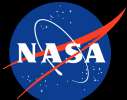


SUNRISE

GROUND RADIO LAB



Partnership Between





sunrise.umich.edu



radiojove.gsfc.nasa.gov

Contributors: Soni, S.L.; Higgins, C.; Akhavan-Tafti, M.; Fung, S.

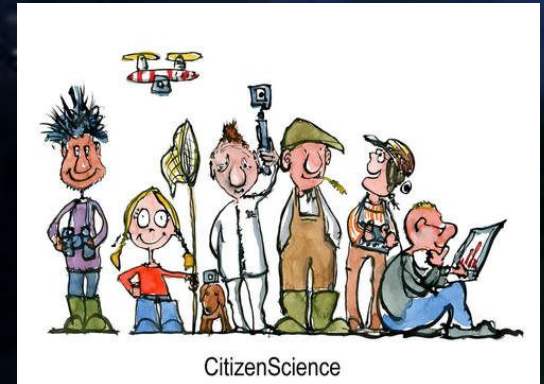
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Training Module 4.1

Overview of Citizen Science Project

OVERVIEW

- **What is Citizen science?**
- **Citizen Science Areas**
- **Importance of citizen science**
- **Challenges and Limitations of Citizen Science**
- **Citizen Science platform (NASA)**
- **Knowledge exchange and helpful links**



WHAT IS CITIZEN SCIENCE TODAY?

“Scientific work is undertaken by members of the general public, often in collaboration with or under the direction of professional scientists or scientific institutes”

(Oxford english dictionary)

- **Public participation in scientific research**
- **Participatory research**
- **Community science**
- **Community based monitoring**
- **Activist science**
- **Action research**

1. Wide range of activities

2. With in wide range of scientific fields



Citizen Science..

The term emerges

Contributions to observations to science

Audubon Society (1989)

- Citizens collecting and analysing observation.
- Participation in terms of location and sites.
- Participating in instrumentation.



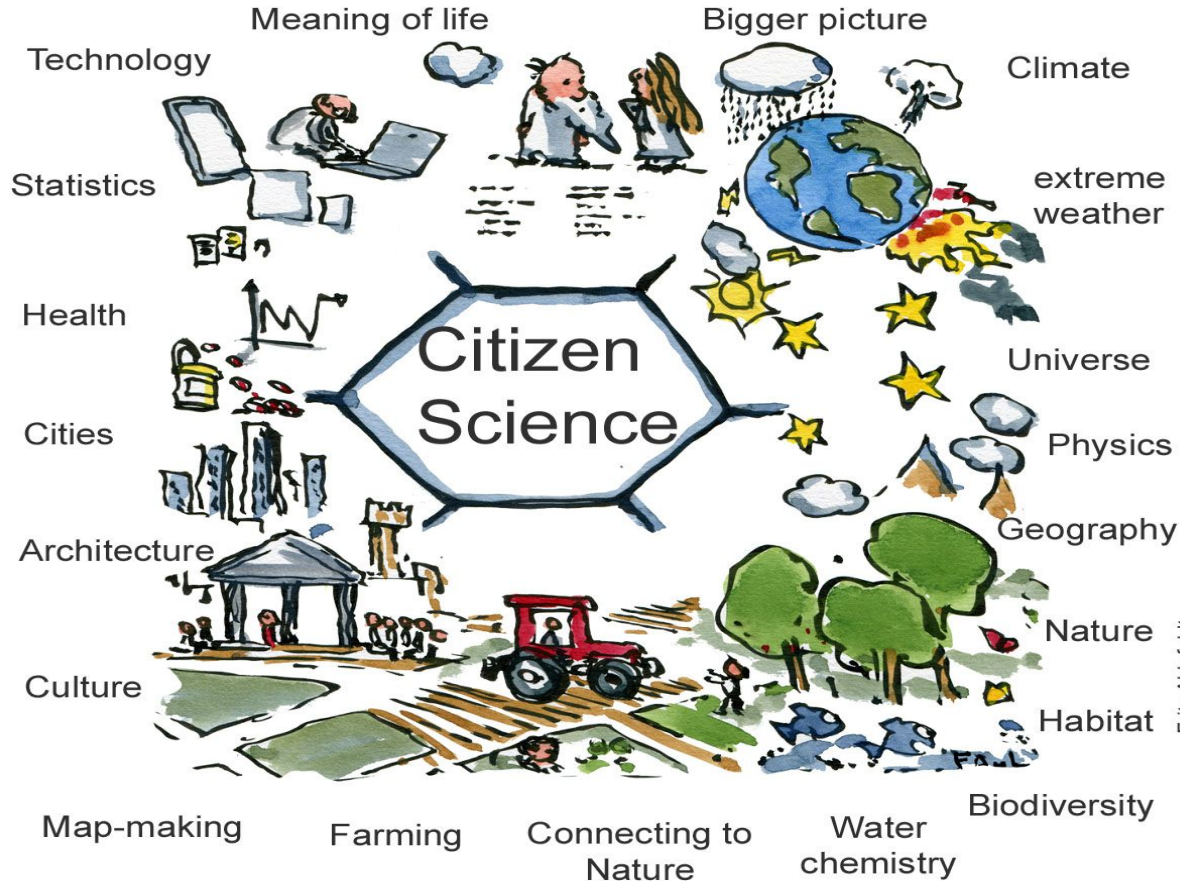
Democratization of science

Alon Twin (1995)

- Democrat, participatory science to address needs and concern of citizens.
- Citizens could able develop process of producing reliable knowledge themselves.
- Participate can influence and transform science.



Citizen science - some areas:



Frits Ahlefeldt

WHY THEY NEED...

➤ Core contribution of observations to science

- More data
- Achieve temporal and geographical coverage
- Access to resources
- Produce scientific outputs

➤ Exclusive

- Increase awareness of science issues
- Increase scientific literacy

➤ Democratisation of science

- Increase inclusiveness and diversity
- Empowerment of the public



CHALLENGES AND LIMITATIONS OF CITIZEN SCIENCE

A. Accuracy in data and quality control

B. Bias and representativeness

C. Communication and engagement

D. Data management and privacy

E. Ethical considerations

➤ **NASA Citizen Science policy document:**

➤ <https://smd-prod.s3.amazonaws.com/science-red/s3fs-public/atoms/files/SPD%2033%20Citizen%20Science.pdf>

➤ **10 Principal of Citizen Science:**

➤ <https://osf.io/xpr2n/wiki/home/>

➤ **Contours of Citizen Science:**

➤ [Contours of Citizen Science \(Royal Society\)](#)



WANT TO WORK ON SOME REAL NASA SCIENCE?

Citizen Science Projects

Scientists

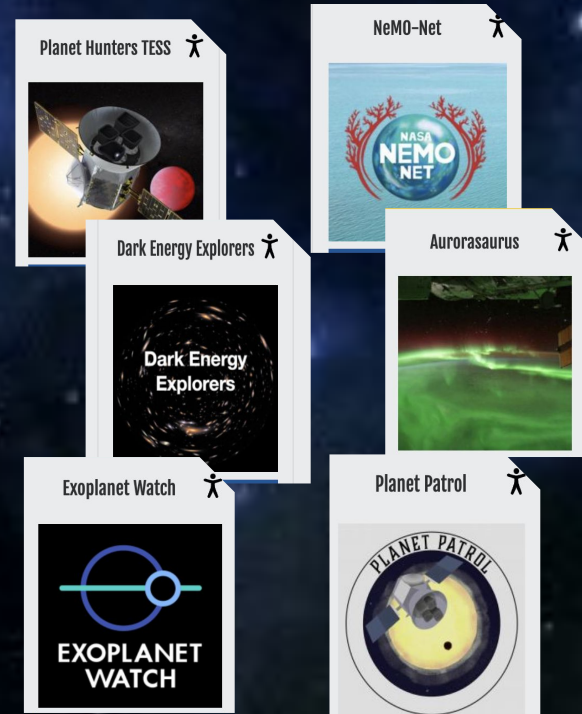


Volunteers

+36 Projects are open to everyone around the world, not limited to U.S. citizens or residents.

+410 NASA Citizen Scientists have been named as co-authors on refereed scientific publications.

Many projects can be done by Anyone, Anywhere, with just a cellphone or laptop. (for exp: RadioJOVE etc)



Many more...

OTHER GREAT RESOURCES AND PLATFORMS:

- **Scistarter**

<https://scistarter.org/>

- **Galaxy Zoo**

<https://www.zooniverse.org/projects/zookeeper/galaxy-zoo/>

- **Globe at Night**

<https://globeatnight.org/>

- **Globe Observer**

<https://observer.globe.gov/>

- **Sungrazer**

<https://sungrazer.nrl.navy.mil/>

Let's START together....

It's fun!



Thanks for attention!

