

## **Terms of Reference**

### **GLOSOLAN Initiative on Soil Spectroscopy (GLOSOLAN-Spec)**

#### ***Background***

The GLOSOLAN Initiative on Soil Spectroscopy (GLOSOLAN-Spec) was officially launched in April 2020. During its first plenary meeting in September 2020, the decision for the initiative to be represented by one or more working group leader supported by a working group was made. In order to facilitate the work, the working group was organized in sub-groups based on the GLOSOLAN work plan

However, in 2021, GLOSOLAN noticed that the current governance does not cover all soil spectroscopy related activities in the working groups well. A few working groups' meetings were organized but no follow-up actions were taken. This might result in a loss of interest of experts in the working groups in the GLOSOLAN Initiative on Soil Spectroscopy. In this regard, activities tended to be centralized within the working group leaders and on few specific objectives.

In response to these observations, the governance of the GLOSOLAN-Spec initiative was revised at the 2<sup>nd</sup> plenary meeting on soil spectroscopy (November 2021). Ultimately, the initiative is led by a Chair supported by a Steering Committee and only one working group.

#### **Chair on Soil Spectroscopy**

The GLOSOLAN Initiative on Soil Spectroscopy (GLOSOLAN-Spec) is led by the GLOSOLAN Chair on Soil Spectroscopy that works in coordination with the GLOSOLAN Chair, the GLOSOLAN vice-Chair, and the GLOSOLAN Coordinators at the Global Soil Partnership. The term for the leader is two years after election. The appointment of the Chair of GLOSOLAN-Spec and the extension of his/her mandate to a second term will take place during the annual plenary meeting on soil spectroscopy.

The Chair of GLOSOLAN-Spec should be selected based on the following criteria:

- Should be an internationally recognized expert on soil spectroscopy;
- Should belong to a laboratory registered to the GLOSOLAN network that preferably does both wet chemistry and spectral analysis;
- Should have time to commit to the implementation of the GLOSOLAN work plan;

- Not have any conflict of interest in regards to the objectives, data, information of the Global Soil Partnership, GLOSOLAN, and the Soil Spectroscopy initiative;
- Should demonstrate interest in all the areas of work of GLOSOLAN-Spec;
- Should agree on the GLOSOLAN vision and policy on transparency, partnership and equality.

The Chair is responsible for:

- i. Supporting and ensuring the timely implementation of the GLOSOLAN work plan on soil spectroscopy;
- ii. Reporting on spectroscopy activities at the annual GLOSOLAN meeting;
- iii. Representing the working group on spectroscopy and GLOSOLAN-Spec at any other GSP meetings or international events;
- iv. Supporting GLOSOLAN in capacity-building and financial-resources mobilization activities;
- v. Ensuring that the activities of the working group are implemented according to the principles of GLOSOLAN, including transparency, inclusivity, and mutual respect; and
- vi. Facilitate the communication between GLOSOLAN and independent projects and initiatives on soil spectroscopy.

## **Steering Committee to GLOSOLAN-Spec**

The Steering Committee to GLOSOLAN-Spec will act under the direction of the GLOSOLAN Chair on Soil Spectroscopy with the support of the GLOSOLAN Chair and the GLOSOLAN vice-Chair. The GLOSOLAN Coordinators will provide support as facilitators.

All members of the Steering Committee should:

- Be top experts on the topic of soil spectroscopy;
- Represent institutions with a major regional or global role on soil spectroscopy;
- Have time to commit to implement the GLOSOLAN work plan on soil spectroscopy; and
- Not have any conflict of interest in regards to the objectives, data, information of the Global Soil Partnership, GLOSOLAN, and the Soil Spectroscopy initiative

The GLOSOLAN Chair and Vice-Chair, and the ITPS representative in GLOSOLAN are members of the Steering Committee by default. Overall, the Steering Committee should be represented by experts that can provide an opinion on all aspects of soil spectroscopy. In this regard, the Steering Committee is tasked to:

- advise and help the working group as needed;
- Identify the priorities in the work plan of GLOSOLAN-Spec – where the most energy should be directed;
- Identify and monitoring potential risks related to the implementation of activities in the GLOSOLAN-Spec work plan;
- Providing input to the development of project proposals;
- Monitoring and assessing the quality of the GLOSOLAN-Spec outputs as they develop;
- make urgent recommendations and sometimes decisions that cannot wait for the organization of a plenary meeting;

Members of the Steering Committee meet three times per year. One time after the plenary meeting, to review the decisions made by GLOSOLAN members. One time six months after the plenary meeting, to review and assess progresses and needs. And another time right before the next plenary meeting, to review progresses and advice on the upcoming plenary meeting. Additional meetings of the Steering Committee can be organized as needed.

## **Working Group on Soil Spectroscopy**

The technical working group will act under the direction of the Chair of GLOSOLAN-Spec, the GLOSOLAN Chair and the GLOSOLAN vice-Chair. The GLOSOLAN Coordinators will provide support as facilitators.

All members of the working group should:

- Be experts on the topic of soil spectroscopy;
- Have time to commit to implement the GLOSOLAN work plan on soil spectroscopy;
- Not have any conflict of interest in regards to the objectives, data, information of the Global Soil Partnership, GLOSOLAN, and the Soil Spectroscopy initiative.

Representatives from the Regional Champion Laboratories/Institutes on soil spectroscopy must also be part of the working group. At least one member of the Intergovernmental Technical Panel on Soils (ITPS) should be part of the working group on soil spectroscopy. In this regard, the identified expert(s) should assist the GLOSOLAN Coordinator in reporting on GLOSOLAN activities to the ITPS. Because GLOSOLAN works on harmonization and GLOSOLAN documents are released after long discussions among laboratories, countries, and implementing partners, documents produced under GLOSOLAN do not require the approval of the ITPS before publication. The opinion and clearance of the ITPS and that of the GSP Plenary Assembly are required only for documents that have political implications, such as the “Resolution for the International Exchange of Soil Samples for Research Purposes under GLOSOLAN” (presented and approved at the Seventh GSP Plenary Assembly in 2019), and for the launch of new initiatives, such as the initiative on soil spectroscopy (presented and approved at the Seventh GSP Plenary Assembly in 2019) and the initiative on soil fertilizer analysis (presented and approved at the Eighth GSP Plenary Assembly in 2020).

In accordance with the decision-making process endorsed for this initiative by GLOSOLAN members and partners on soil spectroscopy, the working group should work in close contact with countries and laboratories. Countries and laboratories will provide the working group with data and information to develop standards, tools, and other soil spectroscopy materials and will review draft documents and prototype tools developed by the working group. The number of members in the working group is not limited. The GLOSOLAN Coordinators and the Chair of GLOSOLAN-Spec should ensure to the best of their ability that the working group has an appropriate geographical balance, representation of members and coverage of topics. All GLOSOLAN members receive regular updates on the work of the network on spectroscopy; it is not necessary to register in the working group to be informed of its activities.

The working group on spectroscopy will:

- i. Contribute to the preparation (writing, revision, and finalization) of spectroscopy materials, such as protocols, guidelines, manuals, and training material and videos;

- ii. Advise laboratories working on or interested in working on spectroscopy as needed and support capacity building activities;
- iii. Coordinate the establishment of the global spectral library and the development of tools for its applications;
- iv. Coordinate joint writing of publications;
- v. Support the organization of the annual plenary meetings on spectroscopy;
- vi. Contribute to the development of the annual GLOSOLAN work plan on spectroscopy;
- vii. Promote GLOSOLAN at the global, regional, and national level, motivating other laboratories to join the network; and
- viii. Contribute to the mobilization of financial resources under GLOSOLAN.

## **New members of the working group**

Experts interested in joining the working group can send an expression of interest to the GLOSOLAN Coordinators any time. Each will join the working group after providing a short summary of their experience and interest in the GLOSOLAN work on soil spectroscopy. The summary is intended to ensure that member's skills are used to best effect and that member's interests in contributing to GLOSOLAN are met.

The GLOSOLAN Coordinators and the GLOSOLAN Chair on Soil Spectroscopy will consider the applicant's:

- Reputation as an expert on spectroscopy;
- CV and publication list;
- Participation in projects that could help to implement the GLOSOLAN work plan on soil spectroscopy; and
- Time available to commit to GLOSOLAN.

## **Work plan and functioning**

Every year, the GLOSOLAN work plan on soil spectroscopy is discussed at the plenary meeting on soil spectroscopy, which is attended by all GLOSOLAN members and partners on soil spectroscopy. The work plan lists all the activities on soil spectroscopy to be implemented by GLOSOLAN for one year, assigns tasks to partners, and specifies deadlines. The work plan is presented at the annual GLOSOLAN meeting for final endorsement. To ensure the active and constructive participation of all experts, the GLOSOLAN Coordinator will monitor the activities of the working group and its members. Inactive members will be contacted by the GLOSOLAN coordinator and eventually removed from the working group. The working group is based on the willingness of its members to jointly achieve a common goal. In this regard, all members commit to a positive and constructive approach that facilitates the work.

## Regional Champion Laboratories and/or Institutes

To promote the implementation of GLOSOLAN activities on soil spectroscopy at the national and regional level and to break language and cultural barriers, regional champion laboratories and/or institutes are identified and re-confirmed at the annual plenary meetings on spectroscopy. Ideally, at least one regional champion laboratory/institute should be identified per region: Sub-Saharan Africa, Middle East and North Africa, Europe, Eurasia, Asia, North America, South America and the Caribbean, and the Pacific. If this is not possible, a champion laboratory/institute can volunteer to serve more than one region. In such case, the following criteria should be considered:

- Regional proximity,
- Cultural and language similarities, and
- Expertise on different aspects of soil spectroscopy.

Each region is free to identify either one or two laboratories or institutes to serve as regional champions. Each region can identify sub-regional champions to better assist countries in the area. The sub-regional champions should coordinate actions and be calibrated against the primary regional champions.

By accepting to serve as regional champion laboratory and/or institute, a laboratory and/or institute agrees to:

- i. Provide all the information needed by GLOSOLAN to harmonize procedures and ensure the comparability of data. The required information includes, but is not limited to, methods, instruments, and soil sample preparation protocols and methods used for wet chemistry and soil spectroscopy analysis;
- ii. Participate in the inter-laboratory comparisons organized by GLOSOLAN and take all actions needed to ensure the comparability of results with other regional champion laboratories and institutes;
- iii. Welcome and facilitate the work of the Panel in charge of approving the quality for the soil spectral data produced at their facilities that will be added to the global spectral calibration library;
- iv. Fill soil data gaps in the Kellogg Soil Survey Laboratory library so that representability and quality go together;
- v. Analyze the samples they receive from laboratories in their region while helping these laboratories to build their own libraries using GLOSOLAN's quality standards;
- vi. Support laboratories that are already using spectroscopy technology to implement GLOSOLAN standards and improve their performance in soil analysis. Such support might include the exchange of information and experience, the provision of remote or in-person trouble shooting, and guidance on the operation of equipment;
- vii. Guide laboratories that would like to start a spectral library in identifying and purchasing the right equipment, in training their staff, and in developing a well-functioning laboratory;
- viii. Assist GLOSOLAN in coordinating and implementing capacity-building programs in the region; and
- ix. Support GLOSOLAN with downscaling activities on spectroscopy, such as the development and use of calibration models and the shipment and analysis of soil samples. This support might include the organization of regional meetings, webinars, and exchange programs.

There is no time limit or term to the position of regional champion laboratories and/or institutes. Regional champion laboratories and/or institutes keep their role as long as they comply with the Terms of Reference in this document. In case of need, a position will be revised at the first available plenary meeting on spectroscopy.