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2-3.12.2025

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In-season aflatoxin risk prediction using meteorological forecast

D. Balková¹, R. Raj², H. Rieder², M. Camardo Leggieri¹, P. Battilani¹

¹Department of Sustainable Crop Production, UCSC, Piacenza, Italy

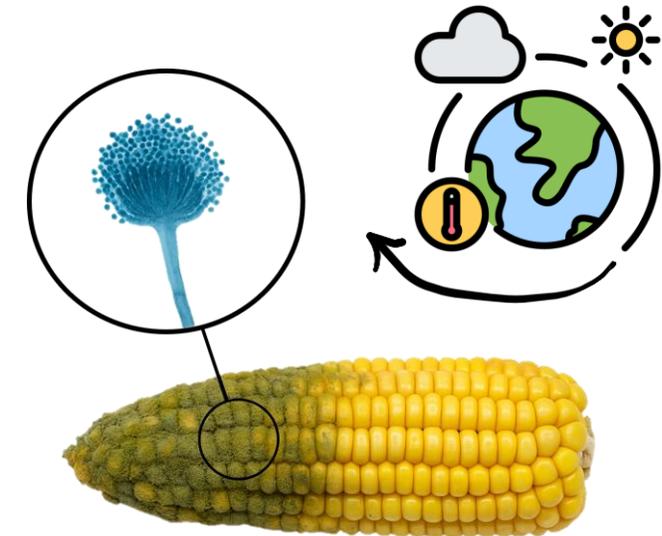
²Institute of Meteorology and Climatology, BOKU, Vienna, Austria



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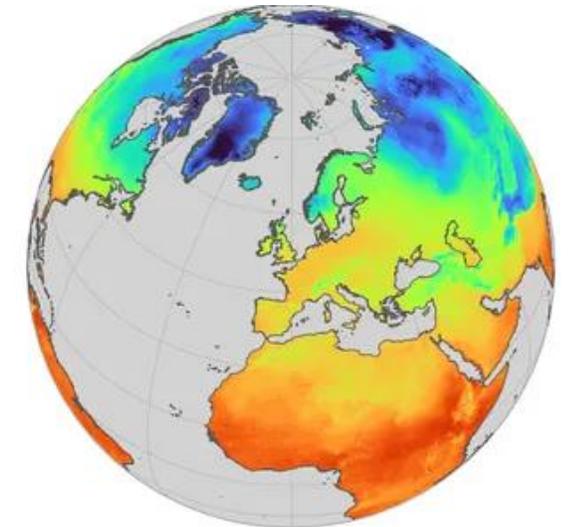
INTRODUCTION



Aflatoxin contamination in **maize** is climate-driven



Predictive models use weather observations as input: AFLA-maize



Limited spatial coverage & lack of forecasting capability



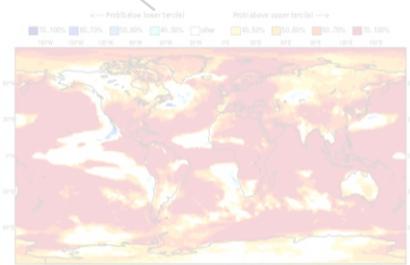
- **AIM: Improve spatial applicability of AFLA-maize & introduce forecasting ability for early warning using global climate datasets.**

METHODS

Datasets:



● ERA5-Land



● Seasonal forecast

Bias corrections



• Altitude correction

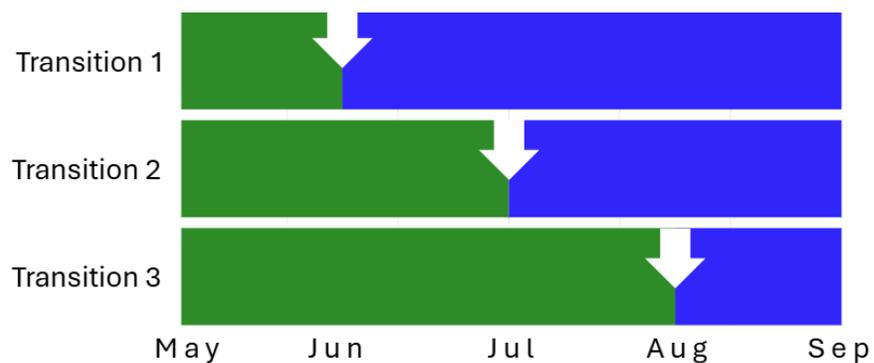


• Long term offset



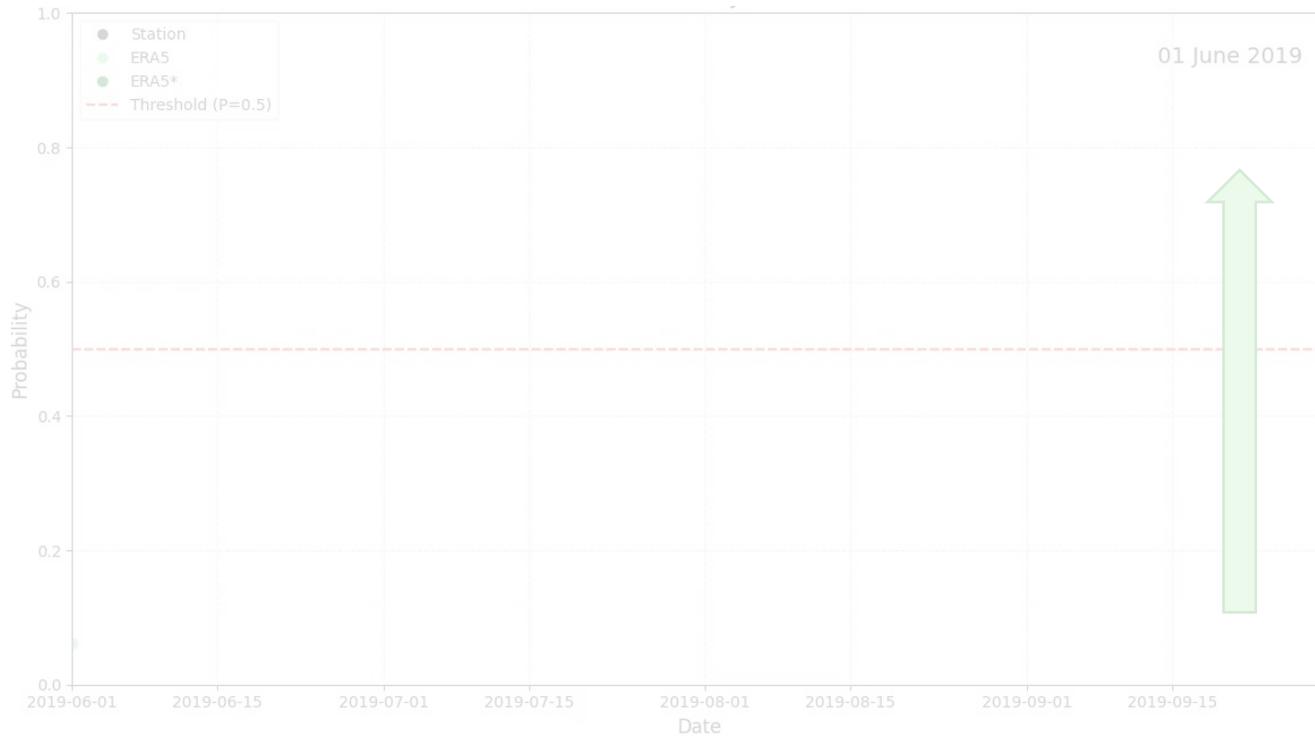
• Threshold

Hybrid forecasting

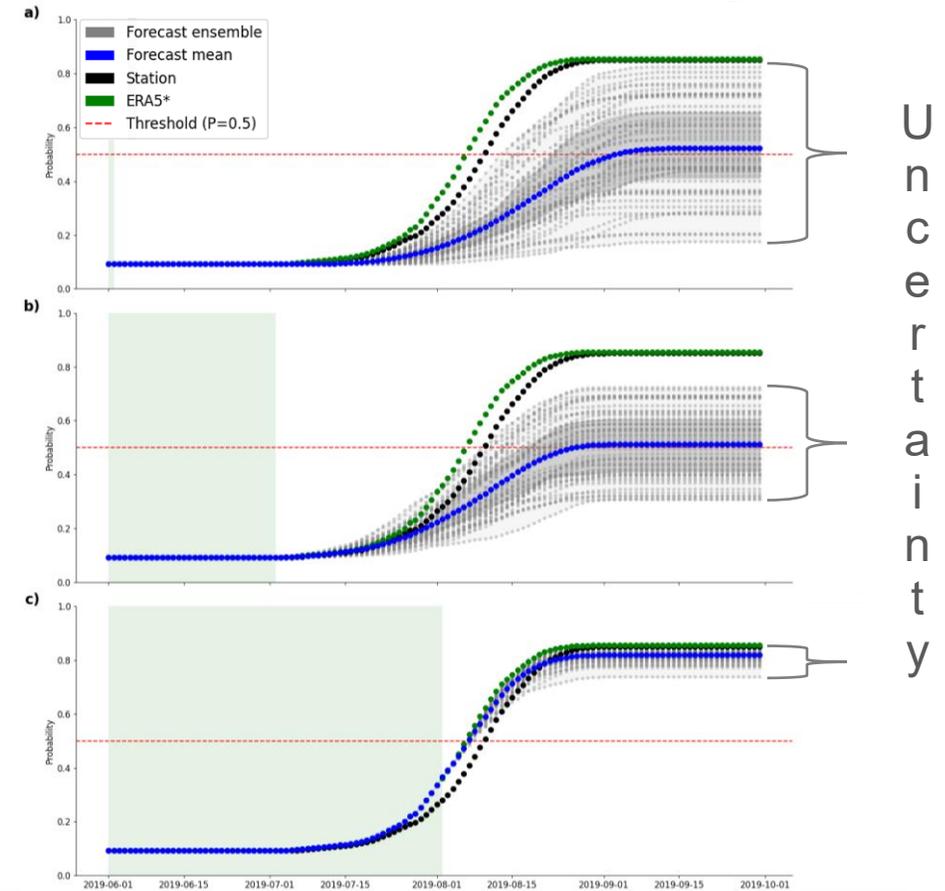


RESULTS

✓ **Improved spatial applicability**



✓ **Aflatoxin risk forecasting**



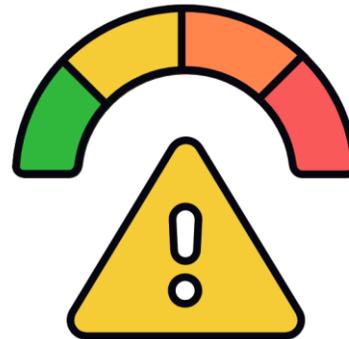
CONCLUSIONS

FUTURE PLANS

Use of freely available meteorological datasets

Automatisation in user friendly platform

Uncertainty aware risk communication



Inclusion of multiple mycotoxigenic fungi

Early warning & decision support

Transferable approach for other pathosystems

BIOTOX Doc

Safe food in a world of changing climate: The doctoral training programme to develop novel control, mitigation and risk assessment methods for biotoxins



Co-funded by
the European Union

Grant agreement No. 101119901 (European Research Executive Agency)

and

UKRI grant EP/Y02964X/1 (UK Research and Innovation)



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THANK YOU FOR YOUR ATTENTION



[Darina Balková](#)

darina.balkova@unicatt.it

[Richa Raj](#)

richa.raj@boku.ac.at

[Harald Rieder](#)

harald.rieder@boku.ac.at

[Marco Camardo Leggieri](#)

marco.camardoleggieri@unicatt.it

[Paola Battilani](#)

paola.battilani@unicatt.it



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