

Designing and launching a citizen initiative to monitor snow depth in Sierra Nevada (South Spain).

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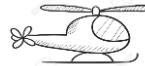
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❑ Motivation/target:  Snow dynamic is an excellent indicator of Climate Change (CC) [Δ hydrograph
 Δ Balance
 Δ meteorology
(albedo)]

(Collados, Pardo & Pulido, 2019)

 $\downarrow\downarrow$ national Budget for monitoring snow depth
(ERHIN, 1981)

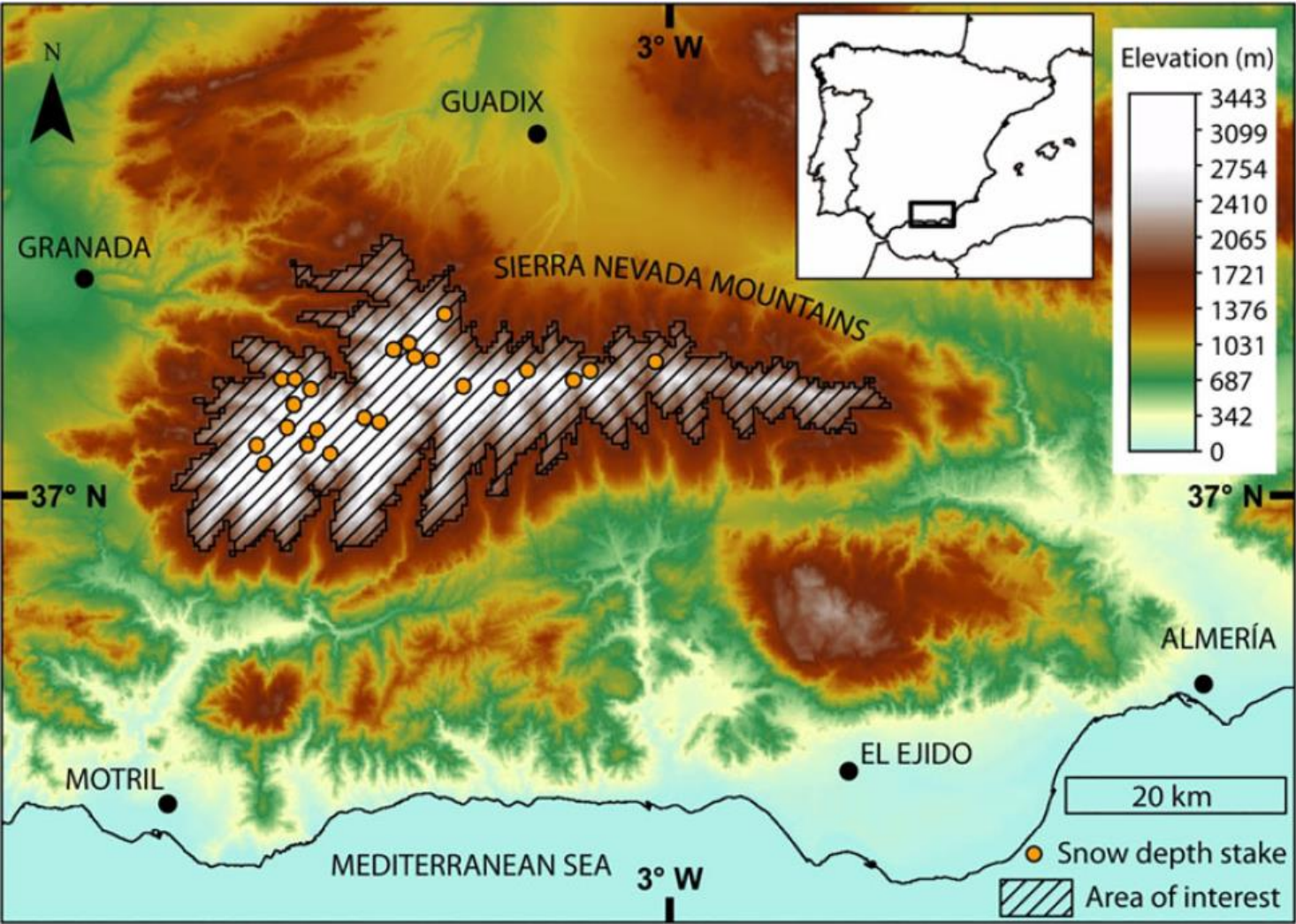
(ERHIN, 1981)  $\downarrow$ Observation of snow poles



TARGET: Citizen initiative for monitoring of snow in S. Nevada with the available infra-structure (snow depth stakes in the figure) $\Rightarrow$ awareness about CC

MASS-IGLOO Project: Monitoring and assessing impacts of global change in water resource systems depending on natural storage from groundwater and/or snowpacks. **Spanish National Research Program**

TARGET: To obtain a maximum number of pictures ($\neq$ s poles &/or t_i)



23 poles installed
by the ERHIN
program

TASKS:

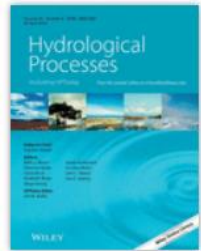
1) *Inventory of infrastructures & potential volunteer*

23 poles => marked to facilitate identification of photos sent by volunteers.

2) *Optimum design of snowpole network for monitoring snow depth*

=> min uncertainty in estimates of snow depth

(Collados, Pardo
& Pulido 2019)



3) *Maximization of participation => max number of pictures (≠s poles &/or t_i)*

- Involvement of key institutions to disseminate the activity
- Program of incentives to participate
- Generation of tools to supply & display information: Mobile application & web platform. User-friendly applications
- Dissemination and communication of the activity: **Posters** & brochures for potential groups of volunteers; **Facebook**.

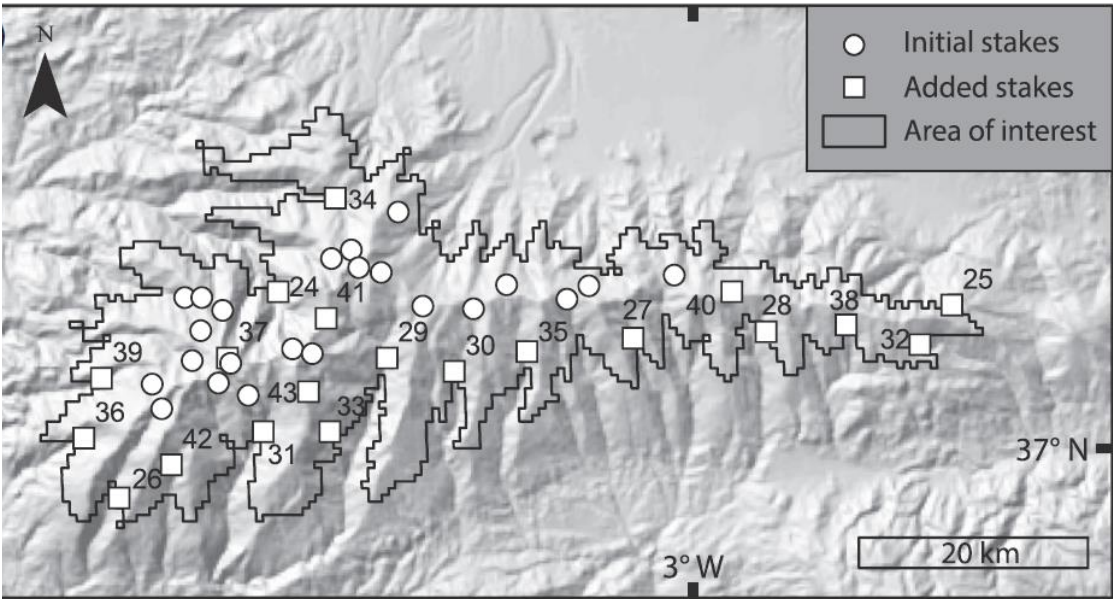
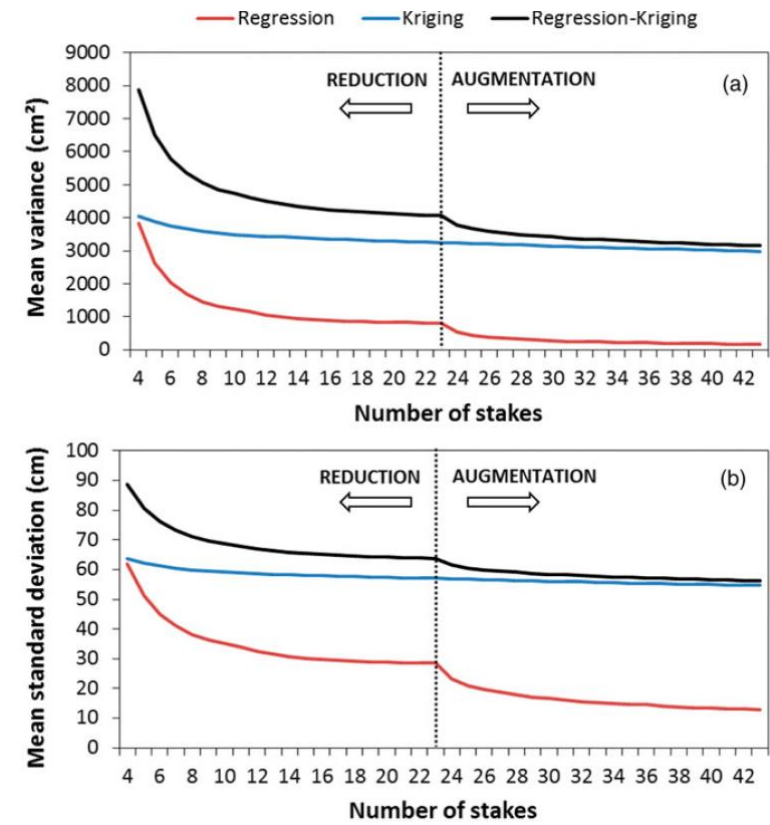
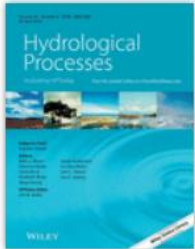
include relevant local information (e.g., location of the poles) & link to the project web for supplying & storing information;

TASKS:

2) Optimum design of snowpole network for monitoring snow depth

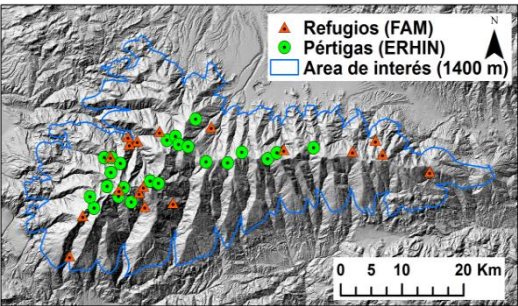
⇒ min uncertainty (standard deviation) in estimates of snow depth

(Collados, Pardo & Pulido 2019)



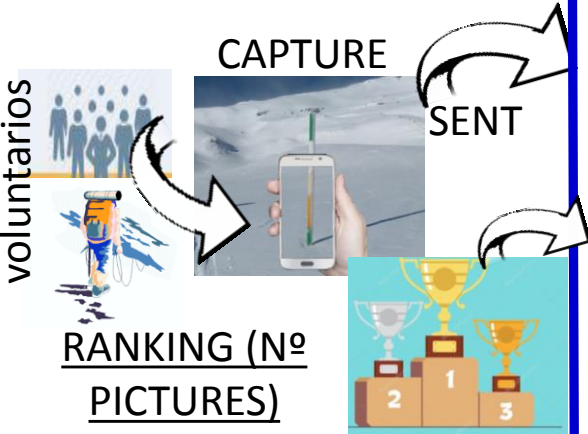
3) Maximization of participation $\Rightarrow$ max number of pictures ($\neq$ poles &/or t_i)

Previous infra-structure



(23 poles)

Sport competition



Computer tools (SEN-SN)

- 1. Mobile App
 - Identification/basic data
 - Takes & send pictures
- 2. Web platform
 - Updated RANKING of participants
 - Storing information & diffusion

3) *Maximization of participation* $\Rightarrow$ *max number of pictures* ($\neq$ s poles &/or t_i)

- Dissemination & communication of activity: **POSTERS**; **video**, brochures for potential groups of users;

- **Facebook.**

 <https://www.facebook.com/Siglo-An-110665023757515/>

