AMERICAS SYMPOSIUM 2020
Better Together: Geospatial Information

SESSION 4 – SUSTAINABLE DEVELOPMENT GOALS (SDGs)

CITIZEN SCIENCE AND THE SDGS

Monday September 7, 2020

Bridging the Divide : Connecting Earth Observations, Statistical and Geographic Information for Better Decision Making

#2020AmericasSymposium

IIASA/ Dilek Fraisl

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Dilek Fraisl, Research Scholar, International Institute for Applied Systems Analysis (IIASA)

IIASA/ Presentation Agenda

- Background
- Methodology
- Results
- Examples/Success Stories
- Challenges, Gaps and Opportunities
- Summary/Key Takeaways

https://link.springer.com/article/10.1007/s11625-020-00833-7

Sustainability Science
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ORIGINAL ARTICLE

Mapping citizen science contributions to the UN sustainable development goals

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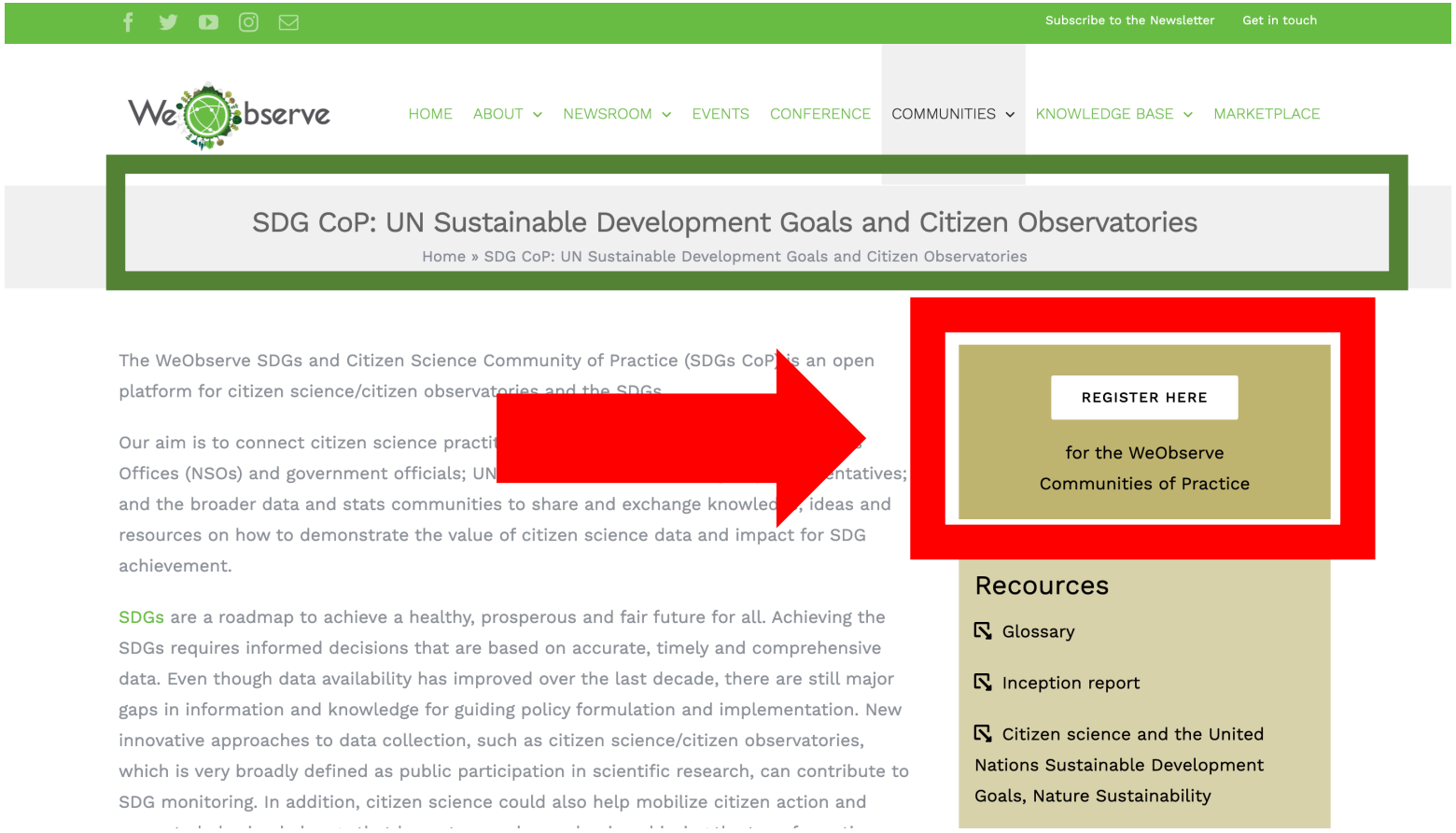
Abstract
The UN Sustainable Development Goals (SDGs) are a vision for achieving a sustainable future. Reliable, timely, comprehensive, and consistent data are critical for measuring progress towards, and ultimately achieving, the SDGs. Data from citizen science represent one new source of data that could be used for SDG reporting and monitoring. However, information is still lacking regarding the current and potential contributions of citizen science to the SDG indicator framework. Through a systematic review of the metadata and work plans of the 244 SDG indicators, as well as the identification of past and ongoing citizen science initiatives that could directly or indirectly provide data for these indicators, this paper presents an overview of where citizen science is already contributing and could contribute data to the SDG indicator framework. The results demonstrate that citizen science is "already contributing" to the monitoring of 5 SDG indicators, and that citizen science "could contribute" to 76 indicators, which, together, equates to around 33%. Our analysis also shows that the greatest inputs from citizen science to the SDG framework relate to SDG 15 Life on Land, SDG 11 Sustainable Cities and Communities, SDG 3 Good Health and Wellbeing, and SDG 6 Clean Water and Sanitation. Realizing the full potential of citizen science requires demonstrating its value in the global data ecosystem, building partnerships around citizen science data to accelerate SDG progress, and leveraging investments to enhance its use and impact.

Keywords Sustainable Development Goals (SDGs) · Citizen science · SDG indicators · Tier classification for SDG indicators · Crowdsourcing · Community-based monitoring

https://www.weobserve.eu/weobserve-cop4-sdgs/



Public Participation

- From projects, where citizens primarily contribute data to initiatives citizens design the research with scientists.

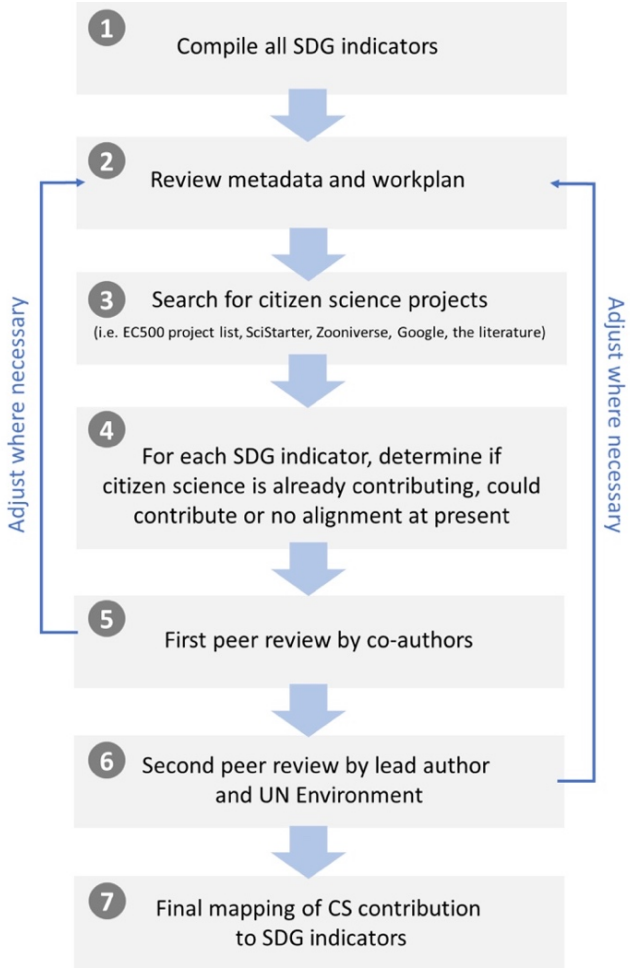
Voluntary contribution

- Contributions on voluntary basis; no professional background or disposable income.

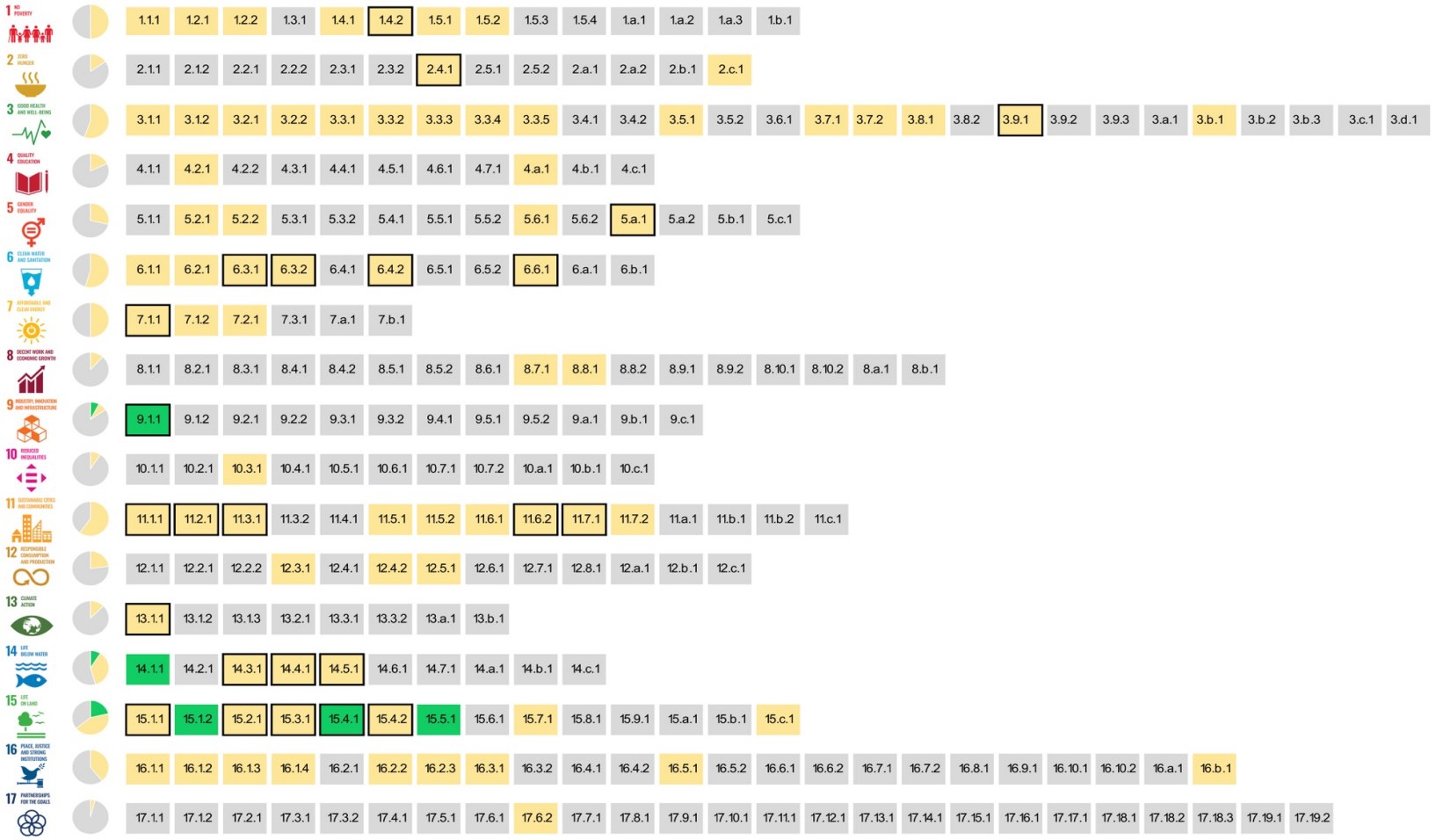
Knowledge production

- Production of scientific knowledge and clear research outcomes that include monitoring & observation.

Methodology



Results


1 1.1.1 1.2.1 1.2.2 1.3.1 1.4.1 1.4.2 1.5.1 1.5.2 1.5.3 1.5.4 1a.1 1a.2 1a.3 1b.1
2 2.1.1 2.1.2 2.2.1 2.2.2 2.3.1 2.3.2 2.4.1 2.5.1 2.5.2 2.a.1 2.a.2 2.b.1 2.c.1
3 3.1.1 3.1.2 3.2.1 3.2.2 3.3.1 3.3.2 3.3.3 3.3.4 3.3.5 3.4.1 3.4.2 3.5.1 3.5.2 3.6.1 3.7.1 3.7.2 3.8.1 3.8.2 3.9.1 3.9.2 3.9.3 3.a.1 3.b.1 3.b.2 3.b.3 3.c.1 3.d.1
4 4.1.1 4.2.1 4.2.2 4.3.1 4.4.1 4.5.1 4.6.1 4.7.1 4.a.1 4.b.1 4.c.1
5 5.1.1 5.2.1 5.2.2 5.3.1 5.3.2 5.4.1 5.5.1 5.5.2 5.6.1 5.6.2 5.a.1 5.a.2 5.b.1 5.c.1
6 6.1.1 6.2.1 6.3.1 6.3.2 6.4.1 6.4.2 6.5.1 6.5.2 6.6.1 6.a.1 6.b.1
7 7.1.1 7.1.2 7.2.1 7.3.1 7.a.1 7.b.1
8 8.1.1 8.2.1 8.3.1 8.4.1 8.4.2 8.5.1 8.5.2 8.6.1 8.7.1 8.8.1 8.8.2 8.9.1 8.9.2 8.10.1 8.10.2 8.a.1 8.b.1
9 9.1.1 9.1.2 9.2.1 9.2.2 9.3.1 9.3.2 9.4.1 9.5.1 9.5.2 9.a.1 9.b.1 9.c.1
10 10.1.1 10.2.1 10.3.1 10.4.1 10.5.1 10.6.1 10.7.1 10.7.2 10.a.1 10.b.1 10.c.1
11 11.1.1 11.2.1 11.3.1 11.3.2 11.4.1 11.5.1 11.5.2 11.6.1 11.6.2 11.7.1 11.7.2 11.a.1 11.b.1 11.b.2 11.c.1
12 12.1.1 12.2.1 12.2.2 12.3.1 12.4.1 12.4.2 12.5.1 12.6.1 12.7.1 12.8.1 12.a.1 12.b.1 12.c.1
13 13.1.1 13.1.2 13.1.3 13.2.1 13.3.1 13.3.2 13.a.1 13.b.1
14 14.1.1 14.2.1 14.3.1 14.4.1 14.5.1 14.6.1 14.7.1 14.a.1 14.b.1 14.c.1
15 15.1.1 15.1.2 15.2.1 15.3.1 15.4.1 15.4.2 15.5.1 15.6.1 15.7.1 15.8.1 15.9.1 15.a.1 15.b.1 15.c.1
16 16.1.1 16.1.2 16.1.3 16.1.4 16.2.1 16.2.2 16.2.3 16.3.1 16.3.2 16.4.1 16.4.2 16.5.1 16.5.2 16.6.1 16.6.2 16.7.1 16.7.2 16.8.1 16.9.1 16.10.1 16.10.2 16.a.1 16.b.1
17 17.1.1 17.1.2 17.2.1 17.3.1 17.3.2 17.4.1 17.5.1 17.6.1 17.6.2 17.7.1 17.8.1 17.9.1 17.10.1 17.11.1 17.12.1 17.13.1 17.14.1 17.15.1 17.16.1 17.17.1 17.18.1 17.18.2 17.18.3 17.19.1 17.19.2

Litter Intelligence

Sustainable Coastlines

LITTER SURVEY #01 • 25 October 2018 • Waikanae Beach, Gisborne, New Zealand **www.sustainablecoastlines.org/litterproject**

FreshWaterWatch

ldwork conducted by FreshWater Watchers

rce: Earthwatch Institute

6.3.2 - Proportion of bodies of water with good ambient water quality

FreshWaterWatch has a global water quality database based on the contributions made by 8,000+ citizen scientists for more than 2,500 water bodies.

Picture Pile

Mapping Info Sheet

File Edit View Insert Format Data Tools Add-ons Help All changes saved in Drive

Global Forest Watch, LACO-Wiki; Picture Pile: Deforestation, FotoQuestGo

H	J	K	L	M	N
s, combat desertification, and halt and reverse land degradation and halt biodiversity loss					
Tier I		Global Forest Watch, LACO-Wiki; Picture Pile: Deforestation, FotoQuestGo		https://www.globalforestwatch.org/ https://laco-wiki.net/en/Welcome https://geo-wiki.org/games/picturepile/ http://fotoquest-go.org/en/	High quality remote sensing imagery of areas with forest cover is widely available, and citizen science approaches, such as participa crowdsourcing, volunteerd geographic information and more are v identifing and categorising the nature of forest cover, and forest c are a large number of existing citizen science initiatives that focus topic.
Tier I	eBird, Bird Track, Seabirds, PanEuropean Common Bird Monitoring Scheme, International Water Bird Census, IBA Canada Regional Caretaker Networks, Maritime Breeding Bird Atlas, North American Breeding Bird Survey, INaturalist, Natura Alert, and many more bird monitoring & biodiversity projects...			Call recording with Stuart Butchart - Birdlife International https://www.cepf.net/sites/default/files/iba-statusreport2015.pdf https://ebird.org/news/birdlife-americas https://www.birdlife.org/sites/default/files/attachments/iba-monitoring-factsheet-birdlife-international.pdf https://www.birdlife.org/sites/default/files/attachments/iba-monitoring-factsheet-birdlife-international.pdf	Citizen science is already informing this indicator on protected ar Important Bird and Biodiversity Areas (IBAs) and Key Biodiversi schemes (Fritz et al, 2019; SDSN TReNDS, 2019). 44% of each f of each terrestrial KBA is covered by existing protected area boun 2019). The largest subset of KBAs is identified using data on bird Hence, all the projects mentioned here (eBird, Bird Track, PanEur Bird Monitoring Scheme, International Waterbird Census, etc.), a the fields of bird monitoring and biodiversity, are already contribu monitoring of this indicator.
Tier I		Relasphone, Amazon Aerobotany, Moabi DRC, Logging Roads, FotoQuest Go, Forest Eyes, Forest Watchers, Picture Pile		https://www.mdpi.com/2072-4292/8/10/869 http://info.perunature.com/aerobotany http://rdc.moabi.org/en/ https://blog.globalforestwatch.org/people/tracing-the-paths-to-forest-destruction-new-crowdsourcing-initiative-tackles-logging-roads-in-the-congo-basin http://fotoquest-go.org/en/ https://blog.iiasa.ac.at/2016/05/17/picture-pile-gaming-for-science/ https://geo-wiki.org/games/picturepile/	The citizen science initiatives mentioned in the column to the left direct inputs to some of this multi-part indicator. One of the sub-i on both the direction of change (whether there is a loss or gain in how this rate is changing over time; the latter is important in orde progress among countries that are losing forest area, but have mar their rate of annual forest area loss.

Way Forward – Some of the Recommendations

- Building awareness and sharing experiences on the use of citizen science for the SDGs;
- Developing case studies or success stories where citizen science data have been used in innovative ways by NSOs;
- Identifying criteria for ensuring data quality or data quality assurance procedures;
- Integrating citizen science into the methodologies of SDG indicators

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Thank You

Questions and answers will be received after the final presentation in this session.

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