



# Experience sharing on BioBlitz and other forms of citizen science

*Citizen Science and BioBlitz for nature conservation in Protected Areas*

19ths of May, 2023


Škocjanske Jame Park, Slovenia

Speaker: David García del Amo



# Benefits of Citizen Science Projects

- “Fast” collection and high number of data
- “Low cost” methodology
- “Low time-consuming” methodology
- Increase social awareness about the topic
- Better environmental education > New generation of scientists
- More data to support decision making
- Better Nature Conservation



**Success achieving** research goals will depend on a large extent on correctly **choosing** the most appropriated **citizen science methodology**

# Main vision of citizen science by natural scientists



## Pocock et al. 2018

Opportunities for citizen science in ecology and the environment in East Africa workshop, and the targets they support

Rank	Opportunity <sup>a</sup>	Score from collaborative prioritisation <sup>b</sup>
1	Monitoring habitats and their change	25
2	Monitoring species (including counting and census)	18
3	Fresh water quality and quantity	14
4	Impact of development on wildlife and natural resources	12
5	Distribution mapping of species	12
6	Assessing habitat quality	11
7	Natural resource mapping	10
8	Natural resource utilisation (legal and incidental)	8
9	Pollution	6
10	Productivity of food (includes pollination)	5
11	Detecting invasive species	4
12	Illegal resource use	2
13	Human-wildlife conflict	2
14	Understanding potential for citizen science	2
15	Documenting indigenous local knowledge	1

## et al. 2015

...ical recording through  
...al recording schemes

Very scientific-goals oriented



# Main vision of citizen science by natural scientists

Difficulty to engage the general public and maintain participation along the time

**TABLE 4** Barriers to citizen science in ecology and the environment in East Africa as ranked at a collaborative prioritisation exercise and the type and target of solutions for these barriers

Rank	Barrier	Score from collaborative prioritisation <sup>a</sup>	
1	Limited awareness of opportunities	23	●
2	Limited organisational capacity, including planning, leadership and coordination	19	●
3	Lack of interest	13	●
4	Lack of appreciation of the value of citizen science from decision makers	13	●
5	Limited access to the right technology, including access to the Internet and mobile coverage	13	●



Not user friendly:  
 Too many options  
 Boring design (No pictures, black background...)  
 No updates (newsletters, emails...)  
 No face to face meetings (BioBlitzs...)

Estimadas/os Colaboradoras/es,

Os informamos que, lamentándolo mucho, el Programa de Seguimiento Fenológico de la Red Española de Reservas de la Biosfera se ha cancelado.

Para aquellos que seguís interesados en ~~continuar con esta apasionante actividad~~, comentaros que hay varios programas basados en este tipo de seguimiento con los que podéis colaborar. Entre ellos, se encuentra el programa *Aves y Clima* de la organización SEO/BirdLife: [www.avesyclima.org](http://www.avesyclima.org)

Podéis encontrar información específica sobre este programa, que presenta muchas semejanzas con el Programa de Seguimiento Fenológico de la Red Española de Reservas de la Biosfera, y también podéis registraros en: <https://www.seguimientodeaves.org/klima/Colabora.php>, Entre

Las principales características del programa son:

- Permite realizar seguimiento de Aves, Plantas e Insectos.
- Es necesario que la localidad seleccionada para participar sea la que se visita habitualmente o lugar donde se vive
- Trata de registrar las primeras o últimas observaciones del fenómeno o hecho biológico

Existe un Manual de Participación por si finalmente estuvierais interesados.

Desde el equipo de la Secretaría del Comité MaB (OAPN) que ha estado trabajando en este programa queremos daros las gracias por vuestra colaboración y constancia y esperamos que continuéis trabajando por los objetivos que promueven las Reservas de la Biosfera.

**¡Hasta pronto!**

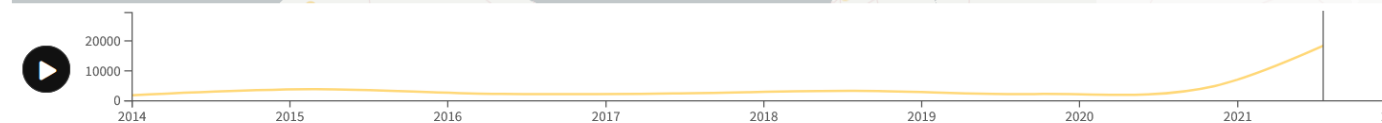
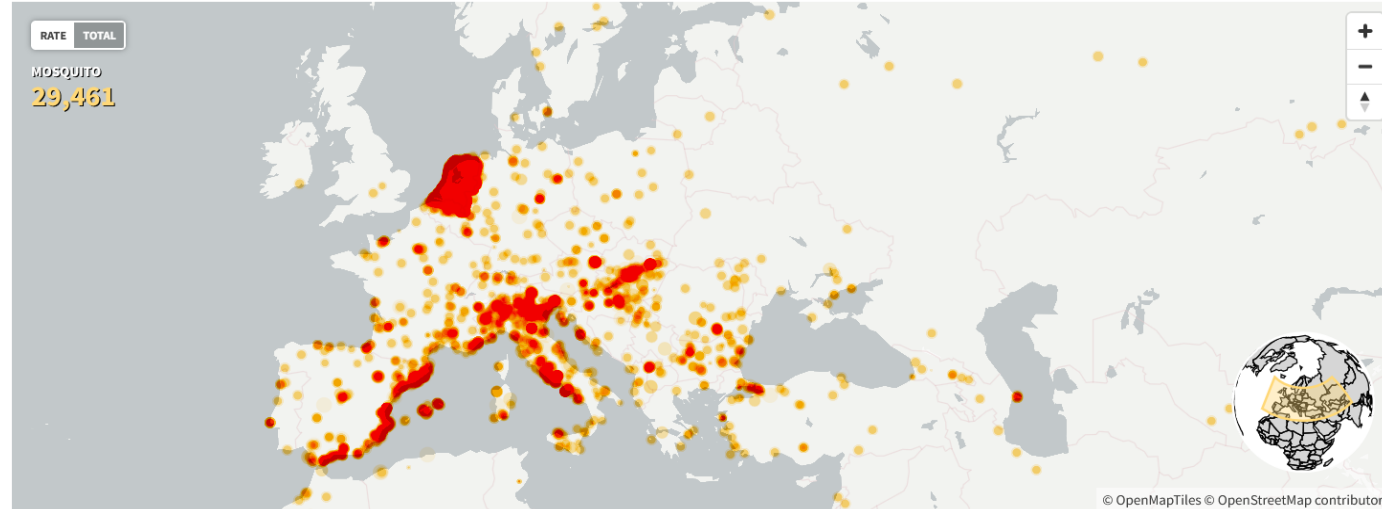
# Citizen science to investigate and control disease-carrying

## Participation statistics

## Participate with the Mosquito Alert app

### Mosquito reports

Reported to Mosquito Alert 2014-2021









Source: Mosquito Alert

MOSQUITO  ALERT

 A Flourish ma

### Your observations are important

How can you participate with Mosquito Alert?

-  Send photos of the tiger mosquito and the other species we are looking for
-  An international team of expert entomologists will validate your photos
-  Report the mosquito bites you receive
-  Learn to identify mosquitoes
-  Let us know if you see possible mosquito breeding sites on public roads
-  Check your observations on the map
-  Stay up to date with our notifications

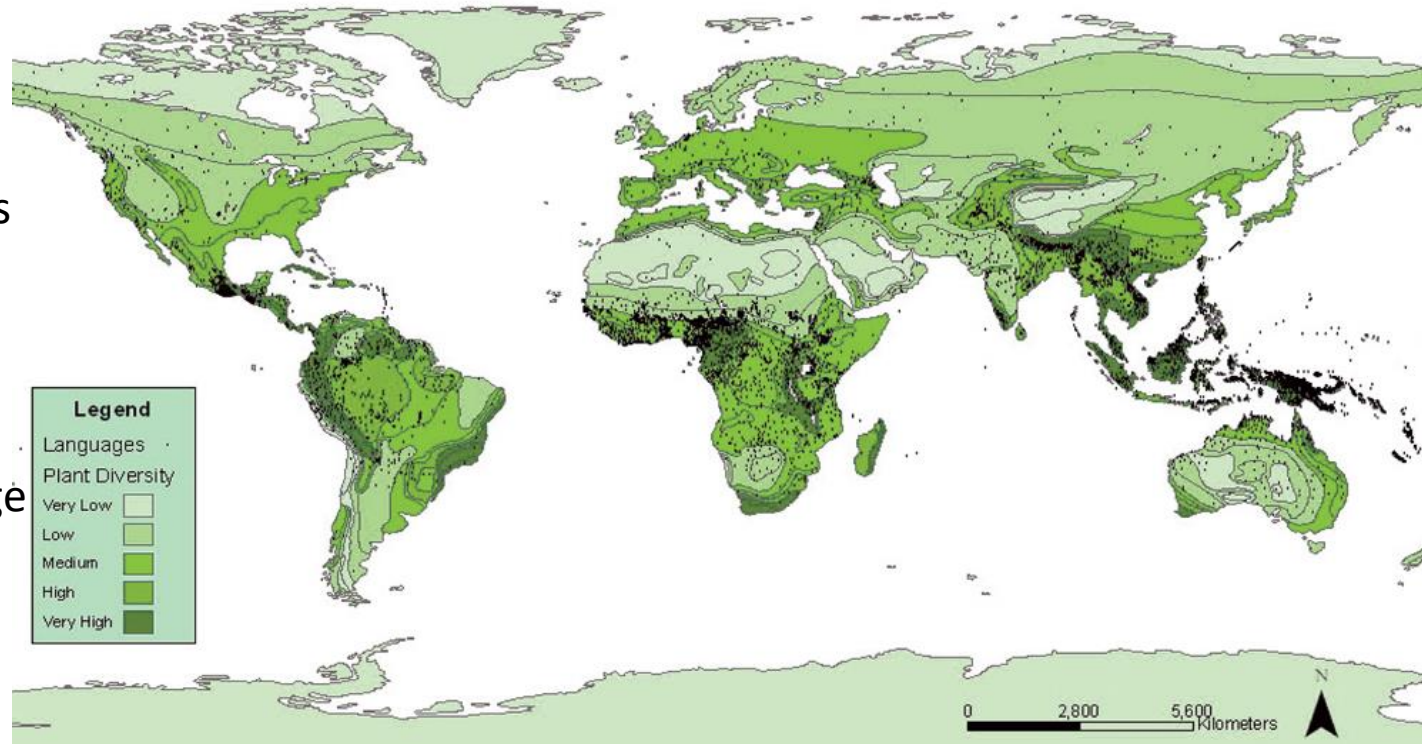
[Go to the map](#)

# Citizen science and Indigenous and Local Knowledge

*Another layer of difficulty*

## Why including ILK in Citizen Science projects?

- Isolated regions
- High biodiversity areas
- Experts in their field
- Experts in their local environment
- Holistic view
- Endangered knowledge



- Translation of knowledges
- Many experts are elder
- Problems with TICs and technologies
- Very busy people
- Research Utility

What can they get of it?

Diversity of plants and languages in the world. Stepp et al. (2004)

# Citizen science and Indigenous and Local Knowledge

## Traditional knowledges related to Biodiversity



- Compilation of ethnobotany studies
- +60 researchers from different institutions

[http://www.mapama.gob.es/es/biodiversidad/temas/inventarios-nacionales/inventario-espanol-de-los-conocimientos-tradicionales/inventario\\_esp\\_conocimientos\\_tradicionales.aspx](http://www.mapama.gob.es/es/biodiversidad/temas/inventarios-nacionales/inventario-espanol-de-los-conocimientos-tradicionales/inventario_esp_conocimientos_tradicionales.aspx)



# Conect-e: Sharing Traditional Ecological Knowledge

- PLANTAS
- VARIETADES TRADICIONALES
- GESTIÓN DE ECOSISTEMAS
- PERFIL

Sabías que... los tallos estériles de cola de caballo (*Equisetum sp.*) entran en la composición de algunos licores caseros del tipo de las ratafías o similares en Cataluña.



1.156 usuarios	3.767 fichas	180.992 entradas	4.667 imágenes	38 comentarios	4.032 municipios
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## Abeña de Málaga (Centro-Sur o Guadalorce)

Especie: *Triticum turgidum* (trigo jeja).

Comarca: **Centro-Sur o Guadalorce** / Málaga / Andalucía.

Vigencia: **Desconocido**.

[Nombres populares](#)[Descripción](#)[Usos tradicionales](#)[Manejo tradicional](#)[Imágenes](#)[Mapa](#)[Referencias](#)[Conseguir semillas](#)

¿No estás seguro de que sea esto lo que buscas?

[Consulta esta especie en la Wikipedia](#)

[Busca imágenes de esta especie en Creative Commons](#)

### Historial de cambios

06.04.2021, 00:22 [Laura Aceituno \(La Troje\)](#) valida contenido en Imágenes. Foto del Conservatoire Horticole et Céréaliier d'Ar...

06.04.2021, 00:22 [Laura Aceituno \(La Troje\)](#) valida contenido en Imágenes. Foto del Conservatoire Horticole et Céréaliier d'Ar...

06.04.2021, 00:22 [Laura Aceituno \(La Troje\)](#) valida contenido en Imágenes. Foto del Conservatoire Horticole et Céréaliier d'Ar...

06.04.2021, 00:22 [Laura Aceituno \(La Troje\)](#) valida contenido en Usos y manejo tradicional

19.01.2021, 21:31 [Mathis Thuillier](#) crea contenido en Imágenes. Foto del Conservatoire Horticole et Céréaliier d'Ar...

19.01.2021, 21:31 [Mathis Thuillier](#) crea contenido en Imágenes. Foto del Conservatoire Horticole et Céréaliier d'Ar...

19.01.2021, 21:30 [Mathis Thuillier](#) crea contenido en Imágenes. Foto del Conservatoire Horticole et Céréaliier d'Ar...

19.01.2021, 21:30 [Mathis Thuillier](#) crea contenido en Usos y manejo tradicional

### Muestra de imágenes



### Búsquedas

[Buscar todas las fichas de esta misma especie](#)

[Buscar contenidos concretos en esta ficha](#)

[Buscar localizaciones en el mapa de esta ficha](#)

[Ver todo el historial de cambios de esta ficha](#)



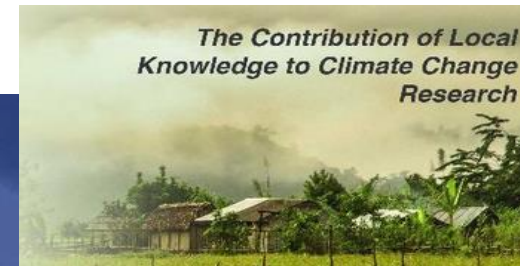


15 core team members  
More than 40 partners & collaborators



# LICCI

Local Indicators of Climate Change Impacts

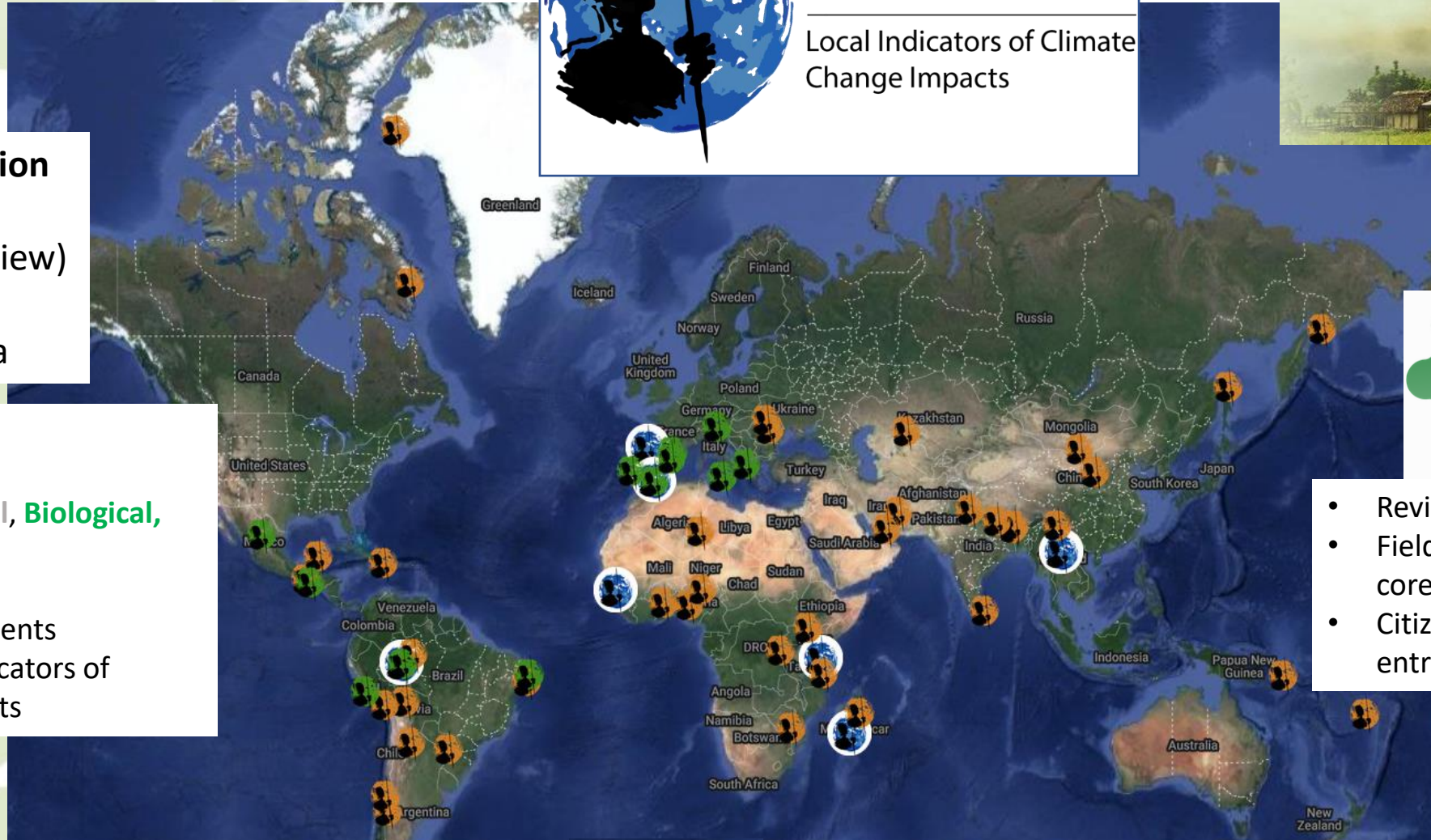


## LICCI Classification

- 450 articles (Literature review)
- +  
• Fieldwork data

## LICCI Classification

4 Systems  
(**Atmospheric**, Physical, **Biological**, **Human**)  
21 Subsystems  
92 Impacted elements  
370 Local Indicators of Climate Change Impacts

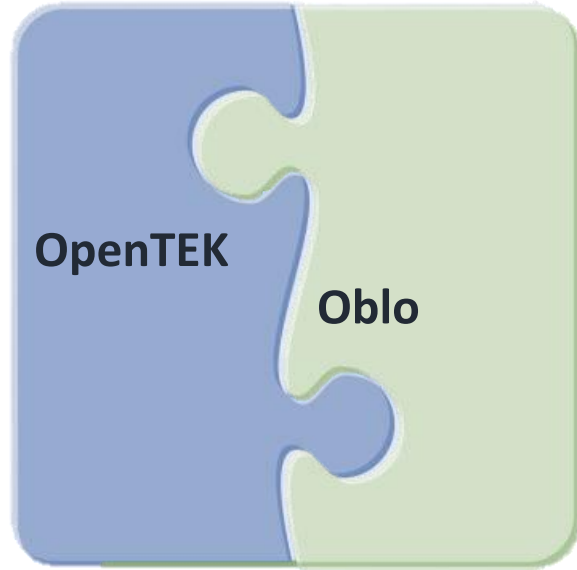


- Reviewed article database
- Fieldwork data from LICCI core team and partners
- Citizen science platform with entries by the general public

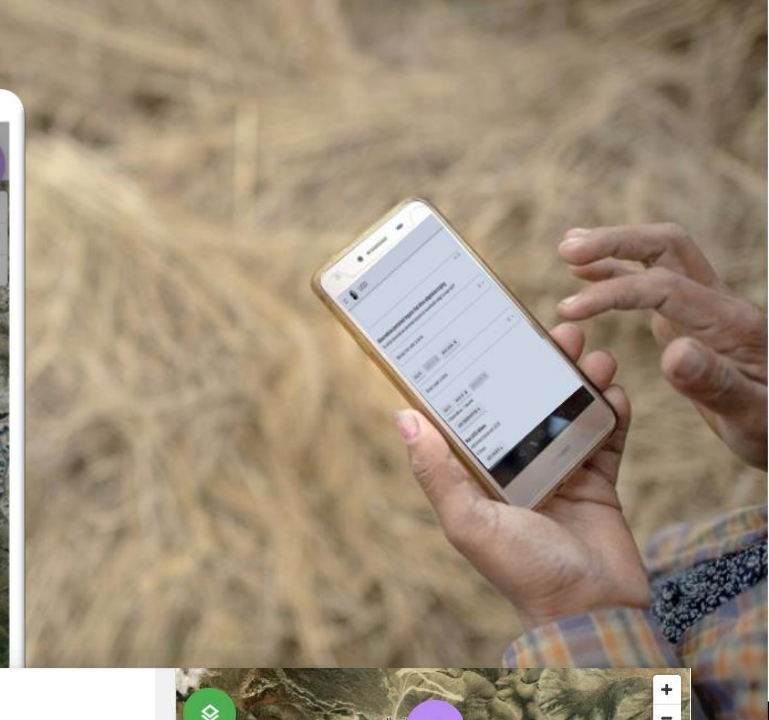
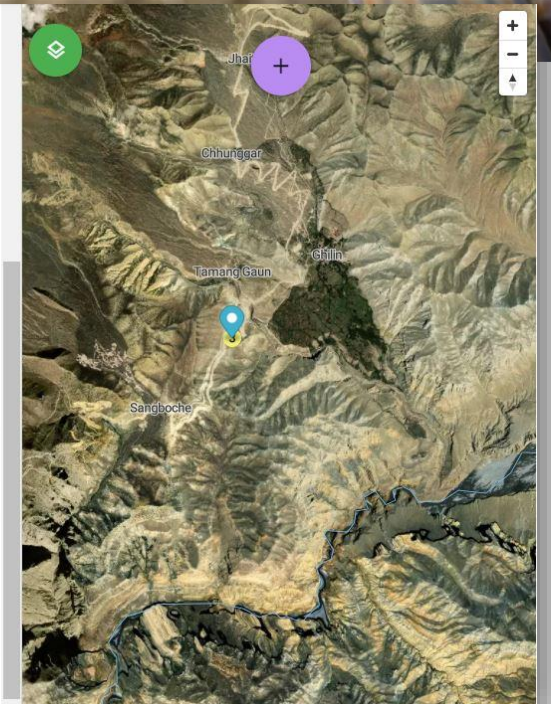
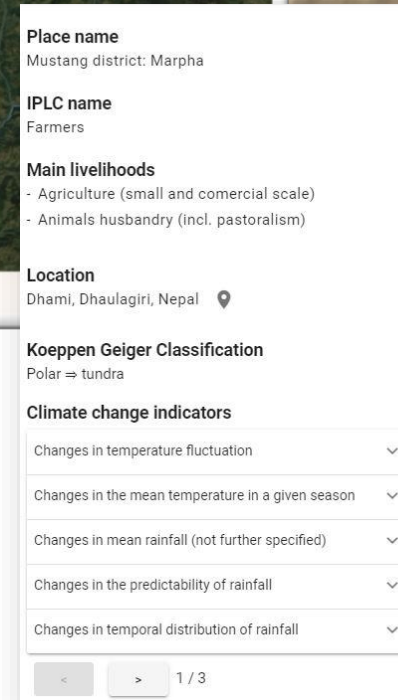
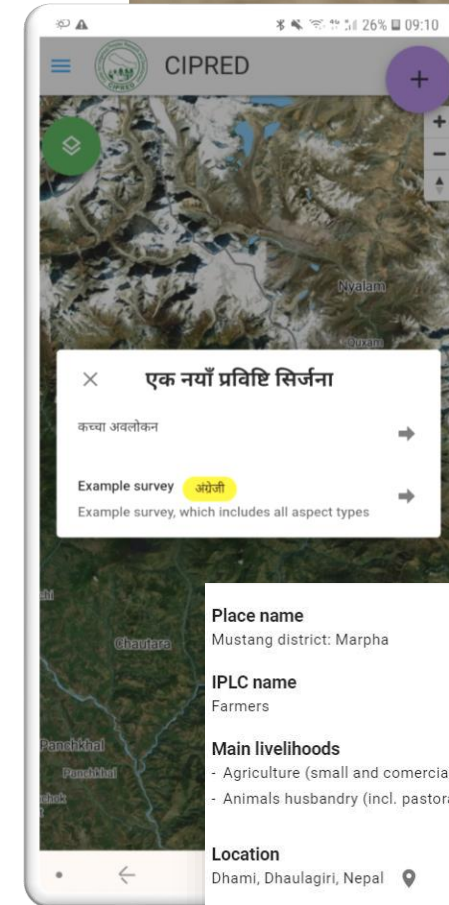




# Community-based designed climate change impacts monitoring platforms



- **Simpler survey design**
- **Personalized Key themes** per communities' preferences (risk and adaptations, traditional knowledge, gender, resilience...)
- Surveys are **impact-based and context-specific**
- **Open source** and available offline for remote use
- Upload photos or video links
- In-app **translation** (currently English, Spanish, Nepali, Thai, Vietnamese) to better understand local terminology.



# Co-design workshops.



Nepal: CIPREI

Thailand: IPP



## General questions

What is the specific impact to your livelihood that has occurred due to climate change?

Select the impact

Select a Subsystem

 Agriculture (crops, orchards)	 Livestock farming	 Fish farming	 Forest products (wild food, medicinal plant, timber)	 Human health	 Infrastructure
 Conflicts	 Culture and beliefs				

Describe the impact in detail

0 / 500

Who has experienced this impact?

One household

Multiple persons

Entire community

Multiple communities

Are you certain this is due climate change?

yes

no

RDA





# Sierra Nevada, Spain

## Network of acequias

- Infiltrate water in the ground **recharging aquifers** and maintain the water table close to surface
- Maintain **soil moisture** and abundant **soil biota**
- Improve **water quality** by filtering in the soil
- Favour soil conservation by **reducing erosion** produced by torrential waters
- Favour the **deposition of sediments** in the upper parts
- Increase animal and plant **biodiversity**, aquatic and riparian, by providing more **ecological niches**
- Act as **ecological corridors** and refuge for different spp
- Increase production of **pastures and grasslands** on the high lands
- Provide **water to communities and agricultural areas** on the slopes of the mountain during the summer.
- Currently, there are more than **700 km of active acequias**, archaeological rests of more than 3000 km.



Colabora con el **estudio**  
y la **protección** de las lagunas  
de Sierra Nevada,  
testigos del Cambio Global

 COLABORAR



¡Con tu foto, protegemos Las Lagunas!

En tres sencillos pasos

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[Iniciar Sesión](#)

IV Jornadas





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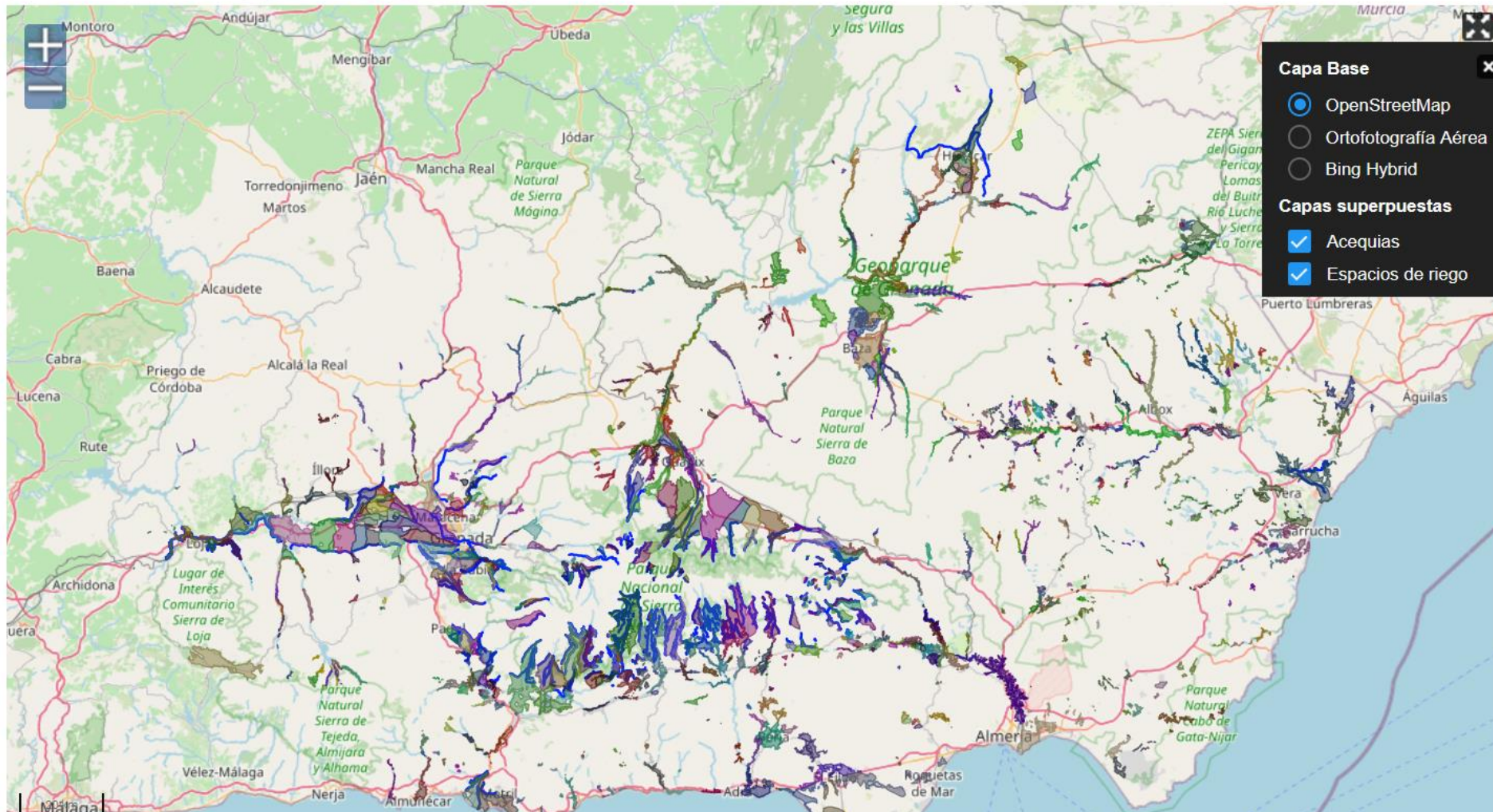
# Mapa colaborativo de regadíos históricos de Granada y Almería

Busca en el mapa

APLICAR

REINICIAR

[www.Regadiohistorico.es](http://www.Regadiohistorico.es)



Thanks for your attention!



**LICCI**  
Local Indicators of Climate  
Change Impacts  
[www.LICCI.EU](http://www.LICCI.EU)

[David.garcia.delamo@uab.cat](mailto:David.garcia.delamo@uab.cat)

**Workshop: Experience sharing on BioBlitz  
and other forms of citizen science  
Škocjanske Jame Park, Slovenia 19th May 2023**









# Sierra Nevada, Spain

## Traditional animal herding

- Maintain forest, scrubland and pasture areas delimited
- Contribute to seed dispersion
- Increase biodiversity
- Improve soil quality
- Prevent wild fires
- Reduces plagues in wild flora
- Maintain local landraces and genetic diversity
- Shepherds and cattle ranchers detect faster IAS and diseases in wild flora and fauna due to their mobility
- Additional cultural knowledge associated



## Project Science in the City



### Citizen Science project helps City of London residents measure air quality

🕒 February 26, 2021    👤 Heather Eastwood    📄 Recent News

The City of London Corporation has launched an opportunity for residents to measure their local air quality.

# Co-design workshops.

Community-level workshops with partner organisations and communities to develop surveys per local protocols and preferences.

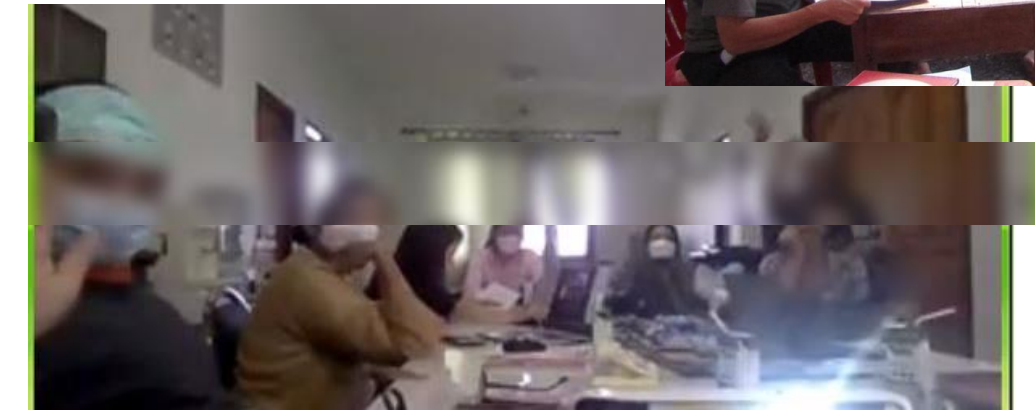
Between, March 2021 - October 2021 we held feedback sessions and three workshops in each country (the organisations held these with our funding & support).

In total, nearly 100 individuals (83 via the workshops & 12 via feedback sessions) participated in these, providing on input on themes such as 1) access to tech, 2) ownership of data, 3) data output for policy purposes, 4) time and resources, 5) languages, 6) IP and community-based indicators, 7) IP rights, 8) long-term commitment, 9) CC impacts, and 10) adaptation and resilience.



Nepal: CIPRED

Thailand: IPF



Vietnam: CERDA

