2nd International Society for Digital Earth International Lectures series

Citizen Science and Civic Monitoring
Supporting Law Enforcement: A New Frontier?

Anna Berti Suman
The turn to sensing, setting the scene
SENSJUS

Sensing for Justice

https://sensingforjustice.webnode.it/

PI: Anna Berti Suman

Digital Economy Unit
The European Commission
Joint Research Centre
SENSJUS: Citizen Sensing

I - as a source of evidence in environmental litigation

II - and as a tool to mediate the environmental conflict

III - leading eventually to a new right, i.e. the right to contribute to environmental information when the official one is scarce

Video trailer: https://www.youtube.com/watch?v=qjklf9ehc-g
Citizen-gathered data for law enforcement
Civic monitoring to mediate the conflict
Towards a right to contribute environmental information
In complex contexts, new legitimized actors emerge
Resisting informational monopolies
Environmental (health) crises challenges the social contract and delegation paradigm

Complex problems + vacuum in political leadership
Governance and legal adaptations needed?
Trends and break points: zooming in and out

CITIZEN SCIENCE IN TIME

AROUND 200.00 YEARS AGO, SINCE THE HOMO SAPIENS
Surviving by sensing the environment

1800-1900 PROGRESSES IN MODERN SCIENCE
Civic contribution through monitoring becomes instrumental to official science

PRESENT DAYS AI PROGRESSES, UNFOLDING CRISIS, SCIENCE DENIALISM
Sensing becomes an expression of distrust, people 'take back the sense' to claim rights

1700-1800 THE INDUSTRIAL REVOLUTION
Sensing becomes also a way to advance social protests for occupational and public health degradation, but also to reconnect with nature

EARLY 2000 EVOLUTION OF SENSING AND MAPPING TECHNOLOGIES
Sensing capabilities of ordinary people are boosted by the wide availability of mobile devices and by progress in data science
Exploring the Policy Uptake of civic monitoring
Between ‘resistance, reference and representation’...
Hypothesis testing
Scenario 1

Type of the initiative: cooperative
Initiator: civic, with initial EU funding
Authority’s attitude: champion
Existing of a legal provision supporting CGD: yes
Public dataset for environmental data open to public contribution: yes
Ownership of the infrastructure: co-owned by the authority and by the citizens/by the initiative

Scenario 2

Type of the initiative: critical but open-minded
Initiator: an independent governmental agency
Authority’s attitude: in transformation
Existing of a legal provision supporting CGD: not, but derivable from interpretation of existing norms or from case law
Public dataset for environmental data open to public contribution: in potential (infrastructure in place but not yet contributed by the citizens)
Ownership of the infrastructure: owned by the authority

Scenario 3

Type of the initiative: counter-system, reactive, distrusting
Initiator: a collective of local citizens funded through crowdfunding
Authority’s attitude: in conflict with the citizens
Existing of a legal provision supporting CGD: no
Public dataset for environmental data open to public contribution: no
Ownership of the infrastructure: NA
Turning to the Judicial Uptake of civic monitoring
An impactful case, also high Social Uptake
No More Nurdles? Formosa’s Agreement to Stop Pumping Plastics Into Lavaca Bay Is Historic

Gulf Coast citizen-activists collected 30 million plastic pellets in order to prove that Formosa was violating the Clean Water Act.
Methodology & the encounter with the plaintiffs
Original traits of the case

Looking for patterns

Possible ‘winning ingredients’

Implications for (European) environmental litigation → starting from a case in Basilicata, South Italy
Associazione Cova Contro – Attività di Monitoraggio – Informativa di Anomalie in Acque Interne (IAAI)

Data/Tempi Rapporto: 2022-12-29T22:00Z
Fonte dati: Landsat 8 L2 e Sentinel-2
Strumenti: OLI TIRS e MSI
Risoluzione: 30 e 20 metri
Data/Tempi Immagine: 2022-12-22T14:09:35Z
2022-12-26T14:09:54Z

Algoritmo Sentinel-Hub services: Cyanobacteria Chlorophyll-a NDCI L1C
https://www.ethz.ch/cyanobacteria党/cyanoa_comp.html

Lago dei Pertusillo – ancora presente il probabile inquinamento da idrocarburi in combinazione con fioriture algali.

Osservazioni: Elaborazione in RGB della immagine Landsat 8 L2 del 22/12/2022 e dell’algoritmo Cyanobacteria Chlorophyll-a NDCI L1C per Sentinel 2 del 26/12/2022.
Lo stato di inquinamento nel Lago per la presenza di alghe e idrocarburi è intuibile anche il giorno 22 dicembre 2022.
Il giorno 28 dicembre 2022, anche se con la presenza di nubi isolate, il probabile inquinamento tende a dirigersi verso la porzione centrale del Lago.
Si rimane in attesa delle risposte delle analisi chimico-fisiche delle acque e aggiornamenti dedotti da dati satellitari.

Elaborazione: Dott. Massimo Morigi
Software impiegati per l’analisi:
Envi 5.6.2, SNAP, QGIS 3.24.3
associazionecovacontro@gmail.com
Also important to consider: the law as a barrier to equal risks (e.g. SLAPPs, defamation claims, trespassing) for the monitoring of people; personal health risks?
How do we study civic monitoring for law enforcement?
Engaged research
Emotional story-telling to elicit research findings
International recognition of the importance of the theme

Falling Walls Award for "Breaking the Wall to Civic Evidence of Environmental Harms"
Thank you for your attention!

Twitter: @Abesuman - Instagram: sensing_for_justice
Contact: Anna.BERTI-SUMAN@ec.europa.eu
Updates at: https://sensingforjustice.webnode.it