



Food and Agriculture
Organization of the
United Nations

18th Working Session of the Intergovernmental Technical Panel on Soils (ITPS)

Soil Salinity working group: the last updates

21-23 March 2023
Fao Headquarters
Rome, Italy

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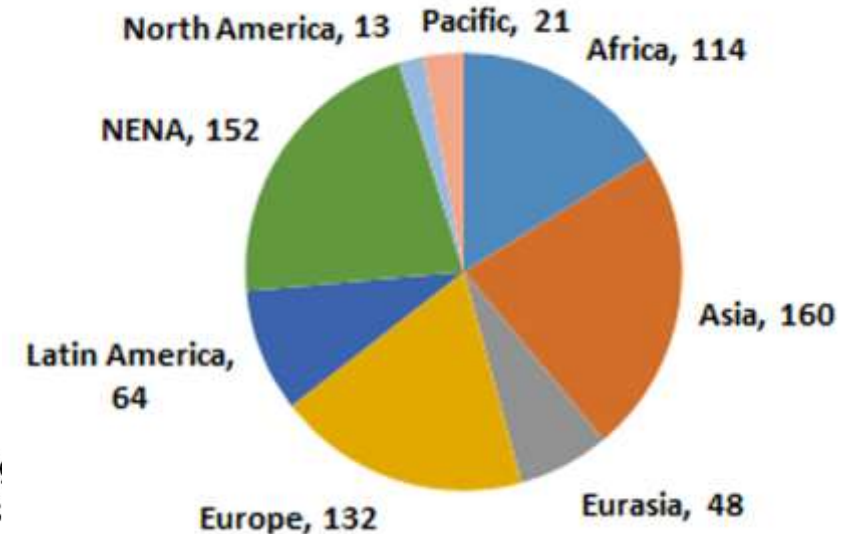
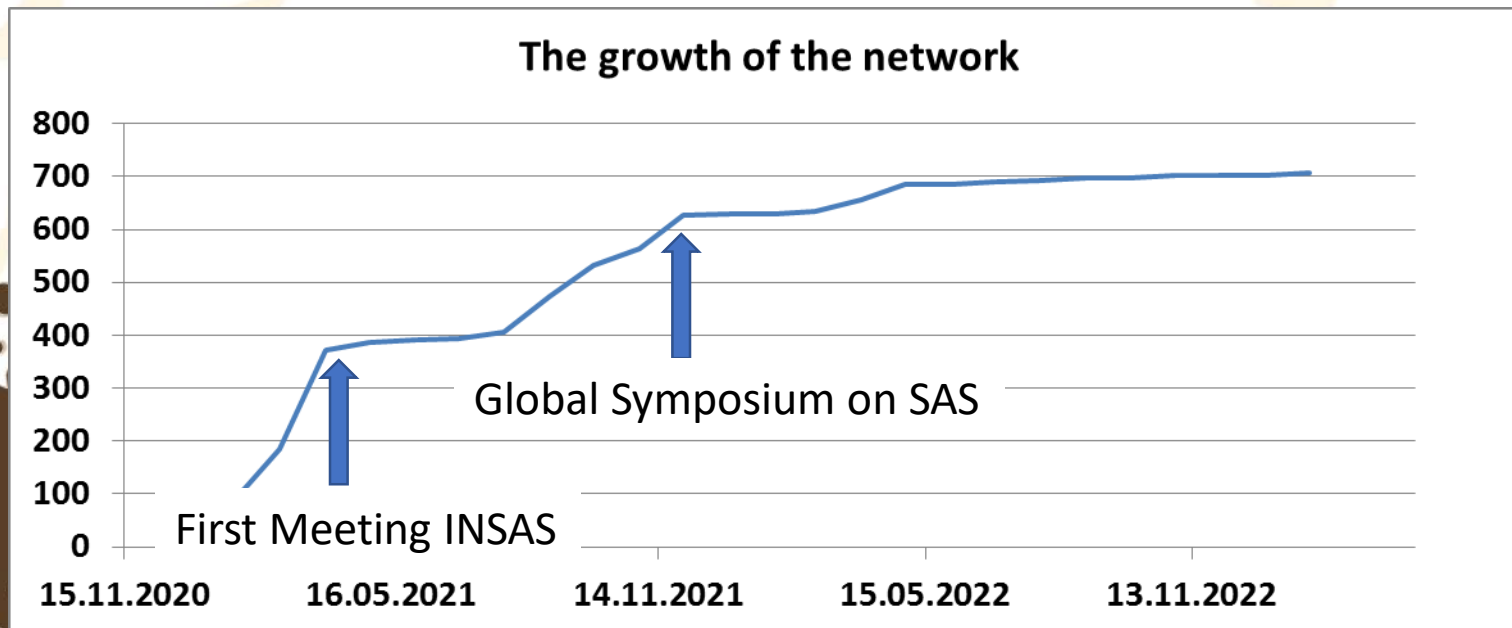
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INTERGOVERNMENTAL
TECHNICAL PANEL ON SOILS



About INSAS

- INSAS was established in 2019 under the aegis of the Global Soil Partnership with the aim to **facilitate the sustainable and productive use of salt-affected soils** for current and future generations
- **First meeting of INSAS** took place on April 14-15, 2021 (virtual format) where the **governance** of INSAS was established and the **working groups** were formed
- At present, INSAS has **709 members** from **125 countries**



Working groups of INSAS

Working group	Activity	Number of experts	Number of countries represented
SAS&Assessment	Mapping, assessing and monitoring of salt-affected soils	138	61
SAS&SSM	Sustainable management of salt-affected soils (practices, policy)	168	71
SAS&Crops	Halophyte agriculture and salt-tolerant crops and plants	69	34
SAS&Water	Integrated soil and water management under saline/sodic conditions	135	59

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Meetings of INSAS in 2021-2023

MEETINGS	DATE	AUDIENCE	LOCATION	OUTCOMES
1 st biennial meeting	April 14-15, 2021	INSAS	online	INSAS Governance is set, work plan is endorsed
1 st intermediate meeting	May 24, 2021	SAS&Assessment working group	online	Priority tasks are defined
2 nd intermediate meeting	May 25, 2021	SAS&SSM working group	online	Priority tasks are defined
3 rd intermediate meeting	June 14, 2021	SAS&Crops working group	online	Priority tasks are defined
4 th intermediate meeting	June 15, 2021	SAS&Water working group	online	Priority tasks are defined
5 th intermediate meeting	August 2, 2021	SAS&Assessment working group	online	Concept, structure, and content of the refined methodology for mapping salt-affected soils is defined
6 th intermediate meeting	September 13, 2021	SAS&SSM working group	online	The template for Practice/technology of sustainable management of salt-affected soils is revised
7 th intermediate meeting	March 17, 2022	Joint meeting INSAS-GLOSOLAN working group	online	Work plan is discussed and volunteers defined
8 th intermediate meeting	May 16, 2022	Joint meeting of INSAS working groups	online	Progress of INSAS work is reported, plans for 2022 are discussed
9 th intermediate meeting	September 14, 2022 (two sessions)	SAS&SSM working group	online	The template for Practice/technology of sustainable management of salt-affected soils is finalised
10 th intermediate meeting	September 28, 2022 (two sessions)	SAS&Water working group	online	The Table of content for the Manual on Sustainable water management in saline and sodic environments is developed, the contributing authors are defined
11 th intermediate meeting	February 16, 2023	Joint meeting of INSAS	online	Plan: Report on the progress of INSAS work, discuss the plans for 2023

Key activities of INSAS in 2022

- Preparation of the **Global assessment** of salt-affected soils;
- **Standard Operating Procedures** for salt-affected soils (jointly with GLOSOLAN);
- Preparation of the series of **webinars** covering measurement, sampling, modeling and management of salt-affected soils;
- Cooperation with **Global Soil Doctors Program**;
- **Global Campaign on Salinization** commitment to UN-Water;
- **Database of good practices.**



Status on the preparation of the Global Assessment of Salt-Affected Soils



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Structure of the Global Assessment of Salt-Affected Soils

Introduction
Chapter 1. Salt-affected soils: the global perspective
Chapter 2. Drivers of soil salinization and sodification
Chapter 3. Soil salinization and sodification
Chapter 4. Status of salt-affected soils
Chapter 5. Effect of salinization/sodification on food production, food security, and socio-economic situation
Chapter 6. Responses to the challenges
Conclusions

Status:

texts – 23 contributions (38 authors)

questionnaire – 26 contributions on 20 countries

Timeline

March – September 2022	October 2022	November 2022 – February 2023	March – June 2023	July – August 2023	September – October 2023	November 2023	WSD-2023 (December 5)
Development of ToC and GSAS questionnaire	Call for contributions	Receiving questionnaire responses and chapters	Compiling a draft version	Revision by the editorial board and ITPS	Modification after revision, compiling a final version	FAO publishing system	Launch

GSAS questionnaire

Volunteers

Asia	Near East and North Africa
Bangladesh	Egypt
China	Iran
India	Lebanon
Pakistan	Morocco
Eurasia	Sudan
Kazakhstan	Tunisia
Russia	North America
Ukraine	United States of America
Uzbekistan	Sub-Saharan Africa
Europe	Benin
Germany	Cameroon
Italy	Djibouti
North Macedonia	Ghana
Norway	Kenya
Poland	Liberia
Spain	Mozambique
The Netherlands	South Africa
United Kingdom	The Gambia
Latin America and the Caribbean	Togo
Argentina	Zimbabwe
Brazil	The Pacific
Colombia	Australia
Cuba	
Paraguay	
Perú	
República Dominicana	
Trinidad & Tobago	
Venezuela	
TOTAL : 44 countries	

Regional coordinators (in alphabetic order):

- Sanjay Arora (Asia),
- Maria Konyushkova (Eurasia),
- Raul Lavado (Latin America and Caribbean),
- Katarzyna Negacz (Europe),
- Stephen Roecker (North America),
- Ahmad Majar (Near East and North Africa),
- Mary Idowu (Africa),
- **missing (Australia and Pacific)**

Ready submissions

Africa
Benin
Cameroon
Ghana
Mozambique
South Africa
Togo
Zimbabwe
Asia
Pakistan
Eurasia
Ukraine
Europe
Germany
Greece
Hungary
Israel
Spain
United Kingdom
Latin America and the Caribbean
Argentina
Brazil
Colombia
Near East and North Africa
Iran
Lebanon
TOTAL: 20 countries

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GLOBAL SOIL PARTNERSHIP

Joint INSAS-GLOSOLAN working group

Composition: 23 experts from 13 countries, belonging to both networks

Goal of the joint WG:

- review and develop the SOPs related to salt-affected soils
- Development of transfer functions between methods
- Capacity building sessions

Review of GLOSOLAN SOPs

SOP	Status
Boron by hot water extraction	Reviewed, under publication
pH determination	Reviewed, under publication
Saturated paste extract	review ongoing
Electrical conductivity (1:5)	to be reviewed

Development of GLOSOLAN SOPs

- ESP
- SAR
- Alkalinity in soil saturated paste extract
- Guidelines on sample collection, storage and disposal (together with other GSP Technical Networks)
- Analysis of Boron (other methods)
- Soil particle size analysis (in SAS)

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INSAS Webinars

No	TITLE	RELEASE
1	Electromagnetic induction (EMI) for measuring soil salinity and sodicity at the field scale	Q1-2024
2	Sampling of salt-affected soils: existing protocols and the way towards a harmonized approach	May 2023
3	Halophytes and eHaloph database	June 5, 2023
4	Sodic soils: what are they and how to manage them?	July 28, 2023
5	Geostatistics with high resolution soil salinity mapping for decision support	Pending
6	Reactive transport modelling (with crop growth) in salt-affected soils	
7	Approach to crop growth under abiotic stress	Q1-Q2 2024
8	Assessing soil salinity and sodicity using remote and proximal sensing data	Aug-Sep 2023
9	Indicators and indexes for assessing soil salinity and sodicity status and risk	
10	Evaluation of cost/benefit of management practices in salt-affected areas	Mid-2024
11	Crop nutrition in salt-affected soils	Oct 16, 2023
12	Priorities and challenges in salt-affected	Q2-Q3 2024
13	Agricultural water management and nuclear techniques to increase water use efficiency in salt-affected soils	Pending
14	Salt-affected soils of atolls	
15	Sustainable management and policy issues of salt-affected soils	
16	Reclamation of salt-affected soils*	
17	Leaching requirements	Q1 2024
18	Site specific micro-irrigation management	Q2 2024
19	Bioremediation	Q3-Q4 2024

Develop and implement a Global Campaign on Salinization

Saline Water & Food Systems Partnership (facilitated by NFP and NWP) (Non-governmental organization (NGO))
#SDGAction50341

[DESCRIPTION](#) [SDGS & TARGETS](#) [DELIVERABLES & TIMELINE](#) [RESOURCES MOBILIZED](#) [PROGRESS REPORTS](#) [FEEDBACK](#)

‘Global Campaign on Salinization’ is a commitment to Water Action Agenda of the UN 2023 Water Conference

Initiator

Saline Water & Food Systems Partnership (facilitated by NFP and NWP)

Partners

FAO, INSAS, WASAG, Free University Amsterdam, Wageningen UR, ICBA, Dutch Ministry of Agriculture, Dutch Ministry of Foreign Affairs, ADB, ICCAD, CGIAR, GWP, The Salt Doctors, SeedNL, Deltares, Royal Eijkkelkamp.

<https://sdgs.un.org/partnerships/develop-and-implement-global-campaign-salinization>

Progress with SAS-SSM database

DONE			PLAN		
September 2021	September 2022	October 2022	February – May 2023	June 2023	July 2023 - onward
1 st version of template revised	2 nd version of template is revised and finalized by INSAS SSM working group	Revised by ITPS Salinity working group	Integration of the INSAS template into WOCAT database/ Development of FAO-based database	Call to INSAS for contributions into SSM database	Collection and revisions of SAS-SSM practices

Information about in-person (hybrid) meeting of INSAS in Tashkent



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Second meeting of INSAS: MANAGING SALT-AFFECTED SOILS FOR SUSTAINABLE FUTURE

22-26 May 2023 | Tashkent/Nukus, Uzbekistan

Day	INSAS	GLOSOLAN
1	Conference on salt-affected soils: MANAGING SALT-AFFECTED SOILS FOR SUSTAINABLE FUTURE	
2	Technical sessions of INSAS	Technical session and trainings in the laboratory: <ul style="list-style-type: none"> - Soil paste extract - EC measurement - Boron extraction - pH (H₂O, KCl, CaCl₂)
3	Side events and trainings: <ul style="list-style-type: none"> - Hydrus modelling - SAS governance - EMI measurements (in the field) 	
4-5	Field trip to the Aral Sea area: Salt-affected soils management and restoration	

Timeline:

- Call for abstracts, 30-31 March, 2023 (Deadline: April 21, 2023)
- Notification on the status of abstract, 10 May, 2023
- Draft agenda published, 15 May, 2023
- INSAS meeting (hybrid), 22-26 May, 2023
- Field trip (tbc), 25-26 May, 2023

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Plans for 2023

Activity	Expected support from ITPS
Offline meeting of INSAS (Tashkent, 22-26 May 2023)	Revision of abstracts and developing the agenda (as members of the Scientific Committee), presentations
SAS&Assessment WG meetings	Participation in the meetings and online discussions
Drafting of the SAS&Water manual	Revision of the drafts
Release of INSAS webinars	Distribute among your networks
Call for SAS-SSM practices	Distribute among your networks/mobilise partners to contribute
Call to organizations to become Global Soil Doctors promoters	Distribute among your networks/mobilise partners to become promoters
Release of the Global Assessment of Salt-Affected Soils (December 5, 2023)	Revision of the draft
... (proposals are accepted)	



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Thank you!

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