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# Citizen Science: Extreme Events & GEO Hazards

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Inian Moorthy, Steffen Fritz, Linda See, Uta Wehn, Drew Hemment, Joan Masó Pau, Athanasia Tsertou, Katrin Vohland, Michele Ferri, **Ian McCallum**, Dahlia Domian, Gerid Hager, Christoph Perger



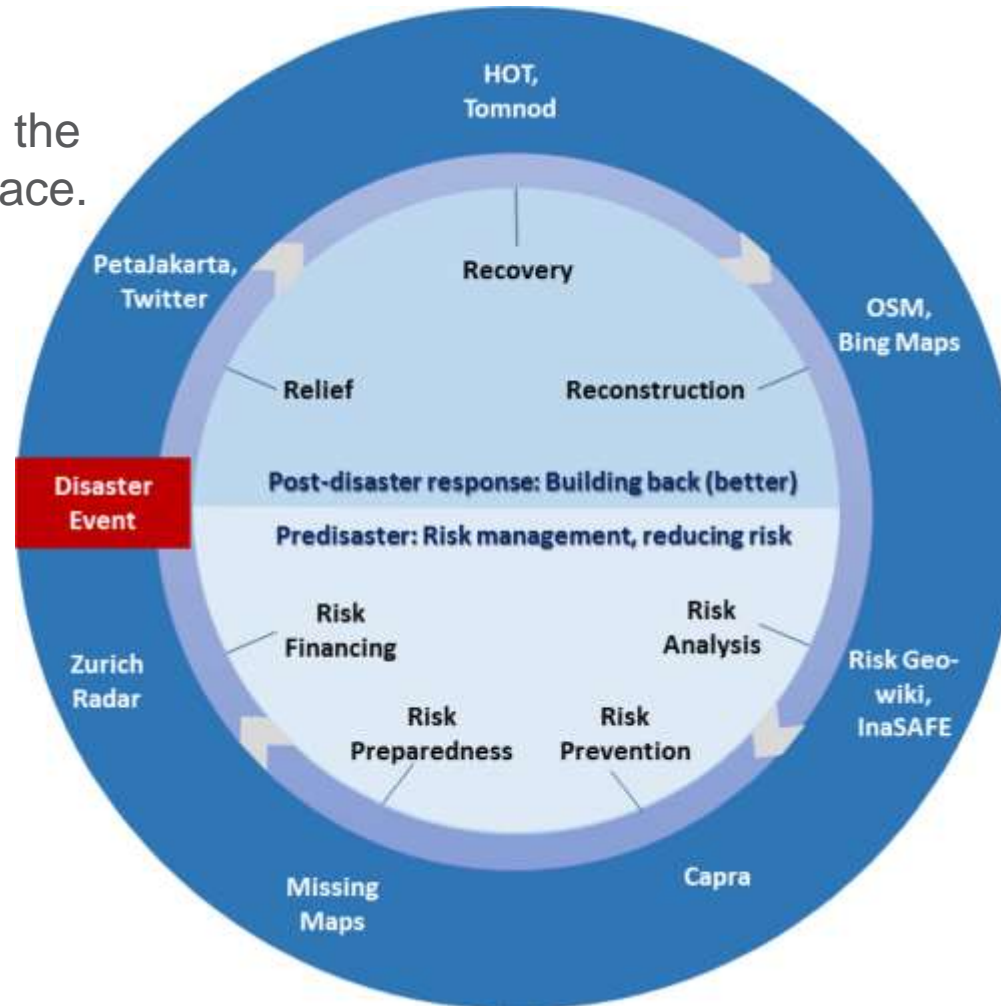
# Citizen Science

- *Citizen Science* involves collaborative exchange with the scientific community, in which members of the public actively join the co-creation of new scientific knowledge.
- In Europe currently organized around Citizen Observatories.



# Disaster Management Space and Technology

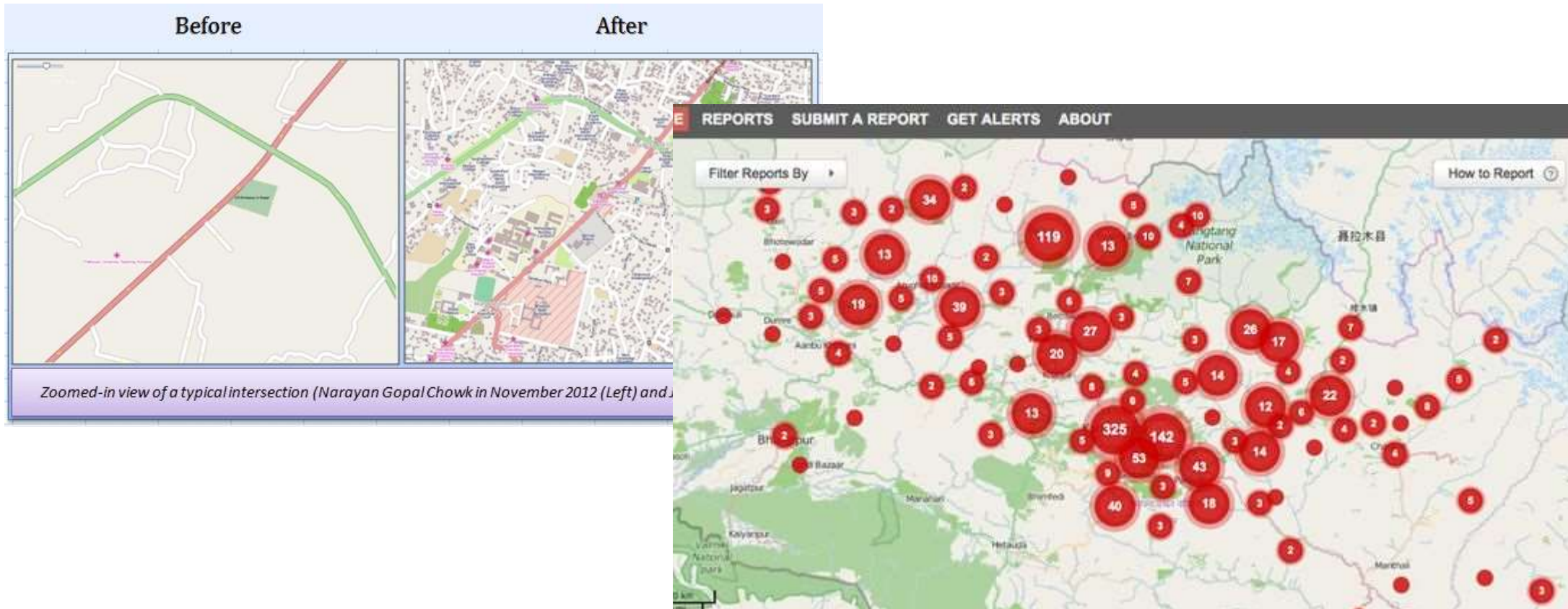
Examples (outer ring) of technologies and tools in the disaster management space.



McCallum et al. Technologies to Support Community Flood Disaster Risk Reduction. *Int J Disaster Risk Sci* (2016) 7:198–204

# Pre and post Crisis Mapping

- Haiti earthquake, Hurricane Sandy, Nepal earthquake



# Hurricane Matthew: Post-disaster damage mapping

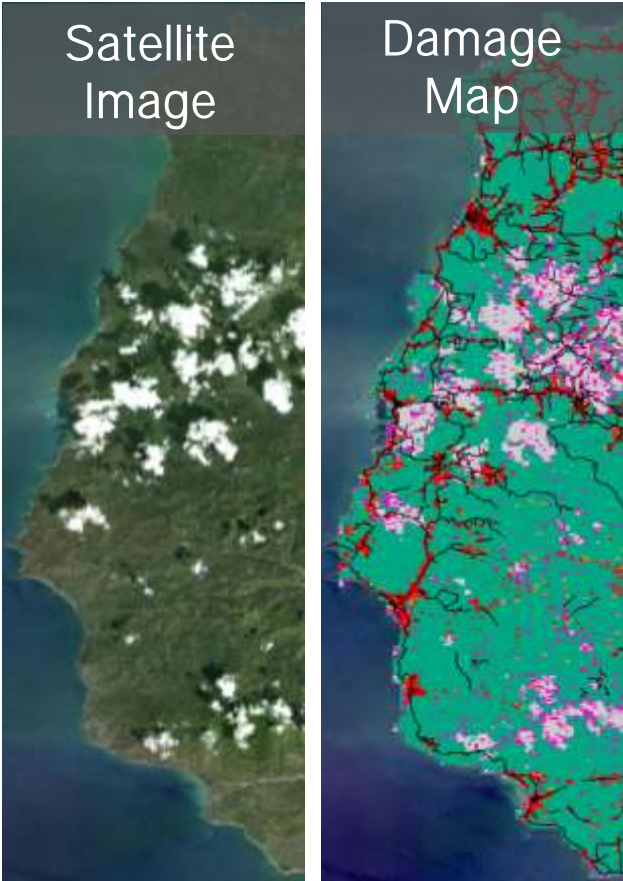
- Disaster as seen from space
  - Satellite images: high resolution imagery before and after event
- ▶ Post-disaster assessment:
  - ▶ Crowdsourcing - with each volunteer spending even just a few minutes on it makes a significant contribution



# Hurricane Matthew: Post-disaster damage mapping

Satellite Image

Damage Map



225492 tasks

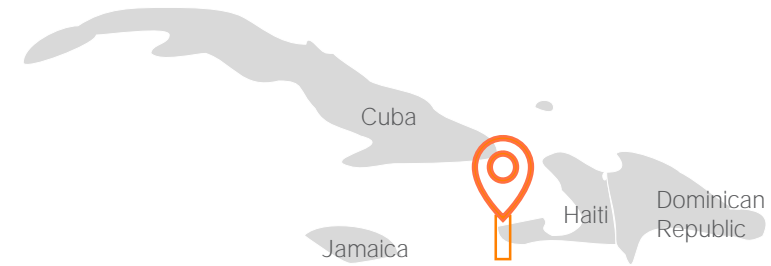


182 volunteers



120 hours of volunteers' time

- Damaged
- Likely damaged
- Unknown
- No damage
- Not usable



- Most volunteers showed high agreement rate with experts (>85%)
- Average time per validation – 2 sec

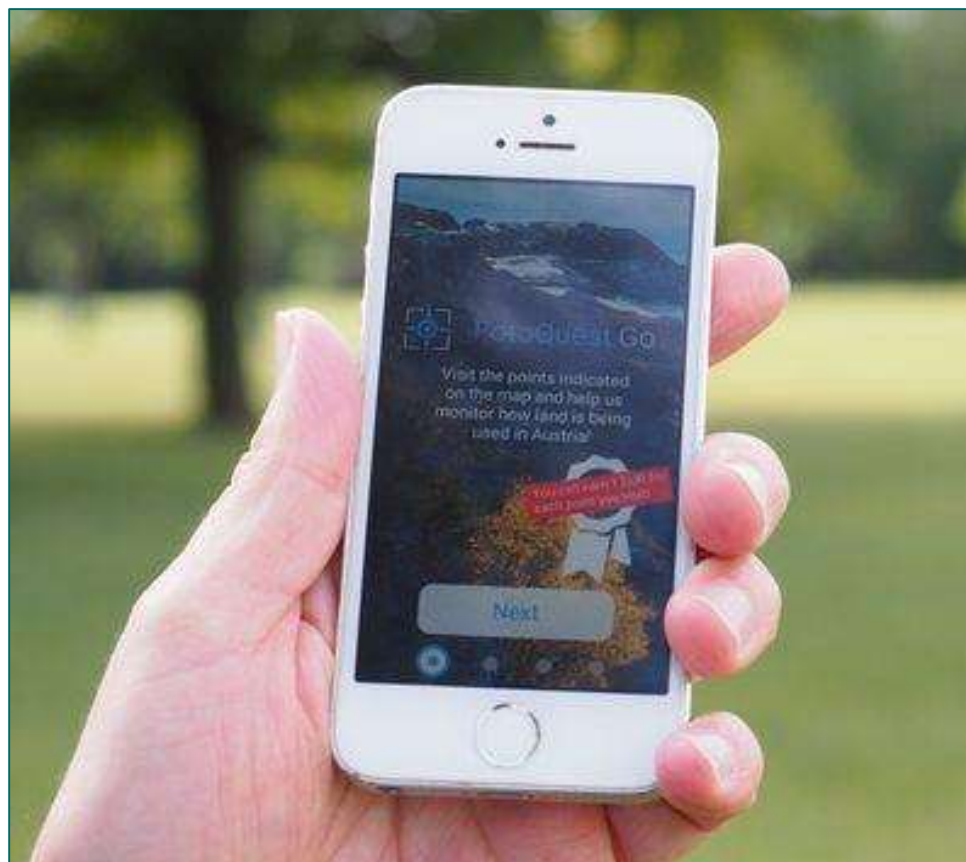
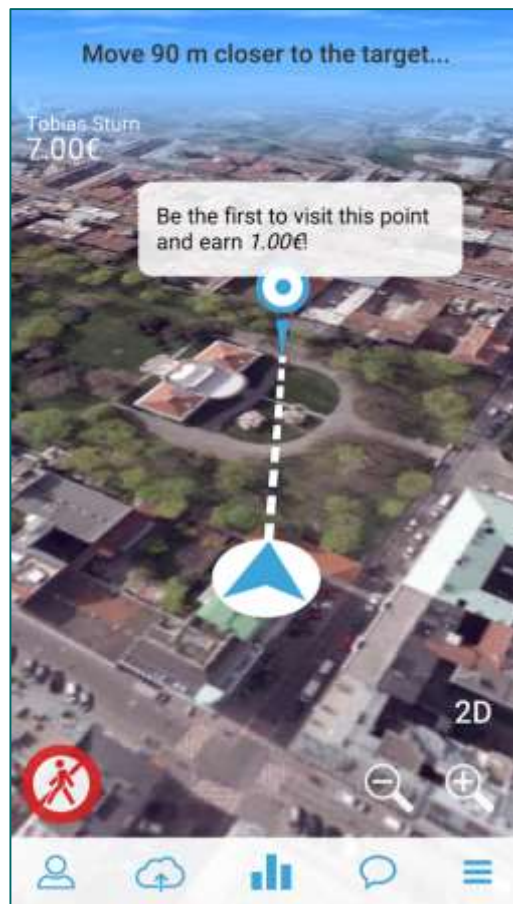


# FotoQuestGO

Mobile application for **in-situ data collection** to promote community-based Land Use awareness and monitoring.



<http://fotoquest-go.org/>



Campaign to be launched  
June 8<sup>th</sup> across Europe!

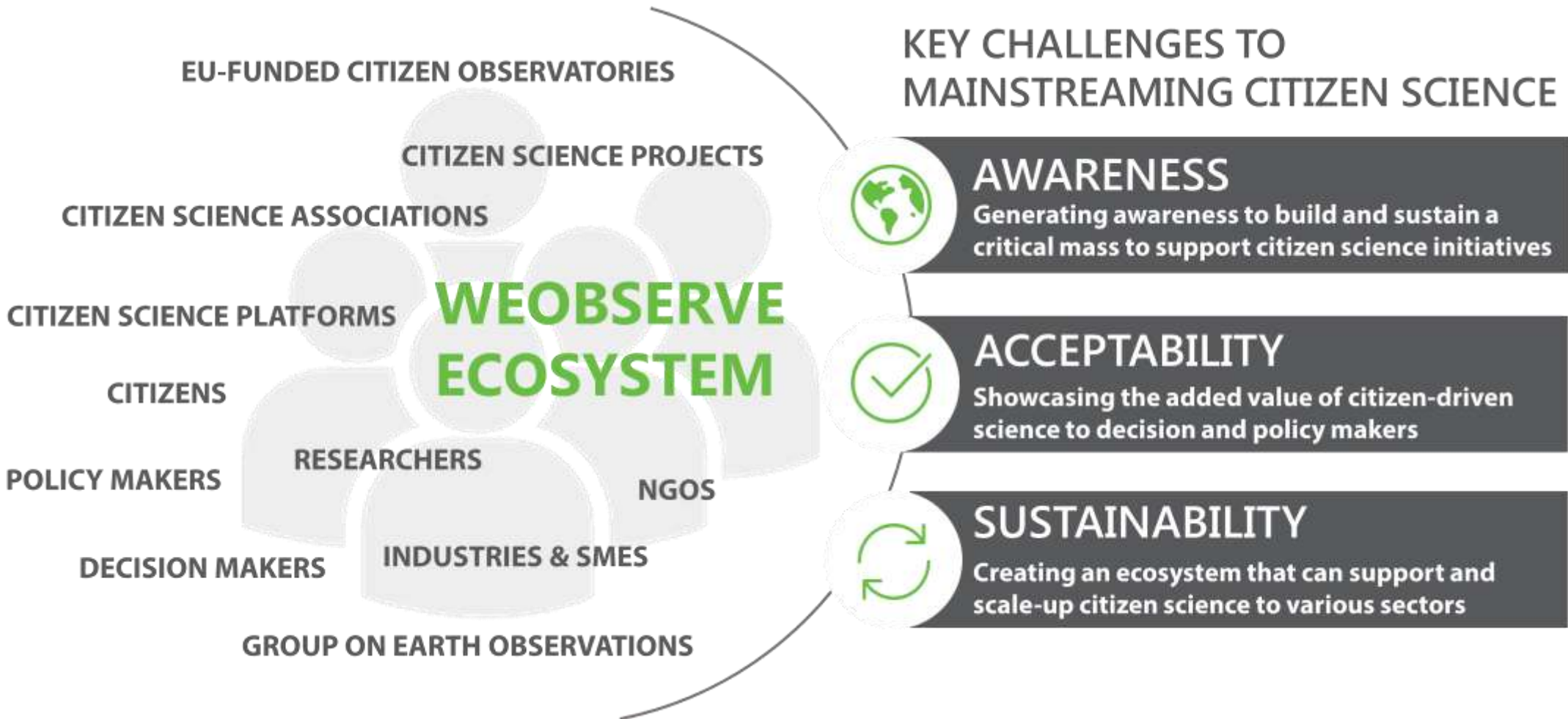


Available on the  
**App Store**

Get it on  
**Google play**

Community of Users on Secure, Safe and Resilient  
Societies

# Key Challenges







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**THANK YOU!**

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*Any Questions?*

<https://www.weobserve.eu/>

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