NAture Insurance value: Assessment and Demonstration

Risultati

Informazioni relative al progetto

NAIAD

ID dell'accordo di sovvenzione: 730497

Sito web del progetto

DOI
10.3030/730497

Progetto chiuso

Data della firma CE
28 Ottobre 2016

Data di avvio
1 Dicembre 2016

Data di completamento
31 Agosto 2020

Finanziato da
SOCIETAL CHALLENGES - Climate action, Environment, Resource Efficiency and Raw Materials

Costo totale
€ 5 081 176,25

Contributo UE
€ 4 994 370,00

Coordinato da
CONFEDERACION HIDROGRAFICA DEL DUERO
Spain

Questo progetto è apparso in...

13 Agosto 2020

CORDIS fornisce collegamenti ai risultati finali pubblici e alle pubblicazioni dei progetti ORIZZONTE.

I link ai risultati e alle pubblicazioni dei progetti del 7° PQ, così come i link ad alcuni tipi di risultati specifici come dataset e software, sono recuperati dinamicamente da .OpenAIRE.

Risultati finali

Documents, reports (35)

Potential for adopting insurance value in risk management strategies
This final report of WP6 will focus on Task 6.4: Strategies for adopting the insurance value in risk management strategies and will provide one specific analysis (as a specific chapter) per DEMO.

DEMO insurance value assessment report
This report will include one chapter per DEMO and will be based on the work carried out in Task 6.3: Insurance value assessment, taking into account blue and green ecosystem infrastructure.

Guidelines and eco: actuary policy support system
The eco:actuary policy support system online. A series of case study basin relevant intervention scenarios and the tools necessary to understand their impact on natural capital and thus ecosystem services will de developed and deployed within the eco:engine platform such that eco:actuary will be applicable to understand the impact of investments on hazard relevant ecosystem services and compare these with the baseline natural capital stocks throughout Europe. The guidelines of the system will be delivered as a report.

Third Policy Roundtable report and Policy Brief

This report will be based on the outomes of the third annual Policy Roundtable and will take the form of a strategy document to support implementation of measures, or reforms of policies to enhance operationalization capacity of the value of ecosystem services. The third Tailored Guidelines produced within Task 8.3 as an input for the third Policy Roundtable (to be prepared by ICA) will be included as part of the deliverable. Finally, the third NAIAD Policy Brief produced as part of Task 8.2 will be included into this deliverable part of a strategy document to be submitted to the European Commission.

Second update of the Dissemination and Communication Plan

Second annual update of the Dissemination and Communication Plan, with a relevant section on planned exploitation activities.

Costs of infrastructures: elements of method for their estimation

This document summarises the results from Task 4.2: Estimation of Life Cycle Costs for different alternatives (grey, green and hybrids).

Insurance Value of Ecosystems Survey

The report will gather the results of the IVE Survey and analyse on how insurance systems differ from one country to another. The information includes the first and the second rounds of interviews and the minutes of the national seminars linked to national events in some of the demos.

Institutional analysis report: baseline analysis and policy recommendations

This report is related to Task 3.2: Institutional analysis. It is a baseline study including current institutional settings to understand the incentives experienced by each of the actors and be able to recommend potential new institutional (and financing) arrangements.

Report, maps and metadata on areas at risk

D2.2 will provide the metadata, methods, explanation and interpretation of the maps on areas at risk, which will be accessible through the eco:engine platform.

Report, maps and metadata on physical potential hazards

D2.1 will provide the metadata, methods, explanation and interpretation of the maps on physical potential hazards, which will be accessible through the eco:engine platform.

Dissemination and Communication Plan

This deliverable is produced as a result of Task 9.1, led by UNESCO-IHE and co-led by ISKRIVA.

Natural capital and ecosystem services to valuate co-benefits of NBS in water related risk

This document provides the main results and lessons learned from the Task 4.4: Ecosystem services and natural capital accounting for co-benefits valuation.

General framework for the economic assessment of Nature Based Solutions and their insurance value

This report is the output from Task 4.1: Overall methodology to insurance value assessment and co-benefits.

From Bankability to suitability Report

This report will describe the process for identification and description of innovative business models in the demos, including stakeholder interactions and participative processes, as well as report the range of existing and innovative potential business models identified in the different demos for the financing of NBS strategies. It will also develop complete financial arrangements for a selection of pioneer demos that will include the full set of financial contracts and possible governance models, i.e. PPP, public, etc.

Report on the comparative institutional analysis and methods/guidelines

This report provides the results of Task 5.4: Integrated and comparative institutional analysis.

Ambiguity analysis in social risk perception report

This deliverable includes the results from the activities throughout the initial year of NAIAD of the Task 3.1: Social Network Analysis and Problem Structuring Methods and the Task 3.3: Participatory modelling exercise and evaluation methods.

Natural Capital Market integration portrait: From Climate Finance to Insurance - including European survey

Market scoping report of needs, regulatory barriers and drivers on finance and institutional instruments potential to develop nature-based risk reduction infrastructures, including a European survey (led by IRSTEA supported by ICA and other partners). This report will use contributions from Task 7.2: Identification and development of potential range of business models and instruments and Task 7.3: Analytical framework for business models and instruments.

Mapping Insurance value in EU Policy frames Study Report

This mapping exercise will be based on Task 8.1. Mapping of EU policies, legal and regulatory frameworks for insurance capacity of ecosystems.

Guidelines and pilot version of the eco: actuary policy support system

A pilot version of the eco:actuary will be available at month 18 and made accessible to consortium partners and others outside the consortium for testing. All the maps previously generated (see D2.1, D2.2 and D2.3) will be part of the

eco:actuary dataset. The guidelines of this pilot version will be provided as a report.

Conceptual and DEMO roadmap

The deliverable will provide a review of the key theoretical concepts to be grounded and a roadmap of the DEMO activities as key initial inputs for the delivery of the expected impacts of the project. CHD will be directly supported by the project manager for the production of this deliverable, although CHD remains the ultimate responsible.

International good practices in financing and funding nature restoration

Synthesis report of successful examples of innovative ways of capturing value, funding and financing natural restoration, with particular emphasis to insurance and reinsurance industry models.

Catchment characterization report

Report describing the results achieved in Task 6.1: Demo characterization: hazard, stakes, risks and solutions.

DEMOs framework prototype for participatory integrated planning

This is a joint deliverable of WP5 and WP6. In relation to WP5, the report will describe the framework that will allow for interaction with stakeholders and end-users in the different steps of the decision chain (to be developed by Task 5.3), through the underlying participatory models of Task 5.2. This framework will be applied in NAIAD's DEMOs as part of WP6 activities. The obtained results will be described in this deliverable.

Guidelines for the definition of implementation and investment plans for adaptation

This report summarises the results of the WP5, with special emphasis on Task 5.5: Negotiation of preferred strategy and Implementation - Integrating nature-based solutions into adaptation planning.

Recommendation report for enhancing the social acceptance of the NAIAD tools and models

This report will summarise the main outcomes from WP3 and will put a special focus on changes in risk perception for the alignment between social risk perception and risk assessment, which is a crucial pre-condition for supporting policies to reduce the risk.

Information sharing and learning process in risk perception report

This report builds on Tasks 3.1, Task 3.3. and in particular is based on inputs from Task 3.5: Acceptance of policies of climate resilient investment. This latter task will build on previous tasks to evaluate the effectiveness of information sharing strategies in influencing risk perception and, consequently, the behavior of the communities exposed to risk.

Economic water related risk damage estimation

This document provides the results from Task 4.3: Damage valuation, in the form of a methodological report.

Insurance value of ecosystem and co-benefits: method and illustration with the DEMOs application

This is a scientific manuscript that provide illustration among other of co-benefits that improve the “bankability” of nature based solution solutions. This document describes the main results from Task 4.5: Insurance value analysis: Synthesis of the economic valuation of the different DEMOs.

First Policy Roundtable report and Policy Brief

This report will be based on the outomes of the first annual Policy Roundtable and will take the form of a strategy document to support implementation of measures, or reforms of policies to enhance operationalization capacity of the value of ecosystem services. The first Tailored Guidelines produced within Task 8.3 as an input for the first Policy Roundtable (to be prepared by ICA) will be included as part of the deliverable. Finally, the first NAIAD Policy Brief produced as part of Task 8.2 will be included into this deliverable.

First update of the Dissemination and Communication Plan

First annual update of the Dissemination and Communication Plan, putting a higher emphasis on exploitation.

Street Level Guidelines on the insurance value of ecosystems for target audiences

These guidelines will be an outcome from Task 9.4: Capacity-building and NAIAD Training.

From hazards to risk: models for the DEMOs

Report based on Task 6.2: Processes representation / risk modeling. The report will include one chapter per DEMO.

Second Policy Roundtable report and Policy Brief

This report will be based on the outomes of the second annual Policy Roundtable and will take the form of a strategy document to support implementation of measures, or reforms of policies to enhance operationalization capacity of the value of ecosystem services. The second Tailored Guidelines produced within Task 8.3 as an input for the second Policy Roundtable (to be prepared by ICA) will be included as part of the deliverable. Finally, the second NAIAD Policy Brief produced as part of Task 8.2 will be also included into this deliverable.

Scientific papers based on mapping physical potential hazards and insurance-relevant ecosystem services

D2.6 will provide several scientific papers based on the methods and outcomes produced within the WP2: (a) Scientific paper on EU wide ecosystem service

relevant multi-hazard risk [led by KCL, based on D2.1]; (b) Scientific paper on EU wide ecosystem service relevant socio-economic exposure [led by GeoEcoMar, based on D2.2]; (c) Scientific paper on Insurance relevant ecosystem services [led by KCL, based on D2.3] (d) Scientific paper on Resilience in insurance-relevant ecosystem services [led by IGME, based on task 2.7]

Report, maps and metadata of insurance-relevant natural capital and co-benefits

D2.3 will provide the metadata, methods, explanation and interpretation of the maps on insurance-relevant natural capital and co-benefits, which will be accessible through the eco:engine platform.

Websites, patent fillings, videos etc. (3)

Open-web based insurance value platform v1.0

This platform is part of the work to be undertaken within Task 5.1: Data management interface: Insurance value open-Web platform. By month 12, a full version of the platform will be available online.

NAIAD MOOC Course on the Insurance Value of ecosystems

A beta version of the Massive Online Open course wil be delivered at month 34 as an outcome of Task 9.4: Capacity building and NAIAD Training.

Open-web based insurance value platform - outline

This platform is part of the work to be undertaken within Task 5.1: Data management interface: Insurance value open-Web platform. By month 6, an outline will be produced.

Other (1)

Deployment of the community-based monitoring system and implementation of the platform

This activity is linked to Task 3.4: Community-based monitoring system. As a result, a system will be deployed with the aim to allow communities to monitor hazard events using accessible technology and to provide information in near-real time. A short report will document the activity.

Pubblicazioni

Conference proceedings (9)

Precipitation trends in the Medina del Campo groundwater body region (Spain) towards implementing Nature Base Solutions for drought and flood events

Autori: Llorente Isidro, Miguel; Bejarano, María D.; De la Hera, A.; Aguilera, H.
Pubblicato in: European Geosciences Union (EGU), Numero p.19593, 2018
Editore: 20th EGU General Assembly
DOI: 10.13140/rg.2.2.35011.86561

Preliminary analysis of extreme events in the region of Medina del Campo (Spain) through Machine Learning.

Autori: Aguilera Alonso, H.; De la Hera Portillo, A. Llorente, M.; Bejarano, M.D.
Pubblicato in: 2018
Editore: European Geosciences Union (EGU)

Design of a debris retention basin enabling sediment continuity for small events : the Combe de Lancey case study (France)

Autori: Piton, Guillaume; Mano, Vincent; Richard, Didier; Evan, Guillaume; Laigle, Dominique; Tacnet, Jean Marc; Rielland, Pierre Alain
Pubblicato in: Seventh International Conference on Debris-Flow Hazards Mitigation - Proceedings, 2019
Editore: Colorado School of Mines. Arthur Lakes Library
DOI: 10.25676/11124/173113

Understanding the potential of Nature Based Solutions to recover the natural ecosystem services of the Medina del Campo Groundwater Body in the NAIAD EU project

Autori: Faneca, M.; Trambauer, P.; Pescimoro, E.; García-Alcaraz, M.; Altamirano, M. and Manzano, M.
Pubblicato in: Proceedings of the 46th International Association of Hydrogeologists Congress: Groundwater Management and Governance, Coping with Water Scarcity, 2019, ISBN 978-84-938046-3-3
Editore: Iah 2019 Proceedings

Review of the mechanisms of debris-flow impact against barriers

Autori: Poudyal, Sunil; Choi, Clarence E.; Song, Dongri; Zhou, Gordon G.D.; Yune, Chan-Young; Cui, Yifei; Leonardi, Alessandro; Busslinger, Matthias; Wendeler, Corinna; Piton, Guillaume; Moase, Emily; Strouth, Alex
Pubblicato in: Seventh International Conference on Debris-Flow Hazards Mitigation - Proceedings, 2019
Editore: Seventh International Conference on Debris-Flow Hazards Mitigation - Proceedings
DOI: 10.25676/11124/173112

Using 'flood-excess volume' to assess and communicate flood-mitigation schemes
Autori: Bokhove, O; Kelmanson, M; Kent, T; Piton, Guillaume; Tacnet, J.-M
Pubblicato in: Evidence Based Decisions for UK Landscapes - Rural and Urban Land use, Coastal and Inland Waters, Numero 3, 2019
Editore: EGU General Assembly Conference Abstracts

Analysis of piezometric trends in the Medina del Campo Groundwater Body to understand the status and drivers of trends of groundwater-related ecosystem services
Autori: Borowiecka, M.; García-Alcaraz, M and Manzano, M
Pubblicato in: Proceedings of IAH2019, the 46th Annual Congress of the International Association of Hydrogeologists, Málaga (Spain), September 22-27, 2019, 2019, ISBN 978-84-938046-3-3
Editore: Asociación Internacional de Hidrogeólogos – Grupo Español

An attempt to classify malfunctions of steep channel flows justifying building of open check dams or other torrent control works
Autori: Piton, Guillaume; Recking, Alain; Tacnet, Jean-Marc
Pubblicato in: 5th IAHR Europe Congress, Numero 1, 2018
Editore: 5th IAHR Europe Congress
DOI: 10.3850/978-981-11-2731-1_230-cd

Análisis preliminar del índice estandarizado de precipitación para la región de Medina del Campo como indicador de eventos de sequía y precipitación
Autori: Aguilera, H.; De la Hera, A.; Llorente, M.; Bejarano, M.D.
Pubblicato in: 2018
Editore: European Geosciences Union (EGU)

Peer reviewed articles (18)

Engaging stakeholders in the assessment of NBS effectiveness in flood risk reduction: A participatory System Dynamics Model for benefits and co-benefits evaluation
Autori: Alessandro Pagano, Irene Pluchinotta, Polona Pengal, Blaž Cokan, Raffaele Giordano
Pubblicato in: Science of The Total Environment, Numero 690, 2019, Pagina/e 543-555, ISSN 0048-9697
Editore: Elsevier BV
DOI: 10.1016/j.scitotenv.2019.07.059

Aide à la décision par l'application de la méthode AHP (Analytic Hierarchy Process) à l'analyse multicritère des stratégies d'aménagement du Grand Büech à la Faurie
Autori: F. Philippe, G. Piton, J.M. Tacnet, A. Gourhand.
Pubblicato in: SET - Sciences Eaux & Territoires, 2018, ISSN 2109-3016

Editore: INRAE
DOI: 10.14758/set-revue.2018.26.10

Fonctions des barrages de correction torrentielle
Autori: Guillaume Piton, Simon Carladous, Alain Recking, Jean-Marc Tacnet, Frédéric Liebault, Damien Kuss, Yann Queffelean, Olivier Marco
Pubblicato in: Cybergeo, 2019, ISSN 1278-3366
Editore: Centre National De La Recherche Scientifique
DOI: 10.4000/cybergeo.32190

Caractérisation des altérations de la géomorphologie naturelle d'un cours d'eau : application du Morphological Quality Index (MQI) aux projets d'aménagement du Grand Buëch à La Faurie
Autori: Piton, G., Philippe, F., Tacnet, JM., Gourhand, A.
Pubblicato in: Revue Science Eaux & Territoires, Numero Numéro 26(2):58, 2018, ISSN 2109-3016
Editore: INRAE
DOI: 10.14758/set-revue.2018.26.11

Direct field observations of massive bedload and debris-flow depositions in open check dams
Autori: Guillaume Piton, Firmin Fontaine, Hervé Bellot, Frédéric Liébault, Coraline Bel, Alain Recking, Thérèse Hugerot
Pubblicato in: E3S Web of Conferences, Numero 40, 2018, Pagina/e 03003, ISSN 2267-1242
Editore: E3S Web of Conferences
DOI: 10.1051/e3sconf/20184003003

Defining the risk to water and natural capital in cities with risk component analysis tool (DAPSET): Case study Łódź
Autori: Kinga Krauze, Renata Włodarczyk-Marciniak
Pubblicato in: Journal of Environmental Management, Numero 227, 2018, Pagina/e 62-72, ISSN 0301-4797
Editore: Academic Press
DOI: 10.1016/j.jenvman.2018.08.081

Enhancing nature-based solutions acceptance through stakeholders' engagement in co-benefits identification and trade-offs analysis
Autori: R. Giordano, I. Pluchinotta, A. Pagano, A. Scrieciu, F. Nanu
Pubblicato in: Science of The Total Environment, Numero 713, 2020, Pagina/e 136552, ISSN 0048-9697
Editore: Elsevier BV
DOI: 10.1016/j.scitotenv.2020.136552

The (Re)Insurance Industry's Roles in the Integration of Nature-based Solutions for Prevention in Disaster Risk Reduction—Insights from a European Survey

Autori: Marchal, Piton, Lopez-Gunn, Zorrilla-Miras, Van der Keur, Dartée, Pengal, Matthews, Tacnet, Graveline, Altamirano, Joyce, Nanu, Groza, Peña, Cokan, Burke, Moncoulon
Pubblicato in: Sustainability, Numero 11/22, 2019, Pagina/e 6212, ISSN 2071-1050
Editore: MDPI Open Access Publishing
DOI: 10.3390/su11226212

Natural Assurance Scheme: A level playing field framework for Green-Grey infrastructure development
Autori: Benjamin Denjean, Mónica A. Altamirano, Nina Graveline, Raffaele Giordano, Peter van der Keur, David Moncoulon, Josh Weinberg, María Máñez Costa, Zdravko Kozinc, Mark Mulligan, Polona Pengal, John Matthews, Nora van Cauwenbergh, Elena López Gunn, David N. Bresch
Pubblicato in: Environmental Research, Numero 159, 2017, Pagina/e 24-38, ISSN 0013-9351
Editore: Academic Press
DOI: 10.1016/j.envres.2017.07.006

Steep Bedload-Laden Flows: Near Critical?
Autori: Guillaume Piton, Alain Recking
Pubblicato in: Journal of Geophysical Research: Earth Surface, Numero 124/8, 2019, Pagina/e 2160-2175, ISSN 2169-9003
Editore: Journal of Geophysical Research
DOI: 10.1029/2019JF005021

An operationalized classification of Nature Based Solutions for water-related hazards: From theory to practice
Autori: Eulalia Gómez Martín, María Máñez Costa, Kathleen Schwerdtner Máñez
Pubblicato in: Ecological Economics, Numero 167, 2020, Pagina/e 106460, ISSN 0921-8009
Editore: Elsevier BV
DOI: 10.1016/j.ecolecon.2019.106460

Vulnerability of forest ecosystems to fire in the French Alps
Autori: Sylvain Dupire, Thomas Curt, Sylvain Bigot, Thibaut Fréjaville
Pubblicato in: European Journal of Forest Research, Numero 138/5, 2019, Pagina/e 813-830, ISSN 1612-4669
Editore: Springer Verlag
DOI: 10.1007/s10342-019-01206-1

Assessing stakeholders' risk perception to promote Nature Based Solutions as flood protection strategies: The case of the Glinščica river (Slovenia)

Autori: Stefania Santoro, Irene Pluchinotta, Alessandro Pagano, Polona Pengal, Blaž Cokan, Raffaele Giordano
Pubblicato in: Science of The Total Environment, Numero 655, 2019, Pagina/e 188-201, ISSN 0048-9697
Editore: Elsevier BV
DOI: 10.1016/j.scitotenv.2018.11.116

Reconstructing Depth-Averaged Open-Channel Flows Using Image Velocimetry and Photogrammetry
Autori: Guillaume Piton, Alain Recking, Jérôme Le Coz, Hervé Bellot, Alexandre Hauet, Magali Jodeau
Pubblicato in: Water Resources Research, Numero 54/6, 2018, Pagina/e 4164-4179, ISSN 0043-1397
Editore: American Geophysical Union
DOI: 10.1029/2017wr021314

Spatio-temporal trends in fire weather in the French Alps
Autori: S. Dupire, T. Curt, S. Bigot
Pubblicato in: Science of The Total Environment, Numero 595, 2017, Pagina/e 801-817, ISSN 0048-9697
Editore: Elsevier BV
DOI: 10.1016/j.scitotenv.2017.04.027

Communicating (nature-based) flood-mitigation schemes using flood-excess volume
Autori: Onno Bokhove, Mark A. Kelmanson, Thomas Kent, Guillaume Piton, Jean-Marc Tacnet
Pubblicato in: River Research and Applications, 2019, ISSN 1535-1459
Editore: John Wiley & Sons Inc.
DOI: 10.1002/rra.3507

Design of fascines for riverbank protection in alpine rivers: Insight from flume experiments
Autori: A. Recking, G. Piton, L. Montabonnet, S. Posi, A. Evette
Pubblicato in: Ecological Engineering, Numero 138, 2019, Pagina/e 323-333, ISSN 0925-8574
Editore: Elsevier BV
DOI: 10.1016/j.ecoleng.2019.07.019

Usage des ouvrages de correction torrentielle et plages de dépôt : origine, état des lieux, perspectives
Autori: Guillaume Piton, Simon Carladous, Olivier Marco, Didier Richard, Frédéric Liebault, Alain Recking, Yann Queffelean, Jean-Marc Tacnet
Pubblicato in: La Houille Blanche, Numero 1, 2019, Pagina/e 56-67, ISSN 0018-6368

Editore: Societe Hydrotechnique de France
DOI: 10.1051/lhb/2019008

Other (6)

Testing Meta-Regression Analysis in the context of NBS restoration measures: The case of Brague River
Autori: Arfaoui N, Gnonlonfin A.
Pubblicato in: 2020
Editore: ESDES-Research Center – Lyon Business School

Double components, three domains of impact and three valuation languages for assessing the insurance value of Nature-Based Solutions
Autori: Gnonlonfin A, Arfaoui N.
Pubblicato in: 2020
Editore: ESDES – Lyon Business School

Hybrid (green-gray) water security strategies: a blended finance approach for implementation at scale.
Autori: Monica A. Altamirano
Pubblicato in: Roundtable on Financing Water Regional Meeting Asia, 2019
Editore: OECD

Décider dans le contexte de la GEMAPI : exemple de méthodologie d'une approche intégrée d'aide à la décision et application aux projets d'aménagements
Autori: Tacnet, J.M.; Piton, G.; Philippe, F.; Gourhand, A.; Vassas, C.
Pubblicato in: https://hal.archives-ouvertes.fr/hal-01926406, Numero 3, 2018
Editore: Sciences Eaux & Territoires
DOI: 10.14758/SET-REVUE.2018.26.09

Hybrid (green-gray) water security strategies: a blended finance approach for implementation at scale. Background paper Session 3. Roundtable on Financing Water
Autori: Altamirano, M. A.
Pubblicato in: 2019
Editore: Roundtable on Financing Water, Regional Meeting Asia Manila, OECD

The economic value of NBS restoration measures and their benefits in a river basin context: A meta-analysis regression
Autori: Nabila Arfaoui & Amandine Gnonlonfin
Pubblicato in: FAERE - French Association of Environmental and Resource Economists., 2019

Editore: FAERE - French Association of Environmental and Resource Economists Policy Papers

Altri prodotti di ricerca

Altri prodotti di ricerca tramite OpenAire (2)

nullnullDesign of a debris retention basin enabling sediment continuity for small events: the Combe de Lancey case study (France)

Autori: Piton, Guillaume; Mano, Vincent; Richard, Didier; Evan, Guillaume; Laigle, Dominique; Tacnet, Jean Marc; Rielland, Pierre Alain
Pubblicato in: Mountain Scholar

nullnullReview of the mechanisms of debris-flow impact against barriers

Autori: Poudyal, Sunil; Choi, Clarence E.; Song, Dongri; Zhou, Gordon G.D.; Yune, Chan-Young; Cui, Yifei; Leonardi, Alessandro; Busslinger, Matthias; Wendeler, Corinna; Piton, Guillaume; Moase, Emily; Strouth, Alex
Pubblicato in: Mountain Scholar

Ultimo aggiornamento: 23 Agosto 2022

Permalink: https://cordis.europa.eu/project/id/730497/results/it