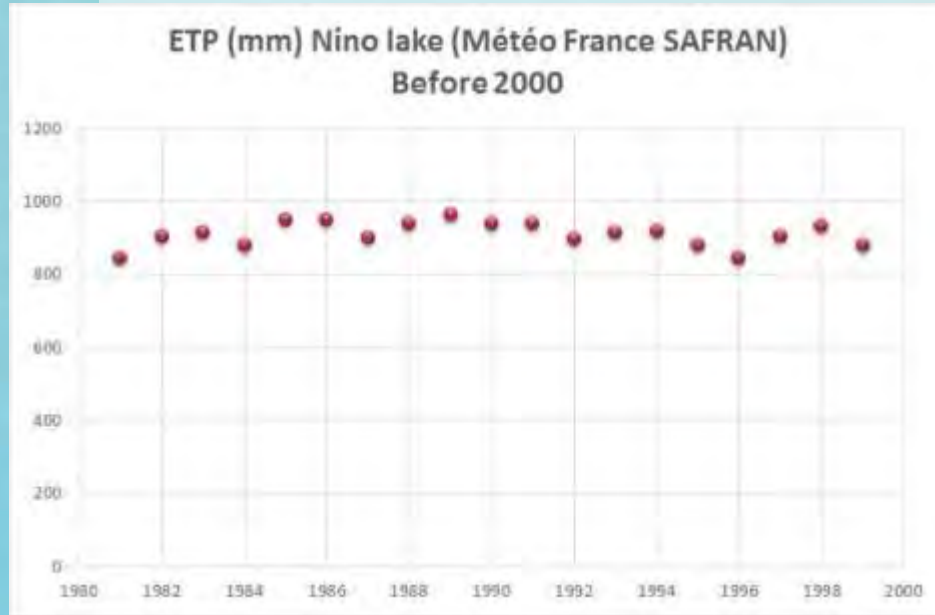


Air Temperature

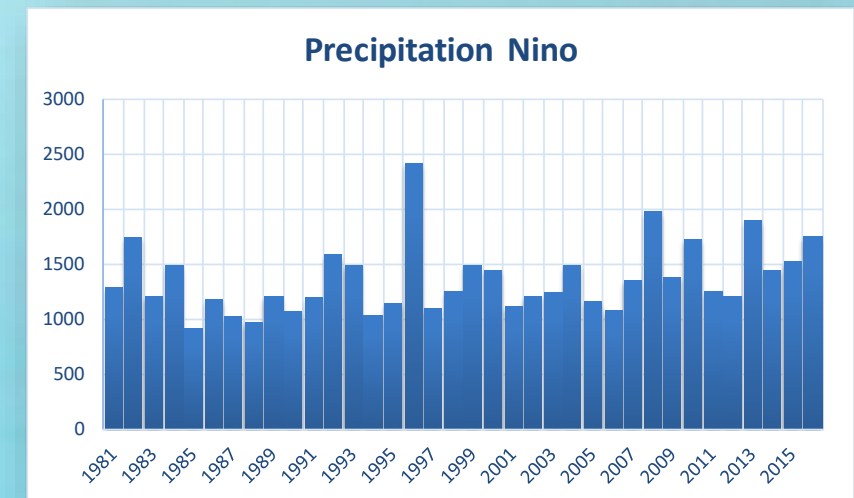


Estimated Temperature (°C) at Nino Valley with « SAFRAN »
Software of MétéoFrance (mesh 8X8 km)

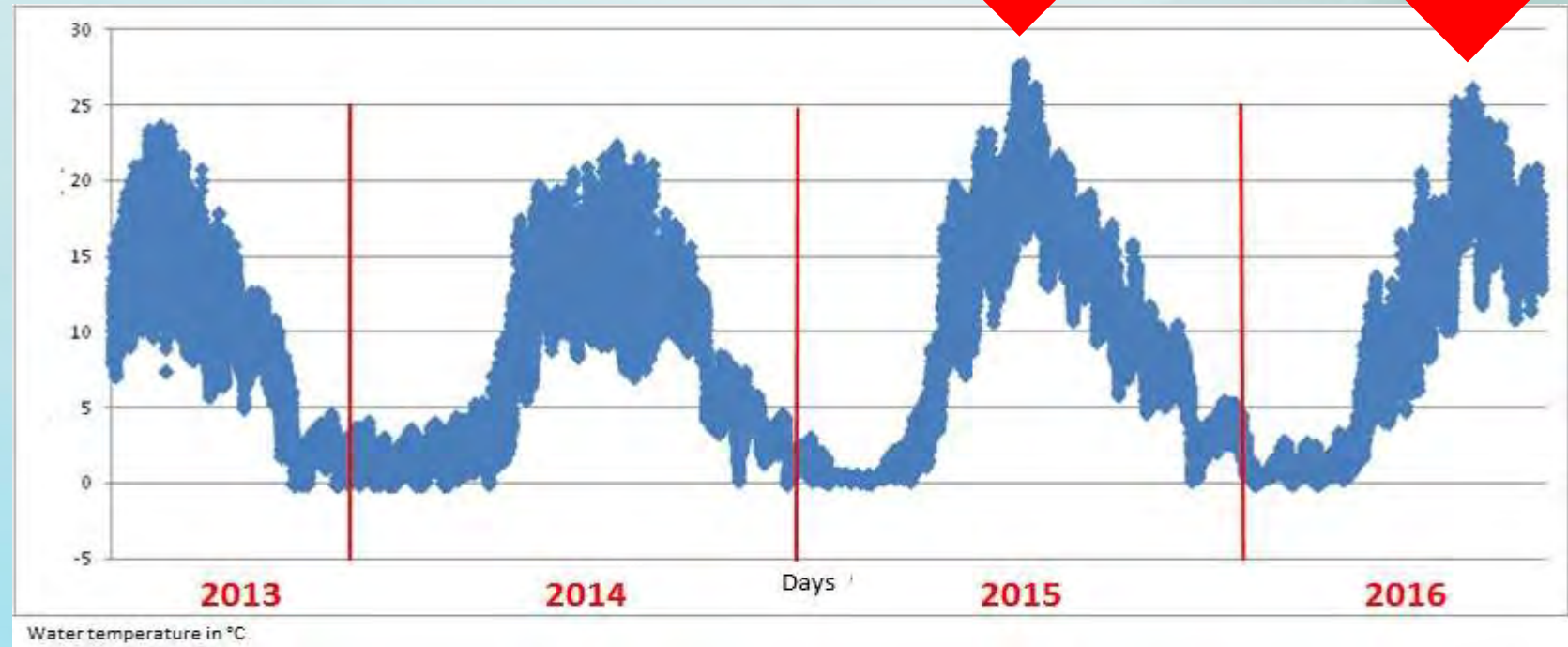
Evapotranspiration and Precipitation Nino Valley



Estimated ETP (mm) and
Precipitation (mm) at Nino Valley
with « SAFRAN » Software of
MétéoFrance (mesh 8X8 km)



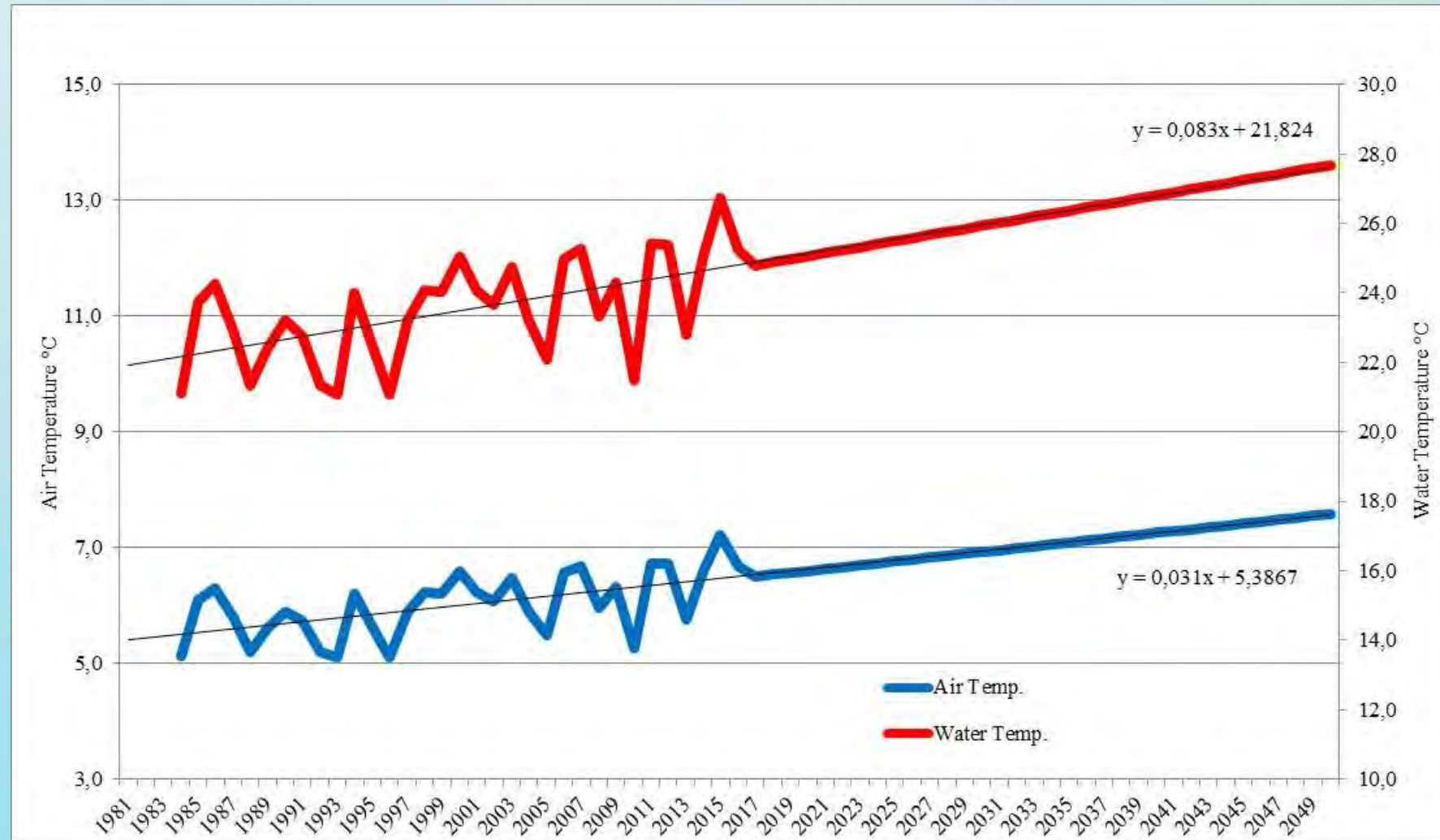
- Water Temperature of *Pozzines*
- 2015 – 27,8 °C max
- 2016 – 26,3 °C max



Recording of water temperature of Nino pozzines (2013-2016)



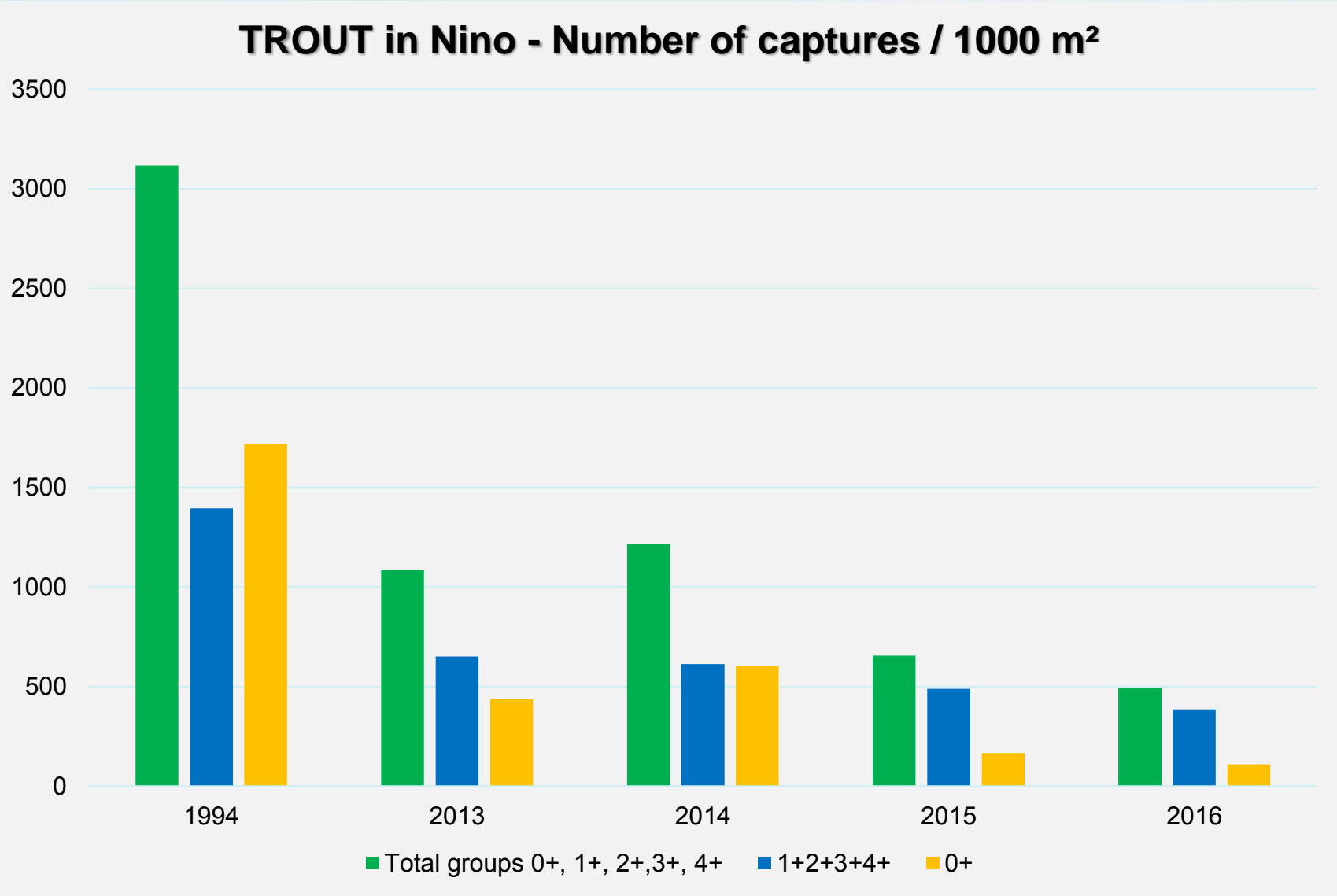
- Water Temperature
- Air Temperature
- Right side of equations
- $a_{temp} = 0,082$
- $a_{air} = 0,031$
- 2050 : 28°C in water



Extrapolation of water temperature and air temperature in the pozzines of Nino

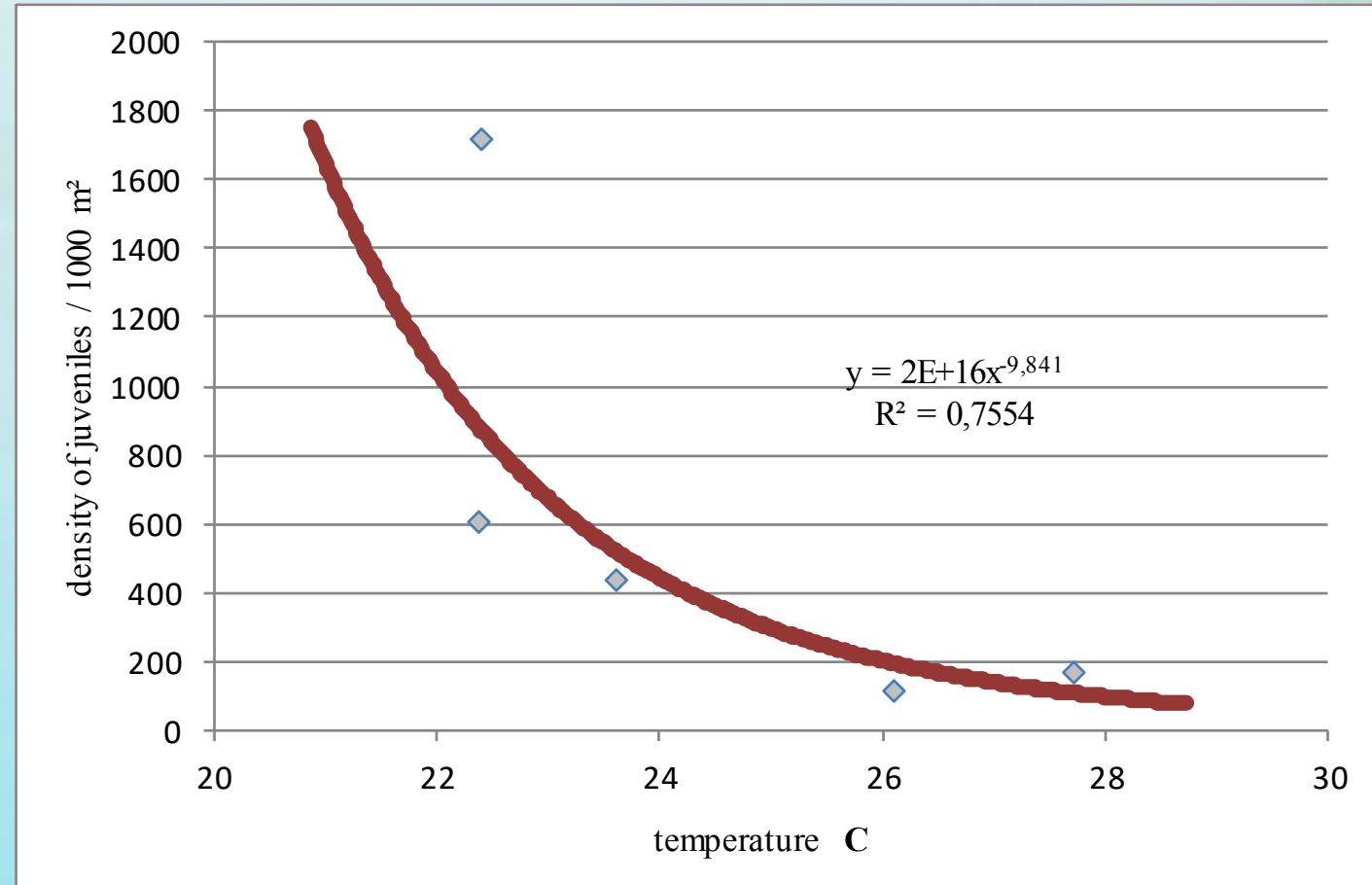
Salmo trutta macrostigma,
Dumeril, 1855





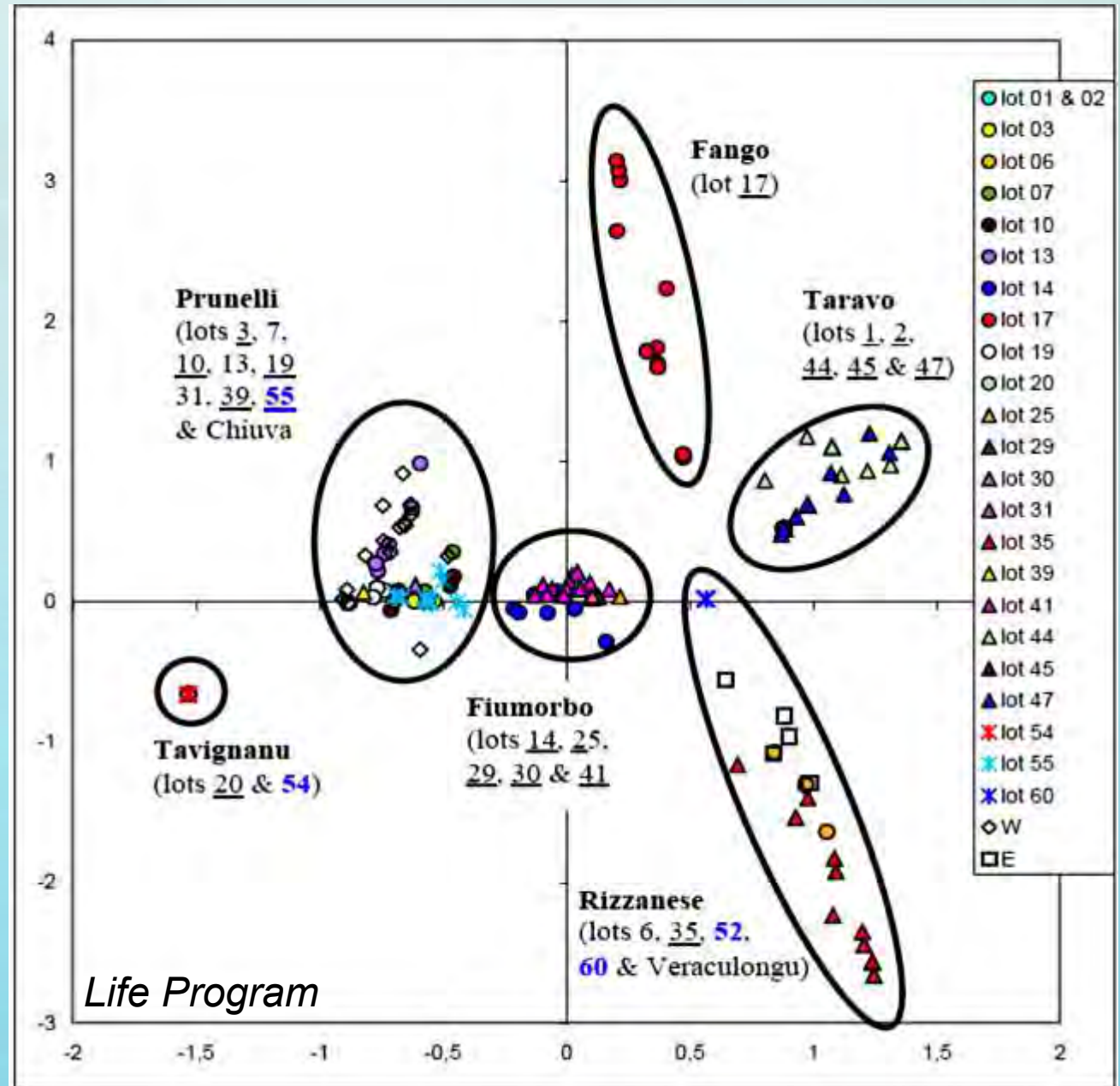
Density of trout population of Nino *Pozzines*

- Water Temperature and Juvenile populations O+
- Extrapolation : 28°C (2050) < 100 juv O+/1000 m²



Relation between water temperature and juvenile populations O+

- Endemic Trout of Corsica
- Macrostigma
- Geographic isolation / valley / watershed
- Compartmented area in Watershed
- Watershed barrier to genetic exchange
- 6 trout varieties





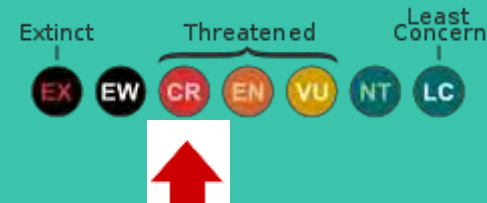
PROTECTION STATUS

- European level: appendix II of the directive “Habitats Faune Flore”
- National level: Decree of December 8th, 1988 fixing the list of the fish species protected on the unit from the national territory
- National Red List, in danger criticizes extinction



CONSERVATION STATUS

- CR
- Critically Endangered



LIFE PROGRAM

- Improve knowledge of the characteristics and the distribution of the macrostigma trout
- Test reproduction in semi-natural environment
- Protect populations and habitats
- Inform and sensitize



Thomas Pesquet

H. Le Treut

Role of Scientific Community

- « **To provide to the different governments** with the necessary incentive and diagnostics, so that they may increase their engagement to diminish emissions, as the NDCs are insufficient by a factor 2 at least. »
- « **To define the scientific basis** of an adaptation policy, anticipating what can happen at the **scale** of a city or a region »

Concerning Corsica



- **Transfer in competences** in Corsica. The law of January 22nd, 2002 entrusts to the Assembly of Corsica a broad lawful power relating to the environment, the language, the formation, teaching, research, the culture and the heritage
- **Local action**
- **Specific laws**
- **Creation of nature reserves**

Thank you for your attention