Cluey Data Collector & Tracking App

Standardized yet customisable to local circumstances and nature conservation issues

Covering any subject, ranging from wildlife sightings to illegal activities, threats, infrastructure, and more.

No technical knowledge needed to get started

Cluey Data Collector & Tracking app

📶 **Collect** field data with ease

- Record observations in a few clicks
- Mark critical Points of Interest
- Include photographic evidence

🔗 **Share** data with those you trust

☁ Work both **online** (real-time) and

offline (outside cell phone network cover)

Core domains

🐾 Biodiversity monitoring

Human-wildlife conflict mitigation

🛡 Safety and security

🚧 Mapping (Infrastructure)
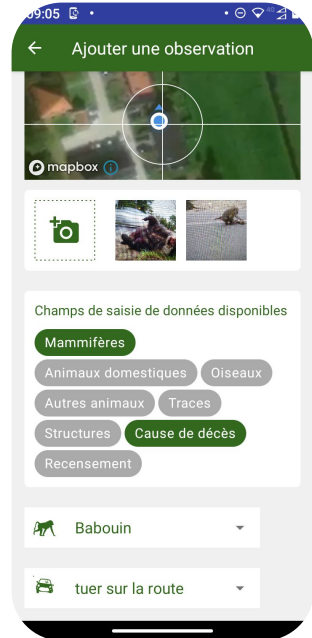

distant sighting

scratch marks

droppings

rub tree - hair

paw print

Core domains

🐾 Biodiversity monitoring

🐾 **Human-wildlife conflict mitigation**

🛡 Safety and security

🚧 Mapping (Infrastructure)

Core domains

🐾 Biodiversity monitoring

🐊 Human-wildlife conflict mitigation
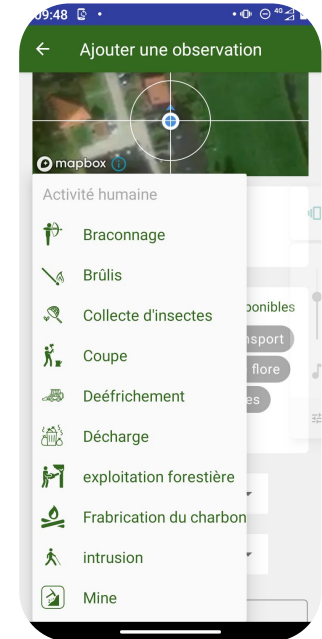
🛡️ **Safety and security**

🚧 Mapping (Infrastructure)

confiscated charcoal

confiscated weapons

Core domains

🐾 Biodiversity monitoring

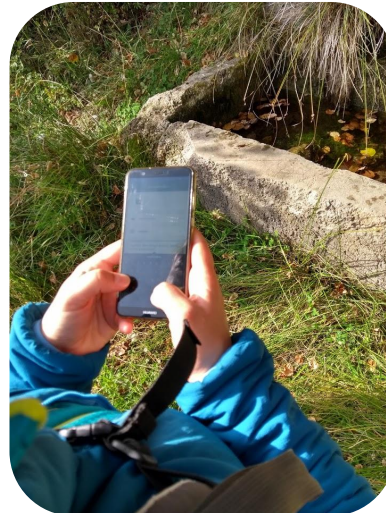🐸 Human-wildlife conflict mitigation

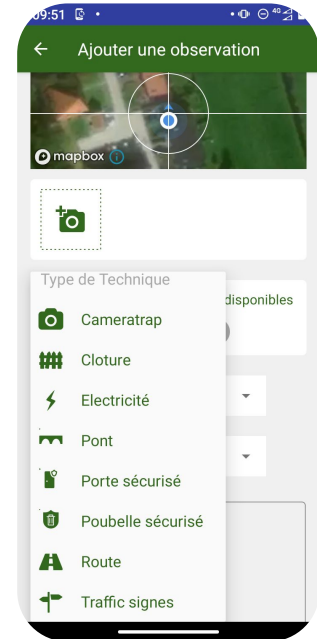🛡 Safety and security

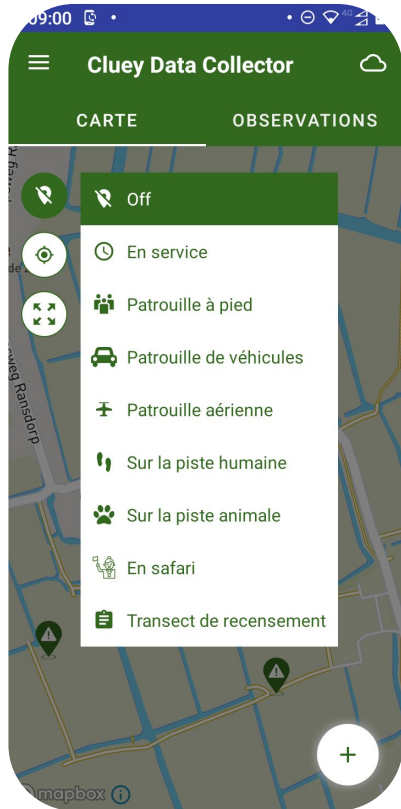🚧 **Mapping (Infrastructure)**
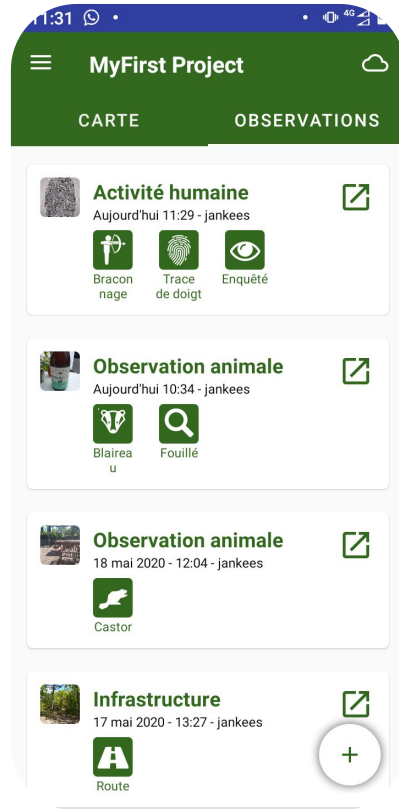

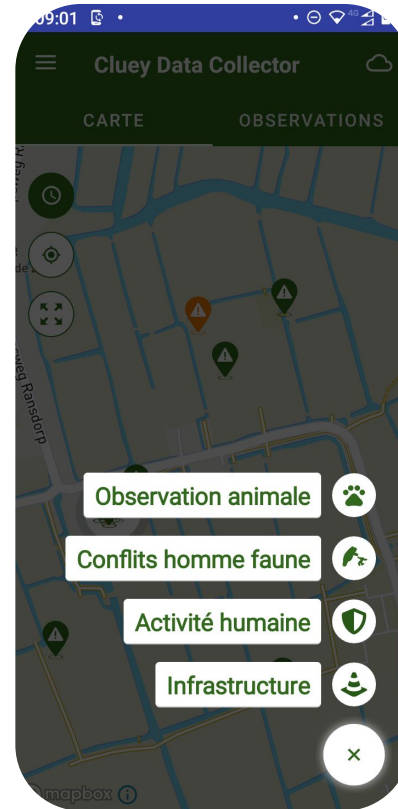fence (broken)

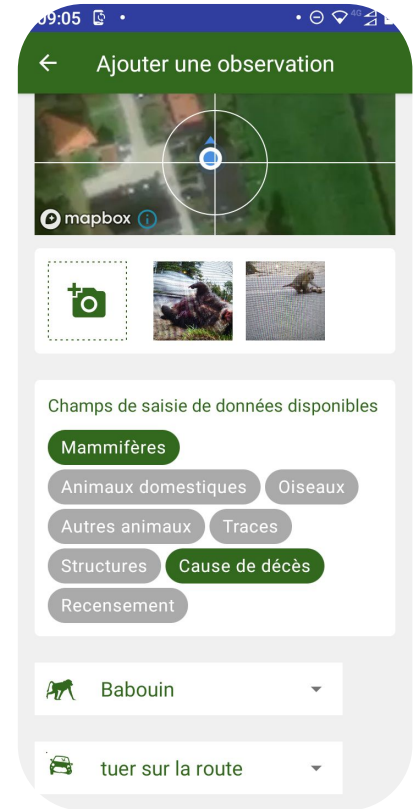water point (full)

Cluey Key Screens

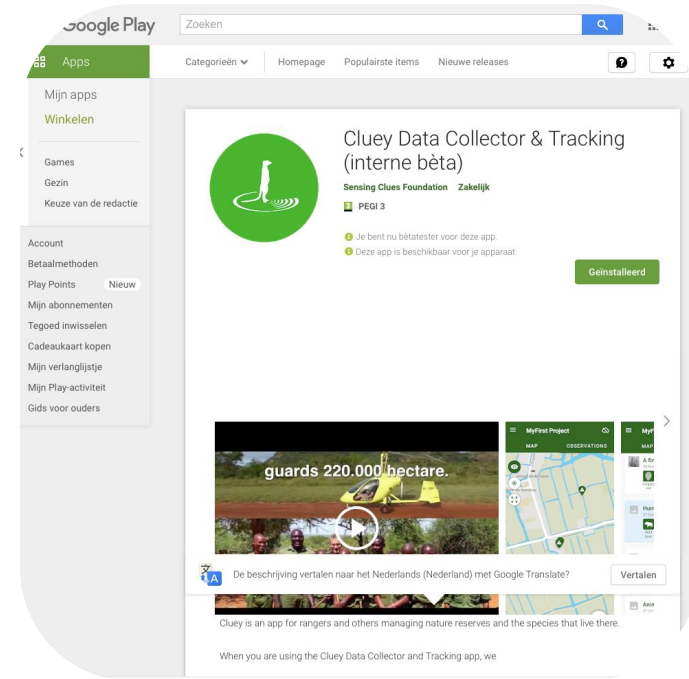Map and Track

List and Share

Add

Describe or Edit

Getting started

Download Cluey from **Google Play Store** (search for 'Sensing Clues Cluey)

Activate the app (free code: **100101**)

Create your user account

Select **Register**

Create your first Group

Mes projets

Vous n'avez pas encore de groupe. Déroulez pour actualiser ou appuyez sur l'icône d'ajout en bas à droite de cet écran pour créer votre premier groupe.

MyFirst Project (Current)

Group information ✏️

Name	MyFirst Project
Member label	
Group access	Open
Description	Demo
Group owner	jankees
Identifier	6041254

Members   Invite user ＋

jankees

Anja

Invite another **Cluey-user**

Selected tags ✏️

Animal produce

Antler   Bone   Bushmeat   Carcass   Horn

Birds

Edit **Tags**

Add a **Group**
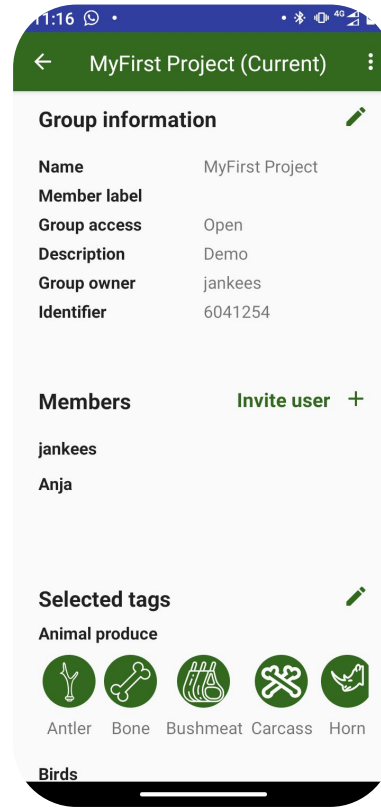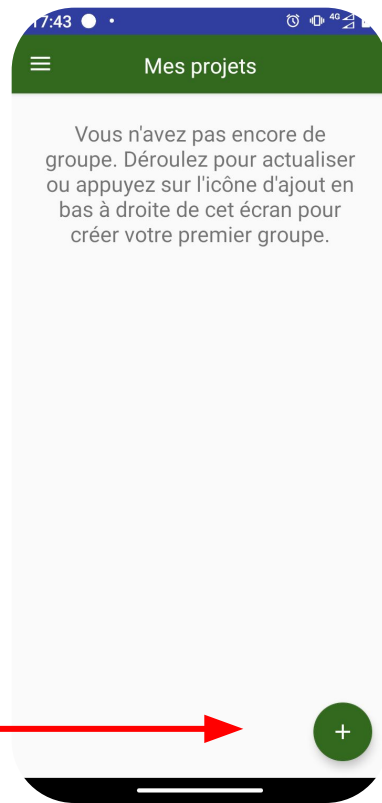
Invite other Cluey users to your Group

- Get email address of your fellow-Cluey user

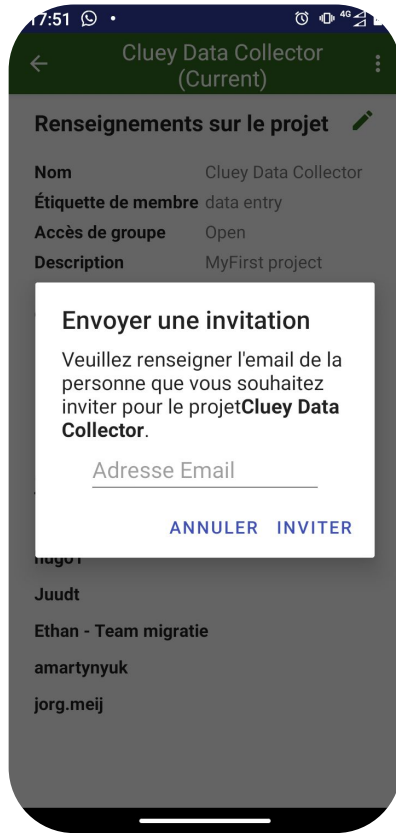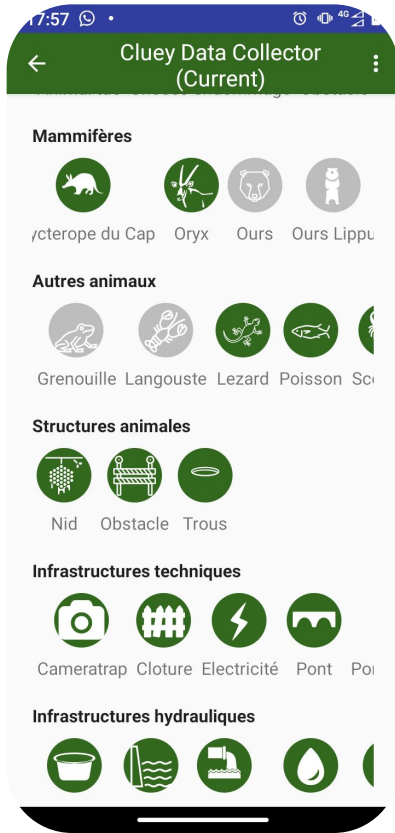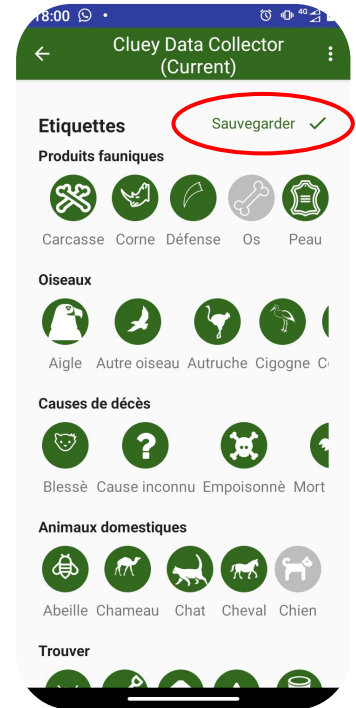- Enter this email address in the field and press Invite

Customize your Group

- Deselect the tags that you don't need

- These changes can be done at any time

- Only the Group owner can edit the tags

- Don't forget to save your changes

Groups

What is a Group?

- Similar to a Whatsapp group
- Used to collect and share information
- All information is shared with all members of the Group
- No one outside the Group has access
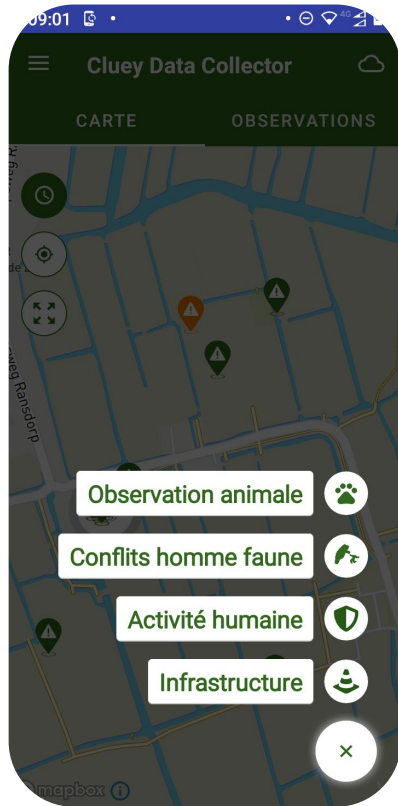- The Group-owner can invite Friends
- Customise data entry fields

Good practices

- Create as few Groups as possible
- Use short and self-explanatory names
- Consider sharing sensitive data in a separate Group

Create your first observation

- By default your current location is used

- Long-press any location on the map to mark a distant sighting

About Observations

📍 Coordinates, date, time, Group and username are automatically recorded

🏷️ Use tags where possible, add Description where needed

○ The Sensing Clues Knowledge Model recognises many different concepts in the free text
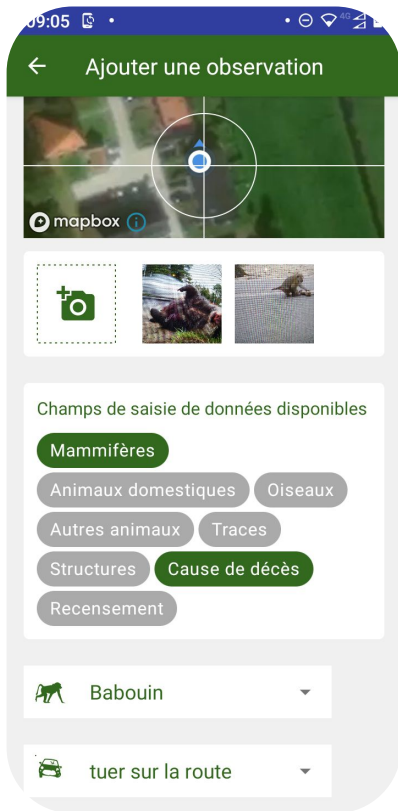
📷 Include photos

○ "1 picture is worth 1000 words"

○ As proof or evidence

○ For validation or correction by (senior) colleagues

○ For retrospect identification

○ For investigative purposes.
E.g.: look for the same knots, materials, etc.

Data entry field : Animal sighting

If needed:

- Select the type of animal: mammal, domestic, bird, other

- In case of a carcass: add Cause of Death

- Use the Census-data entry field in case of surveys
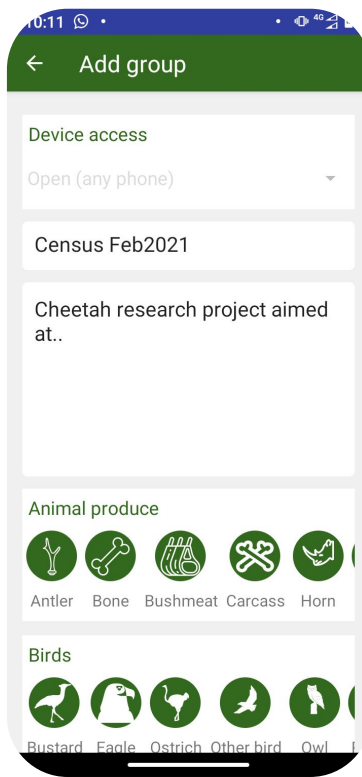
Collecting census data

1. Create a dedicated **Group** and deselect tags you don't need

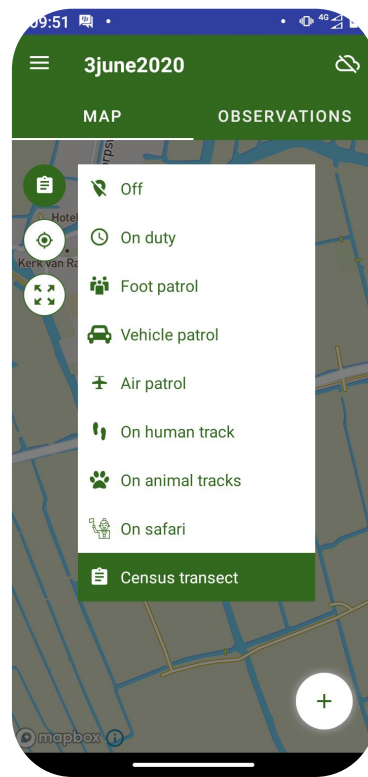2. Select **Census transect** from the tracking options

3. Select **Mammals** (or another category) and **Census** from the Available data entry fields

All Observations are connected to the related Census transect and can be studied in Focus, ArcGIS, Power BI, WildCAT, or downloaded for processing in any other tool.
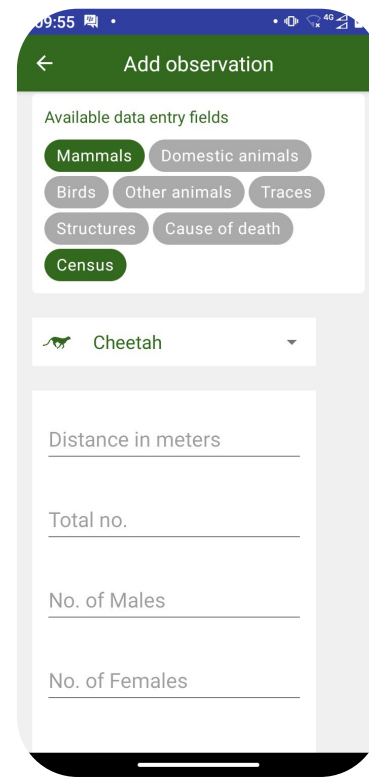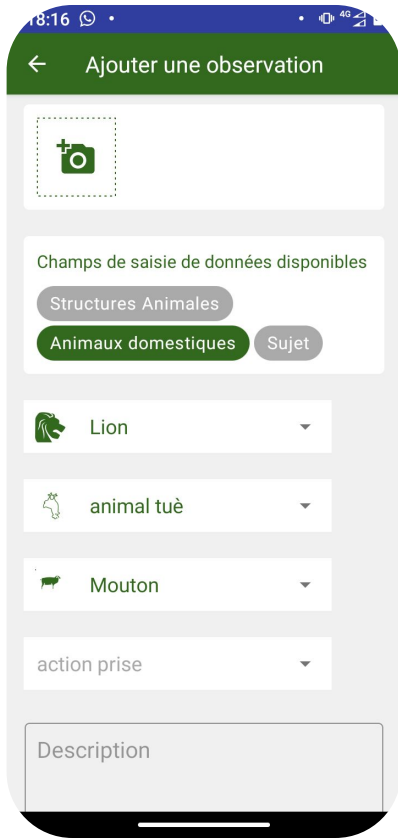
1. Create Group

← Add group

Device access

Open (any phone) ▾

Census Feb2021

Cheetah research project aimed at..

Animal produce

Antler Bone Bushmeat Carcass Horn

Birds

Bustard Eagle Ostrich Other bird Owl

2. Tracking options

≡ 3june2020

MAP   OBSERVATIONS

⚑ Off
🕐 On duty
👥 Foot patrol
🚗 Vehicle patrol
✈ Air patrol
👣 On human track
🐾 On animal tracks
🦌 On safari
📋 Census transect

mapbox

3. Data entry fields

← Add observation

Available data entry fields

Mammals   Domestic animals
Birds   Other animals   Traces
Structures   Cause of death
Census

🐆 Cheetah ▾

Distance in meters

Total no.

No. of Males

No. of Females

Data entry field : Human-Wildlife Conflicts

If needed, add

- Animal structures, such as nests
- The type of Domestics animal that was involved
- The details of the affected human

Data entry field : Human activities (legal, illegal)

If needed, add

- Finds   e.g foot prints, drums, spade, etc.

- Means of Transport   e.g motorbike, handcart, car

- Animal Produce   e.g meat, skin, bones

- Flora Produce   e.g firewood, logs, fruit

- Weapons   e.g snare, slingshot, knife, rifle

- Domestic animals

- Subject details

Data entry field : Infrastructure
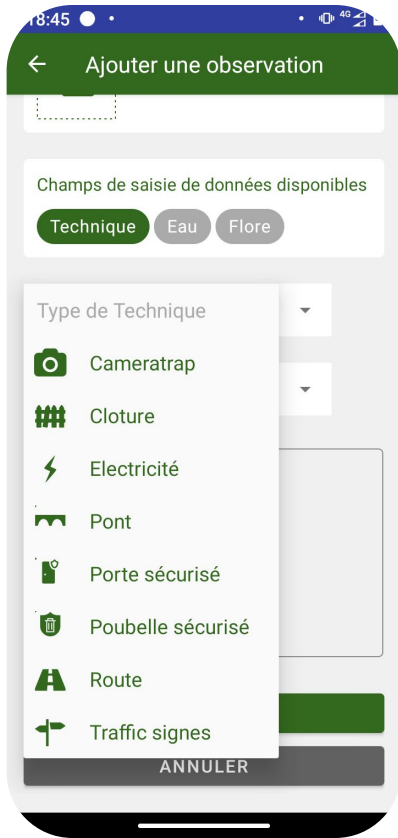
- Technical   e.g. bridges, drains, cam-traps, etc.

- Water   e.g. rivers, wells, channels

- Flora   e.g. crop, herbs, fruit trees

Example: recording of a fingerprint

1) Take fingerprint on ink paper

2) Open Cluey and select Thing

3) Make photo of the fingerprint

4) Select Fingerprint within Finds data entry field

5) Add information like name and address.

6) Photo can be enlarged
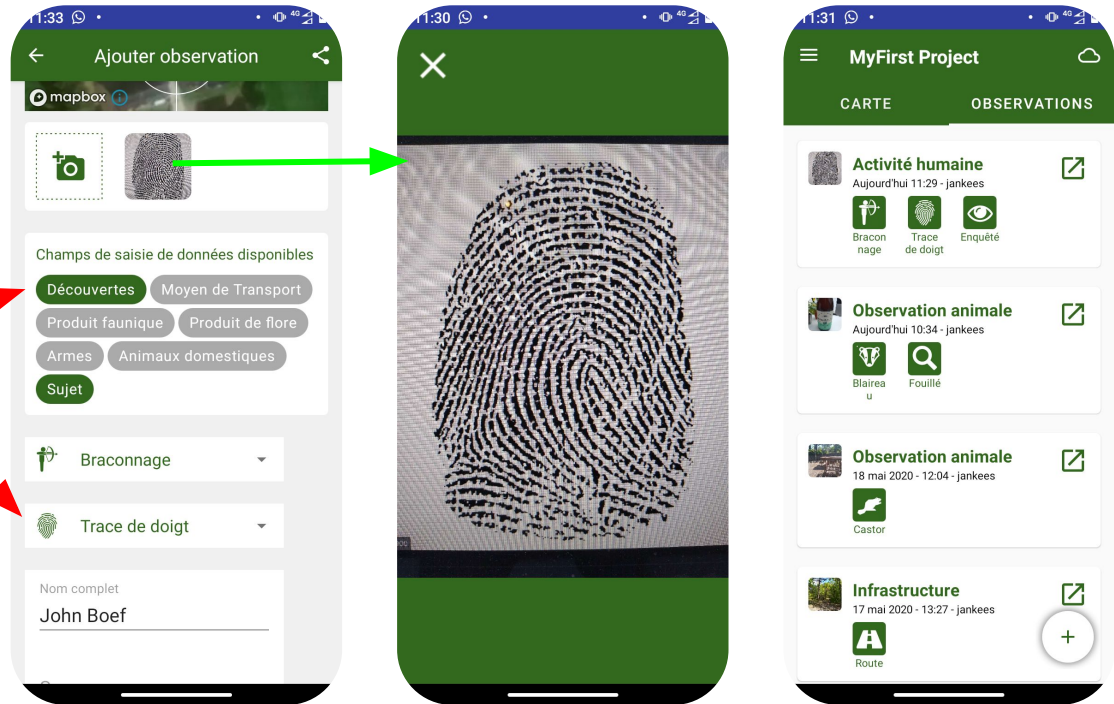
Tracking

Why tracking?

📍 To allow others to find (and help) you

📍 To create patrol density maps

📍 To create risk maps
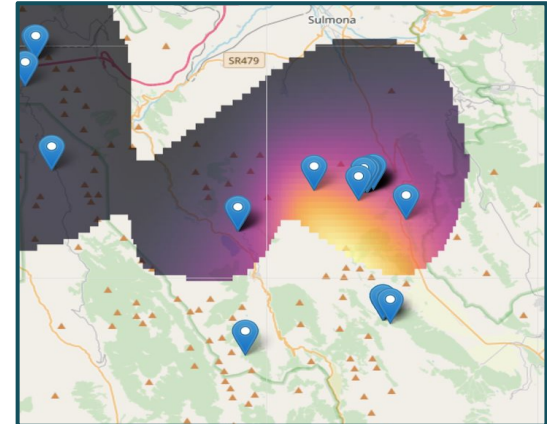
Increase GPS accuracy

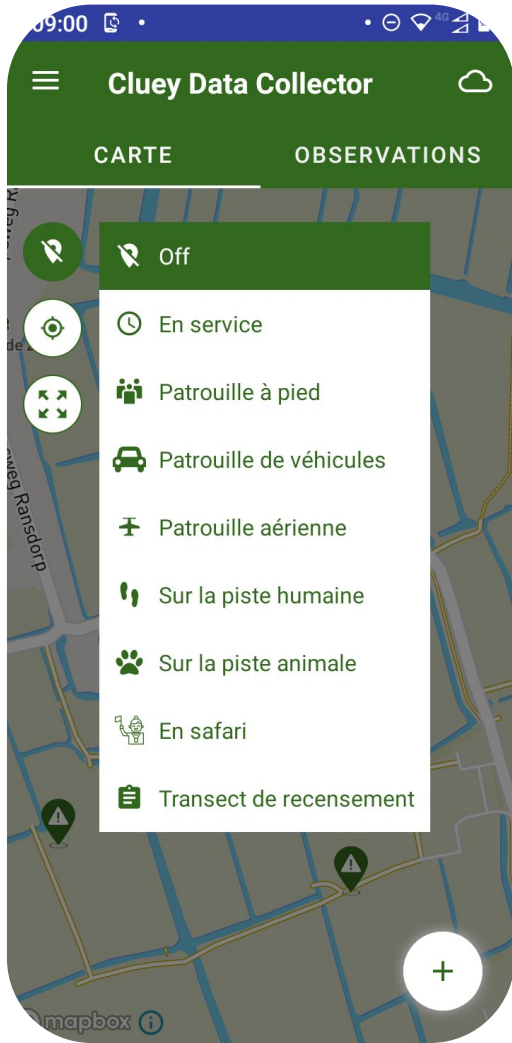GPS accuracy is governed by Android. Two tips to improve accuracy:

1. Adjust the **Location-based services** settings of your Android phone:
    - Go to Settings / Location / Wi-Fi and Bluetooth scanning: turn both **OFF**
    - Go to Settings / Location / Advanced / Google Location Accuracy: turn **OFF**

2. Install the **GPS Connected** app:
    - Visit the Google Play Store to search and install the "**GPS Connected**" app
    - Open the app and make sure **LOCK GPS** is black (and UNLOCK GPS is grey)
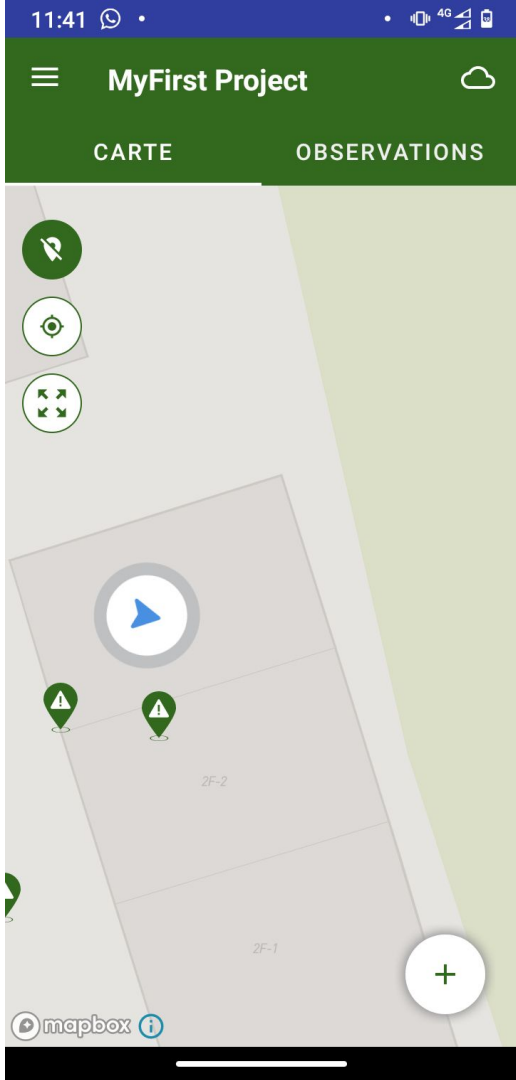
Remember before going into the field!

☁ **Connected Mode**

- to **log in**
- to create a new Group
- to **invite friends**
- to view observations of your friends
- to share your observations with friends

🚫☁ **Local Mode**

- to work in areas without cell cover
- to **save battery** life
- to **save telecommunication costs**

A few examples of observations

- You found **paw prints** of a **fox**
- You saw an **elephant** on the other side of the river
- You found **recent scratch marks** of a **bear**
- You found the **carcass** of **red deer**

- A farmer reported that a **wolf** has **killed** all his **chicken**

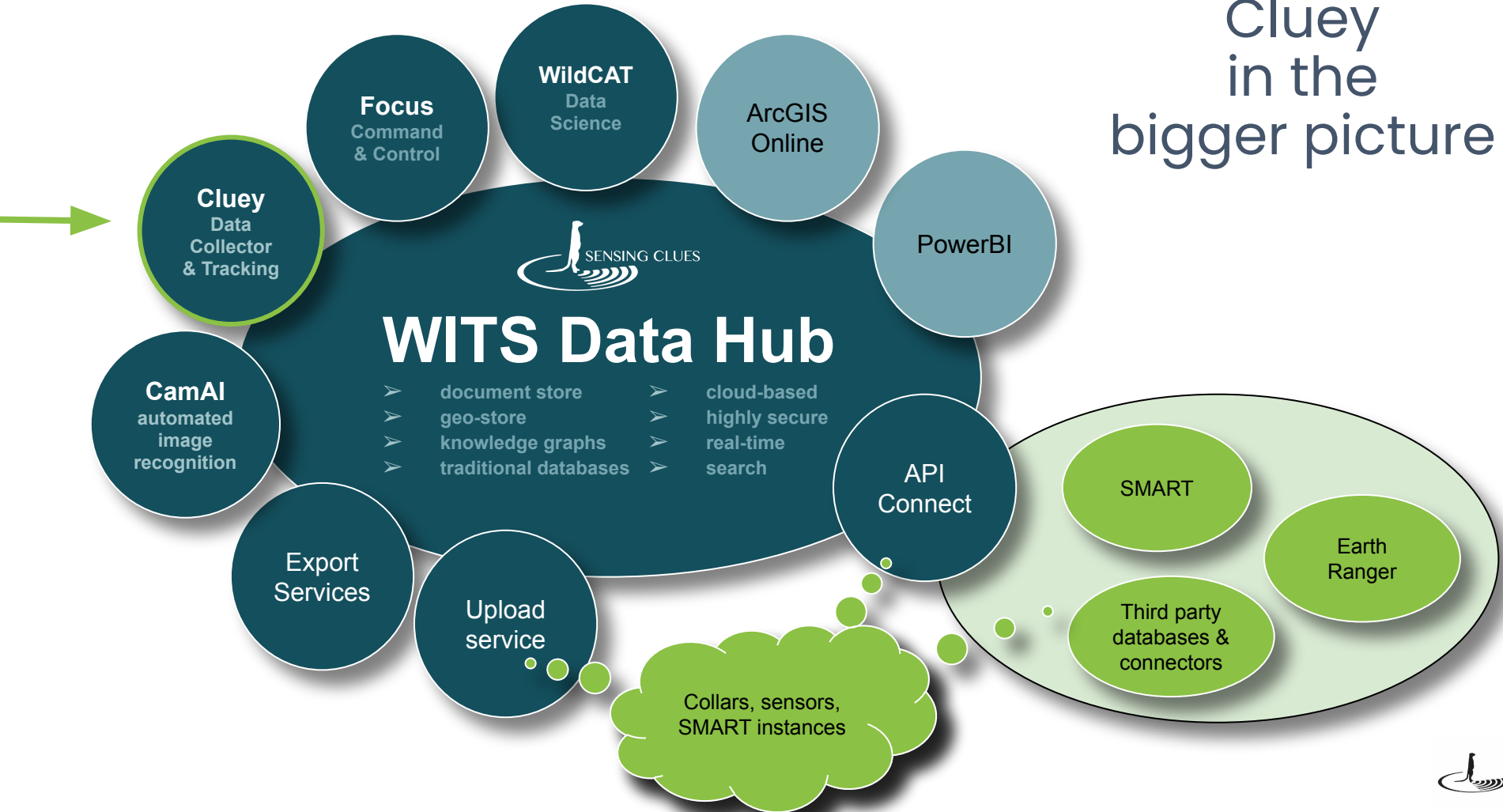- You found and **inspected** a **snare**
- You found **tracks** of a **motorbike**, illegally passing through the reserve
- You **warned a person** for **trespassing**

- You **cleaned** a **drainage** pipe on the mountain road which you are inspecting
- You noted that the **water level** in the **lake** is **high**
- You **inspected** a **fence** and noted that it was **broken**

Cluey in the bigger picture

Last update: 00:24 min ago

Search...

Selected time period ○ This year ⇕ ● 31 Dec 2019 〉 29 Jan 2021

Filters

Find concepts

0 of 95 selected

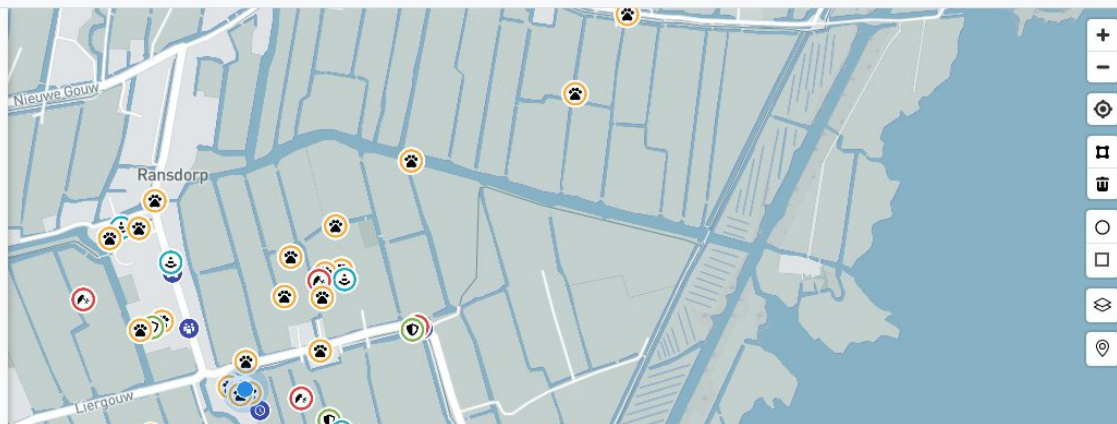▶ ☐ Actions taken (32) ✕
▶ ☐ Observations (54) ✕
▶ ☐ Tracks (13) ✕

Data sources

☐ All 0 of 9
☐ 16novJK (22)
☐ 28NovTestJK (2)
☐ ClosedJK28Nov (2)
☐ Dec JK (7)
☐ Gesloten groep (8)
☐ Group 12 oktober (11)
☐ JkTestDec (1)
☐ Oct31 (5)
☐ Test2JK (9)

Agents

☐ All
☐ jankees (39)
☐ jk1412 (1)
☐ jk20 (9)
☐ jkdec (7)
☐ jknov (11)

Nieuwe Gouw
Ransdorp
Liergouw
Durgerdammergouw

☑ Observations ☑ Tracks ☑ Agents

© Mapbox © OpenStreetMap **Improve this map**

Results (67)

Track - On Human Spoor ⌄
Start track • 22 Jan 2021 - 16:15
End track • 22 Jan 2021 - 16:20
Length • 0.441 KM

🛡 **Human activity** ⌄ **1**
22 Jan 2021 - 16:17 • No description
SHEEP   FINED   OBSERVATIONS
GRAZING

☎ **Animal sighting** ⌄ **2**
22 Jan 2021 - 16:15 • No description
FAUNA   OWL   INVESTIGATED
OBSERVATIONS

Track - On Duty ⌄
Start track • 20 Jan 2021 - 17:09
End track • 20 Jan 2021 - 17:34
Length • 0.022 KM

🛡 **Human activity** ⌄
20 Jan 2021 - 17:08 • No description
TIRE PRINT   OBSERVATIONS   GRAZING

☎ **Animal sighting** ⌄
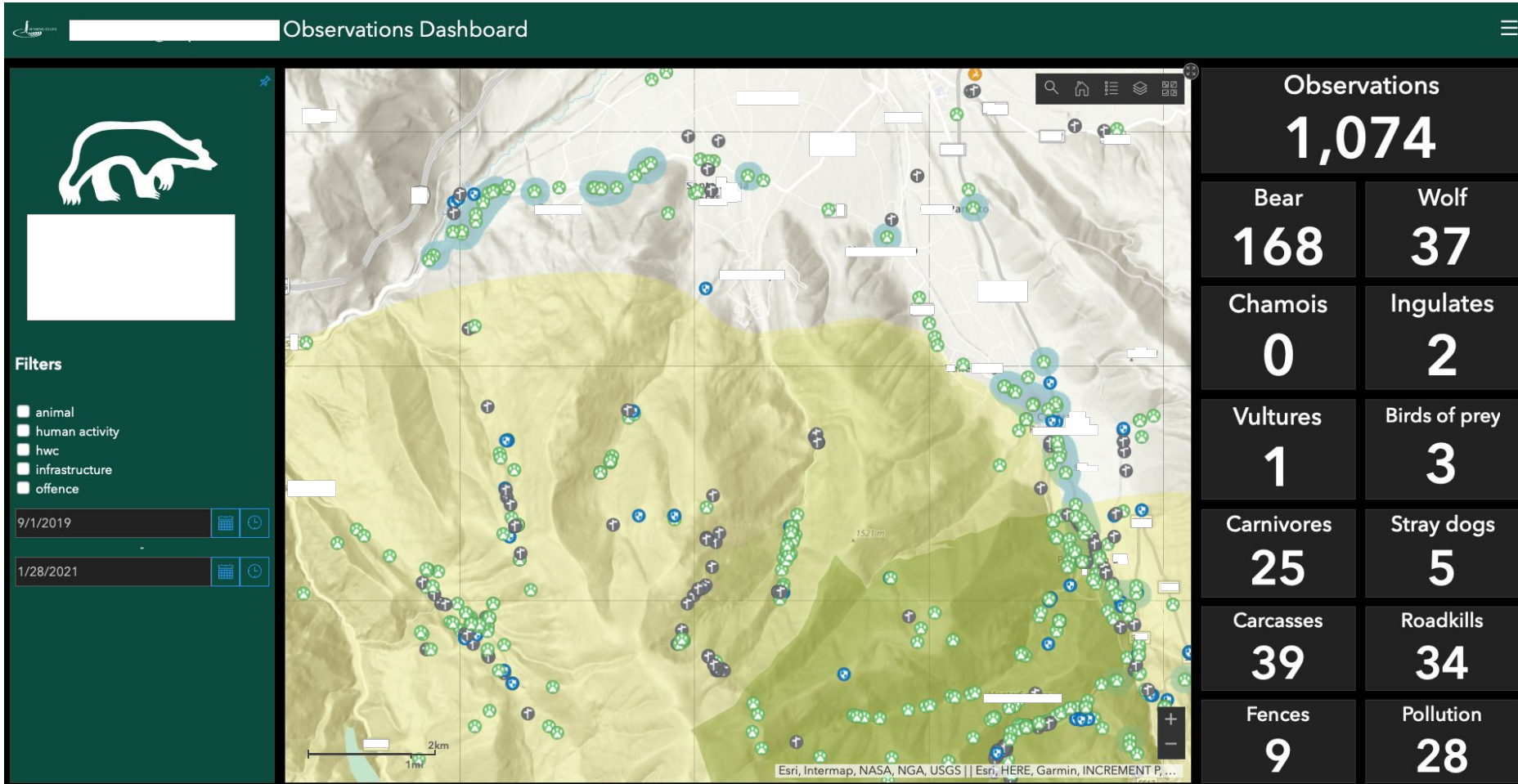20 Jan 2021 - 17:04 • No description
FAUNA   BARKING DEER   SEARCHED

- All Cluey observations are stored in the **Wildlife tool suite** (Wits) and thus available to **Focus, ArcGIS**, and any other analytical tools

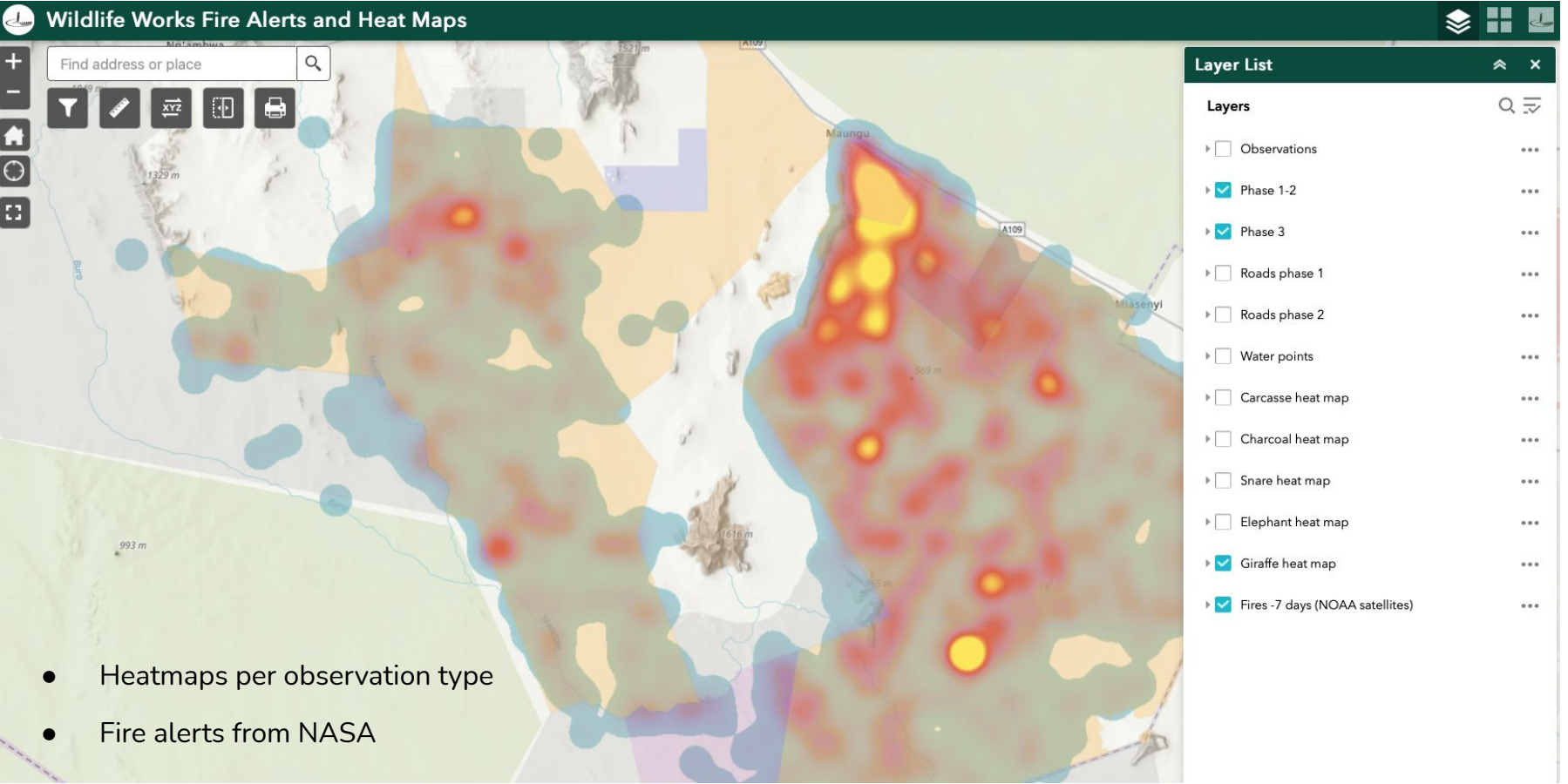- Deleted Cluey groups remain available in the Wits platform

ArcGIS Dashboards

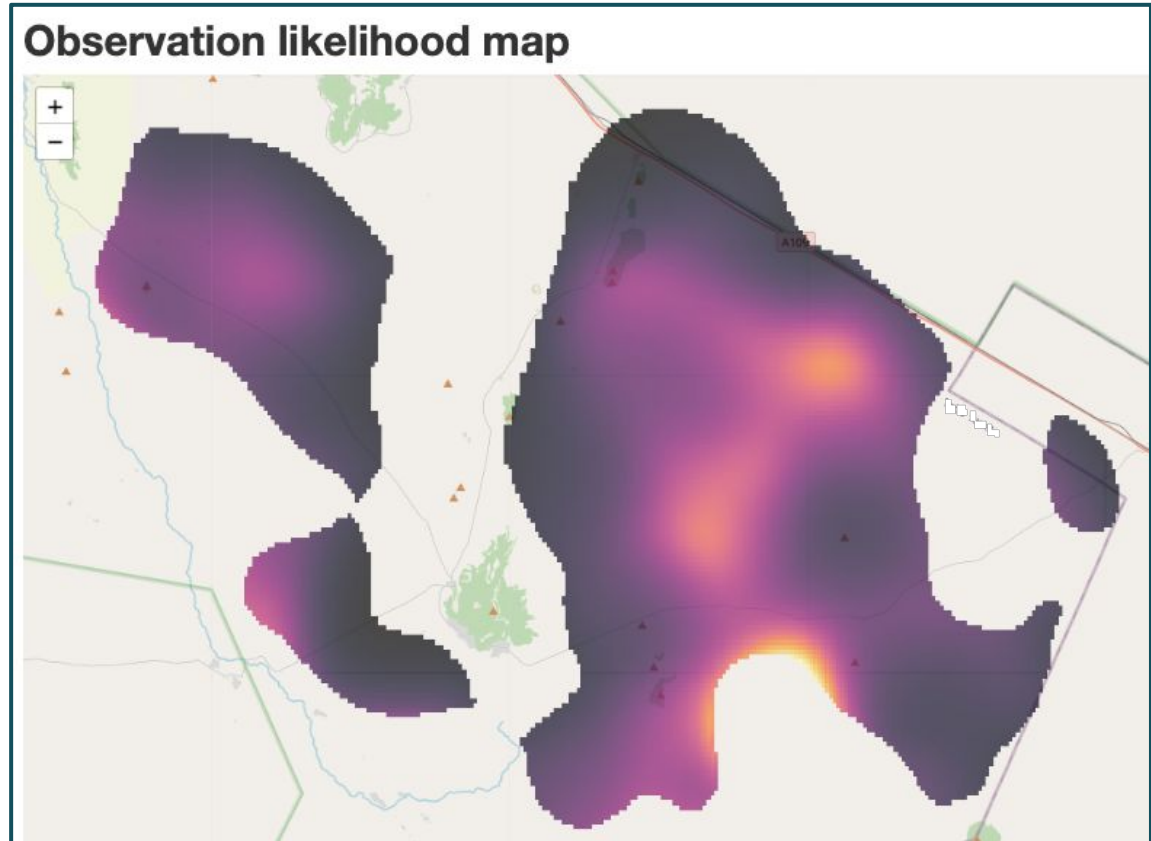# Integrated heatmaps

- Heatmaps per observation type
- Fire alerts from NASA

WildCAT apps

- Observation densities

- Patrol density

- Likelihood & Risk maps

- Habitat suitability maps

- Observations Export

- Tracks Export

- And many more to come

Observation likelihood map

Native Microsoft Power BI for reporting

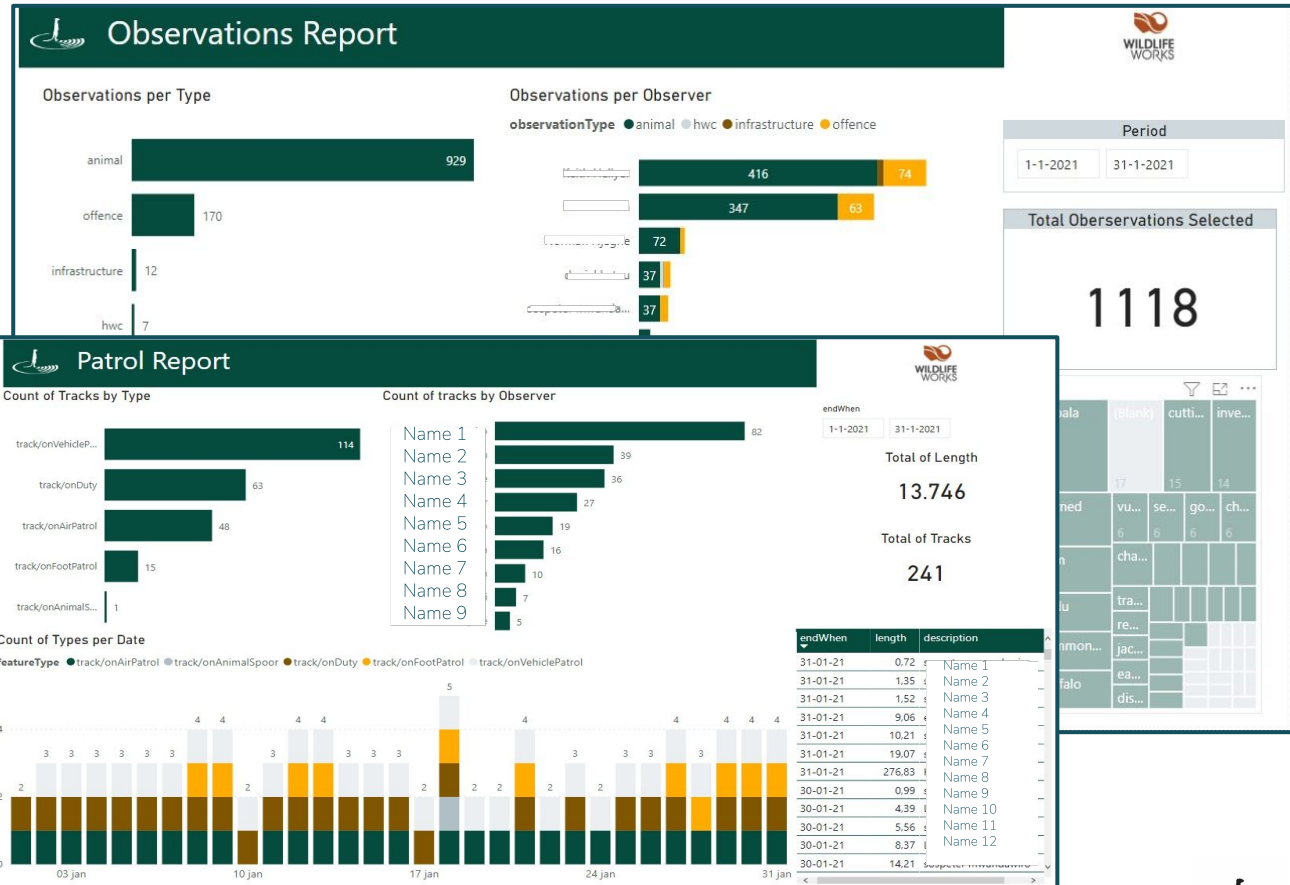Daily, weekly, monthly, quarterly, annual, and user-defined reports

Numbers and trends

Any type of chart or list

Select, aggregate or drill-down

Real-time, thus always up-to-date

Private and secure

CamAI (first release: Summer 2021)

Why

- Increase value of collected cam-trap images

- Save hundreds of labour hours

How

- Processing of camera-trap images

- Trained model to recognise animals

- Human-in-the loop to check quality

- Corrections used to retrain the model

- Results directly available for reporting and complex tasks, such as the creation of

  - Habitat suitability models

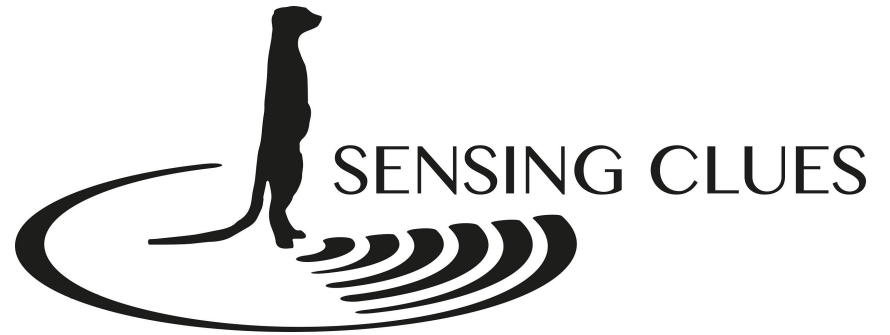 - Population density estimation models

  - etc.

Why Sensing Clues?

- **Turn-key: get started within a day!**

- Most innovative, lean and mean, and user-friendly tool suite available

- Cutting edge technology: semantic multi-model datahub

- Real-time information by default, offline when needed

- Easy aggregation of data from multiple data collection groups and conservation areas

- Lowest possible total-cost-of-ownership (TCO)

    - Free software, hosting, and storage

    - No technical expertise needed to integrate data from different sources

    - Zero-learning-curve

- No vendor-lock-in: all data is accessible via API's and CSV-exports

- Secure by-design

- Help at arms-length from our multidisciplinary team via Whatsapp, Signal, email, or helpdesk

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SENSING CLUES