PRIMA
Full Proposal

Administrative forms (Part I)

Title of Proposal **Strategies for increasing the WATer use efficiency of semi-arid Mediterranean watersheds and agrosilvopastoral systems under climate CHange**
Acronym **SWATCH**

1. Administrative data of participant organisations

Participant No	PI name	Organisation	Country
1 (**Coordinator)**	Nicola Montaldo	Dipartimento di Ingegneria civile, ambientale ed architettura, Università di Cagliari (UNICA)	Italy
2 **Partner 1**	Giovanni Sistu	Ente Acque della Sardegna (ENAS)	Italy
3 **Partner 2**	Giuliano Patteri	Agenzia forestale regionale per lo sviluppo del territorio e l'ambiente della Sardegna (FORESTAS)	Italy
4 **Partner 3**	Mohamed Meddi	Ecole Nationale Supérieure d'Hydraulique (ENSH)	Algeria
5 **Partner 4**	Adriana Bruggeman	Energy, Environment and Water Research Center, The Cyprus Institute (CyI)	Cyprus
6 **Partner 5**	Ashraf M. Elmoustafa	Irrigation and Hydraulics Dept., Faculty of Engineering, Ain Shams University (UNIAS)	Egypt
7 **Partner 6**	Antonio del Campo	Research Institute of Water and Environmental Engineering, Universitat Politècnica de València (POLIVA)	Spain
8 Partner 7	Pilar Ara	Conselleria de Agricultura, Medio Ambiente, Cambio Climático y Desarrollo Rural. D.G. Medio Natural, Evaluación Ambiental (GVA)	Spain
9 Partner 8	Jean-Christophe Domec	INRA Bordeaux Sciences Agro UMR 1391 (INRA)	France
10 Partner 9	Zoubeida Bargaoui	Ecole Nationale d'Ingénieurs de Tunis, University of Tunis El Manar (ENIT)	Tunisia

2. General information on the pre-proposal

Section	**2**
Call	**Section 2 – Multi-topic 2018**
Topic	**1.1.2 (primary) and 1.1.1 (secondary)**
Type of Action	**Research & Innovation Activities (RIA)**
Duration in months	**36**
Free keywords	Evapotranspiration, water resources management, data assimilation, soil moisture, remote sensing, eddy covariance, hydrologic modelling, ecohydrology, climate change, semi-arid systems
Abstract	The overarching goal of this research project is to develop and apply innovative methodologies to increase the social-ecological water use efficiency of managed ecosystems along the Mediterranean biome and climate types. We will focus on a diverse set of seasonally dry ecosystems, spanning a large gradient of mean annual rainfall (from 35 to 935 mm/y) across the Mediterranean biome. Case studies will examine the Mediterranean Sea basin from west to east and north to south providing the exceptional opportunity to develop, identify and compare water resources management and planning strategies for contrasting climate conditions in the Mediterranean region. We will define innovative strategies for the water sustainability in the Mediterranean region under current and future climate change scenarios, optimizing water infrastructure (e.g., reservoirs, wells network design) and water uses (irrigation, animal production systems, drinking and industrial activities). Strategies will be defined with stakeholders and government authorities, which will be actively involved in the project. To improve predictive technical tools for water resources assessment, we propose to develop innovative methodologies and techniques to better estimate evapotranspiration, the main parameter of the water budget in semi-arid and arid climates. To do so we propose to combine the use of eddy covariance and tree sapflow observations. In addition, advanced technical tools (remote sensing observations) will be developed to monitor the main state variables explaining energy and water balance at the land surface, and to include those observations in data assimilation systems to predict watershed hydrological cycles. The analysis of climate and land use scenarios will provide the inputs for the water resources management and planning to optimally use both surface water and groundwater. Ultimately, we will establish a transnational Mediterranean river monitoring system for sharing knowledge and data.

Has this proposal (or a very similar one) been submitted in the past 2 years in response to a call for proposals under Horizon 2020 or any other EU programme(s)?

Yes ☐ No ☒

Declarations

1) The coordinator declares to have the explicit consent of all applicants on their participation and on the content of this proposal.	☒
2) The information contained in this proposal is correct and complete.	☒
3) This proposal complies with ethical principles (including the highest standards of research integrity — as set out, for instance, in the European Code of Conduct for Research Integrity — and including, in particular, avoiding fabrication, falsification, plagiarism or other research misconduct).	☒

The coordinator confirms:

- to have carried out the self-check of the financial capacity of the organisation on http://ec.europa.eu/research/participants/portal/desktop/en/organisations/lfv.html or to be covered by a financial viability check in an EU project for the last closed financial year. Where the result was "weak" or "insufficient", the coordinator confirms being aware of the measures that may be imposed in accordance with the H2020 Grants Manual (Chapter on Financial capacity check); or	☒
- is exempt from the financial capacity check being a public body including international organisations, higher or secondary education establishment or a legal entity, whose viability is guaranteed by a Member State or associated country, as defined in the H2020 Grants Manual (Chapter on Financial capacity check); or	☒

The coordinator hereby declares that each applicant has confirmed:

- they are fully eligible in accordance with the criteria set out in the specific call for proposals; and	☒
- they have the financial and operational capacity to carry out the proposed action.	☒
The coordinator is only responsible for the correctness of the information relating to his/her own organisation. Each applicant remains responsible for the correctness of the information related to him/her and declared above. Where the proposal to be retained for EU funding, the coordinator and each beneficiary applicant will be required to present a formal declaration in this respect.	

According to Article 131 of the Financial Regulation of 25 October 2012 on the financial rules applicable to the general budget of the Union (Official Journal L 298 of 26.10.2012, p. 1) and Article 145 of its Rules of Application (Official Journal L 362, 31.12.2012, p.1) applicants found guilty of misrepresentation may be subject to administrative and financial penalties under certain conditions.

Personal data protection

The assessment of your grant application will involve the collection and processing of personal data (such as your name, address and CV) on the French National Research Agency evaluation and submission system. The PRIMA Foundation informs that in accordance with the French law "Informatique et Libertés" of the 6 of January 1978 as amended, applicants have the right to access and rectify their personal information. As such, they can access their user profile and rectify themselves some information about them. In addition, they have the right to exercise their rights by seizing the "Correspondant informatique et libertés" of the ANR. Unless indicated otherwise, your replies to the questions in this form and any personal data requested are required to assess your grant application in accordance with the specifications of the call for proposals and will be processed solely for that purpose.

3. Ethics issues table

1. HUMAN EMBRYOS/FOETUSES	YES	NO	PAGE
Does your research involve Human Embryonic Stem Cells (hESCs)?		x	
Will they be directly derived from embryos within this project?		x	
Are they previously established cells lines?		x	
Does your research involve the use of human embryos?		x	
Will the research lead to their destruction?		x	
Does your research involve the use of human foetal tissues / cells?		x	
2. HUMANS	**YES**	**NO**	**PAGE**
Does your research involve human participants?		x	
Are they volunteers for social or human sciences research?		x	
Are they persons unable to give informed consent?		x	
Are they vulnerable individuals or groups?		x	
Are they children/minors?		x	
Are they patients?		x	
Are they healthy volunteers for medical studies?		x	
Does your research involve physical interventions on the study participants?		x	
Does it involve invasive techniques?		x	

Does it involve collection of biological samples?		x	
If your research involves processing of genetic information, see also section 4.		x	
3. HUMAN CELLS / TISSUES	**YES**	**NO**	**PAGE**
Does your research involve human cells or tissues (other than from Human Embryos/ Foetuses, i.e. section 1)?		x	
Are they available commercially?		x	
Are they obtained within this project?		x	
Are they obtained from another project, laboratory or institution?		x	
Are they obtained from biobank?		x	
4. PERSONAL DATA	**YES**	**NO**	**PAGE**
Does your research involve personal data collection and/or processing?		x	
Does it involve the collection and/or processing of sensitive personal data (e.g.: health, sexual lifestyle, ethnicity, political opinion, religious or philosophical conviction)?		x	
Does it involve processing of genetic information?		x	
Does it involve tracking or observation of participants?		x	
Does your research involve further processing of previously collected personal data (secondary use)?		x	
5. ANIMALS	**YES**	**NO**	**PAGE**
Does your research involve animals?		x	
Are they vertebrates?		x	
Are they non-human primates?		x	
Are they genetically modified?		x	
Are they cloned farm animals?		x	
Are they endangered species?		x	
Please indicate the species involved (Maximum number of characters allowed: 1000)			

6. THIRD COUNTRIES	YES	NO	PAGE
In case non-EU countries are involved, do the research related activities undertaken in these countries raise potential ethics issues?		x	
Specify the countries involved:(Maximum number of characters allowed: 1000)			
Do you plan to use local resources (e.g. animal and/or human tissue samples, genetic material, live animals, human remains, materials of historical value, endangered fauna or flora samples, etc.)?		x	
Do you plan to import any material - including personal data - from non-EU countries into the EU?		x	
Specify material and countries involved: (Maximum number of characters allowed: 1000)			
Do you plan to export any material - including personal data - from the EU to non-EU countries?		x	
Specify material and countries involved: (Maximum number of characters allowed: 1000)			
In case your research involves low and/or lower middle income countries, are any benefits-sharing actions planned?		x	
Could the situation in the country put the individuals taking part in the research at risk?		x	
7. ENVIRONMENT & HEALTH and SAFETY	**YES**	**NO**	**PAGE**
Does your research involve the use of elements that may cause harm to the environment, to animals or plants?		x	
Does your research deal with endangered fauna and/or flora and/or protected areas?		**x**	
Does your research involve the use of elements that may cause harm to humans, including research staff		x	
8. DUAL USE	**YES**	**NO**	**PAGE**
Does your research involve dual-use items in the sense of Regulations 428/2009, or other items for which an authorisation is required?		x	
9. EXCLUSIVE FOCUS ON CIVIL APPLICATIONS	**YES**	**NO**	**PAGE**

Could your research raise concerns regarding the exclusive focus on civil applications?		x	
10. MISUSE	**YES**	**NO**	**PAGE**
Does your research have the potential for misuse of research results?		x	
11. OTHER ETHICS ISSUES	**YES**	**NO**	**PAGE**
Are there any other ethics issues that should be taken into consideration? Please specify		x	
Please specify: (Maximum number of characters allowed: 1000)			

I confirm that I have taken into account all ethics issues described above and that, if any ethics issues apply, I will complete the ethics self-assessment and attach the required documents.	**YES**	**NO**

4. Call specific questions

Declarations on stage-2 changes

The full stage-2 proposal must be consistent with the short outline proposal submitted to the stage-1- in particular with respect to the proposal characteristics addressing the concepts of excellence and impact.

Are there substantial differences compared to the stage-1 proposal?	**YES**	**NO**

Extended Open Research Data Pilot in Horizon 2020

If selected, applicants will by default participate in the Pilot on Open Research Data in Horizon 2020[1], which aims to improve and maximise access to and re-use of research data generated by actions.

However, participation in the Pilot is flexible in the sense that it does not mean that all research data needs to be open. After the action has started, participants will formulate a Data Management Plan (DMP), which should address the relevant aspects of making data FAIR – findable, accessible, interoperable and re-usable, including what data the project will generate, whether and how it will be made accessible for verification and re-use, and how it will be curated and preserved. Through this DMP projects can define certain datasets

[1] According to article 43.2 of Regulation (EU) No 1290/2013 of the European Parliament and of the Council, of 11 December 2013, laying down the rules for participation and dissemination in "Horizon 2020 – the Framework Programme for Research and Innovation (2014-2020)" and repealing Regulation (EC) No 1906/2006

to remain closed according to the principle "as open as possible, as closed as necessary". A Data Management Plan does not have to be submitted at the proposal stage.

Furthermore, applicants also have the possibility to opt out of this Pilot completely at any stage (before or after the grant signature). In this case, applicants must indicate a reason for this choice (see options below).

Please note that participation in this Pilot does not constitute part of the evaluation process. Proposals will not be penalised for opting out.

We wish to opt out of the Pilot on Open Research Data in Horizon 2020.	**YES**	**NO** X

If opting out please indicate the reason(s) for not being able to participate in the Pilot:

• the project does not generate any data	
• to allow the protection of results (e.g. patenting)	
• incompatibility with the need for confidentiality linked to security	
• incompatibility with privacy/data protection	
• achievement of the project's main aim would be jeopardised	
• other legitimate reasons	

Please specify the other legitimate reasons (max 300 characters)

Further guidance on open access and research data management is available on the participant portal: http://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/open-access-dissemination_en.htm

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