

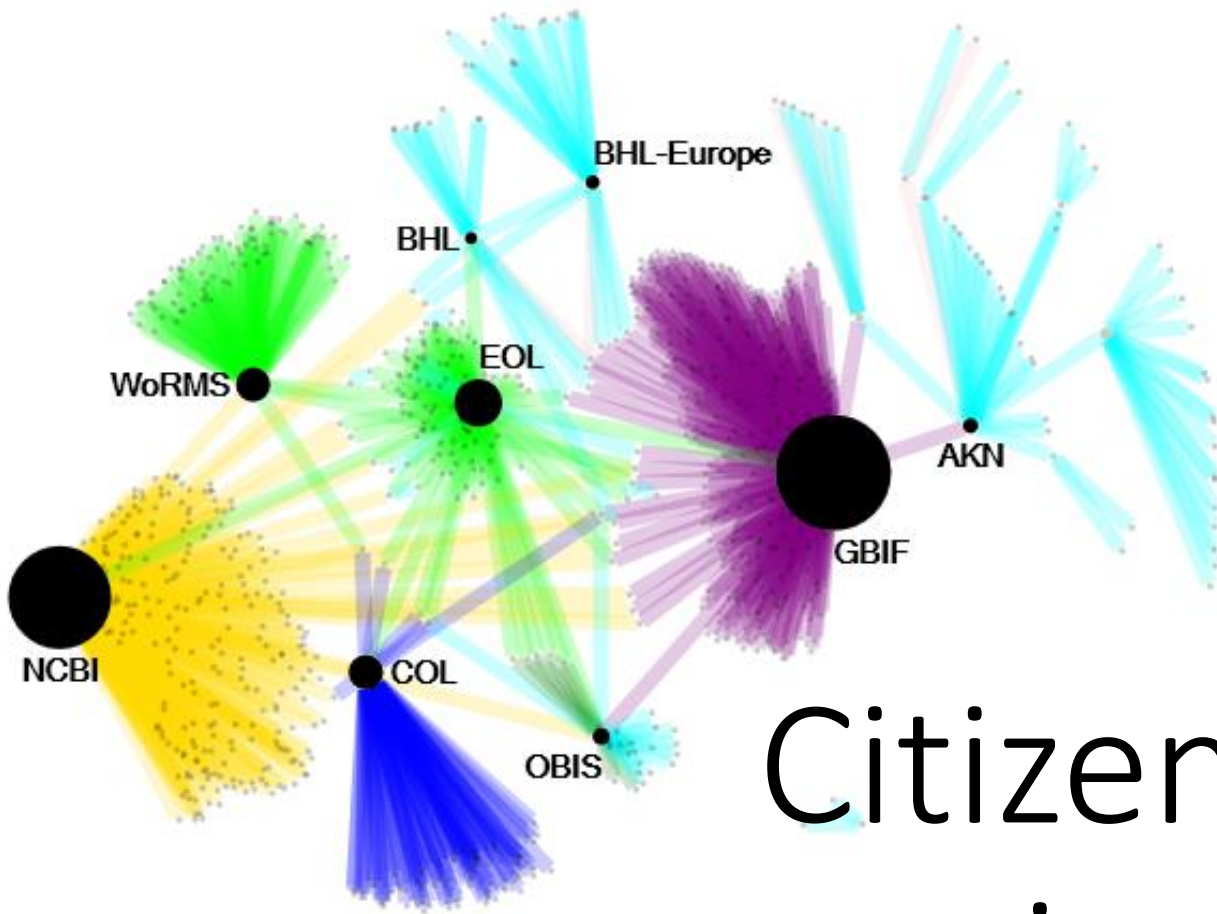
# Standardizing Citizen Science

**Dr. Anne Bowser**

Woodrow Wilson International Center for Scholars

Presentation Prepared for **GEO Week 2017**





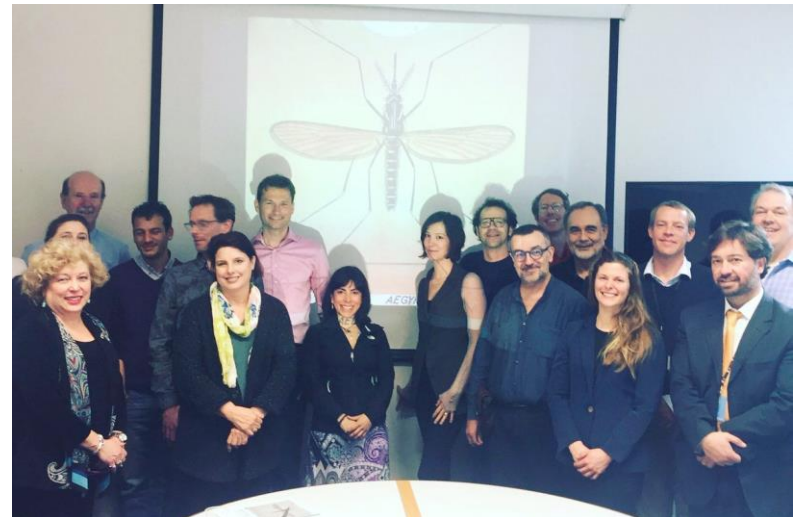
Citizen science  
is **structure**  
and **scale.**

# Global Mosquito Alert: History

- **2014-present:** CS Mosquito monitoring begins (everywhere)
- **2015:** (ECSA) Conference in Barcelona
- **2016:** ECSA Policy Working Group charters a Mosquito Task Force
- **2017:** UNEP host a workshop in Geneva

“The Global Mosquito Alert will be an open, common set of **protocols**, **platform**, and **toolkit** that is augmented with modular components created to meet both global and local research and management needs.”

- **2017:** NASA DEVELOP



# Global Mosquito Alert: 4 Protocols



1



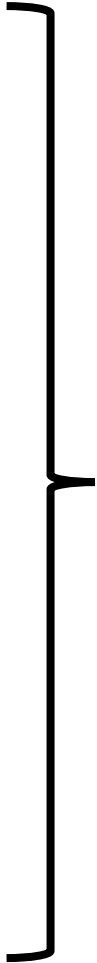
3



2



4



X

Y

Z

# Global Mosquito Alert: Partners

## Mosquito Alert, Spain/ Catalonia

- *Aedes albopictus* (Zika) and *Aedes aegypti* (yellow fever)
- App + visualization platform for species presence via photo and breeding site
- **9,301** reports (**3,473** validated)



# Global Mosquito Alert: Partners




## Muggenradar, Netherlands

Any and all species for forecasting



Legend



-  *Culex pipiens pipiens*
-  *Culex pipiens molestus*
-  Hybrid



**5236** citizen scientists

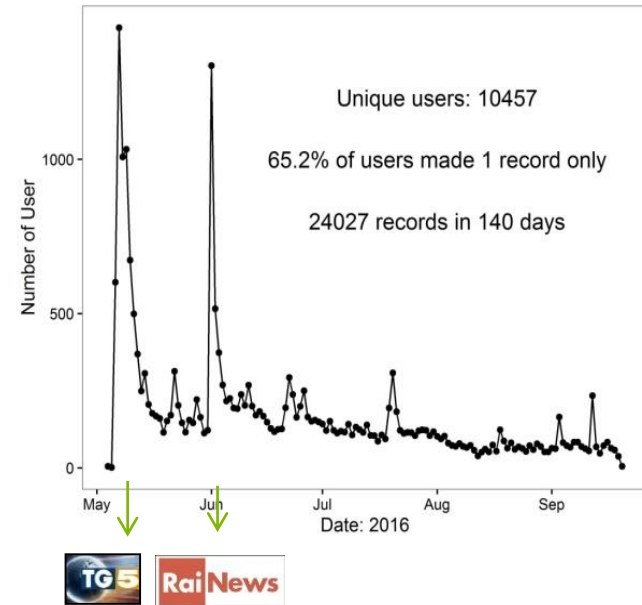
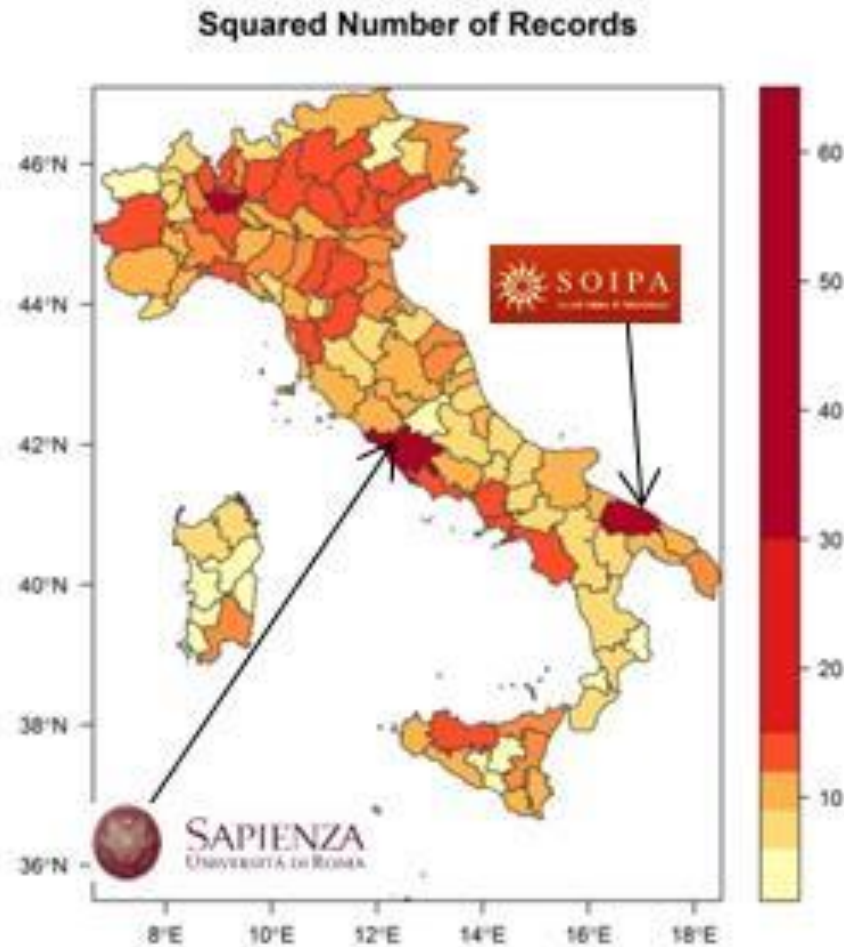
**193** pictures (all)

**3593** samples (all)



# Global Mosquito Alert: Partners

## Zanzamapp, Italy

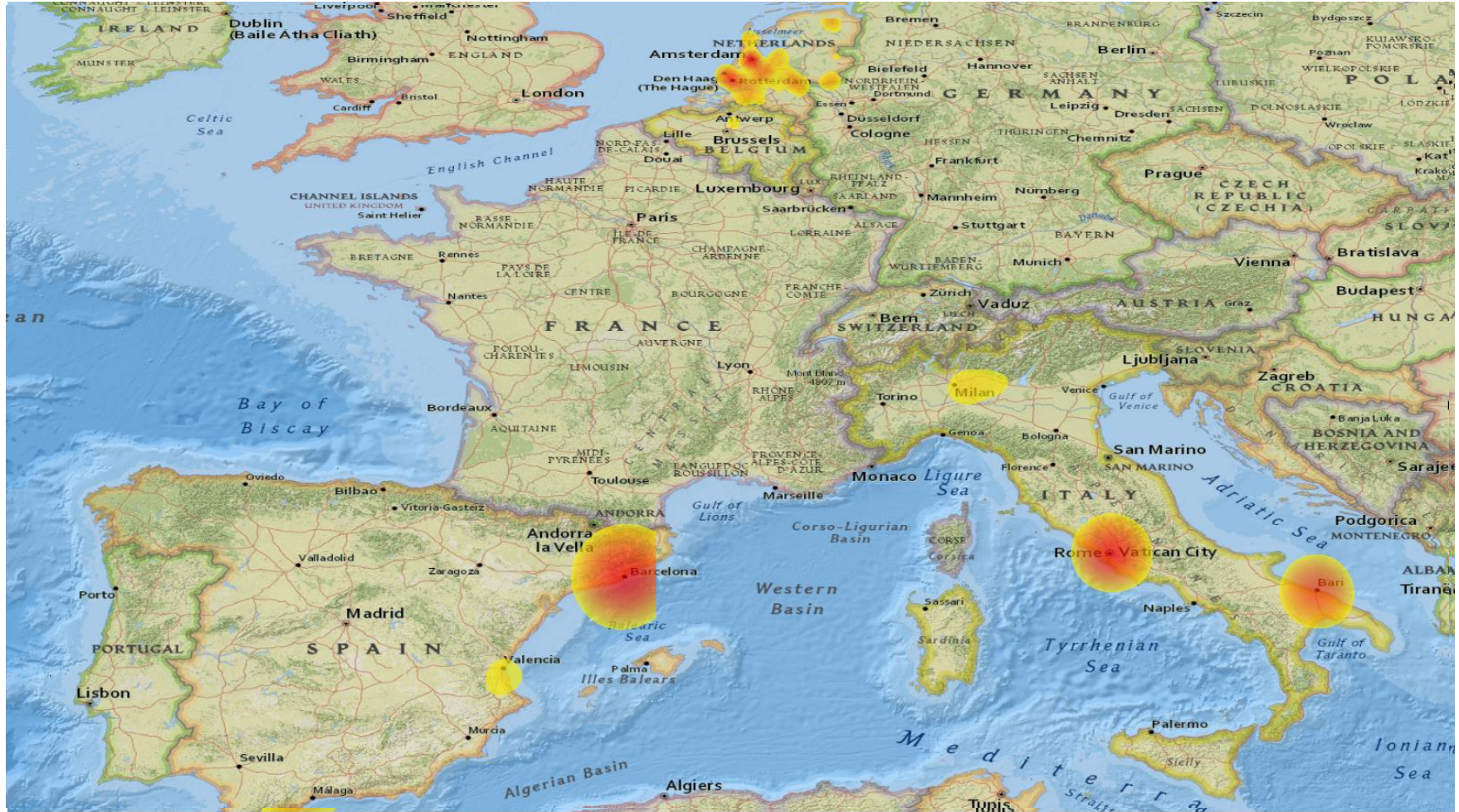


**10,457** observations

- *Aedes albopictus* – *Culex pipiens*
- General public
- Insecticide sprayings



# Global Mosquito Alert

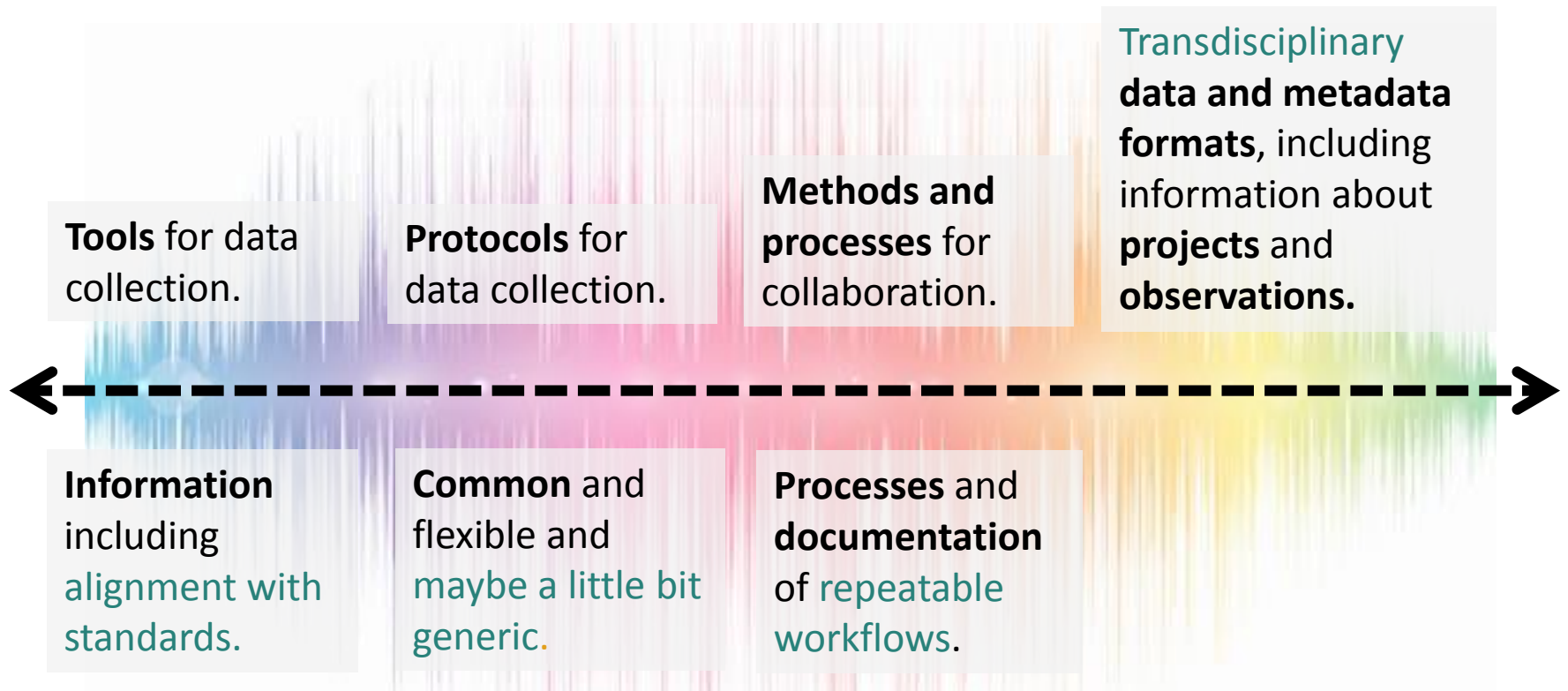


## Early Findings with MODIS and SRTM (++)

- Not all data are “good,” “open,” or “obvious.”
- Value to integration ...no issues beyond **other scientific research.**

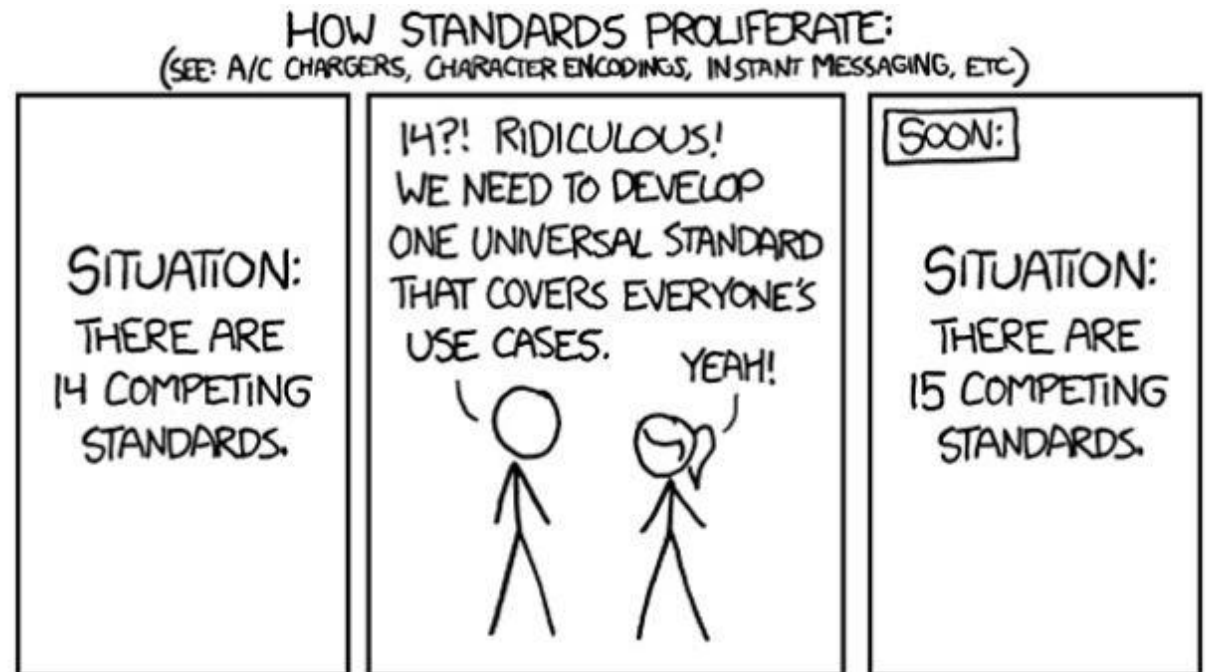


# Lessons for Citizen Science Standards



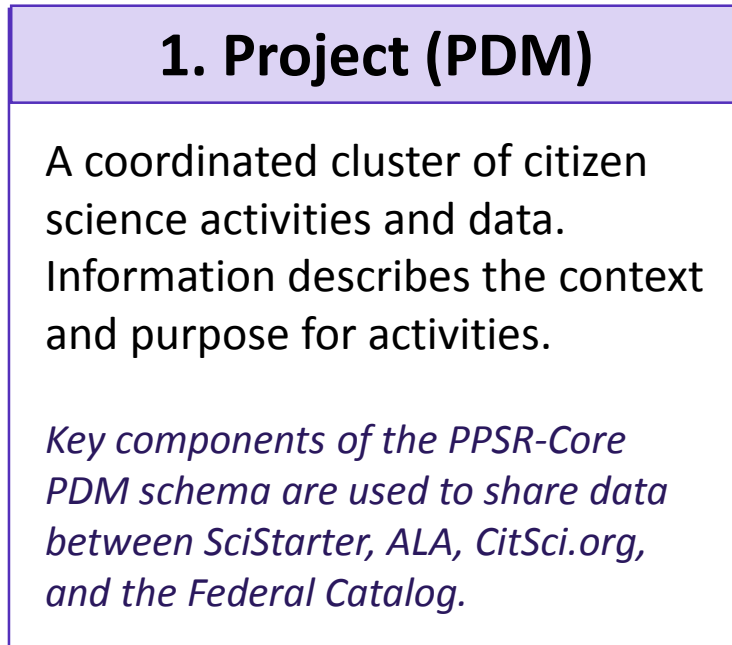
# Public Participation in Scientific Research (PPSR)-Core

A Common Data Model (CDM) with three main schemas



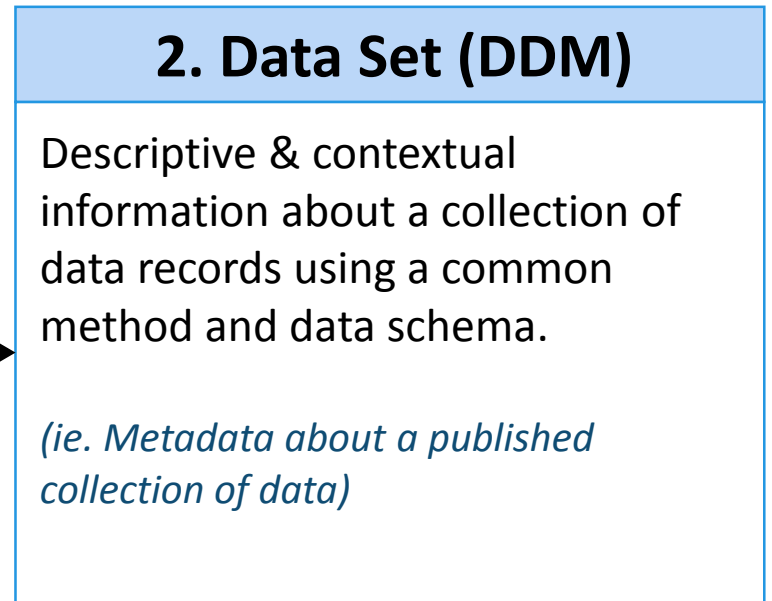
# PPSR-Core

## A Common Data Model (CDM) with three main schemas

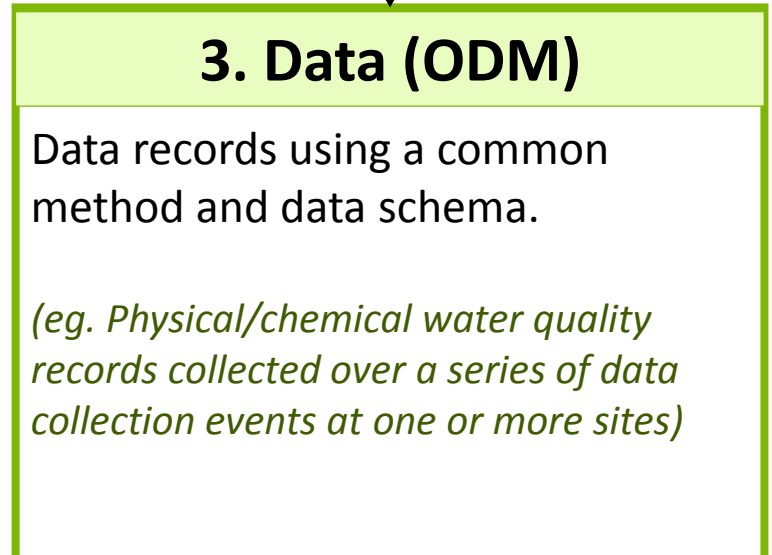


may have

0 : n



will have  
↓  
1 : n



# PPSR-Core: History

DataONE



Biodiversity  
Information  
Standards  
TDWG

2010-2012

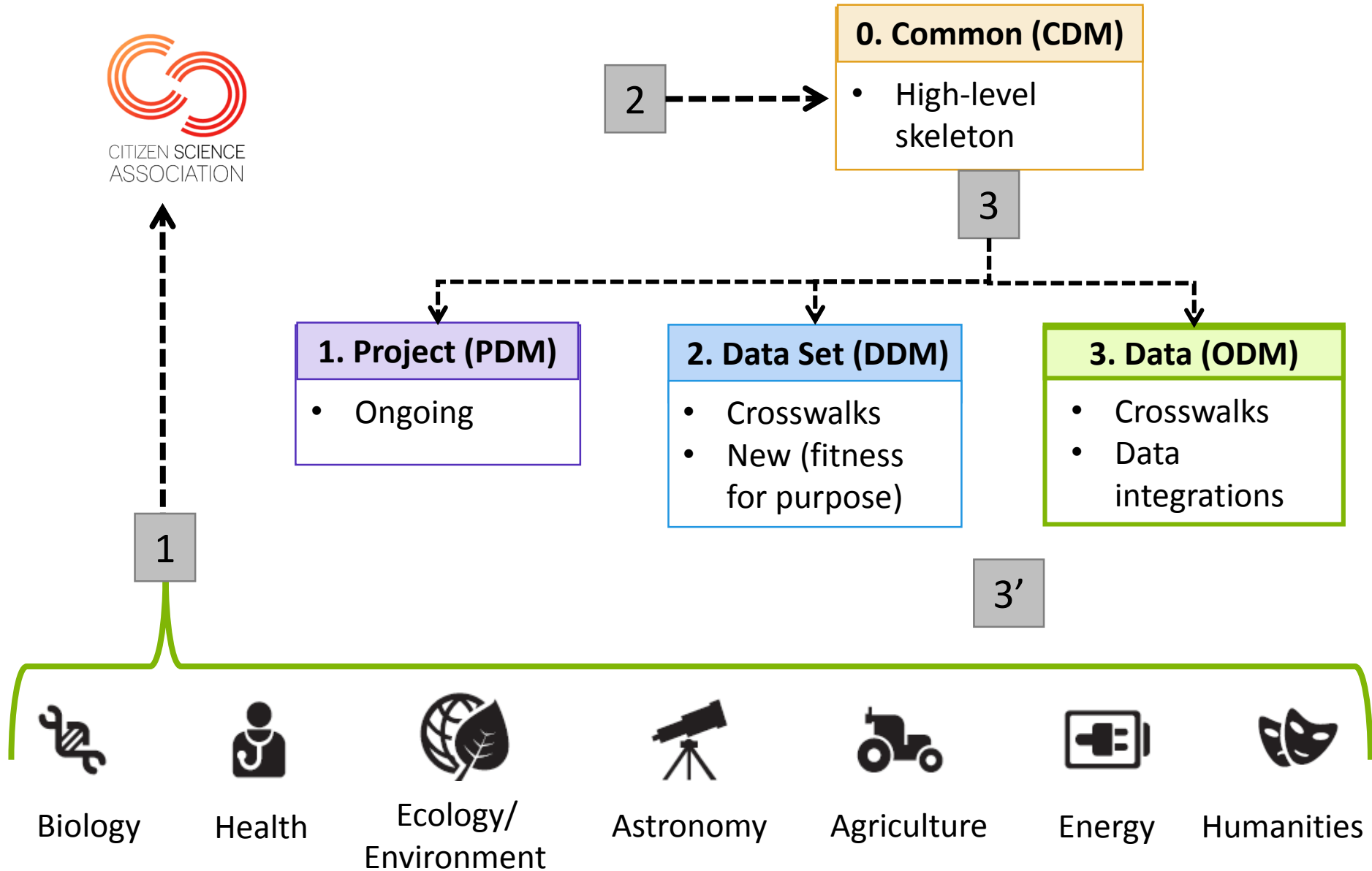
2013-2014

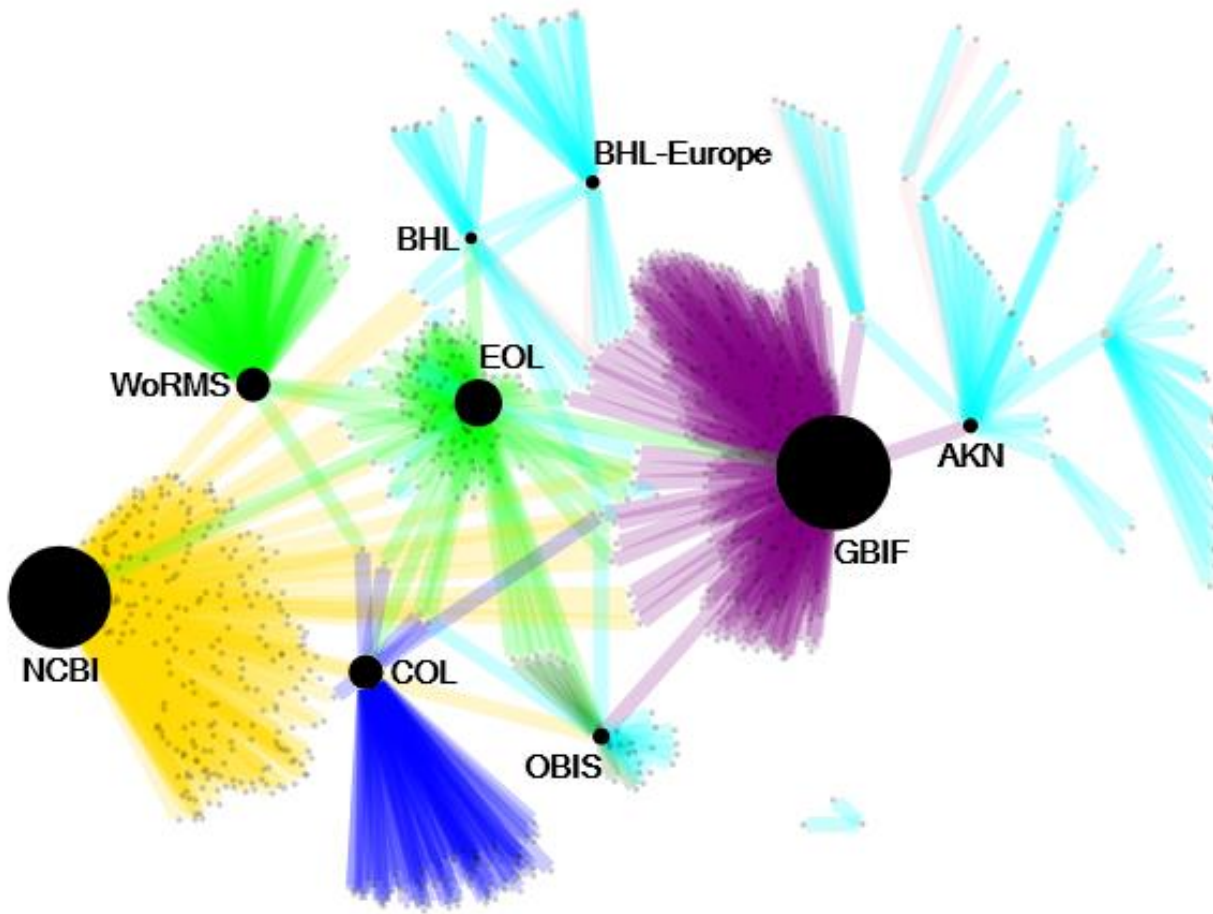
2015

2016 +

- **Why:** Understand and document citizen science
- **Why:** Develop *Project Metadata* standards to share records between 4 databases
- **Why:** Build a 5<sup>th</sup> database that is compatible with the other 4
- **Why:** Create and document parallel processes for knowledge generation and use

# PPSR-Core: Next Steps





Created by NodeXL

# Thank You

Stay in touch

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