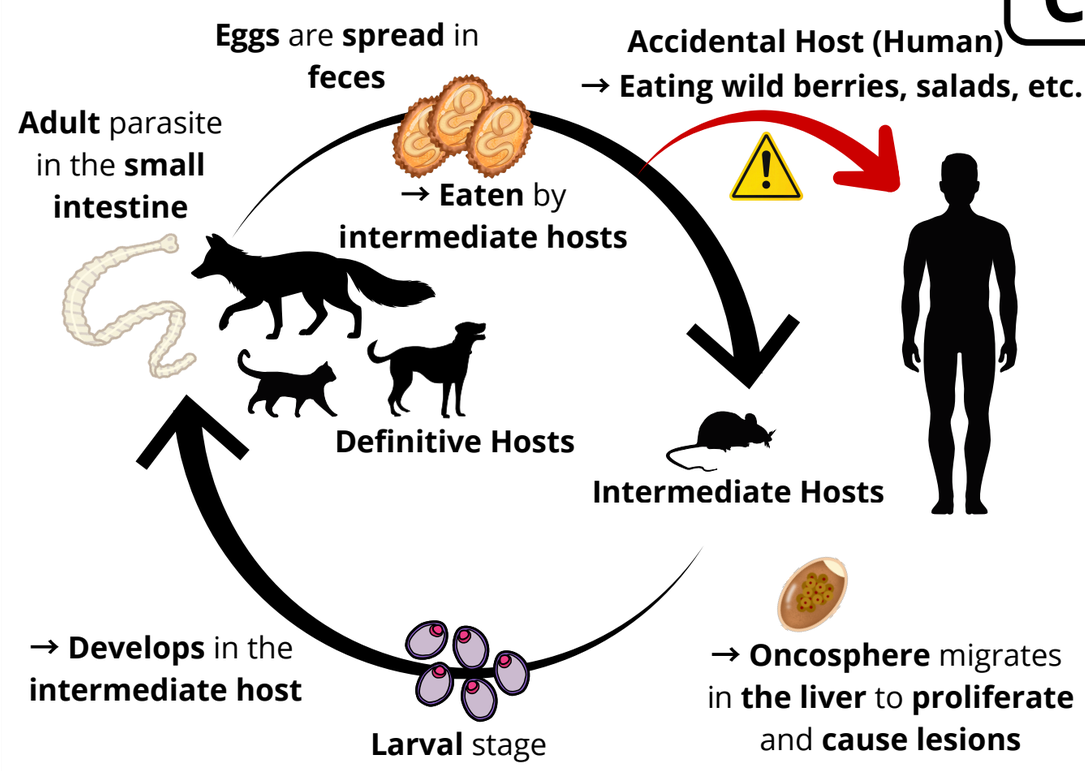
Mapping Human-Fox Relationships in an Area Endemic for Alveolar Echinococcosis: The Case of Geneva

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Context



Considered a Neglected Tropical Disease by the World Health Organization
→ **Life-threatening** disease

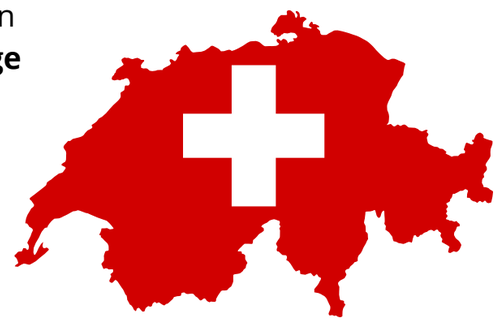
A **highly endemic area** for **alveolar echinococcosis**

8.4x **higher incidence** than the **European average**

Rising trend in human cases

69% of Swiss residents **know the disease**

12% see it as a **major risk**





Data dating back to **2005**
→ **20+** year-old data

Public awareness **campaign** was launched
→ **May 2026**

Scan to see the **campaign**

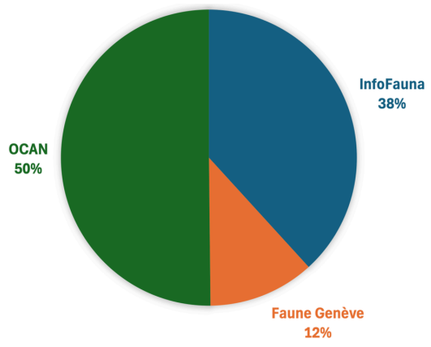
Methods & Results

Fox observations come from **3 databases**:

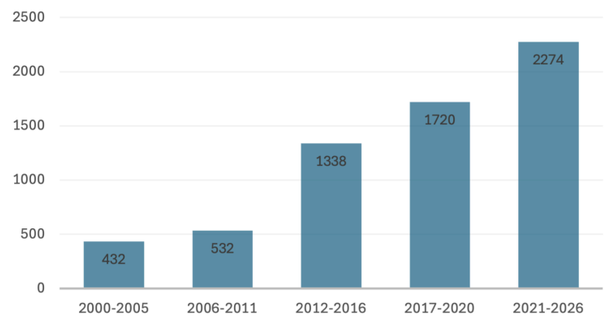
- **OCAN** → Cantonal Office for Agriculture and Nature (mainly wildlife rangers)
- **InfoFauna** → Swiss national fauna data center (mainly naturalists)
- **FauneGenève** → Local association platform (citizen science)

→ **First effort** to **combine** these **sources** to **map fox distribution** in **Geneva**

Observations by source



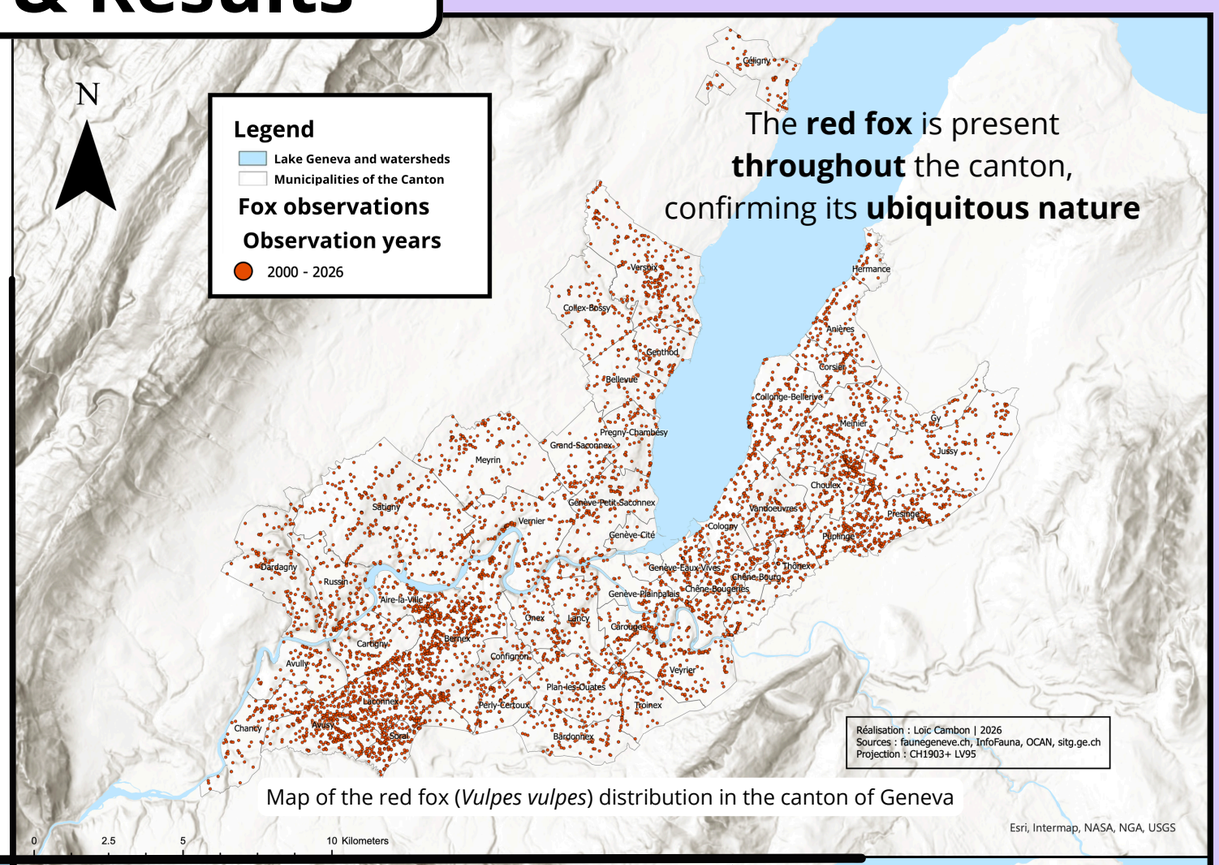
Observations by period



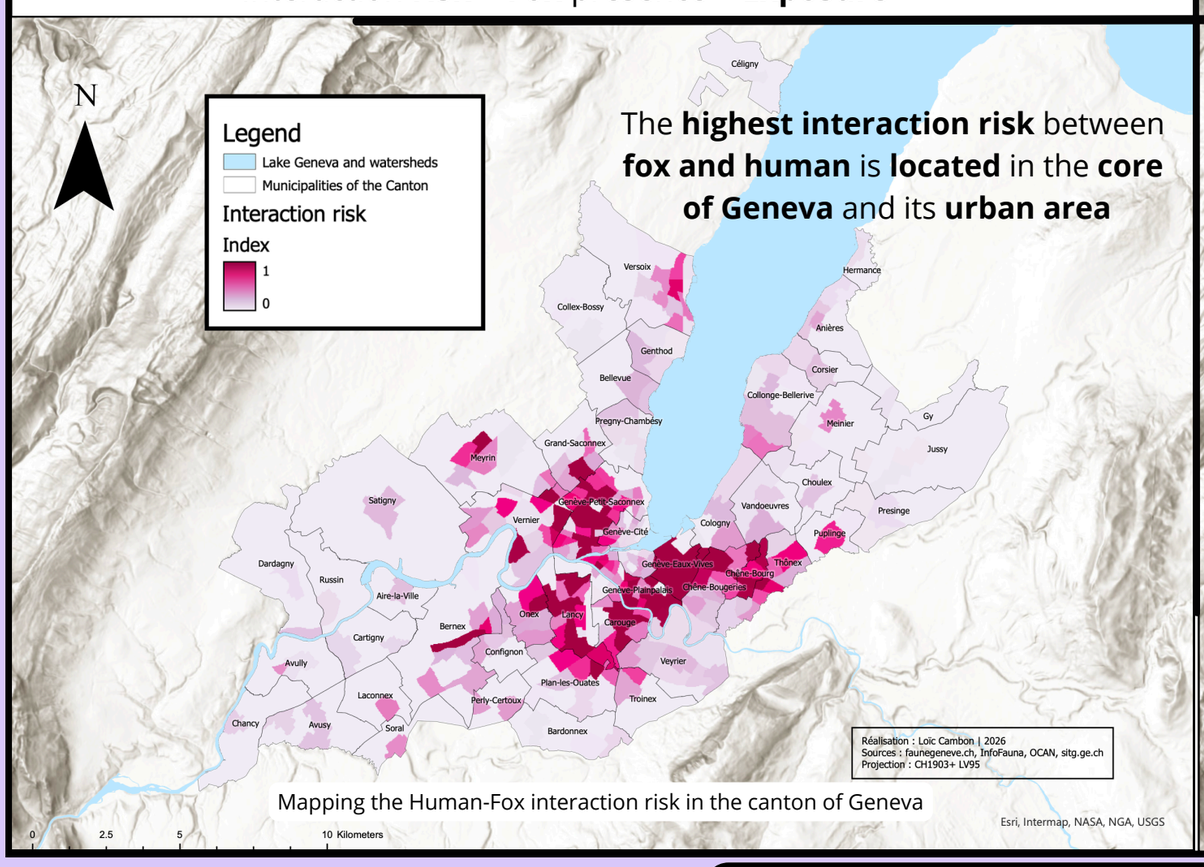
6,296 observations

25+ years of data

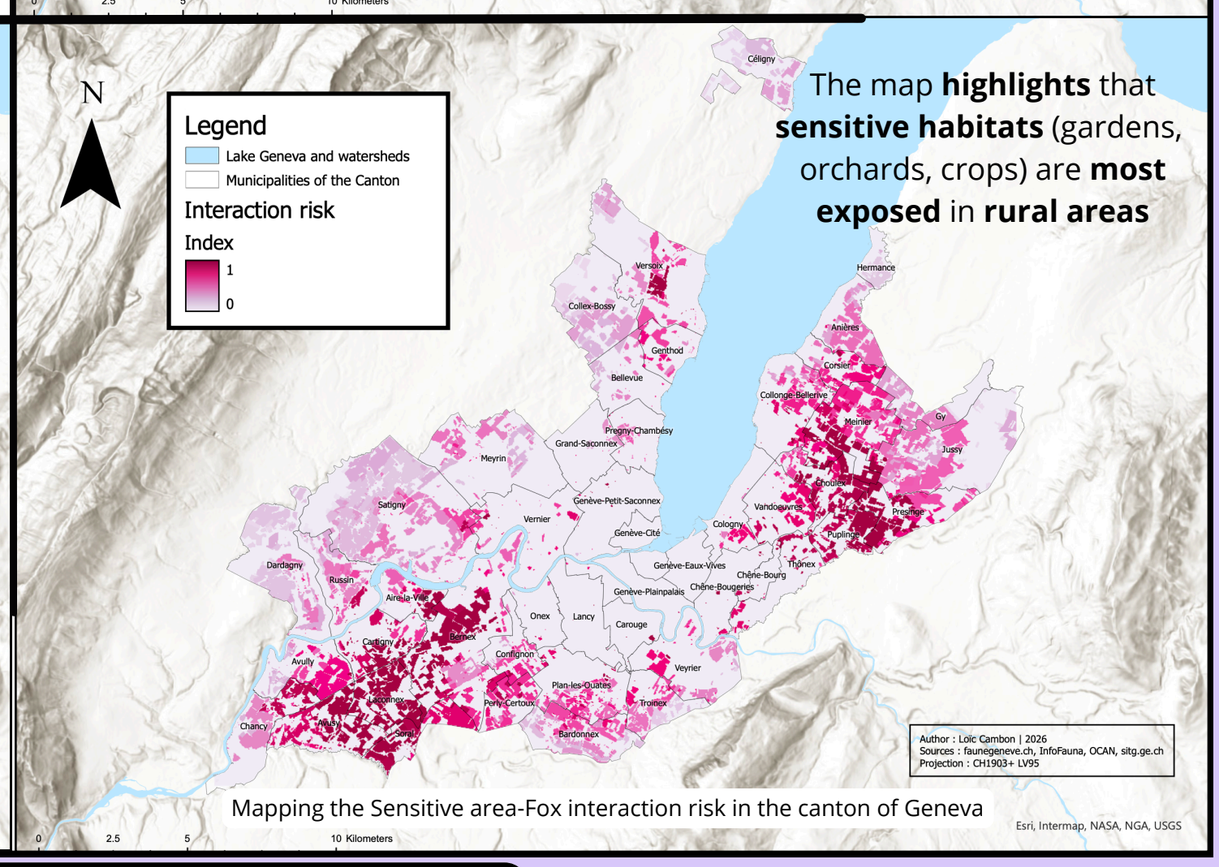
Interaction **risk = Fox** presence **× Exposure**



Map of the red fox (*Vulpes vulpes*) distribution in the canton of Geneva



Mapping the Human-Fox interaction risk in the canton of Geneva



Mapping the Sensitive area-Fox interaction risk in the canton of Geneva

Discussion & Perspectives

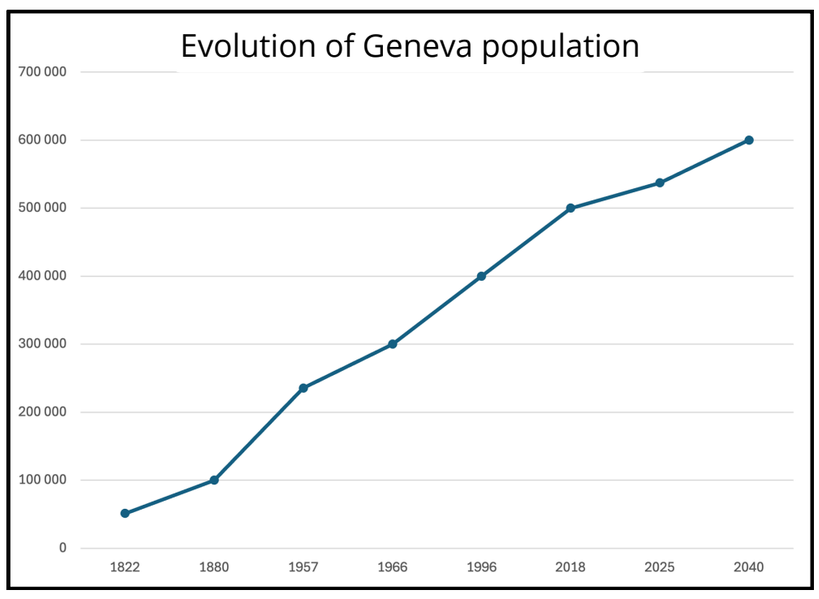
→ **Spatial divergence:** Human **interaction risk** peaks in **urban cores**, whereas **sensitive area interaction risk** is concentrated in **rural** and **residential** zones

→ **Public health strategy:** Risk **maps** could provide a **spatial decision-support tool** for **targeted prevention** and **awareness campaigns**

→ **Future outlook:**

- **Spatial expansion:** Scale up the model to the **Greater Geneva** area and **across Switzerland** to capture cross-border **ecological dynamics**
- **Data update:** Conduct fresh **field sampling** to update **outdated parasite prevalence data**

Evolution of Geneva population



→ The **growing** Geneva **population** will **increase** human **exposure** and the **risk** of **interaction** with foxes

→ **New housing districts** with green spaces **are planned** around the urban core, **increasing exposure** in **residential areas** and creating new **sensitive areas**

Geneva Health Forum

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Scan to connect on **LinkedIn**

Sources: Autier et al., 2023; Casulli et al., 2025; Deplazes et al., 2004; Fischer et al., 2005; Hegglin et al., 2008; Kern et al., 2004; OCSTAT