

EJP SOIL call topics

SE5 – Mitigate and adapt to salinization and restore saline soils: understanding the processes and improving cropping systems under current and future climate

Rationale: Soil salinization is recognised as one of the major threats to soils. It makes it more difficult for plants to extract water, promotes toxic concentrations of Cl⁻ and to a lesser extent Na⁺, and participates in the deterioration of the soil structure. Irreversible soil alteration may exceptionally result from clay dispersion caused by the irrigation of salty soils with clean water in southern European countries and the Mediterranean basin, while salinization could lead to soil alkalinization-sodification in other parts of the World (e.g. sub-Saharan Africa and the Horn of East Africa). In Southern Europe, the tropicalization of the climate is already observed with drought periods which should extend, followed by unpredictable heavy rains. In addition, competition between different water uses leads to an increased pressure on water. Irrigation is increasingly necessary to meet crop water needs. Irrigation can use underground water and/or reclaimed wastewater that may be rich in salts and/or other pollutants. The risk of irrigation with salt water is more important as the quantities of water used do not allow leaching of salts towards deeper soil horizons and promote their gradual concentration in soil. Moreover, salt extraction by plants is not relevant from a quantitative point of view. There is a need to optimize water management for sustainable cropping practices with regard to salinization risks. The optimization should consider the regional context to encompass also aspects of water use in irrigated systems (harvesting, storing, treating wastewaters with the possibility of desalinating part of it for example by reverse osmosis). Participatory approaches involving water managers and farmers would improve the outcomes of research in these aspects.

Scope: Soil salinization and the positive or negative impacts of different irrigation scenarios as well as water desalination (sea water, brackish water, and wastewater) have been extensively studied and are already available at low cost. Proposals should focus on one of the following three objectives:

- Development of a decision support system for water management at regional and local scales, including irrigation management, in order to ensure sustainable water management avoiding any accumulation of salts in the soil horizons explored by the roots;
- Development of sustainable solutions to improve soil structure of salt enriched soils. Solutions could include organic fertilization, bio-amendments, or the use of some plants well known to positively affect soil structure ;
- Analysis of the processes underlying the tolerance of certain plants to soil salinity, including 'plant-endorhiza' interactions, which would allow better use of salty soils.

For the first item, participatory approaches (e.g. through living labs as recommended the EU Mission A Soil Deal for Europe) is desirable whenever possible.

Expected outcomes:

- Depending on the chosen objective, outcomes concerning the sustainable soil management strategies of salt-affected soils could be:
 - Designing and advising optimized irrigation practices (objective 1);
 - Recommendations on the proper use of organic fertilizers taken up for farmers advice and assessing bio-amendment strategies are developed by soil stakeholders (objective 2);
 - Propositions of strategies for reclamation and restoration developed by soil stakeholders (objective 3);
- Improved understanding and modelling of salinization process in present and future risk areas in the climate change scenario (collaboration with WP6 of EJP-SOIL).

Expected Impacts:

- EJP SOIL EI1: Fostering understanding of soil management and its influence on climate mitigation and adaptation, sustainable agricultural production and environment;
- EJP SOIL EI5: Fostering the uptake of soil management practices which are conducive to climate change adaptation and mitigation.

Project Type: Medium size research project (up to 1.75 M€).

Proposal template

Acronym

Title

Coordinator: XXX

Proposal for EJP SOIL 3rd Internal Call topic: XXX

[Date of submission]

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1. Project information

Title and acronym:

Keywords:

Duration in months:

Topic:

Project leader: *Organization name and affiliation*

Publishable summary: *in max 800 characters incl. spaces*

2. Information of participating beneficiaries and linked third parties

Filled by each beneficiary, third linked part and the project coordinator.

2.1. Beneficiary and/or Linked Third Party no. 1

Organization:

Responsible person at the organization:

Role of beneficiary/linked third parties in the project

Max. 1000 characters; including fields of expertise and related to topic ongoing projects (including project name, funder, amount, overlaps and links with current proposal)

Tasks of the beneficiary and linked third parties in the project:

Max. 1500 characters

2.2. Beneficiary and/or Linked Third Party no. x

Organization:

Responsible person at the organization:

Role of beneficiary/linked third parties in the project

Max. 1000 characters; including fields of expertise and related to topic ongoing projects (including project name, funder, amount, overlaps and links with current proposal)

Tasks of the beneficiary and linked third parties in the project:

Max. 1500 characters

3. Summarized project budget

*In k€ total budget; Please use XLS template for planning; see Annex 4. Short narrative explanation for each budget item listed in table 1 (max 800 characters incl. spaces plus Table 1). **Avoid outstanding “other costs”; costs that exceed 15% of the personnel costs** (please contact the Call Office [EJPCO@maapera.fi] in case outstanding costs are expected).*

Table 1: Summarized project budget

	Amount in k€
Personnel costs	
Consumables	
Durable equipment	
Travel and subsistence	
Other costs[#]	
Sub-contracting	
Indirect costs[*]	
Total budget	

[#] Includes budget for communication, dissemination and exploitation activities; see for more information in the proposal template, section 6 “Communication strategy”.

^{} Indirect costs: 25% of the total direct costs (personnel costs, consumables, durable equipment, travel and subsistence and other costs) minus subcontracting costs.*

4. Description of the work

Max 18.000 characters with spaces; in addition the work package descriptions and work plan that are part of section 4.2.

4.1. Relevance of the research proposal

Objectives and main hypotheses

Relevance to the topic

4.2. Research Approach

General approach and methodology

Brief description of the work plan

(including provisional project structure, work packages, work plan and collaboration among beneficiaries and/or linked third parties)

Table 2: Work packages (WPs), start and end months (i.e. EJP SOIL months), and number of person months.

Work package	Lead participant*	Person-months	Start month*	End month*
WP1:			MXX	MXX
WP2:			MXX	MXX
WP3:			MXX	MXX
WP4:			MXX	MXX
WP5:			MXX	MXX
WP6:			MXX	MXX
WP7:			MXX	MXX
	Total person months:			

* EJP SOIL months; M1 equals February 2020

Table 3: Descriptions of the work packages (WPs). The following pages contain tables detailing the participants (i.e. beneficiaries and linked third parties [LTP]), start and end months (i.e. EJP SOIL months; M1 equals February 2020), number of person months, objectives (OB), tasks (T) & deliverables (D) of each WP.

Work package	WP1:												
Lead beneficiary or LTP	full name (acronym)												
Deputy leader	full name (acronym)												
Beneficiary no.	1	2	3	4	5	6	7	8	9	10	11	12	13

Abbreviation	INRAE	WR	BIOS	EV-ILVO	CRAW	CZU	AU	EMU	LUKE	Thuenen	Julich	ATK	Teagasc
Person-months													
Beneficiary no.	14	15	16	17	18	19	20	21	22	23	24	25	26
Abbreviation	CREA	UL	LAMMC	NIBIO	IUNG	INIAV	NPPC	ULBF	CSIC	SLU	AGS	TAGEM	AFBI
Person-months													
LTP no.	1	2	3	4	5	6	7	8	9	10	11	12	13
Abbreviation	AgroParisTech	Institut Agro	-/-	EAA	BOKU	AGES	BAW	BFW	EV INBO	VPO	ARC	CNR	ISPRA
Person-months													
LTPno.	14	15	16	17	18	19	20	21	22	23	24	25	26
Abbreviation	UNIPA	ENEA	AGRIS	ERSAF	AIS	UM-FKBV	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Person-months													

Start month	MXX	End month	MXX	Total person-months	XX
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Objectives

- Describe the overall objective of the WP (max. 7 lines).
- List the specific objectives of the WP, including a descriptive but concise title, followed by a description.
- A commonly used approach, which helps to boost clarity, is link objectives directly to tasks, i.e. OB1.1 is dealt with by T1.1.

The specific objectives are to:

- **OB1.1: TITLE: DESCRIPTION**
- **OB1.2: TITLE: DESCRIPTION**
- **OB1.3: TITLE: DESCRIPTION**
- **OB1.4: TITLE: DESCRIPTION**
- **OB1.5: TITLE: DESCRIPTION**

Description of work

- **Background:** Describe the state-of-the-art in the field(s) relating to the WP, in particular the starting basis for the work, and gaps that the WP will bridge (max. 8 lines, as it has already been outlined in **Section 4.1**).
- **Approach:** Describe the overall approach adopted by the WP, in order for it to achieve its objectives (max. 8 lines).
- **Tasks:** List the tasks (and subtasks), including a descriptive but concise title, followed by the task leader(s) and participants, and description, which should also clarify the roles of each participant.
- **T1.1:** TITLE (**leader, co-leader, participants**): DESCRIPTION
- **T1.2:** TITLE (**leader, co-leader, participants**): DESCRIPTION
- **T1.3:** TITLE (**leader, co-leader, participants**): DESCRIPTION
- **T1.4:** TITLE (**leader, co-leader, participants**): DESCRIPTION
- **T1.5:** TITLE (**leader, co-leader, participants**): DESCRIPTION
- **T1.6:** TITLE (**leader, co-leader, participants**): DESCRIPTION
- **T1.7:** TITLE (**leader, co-leader, participants**): DESCRIPTION
- **T1.8:** TITLE (**leader, co-leader, participants**): DESCRIPTION

Deliverables (see Table 4)

Milestones (see Table 5)

Work package	WPX:
Lead beneficiary or LTP	full name (acronym)
Deputy leader	full name (acronym)

Beneficiary no.	1	2	3	4	5	6	7	8	9	10	11	12	13
Abbreviation	INRAE	WR	BIOS	EV-ILVO	CRAW	CZU	AU	EMU	LUKE	Thunen	Julich	ATK	Teagasc
Person-months													
Beneficiary no.	14	15	16	17	18	19	20	21	22	23	24	25	26
Abbreviation	CREA	UL	LAMMC	NIBIO	IUNG	INIAV	NPPC	ULBF	CSIC	SLU	AGS	TAGEM	AFBI
Person-months													
LTP no.	1	2	3	4	5	6	7	8	9	10	11	12	13
Abbreviation	AgroParisTech	Institut Agro	-/-	EAA	BOKU	AGES	BAW	BFW	EV INBO	VPO	ARC	CNR	ISPRA
Person-months													

LTPno.	14	15	16	17	18	19	20	21	22	23	24	25	26
Abbreviation	UNIPA	ENEA	AGRIS	ERSAF	AIS	UM-FKBV	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Person-months													
	Start month		MXX	End month		MXX	Total person-months				XX		
Objectives													
<ul style="list-style-type: none"> Describe the overall objective of the WP (max. 7 lines). List the specific objectives of the WP, including a descriptive but concise title, followed by a description. A commonly used approach, which helps to boost clarity, is link objectives directly to tasks, i.e. OB2.1 is dealt with by T2.1. <p>The specific objectives are to:</p> <ul style="list-style-type: none"> OB2.1: TITLE: DESCRIPTION OB2.2: TITLE: DESCRIPTION OB2.3: TITLE: DESCRIPTION OB2.4: TITLE: DESCRIPTION OB2.5: TITLE: DESCRIPTION 													
Description of work													
<ul style="list-style-type: none"> Background: Describe the state-of-the-art in the field(s) relating to the WP, in particular the starting basis for the work, and gaps that the WP will bridge (max. 8 lines, as it has already been outlined in Section 4.1). Approach: Describe the overall approach adopted by the WP, in order for it to achieve its objectives (max. 8 lines). Tasks: List the tasks (and subtasks), including a descriptive but concise title, followed by the task leader(s) and participants, and description, which should also clarify the roles of each participant. <p>The work will be conducted via the following tasks:</p> <ul style="list-style-type: none"> T2.1:TITLE (<u>leader</u>, <u>co-leader</u>, <u>participants</u>): DESCRIPTION T2.2:TITLE (<u>leader</u>, <u>co-leader</u>, <u>participants</u>): DESCRIPTION T2.3:TITLE (<u>leader</u>, <u>co-leader</u>, <u>participants</u>): DESCRIPTION T2.4:TITLE (<u>leader</u>, <u>co-leader</u>, <u>participants</u>): DESCRIPTION T2.5:TITLE (<u>leader</u>, <u>co-leader</u>, <u>participants</u>): DESCRIPTION T2.6:TITLE (<u>leader</u>, <u>co-leader</u>, <u>participants</u>): DESCRIPTION T2.7:TITLE (<u>leader</u>, <u>co-leader</u>, <u>participants</u>): DESCRIPTION T2.8: TITLE (<u>leader</u>, <u>co-leader</u>, <u>participants</u>): DESCRIPTION 													
Deliverables (see Table 4)													
Milestones (see Table 5)													

Table 4: List the deliverables, including a descriptive but concise deliverable title, responsible participant, month of delivery, and description

Deliverable	WP	Month of delivery	Responsible participant	Title	Description
D1.1	1	MX			
D1.2	1	MX			
D1.X	1	MX			
D2.1	2	MX			
DX.X	X	MX			

Table 5: List the milestones, including a descriptive but concise milestone title, responsible participant, month of achieving milestone, and description.

Milestone	WP	Due month	Responsible participant	Title	Description
M1.1	1	MX			
M1.2	1	MX			
M1.X	1	MX			
M2.1	2	MX			
MX.X	X	MX			

Table 6: Example of a Gantt chart illustrating the timing of project's tasks (T), deliverables (D) and milestones (M). The EJP SOIL annual work plans are based on a **monthly resolution**, which also applies to EJP SOIL internal call funded research project.

	1 st Annual period first work plan											
Months*	1	2	3	4	5	6	7	8	9	10	11	12
WP1												
T1.1												
D				X								
M				X								
T1.2												
T1.3												

* EJP SOIL months; M1 equals February 2020

WP: Work package

4.3. Impact

Expected impact (considering cross-cutting issues: multi-actor/ multi-disciplinary and system approach)

Innovation potential (ambition and novelty in relation to the state of the art)

Added value of the transnational collaboration and geographical relevance

5. Ethical issues

Indication that the research project is carried out in accordance with the European Union, the respective national (Chapter 5 and Annex 5 “Self-assessment”), and the EJP SOIL’s requirements. Proposals that do not include all the compulsory information or do not meet the formal requirements of the Call announcement will not be considered for funding.

Address any of the ethical issues listed in Annex 5 that are expected to arise during the proposed project. In max. 6000 characters with spaces.

6. Communication and dissemination strategy

On the basis of an internal EJP SOIL communication and dissemination services and tools (see section “Communication and dissemination”) the applicants should consider the following communication and dissemination options during communication plan preparation (in max 6000 characters with spaces):

- *Describe how the funded research is relevant for particular stakeholders;*
- *Specify how the project will engage and interact with these on both national and European level;*
- *Specify communication, dissemination and knowledge exchange activities such scientific papers, articles, posters, course or training material, web-based tools, as workshops or field days;*
- *Specify activities including (co)organizing national workshops in member states funding the project;*
- *Specify how they will draw upon relevant professional assistance from WP9 and National Communication Representatives to secure communication, dissemination and exploitation activities;*
- *Appoint a Project Communication Representative who will be responsible for communication, dissemination and exploitation activities in the project;*
- *Include summarized budget lines for communication, dissemination and exploitation activities.*

7. Data management strategy

Describe how the research data in this project will be findable, accessible, interoperable and re-usable (FAIR) (in max 6000 characters with spaces):

- *Describe the handling of research data during and after the end of the project;*
- *Specify what data will be collected, processed and/or generated and/or reused;*

- Specify which methodology and standards will be applied;
- Specify whether data will be shared/made open access;
- Specify how data will be curated and preserved (including after the end of the project).

8. References

Please use citation style of the *European Journal of Soil Science*
(<https://onlinelibrary.wiley.com/journal/13652389>)

The closing date for complete and timely submission of proposals is 31st May 2022 in M28 – 23:59 CET. Applications should be submitted via the EJP SOIL's proposal submission system ([Link](#)).

Annex 4: Template for proposal budget

Please, visit the EJP Website (www.ejpsoil.org) to retrieve the budget sheet template in Excel format. **Please submit Annex 4 as an Excel document, NOT as a PDF.**

Important notices regarding budget plan

- The template file is composed of several spreadsheets, one summary budget spreadsheet and as many other spreadsheets as cost items.
- Where necessary complete the yellow cells in each relevant spreadsheet
- For each cost budgeted, describe it and refer to the corresponding task(s) of the project (See Annex 3, section 3)
- Complete one file consisting of annual budget plans to be summarized in an overall data sheet.
- Name each file as:
 - Project acronym
 - Institute name
 - Project year (Y)
 - E.g.: xxxxx_Y1
- Contact the Call Office for any further clarification needed (EJPCO@maapera.fi)

Annex 5. Ethics self-assessment

Please see the EJP SOIL Website ([www. EJPSOIL.eu](http://www.EJPSOIL.eu)), to retrieve the excel sheet for Ethics Self-Assessment.

EJPSOIL Ethics Self-Assessment			
<div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: 80%;"> <p>Instructions: Each candidate EJP SOIL leader must complete this questionnaire. For guidance, please use the guidance document. Send the completed form to EJPfirstcall@luke.fi together with your full proposal.</p> </div>			
1	HUMANS		
	Does your research involve human participants?	Yes	No
	Are they providing sensitive or personal information?	Yes	No
	Are they volunteers for social or human sciences research?	Yes	No
	Are they persons unable to give informed consent?	Yes	No
	Are they vulnerable individuals or groups?	Yes	No
	Are they children/minors?	Yes	No
	Are they patients?	Yes	No
	Are they healthy volunteers for medical studies?	Yes	No
	Are they residents in a non-EU country?	Yes	No
	Does your research involve physical interventions on the study participants?	Yes	No
	Does it involve invasive techniques?	Yes	No
	Does it involve collection of biological samples?	Yes	No
<i>If your research involves processing of genetic information or collecting personal data, see also section 4</i>			
2	PERSONAL DATA		
	Does your research involve personal data collection and/or processing?	Yes	No
	Does it involve the collection and/or processing of sensitive personal data (e.g.: health, sexual lifestyle, ethnicity, political opinion, religious or philosophical)?	Yes	No
	Does it involve processing of genetic information?	Yes	No
	Does it involve tracking or observation of participants?	Yes	No
	Does your research involve further processing of previously collected personal data (secondary use)?	Yes	No
3	ANIMALS		
	Does your research involve animals?	Yes	No
	Are they legally protected animals?	Yes	No
	Are they vertebrates?	Yes	No
	Are they non-human primates?	Yes	No
	Are they genetically modified?	Yes	No
	Are they cloned farm animals?	Yes	No
	Are they endangered?	Yes	No
<i>Please indicate the species involved (Maximum number of characters allowed: 1000)</i>			
4	THIRD COUNTRIES*		
	In case non-EU countries are involved, do the research related activities undertaken in these countries	Yes	No
	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.)?	Yes	No
	Do you plan to import any material - including personal data - from non-EU countries into the EU?	Yes	No
	Specify material, countries and legal permissions involved: (Maximum number of characters allowed: 1000)		
	Do you plan to export any material - including personal data - from the EU to non-EU countries?	Yes	No
	Specify material, countries and legal permissions involved: (Maximum number of characters allowed: 1000)		
	If your research involves low and/or lower middle income countries, are benefits-sharing actions planned?	Yes	No
	Do you plan to use biological resources that are subject to Access and Benefit Sharing (Nagoya Protocol) Regulations (Regulation (EU) No.511/2014; Implementing Regulation (EU) 2015/1866)	Yes	No
	Specify material and countries: (Maximum number of characters allowed: 1000)		
	Could the situation in the country put the individuals taking part in the research at risk?	Yes	No
5	ENVIRONMENT & HEALTH and SAFETY		
	Does your research involve the use of elements that may cause harm to the environment, to animals or plants?	Yes	No
	Does your research deal with endangered fauna and/or flora and/or protected areas?	Yes	No
	Does your research involve the use of elements that may cause harm to humans, including research stuff?	Yes	No
6	DUAL USE		
	Does your research involve dual-use items in the sense of Regulations 428/2009, or other items for which an authorization is required?	Yes	No
7	EXCLUSIVE FOCUS ON CIVIL APPLICATIONS		
	Could your research raise concerns regarding the exclusive focus on civil applications?	Yes	No
8	MISUSE		
	Does your research have the potential for misuse of research results?	Yes	No
9	OTHER ETHICS ISSUES		
	Are there any other ethics issues that should be taken into consideration?	Yes	No
	Please specify (maximum number of characters allowed: 1000)		
I confirm that I have taken into account all ethics issues described above and that I will comply with the regulation as set out in the Grant Agreement (i.e. Art 34) before the start of any activity in which ethics issues apply		I confirm: yes or no	
Document completed by			
Date			
Signature			

* Norway, Switzerland and UK (i.e. changes will be communicated via WPs 1 and 3) are within the European Economic Area (EEA); therefore covered by the GDPR and its provisions. The only non-EU country is Turkey, which requires additional consultation of Turkish colleagues to manage personal data protections issues.

Annex 6. Certificate of co-financing

To be submitted after selection.

This template should be used for participants of selected research projects in order to provide evidence of their commitment. Grey-marked fields must be duly completed. This document must be signed by an authorized representative of the organisation. A template for each participant organization is required.

In case of failure in proving such commitment, a participant could be regarded as ineligible, jeopardizing the whole research consortium.

EJP SOIL Call Office Organisation Name Street Town Country	Address of organisation Name of contact person
EJP SOIL – 3rd Internal Call for research proposals 2022 Certificate of co-financing Project title: ...	
Place, date	
We hereby confirm that organisation has sufficient resources and is committed to participate to the project title , in accordance to the proposal which is submitted by coordinator in the frame of the EJP SOIL – 3 rd Internal Call 2022 and in case the proposal is validated for funding by the Board of Programme Managers.	
<i>In addition, in case of separate source of funding:</i> Please find attached to this letter a commitment from funding organisation for our contribution to this project.	
Signature of Name and affiliation	

Annex 7. Letter of commitment by the project coordinator

To be submitted after selection.

This template may be signed by project coordinators of selected research projects in order to provide evidence of their commitment. Grey-marked fields must be duly completed.

In case of failure in proving such commitment, a project could be regarded as ineligible.

EJP SOIL Call Office	Address of organisation
Organisation	Name of Project Coordinator
Name	
Street	
Town	
Country	

EJP SOIL – 3rd Internal Call for research proposals 2022
Letter of commitment by Project Coordinator
Project full title: ...
Project acronym: ...

Place, date

I hereby confirm that in my capacity of the **project title** Project Coordinator, that **project title** will be implemented in accordance to the proposal submitted to the EJP SOIL Call Office and validated by the Board of Programme Managers in the frame of the EJP SOIL – 3rd Internal Call 2022.

I hereby acknowledge that **project title** will be included in the relevant EJP SOIL's Annual Work Plans that cover the complete duration of the project. As such, the **project title** will follow the rules of H2020, and the EJP SOIL Grant Agreement and Consortium Agreement with respect to scientific and financial management, data management, personal data protection, financial and technical reporting, and legal aspects such as access rights, dispute resolution and Intellectual property rights.

The relationship among the Parties, in particular concerning the organisation of the work between the Parties, the management of the Project and the responsibilities and obligations of the Parties are defined in the full project proposals provided as attachment to this letter.

Signature of **Project Coordinator**
Name and affiliation