



SoilTribes

Rooted in action

Establishing, activating, and empowering glocal ecosystems to restore soil values, roles, and connectivity through science, technology, and creative expression.

Programme for the crash course – Soil science communication in news media outlets



Funded by
the European Union

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Research Executive Agency (REA). Neither the European Union nor the European Research Executive Agency (REA) can be held responsible for them.

Document details	
Title:	SoilTribes
Project URL:	soiltribes.eu
Project Type:	HORIZON-CSA
EU CALL:	HORIZON-MISS-2023-SOIL-01
Project Reference:	101157729
Duration	36 Months
Project Start Date:	01/01/2025
Project End Date:	31/12/2027
Deliverable:	Programme for the crash course – Soil science communication in news media outlets
Due date of Deliverable:	31/05/2026
Actual Submission Date:	31/05/2026
Name of Lead Beneficiary for this deliverable:	Report Author(s): POLIMI Contributors: INOVA+, WUR
Reviewed by:	Patrícia Vieira (INOVA+) Loes van Schaik (WUR) Jesper Emborg (DCA-AU)
Revision:	1.0
Dissemination Level:	Public

Deliverable Contributors			
Name	Organization	Role	E-mail
Raffaella Brumana	Politecnico of Milan	Scientific coordinator	raffaella.brumana@polimi.it
Elena Mussinelli	Politecnico of Milan	Former full professor	elena.mussinelli@polimi.it
Davide Cerati	Politecnico of Milan	Researcher	davide.cerati@polimi.it
Giovanni Castaldo	Politecnico of Milan	Researcher	giovanni.castaldo@polimi.it
Marzia Gabriele	Politecnico of Milan	Researcher	marzia.gabriele@polimi.it
Fabrizio Banfi	Politecnico of Milan	Associate Professor	fabrizio.banfi@polimi.it
Patricia Vieira	INOVA+	Senior Project Manager	patricia.vieira@inova.business
Loes van Schaik	WUR	Assistant professor	loes.vanschaik@wur.nl

Document History			
Version	Date	Comment	Modifications made by
1.0	31/05/2026	Final version and submitted	POLIMI, INOVA+, WUR

Disclaimer



SoilTribes

The opinion stated in this report reflects the opinion of the authors and not the opinion of the European Commission.



Funded by
the European Union

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Research Executive Agency (REA). Neither the European Union nor the European Research Executive Agency (REA) can be held responsible for them.

Copyright message

SoilTribes

© Partners of the SoilTribes, 2025

This document contains original, unpublished work except where clearly indicated otherwise. Acknowledgment of previously published material and of the work of others has been made through appropriate citation, quotation, or both.

Except otherwise specified, all document contents are: "©SoilTribes - All rights reserved".
Reproduction is not authorised without prior written agreement.

Acknowledgments

We warmly thank all the contributors to this deliverable. A special thanks to the soil and media experts who have agreed to contribute to the success of the crash-course through their forthcoming inputs.

Glossary and Abbreviations

Abbreviation	Definition
EU	European Union
FSTP	Financial Support to Third Parties
WP	Work Package
Polimi	Politecnico of Milan



SoilTribes

DIY	Do-It-Yourself Guide
KoM	Kickoff Meeting
KPIs	Key Performance Indicators
GDPR	General Data Protection Regulation
SLAs	Soil Lab Activators

Table of Contents

Executive summary	7
1. Introduction and scope of D3.4.....	9
1.1 Purpose of the deliverable	9
1.2 Positioning of the DIY guide within D3.4.....	10
1.3 Link with the grant agreement and task 3.4	10
1.5 Relationship between T3.4 and T4.3	11
2. Pedagogical approach and methodology.....	13
2.1 Evolution of the course approach	13
2.2 DIY and guided autonomous learning	14
2.3 Peer learning between soil and media experts	14
2.4 Learning by doing.....	15
2.5 Role of tutors and expert support	15
3. Target groups, objectives and learning outcomes	16
3.1 Target participants	16
3.2 General objective of the crash course	17
3.3 Specific objectives.....	17
3.4 Expected learning outcomes	18
4. Crash course structure: indicative 40-hour learning pathway.....	19
4.1 Overview of the 40-hour course.....	19
5. Course contents.....	21
5.1 Soil science and soil mission topics.....	21
5.2 Connection with EU mission soil challenges	22
5.3 Media and communication topics	24
5.4 Expert Resources and Thematic Booklets	26
6. Course implementation.....	27
6.1 Course timeline.....	27
6.2 Kick-off meeting	28
6.3 Pair work and online collaboration	29
6.4 Tutoring and checkpoints	29
6.5 Documentation of participation.....	30



SoilTribes

7. Expected course outputs	31
7.1 Overview of required outputs	31
7.2 Video message.....	32
7.3 Social postcard.....	33
7.4 Language, accessibility and subtitles	35
7.5 Use of outputs in T4.3	35
8. Course completion and light assessment framework.....	36
8.1 Completion requirements	36
8.2 Quality criteria for the outputs	37
9. Resources and supporting materials.....	38
10. Quality assurance, ethics, GDPR and copyright	38
10.1 Quality assurance of the course	39
10.2 GDPR and consent	39
10.3 Copyright and use of third-party materials.....	39
10.4 Accessibility and responsible communication	40
11. Conclusion.....	41
12. References.....	41
13. Annexes.....	43

Executive summary

The Deliverable D3.4, **“Programme for the crash course – Soil science communication in news media outlets”**, presents the methodological and operational framework for the SOILTRIBES online crash course on soil science communication. The crash course is designed to strengthen the capacity of young soil scientists and young media professionals to work together in communicating soil-related challenges, solutions and opportunities to wider public audiences through accessible, engaging and media-oriented formats.

In line with the evolution of the task during the project implementation, the crash course is not structured as a conventional lecture-based training programme with fixed theoretical modules. Instead, it adopts a Do-It-Yourself (DIY), peer-learning and pair-based methodology, where selected SOIL & MEDIA pairs build on their own scientific, technical and communication expertise. This approach reflects the objective of creating a flexible, experimental and collaborative learning experience, in which participants learn by doing, by exchanging knowledge across disciplines, and by co-producing public-facing communication outputs. This approach reflects an innovative educational approach based on building self-learning capacity and on the possible future scale-up of the proposed methodology to wider audiences of pairs as it happens in real life (cf. <https://www.elettronica.polimi.it/innovative-education-d-i/?lang=en>)

The crash course is organised around the collaboration between young soil experts and young media experts. Soil experts contribute scientific knowledge on soil health, soil restoration and Soil Mission challenges, while media experts contribute communication, storytelling and audience-engagement skills. Through this exchange, the course aims to help participants translate complex soil science issues into clear, creative and impactful messages for non-specialist audiences.

The programme is designed as an estimated 40-hour online learning pathway, combining a kick-off session, guided autonomous work, exploration of soil and media resources, pair-based co-creation, tutoring/checkpoints, production of communication outputs, and final submission/reflection. The 40-hour structure is indicative and flexible, allowing pairs to organise their work according to their availability while ensuring that the core learning objectives and expected outputs are achieved.

The thematic basis of the crash course is connected to key soil-related topics and Soil Mission challenges, including nature-based solutions, bio-architecture and low-impact settlements; soil formation, classification and properties; impacts of pesticides on soil ecosystems; integrated waste management strategies; CO₂ emissions and carbon



SoilTribes

capture; conservation and protection of natural areas; and soil mapping, land degradation, soil conservation and regeneration monitoring. These topics provide a reference framework for participants, who are encouraged to connect them with their own knowledge, experience and communication interests.

The course also integrates communication strategies and tools such as social marketing, media and social media communication, storytelling and narratives, apps, games, visual communication and audience-oriented formats. The aim is not only to provide information, but to support participants in designing messages that are scientifically sound, understandable, emotionally engaging and capable of motivating awareness and action on soil health.

The main practical outputs of the crash course are a video message and a social postcard, developed collaboratively by each SOIL & MEDIA pair. These outputs serve as applied learning exercises and demonstrate the participants' ability to combine scientific accuracy with effective communication. Course completion will be based on participation in the learning pathway, documented pair work, use of the provided resources, and submission of the required outputs according to defined quality criteria, including clarity, relevance, creativity, scientific reliability, communication impact and alignment with Soil Mission challenges.

The deliverable also clarifies the relationship between T3.4 and T4.3. D3.4 defines the crash course programme, methodology, contents, expected outputs and completion framework. The further operationalisation of the course, including the use of thematic booklets, expert resources, videos and the competition/award process, will be implemented under T4.3. In this sense, D3.4 provides the foundation for the learning experience, while T4.3 will support its implementation, dissemination and connection with the SOILTRIBES competition activities.

Overall, the crash course represents an innovative format for soil science communication capacity-building. By combining peer learning, guided autonomy, expert-supported resources and collaborative media production, it aims to empower a new generation of Soil Science Communication Ambassadors capable of making soil health more visible, understandable and relevant to society.

1. Introduction and scope of D3.4

This deliverable, D3.4 – Programme for the crash course: Soil science communication in news media outlets, presents the framework for the SOILTRIBES crash course dedicated to soil science communication through news media and new media outlets. The crash course is designed to support young soil scientists and young media professionals in developing the skills, methods and collaborative practices needed to communicate soil-related challenges, solutions and opportunities to wider public audiences. It responds to the need to make soil science more accessible, engaging and actionable, especially for stakeholders and citizens who may not immediately recognise their connection to soil health, soil functions and soil restoration.

D3.4 defines the crash course as a flexible, online, peer-learning and pair-based programme. Rather than following a traditional lecture-based model, the course adopts a Do-It-Yourself (DIY) guided learning approach, where SOIL & MEDIA pairs work together, build on their own expertise, use the resources provided by the project, and co-create communication outputs addressed to non-specialist audiences.

The scope of this deliverable is therefore to present the methodological and operational basis of the crash course, including its objectives, learning approach, indicative 40-hour structure, thematic contents, expected outputs, completion requirements and connection with the subsequent activities implemented under T4.3.

1.1 Purpose of the deliverable

The purpose of D3.4 is to define the programme of the crash course on soil science communication in news media outlets. The deliverable establishes how the course is organised, what participants are expected to learn and produce, and how the learning process will be supported. More specifically, D3.4 defines:

- the overall objectives of the crash course;
- the DIY, peer-learning and pair-based methodology adopted for the course;
- the target participants and collaborative logic of the SOIL & MEDIA pairs;
- the main soil science and communication topics addressed by the programme;
- the indicative 40-hour online learning pathway;
- the role of supporting resources, thematic booklets, expert materials and tutoring;
- the expected course outputs, namely the video message and the social postcard;
- the completion requirements and light quality criteria for the outputs;
- the relationship between the crash course programme under T3.4 and its further implementation, competition and dissemination activities under T4.3.

This deliverable therefore provides the formal framework that explains how the crash course will function as a guided, autonomous and collaborative learning experience. It also clarifies that the DIY guide is the selected format through which the crash course



programme will be delivered to participants, while the detailed operationalisation of the competition/award will be addressed under T4.3.

1.2 Positioning of the DIY guide within D3.4

Within D3.4, the Do-It-Yourself (DIY) Guide is positioned as the selected format for delivering the SOILTRIBES crash course programme to participants. It should not be understood as a separate informal document, but as the **practical and methodological expression of the crash course itself**. The DIY Guide translates the objectives of T3.4 into an accessible, participant-facing learning pathway. It provides structure, guidance, resources and practical instructions that allow SOIL & MEDIA pairs to organise their work, explore soil and communication topics, collaborate across disciplines, and co-create the required outputs. This format reflects the methodological orientation adopted for the crash course. Instead of a conventional training model based mainly on fixed lectures and predefined teaching slots, the course is implemented through guided autonomous learning, peer exchange and learning by doing. Participants are encouraged to build on their own scientific and media expertise, to learn from their pair partner, and to apply the provided resources directly in the production of communication materials.

The DIY Guide therefore functions as both:

- a programme tool, because it structures the learning journey, contents, outputs and completion requirements of the crash course; and
- a participant support tool, because it offers practical guidance, templates, examples and resources for the SOIL & MEDIA pairs.

In this sense, the DIY Guide is the operational format chosen to deliver the D3.4 crash course programme in a flexible, experimental and collaborative way.

1.3 Link with the grant agreement and task 3.4

Task 3.4, “Crash course soil science communication in news media outlets”, responds to the need to improve the capacity of soil scientists to communicate effectively with different stakeholders and wider public audiences. The task recognises that many stakeholders may not immediately understand their connection to soil, and that soil scientists therefore need to develop communication skills that allow them to translate scientific knowledge into accessible, relevant and engaging messages. According to the Grant Agreement, the task foresees the development of a crash course programme about soil science communication in news media outlets. The programme is expected to combine soil science, soil restoration and communication, with attention to topics such as nature-based solutions, bio-architecture and low environmental impact settlements, pedological aspects, impacts of pesticides on soil, integrated waste management, CO₂ emissions and carbon capture, conservation and protection of natural areas, soil mapping, land degradation, soil conservation and soil regeneration



monitoring. The Grant Agreement also indicates that the course should address communication strategies and tools, including social marketing, media, social media, storytelling and narratives, apps and games. The programme and supporting resources are foreseen for an estimated duration of 40 hours and are intended to be used in connection with T4.3, where the crash course will be linked to the competition/award process. D3.4 responds to this task description by defining the crash course programme and by translating it into a practical DIY, peer-learning and pair-based format. The deliverable presents the course objectives, methodology, contents, indicative 40-hour structure, expected outputs, supporting resources and completion approach. It also explains how the course combines soil science topics with communication methods and how participants will apply this knowledge through the co-creation of media-oriented outputs. In this way, D3.4 provides the formal programme framework required by T3.4, while adopting a flexible delivery model that is coherent with the collaborative and experimental character of SOILTRIBES.

1.5 Relationship between T3.4 and T4.3

T3.4 and T4.3 are closely connected, but they have different roles within the SOILTRIBES project. T3.4 defines the crash course programme. It establishes the objectives, methodology, thematic contents, learning pathway, expected outputs and completion requirements of the course. It also positions the DIY Guide as the selected format for delivering the crash course to the SOIL & MEDIA pairs. T4.3, in turn, concerns the implementation and operationalisation of the crash course and its connection with the competition/award process. This includes the practical organisation of the course, the delivery and use of supporting resources, the management of the competition/award, the involvement of jury members, the selection process, and the dissemination or valorisation of selected outputs. The relationship between the two tasks can therefore be summarised as follows:

Table 1 – Tasks relationship for the development and implementation of the Crash Course

Task	Main role	Focus
T3.4	Defines the crash course programme	Methodology, contents, learning pathway, resources, outputs and completion framework
T4.3	Implements and operationalizes the course and competition/award	Delivery, participant follow-up, expert resources, competition procedures, jury, awards and dissemination

This deliverable focuses on T3.4. It includes only the information on the competition/award that is necessary to explain the overall learning pathway and the connection between course completion and later participation in T4.3 activities. **Detailed rules, procedures, jury composition, award management and dissemination actions will be further defined and implemented under T4.3.** This distinction ensures



SoilTribes

that D3.4 remains focused on the crash course programme, while recognising that the programme will be practically activated, expanded and connected to the competition/award through T4.3. The NATI00NS reference that will draw on "the highly successful National Engagement Events" from the NATI00NS project to support SLA implementation and will be part of the T4.3 events organization.

Targets, KPIs and success criteria will be reflected in the T4.3 exploitation among which: the competition experts (i.e. participant paired teams 10 per SLAs); a target of at least 75% of the respondents are expected to access the resources related.

The workflow among T3.4-T4.3 is already started. Among the several actions done, a poster advertising the open call has already been produced.

Also, the open call is a document attached to the form (using the European EU Survey platform) built by each SLA for the recruitment of young Media&Soil couples.

Becoming a Soil Ambassador?

youth
Soil&Media
experts pairs

**SOIL SCIENTIFIC COMMUNICATION IN NEW MEDIA OUTLETS
ONLINE CRASH COURSE & COMPETITION**

7 Soil Lab Activators, SLA, of the UE Project SOILTRIBES are going to select in their countries

10 PAIRS

10 YOUTH SOIL SCIENTISTS & 10 YOUTH MEDIA EXPERTS

WHO Youth Soil Scientists&Media under 35	WHY • Raise awareness in soil issues communication learning by doing from each other • Improve communication skills to create new ways to tell stories about soil • Finding solutions that will impact both research and public awareness
WHEN • JUNE 2026 - call for application • OCTOBER 20th 2026 - deadline for submission • NOVEMBER 2026 - admission of the 10 pairs • NOVEMBER 18th 2026 - crash course Kick-off • NOVEMBER - MARCH 5th 2027 - online crash course • MARCH - APRIL 2027 - selection of the winning PAIR • APRIL - JUNE 2027 - SLA award ceremony • JUNE - DECEMBER 2027 - SoilTribes festival across EU	WHAT Winning PAIR will receive an Award. 2,500 € for travel, accommodation and meals refund to take part in the SLA Award Ceremony and in the SoilTribes final Festival across EU

HOW

Space for QR code that links to EU survey enrolment of the 10 pairs for each SLAs

Partners: SoilTribes (Rotted in action), POLITECNICO MILANO 1863, oce, unesco, AARHUS UNIVERSITY, Agroltransilvania, Platoniq, INOVA+, and the European Union.

Fig. 01 Poster created for advertising the Crash-Course open call



SoilTribes

2. Pedagogical approach and methodology

The SOILTRIBES crash course adopts a flexible, collaborative and practice-oriented pedagogical approach. Its main objective is not only to transfer information about soil science or media communication, but to create conditions for young soil scientists and young media professionals to learn from each other and jointly produce effective communication outputs. The course is therefore based on a DIY, peer-learning and pair-based methodology, where participants are guided by a structured framework, supporting resources, expert inputs and tutoring moments, while retaining autonomy to organise their own learning process and collaborative work. This approach reflects the specific nature of the course: soil science communication requires both scientific accuracy and communication effectiveness.

For this reason, the learning process is centred on the collaboration between two complementary profiles: soil experts, who bring knowledge of soil systems, soil threats and restoration challenges; and media experts, who bring skills in storytelling, audience engagement, visual communication and media formats. The pedagogical model combines five main principles:

- guided autonomous learning;
- peer-to-peer knowledge exchange;
- interdisciplinary collaboration;
- learning by doing;
- expert-supported feedback.

Together, these principles support the development of practical competences for communicating soil science in accessible, engaging and impactful ways.

2.1 Evolution of the course approach

During the development of T3.4, the crash course approach evolved from a more traditional training model towards a more flexible and experimental learning format. An initial lecture-based structure, organised around predefined scientific and communication contents, was considered at an earlier stage. However, the course design was progressively adapted to better reflect the collaborative logic of SOILTRIBES and the specific profile of the selected participants. Since the crash course brings together young soil scientists and young media professionals, the added value of the course lies not only in providing general training materials, but in enabling participants to exchange expertise, learn from each other and translate their combined knowledge into communication outputs. For this reason, the final approach is not based on a conventional sequence of lectures or fixed theoretical modules. Instead, the crash course is structured as a DIY, peer-learning and pair-based experience, where each SOIL & MEDIA pair works from its own knowledge, interests and professional background, supported by the project resources and by expert guidance. This evolution allows the



SoilTribes

course to be more responsive to the diversity of participants, contexts and soil-related topics across the seven Soil Lab Activator countries. It also reinforces the experimental character of SOILTRIBES, by testing a model of science communication capacity-building that is less dependent on one-way knowledge transfer and more focused on co-creation, autonomy and practical communication outputs.

2.2 DIY and guided autonomous learning

The crash course is delivered through a Do-It-Yourself (DIY) guided learning approach. This means that participants are not expected to follow a rigid timetable of lectures, but to use the course framework, resources and guidance materials to organise their own learning pathway. The DIY approach gives SOIL & MEDIA pairs the flexibility to manage their 40-hour learning process according to their availability, interests and working rhythm. At the same time, the process remains guided by a clear structure, expected outputs and supporting materials. Participants will be supported through different types of resources, including:

- the DIY Guide;
- thematic booklets on selected soil-related topics;
- media and communication resources;
- templates and practical tools;
- examples of communication outputs;
- expert inputs and/or videos;
- tutoring and feedback moments.

These materials will help participants explore soil science topics, connect them with the EU Soil Mission challenges, identify target audiences, define key messages, and choose appropriate media formats. The resources are intended to support the learning process without prescribing a single path or limiting the creativity of the pairs. Guided autonomous learning is therefore central to the course. Participants are encouraged to take ownership of their learning journey, while using the project materials and support mechanisms to ensure that their work remains scientifically reliable, communicatively effective and aligned with the objectives of SOILTRIBES.

2.3 Peer learning between soil and media experts

The crash course is built around the collaboration between SOIL & MEDIA pairs. Each pair brings together two complementary profiles: a young soil expert and a young media expert. The soil expert contributes knowledge on soil science, soil health, soil degradation, soil restoration, ecosystem services, and the wider challenges addressed by the EU Mission “A Soil Deal for Europe”. This expertise ensures that the communication outputs are scientifically accurate and relevant to current soil-related challenges. The media expert contributes knowledge on communication strategies, storytelling, audience engagement, visual language, media formats, social media



SoilTribes

dynamics and the adaptation of messages to different publics. This expertise ensures that the scientific content is translated into accessible, attractive and impactful formats. The learning process is mutual. Soil experts learn how to make their knowledge clearer, more engaging and more relevant for non-specialist audiences. Media experts learn how to understand and communicate soil-related topics with greater scientific depth and responsibility.

This peer-learning logic is one of the core innovations of the crash course. Rather than positioning one profile as the “teacher” and the other as the “learner”, the course recognises that both participants hold valuable expertise. The pair becomes a space for exchange, negotiation and co-creation, where scientific knowledge and communication knowledge are brought together to produce meaningful public messages about soil.

2.4 Learning by doing

The crash course is fundamentally based on learning by doing. Participants develop their competences through the practical process of creating communication outputs, rather than only through the passive reception of information. The main learning outputs of the course are: (i) a video message communicating a selected soil-related topic or challenge; (ii) a social postcard summarising and reinforcing the key message of the video. Through the development of these outputs, participants are expected to apply both scientific and communication competences. They will select and frame a soil-related issue, identify the target audience, define the key message, choose the most suitable narrative and visual approach, and produce materials that are clear, engaging and accessible to the public.

This practical work allows participants to experience the full process of science communication: from understanding a scientific topic, to transforming it into a story, to adapting it to a media format, to considering its potential impact on public awareness and action. Learning by doing also supports reflection. As participants produce their outputs, they are encouraged to discuss choices, test ideas, receive feedback, revise their work and improve the final result. In this sense, the video message and social postcard are not only final products but also learning tools that structure the entire crash course experience.

2.5 Role of tutors and expert support

Although the course is based on DIY and guided autonomous learning, participants will not work in isolation. Tutors and experts (from the consortium/universities/external) will provide support throughout the process to ensure that the learning experience remains focused, coherent and aligned with the objectives of the crash course. The role of tutors and experts is to guide, support and provide feedback, without transforming the course into a conventional lecture-based training programme. Their contribution may include:

- introducing the objectives, methodology and expected outputs of the course during the kick-off;



SoilTribes

- providing or curating thematic resources and booklets;
- offering expert inputs on selected soil and communication topics;
- supporting participants during checkpoints or tutoring moments;
- helping pairs clarify their topic, audience and key message;
- providing feedback on draft ideas, storyboards or preliminary outputs;
- ensuring that the final outputs are aligned with the course objectives and basic quality requirements.

This support is designed to strengthen the autonomy of the pairs, not to replace it. Tutors and experts act as facilitators of the learning process, helping participants navigate the available resources, make informed choices and improve the quality of their outputs. The expert-supported approach therefore balances flexibility with quality assurance. It allows the crash course to remain open, experimental and participant-driven, while ensuring that the outputs are scientifically sound, communicatively effective and relevant to the SOILTRIBES mission.

3. Target groups, objectives and learning outcomes

The SOILTRIBES crash course is addressed to young participants who can contribute to strengthening the connection between soil science, media communication and society. The course brings together young soil scientists and young media professionals in a collaborative learning format designed to support the communication of soil-related challenges, solutions and opportunities to wider audiences. The target groups, objectives and learning outcomes of the course reflect the overall ambition of SOILTRIBES: to increase soil literacy, raise public awareness about soil health, and support the emergence of a new generation of communicators able to translate scientific knowledge into accessible, engaging and action-oriented messages.

The crash course does not aim to train participants only through theoretical knowledge transfer. Instead, it supports them in applying their existing knowledge and skills in a collaborative process, where soil expertise and media expertise are combined to produce concrete communication outputs.

3.1 Target participants

The crash course is designed for SOIL & MEDIA pairs, composed of young soil scientists and young media professionals from the seven Soil Lab Activator countries involved in SOILTRIBES: Italy, Portugal, France, Spain, Denmark, Poland and Romania. Each pair brings together two complementary profiles. The young soil scientist contributes knowledge on soil science, soil health, soil functions, soil degradation, restoration practices and the challenges addressed by the EU Mission “A Soil Deal for Europe”. The young media professional contributes knowledge on communication, storytelling, audience engagement, media formats, visual language and the use of new media outlets.



SoilTribes

The course is based on the idea that effective soil science communication requires both scientific reliability and communication capacity. Soil-related issues are often complex, technical and difficult for non-specialist audiences to understand. At the same time, media communication requires accuracy, clarity and responsibility when dealing with scientific topics. By working in pairs, participants are encouraged to bridge these two dimensions and to learn from each other. The SOIL & MEDIA pairs are therefore both the target group and the core learning unit of the crash course. Their collaboration is central to the methodology, the learning process and the final outputs.

3.2 General objective of the crash course

The general objective of the crash course is to strengthen the capacity of young soil scientists and young media professionals to communicate soil science through accessible, creative and impactful media formats. The course aims to support participants in translating soil-related knowledge into messages that can reach non-specialist audiences, including citizens, communities, stakeholders, policymakers and media users. It seeks to make soil health more visible and understandable by connecting scientific content with storytelling, visual communication, social media and other media-oriented formats. Through this process, the crash course contributes to the broader objective of increasing public awareness of soil health and its relevance for climate change, biodiversity, food systems, urban development, circular economy, pollution prevention, ecosystem restoration and sustainable land use. The course also aims to encourage participants to become active communicators of soil science, capable of explaining why soil matters and how society can contribute to its protection, restoration and sustainable management.

3.3 Specific objectives

The crash course pursues several specific objectives related to scientific communication, public engagement, media literacy, soil awareness and collaborative production. First, the course aims to improve participants' ability to communicate scientific knowledge clearly and accurately. Young soil scientists are supported in translating complex soil concepts into language and formats that are understandable for non-specialist audiences, while media professionals are encouraged to engage with soil-related content in a scientifically responsible way. Second, the course seeks to strengthen public engagement with soil health. Participants are encouraged to think about how different audiences relate to soil, what messages may be meaningful to them, and how communication can motivate awareness, interest and action. Third, the course promotes the use of storytelling and narrative techniques as tools for soil science communication. Participants are supported in moving beyond purely technical explanations and in developing messages that connect soil issues with everyday life, local contexts, emotions, values and future-oriented solutions. Fourth, the crash course aims to increase media literacy in relation to soil challenges. This includes



SoilTribes

understanding how different media formats and channels work, how audiences consume information, and how communication outputs can be designed for social media, news media and other public-facing platforms. Fifth, the course contributes to soil awareness by encouraging participants to explore key soil topics and connect them with the EU Soil Mission challenges. The programme supports participants in identifying relevant soil issues and in framing them in ways that highlight their social, environmental and policy relevance. Finally, the course promotes collaborative production. The SOIL & MEDIA pairs are expected to work together to co-create a video message and a social postcard, combining scientific accuracy, creativity, audience relevance and communication impact.

An objective of the Soil&Media Youth Scientist crash-course is to improve the Soil Communication Networks joining – as long-term outcome – by the selected journalists and media professionals. Lasting "Soil Communication Networks" will be subjects of the discussion with the 2 selected Media Experts involvement, explaining how will provide guidance on how to effectively engage with media stakeholders, establish professional collaborations, and identify communication and dissemination opportunities for enhancing the visibility and societal impact of soil-related topics.

3.4 Expected learning outcomes

By the end of the crash course, participants are expected to have developed practical competences in soil science communication and interdisciplinary collaboration. Participants should be able to explain selected soil challenges to non-specialist audiences using clear, accessible and engaging language. They should be able to identify the key scientific messages behind a soil-related topic and translate them into communication formats that can be understood by wider publics.

Participants should also be able to transform scientific knowledge into media-friendly content. This includes selecting relevant information, simplifying complex concepts without losing scientific accuracy, building a coherent narrative, and adapting the message to the chosen format and audience.

Another expected learning outcome is the ability to identify target audiences and appropriate communication channels. Participants should be able to reflect on who they want to reach, what those audiences need to understand, and which media formats or platforms are most suitable for communicating with them.

By the end of the course, each SOIL & MEDIA pair should be able to co-create two practical communication outputs: a video message and a social postcard. These outputs should demonstrate the pair's capacity to combine soil science knowledge with communication techniques, visual language and storytelling.

Participants should also be able to connect soil health with the EU Mission Soil challenges, showing how specific soil-related topics contribute to broader environmental, social and policy objectives. This includes linking soil communication to



SoilTribes

issues such as land degradation, soil pollution, carbon storage, biodiversity, urban soil sealing, sustainable agriculture, ecosystem restoration and climate resilience.

Finally, participants should be prepared to act as Soil Science Communication Ambassadors. This means being able to raise awareness about the importance of soil, communicate its relevance to society, and contribute to a stronger public understanding of soil health, soil restoration and sustainable land use.

4. Crash course structure: indicative 40-hour learning pathway

The SOILTRIBES crash course is designed as an estimated 40-hour online learning pathway. These 40 hours provide a common reference framework for all SOIL & MEDIA pairs, while allowing enough flexibility for participants to organise their work according to their own availability, interests, professional background and collaboration rhythm. The course does not follow a rigid timetable or a fixed sequence of compulsory lecture sessions. Instead, it is structured as a guided and flexible process that combines individual preparation, pair-based collaboration, exploration of resources, tutoring moments, practical production and final reflection. This structure is coherent with the DIY, peer-learning and learning-by-doing methodology adopted for D3.4.

The 40-hour pathway is intended to support participants in moving progressively from orientation and topic exploration to the co-creation of concrete communication outputs. Throughout the process, participants are expected to use the materials and resources made available by the project, exchange knowledge within their pair, define a soil-related communication challenge, develop a clear message for a specific audience, and produce the required video message and social postcard. The indicative structure presented in this section should therefore be understood as a learning pathway, not as a strict timetable. It provides guidance on the main phases of the crash course and on the approximate effort expected from participants, while leaving each pair the autonomy to adapt the work process to their needs.

4.1 Overview of the 40-hour course

The crash course corresponds to an estimated workload of 40 hours per SOIL & MEDIA pair. These hours will be carried out mainly online, through remote collaboration tools such as Teams, Google Meet, Zoom, shared documents, shared folders and other digital platforms selected by the participants or proposed by the project. The 40 hours are flexible and may be distributed across the implementation period of the crash course. Participants are not required to follow a daily or weekly fixed timetable, provided that they complete the expected activities, document their work process and submit the required outputs within the agreed deadline. This flexible structure is particularly important because the crash course involves young participants from different countries, with different professional, academic and personal schedules. The online and autonomous format allows each pair to organise meetings, working sessions and



SoilTribes

production tasks in a way that is realistic and manageable. At the same time, the flexibility of the course does not mean that the learning process is unstructured. The course includes a clear set of phases, resources, expected outputs and completion requirements. The 40-hour flow is organised around the following main components/activities:

Phase	Activity	Estimated hours
1	Kick-off and onboarding	4 h
2	Pair interview and getting to know each other's background	2 h
3	Exploration and selection of soil topics and Soil Mission challenges related to pair's background and shared interests (drawing on the booklets and other available materials)	4 h
4	Exploration of media, storytelling and communication resources related to the experience and co-working of the pairs	4 h
5	Pair co-work: topic selection, audience definition and message framing	4 h
6	Development of video concept, storyboard, images collection and frames implementation	12 h
7	Development of social postcard	4 h
8	Tutoring/checkpoints and peer exchange	4 h
9	Finalization, submission and reflection/questionnaire	2 h
Total		40 h

This structure ensures that all participants follow a coherent learning process, while preserving the DIY and peer-learning character of the course. Each pair is encouraged to take ownership of its work, make creative decisions and develop communication outputs that reflect both scientific accuracy and media effectiveness. The 40-hour course should therefore be understood as a guided framework for collaborative production. It supports participants in transforming soil-related knowledge into accessible and impactful communication materials, while preparing them to act as Soil Science Communication Ambassadors within and beyond the SOILTRIBES project.



SoilTribes

5. Course contents

The SOILTRIBES crash course combines soil science, soil restoration and communication methodologies to support participants in developing accessible and impactful media outputs. The course contents are organised around two complementary dimensions: the soil science and Soil Mission topics, which provide the thematic basis of the course, and the media and communication topics, which provide the tools and methods for translating scientific knowledge into public-facing messages. The course does not aim to provide a comprehensive academic training on all soil science or media communication topics. Instead, it offers a structured reference framework that participants can use to connect their own expertise, interests and professional backgrounds with the wider objectives of SOILTRIBES and the EU Mission “A Soil Deal for Europe”. The selected topics are intended to guide the work of the SOIL & MEDIA pairs, helping them choose a relevant soil-related challenge, understand its scientific and societal importance, identify the most appropriate audience, and develop communication outputs that are scientifically accurate, clear, creative and engaging.

5.1 Soil science and soil mission topics

The soil science component of the crash course is organised around seven key thematic areas. These topics reflect major challenges for soil health, soil restoration and sustainable land use, while also providing participants with a broad range of possible entry points for their communication outputs.

Table 2 - The seven key soil topics covered by the Crash Course

The seven key soil topics covered by the Crash Course	
Nature-based solutions (NBS), bio-architecture, and low environmental impact buildings	Exploring sustainable urban development through bio-architecture and nature-based solutions (NBS), focusing on how urban settlements can reduce their environmental impact and improve soil health through responsible design and construction practices.
Pedological aspects: soil formation, classification, and properties	Understanding the foundational processes of soil formation, classification systems, and the diverse properties of soils, which influence their management and use across different landscapes.
Impact of pesticides on soil	Analyzing the detrimental effects of pesticides on soil organisms, biodiversity, and nutrient cycling. This topic also emphasizes the importance of Integrated Pest Management (IPM) and eco-friendly alternatives to mitigate these impacts and protect soil ecosystems.
Integrated waste management strategies	Examining strategies to reduce waste and promote sustainability, focusing on how effective waste management can reduce the environmental footprint and enhance soil health



	through composting, recycling, and other soil-friendly practices.
CO₂ emissions and carbon capture techniques	Investigating methods to reduce greenhouse gas emissions and their impact on soil quality, including carbon capture techniques and the role of soil in sequestering carbon as a key element in climate change mitigation.
Conservation and protection of natural areas	Focusing on the conservation of fragile ecosystems and protected zones, this topic highlights the importance of preserving soil biodiversity and ecosystem services to ensure the continued health of natural environments.
Soil mapping and conservation techniques	Understanding the role of soil mapping and monitoring land degradation, soil regeneration, and conservation techniques to ensure sustainable land use practices that support soil health and prevent further degradation.

Together, these seven topics provide the scientific basis of the crash course. Participants are not expected to cover all topics in their final outputs. Instead, each SOIL & MEDIA pair is encouraged to select one or more topics that are most relevant to their expertise, local context, target audience and communication objective.

5.2 Connection with EU mission soil challenges

The course contents are directly connected with the objectives of the EU Mission “[A Soil Deal for Europe](#)”, which recognises healthy soils as a foundation for sustainable food systems, biodiversity, climate resilience, water regulation, circular economy, ecosystem services and human well-being. The seven soil science topics addressed in the crash course should therefore be interpreted in relation to the wider Soil Mission challenges and to the broader European policy framework for sustainability, climate action and nature restoration. The Soil Mission challenges provide a common reference framework for the SOIL & MEDIA pairs. They help participants connect their specific scientific or communication background with broader societal priorities and support the development of communication outputs that are not only scientifically accurate, but also policy-relevant, accessible and action-oriented.

Table 3 – EU soil mission challenges

Soil Mission goal	Objective	Target
Reduce Desertification	Safeguard and restore ecosystems in desertification-prone areas.	Prevent and reduce land degradation and soil erosion, particularly in drylands.
Conserve Soil Organic Carbon Stocks	Preserve and enhance soil organic carbon, a key element in soil health and climate change mitigation.	Protect carbon-rich soils and apply carbon sequestration techniques.



Stop Soil Sealing and Increase Reuse of Urban Soils	Address soil sealing and promote urban soil restoration through sustainable planning strategies.	Promote urban planning strategies to increase soil permeability and reuse.
Reduce Soil Pollution and Enhance Restoration	Minimize soil contamination from pesticides, agrochemicals, and industrial pollutants.	Reduce soil pollution through agroecological practices and regenerative agriculture.
Prevent Soil Erosion	Protect soil from erosion and develop methods to track and mitigate its effects.	Establish a Soil Observatory to monitor and track soil erosion and land degradation.
Improve Soil Structure to Enhance Soil Biodiversity	Reduce compaction, enhance permeability, and foster a thriving soil biome for biodiversity.	Reduce soil compaction and promote biodiversity in agriculture and forestry systems.
Promote Diversification in Agriculture and Forestry	Promote agricultural and forestry systems that prioritize soil health, biodiversity, and ecological balance.	Encourage diversification through agroforestry, organic agriculture, and minimal tillage.

By connecting the course contents with the Soil Mission challenges, participants are encouraged to move beyond isolated scientific facts and to frame soil health as a societal issue. Soil is not only a technical or environmental subject; it is connected to food security, climate change, biodiversity, urban development, public health, rural territories, circular economy and the quality of life of communities.

This connection is essential for effective communication. To reach non-specialist audiences, participants need to explain why soil matters and how soil-related challenges affect everyday life, public policies and future sustainability. The Soil Mission challenges provide a shared European framework that helps participants situate their messages within broader environmental, social and policy priorities.

The SOIL & MEDIA pairs are therefore encouraged to identify how their selected topic contributes to one or more Soil Mission challenges. For example, a communication output on pesticides may be linked to soil pollution, biodiversity and sustainable agriculture. A topic on bio-architecture and low-impact settlements may be linked to soil sealing, urban soil restoration and nature-based solutions. A topic on carbon capture may be linked to climate mitigation, carbon storage and soil organic matter. A topic on soil mapping may be linked to monitoring, land degradation, erosion prevention and regeneration. While interpreting the Soil Mission challenges for communication through news media and new media outlets, participants should focus on the critical issues, priorities and solutions associated with each challenge. The objective is to highlight



SoilTribes

good practices, innovative technical solutions and effective strategies that contribute to the restoration, protection and sustainable management of soil health and soil functions. These solutions should also be framed in relation to wider EU strategies and policy priorities, including:

- Decarbonisation, climate change mitigation and adaptation, by exploring how soil management can contribute to reducing emissions, storing carbon and increasing territorial resilience;
- Air, water and forest quality, biodiversity and nature restoration, by linking soil health to broader environmental goals and to the role of nature-based solutions in strengthening ecosystem resilience;
- Farming and rural/internal areas redevelopment, by showing the importance of soil health for sustainable agriculture, food security, rural regeneration and territorial cohesion;
- Circular economy transition, by explaining how soil conservation and regeneration relate to waste reduction, composting, recycling, organic farming and sustainable resource use.

Participants are invited to reflect on their own areas of expertise and apply them to one or more of the Soil Mission challenges. This process involves identifying which challenge or challenges best align with their scientific, technical, territorial or media background, and considering how their knowledge can contribute to practical, innovative and understandable solutions for soil preservation, regeneration and sustainability. The SOIL & MEDIA pairs are also encouraged to craft compelling narratives that connect scientific knowledge with the broader context of EU environmental and policy objectives. The use of accessible language, strong visuals, storytelling and appropriate media formats will help translate complex soil science topics into messages that can reach citizens, communities, stakeholders, policymakers and wider audiences.

This approach helps participants develop communication outputs that are scientifically grounded, socially relevant and aligned with the ambitions of the European Green Deal and the EU Soil Mission. It also reinforces the role of the crash course in supporting the wider SOILTRIBES objective of reconnecting society with soil values, soil functions and soil restoration.

5.3 Media and communication topics

The communication component of the crash course provides participants with tools, methods and formats to transform soil science knowledge into effective public messages. The objective is to support the SOIL & MEDIA pairs in designing outputs that are not only scientifically accurate, but also clear, attractive, audience-oriented and capable of generating awareness and engagement.



Title	Overview	Expert profile
How to Create a Video Focused on Soil Communication	Learn the essential steps and techniques for crafting a video that effectively communicates soil science topics to a broad audience.	Media communication specialist
How to Communicate Your Research to a Large Audience	Explore methods for communicating complex scientific research in a simple and engaging way that resonates with a wide variety of audiences.	Science communicator
Identifying Your Audience	Understand how to define your primary and multi-target audiences. Learn how to tailor your message to different groups, ensuring it reaches the right people.	Media strategist or journalist
Choosing the Right News Media Outlet	Explore which media platforms (TV, online, print, social media, etc.) are best suited for disseminating your content to your target audience.	Media strategist or journalist
Launching Social Media Content	Learn how to effectively launch a social-video message, social posts, and other content formats that engage your audience and spread awareness about soil science.	Social media expert
Selecting Media Formats	Discover which media formats (e.g., video, articles, infographics, etc.) work best for communicating your research to the public.	Social media expert
Storytelling Techniques, Using Contrast, Imagery, and Humour to Improve Communication	Gain insight into the power of storytelling and how to incorporate it into your media communication. Learn to create compelling narratives that simplify complex issues and connect with audiences emotionally. Understand how to use contrasting visuals, opposing ideas, and humour (gaming and irony) to enhance your message and engage audiences on a deeper level.	Storytelling expert or content strategist
Recommendations on re-using sources covered by Copyright and costs	Learn about copyright laws and how to manage and obtain permission to use media resources in your content creation.	Media communication specialist
Available Formats and Tools (per chapter)	Access a variety of formats and templates to help structure your content effectively. Links to essential	Science communicator and Media



	resources will be provided to guide you through the process.	communication specialist
--	--	--------------------------

Together, these communication topics provide the methodological basis for the practical work of the SOIL & MEDIA pairs. They help participants move from scientific content to audience-oriented communication, ensuring that their outputs are understandable, responsible, creative and aligned with the objectives of SOILTRIBES.

5.4 Expert Resources and Thematic Booklets

The crash course will be supported by a set of expert resources and thematic materials designed to guide the work of the SOIL & MEDIA pairs. These resources will help participants explore selected soil science and communication topics, connect them with the EU Soil Mission challenges, and transform this knowledge into accessible and engaging media outputs. The resources are being developed¹ and will include thematic booklets, expert materials, useful links, examples, templates and, where relevant, short expert videos. They are intended to provide participants with a reliable starting point for their autonomous learning process, while preserving the flexible and DIY character of the course. The thematic booklets will focus on selected soil-related and communication-related topics. They may include introductory explanations, key concepts, examples, case studies, references, good practices and possible areas for action. Their purpose is not to replace the knowledge and experience of the participants, but to offer a common reference base that can support the development of the video message and social postcard.

Expert materials and videos will complement the booklets by providing additional insights from soil scientists, communication experts, media specialists and other relevant contributors. These inputs will help participants better understand specific soil challenges, communication techniques, audience engagement strategies and responsible use of sources. These resources will be made available to the selected SOIL & MEDIA pairs before the start of the crash course, so that participants can consult them in preparation for the kick-off and use them throughout the 40-hour learning pathway. Their use will remain flexible: each pair will be encouraged to select the resources most relevant to its chosen topic, audience and communication objective.

¹ A booklet is a mini book - copying the physical attributes of a book but on a smaller scale and with fewer pages. The Cambridge Dictionary describes a booklet as "a very thin book with a small number of pages and a paper cover, giving information about something." The primary purpose of booklets is to provide information in an organized, compact, and easily distributable format.

Our goal here is to provide Policy Makers with a starting point, a booklet that introduces them to a relevant topic, with some examples and recommendations.

More info:

<https://exwhyzed.com/what-are-booklets-a-comprehensive-guide/>

Examples of booklets:

<https://unalab.eu/en/documents/nbs-best-practices-booklet>

<https://blog.flipbuilder.com/8-inspiring-booklet-examples/6514/>



SoilTribes

The further operationalisation of these booklets, expert resources and videos will take place under T4.3, in connection with the practical implementation of the crash course, the support to participants, and the competition/award process. In this way, D3.4 defines the role of these resources within the crash course programme, while T4.3 will ensure their practical use, activation and integration during the course implementation.

6. Course implementation

The implementation of the SOILTRIBES crash course (T4.3) is organised as a flexible online process that combines common project-level milestones with autonomous work by the SOIL & MEDIA pairs. The course is designed to provide a shared framework for all participants, while allowing each pair to organise its work according to its own availability, expertise, selected topic and communication approach. The course implementation includes the kick-off meeting, the 40-hour pair-based learning pathway, the use of the DIY Guide and supporting resources, tutoring and feedback moments, the production of the expected outputs, and the documentation of participation. These elements belong to the crash course programme defined under T3.4. At the same time, the crash course is closely connected with the activities foreseen under T4.3, especially the competition/award process and the further dissemination or valorisation of selected outputs. For this reason, this section distinguishes between the elements that are part of the course implementation and those that will be further operationalised under T4.3.

6.1 Course timeline

The crash course timeline is organised around **three main phases**: preparation, implementation, and follow-up. This structure allows the project to manage the selection and onboarding of participants, support their 40-hour learning pathway, and connect the course outputs with the subsequent T4.3 competition/award activities.

The activities directly related to the crash course include the selection and onboarding of SOIL & MEDIA pairs, the kick-off meeting, the autonomous pair work, the use of resources and booklets, tutoring and checkpoints, the development of the video message and social postcard, and the documentation of participation.

The activities related to the competition/award, including the formal admission to the contest, jury evaluation, winner selection, award ceremony, prizes and further dissemination of winning outputs, will be further implemented under T4.3. D3.4 only refers to these elements to clarify the connection between course completion and the later competition/award process. The indicative timeline is therefore structured as follows:



Table 5 - Indicative timeline of the crash course and link with T4.3

Phase	Main activity	Relation with T3.4 / T4.3
Before the crash course	Call for applications and selection of participants	Preparatory activity supporting the course implementation
Before the crash course	Contract signature and onboarding of selected pairs	Preparatory activity supporting the course implementation
Before the crash course	Provision of DIY Guide, booklets and expert resources	T3.4 course resources, further operationalized under T4.3
Start of the course	Online kick-off meeting	T3.4 course launch
During the course	40-hour online pair work	T3.4 crash course implementation
During the course	Exploration of soil and communication resources	T3.4 course implementation
During the course	Mid-term tutoring/checkpoint	T3.4 course support
During the course	Pre-final review with tutors/experts	T3.4 course support
End of the course	Submission of video message, social postcard and participation evidence	T3.4 course completion
After course completion	Admission to competition/award	T4.3
After course completion	Jury evaluation, selection of winners and award ceremony	T4.3
After course completion	Dissemination and valorization of selected outputs	T4.3

This distinction ensures that D3.4 remains focused on defining and supporting the crash course programme, while recognising that the course outputs will later feed into the competition and dissemination activities developed under T4.3.

6.2 Kick-off meeting

The online kick-off meeting marks the official start of the SOILTRIBES crash course. It is planned as the first common moment for the selected SOIL & MEDIA pairs and will introduce the objectives, methodology, timeline, resources, expected outputs and completion requirements of the course. The kick-off meeting (planned to October 2026) has an important role in creating a shared understanding of the course. It will explain the DIY, peer-learning and pair-based approach, clarifying that the 40-hour pathway is not a conventional lecture-based programme, but a guided autonomous learning process supported by resources, expert inputs and tutoring moments.



SoilTribes

During the kick-off, participants will be introduced to the role of the SOIL & MEDIA pairs, the expected collaboration between soil experts and media experts, the available thematic booklets and communication resources, and the practical requirements for the video message and social postcard. The meeting will also clarify how participants should document their work and how the course connects with the later T4.3 competition/award process. The kick-off meeting will therefore function as a common orientation session. It will ensure that all participants start the course with the same basic information, while leaving each pair the flexibility to define its own working rhythm, selected topic, audience and communication approach.

6.3 Pair work and online collaboration

The core of the crash course is the online collaboration between the SOIL & MEDIA pairs. Each pair is expected to organise its own 40-hour learning pathway, using the DIY Guide, booklets, templates, expert materials and other resources provided by the project. The 40 hours may include individual preparation, joint meetings, resource analysis, topic selection, audience definition, message framing, storyboard development, drafting, design work, video production, postcard production, feedback integration and final submission. The distribution of hours may vary from pair to pair, depending on their selected topic, working method and production needs. Online collaboration can take place through remote meeting platforms such as Teams, Google Meet, Zoom or equivalent tools, as well as through shared documents, collaborative folders, messaging platforms and other digital environments. Each pair is responsible for agreeing on a practical working method that allows both members to contribute actively and equitably. The pair work should reflect the mutual learning logic of the course. Soil experts are expected to support the scientific accuracy and relevance of the content, while media experts are expected to support the clarity, creativity, format and audience orientation of the communication outputs. However, both members should be involved in the full process, from concept development to final production.

6.4 Tutoring and checkpoints

Tutoring and checkpoints are included in the course implementation to support the SOIL & MEDIA pairs throughout their learning and production process. These moments are intended to provide guidance, feedback and quality support, without transforming the crash course into a traditional lecture-based training programme.

A mid-term checkpoint may be organised during the course period to allow participants to discuss their progress, clarify doubts and receive feedback on their selected topic, target audience, key message or preliminary concept. This moment can help pairs confirm whether their work is aligned with the course objectives and whether their communication approach is clear and feasible.

A pre-final review may also be organised before the submission deadline. This review can support participants in refining their video message and social postcard, improving



SoilTribes

scientific accuracy, communication clarity, visual quality, accessibility and alignment with the Soil Mission challenges.

Tutors and experts may provide feedback on elements such as:

- relevance of the selected soil topic;
- connection with Soil Mission challenges;
- clarity of the key message;
- suitability of the target audience and communication channel;
- scientific reliability of the content;
- narrative and storytelling approach;
- visual and technical quality of the outputs;
- compliance with basic copyright, consent and responsible communication principles.

The role of tutoring is therefore to support the autonomy of the pairs and improve the quality of the outputs. It provides guidance and feedback while preserving the DIY and peer-learning character of the course.

6.5 Documentation of participation

As part of the course completion framework, participants will be asked to document their 40 hours of online work. This documentation is important to demonstrate active participation in the crash course and to provide evidence of the collaborative process developed by each SOIL & MEDIA pair. The documentation may include simple evidence of online meetings, shared work sessions and production activities. This can be collected through screenshots of online meetings, meeting agendas, short minutes, shared working documents, collaboration logs, draft materials, storyboard versions or other evidence agreed by the project team. The objective is not to create an excessive administrative burden for participants, but to ensure that the 40-hour commitment is traceable and that the collaborative nature of the course is visible. The documentation should show that both members of the pair were involved in the process and that the final outputs resulted from a genuine co-creation effort.

Each pair may be asked to submit a short participation evidence file at the end of the course, together with the video message, the social postcard and any required questionnaire or reflection form. This file may include:

- dates and duration of online meetings;
- brief description of the activities carried out;
- screenshots or other evidence of online collaboration;
- indication of the main contributions of each pair member;
- links to shared materials or draft outputs, where relevant.



SoilTribes

This documentation will support the verification of course completion under T3.4. Any further use of the outputs for competition/award evaluation and dissemination will be managed under T4.3.

7. Expected course outputs

7.1 Overview of required outputs

The SOILTRIBES crash course is structured around the practical production of communication outputs. These outputs are not only final products but also learning tools through which participants apply the knowledge, methods, and collaborative practices developed during the course. Each SOIL & MEDIA pair will produce two main outputs:

- a video message, with a maximum duration of five minutes;
- a social postcard, designed as a visual summary and call-to-action connected to the video message.

With respect to the course outputs previously outlined as poster & pitch, according to the media experts they have been turned toward more sounding and impactful products that can be easily circulated among the social networks, namely video message and social postcard. Moreover, these products are supposed to be fastly digested from the youth soil and media participants, facing Building graphics capacities.

The proposed adaptation aims to maintain full alignment with the task objectives, while broadening communication outputs toward more impactful and widely disseminable products. In particular, the integration of video messages and social media postcards is intended to enhance the accessibility, visibility, and circulation of the project outcomes across digital and social networking platforms. Furthermore, this approach addresses the need to strengthen participants' communication and graphic design capacities, especially in relation to the preparation of scientific posters and visual dissemination materials.

Both outputs should communicate a selected soil science topic or Soil Mission challenge in a way that is scientifically accurate, accessible to non-specialist audiences, visually engaging and suitable for dissemination through media and social media channels. These outputs are conceived as applied learning exercises. Through their development, participants will move from the identification of a soil-related challenge to the construction of a clear message, the selection of a target audience, the development of a narrative, and the production of media-ready materials.

The video message will allow the SOIL & MEDIA pair to explain the selected topic in a dynamic and accessible format, using visuals, dialogue, storytelling, and/or interviews. The social postcard will complement the video by summarizing the key message in a concise and visually attractive format, suitable for social media dissemination and public engagement.

Together, these outputs should demonstrate the capacity of each pair to combine soil science knowledge with media communication skills. The soil expert should contribute



SoilTribes

to the accuracy, relevance, and scientific grounding of the message, while the media expert should contribute to the clarity, format, storytelling, audience orientation, and communication impact of the final products. The expected outputs will also show how soil science can be communicated beyond academic or technical audiences, helping to raise awareness of soil health, soil restoration and the relevance of the EU Mission “A Soil Deal for Europe”.

7.2 Video message

The primary output of the Course will be a video message. This video will communicate the chosen soil science topic and its related challenges, with an emphasis on clarity and accessibility for the public.

Technical Specifications:

- Duration: 5 minutes (maximum)
- Format: MP4 (standard for social media)
- Resolution: High resolution (minimum 1080p)
- Frame Dimensions: Ensure all text, images, and tables are clear and legible
- Frame Resolution: 300 dpi for optimal quality
- Frame Content: Keep text concise – avoid overloading frames with too much information.
- Frame Duration: Each frame’s duration should align with the content’s complexity and message.

The final video should be suitable for publishing on platforms like YouTube and social media.

Video message structure:

- **Starting Frame:** The video must begin with a catchy title and the SOILTRIBES logo, introducing the challenge and the collaborative nature of the project. This frame sets the tone for the video.
- **Core Content:** The video should effectively describe the chosen topic, showcasing the issues, priorities, and potential solutions. This can be done through:
 - **Visuals:** using images and short videos to reinforce the message;
 - **Dialogue/Interviews:** organizing the video in a format such as a “Socratic Dialogue”, where the media professional and the soil scientist engage in a conversation, discussing their background, challenges, and solutions. This approach can help break down complex topics into digestible, engaging content.
- **Pre-closing Frame (social post card):** Before the ending credits, include a call to action that encourages viewers to take specific steps, whether it’s learning more about soil health or getting involved in related initiatives. This frame will also be saved as a social postcard, summarizing the key message.

- **Ending Frame:** Conclude the video with the SOILTRIBES logo and the credits, including the names of the PAIR members (soil scientist and media expert). Optionally, a QR code can be included to direct viewers to more resources.
- **Language:** The video and social postcard can be created in English or the native language of the pair. If the native language is used, the social postcard must be translated into English for broader accessibility.
- **Subtitles:** If the video includes interviews or dialogues, English subtitles must be added to ensure the content can be easily understood by an international audience.

7.3 Social postcard

In addition to the video, participants will create a social postcard that complements the video message (it will be a frame of the video message). This will be implemented using design software like InDesign or Adobe Illustrator, or others.

Technical Specifications:

- Dimension: 21cm x 11cm
- Resolution: 300dpi
- Final Format: PDF for easy sharing and printing

Social Postcard structure:

- The social postcard is a visual summary of the video message, designed to capture attention on social media and encourage action.
- **Header:** Include the SOILTRIBES logo and a catchy project title that introduces the challenge or topic. This could also be a call-to-action encouraging viewers to learn more or take part in soil-related initiatives.
- **Main Content:** A short message or summary of the key points from the video, focusing on the issue, priority, or solution discussed.
- **Visuals:** Incorporate strong, engaging images or graphics that complement the message. These could be related to soil health, environmental protection, or the specific challenge being addressed.
- **Icons or Bullet Points:** Use simple icons or bullet points to make the content easy to digest.
- **Call to Action (CTA):** A clear, concise call to action urging viewers to take steps toward addressing the issue, such as: *"Join the movement to protect our soil!"*; *"Learn more about sustainable soil practices!"*; *"Act now for healthier soil!"*.
- **Footer:** Include the SOILTRIBES logo along with any necessary contact information, website, or social media links.
- **Optional:** Include a QR code that leads to more information or resources, mirroring the ending frame of the video.
- **Language:** The postcard should be created in both English and the native language of the pair to reach a broader audience. If the native language is used, include a translated version of the text in English for wider accessibility.

Example of social Postcard

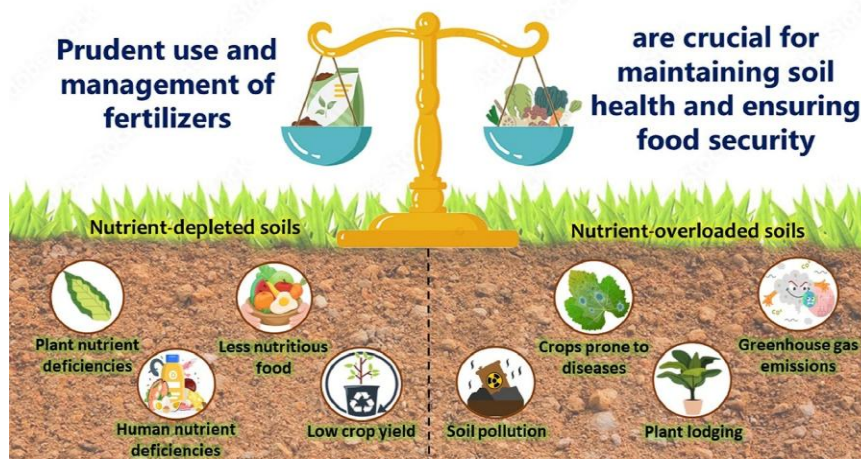


Figure 1 Graphical abstract example in: Kannan Pandian, Mohamed Roshan Abu Firnass Mustaffa, Govindaraj Mahalingam, Arunachalam Paramasivam, Abishek John Prince, Manimaran Gajendran, Abdul Rahman Rafiqi Mohammad, Surya Teja Varanasi, Synergistic conservation approaches for nurturing soil, food security and human health towards sustainable development goals, *Journal of Hazardous Materials Advances*, Volume 16,2024,100479,ISSN 2772-4166, <https://doi.org/10.1016/j.hazadv.2024.100479>.

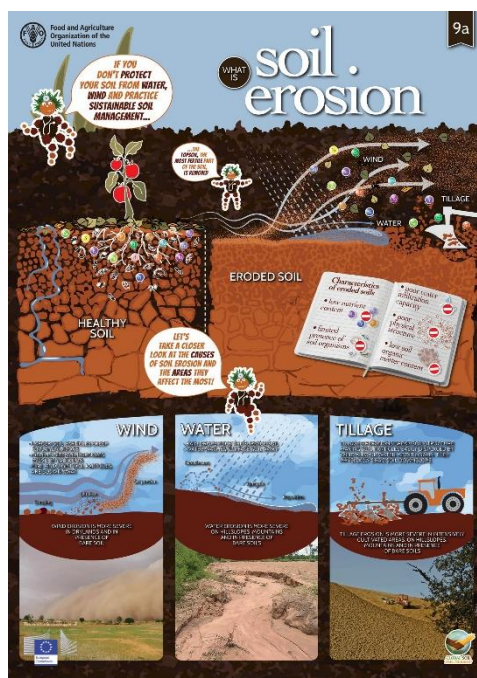


Figure 2 Social postcard example credits: <https://www.facebook.com/globalsoilpartnership/posts/soil-erosion-is-a-natural-process-in-any-environment-but-it-is-significantly-inc/1853618704839224/>

7.4 Language, accessibility and subtitles

The course outputs should be designed to reach audiences beyond the immediate SOILTRIBES partnership. For this reason, language, accessibility and clarity are essential quality dimensions of both the video message and the social postcard. The video and the social postcard may be produced in English or in the native language of the SOIL & MEDIA pair. However, when a native language is used, English subtitles, translations or equivalent English versions must be provided to ensure that the outputs can be understood and shared across the international SOILTRIBES community.

Subtitles are required for videos that include spoken content, such as interviews, dialogue, voice-over or narration. Subtitles should be clear, readable and synchronised with the spoken content. They should support accessibility for international viewers, people with hearing impairments and users watching videos without sound.

Participants should also consider basic accessibility principles when developing their outputs. This includes using readable fonts, sufficient contrast, clear visual hierarchy, concise text, simple language and visuals that support rather than confuse the message. Technical or scientific terms should be explained when needed, and the overall communication should remain understandable for non-specialist audiences.

The use of inclusive and responsible language is also encouraged. Messages should avoid stereotypes, excessive simplification, alarmism or misleading claims. The objective is to communicate soil challenges in a way that is accurate, constructive and motivating.

7.5 Use of outputs in T4.3

The video message and social postcard are required learning outputs of the crash course defined under T3.4. Their production demonstrates the completion of the course pathway and the capacity of each SOIL & MEDIA pair to apply the DIY, peer-learning and communication methodology. After completion of the course, these outputs may be used in the activities implemented under T4.3, including the competition/award process, public dissemination, communication campaigns, SOILTRIBES festivals or other project-related events.

The detailed rules for competition participation, jury evaluation, award procedures, selection of winners and further dissemination of selected outputs will be defined and managed under T4.3. D3.4 only establishes the role of the outputs within the crash course programme and clarifies their potential connection with later project activities.

Participants should therefore develop their outputs with both purposes in mind: first, as evidence of learning and course completion under T3.4; and second, as potential communication materials that may contribute to the wider visibility, engagement and impact of SOILTRIBES under T4.3.



8. Course completion and light assessment framework

8.1 Completion requirements

The SOILTRIBES crash course includes a light completion and assessment framework to ensure that all SOIL & MEDIA pairs follow the learning pathway, engage actively in the collaborative process, and submit the required communication outputs. The purpose of this framework is not to create a rigid academic evaluation system, but to provide clear and transparent completion requirements for the crash course. Since the course is based on a DIY, peer-learning and pair-based methodology, assessment focuses on participation, documented collaboration, use of resources, and the quality and relevance of the final outputs. The completion framework also helps distinguish the course requirements under T3.4 from the later competition/award process under T4.3. Under D3.4, the focus is on verifying that participants have completed the crash course and produced the expected learning outputs. The formal evaluation of outputs for the competition/award will be further defined and implemented under T4.3.

Participants will be considered to have completed the SOILTRIBES crash course when they have participated in the kick-off meeting, completed the estimated 40 hours of pair-based online work, used the provided resources, submitted the video message and social postcard, provided evidence of participation, and completed the final questionnaire or reflection form.

To support a clear and transparent completion process, each SOIL & MEDIA pair should verify that the following elements have been completed before submitting the final course outputs.

Table 6 – Completion check list

Completion element	Yes/No	Evidence/ Notes/ Links
Participation in the kick-off meeting		
Understanding of the DIY, peer-learning and pair-based methodology		
Selection of a soil-related topic or Soil Mission challenge		
Definition of the target audience		
Definition of the key communication message		
Consultation of the DIY Guide and supporting resources		
Consultation of relevant thematic booklets and/or expert materials		
Completion of the estimated 40 hours of pair-based online work		
Documentation of online meetings and collaborative work		
Development of the video concept, script or storyboard		



SoilTribes

Production of the final video message		
Verification that the video respects the technical specifications		
Inclusion of subtitles, where required		
Development of the social postcard		
Verification that the postcard respects the technical specifications		
English translation/version provided, where applicable		
Verification of copyright, consent and responsible use of sources		
Submission of the video message		
Submission of the social postcard		
Submission of participation evidence / 40-hour documentation		
Completion of the final questionnaire or reflection form		

This checklist should be used as a practical self-verification tool by each pair before final submission. It does not replace the course completion requirements but helps participants ensure that all necessary elements of the crash course have been addressed.

8.2 Quality criteria for the outputs

The submitted outputs will be reviewed according to a light set of quality criteria, intended to support course completion and ensure coherence with the objectives of D3.4. These criteria are not intended to replace the formal competition/award evaluation process, which will be further defined and implemented under T4.3. The video message and social postcard should demonstrate scientific accuracy, clarity for non-specialist audiences, relevance to the selected target audience, creativity, communication impact, visual coherence, accessibility, and alignment with one or more EU Soil Mission challenges. The outputs should also respect the technical requirements defined in the course programme and follow basic principles of copyright, consent and responsible use of sources.

9. Resources and supporting materials

The media and soil experts' contributions (foreseen under T4.3), which represent an important part of the crash-course materials and sources, will be provided under T4.3 and made available to support the management of the SLAs and the participants before the start of the crash-course.

The following items will be delivered under T4.3:

1. Booklets including sources and references prepared by soil and media experts under T4.3 (list of booklets is available in Annex 1)
2. Indicative 40-Hour Online Course suggested flow
3. Uploading by participants: Video Message Checklist
4. Uploading by participants: Social Postcard Checklist
5. Course Completion Evidence Template
6. Final Participant Reflection/Questionnaire
7. Light Evaluation Rubric
8. GDPR, Consent and Copyright Guidance

10. Quality assurance, ethics, GDPR and copyright

The implementation of the SOILTRIBES crash course will follow quality assurance, ethical, GDPR and copyright principles, in line with the SOILTRIBES Grant Agreement, the project's internal procedures, and the applicable European Union rules and standards for Horizon Europe projects. These principles are important to ensure that the course is implemented in a coherent, responsible and transparent way, and that the outputs produced by the SOIL & MEDIA pairs can be used safely in later communication, dissemination and competition/award activities. They also ensure that the crash course respects EU requirements related to ethics, data protection, responsible communication, accessibility, intellectual property rights and the appropriate use of project results. Since the crash course is based on a DIY, peer-learning and pair-based methodology, quality assurance does not rely on a rigid academic assessment model. Instead, it is ensured through a combination of clear guidance, supporting resources, tutoring moments, checkpoints, practical templates, completion requirements and responsible communication principles. These mechanisms are intended to support consistency across the participating Soil Lab Activator countries while preserving the flexibility and experimental character of the course.

This section defines the main quality and ethical requirements that should guide the course implementation and the production of the video message and social postcard. These requirements should be understood as operational guidance for participants and partners, complementing the broader obligations established in the SOILTRIBES Grant Agreement and in the applicable EU regulatory framework.

10.1 Quality assurance of the course

Quality assurance of the crash course will be ensured through a light but structured process combining participant autonomy with expert-supported guidance and review. The DIY Guide, thematic resources, templates and completion checklist will provide a common framework for all SOIL & MEDIA pairs, helping to ensure consistency across the participating Soil Lab Activator countries. Tutoring moments, checkpoints and pre-final reviews will support participants during the development of their outputs. These moments will allow pairs to receive feedback on the relevance of the selected topic, the clarity of the message, the connection with Soil Mission challenges, the suitability of the target audience, and the quality of the video message and social postcard. Project partners (SLAs) may contribute to participant onboarding, provision of resources, tutoring, review of outputs, collection of participation evidence and follow-up with participants. This quality assurance process remains aligned with the SOILTRIBES Grant Agreement, project-level responsibilities and EU Horizon Europe implementation principles.

10.2 GDPR and consent

All personal data collection, processing, storage and dissemination activities related to the crash course outputs should comply with GDPR requirements, the SOILTRIBES Grant Agreement, and any additional project-level data management or ethics procedures.

If participants include identifiable people in videos, photographs, interviews, voice recordings or other materials, they should ensure that appropriate consent has been obtained. Participants should be informed about how their image, voice, name or contribution may be used, including possible use in dissemination, communication, public events, social media or T4.3 competition/award activities.

Special attention should be given to the use of images or recordings involving minors, vulnerable persons or private spaces. In such cases, additional safeguards and explicit authorisation are required. When possible, participants should prioritise the use of self-produced materials, non-identifiable visuals, landscapes, objects, drawings, diagrams or project-approved resources.

10.3 Copyright and use of third-party materials

The use, reuse and dissemination of third-party materials should comply with applicable copyright rules, intellectual property rights, the SOILTRIBES Grant Agreement and the communication, dissemination and exploitation obligations applicable to Horizon Europe projects. Participants should ensure that any images, music, videos, texts, graphics, icons, maps, data, logos or other third-party materials used in the video message or social postcard are either self-produced, project-approved, openly licensed or used with proper permission. Materials found online should not be assumed to be free to use. When using open-access or Creative Commons materials, participants should check the licence conditions and provide appropriate credits. Scientific references,



SoilTribes

reports, websites and data sources should also be properly acknowledged. Any use of AI-generated content should be responsible, transparent where relevant, and should not misrepresent scientific information, imitate real people without consent, or create misleading outputs.

10.4 Accessibility and responsible communication

The video message and social postcard should be developed in a way that supports accessibility, inclusion and responsible communication. Participants should use clear language, readable fonts, sufficient contrast, concise text and visual elements that help the audience understand the message. Subtitles should be included in videos with spoken content, especially when videos are produced in national languages. English subtitles or an English version should be provided to support international understanding within the SOILTRIBES consortium and wider European audiences. Responsible communication also requires scientific accuracy, inclusive language and avoidance of misleading, exaggerated or alarmist messages. Soil-related challenges should be communicated clearly, evidence-based and constructive, encouraging awareness and action without distorting the scientific content.

These accessibility and responsible communication principles support the ethical and inclusive dissemination of SOILTRIBES results, in line with the project's Grant Agreement and the broader values and requirements of EU-funded research and innovation actions.



SoilTribes

11. Conclusion

D3.4 provides the methodological and operational foundation for the SOILTRIBES crash course on soil science communication in news media outlets. It defines the course objectives, DIY and peer-learning methodology, target participants, indicative 40-hour pathway, key contents, expected outputs, completion requirements, and quality, ethics, GDPR and copyright principles.

The deliverable clarifies that the crash course is implemented as a flexible, pair-based learning experience, where young soil scientists and young media professionals work together to transform soil-related knowledge into accessible and impactful communication outputs.

The further implementation of the course, including the activation of expert resources, the competition/award process, jury procedures, prizes and dissemination of selected outputs, will be developed under T4.3. Therefore, D3.4 establishes the programme framework, while T4.3 will operationalise and expand it through practical implementation and public engagement activities.

12. References

European Commission (2021). EU Mission: A Soil Deal for Europe. European Commission, Directorate-General for Research and Innovation, available at:

https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/eu-missions-horizon-europe/soil-deal-europe_en

Lal, Rattan (2004). Soil carbon sequestration impacts on global climate change and food security. *Science*, 304(5677), 1623–1627. Available at:

<https://www.science.org/doi/10.1126/science.1097396>

Food and Agriculture Organization of the United Nations (2015). Status of the World's Soil Resources (SWSR) – Main Report. FAO. Available at:

<https://openknowledge.fao.org/handle/20.500.14283/i5199e>

The State of the World's Land and Water Resources for Food and Agriculture (2021) – Systems at breaking point Main Report. FAO. Available at:

<https://doi.org/10.4060/cb7654en>

Montgomery, David R. (2007). *Dirt: The Erosion of Civilizations*. University of California Press. Available at:

<https://www.jstor.org/stable/10.1525/j.ctt1pnm6p>



SoilTribes

Intergovernmental Panel on Climate Change (2019). Climate Change and Land: An IPCC Special Report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems.

Available at:

<https://www.ipcc.ch/srccl/>

Nisbet, Matthew C. & Scheufele, Dietram A. (2009). What's next for science communication? Promising directions and lingering distractions. *American Journal of Botany*, 96(10), 1767–1778. Available at:

<https://doi.org/10.3732/ajb.0900041>

Kannan Pandian et al. (2024). Synergistic conservation approaches for nurturing soil, food security and human health towards sustainable development goals. *Journal of Hazardous Materials Advances*, 16, 100479. Available at:

<https://doi.org/10.3732/ajb.0900041>

Pretty, Jules (2008). Agricultural sustainability: concepts, principles and evidence. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 363(1491), 447–465. Available at:

https://doi.org/10.1098/rstb.2007.2163?urlappend=%3Futm_source%3Dresearchgate.net%26utm_medium%3Darticle

Virtual Soil Science Learning Resources – VSSLR, (Maja Krzic, Faculty of Land and Food Systems), UBC (University of British Columbia, Vancouver Campus). Available at:

<https://www.soilweb.ca/outreach-articles/>

Sasagawa, E. 2016. Open Dialogues: How to engage the general public. *Dialogues* 4: issue 2. Available at: <http://ctl.ubc.ca/2016/04/15/open-dialogues-how-to-engage-the-general-public/>

Bushnell, C., Hoffman, D., and Krzic, M. 2015. UBC grad student brings an innovative approach to soil science education. *ReachOut* vol. 23 (spring). Available at:

<http://reachout.landfood.ubc.ca/2014/ubc-grad-student-brings-an-innovative-approach-to-soil-science-education/>

Learn with Google AI (<https://cloud.google.com/learn/training/machinelearning-ai>)(<https://cloud.google.com/learn/training/machinelearning-ai>)



SoilTribes

13. Annexes

List of booklets provided by Soil&Media experts in Task 4.3

Annex 1. List of booklets provided by Soil Media experts in Task 4.3

The contributions of media and soil experts, foreseen within T4.3, represent a key component of the crash-course materials and reference sources. These contributions will be developed and delivered as part of T4.3 activities. They will provide valuable knowledge and practical insights for the participants involved in the training programme. In addition, the materials will support the effective management of the SLAs throughout the preparation phase. All resources will be made available to participants before the official start of the crash-course. Early access will allow participants to familiarize themselves with the content and learning objectives in advance. As a result, the crash-course will benefit from a stronger knowledge base and improved participant preparedness.

The results will be a booklets collection for Soil science communication in news media outlets.

The booklet list is composed by:

MEDIA EXPERTS' BOOKLETS already Identified through the open call under T4.3:

1. Author(s): Stefania Romenti (Full professor, IULM University)

Title: Soil Stories. A Science Communication Starter Kit

2. Author/s: Fabrizia Malgeri (Media Expert freelance for Corriere della Sera)

Title: Soil Frames. A Media Production Starter Kit for Scientists

SOIL EXPERTS' BOOKLETS already identified under T4.3:

3. Author(s): Giuseppe Corti (Pedologist, Full Professor Università Politecnica delle Marche, former CREA-AA Director, FAO contributor)

Title: Soil Desertization (un-viewable Desertification around us): Health Soil Regeneration.

4. Authors: Stefano Bocchi (Agronomist, Full Professor, UNIMI)

Title: Health Soil Regeneration: Soil Experimenta in camp

POLIMI Booklets:

5. Authors: Giovanni Castaldo G., Elena Mussinelli E., et. al (Politecnico di Milano, Dept. ABC - Architecture, Built Environment and Construction Engineering)

Title: Nature-Based Solutions, NBS for soil regeneration and implementation for MEDIA experts and SOIL scientists

6. Authors: Davide Cerati D. (Politecnico di Milano, Dept. ABC - Architecture, Built Environment and Construction Engineering)

Title: Soil Restoration & Carbon Storage: Environmental- and Climate Solutions

7. Authors: Marzia Gabriele, Raffaella Brumana (Politecnico di Milano, Dept. ABC - Architecture, Built Environment and Construction Engineering)

Title: Land Degradation into Land Regeneration Monitoring