Table A. Case studies

ID	Authors	Title	Study objective	Thematic area	Role of crowdsourcing	Benefits of crowdsourcing	Disadvantages of crowdsourcing
CS01	Fernando Nardi, Ch	Citizens AND HYdrology (CAN	The study goal is to conceptualize	T8	R3	B1, B2, B3, B4, B5	D9, D10, D11
CS02	Livia Fritz, Ulli Vilsm	Explore, engage, empower: n	Authors studies of housing conditi	T1, T15	R1, R4	B1, B2, B5, B6, B7, B12	D2, D4
CS03	Spasiano, A., Nardi,	Engagement of online comm	The aim of the paper is to pose ge	T8	R3, R4, R5, R6	B3, B5, B8	D1, D2
CS04	Angela Saraò, Alber	On the crowdsourcing of ma	As a case study, authors consider	T9	R3, R4, R6	B9, B10, B13	D3, D9
CS05	Ryan Mattke, Kirste	Mapping Prejudice: The Map	The team used digitized public rec	T11	R1, R2, R3, R4, R5, R6	B1, B2, B14	D1, D8, D9
CS06	Bryan J. Hubbell, An	Understanding social and beh	This paper uses a risk governance/	T12	R3, R4	B15	D9, D11
CS07	Andrea Taylor , Chri	Defining research priorities fo	This study aimed to define prioriti	T1	R1, R2, R3, R4, R5, R6	B3, B15	D3, D4
CS08	Elizabeth Henshilwo	A Transdisciplinary Inquiry Int	Transdisciplinary study of sustaina	T14, T6	R1, R2, R3, R4, R5, R7	B1, B3	D3, D4
CS09	Mazdak Nik-Bakht,	Sus-tweet-ability:Exposingpu	In this study, the authors start with	T13	R1, R2, R3, R4, R5	B16	D2, D3, D9
CS10	CARLO BONO et al.	A Citizen Science Approach fo	Ad 1 - This study proposes an appr	T14, T15	R1, R2, R3, R5	B2, B3, B5, B9, B10	D1, D2, D8, D9
CS11	A. M. Durso et al.	Crowdsourcing snake identifi	The study goals were to (i) assess	T1, T3	R2, R3, R5	B1, B2, B4, B8, B9, B10, B14	D2, D3

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Item	Description
Thematic area of a transdisciplinary project	T1. Health
	T2. Transport
	T3. Education
	T4. Weather
	T5. Poverty
	T6. Renewables
	T7. Circular economy
	T8. Hydrology
	T9. Seismology
	T10. Geophysics
	T11. Cartography
	T12. Air quality
	T13. Urban infrastructure
	T14. Monitoring Climate Impacts
Role of crowdsourcing	R1. Constitution of a group (team member)
	R2. Comprehension
	R3. Collection (source of data)
	R4. Collaboration
	R5. Co-creation
	R6. Collective implementation (co-implementation)

Benefits of crowdsourcing	B1. Knowledge development (new knowledge)
	B2. Awareness raising to encourage more informed actions by concerned citizens and other stakeholders (social awareness)
	B3. Gaining novel insights from citizens' and other stakeholders (social context)
	B4. Support the development of accumulated knowledge
	B5. Stimulate behaviour change and actions from citizens and stakeholders
	B6. Strengthened stakeholders' ability to engage with, and shape, transformation pathways
	B7. Blur a clear-cut division of roles (scientists engaged not only as professionals but as citizens too)
	B8. Enhance decision-making processes
	B9. Crowdsourcing data collection opens new scenarios for a better understanding of risks and improved awareness and preparedness through citizen participation.
	B10. Social media has greatly facilitated the dissemination of the initiative and the collection of data.
	B11. Extensive involvement of future users in co-creating knowledge and solutions
	B12. Relatively low implementation cost of crowdsourcing
	B13. Community involvement has significantly developed the project
	B14. Augmentation of the value of knowledge and the likelihood of developing successful solutions
	B15. The expansion in the number of ideas was observed as the result of participation of the crowd.
Dangers and disadvantages of crowdsourcing usage	D1. Finding participants willing to contribute on a voluntary (unpaid) basis.
	D2. Giving participants the "right tasks" to perform, i.e., appropriate to their knowledge and skill level.
	D3. Unknown social group.
	D4. Fuzziness of social needs and expectations.
	D5. Difficulty in formulating the problem.
	D6. Difficulty matching the solution.
	D7. Maintaining full control over the project (content + participants + ICT tools).
	D8. Lack of control over the timing of analysis and the accuracy, relevance and sufficiency of analytical data
	D9. High requirements in terms of customized tools and technological environment
	D10. Uncertainty about property rights and intellectual property protection
	D11. Lack of long-term government programs and policies to support such projects