Response Farming using "AgriCloud" App for Farmers in South Africa

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Introduction

Response farming

- Focuses on water and its management at **farm** level.
- Concept: Improved information about rainfall prospects and impacts of alternative actions can equip **farmers** to more closely meet production goals (FAO).
- A method of identifying & quantifying seasonal rainfall variability and unpredictability.

Digital technologies currently

- provide an opportunity to develop useful tools, to respond to climate and
- to calculate and deliver daily updated information to farmers.

Such info can equip farmers

- To make informed decisions based on current variations in weather conditions that influence agricultural production
- To increase their productivity and food security of the community.

Addressing Farmers Info Gap

- Farmers make decisions about when to plant dryland crops like maize every growing season.
- Many factors influence such a decision
  - past experience;
  - current information;
  - climatic conditions;
  - logistics & availability of inputs.

- During the Rain for Africa (R4A) project (funded by NSO = Netherlands Space Office),
- AgriCloud mobile phone app was developed to provide:
  - Planting advice
  - Spraying advice against pests, diseases and weeds.
  - Collect weather observations = crowdsourcing.

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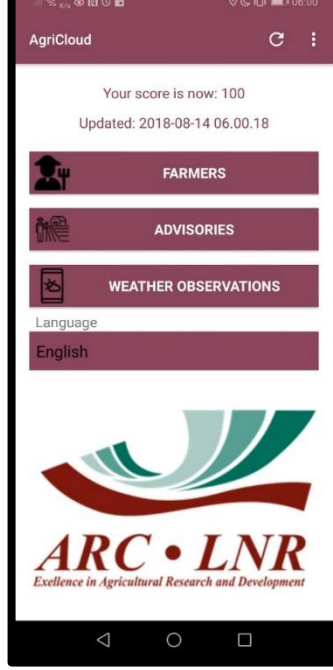
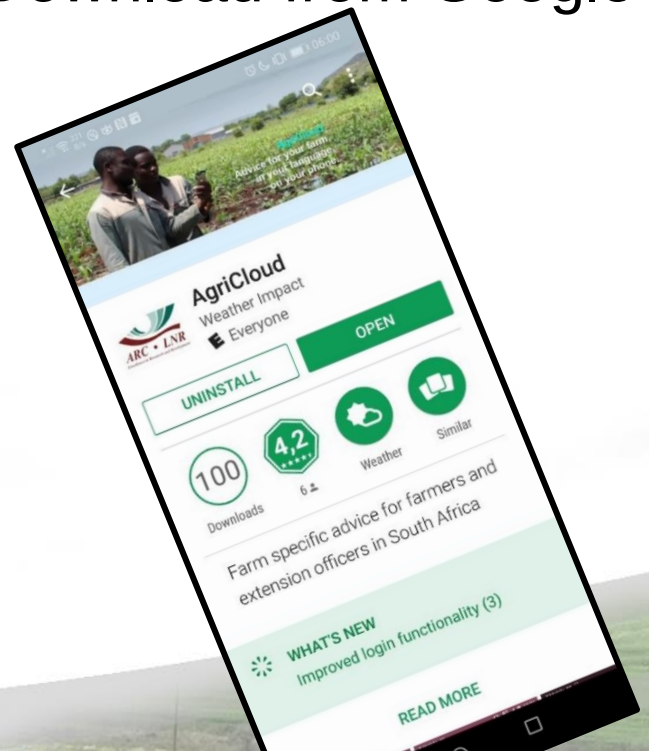
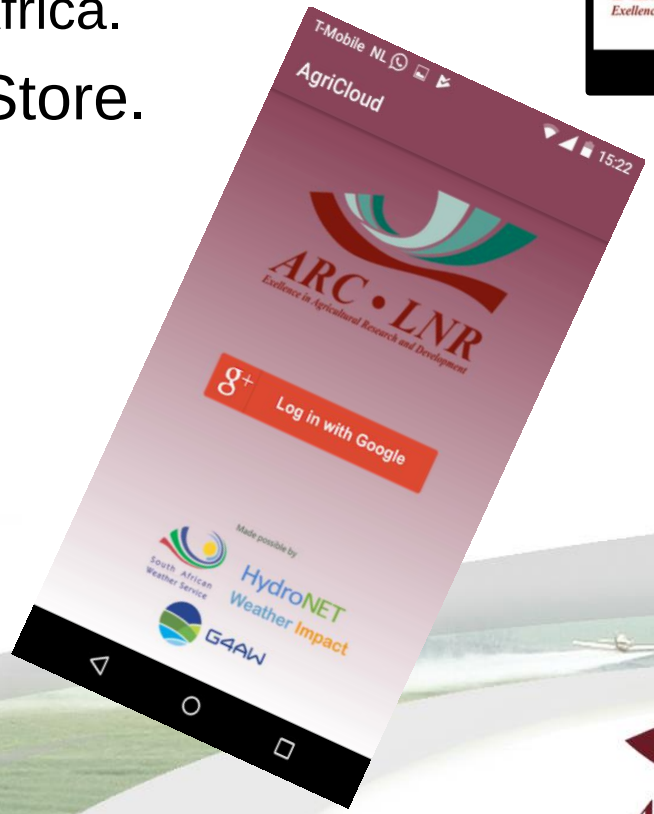
AgriCloud App

- Farmers and extension practitioners register
  - At a specific location using a map
  - Select local language
  - For android cell phones
  - Or via a USSD code in South Africa.
- Download from Google Play Store.







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Advisories based on Scientific Information

- Use remotely sensed Rainfall data for past 10days
- Use Rainfall predicted in weather forecast for upcoming 10days
- Good planting conditions criteria:
  - when 25 mm rainfall received within 20 days
- Indicate good time to start planting maize

- A gridded map indicates whether each day meets the criteria.
- Map is interrogated for each required farmer location.
- Provides an advisory for upcoming 10 days,
  on whether to plant or not.

Unique aspects of “AgriCloud” App

- Advice is updated everyday
- Crop specific information
- For both Smart and Simple phones
- On computer dashboard for managers
- In South African local languages
- Includes collection of qualitative weather observations from farmers & extension practitioners by crowd-sourcing.
- Modular system to easily add new advisories

Progress with AgriCloud

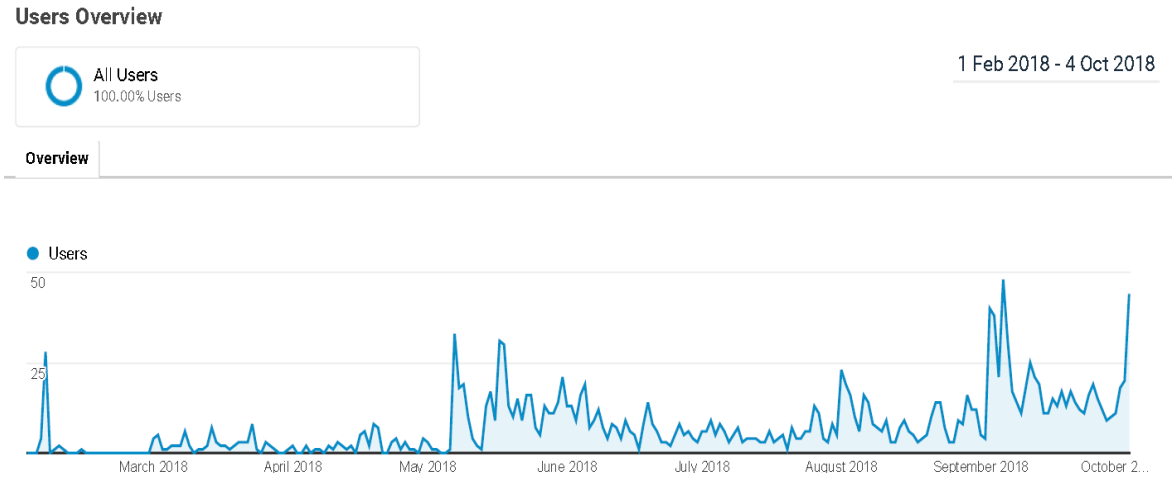
- *Roll-out* during 1st week of September 2018
  - In time for summer rainfall & planting
  - High level meeting in Pretoria
  - Provincial meetings in Mpumalanga and KwaZulu Natal
- Presented to Parliamentary Portfolio Committee
- Meetings with provincial Directors of Agricultural Extension during October – KZN, Limpopo, Eastern Cape
- *Step-up* meetings held with Extension Practitioners & Forums
  - Eastern Cape: 7+ meetings during October & November
  - Gauteng: 2
  - KwaZulu Natal: 11+
  - Mpumalanga: 7
  - North West: 2
  - Limpopo: 6

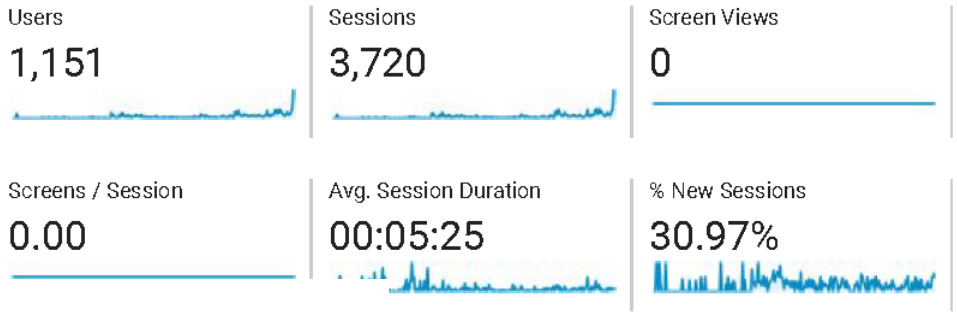
Stats of Users: Roll-out to Step-up 2018

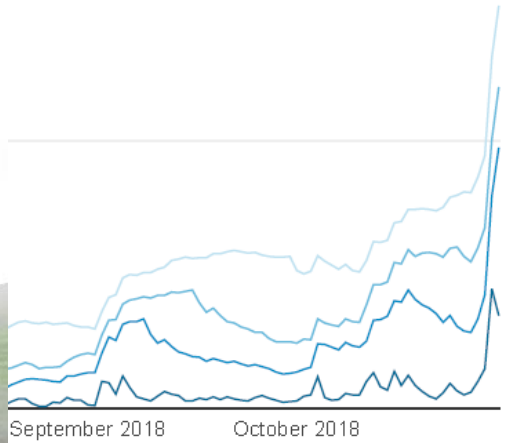
Google Analytics

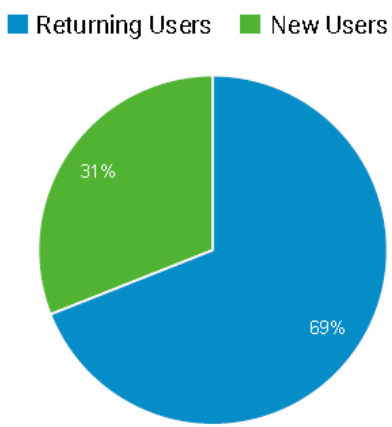
- 685 as at 4 Oct
- 1,151 as at 31 Oct
- See peaks 3-6 Sept,
- Thru Oct & begin Nov.
- More than 70 countries

- Total > 3720 sessions
- Average time 5+ mins
- Many returning users as new info daily









Future Plans: Knowledge Engines to Apps

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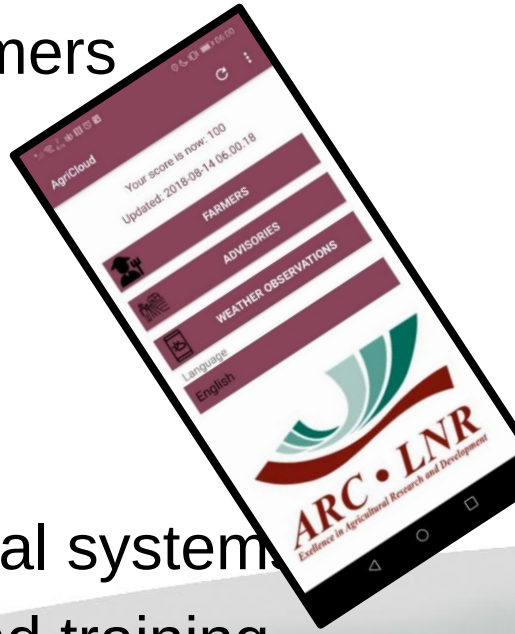
Conclusions

- AgriCloud provides:
- A practical means to respond to climate change,
- A useful tool to integrate information about agronomic crops, together with current short-term weather forecasts
- AgriCloud provides planting date advice to farmers
  - *at their specific location*
  - *on their own phone*
  - *in their own language*
  - *with daily updates*
  - *a means to give feedback by crowdsourcing.*
- Long-term learning to understand environmental system
- Extension plays a vital role in dissemination and training
- to assist farmers to access information for their own farm
- also obtain a general view across a wider area.



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