

5th Meeting of the
**Latin American Soil
Laboratory Network**
(LATSOLAN)

26-27 October 2022



The Global Soil Laboratory Network (GLOSOLAN)

Ms. Lucrezia Caon, GSP Secretariat FAO



LATSOLAN
LATIN AMERICAN SOIL LABORATORY NETWORK



WHY?

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...if you can not measure it, you can not manage it...

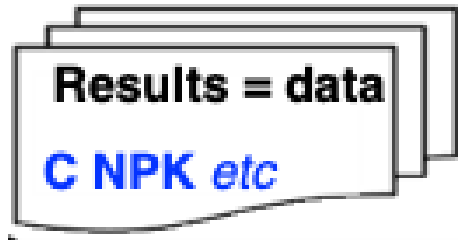
To be successful in global soil management,
Global Soil Laboratory Network is essential.

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Laboratories:
'factories'
producing data

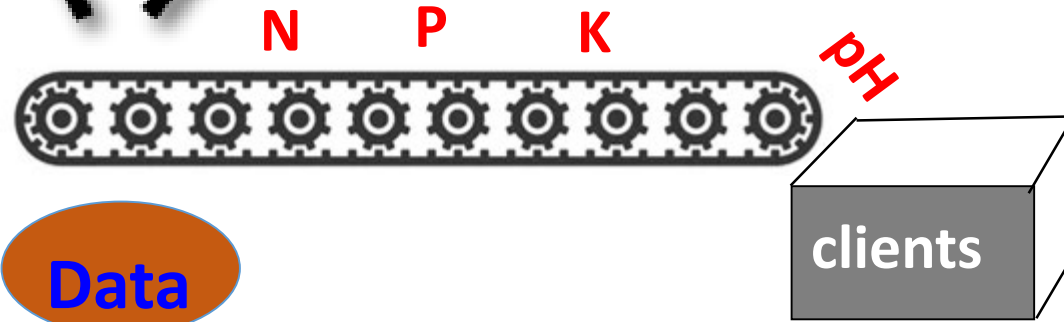
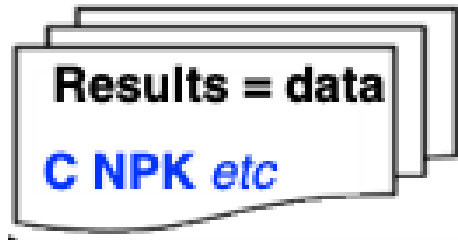


N P K PH



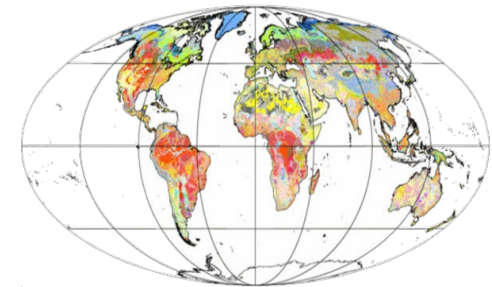


Laboratories:
'factories'
producing data



Traditionally

- Fertilisation
- Mapping





Laboratories:
'factories'
producing data

Results = data
C NPK etc

Quantifying
ODD Targets
Ecosystem
services



N P K PH



Data

clients

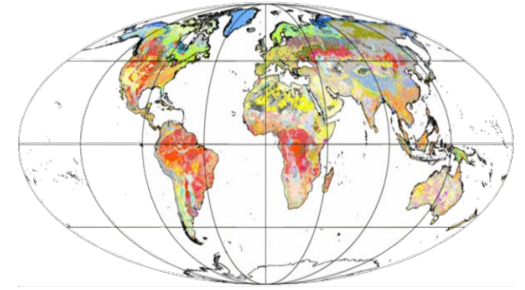
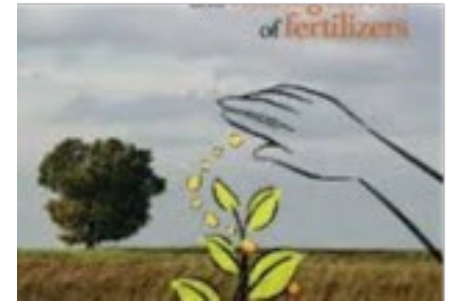
Decisions
Actions

Traditionally

- Fertilisation
- Mapping

Nowadays

- Scientific conclusions
- Payment for ecosystem services



Data

QUALITY



RELIABLE

**Decisions
Actions**

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Data

QUALITY



RELIABLE

**Decisions
Actions**

Evaluation... of our work...

Soil characteristics

Decisions/Actions

Carbon

Climate change

Nitrogen

Food security/
environment pollution

Phosphorus



**Global Proficiency Testing
(PT) 2021-22**

240 labs
110 countries

5th Meeting of



...focusing on soil **carbon**...

How much carbon is in this soil sample?



Wet chemistry

Walkley & Black **C_{WB}**



Dry combustion

Dumas **C_{Dum}**



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100 g soil

Walkley & Black



ORGANIC carbon

3.04 g C

3.51 g C

Dumas



TOTAL carbon

carbon quantified depends on
the method

different carbon types!

GLOSOLAN objective is to improve harmonization
and **help making data comparable**

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GLOBAL SOIL
PARTNERSHIP

To make scientific conclusions,
uncertainty is essential



Walkley & Black



3.04 g

+/- 1.0 g

3.51 g

+/- 0.3

Dumas



95% of the labs will conclude that
carbon is ranging between

2 and 4 g

3.2 and 3.8 g

**...uncertainty is currently too large
to detect changes in soil carbon content...**



Conclusions

Uncertainty is currently too large to monitor changes, to make scientific conclusions or for a payment of carbon storage



With GLOSOLAN support, all labs can improve their performances:

- using SOPs and applying good laboratory practices
- implementing internal and external quality control
- training their staff and managers
- etc...

GLOSOLAN is able to identify reference values for different soil properties, including C content => in the future, labs everywhere in the world could calibrate their analyzes on GLOSOLAN reference samples



If you can not measure it, you can not manage it...

better soil data, for better soil management!

Harmonization of methods, units, data and information is critical to:

- ✓ provide reliable and comparable information between countries and projects;
- ✓ allow the generation of new harmonized soil data sets;
- ✓ support evidence-based decision making for sustainable soil management.

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Materials and activities are open access to anybody and aim to improve global analytical performance.

Success will be faster

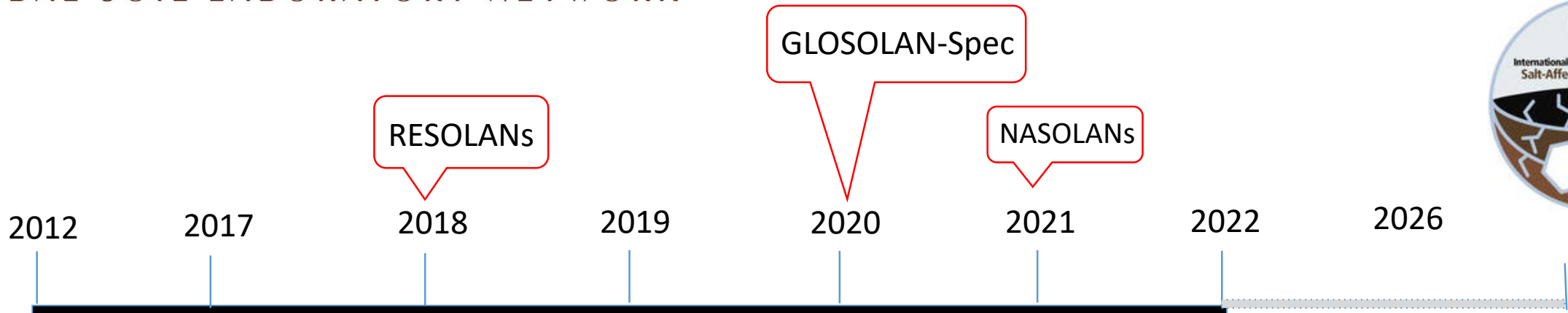
**with the support of national governments,
resource partners and GSP Focal Points!**

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GLOSOLAN

GLOBAL SOIL LABORATORY NETWORK



GSP

GLOSOLAN

PT Asia
PT LAC
In person training
1st Global assessment

GLO_PT
5 SOPs
In person training

10 SOPs
2nd Global assessment
Spectroscopy assessment
SIMPLE

12 SOPs
16 webinars
Procurement to 16 labs

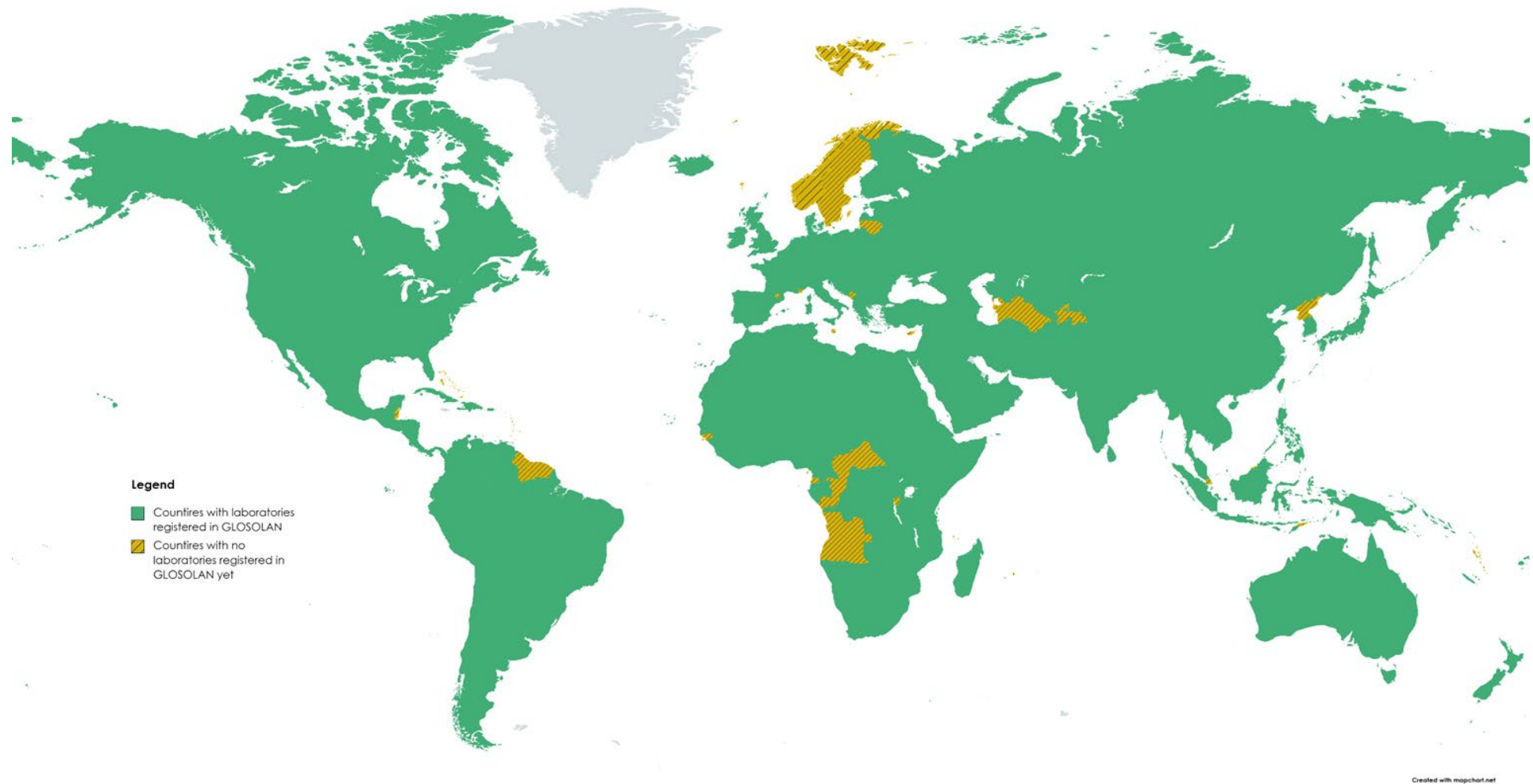
GLO_PT
14 SOPs
7 webinars in the agenda



of the Latin American



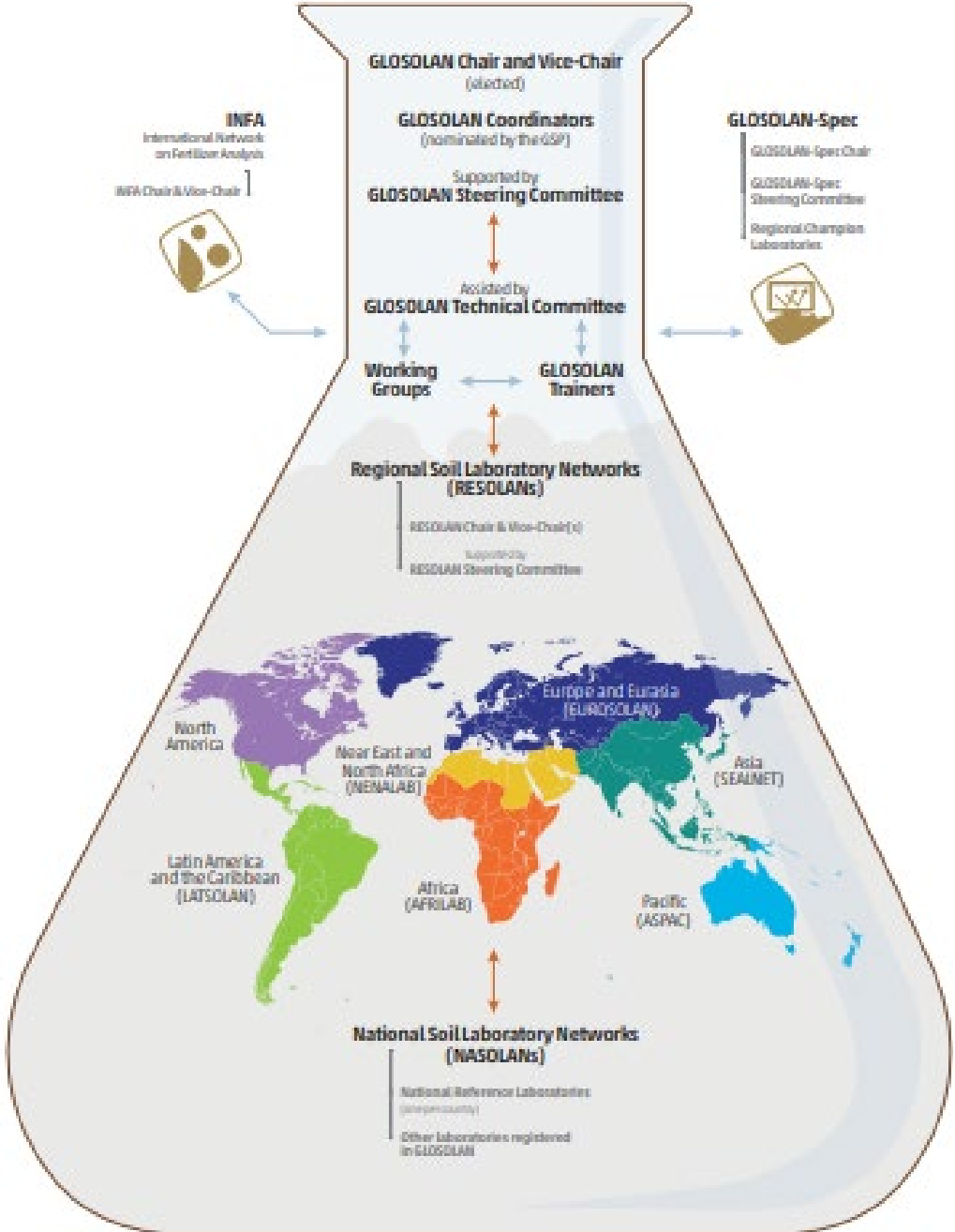
On September 2022, the network had 885 laboratories registered



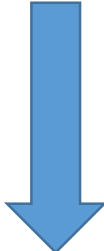
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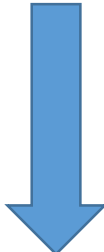
We operate at all levels...



GLOBAL



REGIONAL



NATIONAL

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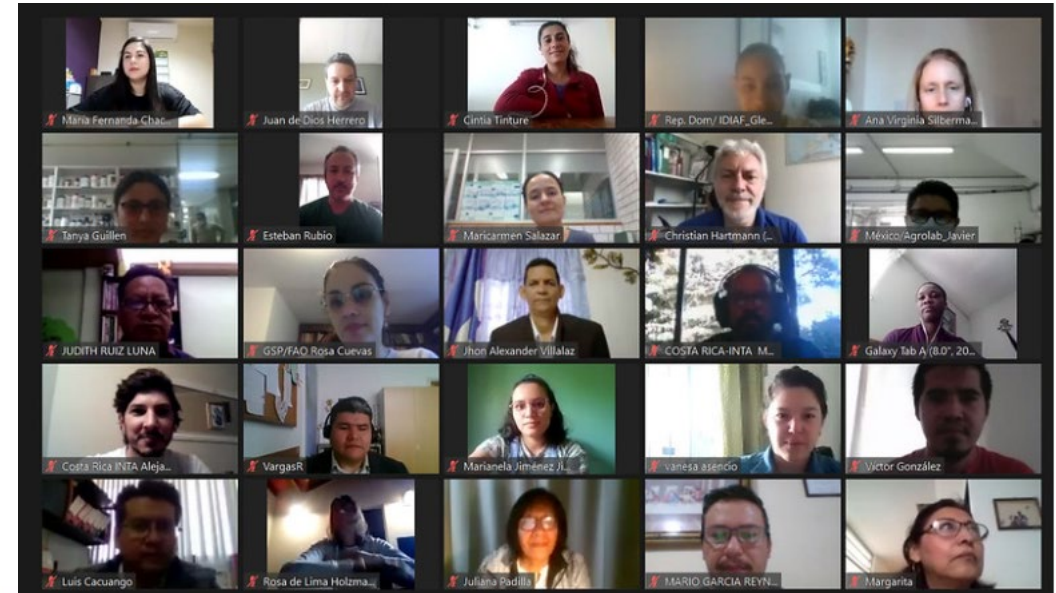
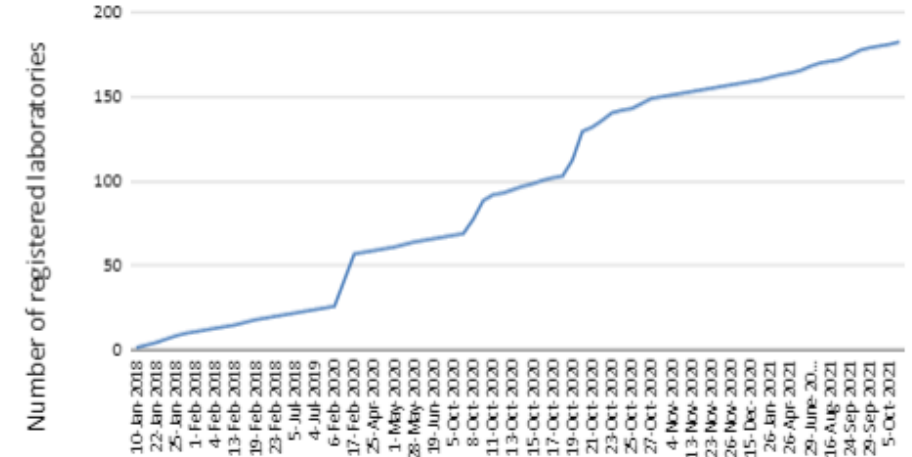


The Latin American Soil Laboratory Network (LATSOLAN)

A network of **220 laboratories** from **23 Latin American and Caribbean countries**

Antigua and Barbuda, Argentina, Aruba, Bahamas, Barbados, Belize, Bolivia, Brazil, Cayman Islands, Chile, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, French Guiana, Grenada, Guadeloupe, Guatemala, Guyana, Haiti, Honduras, Jamaica, Martinique, Mexico, Nicaragua, Panama, Paraguay, Peru, Puerto Rico, Saint Barthélemy, St. Kitts & Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, Trinidad & Tobago, Turks & Caicos Islands, Uruguay, Venezuela, Virgin Islands

LATSOLAN network growth



network (LATSOLAN) | 26-27 October 2022



National Soil Laboratory Networks (NASOLANs)

- **Established:**
Brazil, Chile, Costa Rica, Ecuador, Mexico, Panama,

- **Under establishment:**
Argentina, Colombia

Under the Caribbean Soil Laboratory Network (CARSOLAN) :
Grenada, Barbados, Haiti, Belize, Guyana, Antigua and Barbuda, Jamaica, Saint Lucia

- **Not established yet (different reasons/conditions)**
We can help you
 - Low number of laboratories operating in the country
 - Communication problems
 - Lack of knowledge
 - Need of financial resources



The screenshot shows the official website of the Government of Mexico. The header includes the national emblem and the text 'GOBIERNO DE MÉXICO'. Navigation links include 'Registro para vacunación', 'Información sobre COVID-19', 'Trámites', 'Gobierno', 'English', 'Blog', 'Prensa', 'Directorio', 'Acciones y programas', 'Contacto', 'Documentos', 'Datos Personales', and 'Transparencia'. The main content area features a breadcrumb trail: 'Secretaría de Agricultura y Desarrollo Rural > Acciones y Programas > Suelos, un recurso finito y fundamental'. Below this, there is a section for 'Publicaciones Recientes' with a featured article titled 'Red Mexicana de Laboratorios de Suelo (MEXSOLAN)'. The article text states: 'Actualmente la MEXSOLAN se integra por 40 laboratorios de análisis de suelo públicos y privados.' It is dated '17 de febrero de 2022'. A sidebar on the right contains a survey prompt: 'Contesta nuestra encuesta de satisfacción. ¿Cómo fue tu experiencia en gob.mx?' with three smiley face icons (happy, neutral, sad). The footer of the page contains the text: 'La Secretaría de Agricultura y Desarrollo Rural, como Punto Focal Nacional ante la Alianza Mundial por el Suelo de la FAO, forma parte del Grupo Directivo de la MEXSOLAN, con el propósito de coordinar las acciones y fortalecer la infraestructura disponible para la recuperación y cuidado de los suelos agropecuarios del país.' and 'La meta de la Secretaría es articular a los laboratorios públicos y privados de análisis de suelos disponibles a nivel nacional, para fortalecer y sustentar la toma de decisiones respecto al manejo sostenible de los suelos agropecuarios y la rehabilitación de los suelos degradados.'

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National Soil Laboratory Networks (NASOLANs)

Please inform us on progresses in establishing your NASOLAN or in the activities implemented or under implementation in your NASOLAN.

Please encourage all the laboratories in your national network to register in GLOSOLAN, so they can be informed on the global activities



Food and Agriculture
Organization of the
United Nations

LATSOLAN

LATIN AMERICAN SOIL LABORATORY NETWORK

Thanks for your attention!

