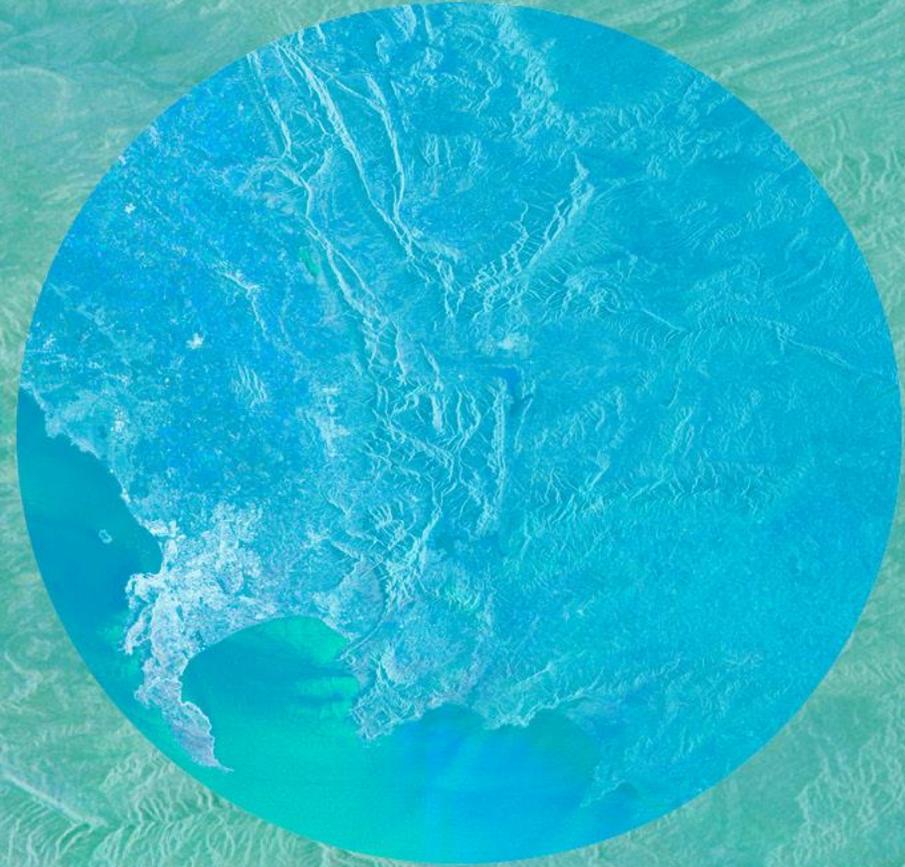


GEO WEEK & MINISTERIAL SUMMIT 2023



Flash Talk: The Initiative of
Attainable Yield Gap in Africa

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science & innovation

Department:
Science and Innovation
REPUBLIC OF SOUTH AFRICA



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Flash Talk: The Initiative of Attainable Yield Gap in Africa

Towards Africa's SDGs2

06 11 2023



Dr. Hongwei Zeng
zenghw@aircas.ac.cn
CropWatch, AIRCAS



science & innovation

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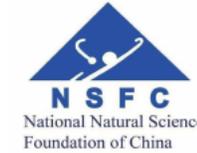
Outline

Background

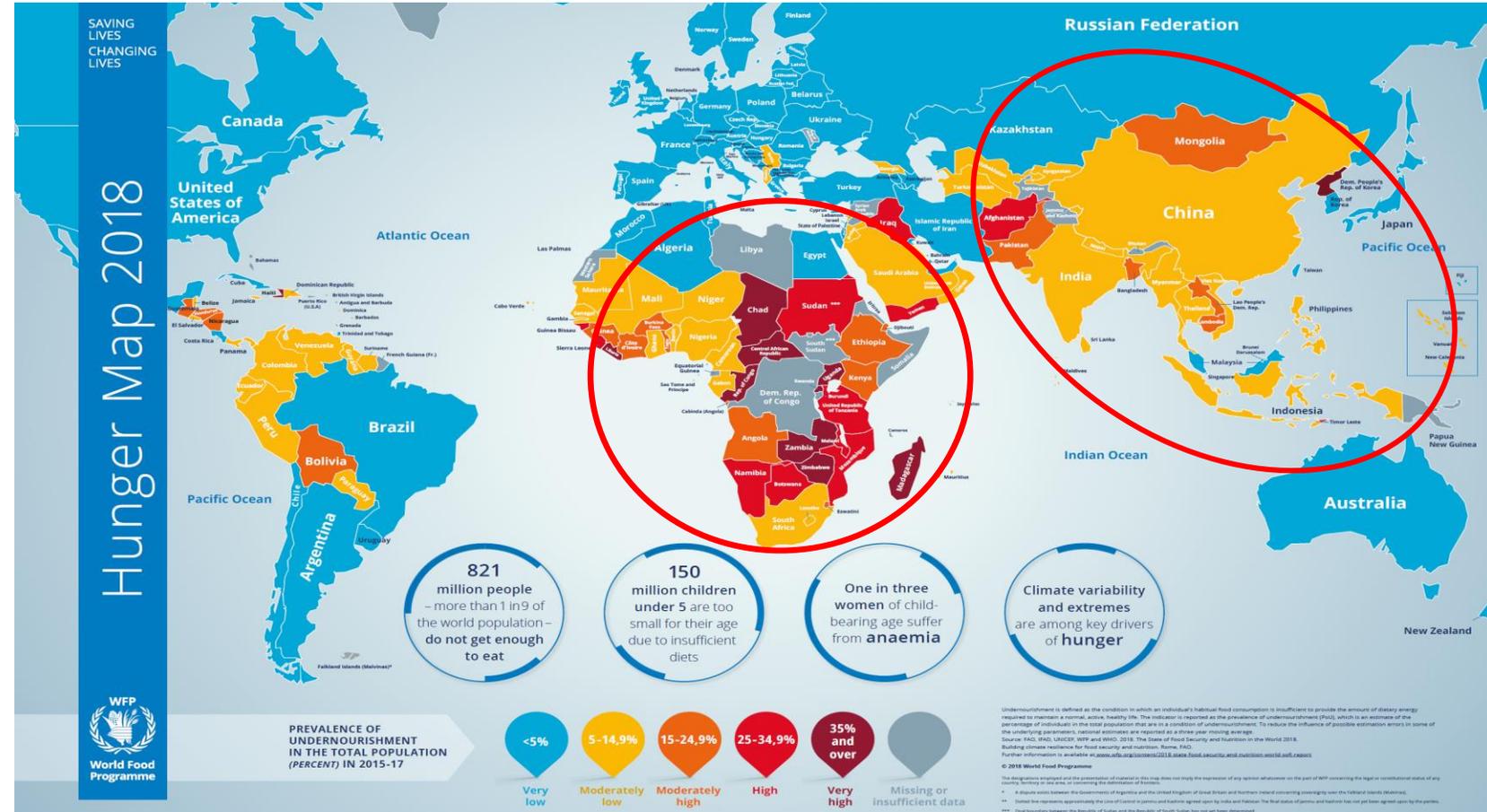
Initiative research content

Activities implemented

Outlook



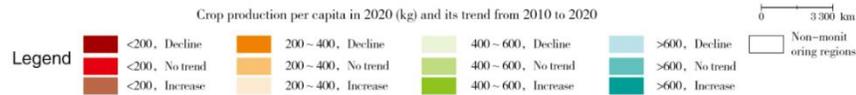
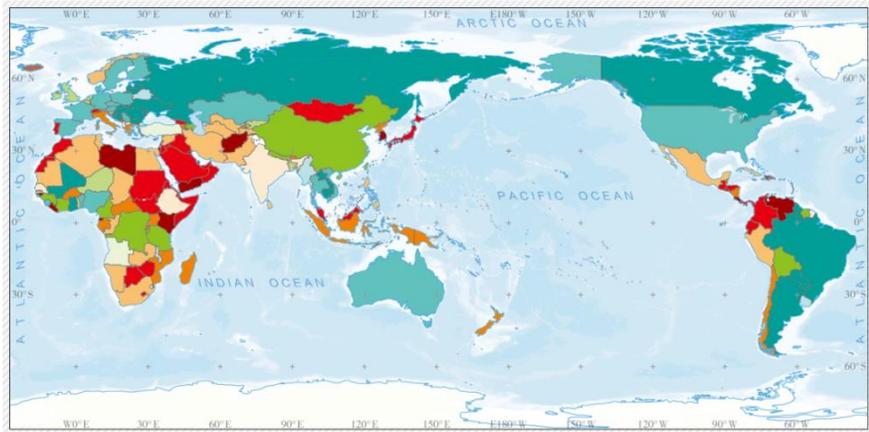
- The countries along the Asia and Africa face a huge challenge in meeting their food security goals
- Africa is the hotspot regions suffering from food shortage
- Find a potential solution to address food insecurity issue is urgent for African countries.



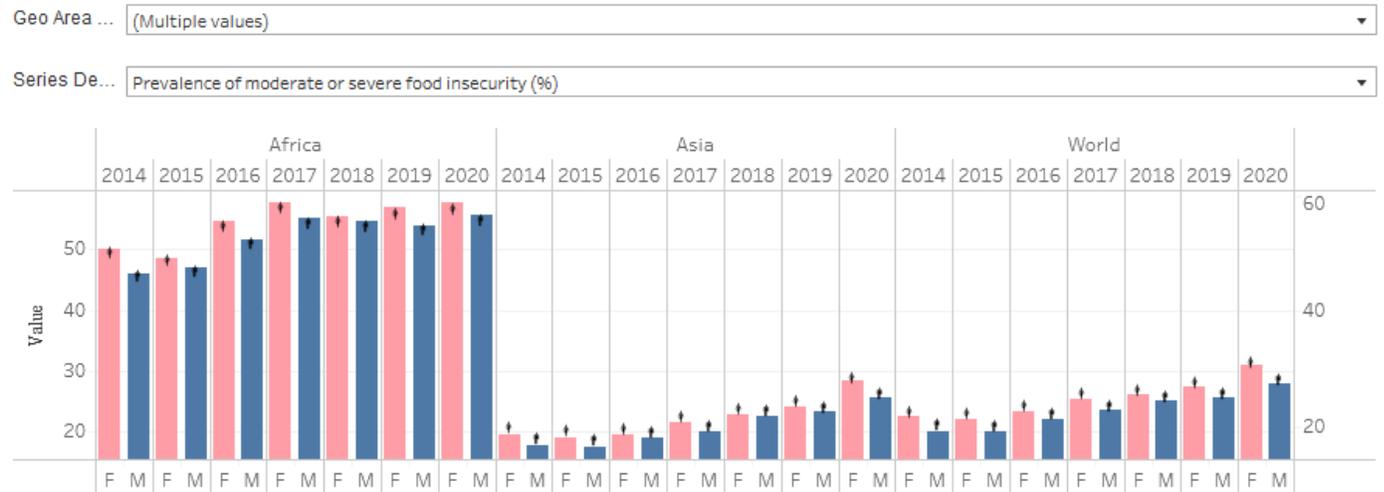
Source: World Food Programme

Background-Food Insecurity Issues in Africa #TheEarthTalks

- ◆ SDG2 target: By 2030, end hunger and ensure access by all people to safe, nutritious, and sufficient.
- ◆ The FAO SDG2 Indicator tracker showed that Africa has the highest proportion of moderately to severely food-insecure people.



Global Food Security Annual report, 2021



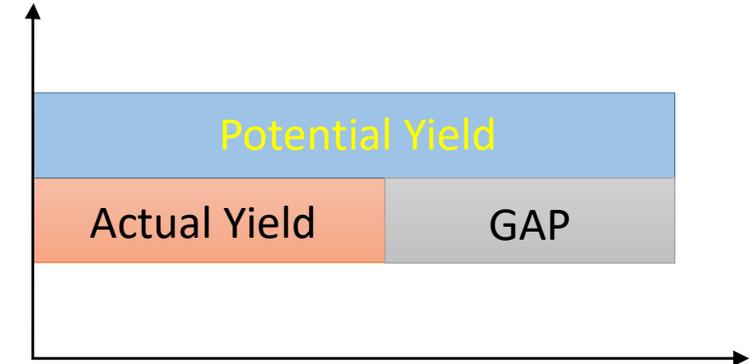
Percent of moderately or severely food-insecure

(Source: <https://www.fao.org/sustainable-development-goals/indicators/2.1.2/en/>)

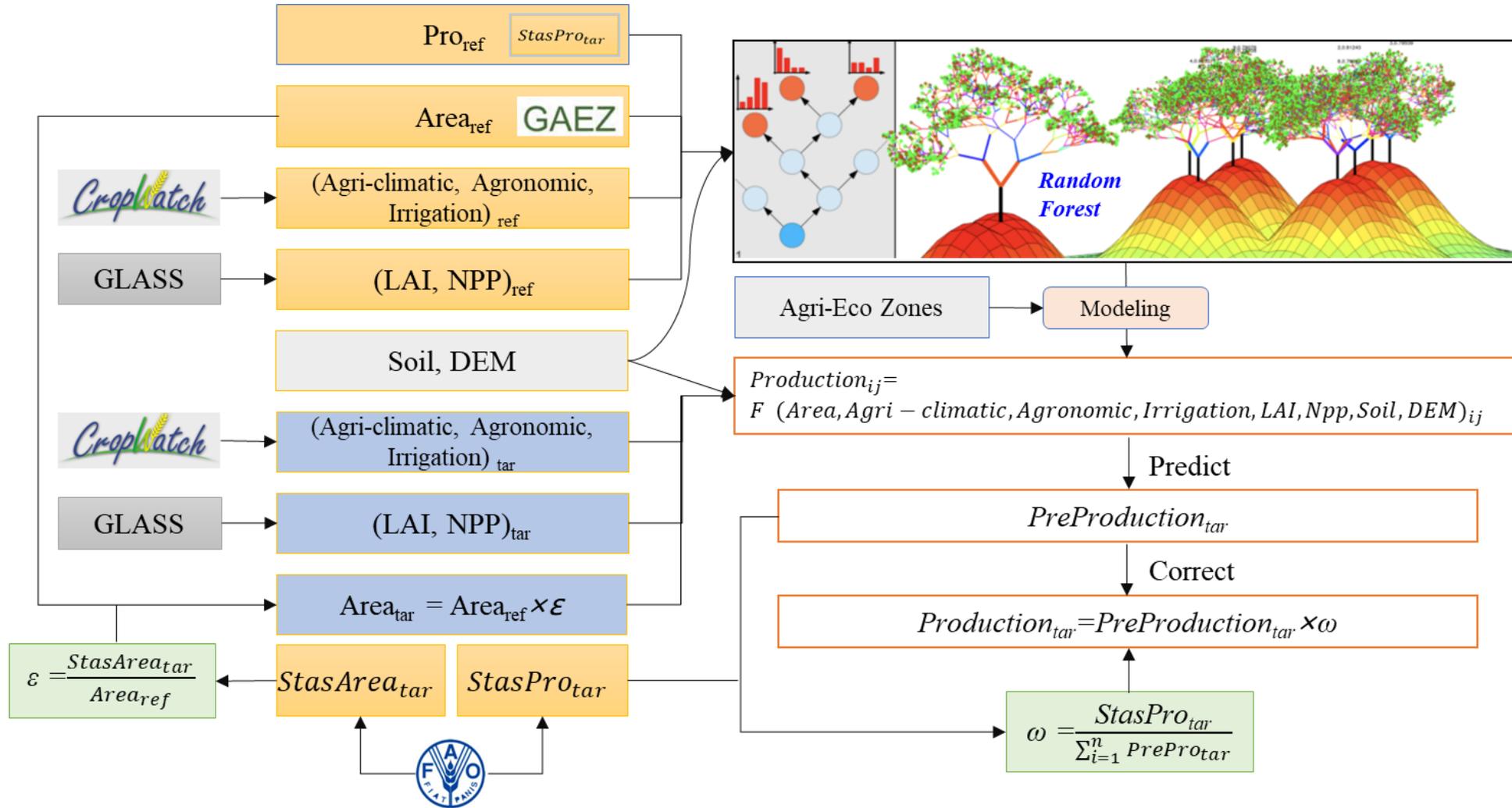
- ◆ Ways to increase crop production in Africa
 - ✓ Expand the plating area of cropland
 - ✓ Improve crop yield and reduce the yield gap between actual yield and potential yield

Objectives of the Achievable Yield Gap (AYG) initiative: to identify the gap between actual and potential yields that can be achieved at national and sub-regional levels, quantify the key drivers, and provide support to reduce the gap in support of achieving SDG 2 in Africa.

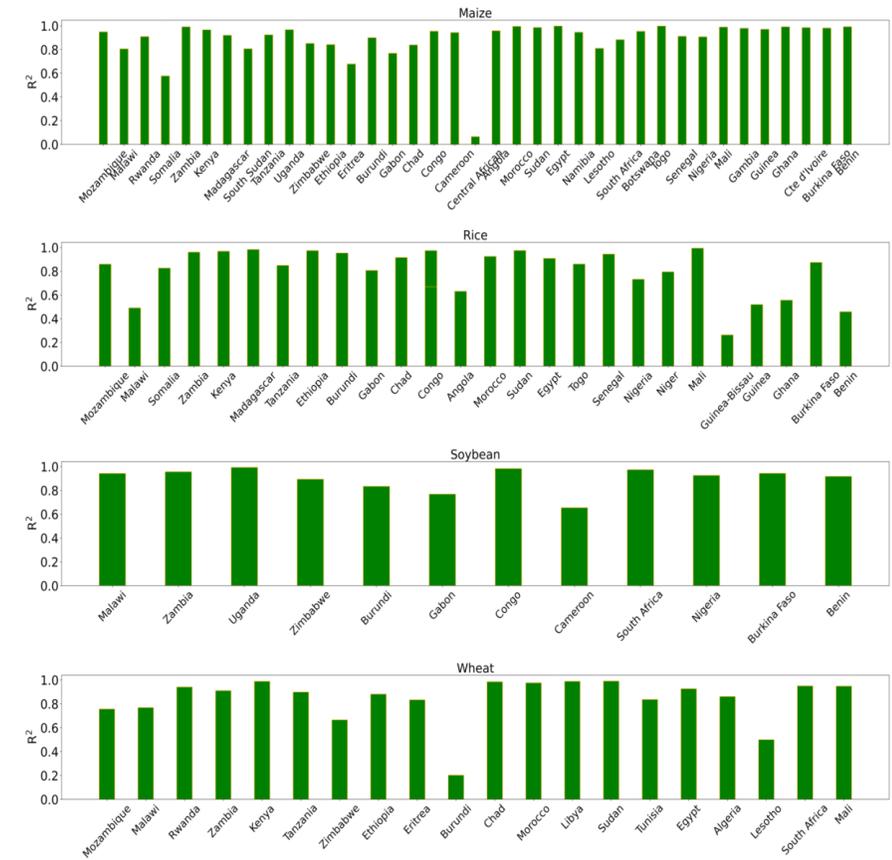
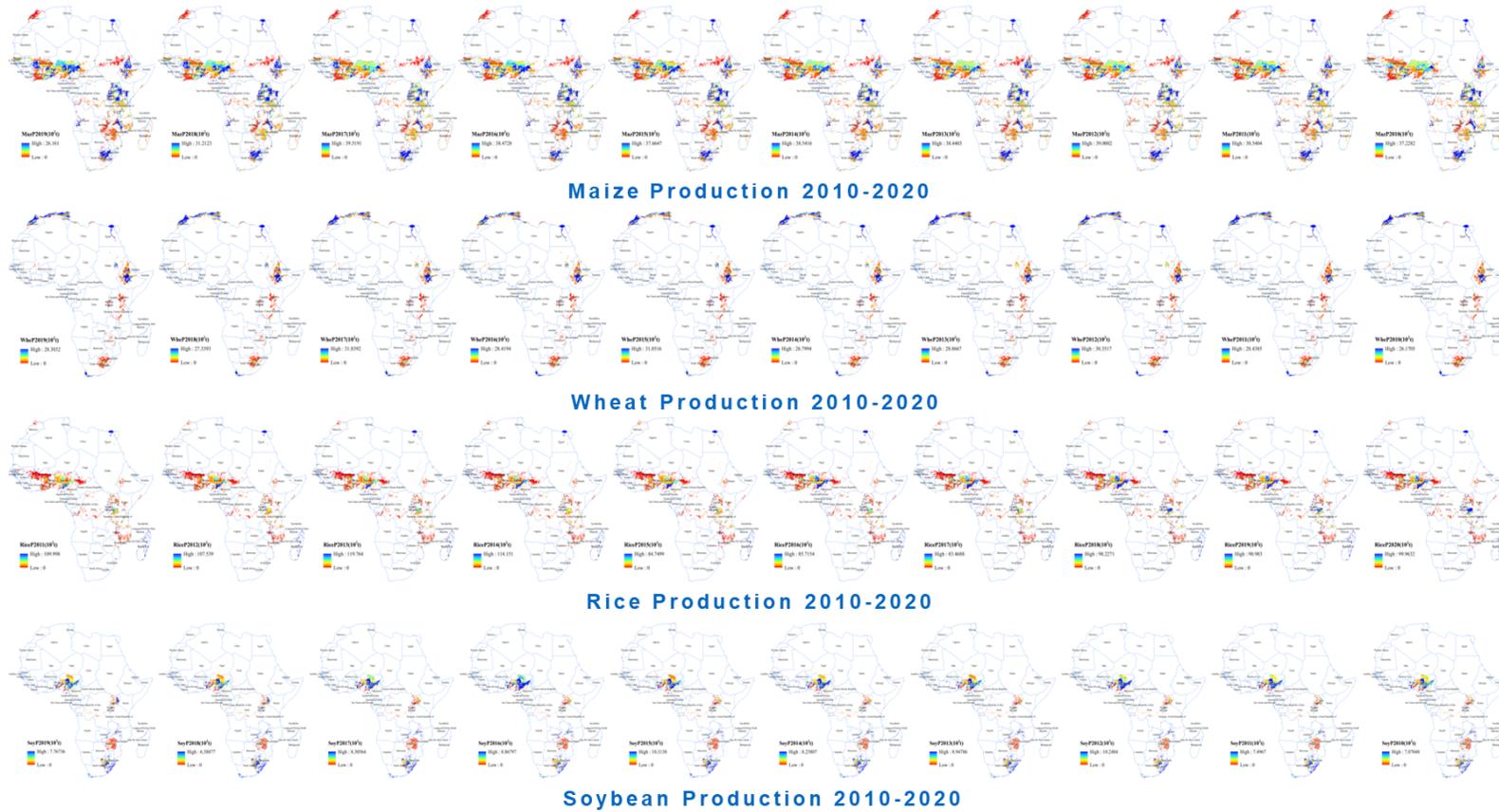
- Quantify the actual crop yield
- Quantify the potential crop yield
- Identify the limiting factors affecting the yield gap
- Policy recommendation to achieve SDGs2



Method: Spatial Allocation Model



Crop Production data and Performance Assessment

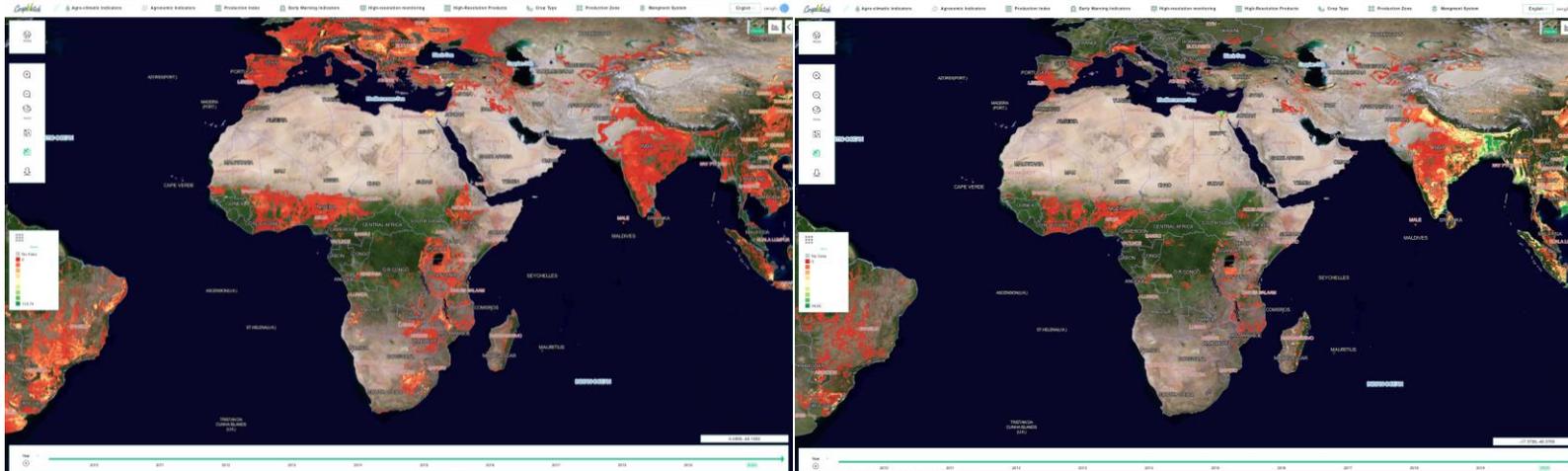


Crop Production data in Maize, Wheat, Rice, and Soybean from 2010 to 2020

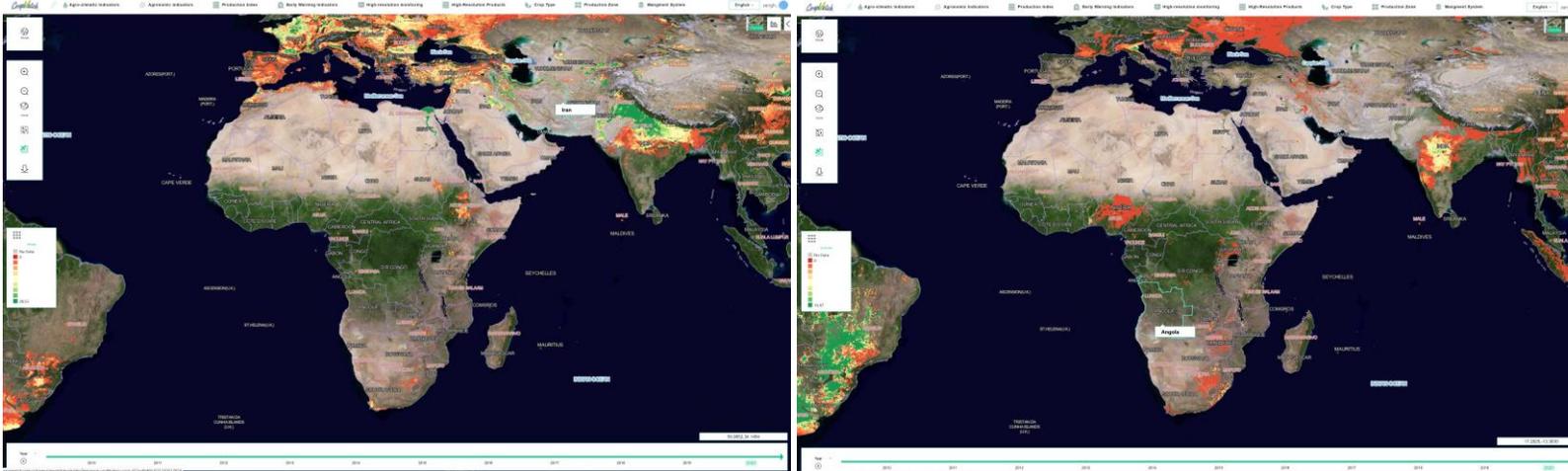
Performance assessment

Crop Production data Sharing On CropWatch and CBAS

#TheEarthTalks



Crop Production data in CropWatch Cloud Platform




Geo Crop Production Data for Africa from 2010 to 2020 (GeoCropP...)

Dataset Overview

This data product presents the production of four major crops: maize, wheat, rice and soybean, in a geographical grid format. Quantifying the spatial distribution and trends in food production, and identifying the key factors limiting increased food production, are essential for taking effective action to increase food production and achieve food security in Africa. This data product comprehensively shows the spatiotemporal distribution pattern of major crop production in Africa, reflecting the synthesis of various elements such as regional land productivity, crop growth conditions and agricultural management efficiency. It contributes to the analysis of the driving mechanisms behind changes in crop production, providing valuable guidance for the growth of food production and sustainable agricultural development in Africa, and promoting the achievement of the SDG2 goal of zero hunger. This data product shows the production of four major crops: maize, wheat, rice, and soybean, presented in a geographical grid format.

Contact Information

Contact Name: Datasharing Group
 Tel: (86)-01082177601
 Mail: datasharing@aircas.ac.cn
 Released by: International Research Center of Big Data for Sustainable Development Goals(CBAS)

Dataset Details

Spatial Resolution: 10KM
 Product Number: XDA19090201.010
 Created By: Hongwei Zeng; Xingli Qin; Bingfang WU

Time Resolution: One session per year for 11 years from 2010 to 2020
 Create Institution: International Research Center of Big Data for Sustainable Development Goals
 Creation Date: 2023-08-28T06:51:06.466Z



Crop Production data in CBAS platform



Workshop in Beijing(Oct 2023)



Workshop in NARSA of Nigeria (Aug 2023)



Workshop in Beijing(Oct 2023)



Regional Workshop in Mauritius(Aug 2023)



Crop Production Outlook and the State of Food Security



2023 GEOARC

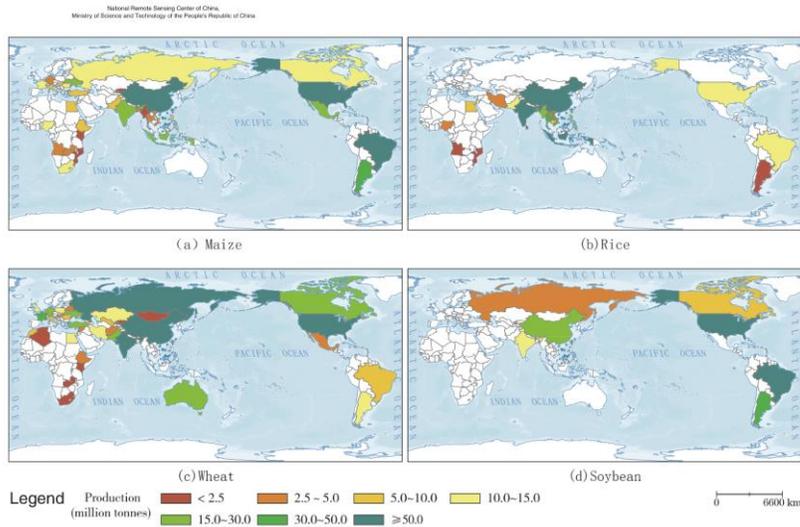
Global Ecosystem and Environment Observation Analysis Research Cooperation (GEOARC)
Crop Production Outlook and the State of Food Security



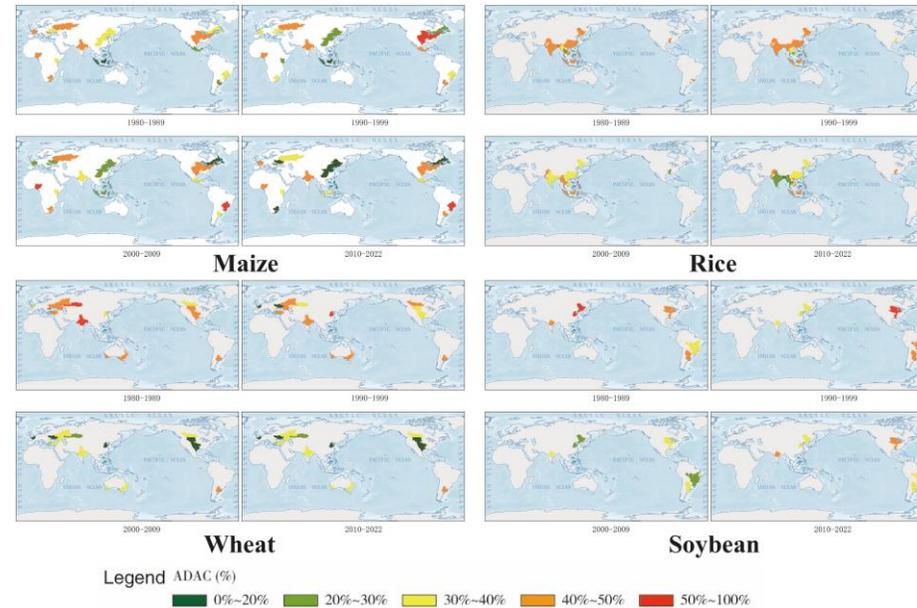
Global staple cereal and oil crops production of 2023 is estimated to reach **2,876.96 million tonnes**, up **0.6%**

Drought mitigation capabilities in global staple cereal and oil crops major producing regions have **improved significantly with measures including improved irrigation, mulching, conservation tillage, crop structure adjustment and planting drought-resistant varieties**

Global fallow land area reduced **46.4%** 2022 from 2000, indicating the **global cropland utilization efficiency has steadily increased**



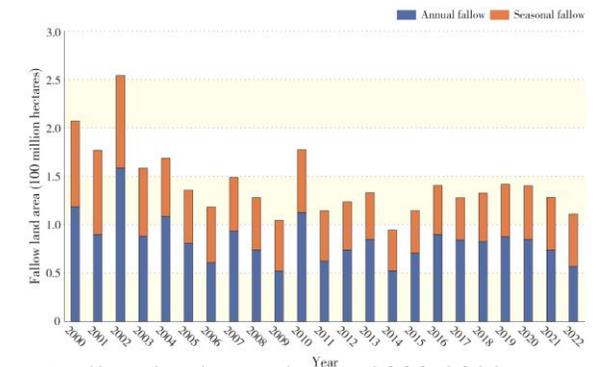
Production of staple cereal and oil crops in 47 major producing countries, 2023



Drought mitigation area percentage (ADAC) of staple cereal and oil crops major producing regions



Global frequency of fallow land from 2000 to 2022



Fallow land area during 2000-2022

