



ISRIC
World Soil Information



Opening Spring School 2018

Rik van den Bosch, Director







Hoogwater in de Rijn tussen Millingen en Lobith ANP



© AEROPHOTO-SCHIEDAM



FOOD production



Climate Regulation



HABITAT





WATER Management

FIBRE Fuel



Building Material





SUSTAINABLE DEVELOPMENT GOALS

17 GOALS TO TRANSFORM OUR WORLD

1 NO POVERTY



2 ZERO HUNGER



3 GOOD HEALTH AND WELL-BEING



4 QUALITY EDUCATION



5 GENDER EQUALITY



6 CLEAN WATER AND SANITATION



7 AFFORDABLE AND CLEAN ENERGY



8 DECENT WORK AND ECONOMIC GROWTH



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



10 REDUCED INEQUALITIES



11 SUSTAINABLE CITIES AND COMMUNITIES



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



13 CLIMATE ACTION



14 LIFE BELOW WATER



15 LIFE ON LAND



16 PEACE, JUSTICE AND STRONG INSTITUTIONS



17 PARTNERSHIPS FOR THE GOALS



SUSTAINABLE
DEVELOPMENT
GOALS



Some features

- Founded in 1966, upon recommendation of UNESCO, FAO and the IUSS
- Independent foundation based in Wageningen
- Cooperation agreement with Wageningen University.
- 20 staff, plus guest employees, plus students
- Accredited as the World Data Centre for Soils (WDC – Soils) by the International Council for Science
- Participating Organisation of the Intergovernmental Group on Earth Observations (GEO)



Vision

A world where **reliable** and relevant soil information is **freely-available** and **properly used** to address global environmental and social challenges.



Mission

- We produce and serve **quality-assured soil information** together with our partners at global, national and regional levels.
- We stimulate the use of this information to address global challenges through **capacity building, awareness raising** and direct **cooperation** with users and clients.



Work stream 1: Reference and Standard Setting (‘The Foundation’)

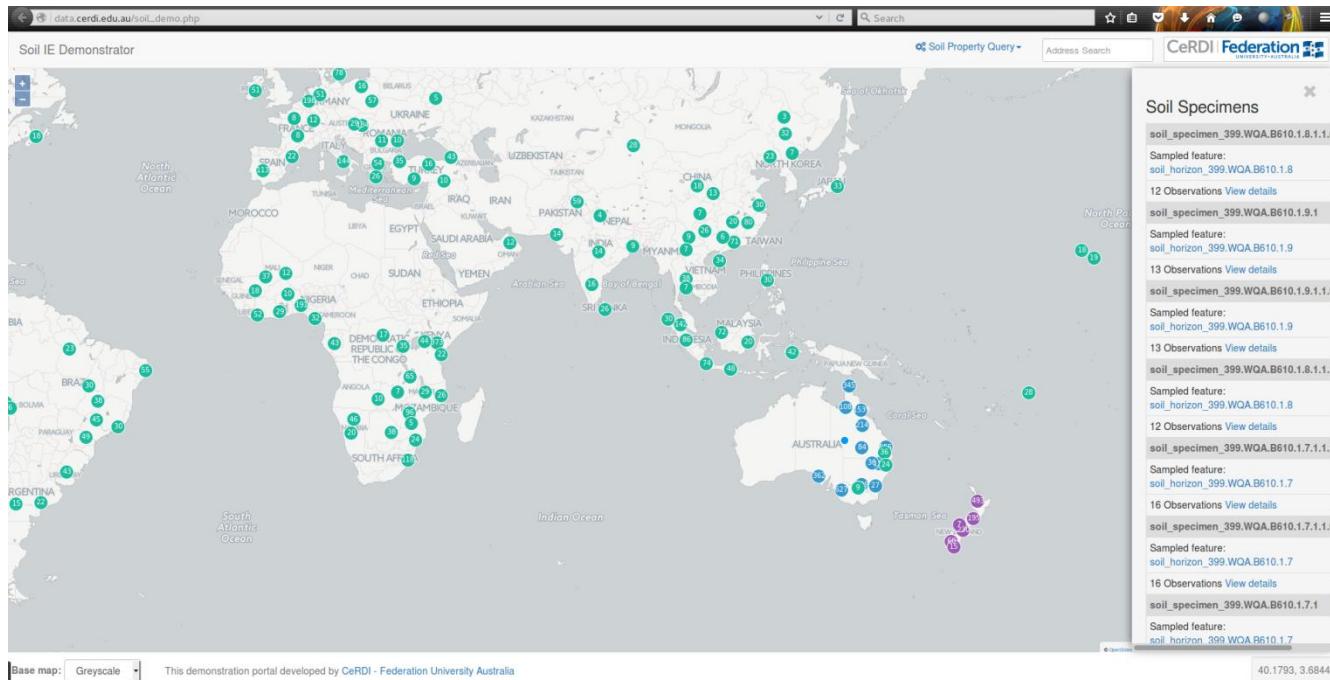


World Reference Base (WRB)





Soil Data Interoperability Experiment

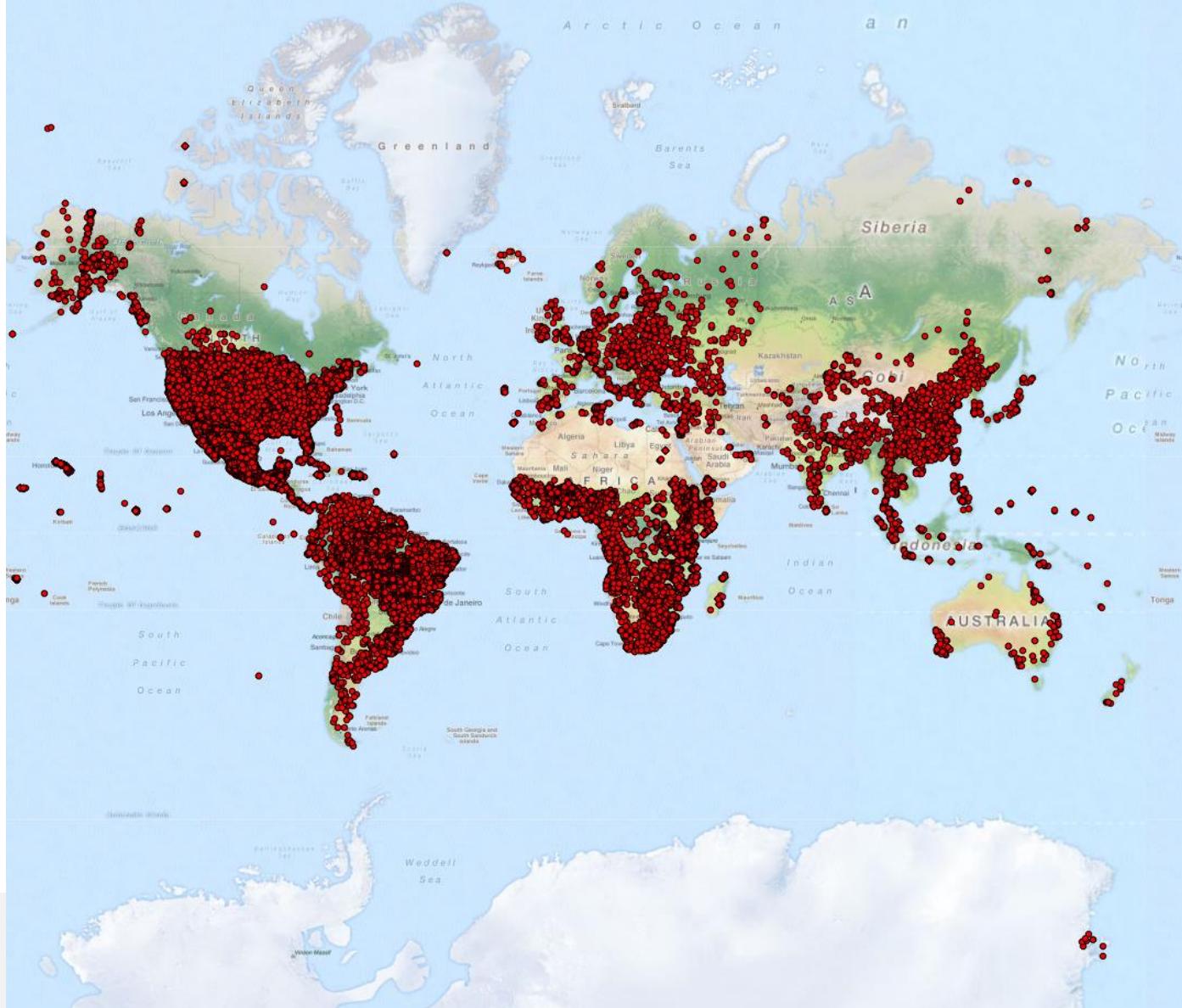




Work stream 2: Soil Information Brokering (‘Raison d’etre’)



World Soil Information System (WoSIS)



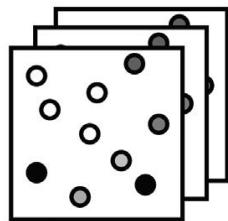
- Soil Profile database
- >150.000 profiles
- Ongoing process



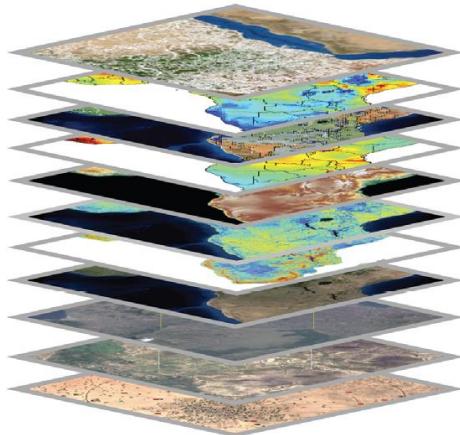
From points to grids

Geo-Data

Soil profile measurements

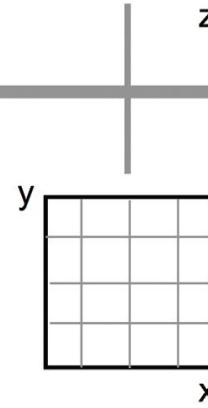
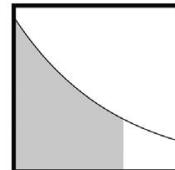


Covariates



Model specifications

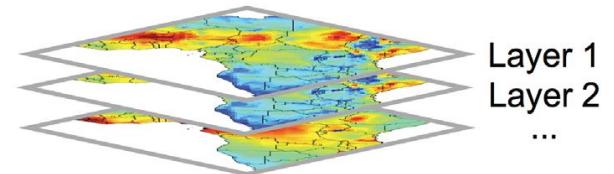
Mass/Depth integrating function(s)



Scaling/Spatial function(s)

3-D predictions

Soil properties



Layer 1
Layer 2
...



SoilGrids

- **Automated** soil information system
 - Using **profile** data and **spatial** information (covariates)
 - **Machine learning** algorithms
 - 250m * 250m **resolution**
 - Accessible through **web service** and mobile phone **app**
-
- Updatable
 - Open data
 - Moving towards crowdsourcing





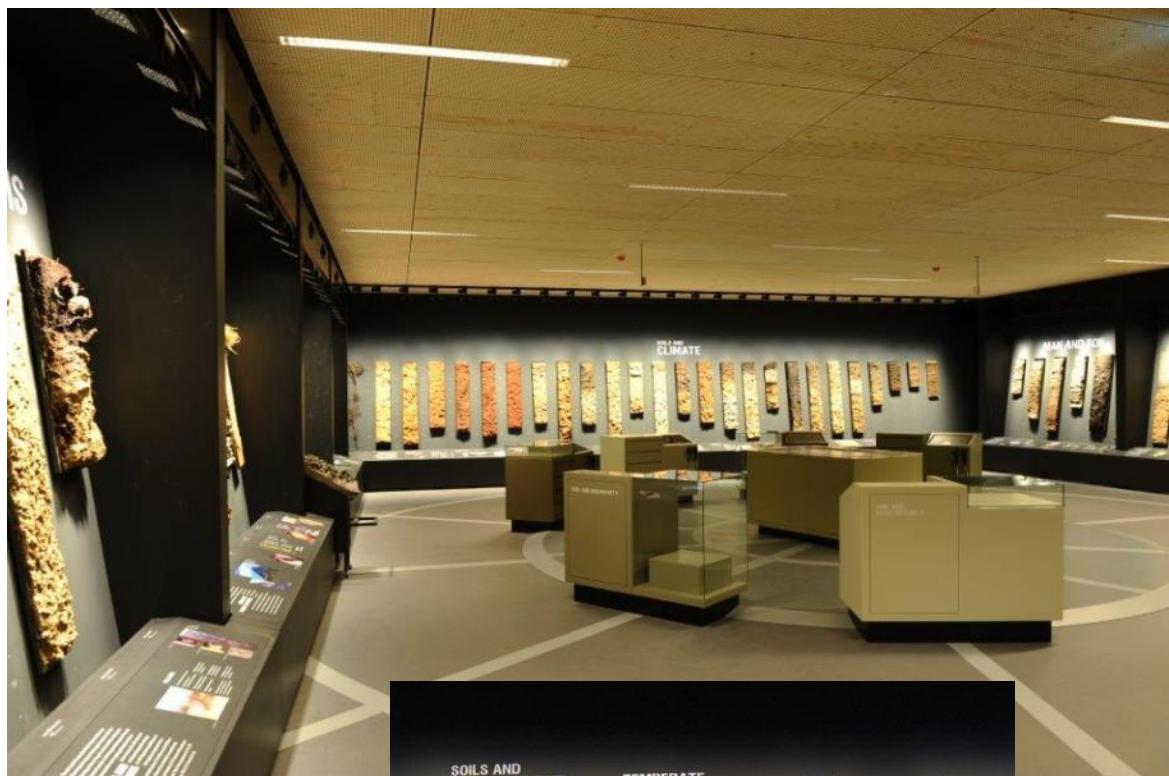
SoilGrids: clay content at -15 cm (%)





Work stream 3: Capacity Building and Advocacy (‘Competent user community’)

World Soil Museum





Virtual Soil Museum

WORLD SOIL MUSEUM

OPEN: WEDNESDAYS 13.30H UNTIL 17.30H
GROUPS AND GUIDED TOURS: MONDAY TO FRIDAY BY APPOINTMENT, ON WORKING DAYS
(BETWEEN 9.00 - 17.00H)

LOCATION: **WAGENINGEN CAMPUS (GAIA, BUILDING 101), THE NETHERLANDS**

ISRIC
World Soil Information

Facebook LinkedIn YouTube Instagram

© ISRIC — World Soil Information



Yearly spring school



(Online) Library

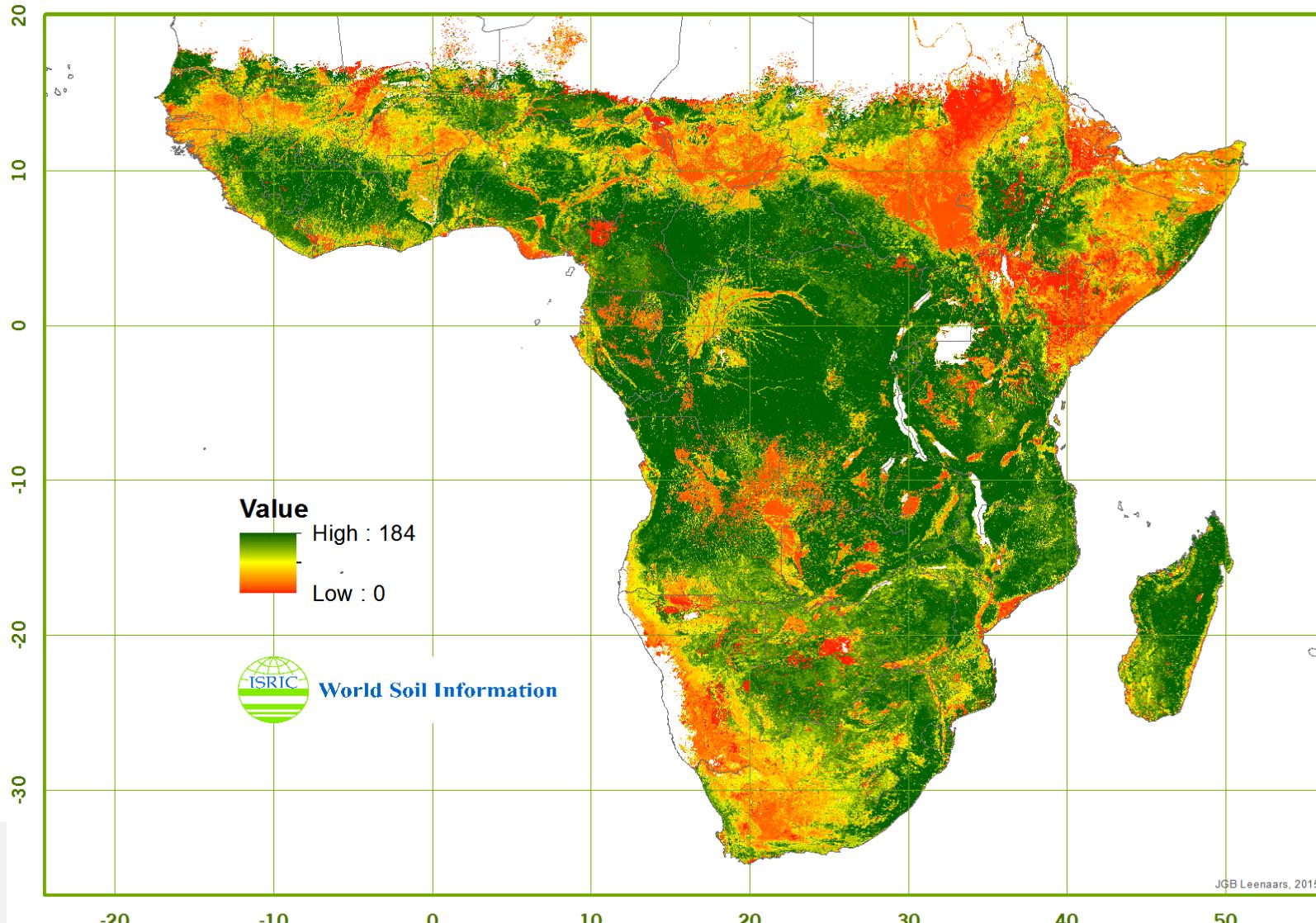
- Online catalogue
 - Books and reports (20,000)
 - Paper maps (10,000)
- Downloadable docs
 - Full-text reports (30%)
 - Scanned maps (80%)
- Average downloads per month:
 - ~850 different scanned maps
 - ~450 different full-text reports





Work stream 4: Developing derived Products (‘Boosting Impact’)

Plant-available water holding capacity (mm, maize)





Information platform for production of site specific fertilisers

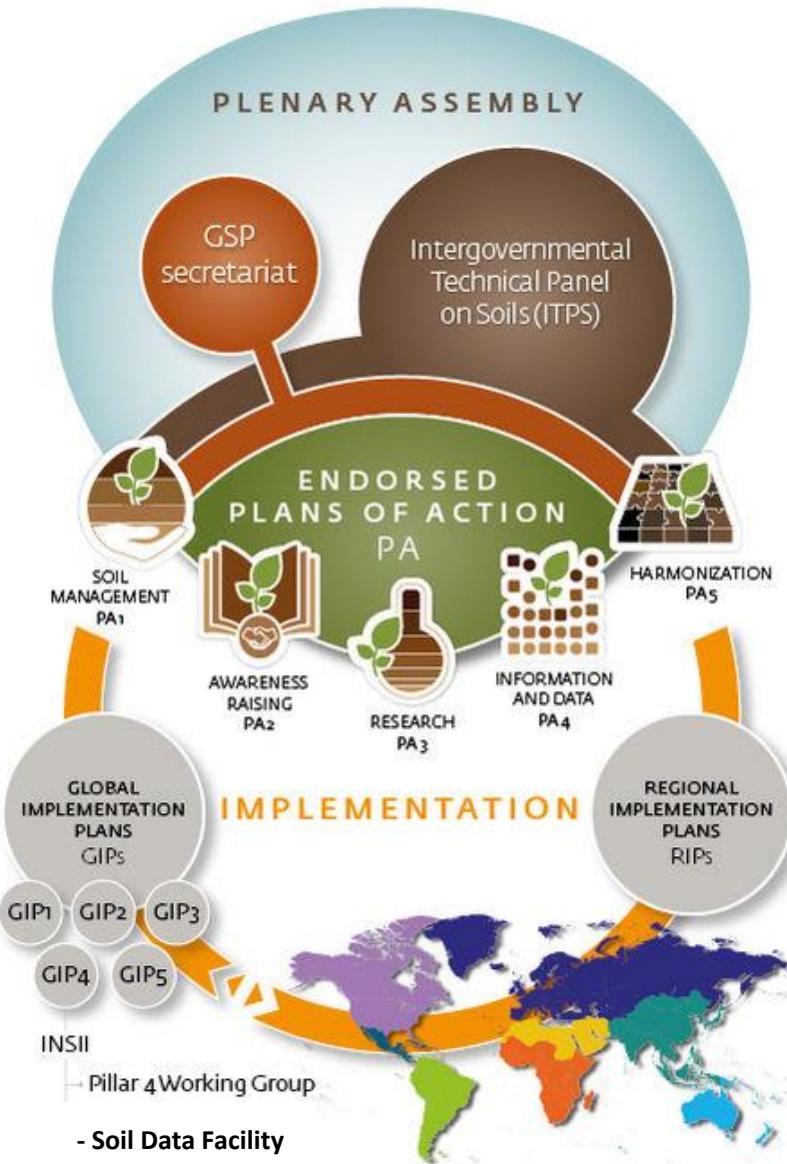




Relevant Developments



The Global Soil Partnership



- Partners: governments, knowledge institutions, NGOs
- Goal: enhance sustainable soil management
- Pillars 1-5 (thematic)
- Regional partnerships
- Global Implementation plans (per pillar)
- Regional Implementation plans (all pillars)
- ITPS (technical back-up)



GLOBAL SOIL
PARTNERSHIP



Preferred supplier to UNCCD

Land Degradation Neutrality

- **SDG 15.3**
- **Three sub-indicators**
 - Land use change
 - Net Primary Production
 - Soil Organic Carbon (SOC)
- ISRIC provides baseline SOC data to all countries
- Challenge: monitoring





ISRIC
World Soil Information



More information:
rik.vandenbosch@isric.org
www.isric.org

