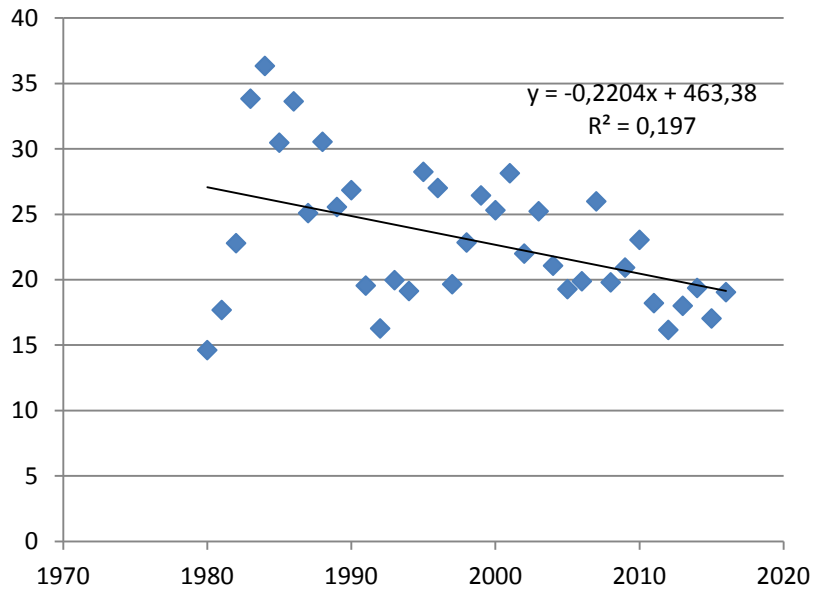


# Evolution des populations de serpents en Occitanie depuis 1980

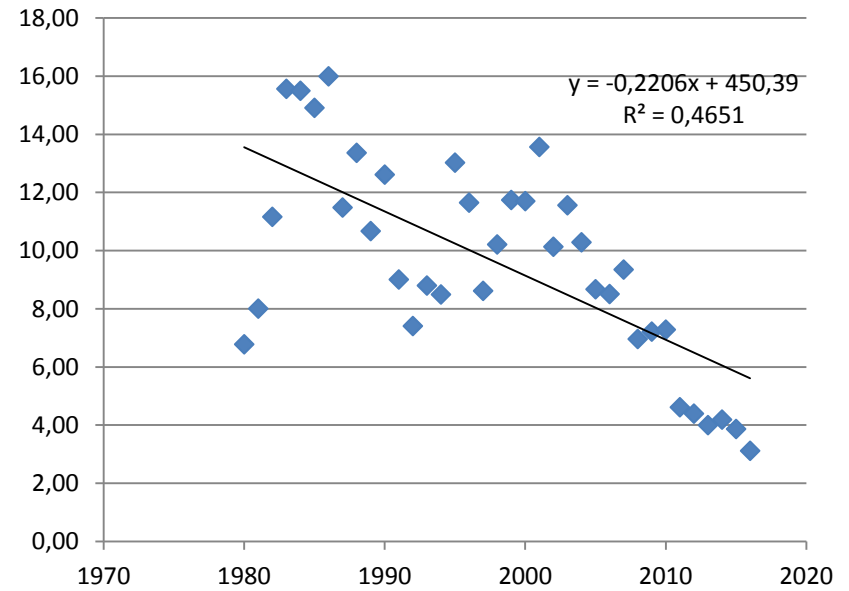
Marc Cheylan, Philippe Geniez, Xavier Santos  
*Ecole Pratique des Hautes Etudes  
Université de Barcelone*

51<sup>ème</sup> congrès de la SHF, Carcassonne, 23-25 octobre 2024

## Constat empirique

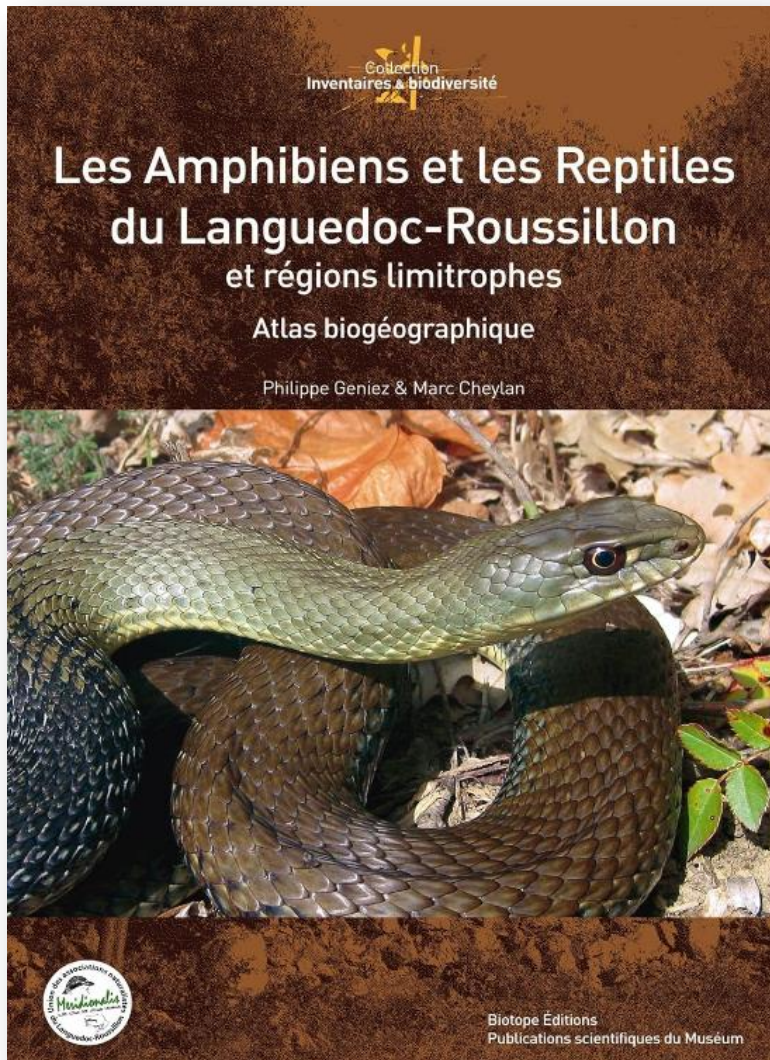


*% serpents écrasés / total serpents notés*

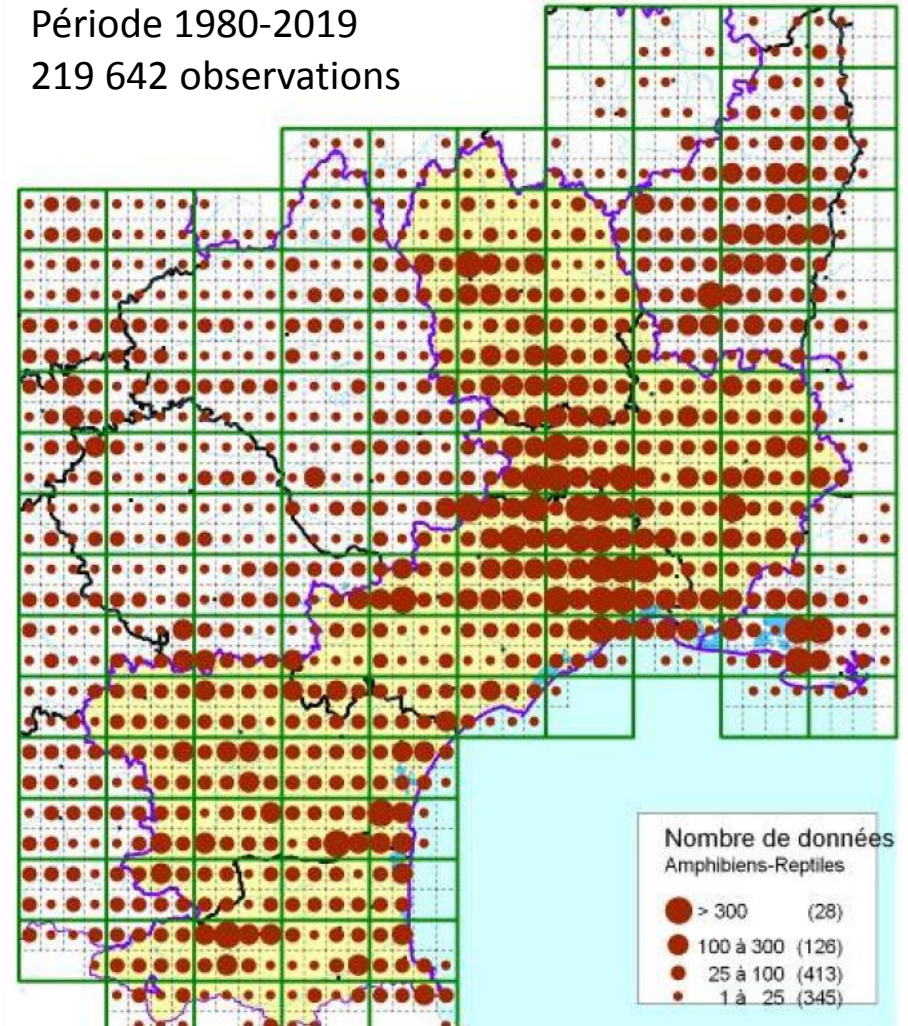


*% serpents écrasés / total reptiles (sauf tortues)*

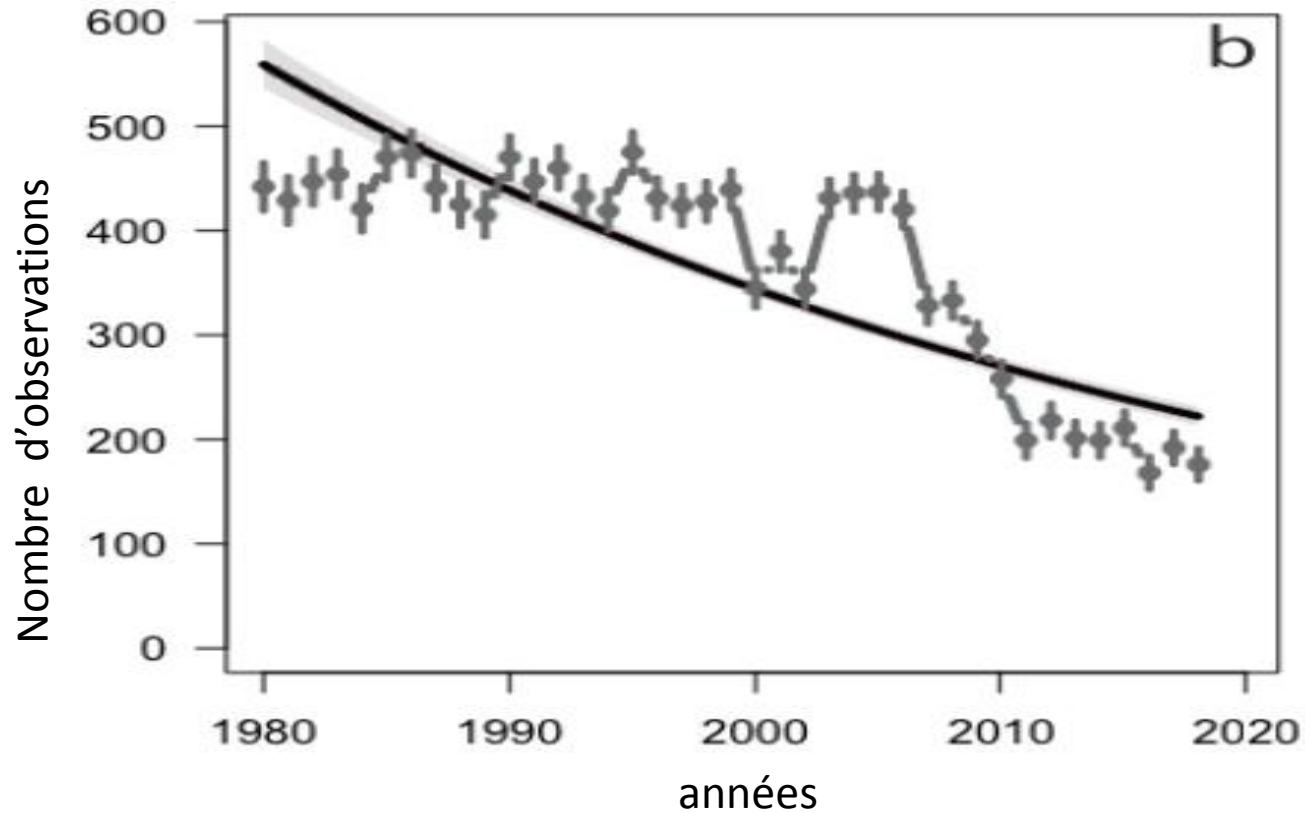
## Exploitation de la base de données herpétologiques régionale « Malpolon »



Période 1980-2019  
219 642 observations



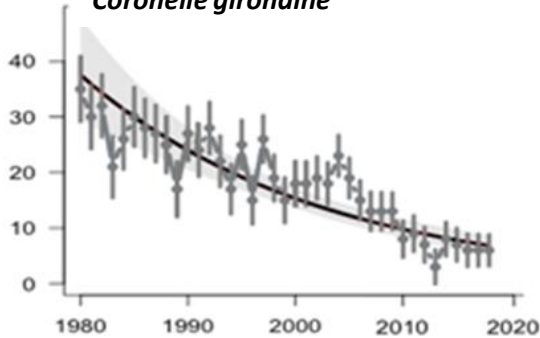
Chute de 62 % des observations de serpents au cours  
des 40 dernières années



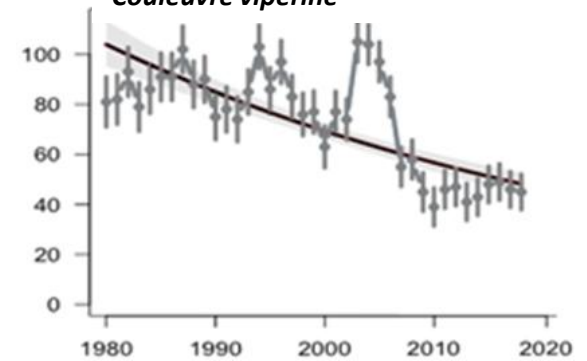
Programme TRIM sous R (Bogaart et al. 2018)

# Mais de façon plus ou moins forte selon les espèces

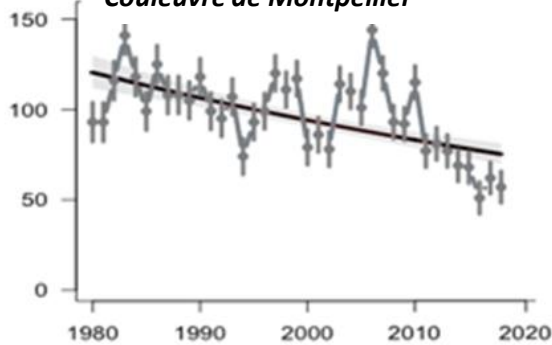
*Coronelle girondine*



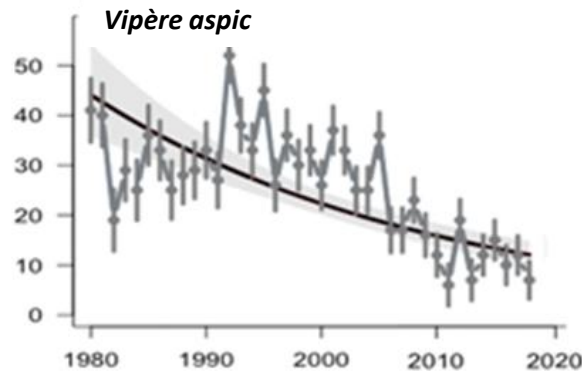
*Couleuvre vipérine*



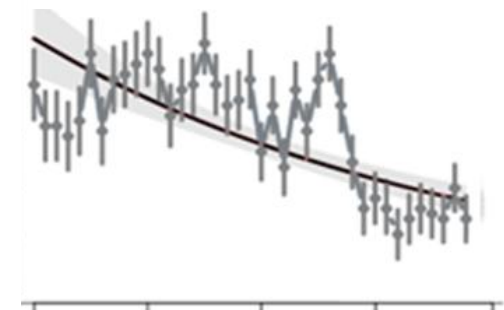
*Couleuvre de Montpellier*



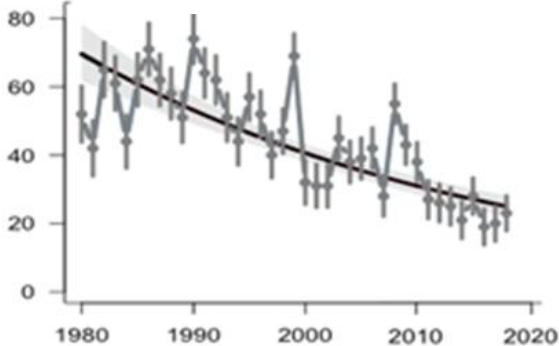
*Vipère aspic*



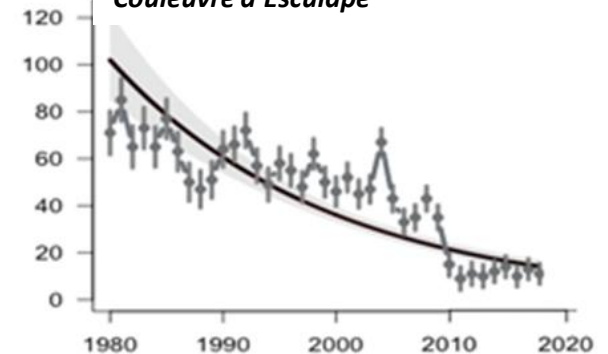
*Couleuvre à collier s.l.*

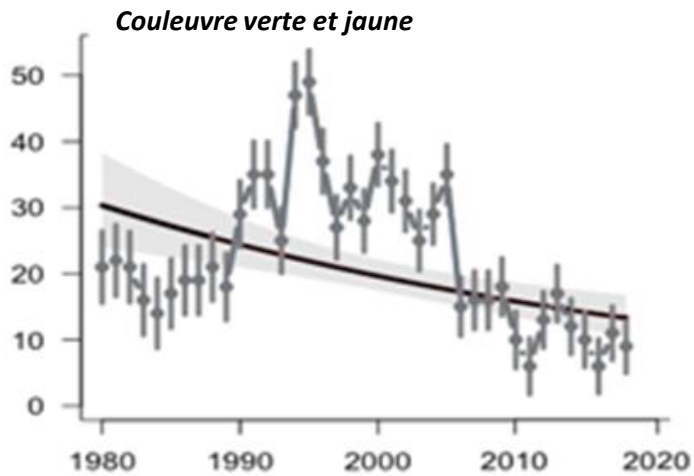
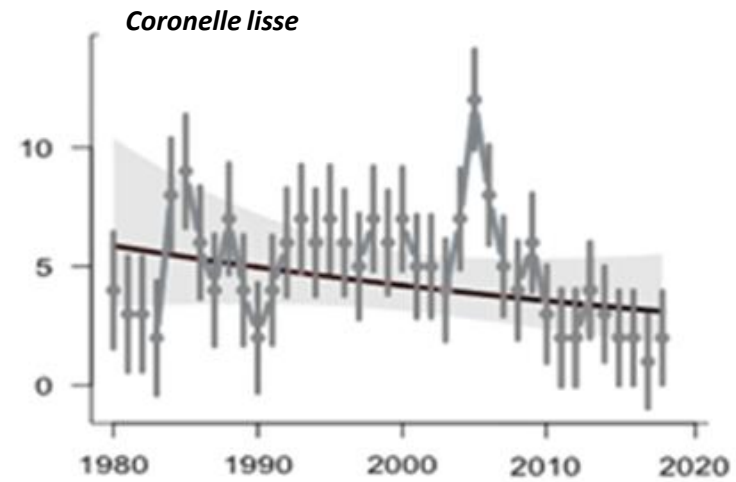
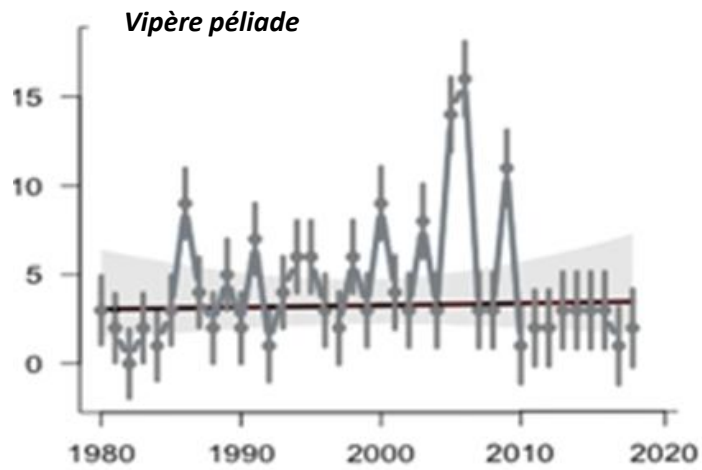


*Couleuvre à échelons*

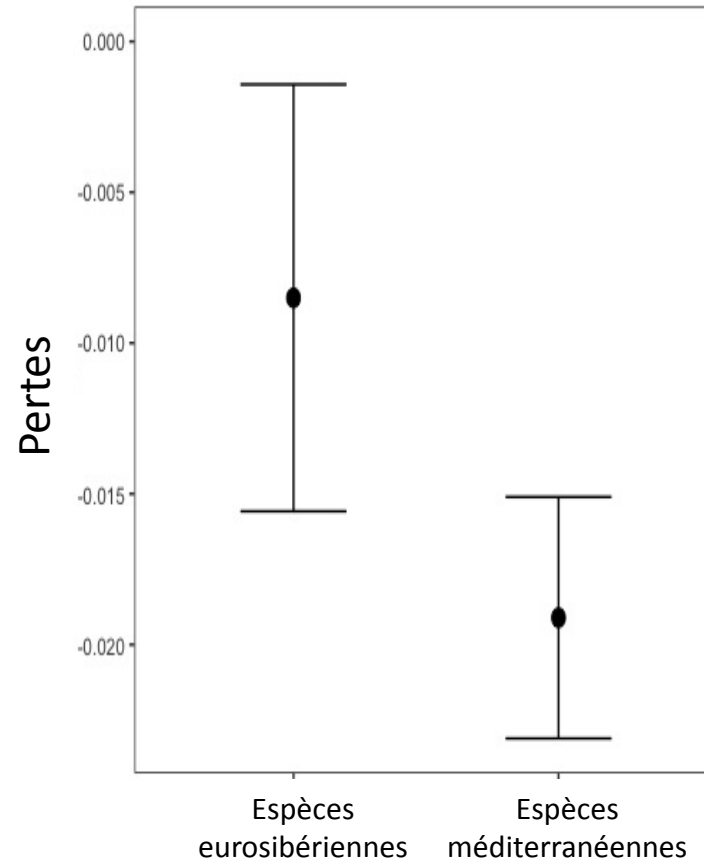


*Couleuvre d'Esclape*

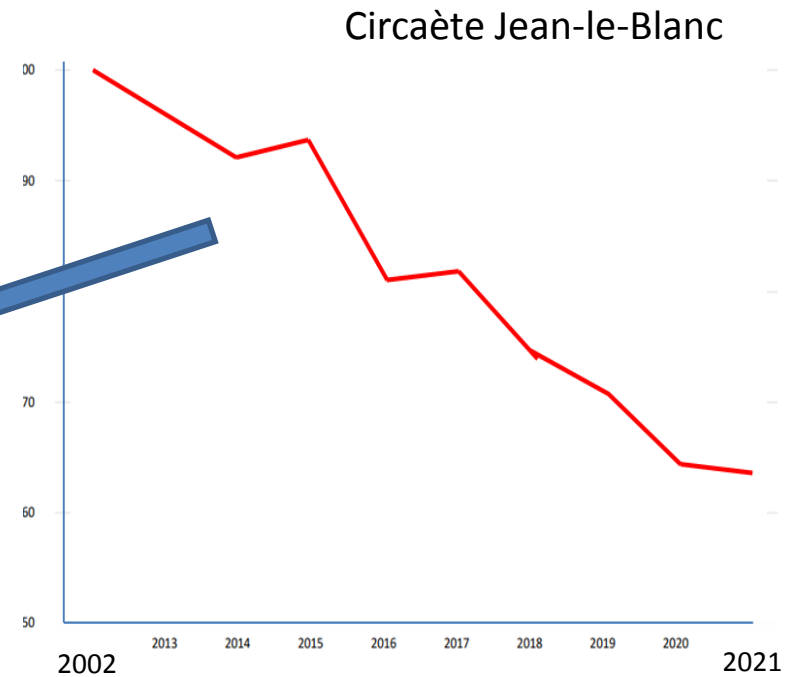
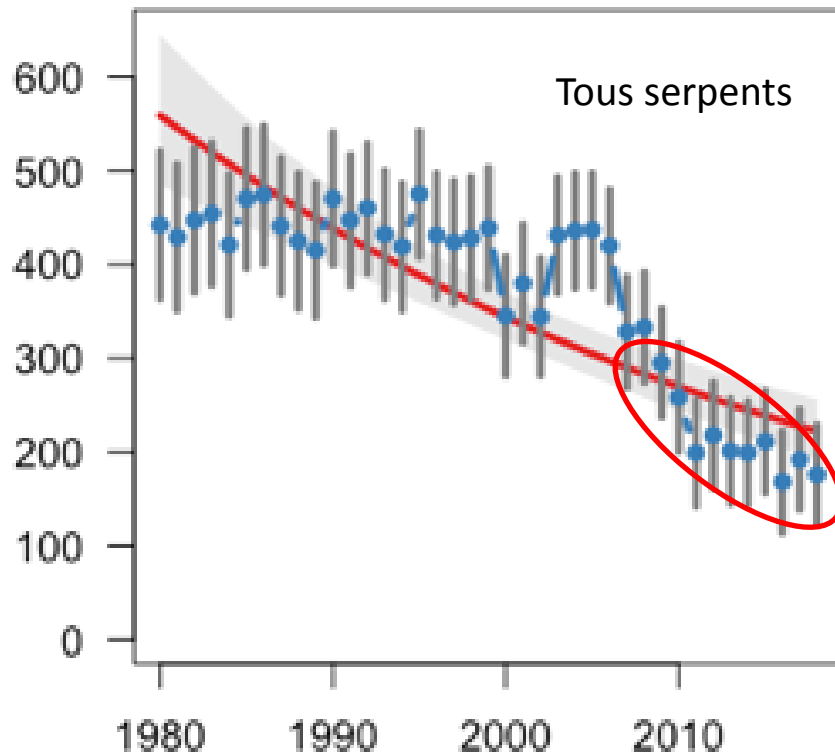




Les espèces méditerranéennes sont plus spécialement concernées



Ce déclin pourrait expliquer la chute importante des observations de circaète Jean-le-Blanc ces 10 dernières années



Source LPO 2022

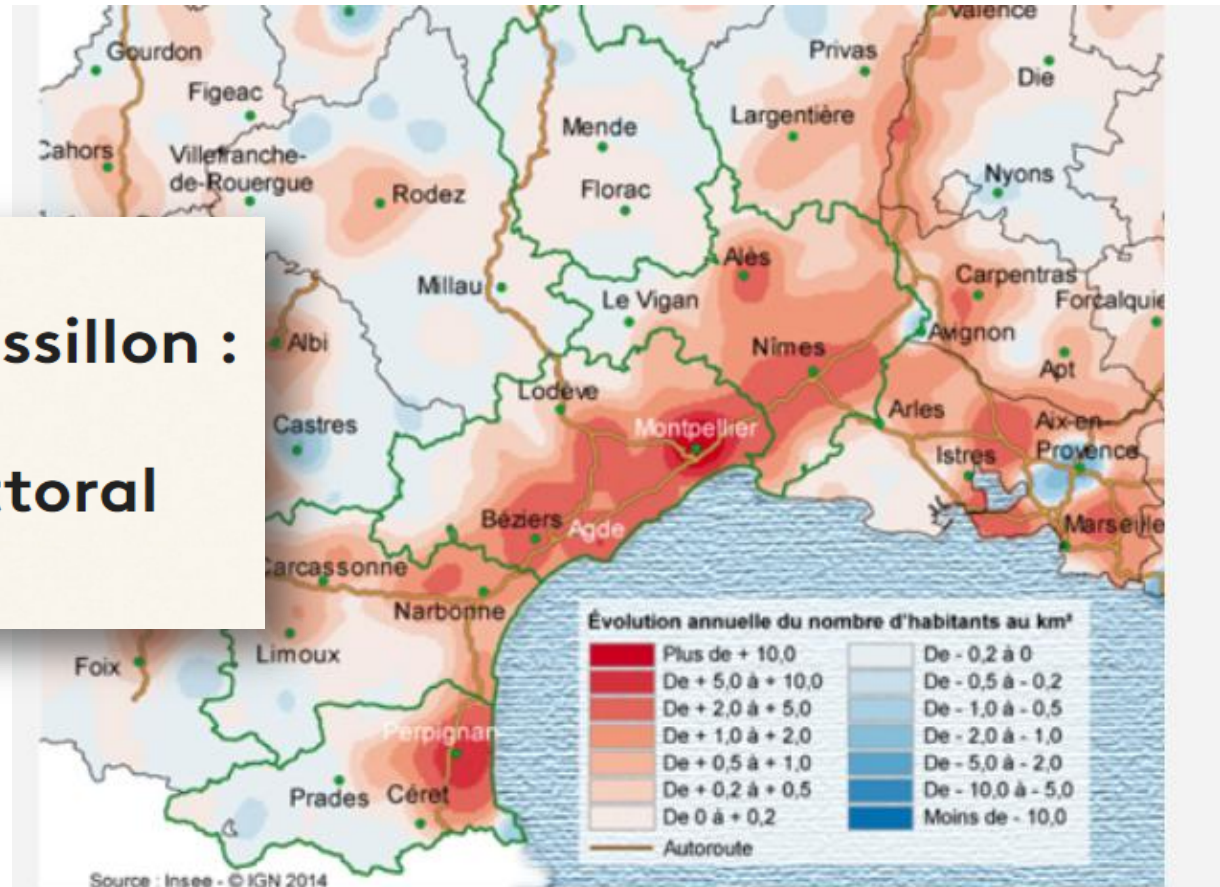


Quelles en sont les causes ?

# La densification de la population littorale au cours des dernières décennies ?

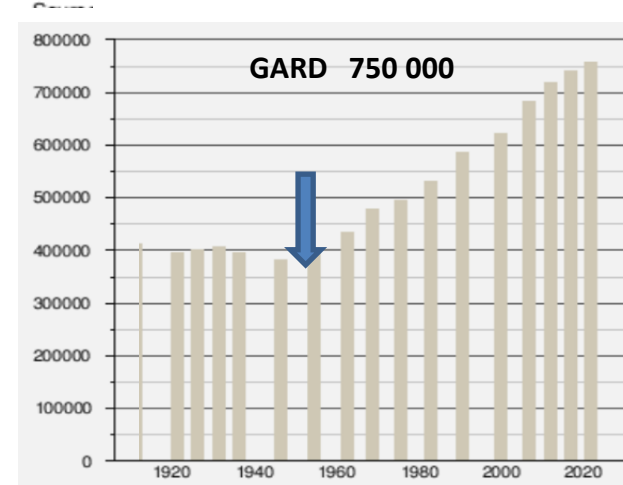
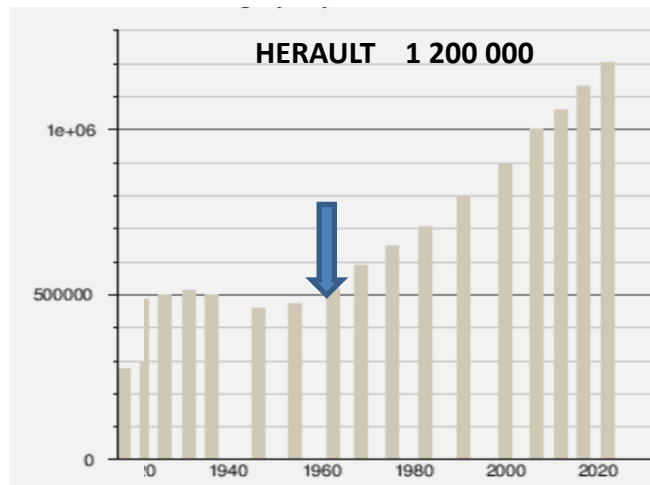
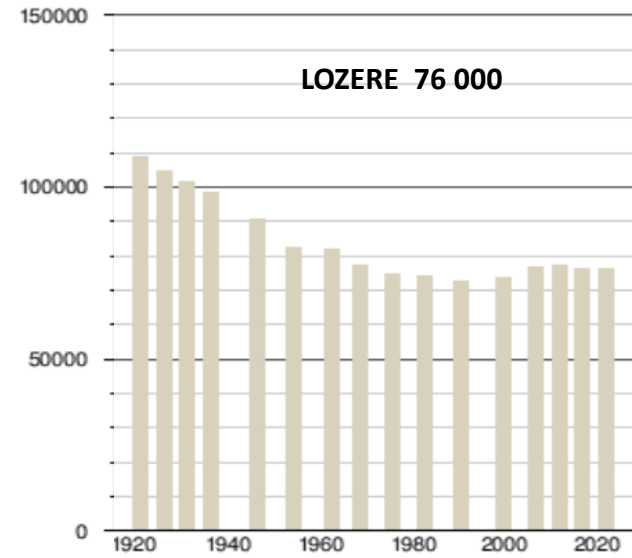
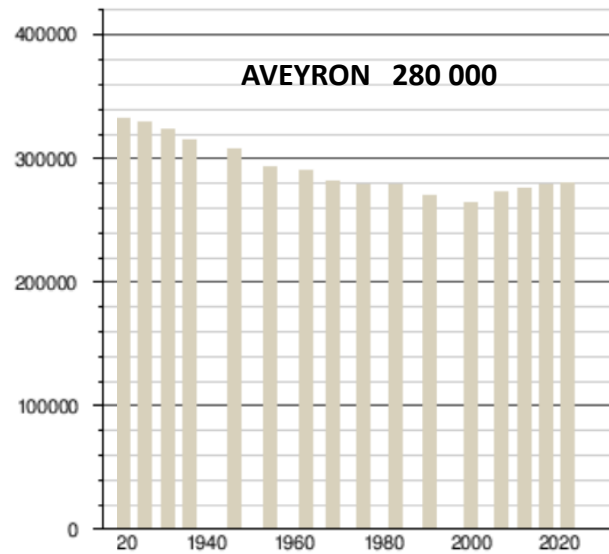
Accueil > Occitanie > Hérault > Montpellier

## Languedoc-Roussillon : la démographie explose sur le littoral languedocien



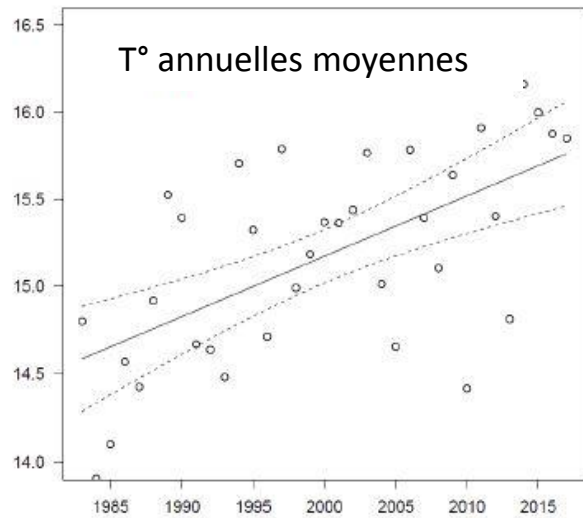
Évolution de la population humaine entre 2007 et 2012

# La densification de la population littorale au cours des dernières décennies ?

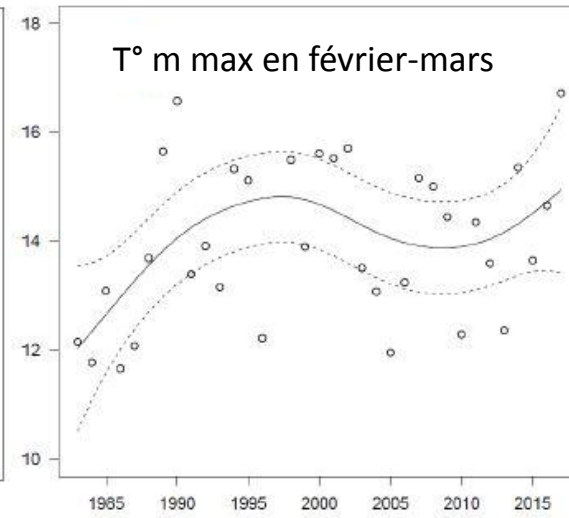


Evolution de la population humaine dans 2 départements littoraux et 2 non littoraux

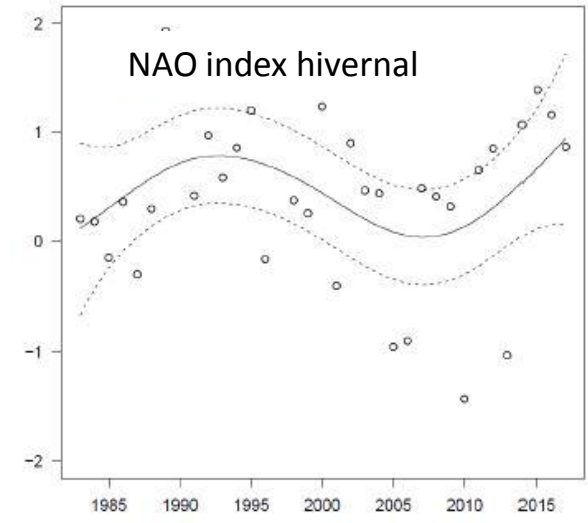
## Evolution des températures en Languedoc-Roussillon pour la période 1982-2016 et dates de sortie d'hibernation des serpents sur la même période



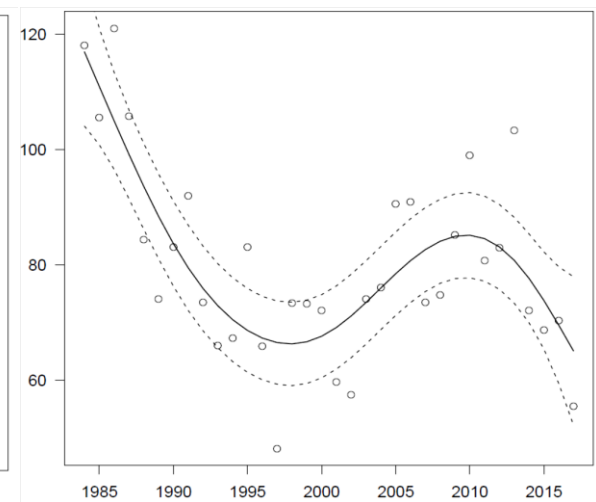
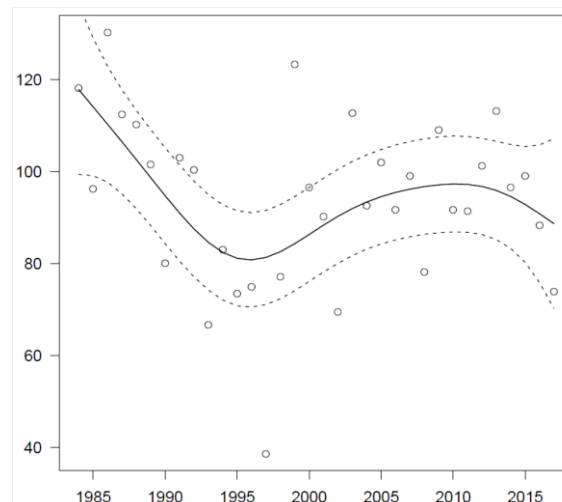
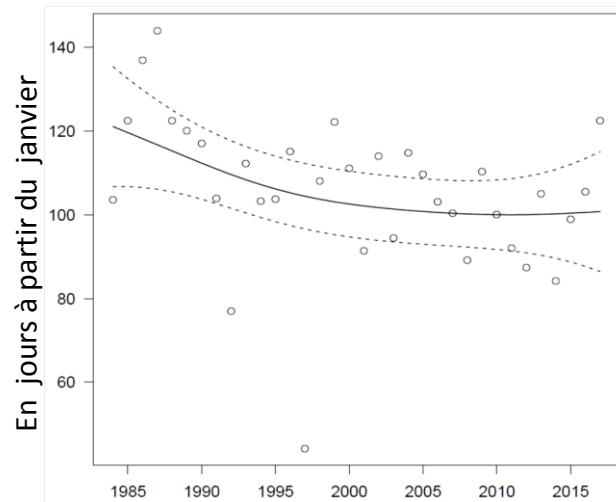
*Couleuvre verte et jaune*



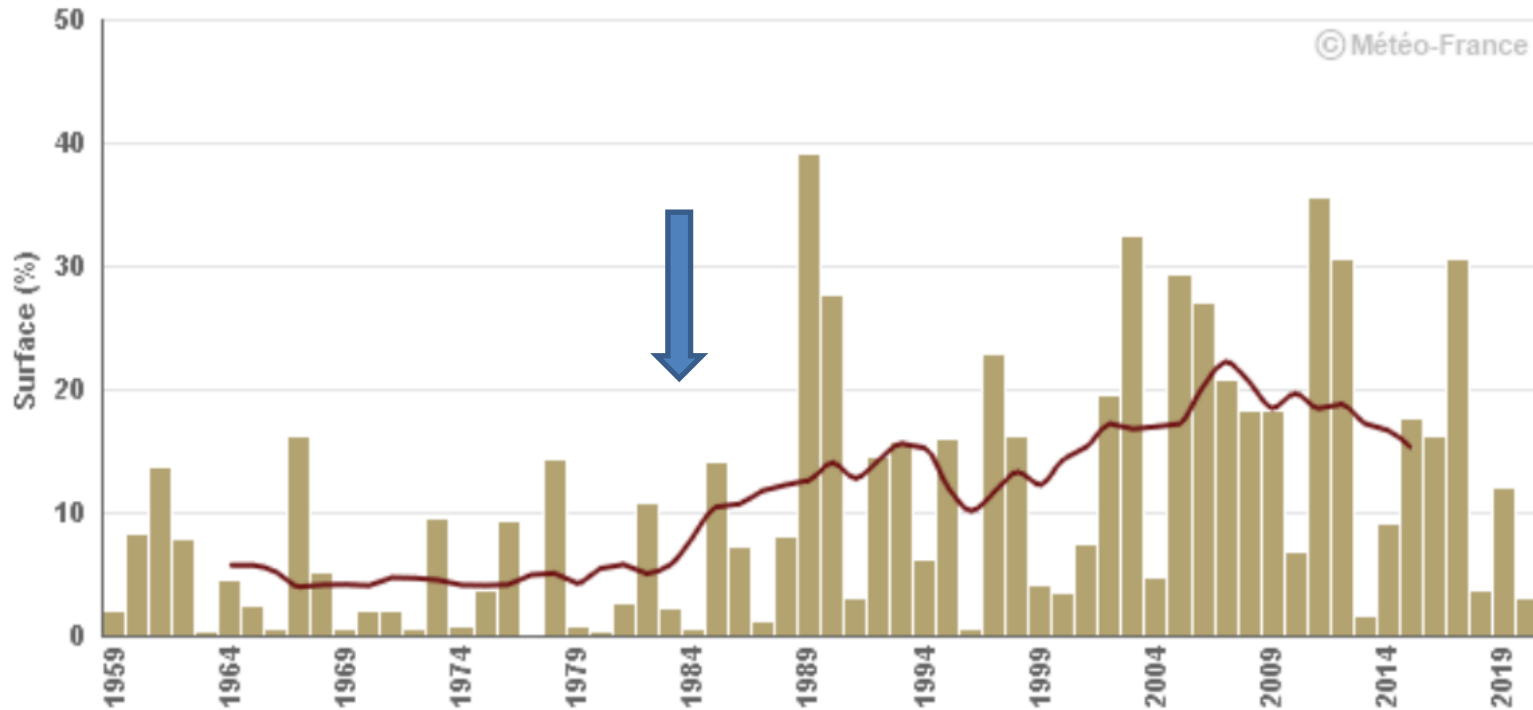
*Couleuvre à collier s.l.*



*Couleuvre de Montpellier*



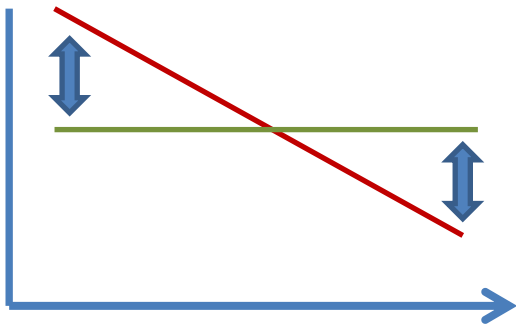
# Les effets du changement climatique ?



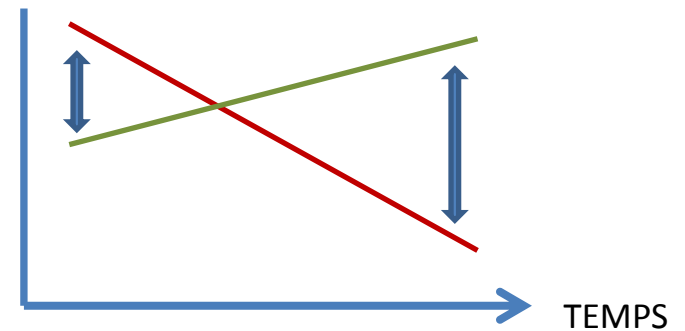
*Évolution de la sécheresse en Occitanie (RECO, 2021)*

Mais il s'agit d'un ratio **serpents/autres reptiles**

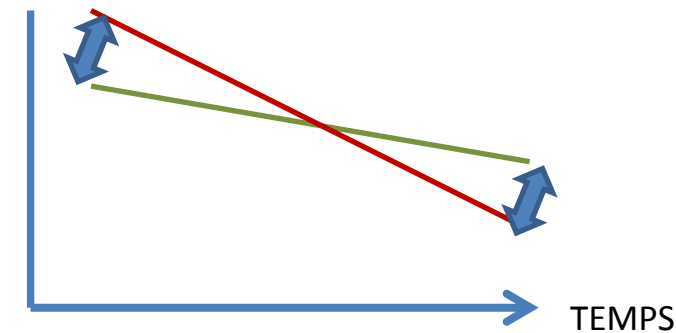
Hypothèse retenue



Sur-estimation du déclin des serpents



Sous-estimation du déclin des serpents



**EN CONCLUSION**

## ***Pour aller plus loin:***

Santos, X., Pleguezuelos, J. M., Chergui, B., Geniez, P., & Cheylan, M. (2022). Citizen-science data shows long-term decline of snakes in southwestern Europe. *Biodiversity and Conservation*, 1-17.

Prodon, R., Geniez, P., Cheylan, M., & Besnard, A. (2020). Amphibian and reptile phenology: the end of the warming hiatus and the influence of the NAO in the North Mediterranean. *International Journal of Biometeorology*, 64(3), 423-432.

Prodon R., Geniez P., Cheylan M., Devers F., Chuine I., & Besnard A. (2017). A reversal of the shift towards earlier spring phenology in several Mediterranean reptiles and amphibians during the 1998-2013 warming slowdown. *Global Change Biology*, 23(12), 5481-5491.

## **Remerciements :**

- DREAL Occitanie (SINP)
- Ecole Pratique des Hautes Etudes
- Tous les naturalistes pour leur participation sans faille à la collecte des données herpétologiques régionales depuis 1980