Food and Agriculture Organization of the United Nations

FAO workshop in Climate and Crop modelling

Pakistan

(December, 2023)

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Workshop's agenda and useful information

Structure

- Training focusing on hands-on exercise with a case study to work on during the last day
- Data and slides can be found in our online GitHub repository (online session instructions)

Outcomes

- Improved understanding of climate science, climate models, and applications
- Application of crop productivity models and limitations
- Learn how to run the AquaCrop model (simplified and advanced mode)
- Learn how to interpret the results of the AquaCrop model and how to use AquaCropPlotter
- Learn how to use and apply AquaCrop in real case studies

Speakers

- **Riccardo Soldan** holds a Ph.D. in Interdisciplinary Bioscience from the University of Oxford and a Master's in Crop Science. Riccardo has several years of experience in the field of ecosystem modelling. While at FAO Riccardo has developed the Climate and Agriculture Risk and Visualization framework (CAVA) and led the development of AquaCropPlotter, an application used to process and visualize the results of AquaCrop.
- **Jorge Alvar-Beltrán** holds a Ph.D in Environmental Sciences from the University of Florence, with an emphasis on climate-resilient crops in hot-spot regions of climate change, Burkina Faso. Prior to joining FAO in 2020, he worked for the World Meteorological Organization (WMO) to strengthen the capacities of Met Services to deliver weather-informed agricultural advisories to the last-mile.

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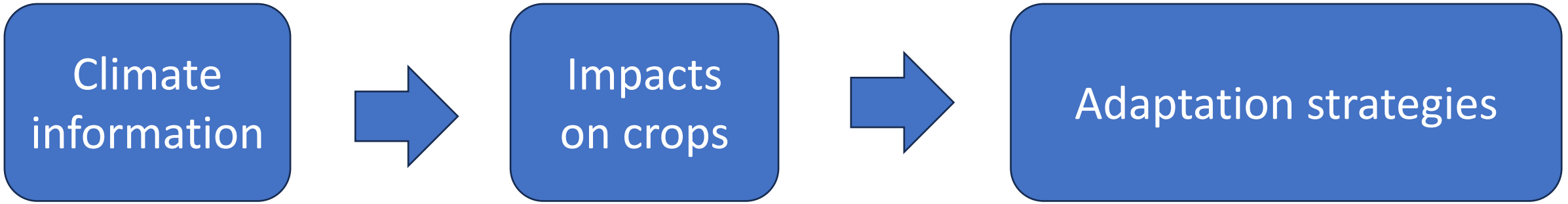
Overall framework of the workshop



CAVA AquaCrop AquaCropPlotter

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Workshop's agenda (Day 1)

Time	Content	Panelists
8.30-9.00	• Welcoming remarks • Workshop's agenda	Emelda/James/Jiro Riccardo/Jorge
9.00-10.45	**Climate Module 1 – Climate Data and Climate Science (1h45mins)** • Global Climate models and regional climate models • Socioeconomic Pathways • Introduction to CAVA (Climate and Agriculture Risk Visualization and Assessment)	Riccardo
10.45-11.00	COFFEE BREAK	
11.00-13.00	**Climate Module 1 – Retrieving data from CAVA (30mins)** **Crop Module 1 – Basic and advanced usage of AquaCrop (1h30mins)** • Practical applications of crop models (recap) • AquaCrop model compared to other models and limitations (recap) • AquaCrop: user-interface (recap) • AquaCrop: climate module • AquaCrop: crop module	Riccardo Jorge

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Workshop's agenda (Day 2)

Time	Content	Panelists
8.30-10.30	**Crop Module 2 – AquaCrop input requirements (2h)** • Climate, crop, management input requirements • Create/import climate files in AquaCrop • Create/import climate files in AquaCrop	Jorge
10.30-11.00	COFFEE BREAK	
11.00-13.00	**Crop Module 3 – Upload data in AquaCrop (2h)** • Create/upload crop, management and soil files • Create/upload crop, management and soil files	Jorge

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Workshop's agenda (Day 3)

Time	Content	Panelists
8.30-10.30	**Crop Module 4 – AquaCrop results and calibration and validation (2h)** • Interpreting AquaCrop outputs • Understanding the importance of calibration and validation	Jorge
10.30-11.00	COFFEE BREAK	
11.00-12.00 12.00-13.00	**Crop Module 5 – AquaCrop plugin for heavy workloads (1h)** • Run simulations • Create project files **Crop Module 5 – AquaCropPlotter for visualizing AquaCrop results (1h)**	Jorge Riccardo

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Workshop's agenda (Day 4)

Time	Content	Panelists
8.30-10.30	**Crop Module 6 – Hands-on exercise (2h)** • Hands-on exercise	Jorge
10.30-11.00	COFFEE BREAK	
11.00-13.00	**Crop Module 6 – Hands-on exercise (2h)** • Working group presentation • Questions and discussions	Jorge Riccardo

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Recap of the online session

Pakistan

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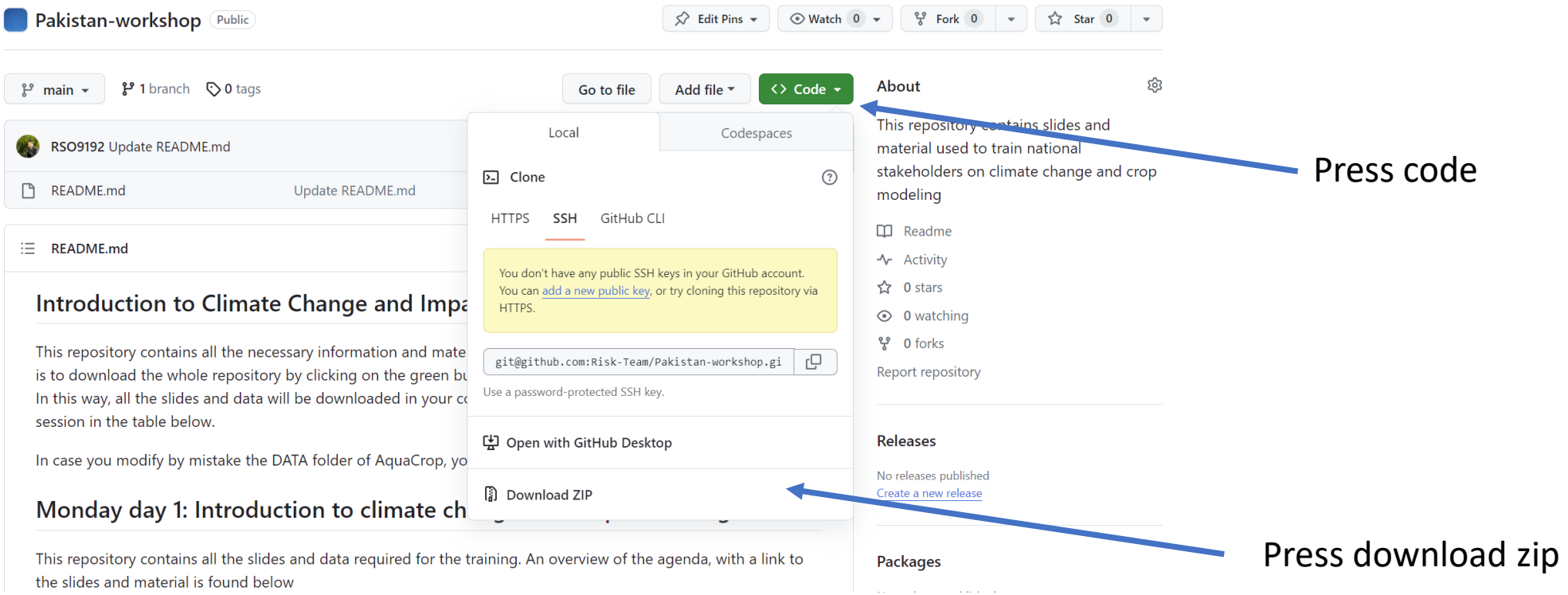
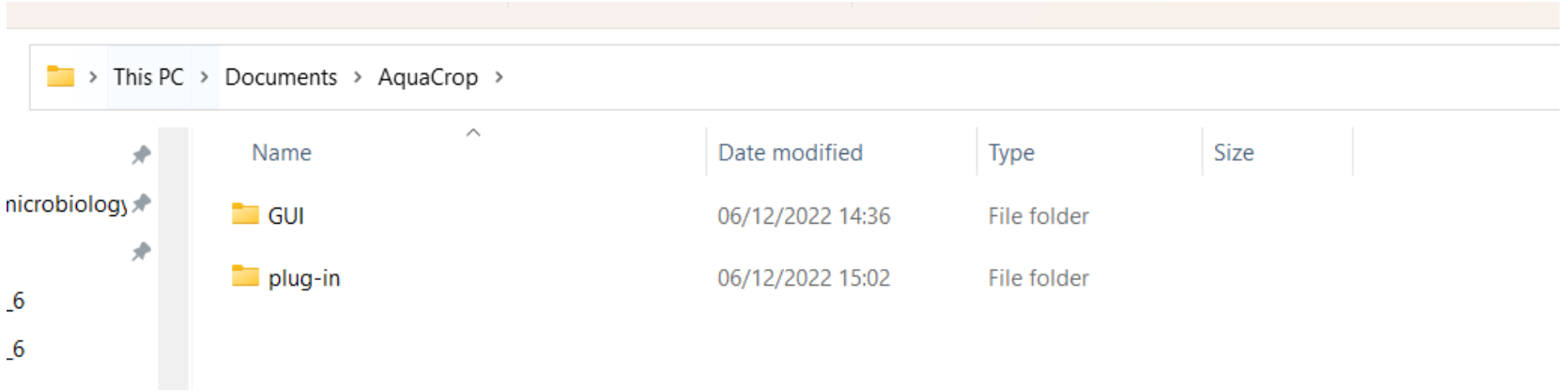
Instruction

- The link to all material and slides presented in this workshop can be found at https://github.com/Risk-Team/Pakistan-workshop
- Once you are on the correct page, you can download the whole repository to your local computer (**Desktop**)



Instruction

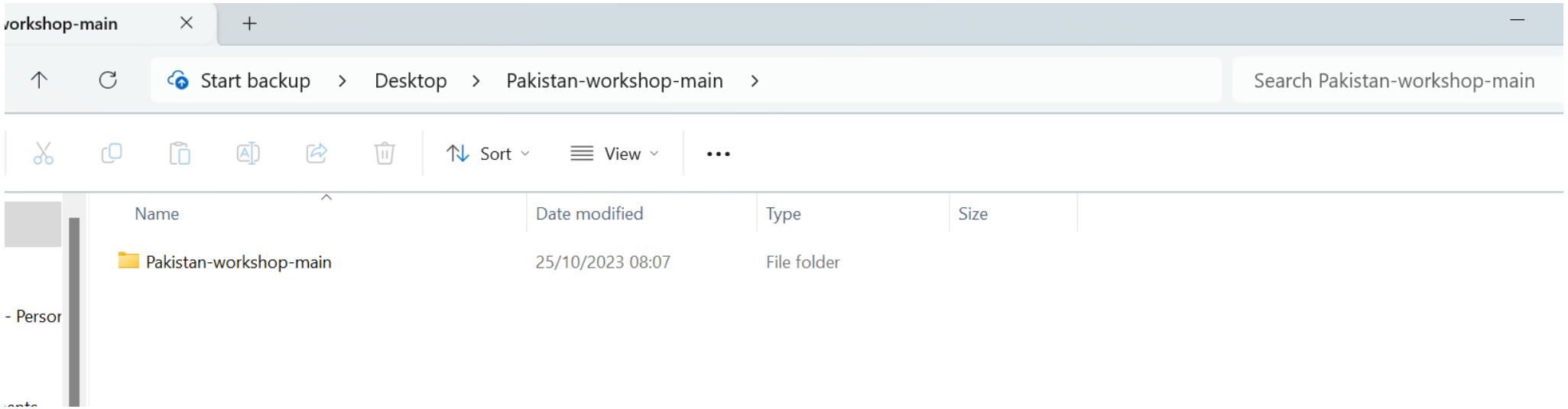
- Install AquaCrop in the documents folder



- Paste this file into the plug-in, folder SIMUL

Instruction

- Where your data folder should be



- Where your AquaCrop installations should be