



A concept document for establishing task groups for *GlobalSoilMap.net*

Compiled by Bob MacMillan
on behalf of the *GlobalSoilMap.net* Consortium
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Background

The Science Coordinator of *GlobalSoilMap.net* is responsible for helping to identify the main technical and scientific actions that need to be taken to ensure that the *GlobalSoilMap.net* project continues to move forward towards operational production of its intended output products. An initial assessment of the main challenges and needs for action was completed by the Science Coordinator and presented to the Science Committee at the consortium meetings held on October 25-26, 2009 in Seoul, South Korea.

At this meeting, nine main issues of scientific and technical concern were identified as:

- 1) Specifications
- 2) Soil profile and map legacy data
- 3) Covariates
- 4) Prediction Methods
- 5) Data Model
- 6) Cyber-Infrastructure
- 7) End user applications
- 8) Uncertainty and Accuracy
- 9) Operational production mapping

For this discussion, task 4 on prediction methods is split into two subtasks, development of new methods and application/testing of existing methods and an additional (11th) issue on global ecological stratification is proposed.

It was expected that the Science Coordinator would take action to see that each of these main issues was addressed in a timely and effective manner. No formal mechanism was discussed or suggested by which the Science Coordinator could ensure that these issues were addressed in a comprehensive and coordinated way. It was more or less expected that each issue would be addressed on an unstructured basis with all organization and most output coming from the Science Coordinator. As is often the case, experience has shown that there



can be more to these tasks than anticipated and that assistance and additional resources are useful for ensuring that progress continues to be made on all fronts.

In attempting to solicit advice and assistance from colleagues to help address these issues, some concerns have been expressed about ad-hoc involvement of individuals who are not directly employed by recognized agencies that are formal partners at the global or node level. Equally, some feedback has been received from capable and interested individuals who are not employed by agencies that are official participants in the consortium to the effect that they wished to find a way to contribute but were not sure how this could be accomplished.

In the interests of finding a way to make effective use of all talent and enthusiasm that is offered to the project, while maintaining some form of effective oversight and governance, a proposal is hereby made. This proposal seeks to establish a formal mechanism by which the volunteer efforts offered by individuals and agencies that are not formal members of the consortium, as well as of those who are, can be accepted and taken advantage of within a defined framework of oversight and control.

A proposal for setting up task groups under the auspices of the Science Committee

The proposal is rather simple and is one commonly used by many organizations and agencies. In essence, the idea is that the Science Committee may elect to identify the need for a working group or sub-committee to be struck to work collectively to address a particular issue of interest or concern. Such a working group, or task group, would be charged with working on a specific task, under the supervision and authority of the Science Committee, until such time as the task was completed and the task group disbanded.

Membership in a task group would be by invitation from the Science Coordinator, with approval of the Science Committee. Perspective members could be identified and specifically approached by the Science Committee and asked to contribute. Alternatively, the Science Committee could put out a call for volunteers and select members from amongst the volunteers. This provides some measure of control and oversight by the project, while simultaneously opening up the possibility of making a contribution to a much wider pool of talented and valued scientists.

It is proposed that the Science Committee discuss adoption of some form of mechanism similar to that described above that would provide a formal basis for engagement and participation with an expanded pool of potential contributors to the project. This proposal can be discussed and approved, or rejected, at the next meeting of the Science Committee in Rome in May, 2010. It is argued that coordinated action implemented by task groups struck by the Science Committee and monitored by it, can be a more effective way of achieving results than leaving one individual responsible for organizing and completing all tasks.



Suggestions for specific task groups and task group membership

As an initial starting point for discussion the following task groups are proposed along with some suggestions for prospective members. Additional members may be added.

No	Task Group	Lead	Members	Mandate
1	Specifications	Bob MacMillan	Science Committee	Completed, periodic revisions may be necessary. Reactivate if required.
2	Soil Legacy Data	Endre Dobos or Sharon Waltman?	Johan Leenaars, Sonya Ahamed, Markus Walsh,	Develop standards. methods and work plans for capturing legacy profile and map data.
3	Covariates	Janis Boettinger	Bob MacMillan, Tomislav Hengl, Budiman Minasny, Andy Jarvis, Others?	Identify, catalogue and assemble global data sets of covariates and place on a central site for access and use by all project participants.
4	New Method Development	Alex McBratney	Budiman Minasny, Others?	Develop new methods specifically for use by the GlobalSoilMap.net project.
5	Application & Documentation of Existing Methods	Bob MacMillan	Philippe Lagacherie, A-Xing Zhu, Thomas Mayr, Tom Hengl, Jim Thompson, Alex	Set up and run a DSM comparison project. Get multiple scientists to apply different prediction methods to 4 pilot areas. Document and evaluate results.
6	Data Model	Peter Wilson	Sonya Ahamed, Daniel van Kraalingen, others?	Investigate options for design & implementation of robust enterprise data model for the project.
7	Cyber Infrastructure	Sonya Ahamed	Daniel van Kraalingen, Peter Wilson, Andy Jarvis	Investigate options for design & implementation of cyber infrastructure needed by the project.
8	End User Engagement	Phillip Owens	Bob MacMillan, Jim Thompson, Peter Okoth, others?	Identify and list all potential end users and assess their needs for soils data and ability of our data to meet needs.
9	Uncertainty and accuracy	Budiman Minasny	Alex McBratney, Dick Brus, Gerard Heuvelink	Propose a design & implementation methods for assessing both uncertainty and predictive accuracy
10	Production Mapping	Bob MacMillan	Node leaders and Node Science Coordinators	Devise a strategy for setting targets goals and work plans for initiating and completing production mapping.
11	Global Stratification (tentative)	Philippe Lagacherie	Bob MacMillan, Tor Vagen, Budiman, Elisabeth Bui, others	Develop a model and implementation strategy for producing a global ecological stratification into pedological domains. To be coordinated with existing global ecological stratifications