

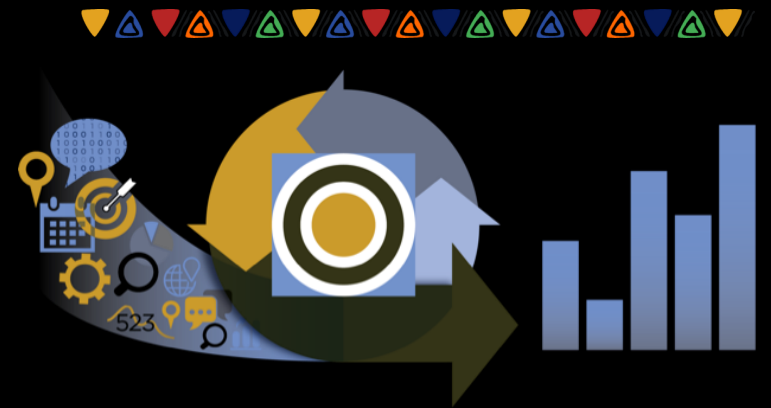
International Macadamia Symposium 2023



IMS'23

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Macadamias South Africa (NPC)  
(SAMAC)



**SAMAC**Integrator

**Integrated industry  
information and  
decision support**

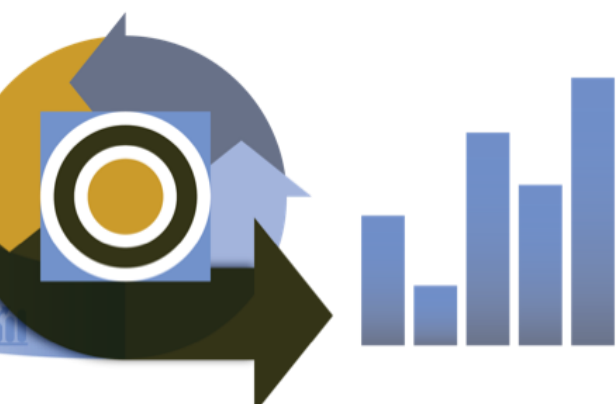
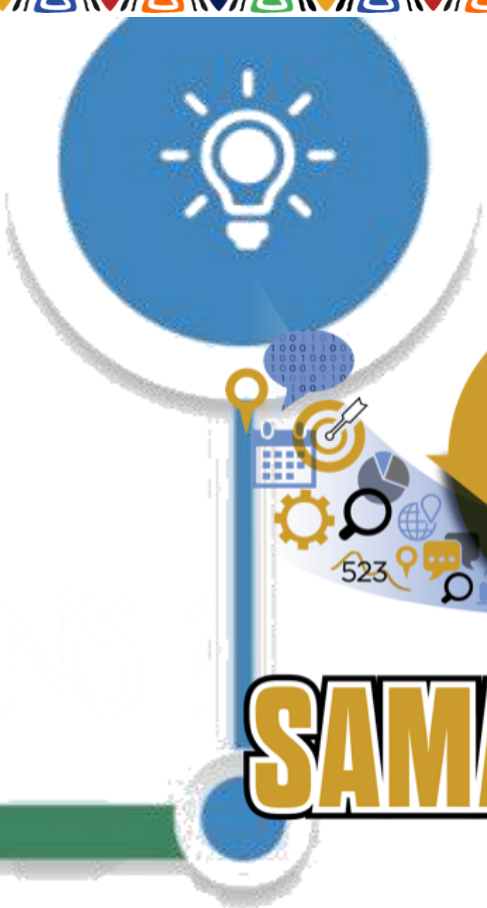
## Goal

**Sustainable production**  
through **effective crop**  
**management** that  
**adds value** to the farm and  
industry

- ✓ Know where grower members are farming
- ✓ Tree census up to date for members
- ✓ Best practice statistics
- ✓ 'Science-based' recommendations
- ✓ Pest & disease monitor
- ✓ Pesticide application records
- ✓ Harvest records







# SAMAC Integrator

Conceptual Age

Information Age



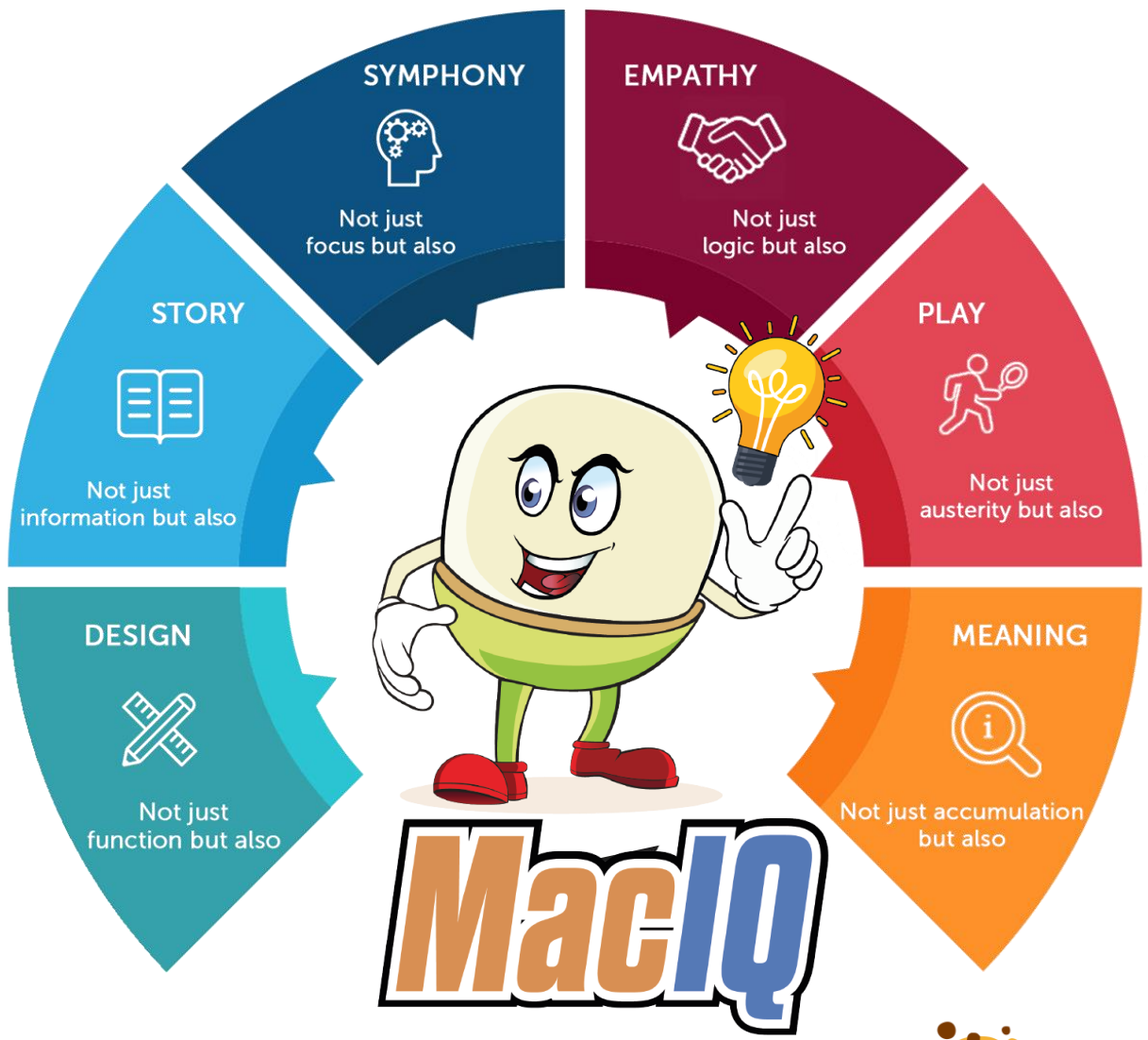
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# Best practices for an ever- changing world





Future orchards include *accurate* recordkeeping & CLEAR answers that results in **BEST** practices that are **IMPLEMENTED**





**INTEGRATE** (HOME)

**BLOCK INFORMATION**

**FARM MAP**

**SERVICE PROVIDER**

**FACILITY**

**DATA**

**YIELD TRACKER**

**NUTRITION**

**PEST MONITOR**

**RESOURCE VIEWER**

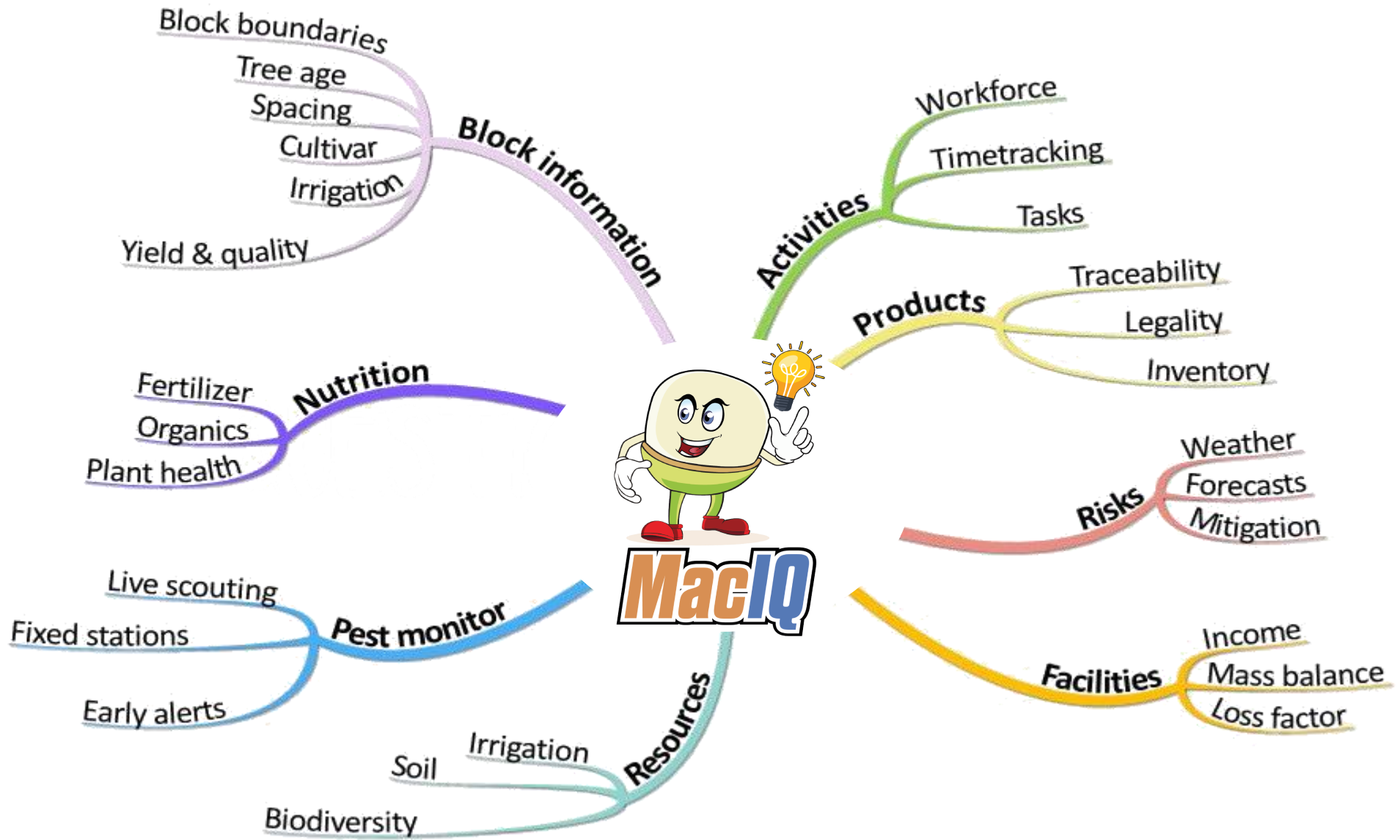
**ACTIVITIES**

**PRODUCTS**

**FACILITIES**

**RISK**

**SETTINGS**



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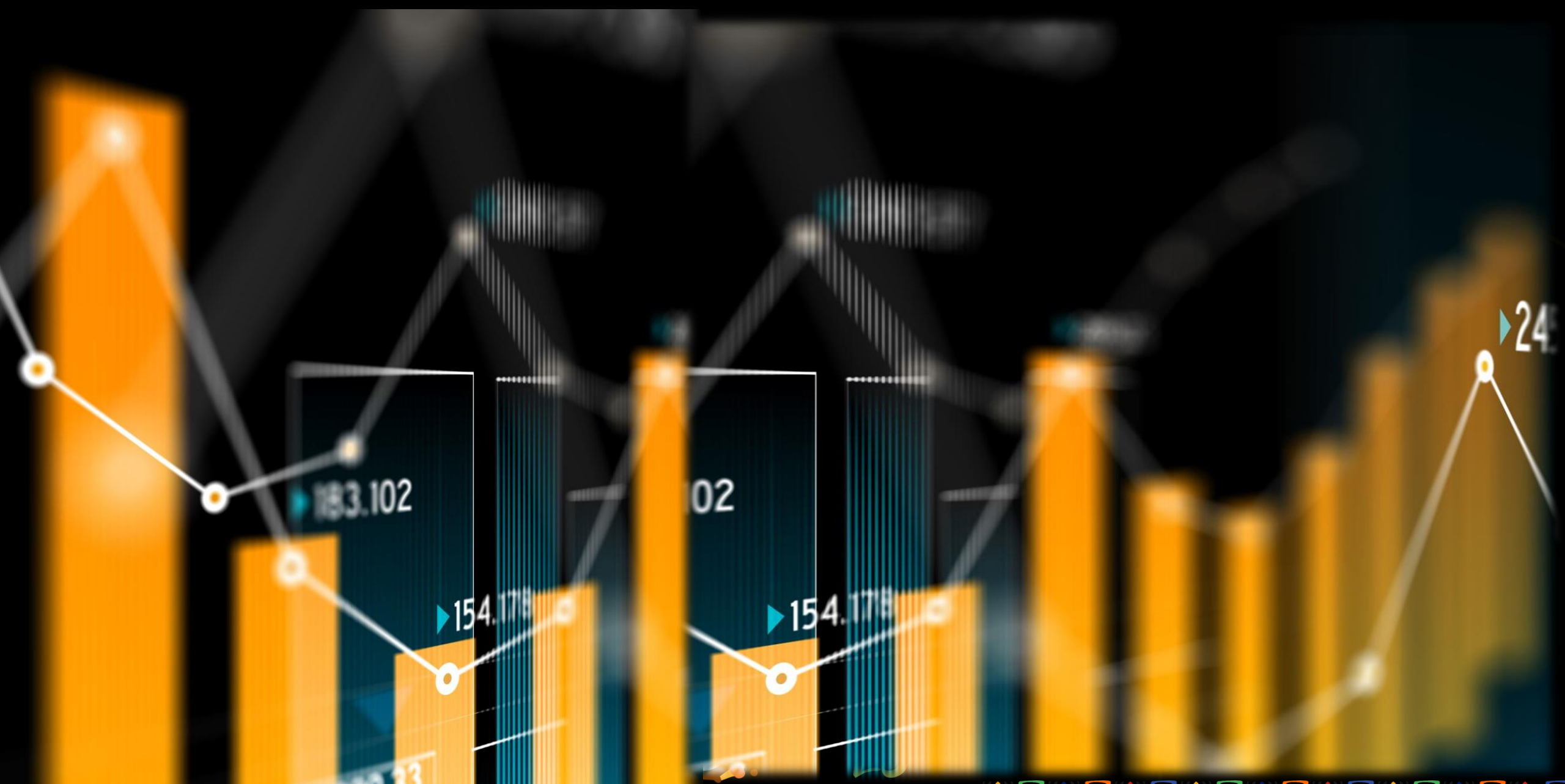


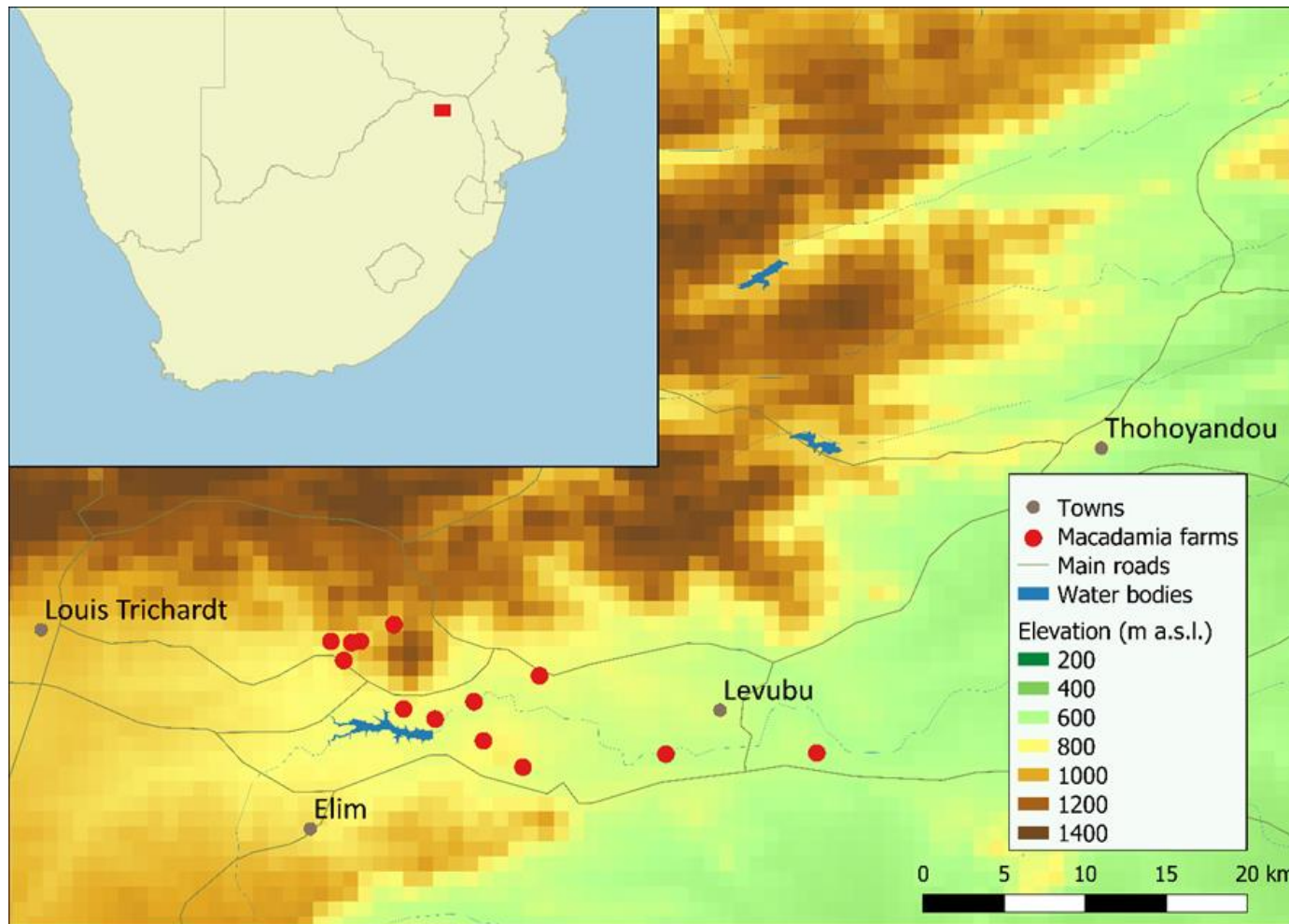


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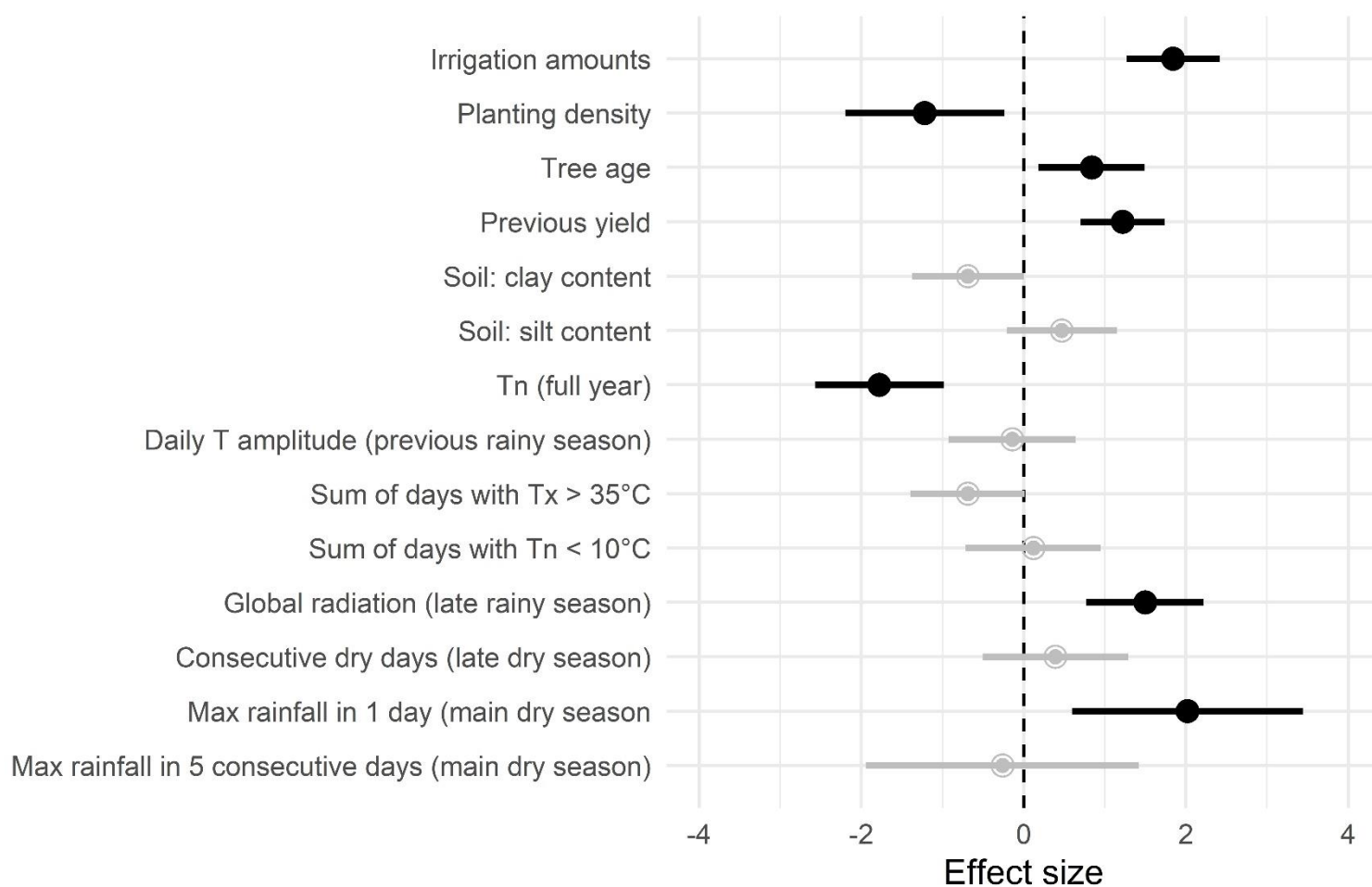






- Subtropical fruit growing area of **Levubu** (Limpopo Province, SA)
- 247 orchards selected from 13 farms along **altitudinal gradient** (from 600 to 950 m a.s.l.)
- Historical **yield data** (2010-2021)
- Additional information on:
  - Planting density
  - Tree age
  - Cultivar
  - Irrigation type
- Subset (59 orchards): information on **irrigation amounts**





- Subset of 59 orchards with information on irrigation amounts (mean = 311.6 mm)
- Results consistent with previous models:
  - Planting density
  - + Irrigation amounts
  - + Tree age
  - High temperature (during entire year)
  - + Rainfall (during dry season)
  - + Global radiation (during nut development)

- Relative effect of irrigation amounts equal or lower than effect of climatic variables

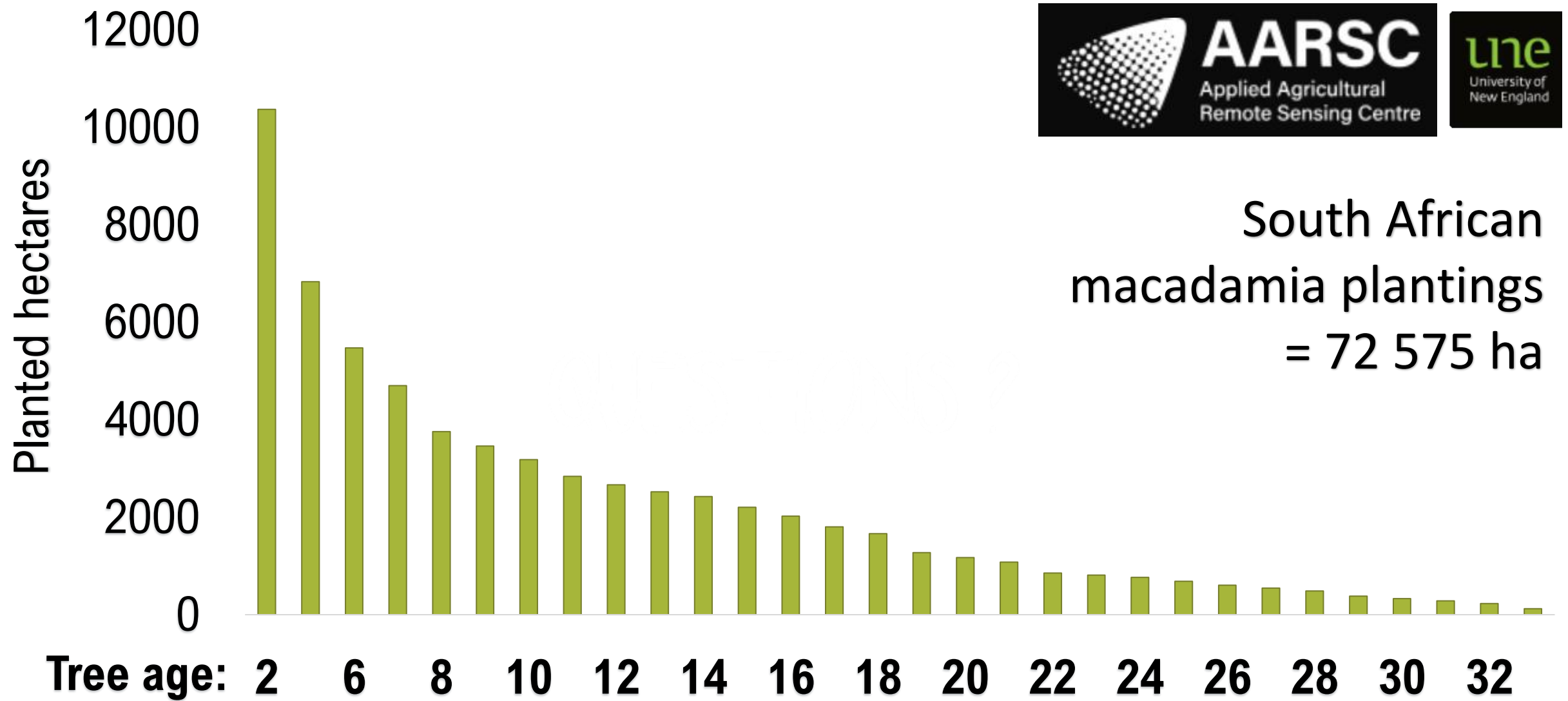
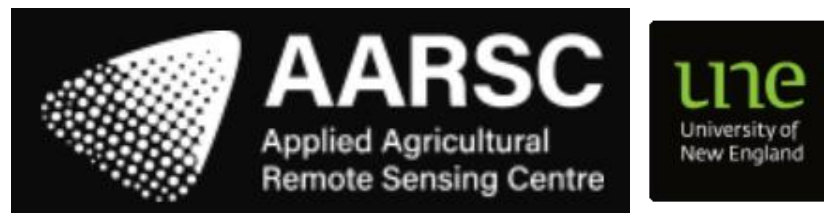




Bringhenti, T., Joubert, E., Abdulai, I., Hoffmann, M.P., Moriondo, M., Taylor, P.J., Rötter, R.P. (2023) Effects of environmental drivers and irrigation on yields of macadamia orchards along an altitudinal gradient in South Africa, *Scientia Horticulturae*, 321, 112326. <https://doi.org/10.1016/j.scienta.2023.112326>.



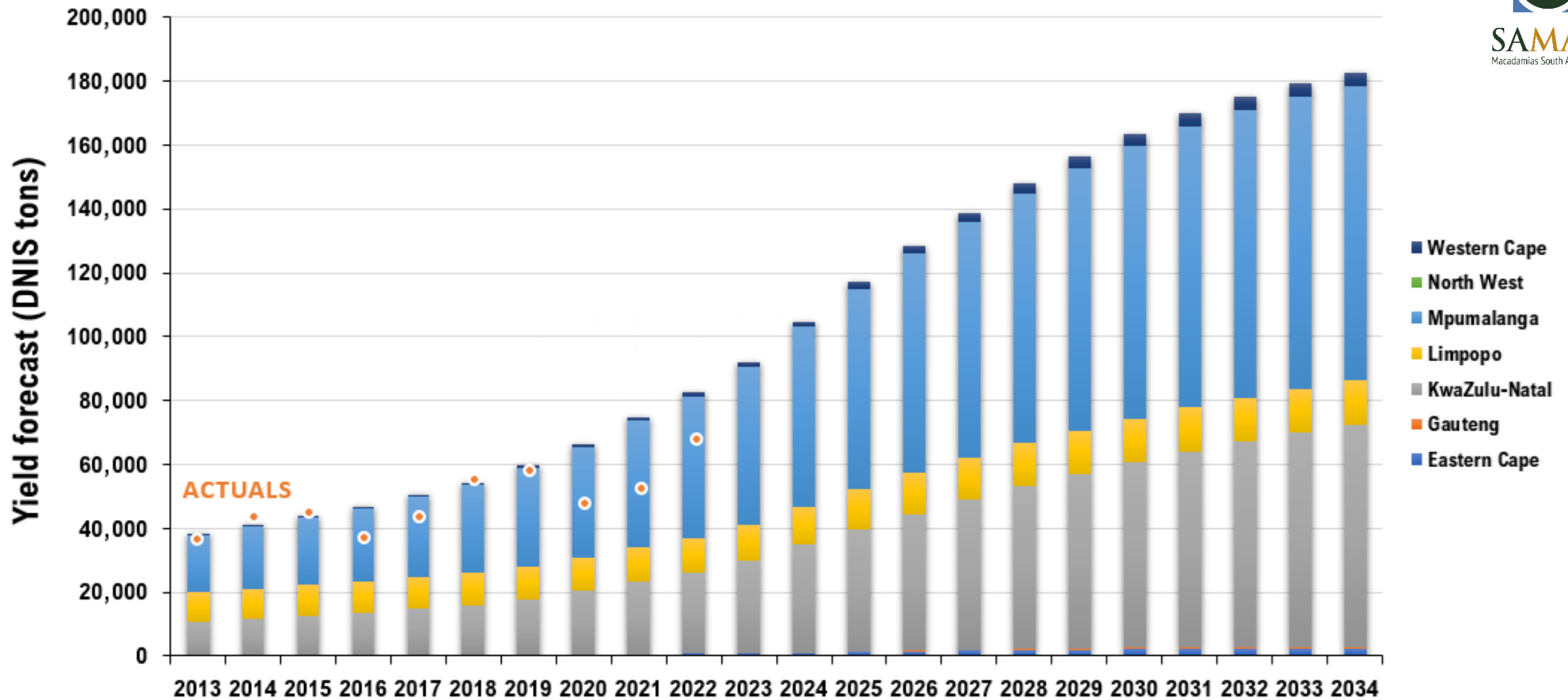




# SOUTH AFRICAN MACADAMIA CROP FORECAST BY PROVINCE



**SAMAC**  
Macadamias South Africa NPC



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# SAMAC Integrator



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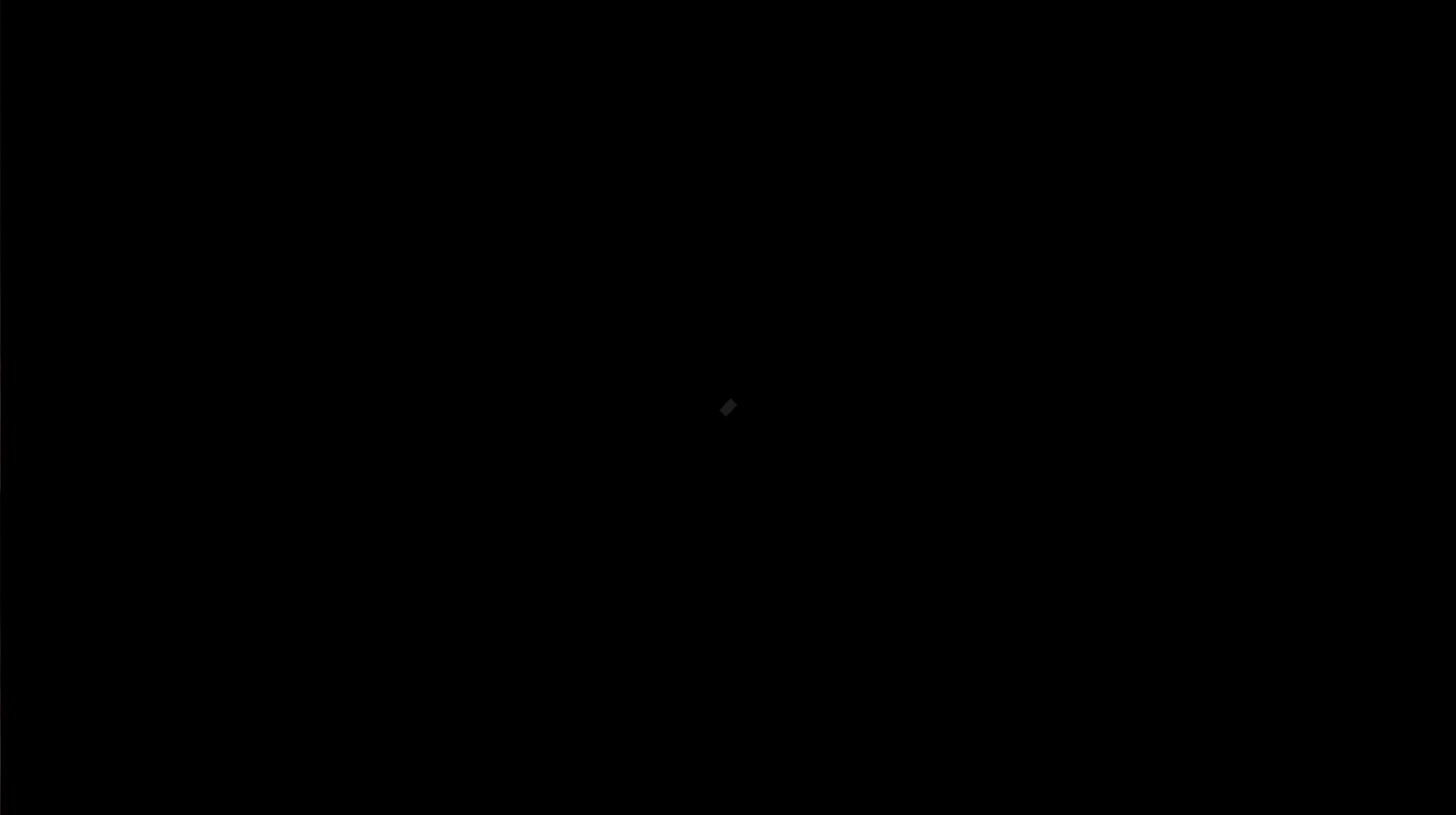






Visit the SAMAC website,  
-App or this QR code







# Acknowledgements



Marius Ras (M.Eng; Pr.Eng)  
RAS CONSULT (Pty) Ltd

[thomas.bringhenti@uni-goettingen.de](mailto:thomas.bringhenti@uni-goettingen.de)





QUESTIONS ?

