



Food and Agriculture
Organization of the
United Nations



Report of the Fourth Plenary Meeting of the European Soil Partnership (ESP)

10-12 May 2017,

FAO HQ, Rome, Italy

Compiled by the ESP Secretariat (ESDAC, Marc Van Liedekerke), the ESP Chair (Helena Havlicek) and the GSP Secretariat (Rainer Baritz), in consultation with meeting participants.

19th June 2017

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1. Welcome and opening of the meeting

Mr. Ronald Vargas of the Global Soil Partnership (GSP) Secretariat welcomed the participants. Ms. Elena Havlicek, Chair of the ESP, opened the meeting with a presentation outlining the general roles of the European Soil Partnership (ESP) and ESP its Plenary Meetings. The ESP serves to

- 1) Facilitate cooperation and knowledge sharing within the European region;
- 2) Improve the governance of the soil resources within the framework of the GSP; and
- 3) Support ESP aspects related to the work of the Intergovernmental Technical Panel on Soils (ITPS).

ESP actions focus to implement the GSP Plans of Action for the five Pillars in the European context. Among various administrative issues, the ESP Plenary meetings serve to take decisions related to implementation and to guide on emerging issues and discuss on the mobilization of resources.

The main objectives of this 4th ESP Plenary Meeting are to report on recent actions and to discuss and approve the Implementation Plan 2017-2020 (see Agenda in [Annex 1](#)).

Tour de table

The 4th ESP Plenary Meeting was attended by 45 participants, from 21 countries, with 17 focal points as governmental representatives (see [Annex 10](#)).

Prior to the ESP meeting, written comments and suggestions on the Draft ESP-IP were received from Macedonia, France, Bulgaria and Ukraine. Most of them were taken into account in the finalization of the IP, however the agreed IP offers room for the other proposed activities.

2. Progress reports

2.1 GSP including Regional Soil Partnerships

Ronald Vargas presented an overview of the developments since the 4th Plenary Assembly 2016. The Plenary requested action to develop a report on the impact of agriculture on soils, to intensify collaboration with other UN panels, such as UNCCD and UNFCCC, to prepare the necessary steps towards the 2020 Status of the World's Soil Resources Report, and to finalize the development of implementation plans. Primary actions focussed on the following topics:

- Global Soil Carbon Conference (GSOC17), in cooperation with WMO, UNCCD and UNFCCC
- Capacity development and projects on the ground (Technical cooperation projects by FAO, workshops).

- Voluntary Guidelines for Sustainable Soil management (VGSSM): facilitate discussion about implementation pathways
- Pillar 4 and 5: strengthen the INSII network and the building of the Global Soil Information System as a system of (national) systems; this includes the effort to implement national soil carbon maps (GSOCmap)
- Glinka world soil prize: the next call will be issued by the end of May 2017, and all partners are asked to nominate candidates.

Mr. Vargas welcomes the progress of the ESP to develop its regional implementation plan, and notes the strong engagement of ESP partners. Questions focussed on soil carbon mapping, guidance and the need for proper learning tools.

2.2 ESP Steering Committee

Ms. Elena Havlicek highlighted the result of the previous ESP Plenary Meeting 2016, which concluded the Terms of Reference for the ESP. During that meeting, the composition of the Steering Committee (SC) was decided. Since then, the SC engaged in action:

- Orientation meeting between ESP Chair, ESP and GSP Secretariats and ITPS, followed by a full SC meeting in Rome on 25 May 2016; besides the SC members, the meeting was also attended by Claudia Olazabal (DG ENV), Ahmed Mermut (ECSSS president), and Liesl Weise (FAO). The path towards the ESP Implementation Plan (ESP-IP) was outlined during that meeting.
- A first draft ESP-IP was sent around by the Secretariat to SC members by the end of October 2016.
- Second SC meeting, Bern, 2-3 February 2017, in the additional presence of Borut Vrscaj (representing the Links4Soils project), Pascal Boivin (ESCCC president) and Klara Janouskova (JRC trainee). The revised ESP-IP was further updated towards a full Draft version, and then shared with all ESP members.
- Members of the ESP SC represented ESP during a number of conferences (Alpine Convention in Germany, EUROSIL 2016 in Istanbul, Soil Stakeholder Conference in Brussel, Global Soil Security Conference in Paris, etc.).

The most important aspects of the ESP SC meetings were:

- The ESP should deliver concrete outcomes focusing on specific actions (in the frame of a more ambitious long-term vision).
- One approach is to develop a network of (relevant) networks. An important effort is needed to contact and establish partnerships with these networks.
- The ESP seeks to contribute to global GSP projects (GSOCmap, SWSR2020 report, ...)
- Any organization, any individual person could become a member. In the case of a project, the ESP SC considers that the project leader organization should become a

member rather than the projects which are not legal entities and which are temporary.

- The ESP gives no formal support to candidate EU (or other) projects.

As a result of the SC meetings, the ESP Secretariat (JRC) has engaged to install and maintain a web site and a Facebook page

(<http://esdac.jrc.ec.europa.eu/networkcooperations/european-soil-partnership>;
<https://www.facebook.com/europeansoilpartnership/>)

The ESP-SC also established a working relation with the ECSSS in relation to the organization of the EUROSIL 2020 Conference (contact: Pascal Boivin) and maintains close contact with the EU Horizon2020 Links4Soil project that seeks to become a regional ESP initiative for the Alpine region (kick off meeting in Ljubljana 29-30 May 2017). This status is preferred over the formal establishment of a Sub-Regional Soil Partnership due to administrative issues.

The minutes of the ESP SC meetings have been made public via the ESP webpage maintained by ESDAC.

The ESP-SC could 'support' relevant international events or organizations (such as ECSSS); this is up to the ESP-SC to decide and would not require the approval of the ESP Plenary.

2.3 Eurasian Soil Partnership (EASP)

The EASP is a Sub-Regional Soil Partnership of the ESP. Hakki Erdogan, EASP Vice Chair, summarized the recent activities following the third EASP Plenary Meeting that was held during an International Conference on Expansion of Eurasian Food Security Network and Eurasian Soil Partnership taking place in Bishkek, Kyrgyz Republic on February 29 - March 2, 2016. The primary focus of this meeting was to lower the barriers to the implementation of the regional IP:

- An Eurasian Soil Portal has been developed, covering an extensive catalogue of soil-related resources for the region (<http://eurasian-soil-portal.info>).
- A workshop and training on digital soil mapping and soil information management was organized in Almaty, Kazakhstan, 31 of October – 4 of November 2016.
- In the area of soil salinity, a call for small research projects was opened in April 2016 and five projects have been selected and supported through funds from the Russian Federation. Provided to the Healthy Soil Facility as the funding instrument of the GSP.
- A book “Land resources and food security of Central Asia and South Caucasus” was published jointly by FAO and Eurasian Center for Food Security.
- In 2016, the volume “Food security of Eurasia” was published where the results of different research projects (case studies) were presented. These studies were

initially support supported by the World Bank and the Eurasian Center for Food Security (ECFS) of Moscow State University.

- The World Soil Day 2016 was celebrated 1) in Moscow with wide participation of international institutions such as IUSS, ISRIC, GSP, World Bank, and Dokuchaev State Soil Museum, 2) in Dushanbe, with the participation of specialists of Soil Science Institute and other TAAS Institutes and students Tajik Agrarian University.

Forthcoming activities include:

- Training on soil salinity management, scheduled for September 2017 in Kharkiv, Ukraine.
- The EASP Plenary Meeting 2017, Dushanbe, Tajikistan, October 2017.
- The World Soil Day will be celebrated at Lomonosov Moscow State University and other places, 5th of December 2017.

2.4 Information from national Focal Points

The national Focal Points were invited to report on ESP-related activities in their countries. Also other participants were encouraged to share information about their activities.

Italy (Anna Benedetti) has created a national soil partnership with regional representatives (coordinated by the Italian Soil Science Society), with the aim to exchange and coordinate activities along the 5 pillars. For example, a cross-regional meeting will be organized to inform interested partners about the VGSSM, to encourage participating at the GSOC17 conference, and to discuss and coordinate contributions to GSOCmap.

Portugal (Antonio Perdigao) is a) very interested in the implementation of the VGSSM, b) technically (but not yet organizationally) ready to contribute to GSOCmap, c) currently elaborate a 1:500,000 scale soil map of Portugal, D) continuously active during the World Soil Day.

Czech Republic (Jozef Kozak) has organized an international conference on soil, in collaboration with Slovakian colleagues. The database of soil properties is currently updated, including work on a new and improved SOC map. It is planned to revise the Czech national soil atlas.

Austria (Andrea Spanischberger) has undertaken many soil-related activities especially concerning awareness-raising, for example the development of several soil education tools. Concerning guidance already over 25 years ago a soil advisory forum was established, where all relevant authorities and experts are work together to develop e.g. recommendations for fertilization or also guidance concerning soil functions or soil recultivation. A national research project is on its way to support national soil carbon mapping.

Belgium (Martine Swerts) has developed, in collaboration with colleagues from Luxembourg, an update and translation of the country soil (type) maps into WRB.

The COMMON FORUM (CF) on Contaminated Land (Dominique Darmendrail) informed about the upcoming meeting together with the International Committee on Contaminated Land <http://www.iccl.ch/meetings.html>. The next CF meeting in October 2017 will have 3 main topics: 1. Contaminated Site Remediation / Legal, Technical, Finance and social issues (so called countries sessions); 2. Water resources pollution Management; 3. Emerging contaminants. For more information see the CF website www.commonforum.eu. CF welcomes and supports the GSP Soil Contamination Symposium which is in planning (April 2018).

Slovakia (Jaroslava Slobocka) reported about the launch of a national initiative that aims to coordinate activities along the five GSP pillars; one of the objectives is to seek involvement in the Global Water Partnership. Currently, a proposal is prepared to enter soil protection into the national constitution.

European Commission (Josiane Masson) reported on some activities at EU/EC level, referring to VGSSM, and contacts with DG DEVCO, DG AGRI and members of the AGRIENV Committee (reform of the CAP). The DG ENV soil expert group continues the discussion with EU members states about a European soil policy.

Bulgaria (written contribution from Svetla Rousseva) reported extensively on various activities at the Institute of Soil Science supporting the ESP Pillars 1, 2, 3 and 4. (see Annex-9)

During this session, Arwyn Jones (EC) ignited a discussion about the added-value of the soil partnerships and raised the question for the incentive for countries and partners to participate in ESP activities. This was regarded as an important point by the Chair, especially because the majority of implementing activities are in-kind. In this context, the Chair remarked that 1) ESP is part of the GSP, which is a multinational initiative by FAO and its members countries; this mechanism provides legitimacy to the activities that happen under the ESP umbrella; 2) ESP operates as a soil network of networks; and 3) contributions to the ESP implementation generate mutual benefit: first-hand information and coordination of soil activities, including the political dimension, capacity building, influencing road maps of various activities promoting awareness, research, monitoring and management of soils.

Ronald Vargas emphasized that the GSP, and thus ESP, as a FAO multinational initiative, focusses action at intergovernmental level which brings the issue of soil officially at the forefront of decision makers. This is very important for the regions/countries where soil is not very high on the agenda at the moment. In Europe, countries are quite active and have many national activities, agencies and cooperations in place, so that the ESP could become a

motor of action and support to other regional soil partnerships. In relation to this discussion, the Chair reported that the ESP-SC is preparing a leaflet/flyer that will promote the ESP and explain the added value that it will bring.

3. The ESP: overarching goals and global activities

Elena Havlicek gave a presentation of the introductory part of Chapter 4 of the draft IP. There, overarching activities are mentioned, which require implementation mostly by the SC. Participants were invited to comment on these which led to various decisions/actions to be taken:

- It would be useful to develop some standard material (such as an ESP presentation, ESP flyer, etc.) that anyone interested to promote ESP could use. The ESP-SC will develop this.
- It would be useful to know who (among participants) would attend relevant soil conferences and ask to promote the ESP when attending. A round table exercise resulted in a list (Annex 2).
- Not all countries in Europe are represented by a national Focal Point (FP). As the FP is recognized to be the main interface / communication channel between GSP/ESP and relevant organizations in the countries concerning various issues, it would be beneficial to encourage the nomination of FPs for all European countries. It was suggested to add the list of missing FPs to these minutes (Annex 3).

A subsequent discussion took place on the priority listing of soil threats in Europe as mentioned in Section 3.1 (Soil threats in Europe) of the IP. The priority listing should be removed and it should be made clear that the importance of soil threats depends on the local situation and thus cannot be generalized similarly for all of Europe.

It was also suggested to define as precisely as possible what is a “healthy soil”, a useful concept for policy making and awareness raising. The Voluntary Guidelines on Sustainable Soil Management is a good starting point with a common agreed definition of SSM.

Another discussion took place on Section 3.4 (ESP sub-regional soil partnerships); it was concluded to shorten it and make it more neutral (less emphasis on EU-28).

The list of European soil networks in section 3.5 is open and will be expanded in the future with suggestions from partners. For instance Snowman and the German soil research network and Centre “BonaRes” have now been included, since these initiatives have international dimension. There are already a lot of soil networks established within Europe and therefore the further work of the ESP should be based, wherever possible, on already existing knowledge and networks.

The 'timeline' and 'budget' entries in the table with recommendations and outputs of Chapter 4 were better defined. It was well understood that all efforts by the partners contributing to the defined outputs are and will be in-kind.

4. The Pillars of the ESP Draft Implementation

For each of the ESP Pillars, a presentation was held by the chairs of the respective Pillars. They presented the content and actions drafted, referring to the recommendations set out by the global-level Plans of Actions. Each Pillar was then discussed separately and updated on the fly. The final version of the ESP IP will be circulated together with this plan, and can be downloaded from the GSP and ESP websites (ESP Draft Implementation Plan v9).

4.1 Pillar 1

Josiane Masson (on behalf of the Chair of Pillar 1, Violette Geissen) presented the content of Section 5 of the ESP IP (Annex 4). Participants expressed that it was a very ambitious plan, worried that the activities and outputs would have a legally binding character (good practice recommendations). Mrs. Masson explained that prioritization would be needed, and that recommendations are not legally binding, and that no output elaborated with the help of ESP partners would be made public unless there is consent.

4.2 Pillar 2

Arwyn Jones chairs Pillar 2, and presented the objectives and proposed actions following section 6 of the ESP IP (Annex 5). In relation to Task-5, Dominique Darmendrail highlighted that the EU Project 'INSPIRATION' might be important (<http://www.inspiration-h2020.eu/>).

4.3 Pillar 3

Gergely Toth (on behalf of Coen Ritsema, Chair of Pillar 3) presented Section 7 (Annex 6). Again, the INSPIRATION project was mentioned as relevant to Task 1. In addition, three Joint Programme Initiatives (FACCE - <https://www.faccejpi.com>, WATER – <https://www.waterjpi.eu>, and Urban Europe – <http://jpi-urbaneurope.eu/>) are important, and their outcomes may contribute to measuring the impact of research actions/projects (cost/benefit, also present in Task 3). In relation to Task-2, the German BONARES soil knowledge centre was mentioned as a possible solution to provide a Europe-wide platform to gather and present soil data/information/knowledge, accompanied by proper metadata. In relation to research infrastructures, Dominique Darmendrail remarked that an assessment of soil research programmes and institutions in Europe might be already done for H2020 projects, according to various assessment criteria. DG ENV has been requested to investigate this through DG RTD.

4.4 Pillars 4 and 5

Allan Lily (Pillar 4) and Hakki Erdogan (Pillar 5) presented the actions listed in Sections 8 and 9 (**Annexes 7 and 8**). It was stressed for Pillar 4 that activities will follow mainly the requirements set by the Global Pillar 4 IP, and that key to success in Europe would require an adequate coordination in Europe. In that sense, the activities to come up with the European part of the very concrete GSOCmap is an excellent test that will show if Europe is able to cooperate and deliver a timely outcome. Regarding Pillar 5, participants realized the importance of harmonization for information and data exchange. The GSP secretariat informed that the global Pillar 5 IP will be distributed together with the material for the upcoming 5th GSP Plenary Assembly. The plan includes links to the regional Pillar 5 activities, so that better coordination between regional and global-level activities becomes possible.

All issues raised by the participants were directly implemented in the text, so that consensus was established, and the ESP IP could be finalized. The chair remarked that now, all activities require committed focal points and technical experts to turn the plan into action.

Each Pillar foresees a working group with representatives by each ESP partner if possible. It was agreed that the ESP Secretariat, on behalf of the ESP Pillar chairs, would organize a poll among ESP partners to ask for nominations of working group members. Given the ambitious Pillars, with many activities defined, some prioritization needs to be applied by each working group.

5. Global activities: GSOCmap

Luca Montanerella, Chair of ITPS, asked how the ESP partners would contribute to:

- 1) the Global Soil Organic Carbon Map programme, which is already well underway and for which data submission by countries is expected before September 2017, to produce a map before the WSD2017 on 5 December;
- 2) the 2nd edition of the Soil Atlas of Europe, which is projected for 2018 and work still has to start;
- 3) the SWSR2020 (2nd Status of World's Soil Resources report) for which a plan still needs to be developed by ITPS;
- 4) the implementation of the already available VGSSM, for which countries would need to report to ITPS.

A tour the table was made for comments.

Most comments were related to the GSOCmap:

The tight timing was raised as a limiting factor to engage in Pillar 4 version 0 grids as foreseen in the global Pillar 4 IP. Several ESP partners see problems to deliver before August

2017. Even though all countries supported the global Pillar 4 IP, and agreed to the carbon mapping via 4th Plenary Assembly, resources to implement SOC country maps are limited, sometimes responsibilities unclear. However, most countries can build on experiences on project level, in some cases national SOC maps have been already produced.

Luca Montanarella noted that JRC is not involved in the collection of data or the compilation of the overall GSOCmap for Europe, but is ready to step in with its expertise to help coordinating this exercise and eventually, if explicitly asked, to fill data gaps for countries that will not deliver data in time.

Rainer Baritz (GSP Secretariat) noted that 20 out of 38 ESP countries (EASP countries not counted) are ready to produce SOC maps (18 are not yet in, of which 8 are EU). He regarded this GSOC exercise as a testing phase to build, and contribute to, the Global Soil Information System as a country-driven global data infrastructure.

Luca Montanarella proposed, if needed, to raise the timing issue during the GSP 5th PA, 20-22 June 2017 (and later at the ITPS meeting of October 2017). Mrs. Masson agreed with this and proposed that the GSP Secretariat presents a progress report on GSOCmap, including the issue of gap filling.

In relation to late delivery of data, Rainer Baritz commented that any effort to produce national SOC data would not be in vain, as data could be merged later into the future global soil data infrastructure, thus continuous updating of products can be implemented.

Dominique Darmendrail commented that there might be also serious IPR obstacles for countries to deliver data, to which Luca Montanarella replied that such difficulties are dealt with by INSII. As a matter of fact: at GSP level it is stated that any national data policy overrules the GSP data policy (reference was made to the 5th GSP PA, during which this topic will be discussed).

Josiane Masson noted that the national GSOCmaps shall be accompanied with extensive metadata, as it will help explain/understand the likely possible patchy structure of the map compiled from the various contributions. Several participants stated that a European technical meeting on various issues related to the GSOC exercise would be quite helpful.

The chair concluded the session by mentioning that needed activities related to the 4 points introduced by Montanarella were covered well by the Pillar activities of the IP and that it would be the task of each Pillar chair to coordinate contribution.

6 Final discussion and Conclusions

Mobilization of Resources

As mentioned above: it was agreed that the ESP Secretariat, on behalf of the ESP Pillar chairs, would organize a poll among partners, inviting for experts nominations for the Pillar working groups.

Next steps of the ESP

In order to launch the concrete implementation of the ESP Implementation Plan, the next steps will be:

- Re-establish active working groups for the 5 pillars
- Identify priorities and synergies for the 5 pillars actions
- Mobilize resources with the help of national focal points

The ESP Steering Committee will meet in June and start the activities.

Conclusions / Wrap-up

The Chair closed the meeting, congratulating all with the finalization and agreement on the ESP Implementation Plan 2017-2020 and thanking all participants for the constructive inputs and fruitful discussions.

Annex 1

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Agenda



European Soil Partnership Plenary Meeting

FAO Headquarters, Rome, Italy

10-12 May 2017

Chair: Elena Havlicek, FOEN (Switzerland)

Secretary: Marc Van Liedekerke, European Commission Joint Research Centre

Agenda

Wednesday 10 May (14.00-18.00h)

- 14:00 – 14:15 Welcome and Opening (*Ronald Vargas and Elena Havlicek*)
14:15 – 14:20 Adoption of the Agenda
14:20 – 14:40 Tour de table
14:40 – 15:00 Progress report of the GSP including Regional Soil Partnerships (*Ronald Vargas*)
15:00 – 15:10 Progress report of the ESP Steering Committee (*Elena Havlicek*)
15:10 – 15:30 Progress report of the Eurasian Soil Partnership (*Hakki Erdogan or Pavel Krasilnikov*)

15:30 – 16:00 Coffee break

- 16:00 – 16:30 Information from National Focal Points (*all*)
16:30 – 18:00 The ESP: overarching goals and global activities (*Elena Havlicek*) and discussion

Thursday 11 May (9.00-18.30h)

- 09:00 – 10:30 ESP Draft Implementation Plan: **Pillar 1** (*Violette Geissen*) and discussion
(Promote sustainable management of soil resources for soil protection, conservation and sustainable productivity)

- Activities of pillar 1
- Related outputs
- Input required from the national focal points
- Links to the other pillar activities

10:30 – 11:00 Coffee break

- 11:00 – 12:30 ESP Draft Implementation Plan: **Pillar 2** (*Arwyn Jones*) and discussion
(Encourage investment, technical cooperation, policy, education awareness and extension in soil)

- Target audience and benefits of membership
- Communication channels
- World Soil Day
- Pillar 2 WG meeting
- Support to EU and national soil policy development
- Engagement with extension services
- Scientific and technical cooperation
- Demonstrate positive return from investments
- Global Soil Week 2017

12:30 – 14:00 Lunch

- 14:00 – 15:30 ESP Draft Implementation Plan: **Pillar 3** (*Coen Ritsema*) and discussion
(*Promote targeted soil research and development focusing on identified gaps and priorities and synergies with related productive, environmental and social development actions*)
- 16:00 - 17:00 ESP Draft Implementation Plan: **Pillar 4** (*Allan Lilly*) and discussion
(*Enhance the quantity and quality of soil data and information: data collection (generation), analysis, validation, reporting, monitoring and integration with other disciplines*)
- Soil profile data, soil maps, soil property maps and soil monitoring
 - Soil organic carbon maps
 - Data Policy
 - Implementation institutions/network
- 17:00 – 18:00 ESP Draft Implementation Plan: **Pillar 5** (*Hakki Erdogan*)
(*Harmonization of methods, measurements and indicators for the sustainable management and protection of soil resources*)
- 18:00 – 18:30 Discussion **Pillars 4 and 5**
- Soil classification and soil description: national/international
 - Standards for data sharing
 - Indicators, links to national and international statistics, SDG

Friday 12 May (9.00-13.00)

- 09:00 – 11:00 ESP Global activities (*Luca Montanarella*)
- Contribution of the ESP to the Global Soil Organic Carbon Map (initiative by GSP)
 - Contribution of the ESP to the 2nd edition of the Soil Atlas of Europe
 - Contribution of the ESP to the SWSR2020 (2nd Status of World's Soil Resources report)
 - Contribution of the ESP to the implementation of the VGSSM (Voluntary Guidelines for Sustainable Soil Management)
- 11:00 – 11:30 Coffee Break**
- 11:30 – 11:45 Discussion on Actions / Mobilization of Resources (*All*)
- 11:45 – 12:45 Discussion on the next steps of the ESP (*All*)
- 12:45 – 13:00 Conclusions / Wrap-up (*Elena Havlicek*)

Annex 2

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Participants

First Name	Name	Organization	Country	
Ece	Aksoy	ETC LUS/EEA	Spain	European Researchers' Night: on Friday 29 September 2017, in over 300 cities across Europe and in neighbouring countries.
Dominique	Arrouays	INRA	France	PEDOMETRICS 2017, Wageningen, the Netherlands, 26th June - 1st July 2017
Dominique	Arrouays	INRA	France	Global Soil Map 2017 Conference, 4-6 July 2017, Moscow, Russia (globalsoilmap2017.ru/en/Program/)
Dominique	Arrouays	INRA	France	Wageningen Soil Conference (2017, August 27-31), Netherlands
Gottlieb	Basch	European Conservation Agriculture Federation (ECAAF)	Portugal	SOLace project kick-off meeting (Montpellier), 26-28 June 2017
Gottlieb	Basch	European Conservation Agriculture Federation (ECAAF)	Portugal	7th World Congress on Conservation Agriculture (http://www.congresoaaapresid.org.ar), Argentina, August 2017
Frederic	Darboux	INRA	France	ENSA Workshop, Bratislava, 21-22 September 2017

Dominique	Darmendrail	Common Forum	France - for Common Forum	13th meeting of the International Committee on Contaminated Land (ICCL) 3rd - 4th October 2017 - Copenhagen, Denmark
Carmelo	Dazzi	ESSC	Italy - ESP Vice Chair	CONSOWA, 1st World Conference Consowa on Soil and Water Conservation Under Global Change, Lleida, Spain, 12-16 June 2017
Carmelo	Dazzi	ESSC	Italy - ESP Vice Chair	International Conference and Workshop "Soil Classification: a powerful tool for planning Soil Conservation" (July 21, 2017), Riga, Latvia
Carmelo	Dazzi	ESSC	Italy - ESP Vice Chair	Workshop on PALEOSOLS PEDOARCHAEOLOGY CULTURAL LANDSCAPES, Imola, Italy, September 2017
Peter	de Ruiter	University of Amsterdam	Netherlands	ENVISION, Barcelona, Spain (2018, January 28-31)
Peter	de Ruiter	University of Amsterdam	Netherlands	Wageningen Soil Conference (2017, August 27-31), Netherlands
Arwyn	Jones	European Commission Joint Research Centre	EU - EC	ENSA Workshop, Bratislava, 21-22 September 2017
Josef	Kozak	Czech University of Life Sciences	Czech Republic	Degradation and Revitalisation of Soil and Landscape (Soil Science Days 2017), 10th - 13th September 2017 in the Science Fortress of the Natural Science Faculty, Palacky University, Olomouc, Czech Republic.

Dietmar	Mueller-Grabherr	Environment Agency Austria	Germany - Common Forum	ICCL – NICOLE conference Groundwater Management on Contaminated Sites, 5th to 6th October 2017, National Museum, Copenhagen, Denmark.
Antonio	Perdigao	DGADR-Portugal	Portugal	Seminar on soil as a management tool (details to be provided)
Sideris	Theocharopoulos	HAO-DEMETER	Greece	oLIVE-CLIMA – International conference on “Climate Changing Agriculture” (30 August – 1 September 2017, in Chania, Greece)
Borut	Vrščaj	Agricultural Institute of Slovenia	Slovenia	Links4Soils kick-off meeting, May 29th-31st 2017, in Ljubljana, Slovenia
Raimonds	Kasparinskis			International WRB Soil Classification Field Workshop in Latvia and Estonia (July 22-27, 2017), Riga, Latvia
Raimonds	Kasparinskis			International Conference and Workshop "Soil Classification: a powerful tool for planning Soil Conservation" (July 21, 2017), Riga, Latvia

Annex 3

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Missing focal points

ANNEX-3

The countries from the European region of the ESP which have not nominated a Focal Point are :

- Andorra
- Bosnia and Herzegovina
- Croatia
- Denmark
- Estonia
- Ireland
- Kosovo
- Liechtenstein
- Lithuania
- Luxembourg
- Malta
- Monaco
- Vatican City
- Romania
- San Marino
- Serbia

Annexes 4 to 8

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Plan of activities

Pillar-1 proposed plan of activities (Josiane Masson, Violette Geissen)

Pillar-2 proposed plan of activities (Arwyn Jones)

Pillar-3 proposed plan of activities (Gergely Toth, Coen Ritsema)

Pillar-4 proposed plan of activities (Allan Lilly)

Pillar-5 proposed plan of activities (Hakki Erdogan)



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PILLAR 1

PROMOTE SUSTAINABLE MANAGEMENT OF SOIL
RESOURCES FOR SOIL PROTECTION, CONSERVATION AND
SUSTAINABLE PRODUCTIVITY

Violette Geissen and Josiane Masson



EUROPEAN SOIL
PARTNERSHIP

PILLAR 1 BACKGROUND

Link to the GSP Pillar1

Increasing degree and extent of soil degradation

Many case studies with SSM present, but not linked and spattered

Urgent action is needed

- **Main objective of the Pillar 1**

- 1) Increasing sustainable soil management implementation
- 2) Costs and benefits from sustainable soil management practices
- 3) Sustainable soil management and soil fertility
- 4) Challenges and priorities for sustainable soil management implementation
- 5) Sustainable soil management coordination and monitoring

- **Chair of the Working Group for Pillar 1: Violette Geissen (Wageningen University, NL)**



Recommendations for the Pillar 1

- 1) Identification and implementation of SSM for all land uses at regional and national levels
Sustainable agricultural production should be supported by **balanced soil fertility, weed control and pest management.**
- 2) Assessment of barriers preventing the implementation/adoption of SSM and propose policy and technical solutions **GV1**
- 3) Development/implementation of monitoring system to measure the progress of SSM implementation and effects on soil quality
- 4) Facilitation of capacity building by GSP

Links to the other Pillars

Implementation: strongly linked with Pillars 2 and 5

Generation of technical infos: strongly relies on Pillars 3 and 4



Slide 3

GV1

weg?

Geissen, Violette; 02/05/2017

PILLAR 1 SPECIFICITY OF THE EUROPEAN CONTEXT

State of European soils

According to the EU State of soil report (2012) and SWSR (2015), the main problems in Europe are

- soil sealing
- salinization
- contamination.

Additional threats:

- organic carbon changes, nutrient imbalance, soil erosion by wind or water, loss of soil biodiversity, desertification, landslides.

Policy context

- EU Soil policy, modernization and simplification of the Common Agricultural Policy (CAP)
- Voluntary Guidelines for Sustainable Soil Management (VGSSM)
- Existing networks (at all levels) —to be enhanced.



PILLAR 1 OUTPUTS

Recommendation 1

Appropriate sustainable soil management practices (SSM) and systems should be identified for all land uses at regional and national levels and be implemented at appropriate scales.

Action

1. Identification of case studies with successfully implemented SSM
2. Identification of existing networks of stakeholders and existing/past projects related to SSM
 - Possible partners: Project partners from FP7, Horizon 2020, Life and national projects, farmer associations, NGOs and relevant initiatives (e.g. organic farming, agro-ecology, conservation agriculture, permaculture etc.)
 - Timeline: from Sept. 2017
 - Budget and funding: to be discussed

Outcome 1

Integrated map on European SSM case studies related to land use, soil threats and pedoclimatic zones

Outcome 2

Establishment of a SSM network(s) with stakeholders of the case studies and scientists, policy makers



PILLAR 1 CONCEPT

Recommendation 1

Inventory of all EC funded projects on SSM (FP7, Horizon2020, Live) by WU/EC DG ENV/JRC

Identification of farmers associations, NGOs and other relevant initiatives by JRC/DG ENV

Inventory of all national projects identified by **national focal points**

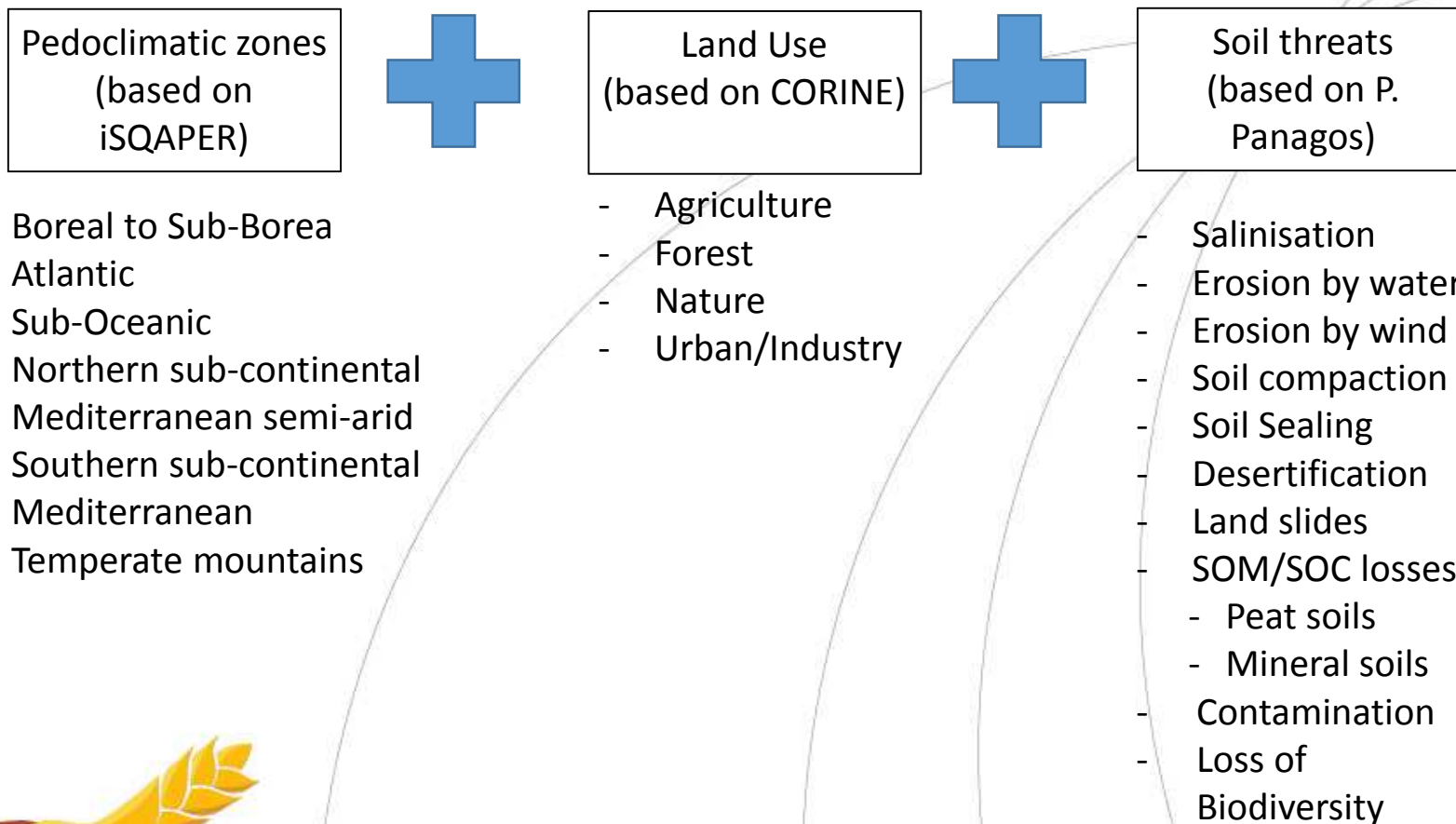
- Localization of case studies in combined maps of land use, pedoclimatic zone and soil threat
- Localization of stakeholder networks
- Activation of interaction between the existing networks



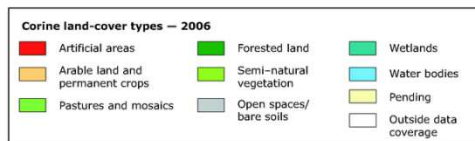
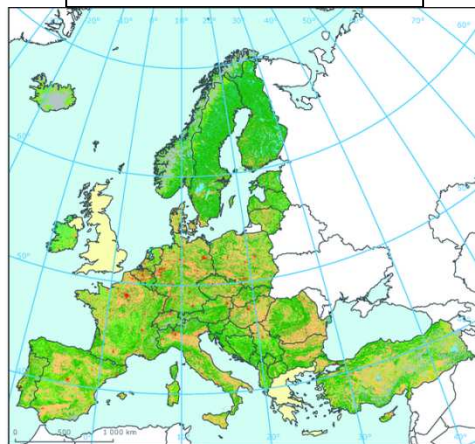
PILLAR 1 CONCEPT

Recommendation 1

Compiling and mapping of all case studies + stakeholders networks from EU-funded and national projects with respect to SSM in different pedoclimatic zones, land use and under specific soil threats

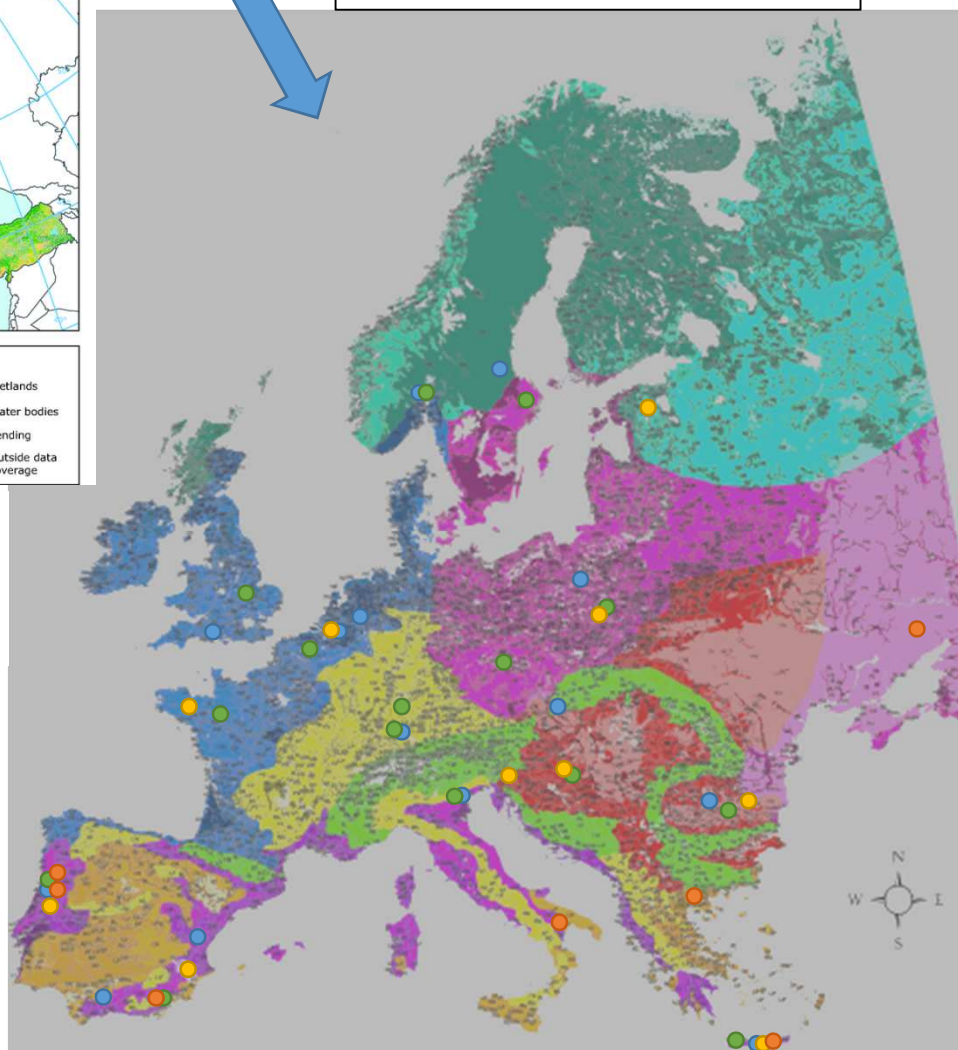


Corine LandUse



PILLAR 1 **CONCEPT**

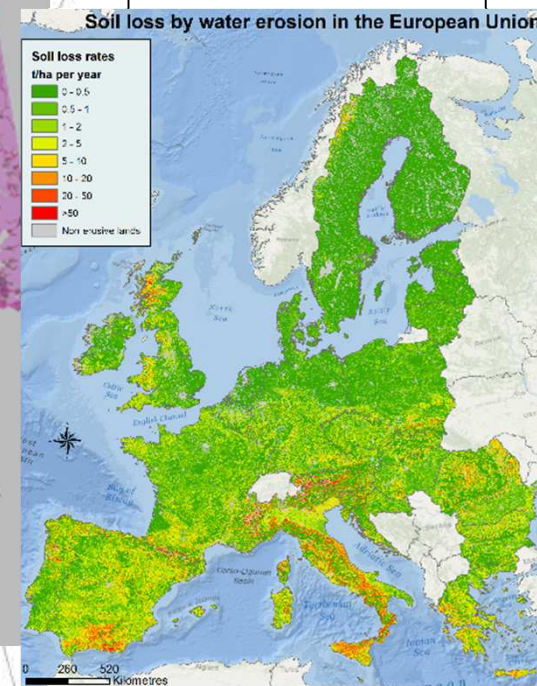
iSQAPER Pedoclimatic zones



Recommendation 1

Combine maps

Soil threat



Add case studies and networks from EU and national projects

Recare

SoilCare

iSQAPER

Desire

Click project name to enlarge matching case studies temporarily



EUROPEAN SOIL PARTNERSHIP

PILLAR 1 OUTPUTS

Recommendation 2

Sustainable agricultural production should be supported by balanced soil fertility, weed control and pest management.

Action

1. Organisation of a conference bringing the existing stakeholders together
2. Organize farm visits with the SSM network
 - Possible partners: WU, JRC, EC, existing networks, farmers associations, NGOsand national focal points
 - Timeline: autumn 2018
 - Budget and funding: to be discussed

Outcome



PILLAR 1 OUTPUTS

Recommendation 3

All barriers preventing the implementation or adoption of sustainable soil management practices and systems should be assessed and policy and technical solutions proposed.

Action

1. Report on the barriers preventing SSM application

2. Identification of policy solutions

- Possible partners: JRC, WU, leaders of ongoing projects, national extension services and farmers associations
- Timeline: 2018+
- Budget and funding: to be discussed

Outcomes

- Identification of policy solution taking account of existing policies at European and national level
- Adaption of the VGSSM to European and national context
- Dissemination of mentioned activities



PILLAR 1 CONCEPT

Recommendation 3

Interviews with representatives of the stakeholder networks identified from the different regions organized by national institutions:

- Perception of stakeholders on SSM's
- Feed-back on the VGSSM of the GSP
- Reasons for implementation and extension of SSM's to other regions
- Reasons for stopping of implementation and not extension of SSM.....
- Conclusions for requirements for voluntary guidelines to ensure the implementation of successful SSM in all regions with all land use types and soil threats.



PILLAR 1 OUTPUTS

Recommendation 4

A monitoring system should be developed to measure the impact and the progress of implementation of sustainable soil management practices and systems.

Action

1. State of the art and requirements for soil monitoring in European agriculture and forestry
2. Monitor the effects of soil management change
3. Knowledge of existing established systems and gaps to be filled

- Possible partners: ESP INSII and EIONET-NRC Soil, WU (iSQAPER), EC (LUCAS database and ESTAT farm surveys), national soil inventories...
- Timeline: 2019+
- Budget and funding: to be discussed

Outcomes

Report on State of the art and requirements for soil monitoring in European agriculture and forestry



PILLAR 1 CONCEPT

Recommendation 4

Testing the long term effects of the SSMs in the case studies by the soil app developed in the iSQAPER project.

Explore the feasibility of monitoring SSMs e.g. by extending existing monitoring system (e.g. LUCAS) to the identified case study sites (JRC) or through other approach

Activity of the iSQAPER team, JRC and national extension services/ stakeholder networks in cooperation with pillar 4.



PILLAR 1 OUTPUTS

Recommendation 5

The GSP should facilitate the development of a capacity building strategy.

Action

1. Reactivate summer school
2. Setup voluntary certification on SSM
3. Launch training program on SSM
4. Implement pilot projects

- Possible partners: JRC and partners
- Timeline: to be discussed
- Budget and funding: to be discussed

Outcomes

To be discussed....



PILLAR 1 OUTPUTS

Recommendation 6

Develop mechanisms to support indicators and targets for the soil-related SDG implementation in Europe.

Action

Coordinated approach on indicators and targets for the follow-up and review for the implementation of soil-related SDGs in Europe

- Possible partners: EC (JRC, DG ENV) and EEA, IASS, WU and others
- Timeline: 2017+
- Budget and funding: to be discussed

Outcomes

To be discussed....



PILLAR 1 OUTPUTS

Recommendation 7

Activities addressing soil contamination.

Action

1. **Inventory of EU contaminated sites including sites of diffuse pollution of organic pollutants**
2. **Revision of the indicator "Progress in the Management of Contaminated Sites in Europe"**

- Possible partners: JRC, EEA and EIONET (NRC Soil and ad-hoc WG on soil contamination), WU, SMEs
- Timeline: 2017+
- Budget and funding: to be discussed

Outcomes

- Revise the indicator "Progress in the management of contaminated sites in Europe".
- Map on Soil pollution in Europe
- Dissemination of the Good Practices and progress



PILLAR 1 CONCEPT

Recommendation 7

- Extend the LUCAS monitoring for analysis of diffuse soil pollution in Europe (EC)
- Map on Soil pollution in Europe
- Dissemination of the Good Practices and progress including threshold values for organic soil contaminants



PILLAR 1 DISCUSSION – NEXT STEPS

Comments/remarks

- General comments pertaining to the pillar 1
- Specific comments

Role of the national focal points

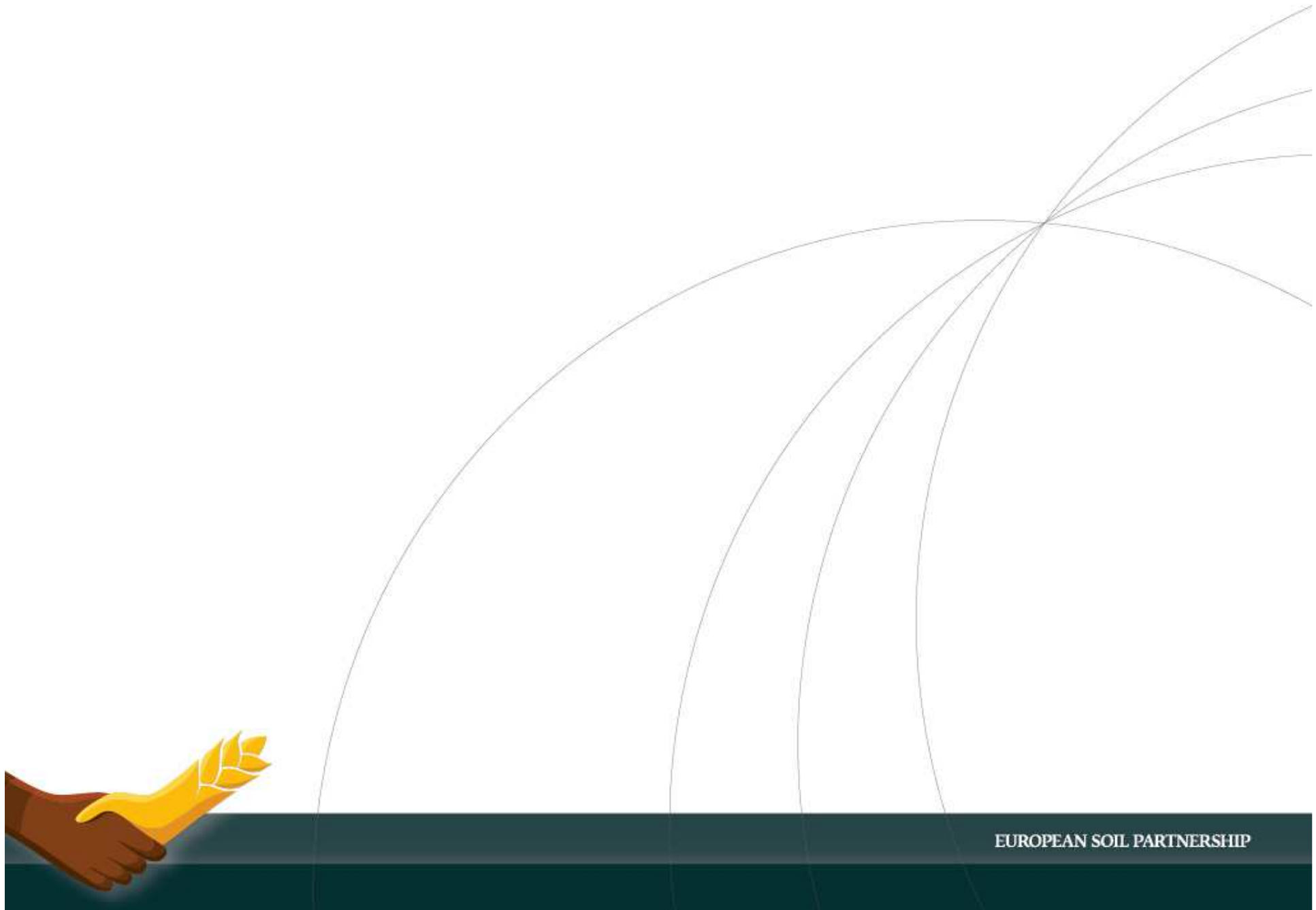
- Involvement:
- Identification of national institutions that can contribute
- Providing info on national projects and stakeholder networks
- Involving in interviews on national level

Working group on pillar 1

- Who is willing (or knows someone) to contribute actively to the WG pillar 1 (set a timeline)
- Inventory of projects
- Questionnaires
- Conference organization
- Communication with networks
- Analysis of soil pollution.....



PILLAR 1 DISCUSSION – APPROVAL BY THE ESP PLENARY



EUROPEAN SOIL PARTNERSHIP



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PILLAR 2

Encourage investment, technical cooperation, policy, education, awareness and extension in soils

Arwyn Jones



EUROPEAN SOIL
PARTNERSHIP

PILLAR 2 BACKGROUND

- Pillar 2 is wide ranging in scope
investment, technical cooperation, policy, education, awareness, extension
- Underpins many of the actions of the other pillars
- Addresses lack of societal awareness of the importance of soil
- Lack of education underlies
 - unsustainable land management
 - overall lack of investment
 - political reluctance to meaningfully adopt and ensure soil protection and enhancement measures



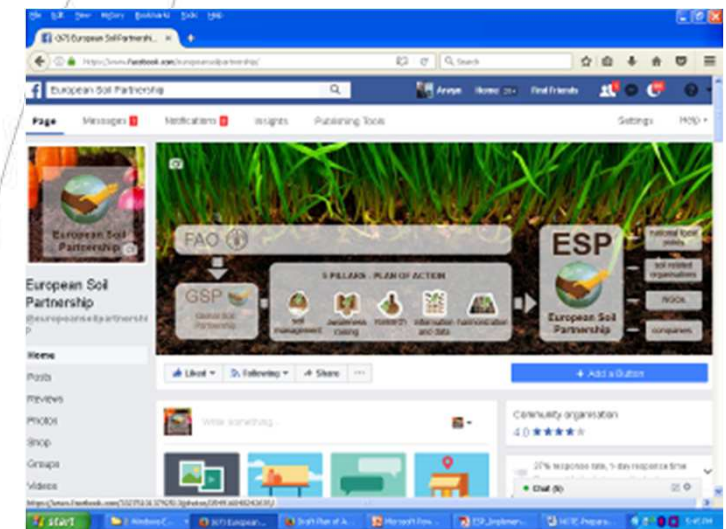
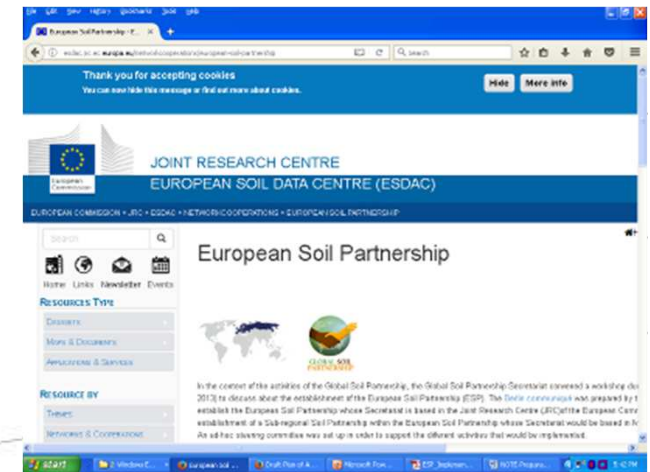
PILLAR 2 MAIN OBJECTIVES

1. **Politicians and decision makers should be informed**, ... of the true societal value of soil to encourage the development of frameworks for soil protection or sustainable management in line with the goals of the World Soil Charter.
2. Policy development should be supported by **regular and harmonised assessments of the state of soil, pressures, their impacts and trends** to prioritise and target interventions (links to Pillar 4).
3. **Education** on soil should be promoted.
4. Promote strategies to **engage with society** as a whole (e.g. World Soil Day).
5. **Extension services should be supported**, developed and revitalised to reflect the multi-functional services of soil beyond the traditional agricultural community.
6. **Scientific and technical cooperation should be promoted** and strengthened (links to Pillars 1 and 3).
7. **Foster investments in soils** to benefit society ... to ensure effective implementation of activities under the plans of action. The return from investments should be assessed...



PILLAR 2 EPS COMMUNICATION STRATEGY

- Target audience – highlight benefits of membership
- Web page
<http://esdac.jrc.ec.europa.eu/networkcooperations/european-soil-partnership>
- Facebook - Twitter
- Support material (e.g. leaflet, posters, roll-ups,...)
- Newsletter (biannually: after Plenary, before-after World Soil Day/January?)
- World Soil Day – saturation or targeting?
- FAO Symposiums
- Events catcher
- Support from/to Focal Points



EUROPEAN SOIL PARTNERSHIP

PILLAR 2 **DISCUSSION**

General comments pertaining to the pillar 2

- Specific comments

- Global Soil Week

- Promote ESP - attract new partners

- Capture activities (viz IYS2015)

- Diverse structure to implementation of Pillar 2

- Joint leadership of the awareness raising activities ENSA-JRC

- Lacking competences

- Advisory Services
 - Investments, Cost-benefit

- ESP define some common activities to continue raising awareness on soil in Europe in line with evolving EU STS.



PILLAR 2 SPECIFICITY OF THE EUROPEAN CONTEXT

Heterogeneous situation in relation to goals of Pillar 2

Communicating State of European soils

- ITPS State of World Soils Report (sealing, salinsation and contamination)
- EEA State of Environment Report (soil functions, eight-ten threats)
- MS Assessments
- Pressures on soil relatively well understood
- Definition of soil functions/ecosystem services extent, demand & supply less so
- Systematic data on trends generally lacking (addressed by LUCAS, MS schemes)
- Need to highlight better the value of soil –European Network Soil Awareness

Policy context

- EU Soil Thematic Strategy
 - EU policy framework
- International drivers
- National initiatives
- Existing networks (at all levels)



PILLAR 2 OUTPUTS

Recommendation 1 : Improve the appreciation of the value and relevance of soil by all levels of civil society

Action

- Development of targeted educational resources (SOIL-NET, MOOC, multilingual)
- Development of public outreach material, support to events (e.g. World Soil Day, citizen science-soil biodiversity, revision of Soil Atlas of Europe, ENSA Workshop, Open Days,...) and field visits.
- Definition of best practices that can be applied by soil users (e.g. EUROSIL 2020, national conferences)
- Engagement with other (scientific) disciplines (e.g. ESOF, EGU, Science Weeks, Slow Food,..)
- Lead: JRC/ENSA
 - Possible partners: EC /EEA + all + professional communicators / Min. Education / Universities /supply chain
 - Timeline: near, medium and long-term
 - Budget and funding: In-kind support, JRC will provide funding for Pillar 2 WG meeting, soil atlas events, booth at EUROSIL and ESOF

Outcomes

- ENSA/JRC Workshop Bratislava, 21-22 September 2017
- EC World Soil Day Meeting, Brussels + National initiatives
- 2nd Edition Soil Atlas of Europe (2018)
- Summer Schools, Training Programmes,...
- Support to teachers

PILLAR 2 OUTPUTS

Recommendation 2 : Support to EU and national soil policy development

Action

- Development and sharing of policy briefings
 - Support to EU and national initiatives in the development of soil protection / conservation / restoration policies, including soil-based SDG targets
 - Development and implementation of monitoring systems
- Lead: EC (for EU)/EEA/ITPS + MS Competent Authorities
 - Possible partners: All partners
 - Timeline: 2017+
 - Budget and funding: Self-funding/EU/National-Regional schemes

Outcomes

- EU Soil Expert Group (e.g. Soil policy gap-analysis)
- Input to reform of EU CAP
- LUCAS Soil Survey – contribution to policy debate, trends in soil condition
- MAES-Soil Pilot (soil-based ecosystem services)
- SDG Indicators (EUROSTAT, MS)
- 4/1000 initiative
- SOER 2020, SWSR 2020



PILLAR 2 OUTPUTS

Recommendation 3 : Support to sustainable soil management

Action

- Promote inclusive dialogue between policy makers, industry, farmers and other stakeholders on soil fertility management at EU level.

- Link with conferences/meetings on agriculture and soil functions.

- Lead: Pillar 1
- Possible partners: EC, farmer associations, ESCS
- Timeline:2017+
- Budget and funding: EU/In-kind

Outcomes

- Landmark project/COPA-COGECA workshop on farming systems and soil functions (10/2016).
- Targeted sessions at EGU
- EUROSOIL 2020



PILLAR 2 OUTPUTS

Recommendation 4 : Support to extension services

Action

- Improved engagement between soil science community and extension services to enhance the soil component in land use advice.
- Mechanism to ensure dissemination of relevant scientific developments and outreach material to support SSM and expanded knowledge base (link to Pillar 1).

- Lead: tbd
- Possible partners: National focus / CAP
- Timeline: Long-term
- Budget and funding: EU/National/Regional

Outcomes

Implementation of VGSSM



PILLAR 2 OUTPUTS

Recommendation 5 : Strengthen scientific and technical cooperation

Action

- Targeting of EU (H2020, FP9, LIFE+, ...) and national/regional funding programmes and integrated schemes JPI /FP9
 - Support to development of integrated research calls
 - Recommendations for better funding of SSM-related research and development of best practice
 - Implementation of Inspiration Strategic Research Agenda
-
- Lead: tdb-Pillar 3?
 - Possible partners: EC + All
 - Timeline: 2017+
 - Budget and funding: In-kind / Funding programmes

Outcomes

- Increased number of soil + SMM based research projects
- Summer Schools



PILLAR 2 OUTPUTS

Recommendation 6 : Investment

Action

- To foster investments in soils
- Demonstrate positive return from investments
 - should reflect EU, national and regional priorities
 - high relevance to CAP reform

- Lead: tbd? Italian ESP? UK Peat
- Possible partners: EU, All
- Timeline: Long-term
- Budget and funding: CAP, In-kind,...

Outcomes

- Evidence based success stories
- Impact assessments



PILLAR 2 **DISCUSSION**

General comments pertaining to the pillar 2

- Specific comments
 - Global Soil Week
- Promote ESP - attract new partners
- Capture activities (viz IYS2015)
- Diverse structure to implementation of Pillar 2
 - Joint leadership of the awareness raising activities ENSA-JRC
- Lacking competences
 - Advisory Services
 - Investments, Cost-benefit
- ESP define some common activities to continue raising awareness on soil in Europe in line with evolving EU STS.





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PILLAR 3

PROMOTE TARGETED SOIL RESEARCH FOR EUROPE AND BEYOND

Coen Ritsema, Gergely Toth and other ESP Pillar 3 members



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PILLAR 3 – GSP background

Defined opportunities within GSP Pillar 3 for improved promotion of soil research and development

- Relevance of soil research and development in today's society
- Interdisciplinary nature of soils
- Gaps, priorities and synergies with related productive, environmental and social development actions
- Coordination to strengthen global soil R&D activities

Recommendations of GSP Pillar 3

- Encourage inter- and transdisciplinary soil research and development ...
- Capitalize on existing R&D research initiatives and outputs through meta-analysis / synthesis reviews ...
- Compile for all partners evidence of the return of investment in soil research ...
- Foster synergy and engagement between research and end-user communities, and donor agencies ...

GSP Pillar 3 links to all other Pillars

- Pillar 1 – Promote sustainable management of soil resources and sustainable productivity
- Pillar 2 – Encourage investment, cooperation, policy, education, awareness and extension in soils
- Pillar 4 – Enhance the quantity, quality and availability of soil data and information
- Pillar 5 – Harmonization of methods, measurements and indicators for sustainable use of soil resources



PILLAR 3 – ESP background

State of European soils

- According to a.o. the SWSR-2015, soils in Europe are affected by multiple degradation phenomena, like erosion, pollution, loss of SOC, salinization, sealing, loss of soil biodiversity, compaction and waterlogging
- Degradation rates are alarming and action is required at multiple levels to counteract these trends
- Lessons from the past indicate that soil restoration is more complex and expensive compared with timely implementation of targeted prevention and remediation measures

EU policy context

A wide array of European and national soil policy instruments are available (Soil Wiki, Ecologic):

- 35 EU instruments, like WFD, Soil Thematic Strategy, Nitrates Directive, CAP, EIA Dir., Waste Framework Dir, etc
- > 670 Member States instruments (majority regulatory binding, others regulatory non-binding or non-regulatory)

International policy context

- SDGs
- UNFCCC
- UNCCD
- UNCBD



PILLAR 3 - ESP OUTPUTS

Recommendation 1

Define a prioritized soil research agenda for Europe to advance the state of knowledge in a.o. the field of soil characterization, dynamic soil processes, soil quality assessment, soil management, soil improvement, and provision of ecosystem services.

Action

Link with and build further upon a range of on-going initiatives defining soil research agenda's for specific EU audiences. Besides the EU-funded project INSPIRATION (stakeholder driven) and the European Academies Science Advisory Council (policy driven), the ESP Pillar 3 consortium aims to define specific soil research needs in addition (science driven). These different agenda's will be merged and integrated to a commonly agreed and coherent European soil research agenda serving multiple purposes and fora.

- Possible partners: Wageningen University, JRC, NIOO, and others
- Timeline: 2017-2018
- Budget and funding: 50 k€ (in-kind?)

Outcome 1

- An integrated and prioritized soil research agenda for the EU, addressing needs of different audiences, and linked to productive, environmental, social, and policy aspects.



PILLAR 3 - ESP OUTPUTS

Recommendation 2

Create strategic links between research entities, end-user communities and donor organizations to effectively embed soil research priorities across global, European, and national research programmes and projects

Action

Inventory of relevant fora and foster synergy and active collaboration to broaden the soil research focus at multiple levels, and enhance its related environmental, social, economic and policy impact. Stipulate the essential role of soil sciences more explicitly in a range of grand environmental and societal challenges, like climate change, biodiversity, desertification, food security, and economic welfare.

- Possible partners: Pillar 3 members
- Timeline: 2017-2020
- Budget and funding: 40 k€

Outcome 2

- Better positioning and embedment of soil research priorities across global, European and national research programmes and projects, in order to contribute to achieving the SDGs, UN conventions, and European and national policy targets, including fulfilling specific stakeholder needs.



PILLAR 3 - ESP OUTPUTS

Recommendation 3

Compile information on the return of investment in soil research, stressing the cross-cutting role of soils in grand environmental and societal challenges, and the importance of soil properties, functions and provision of ecosystem services thereupon.

Action

Assessing a detailed review on economic costs of soil degradation and value of its rehabilitation, accounting for different soil threats and currently existing restoration options. Unravel causes for non-action, and identify potentials for improvement, and how targeted soil research investments might contribute to design more appropriate and cost-effective technologies and approaches for reversing degradation across different climatic and socio-economic environments.

- Possible partners: ISRIC, PBL, Wageningen University, and other Pillar 3 members
- Timeline: 2018-2019
- Budget and funding: 100 k€

Outcome 3

- A database with soil threats versus applicable rehabilitation measures, including related costs and benefits, and information on the estimated return of investments in dedicated soil research to develop more appropriate and cost-effective technologies for this purpose.



PILLAR 3 - ESP OUTPUTS

Recommendation 4

Assess existing soil research partners, facilities, infrastructures, and soil research programs across Europe, and development of a soil knowledge hub for different audiences

Action

Detailed inventory of existing soil research groups, existing laboratory and field experimental and monitoring facilities, long-term observatories, and infrastructures across Europe. Preparation of an overview of the existing soil research programs in Europe, including scope and aims. Designing and developing a web-based soil knowledge hub for providing soil related information and an active discussion platform for different individuals and audiences.

- Possible partners: ESP Pillar 3 members
- Timeline: 2017-2020
- Budget and funding: 150 k€

Outcome 4

- An overview of existing soil research partners, available facilities and infrastructures, and soil research programs across Europe, including an active soil knowledge hub for interested users



PILLAR 3 - ESP OUTPUTS

Recommendation 5

Encourage inter- and transdisciplinary research and development to support the five ESP Pillars, ensuring creation of linkages, fine-tuning, synergy, integration, and coherent action.

Action

Foreseen inter- and transdisciplinary research initiatives aim to enhance the development of appropriate sustainable soil management practices and systems, the applicable use of soil information, the harmonization of methods and determination of best indicators, and the dissemination of research results beyond the scientific community, to globally support economic growth, environmental sustainability and social development.

- Possible partners: All ESP Pillar 3 members
- Timeline: 2017-2020
- Budget and funding: 40 k€

Outcome 5

- A range of specific research and development initiatives contributing to one or more of the other ESP Pillars



PILLAR 3 - ESP OUTPUTS

Recommendation 6

Actively promoting the European Soil Partnership programme, specifically the one of Pillar 3, across different events and audiences using a range of dedicated means.

Action

Numerous and diverse soil networks are active at different levels related to amongst others research, investigating, monitoring, communication, awareness, and education. It is envisioned to enhance synergies between activities of these networks and those of ESP Pillar 3, including through various EU and other projects. A long-list of soil science events during 2017-2020 will be prepared, interesting for active participation by ESP Pillar 3 members for targeted dissemination, communication, networking and collaboration purposes.

- Possible partners: All ESP Pillar3 members
- Timeline: 2017-2020
- Budget and funding: 50 k€

Outcome 6

- Extensive list of congress, symposia, network events, and workshop participation by ESP Pillar 3 members, including related contributions like oral and poster presentations, and (co)convenor of dedicated sessions



PILLAR 3 - DISCUSSION and NEXT STEPS

Comments/remarks

- General comments pertaining to Pillar 3
- Specific comments

Role of the national focal points

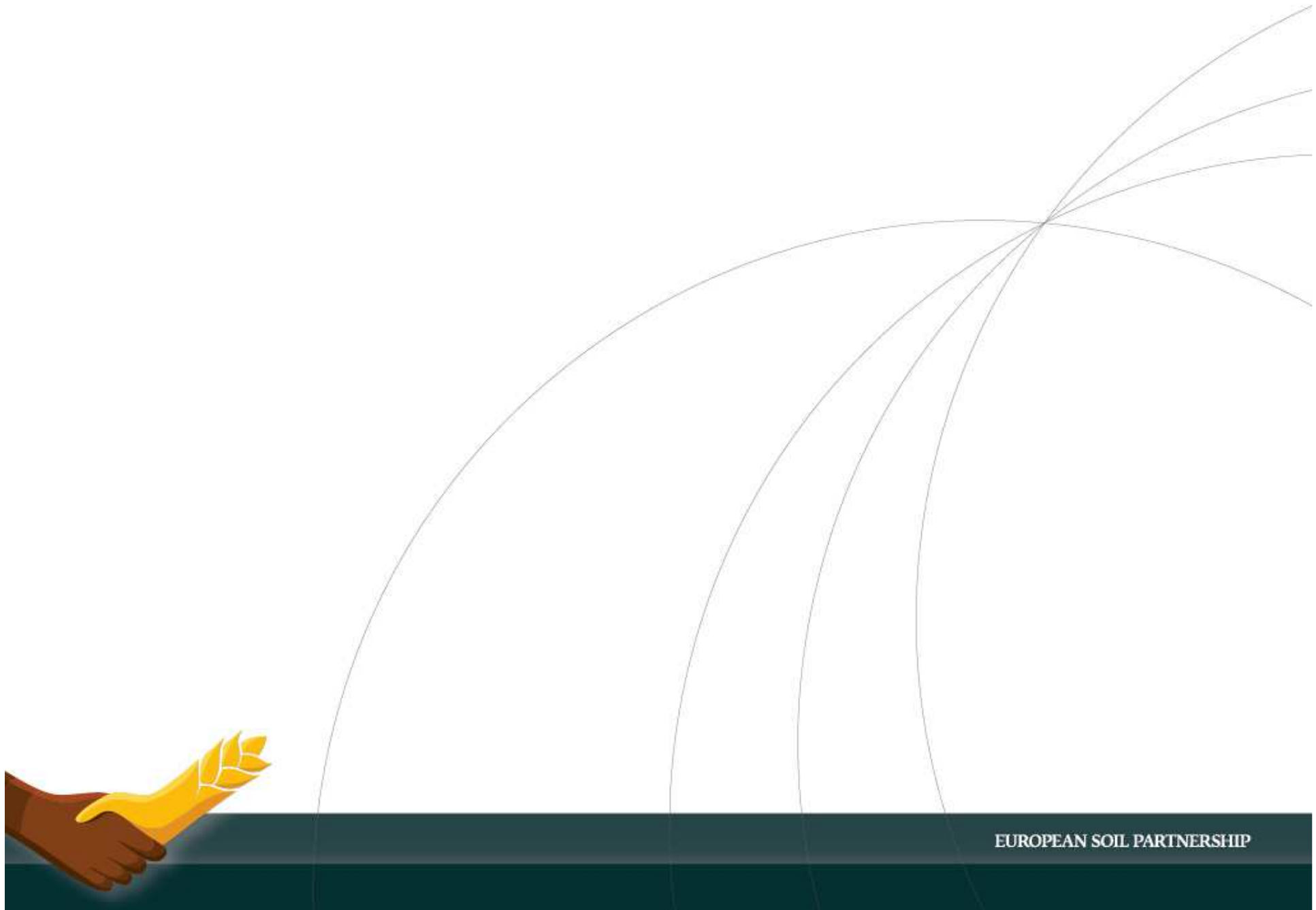
- Involvement
- Identification of national institutions that can contribute
- xxxx

Working group on pillar 3

- Who is willing (or knows someone) to contribute actively to the WG pillar 1 (set a timeline)
- Concrete main tasks
- xxxx



PILLAR 3 - DISCUSSION and APPROVAL BY THE ESP PLENARY



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PILLAR 4

Enhance the quantity and quality of soil data and information: data collection, analysis, validation, reporting, monitoring and integration with other disciplines

Allan Lilly



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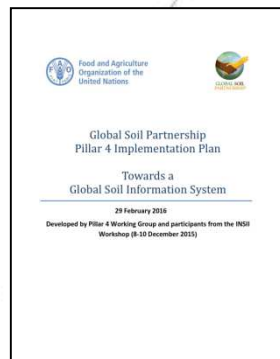
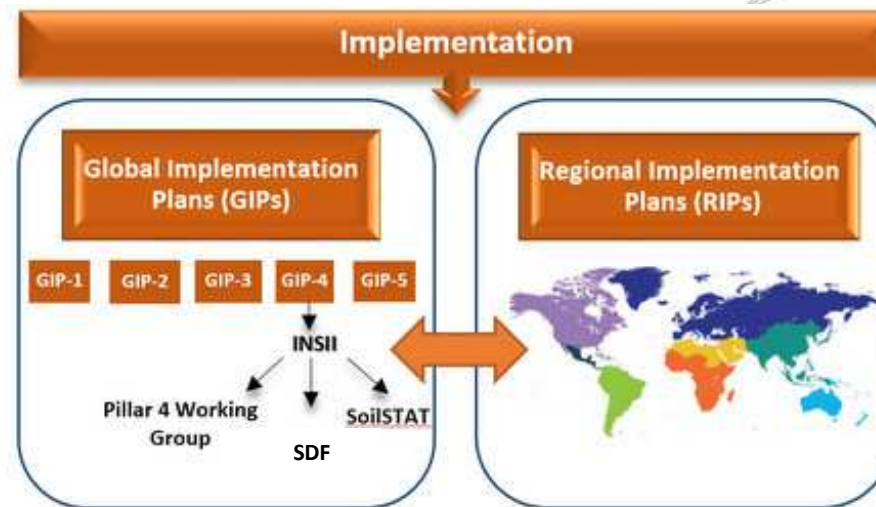
PILLAR 4 BACKGROUND

GSP pillar 4

- Answering critical questions at the global scale
- Supplying fundamental soil data for understanding Earth-system processes to enable management of the major natural resources


Pillar 4 Implementation Plan

Network of International Soil Information Institutions (INSII) reviewed and revised draft Global IP and is supported by a technical working group of soil information experts (Pillar 4 Working Group).



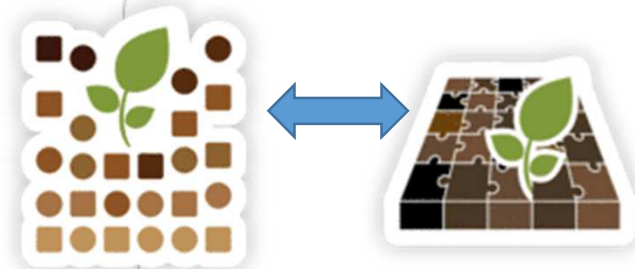
PILLAR 4 BACKGROUND

Adapt GSP Implementation Plan in the European Region

- Monitoring
 - Provision of profile data
 - Provision of polygon data
 - Provision of data for spatial grids
- 
- build on national and within-country systems
 - Integrate the soil information into GEOSS

Close links with Harmonisation (Pillar 5)

Very much guided by GSP



GEOSS - Global Earth Observing System of Systems

EUROPEAN SOIL PARTNERSHIP



Monitoring, forecasting, and status reporting (SoilSTAT) – largely lead by FAO

Monitoring system to measure changes in soil quality through time to assess efficacy of sustainable soil management

- Establish Inventory of existing soil policies and monitoring (eg <http://ecologic.eu/13090>, LUCAS, BioSoil) to inform monitoring and identify gaps
- Establish a realistic reporting time frame
- **Make use of existing reporting structures with Europe**



Soil profile/point data

Comprehensive soil profile and analytical database – Tier 1

World reference soil profile and analytical database – Tier 2 (more rigorous requirements)

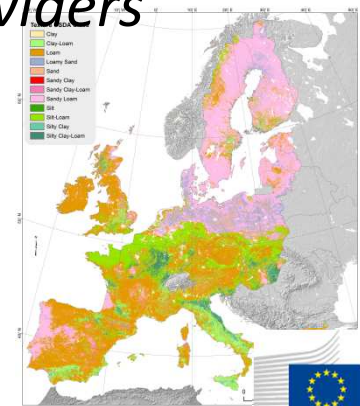
- Identify/collate existing datasets (national soil surveys, Academic institutions, private laboratories, European level datasets eg SPADE, LUCAS.....) particularly new data
- Overcome/respect concerns over Intellectual Property Rights
- Building/reinvigorating networks of data providers
- Develop a distributed system



Spatial data

Revise and update the digital Soil Map of the World with the design scale 1:1M from national soil polygon data sets

- European soil data already exists but could be improved (Atlas, 2018)
 - *Overcome/respect concerns over Intellectual Property Rights*
 - *Building/reinvigorating a network of data providers*
 - *Developing a distributed system (GS-Soil)*



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Global/European grids (soil property maps)

Harmonized World Soil Database (*underway*)

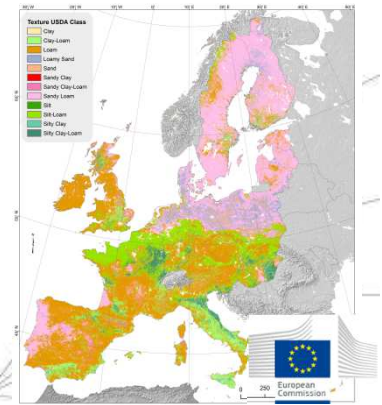
Fine-resolution grid of soil properties

- Digital soil mapping techniques
- Relatively new science
- Limited number of technical experts
- Requires comprehensive soil profile database



Current position

- Europe is relatively data rich though data are aging
- There are EU-level initiatives (eg LUCAS)
- Many national initiatives
- INSPIRE directive/ISO standards
- We have existing networks:
 - European Soil Bureau Network (ESBN)
 - National Reference Centres Soil of the European Information and Observation Network (EIONET)
- We have European data centres:
 - European Data Centre (ESDAC),
 - European Topic Centre on Urban, Land and Soils (ETC ULS)



We need to build on these and fill gaps in the European Region rather than starting from fresh. We can use existing standards (INSPIRE/ISO) and networks and the development of a global Soil Organic Matter spatial dataset gives us an opportunity to develop and expand our networks, share data and show we can deliver a key product.



Key challenges for European Soil Partnership – Pillar 4

- Overcome/respect concerns over Intellectual Property Rights
- Build/reinvigorate networks of data providers/soil information institutions
- Europe is data-rich but often poor at sharing
- Data are often quite old, we need to collate new soil data
- Develop a distributed system
- Build technical capacity
- Be INSPIRE compliant
- Data harmonisation (particle size, pH, organic C) with Pillar 5
- Identify/establish monitoring network
- Funding – who pays? (in kind requires goodwill)
- Identify a key Institution that can act as a '*Figure head*'/manage data if required

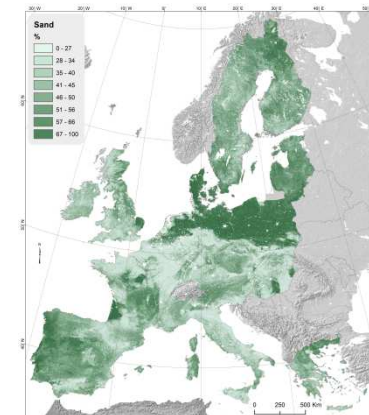
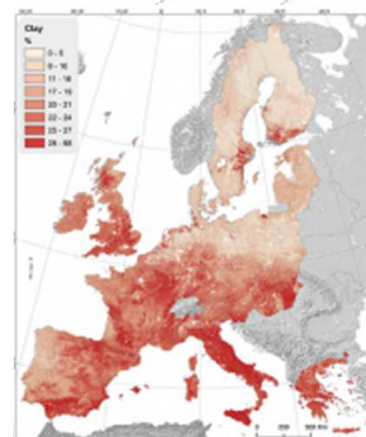
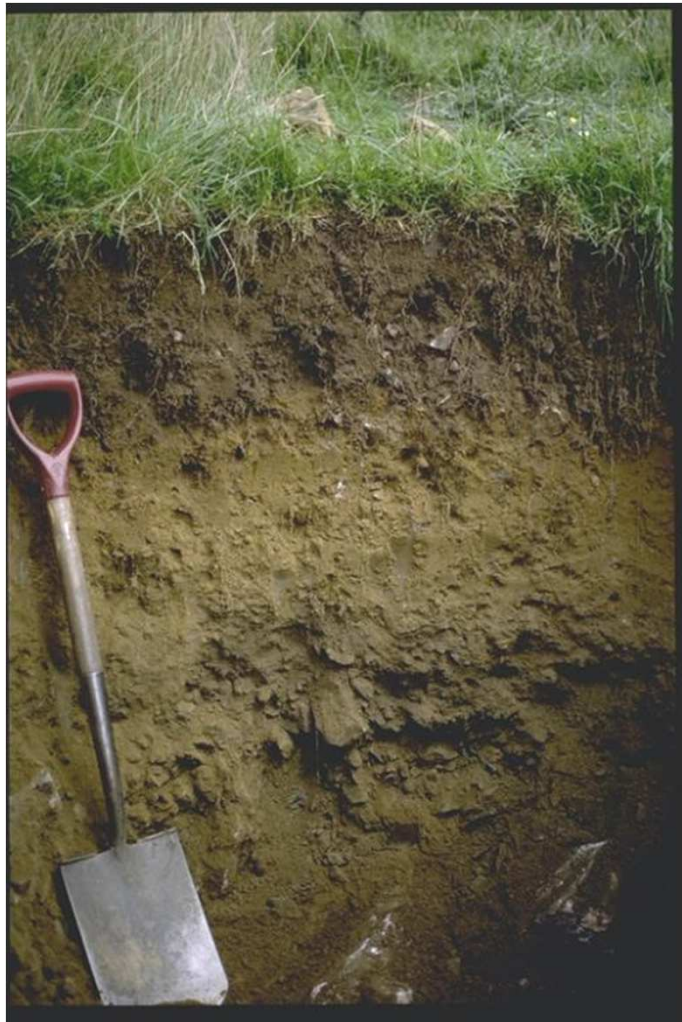


Timeline for SOC map/spatial dataset

Activity	Description and due date
Guidelines for GSOC mapping (GSP Secretariat and P4WG)	<ul style="list-style-type: none"> – Final Version to be published and distributed by 31st January 2017. – Summary of specifications provided as overview by GSP Secretariat: January 2017 (including a website)
Recipe book (INSII members and invited experts)	– The book is envisaged to be completed by February 2017, so that it could be used in training sessions and by INSII members
Country extracts of the global (empty) 1 km grid (30 arcseconds)	– To raster shall be provided to all member countries by February 2017.
Capacity development	– Regional and national training sessions for SOC mapping through the Regional Soil Partnerships, where needed, January-May 2017
Development of national SOC maps (INSII members)	<ul style="list-style-type: none"> – Dec 2016/Jan 2017: preparation of national work plans to develop SOC maps. INSII members to share and discuss work plans with national GSP focal points, and then inform the GSP Secretariat. – Dec 2016 - Aug 2017: preparation of national SOC maps; production of metadata and data sharing
Status of national contributions (INSII members)	<ul style="list-style-type: none"> – INSII members are invited to participate in the Global Symposium on Soil Organic Carbon, FAO headquarter, Rome, 21-23 March 2017 – Selected countries may present case studies on SOC mapping
Map collection (GSP Secretariat, supported by SDF)	– Aug 2017
Modification/adjustment of national SOC maps where necessary	– Sep – Nov 2017
Final GSOC map	– 5 Dec 2017 (World Soil Day)



PILLAR 4 DISCUSSION BY THE ESP PLENARY





Food and Agriculture
Organization of the
United Nations



PILLAR 5

HARMONIZATION OF METHODS, MEASUREMENTS AND INDICATOR FOR THE SUSTAINABLE MANAGEMENT AND PROTECTION OF SOIL RESOURCES

Hakkı Emrah Erdogan



EUROPEAN SOIL
PARTNERSHIP

PILLAR 5 - BACKGROUND

- the information of Pillar 4 must first be gathered in a harmonized way
- the harmonization of terminology (soil classification and description), methods, indicators and evaluation methods and models *in order to develop regional policies for sustainable management of soil resources in Europe*
- The coordination of the European contributions to global efforts which focus on assessment and development of exchange standards for soil information, including the development of indicators and measures for monitoring the impact of relevant policy efforts to ensure European achievements, for example for the SDGs.



The main objective is to develop an over-arching mechanism for globally consistent and comparable harmonized soil information.

This mechanism includes the following working areas of harmonization:

- Soil profile observation and description
- Soil classification systems
- Soil mapping and soil property estimation
- Laboratory and field analytical data of soil
- Soil information exchange
- Soil data interpretation: agreed and representative indicator sets and evaluation functions to assess the impact and performance of the policies, projects and investments on soil.



LINK WITH PILLAR 4

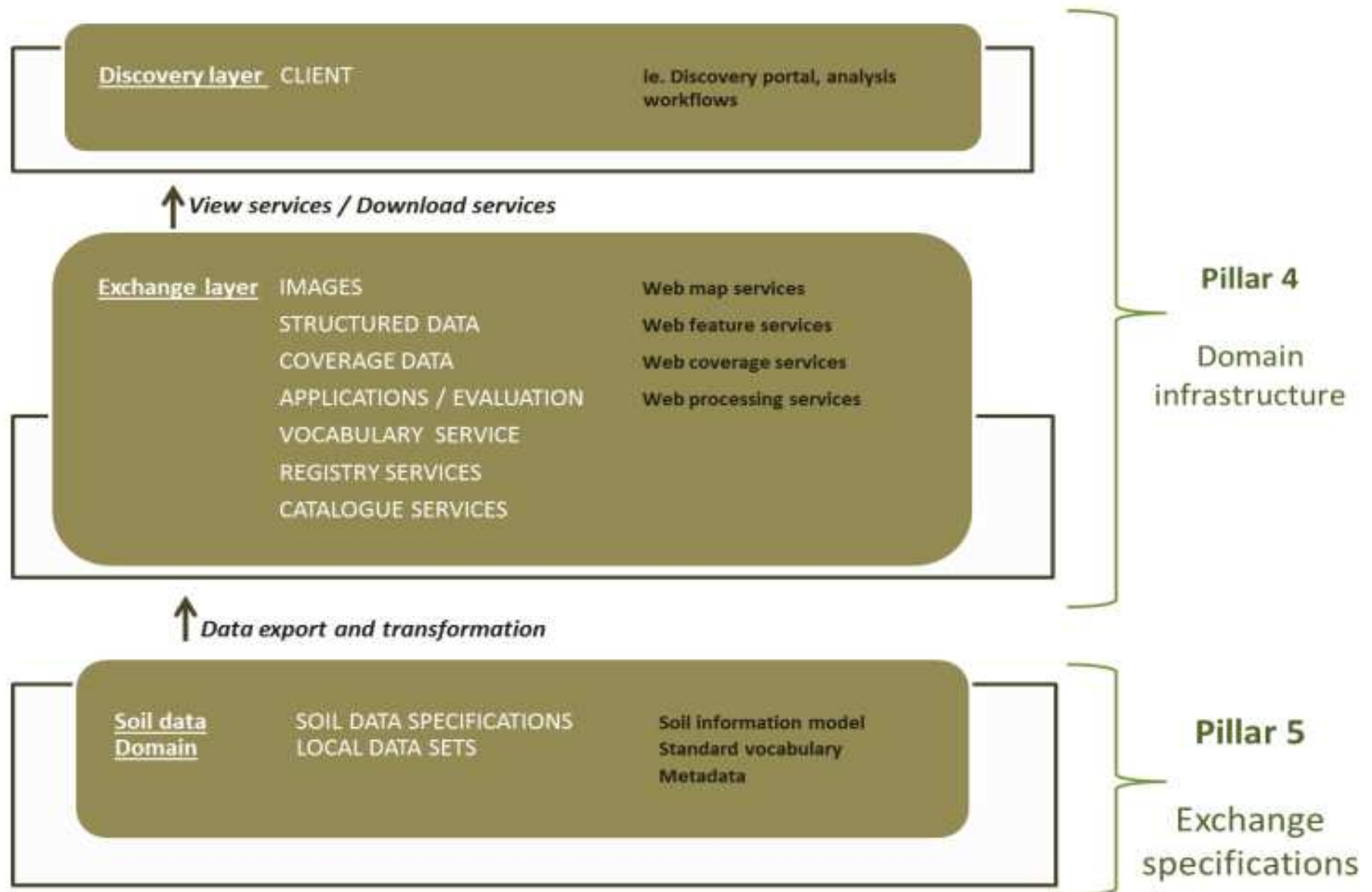


Figure 5: Overview of information model driven system architecture⁶

PILLAR 5 - GLOBAL RECOMMENDATIONS

- Develop an over-arching system for harmonized soil characterization
- Establish a mechanism for improving the comparability of soil data
- Develop a reference systems for soil profile description, soil classification and soil mapping
- Review existing practices for field sampling, sample preparation and measurement
- To enable the exchange of digital soil-related data, agreement is reached on a global soil information model, vocabulary service and meta-data standards.
- Review existing indicator systems and evaluation procedures and develop a harmonized approach based on common criteria, baselines and thresholds with the aim to monitor the state and response of soils



EUROPE-SPECIFIC ADDITIONAL PILLAR 5 ELEMENTS

- Europe has an intensive history of harmonization activities, mainly due to JRC, EEA + ETC + Europe-wide experts groups and networks.
- Harmonization is still a demanding area of action.
- The global P5IP is also valid for the European Soil Partnership, further region-specific modifications are needed. Previous activities in Europe can be used as a basis (e.g. EEA indicator system).
- Pillar 5 provides the opportunity to check thoroughly the importance of international activities related to harmonization, and to connect to national activities:
 - INSPIRE vocabulary services for soil data
 - Developments towards a Universal Soil Classifications
 - Europe-wide network of soil laboratories (e.g. connected to European Union Reference Laboratories EURL)



IMPLEMENTATION STRUCTURE AND PARTICIPATION

- Within this framework, the network of international soil information institutions (INSII), as described in Pillar 4, requires some expansion and additional working groups:

- ☐ ad-hoc working group for harmonization of soil mapping (temporary assignment)

- ☐ Working Group for the harmonization of Soil Analysis (long-term)

- ☐ Working Group for the review and expansion of Soil Indicators



Highlights for discussion:

Policy processes require indicators derived from national soil data (e.g. SDG). Applying harmonized indicators, using agreed and harmonized evaluation methods are the fundamental basis. This is also needed to build a European soil monitoring system based on national systems.



	Recommendation / actions	Description of outputs	Partners	Timeline	Budget and Funding
1	Revision of the European soil mapping guideline (see also Pillar 4, action 5)	<ul style="list-style-type: none"> – Revise the ESNB Manual of Procedures – Integrate options to use remote sensing and digital soil mapping (e.g. eSOTER project) – Refine the nested system (see GS Soil project) – Develop a European soil map legend (using the soil regions concept) based on WRB 	ESP-INSII ad-hoc WG soil mapping	end 2018	In-kind
2	Soil profile description standard	<ul style="list-style-type: none"> – will be covered by the global Pillar 5 Implementation Plan (P5IP) 	global INSII		In-kind



	Recommendation / actions	Description of outputs	Partners	Timeline	Budget and Funding
3	Soil classification : WRB	<ul style="list-style-type: none"> – For status as of 2012: see GS Soil – Improve national correlation methods – Document challenges and solutions 	ESP-INSII	2017/2020	In-kind
4	Reference laboratories	<ul style="list-style-type: none"> – Establish Europe-wide network of soil laboratories building on existing initiatives (e.g. European Union Reference Laboratories EURL, EU Biosoil project) – Selection and establishing a leading laboratory, which implements the web site, produces and distributes reference material, build a data base for calibration and QA, ring tests, evaluations and reporting – see also global P5IP 	ESP-INSII/NRC Soil, WG Soil Analysis	2018-2020	Lead laboratory: € 350,000



	Recommendation / actions	Description of outputs	Partners	Timeline	Budget and Funding
5	Best practice soil analysis	<ul style="list-style-type: none"> – Interact with global level INSII P5 for developing best practice recommendations and procedures for soil sampling, storage, analysis – Liaise with ISO TC 190 and CEN 	ESP-INSII/NRC Soil, WG Soil Analysis, lead laboratory	2018/2019	In-kind
6	Soil Information model	<ul style="list-style-type: none"> – Analyse the implementation status for interoperable soil data according to INSPIRE, and the degree of harmonization – Develop concept to address coordination needs – ESP INSII members to test the model, and to define and implement use cases – Liaising with networks according global P5IP: GODAN Soil Data WG 	ESDAC and ETC ULS ESP INSII	2018	In-kind



	Recommendation / actions	Description of outputs	Partners	Timeline	Budget and Funding
7	Indicators	<ul style="list-style-type: none"> – Develop a soil indicator concept about the state and response of soils under the effect of policies, management and climate change (incl. discussion and feedback with EUR-INSII) – Build on EEA and FP6-ENVASSO indicators – Identify research needs to propose to Pillar 3 – Coordinate with global level approach (INSII) 	ETC ULS and EIONET NRC Soil	2017/2018	In-kind
8	Evaluation methods - review	<ul style="list-style-type: none"> – Review of existing evaluation methods (EU-HYDI, ENVASSO, RAMSOIL, other projects): gaps, challenges, solutions – Harmonization needs and cost estimation (link Pillar 3 research) 	Contractor ESP-INSII (WG Methods)	2018	€ 50,000 (if possible in-kind)
9	Evaluation methods - WIKI	<ul style="list-style-type: none"> – Content-management system: formula collection, documentation, sources 	Contractor	2018	€ 50,000 (if possible in-kind)



PILLAR 5 DISCUSSION – NEXT STEPS

Comment/remarks

Role of the national focal points

- Involvement
- Identification of national institutions that can contribute

Budget and Funding Possibilities

Working group on Pillar 5

- Who is willing (or knows someone) to contribute actively to the WG pillar 5 (set a timeline)



Annex 9

Information about GSP related activities at the Institute of Soil Science, Agrotechnologies and Plant Protection "Nikola Poushkarov", Sofia

Provided (May 2017) by

Prof. Dr. Svetla Rousseva
Director

Institute of Soil Science, Agrotechnology and Plant Protection
Sofia 1331, BULGARIA

Pillar 1

Our scientists give opinions on various soil problems. Perform assessments of the quality, the state of soil resources and their suitability for growing different crops. Elaborate projects on request of the Ministry of Agriculture and Food, private and public organizations and farmers. Provide consultations on agri-environmental measures from the Rural Development Program 2014-2020. Participate in the development of local programs for conservation and sustainable use of soil resources. Preparation of "Handbook for sustainable management of soil resources in Bulgaria" is under consideration.

Pillar 2

Activities related to raising public awareness at different levels on the importance of soil for life on Earth and the need to preserve it through: (a) publications and interviews in printed and electronic media – radio, TV and internet; (B) admission to the institute of pupils and students; Annually celebrating the World Soil Day; (C) organized an exhibition entitled "105 Years of Soil Science in Bulgaria" together with the BPD and the National Museum "Earth and Man"; Translation into Bulgarian of the "Revised World Soil Charter" and the FAO educational posters for soil. Organized together with the BPD Conference "Geochemical and Agro-ecological Problems of the Zlatish-Pirdop Field and the Pirdop Region" with 9 reports presenting up-to-date information on the problems in the Zlatishko-Pirdop valley and contemporary approaches to solving them. Organization of training courses for farmers.

Pillar 3 "Research"

The academic staff of the institute continues its work on capacity building through training of PhD students and enhancing the qualification of scientists. We are involved in building Partner Networks. We develop research projects in the fields of soil science, agrochemistry, agro-ecology, agro-technology, hydromeliorations and plant protection, financed by the AA / MAF, the National Research Fund, the European Space Agency and the EU Development Program.

Pillar 4 "Soil Information and Databases"

Based on the available database of soil polygons a database of agricultural soils is under construction. By the end of May 2017 we will have available database of soil polygons with defined soil units, without topological errors, for terrains up to 1200 m altitude. The collection and summarization of all available soil information and the establishment and maintenance of a database of agricultural soil resources has been in a progress. Work has started commissioned by the Ministry of Agriculture to identify the agricultural Areas with Natural Constraints (ANC) as set out in the EU Regulation 1305/2013 following the Updated Guidelines for Applying Common Criteria, developed by JRC in 2016. National contribution to the Global Organic Carbon Map is considered as well.

Annex 10

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List of participants

PARTICIPANTS TO THE 2017 ESP PLENARY MEETING			
Country	Surname	First name	Organization
Austria	Hajek	Peter	Office of the Tyrolean Regional Government
Austria	Müller-Grabherr	Dietmar	Environmental Agency/ Common Forum
Austria	Spanischberger	Andrea	Federal Ministry of Agriculture, Forestry, Environment and Water Management
Belgium	Swerts	Martine	Government of Flanders
Czech Republic	Kozak	Jozef	Czech University of Life Sciences
EC	Jones	Arwyn	European Commission Joint Research Centre
EC	Masson	Josiane	European Commission
EC	Montanarella	Luca	European Commission Joint Research Centre
EC	Palmieri	Alessandra	European Commission
EC	van Liederkerke	Marc	European Commission - Joint Research Centre
FAO	Alcantara	Viridiana	GSP Secretariat/FAO
FAO	Baritz	Rainer	GSP Secretariat/FAO
FAO	Lefevre	Clara	GSP Secretariat/FAO
FAO	Wiese	Liesl	GSP Secretariat/FAO
FAO	Vargas	Ronald	GSP Secretariat/FAO
FAO	Yigini	Yusuf	GSP Secretariat/FAO
Finland	Lehtonen	Aleksi	LUKE
France	Arrouays	Dominique	INRA
France	Darboux	Frederic	INRA
France	Darmendrail	Dominique	Common Forum
Germany	Bollmann	Joachim	German federal Ministry for Food and Agriculture
Greece	Theocharopoulos	Sideris	HAO-DEMETER
Hungary	Berényi Üveges	Katalin	Directorate of Plant Protection and Soil Conservation and Agri-environment
Hungary	Toth	Gergely	Hungarian Academy of Sciences Centre for Agricultural Research
Iceland	Bragason	Arni	Soil Conservation Service of Iceland
Italy	Benedetti	Anna	CREA-RPS
Italy	Costantini	Edoardo	CREA
Italy	Dazzi	Carmelo	ESSC
Italy	Lanzellotto	Elisabetta	Ministry of Agriculture
Latvia	Kasparinskis	Raimonds	University of Latvia. Soil Science Society of Latvia.

Latvia	Sirma	Kristine	Ministry of Agriculture of Latvia
Poland	Bialousz	Stanislav	Academy of Aviation, Deblin, Poland, Lab of Remote Sensing and GIS
Portugal	Perdigao	Antonio	DGADR-Portugal
Portugal/Belgium	Basch	Gottlieb	European Conservation Agriculture Federation
Slovakia	Sobocka	Jaroslava	National Agricultural and Food Centre
Slovenia	Karo Bester	Petra	Slovenian Environment Agency
Slovenia	Matoz	Helena	Ministry of the Environment and Spatial Planning
Slovenia	Vrscaj	Borut	Agricultural Institute of Slovenia
Spain	Aksoy	Ece	ETC LUS/EEA
Switzerland	Havlicek	Elena	Federal Office for the Environment Switzerland
The Netherlands	de Ruiters	Peter	University of Amsterdam
The Netherlands	Gevers	Hein	Permanent Representation to the UN in Rome
Turkey	Erdogan	Hakki Emrah	Ministry of Food, Agriculture and Livestock
United Kingdom	Riley	Nicola	Defra
United Kingdom	Lilly	Allan	James Hutton Institute/ESBN