



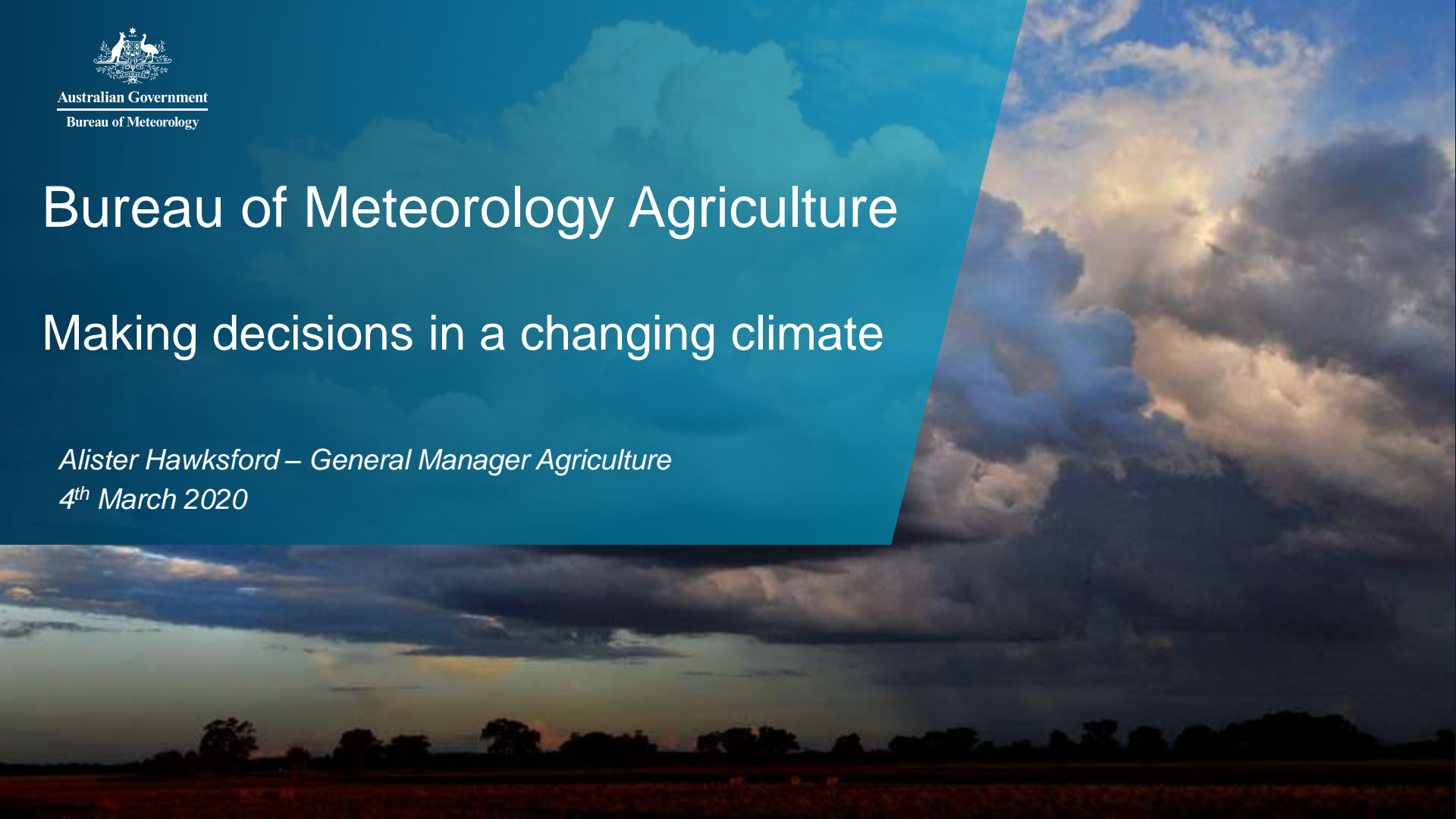
Australian Government
Bureau of Meteorology

Bureau of Meteorology Agriculture

Making decisions in a changing climate

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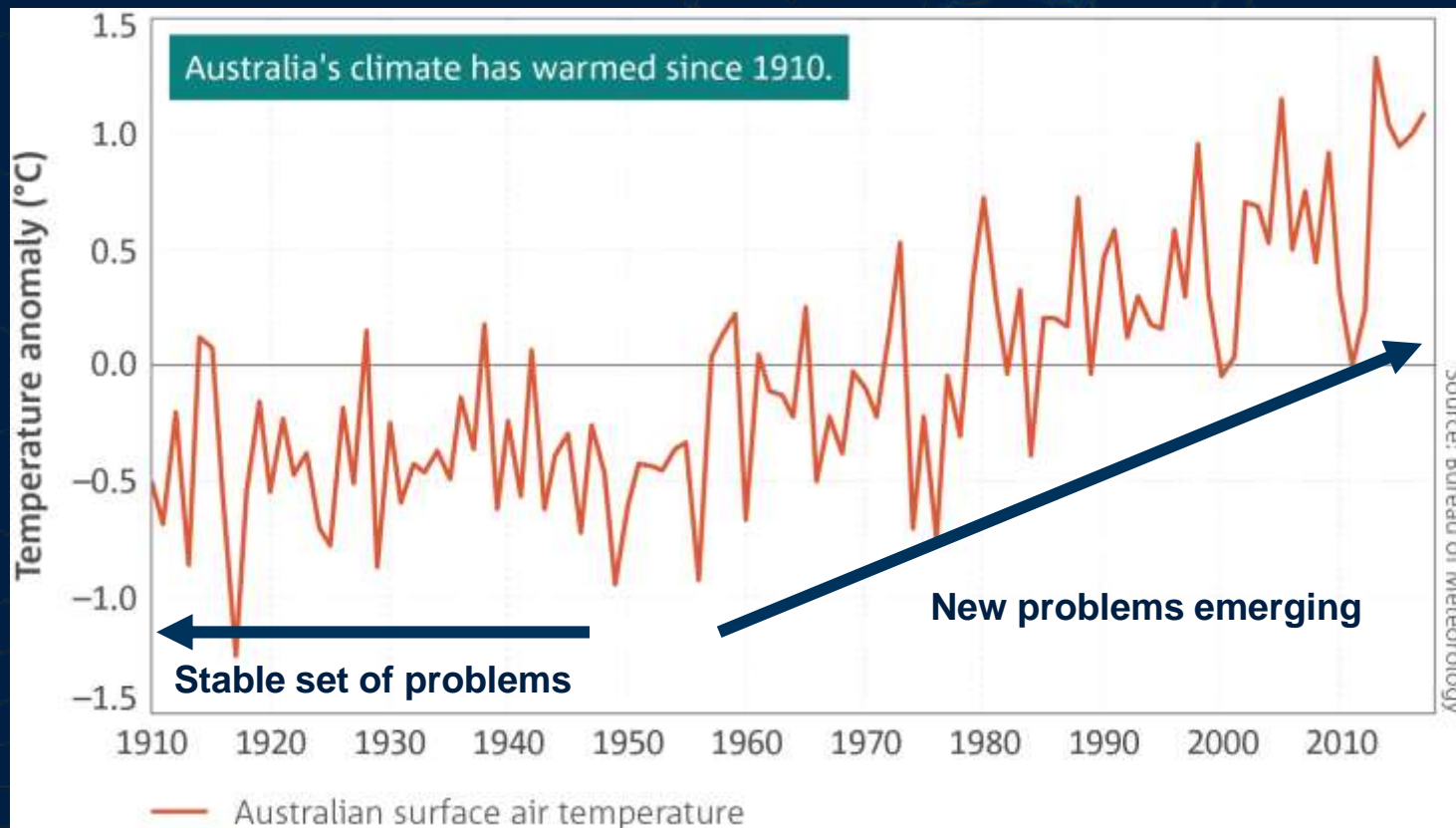


Outline

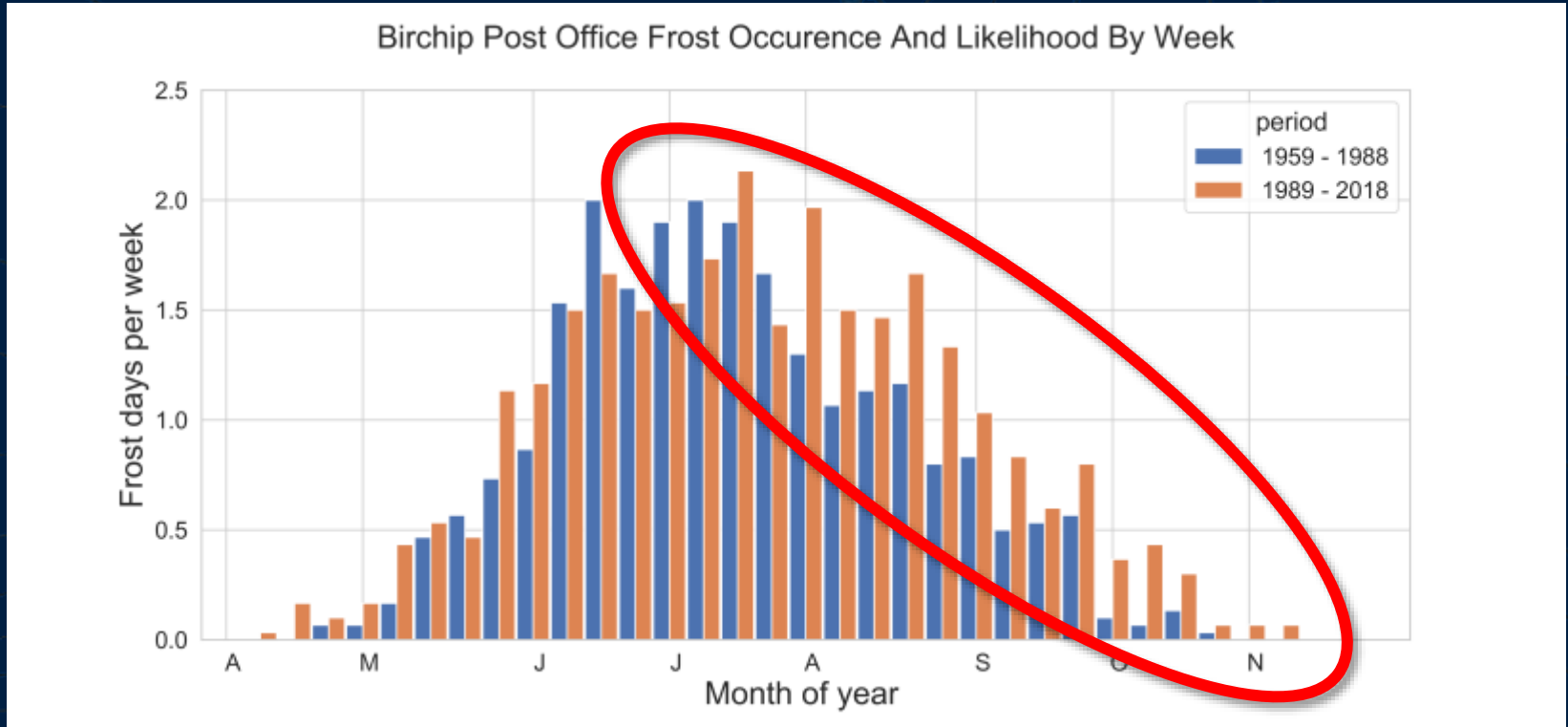
1. Shifting climate, shifting problems
2. Tailoring for key decisions
3. New alternatives to physical risk mitigation – insurance
4. Don't forget!



1. Shifting climate, shifting problems

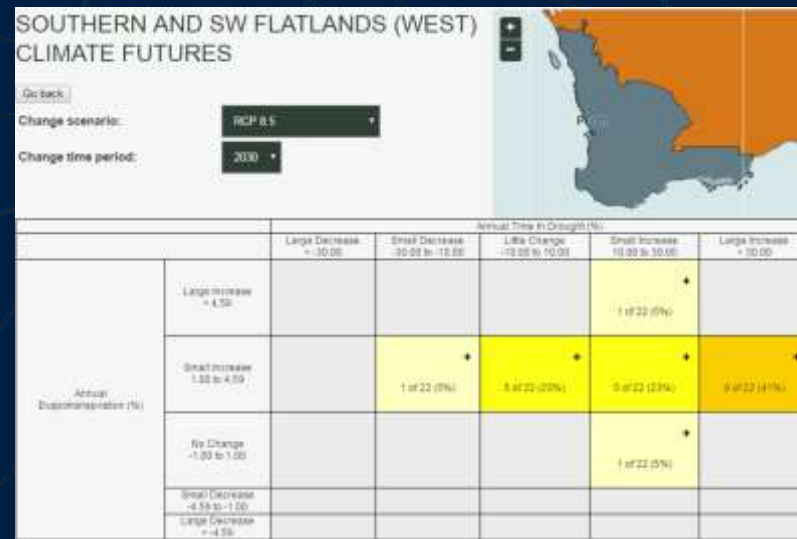
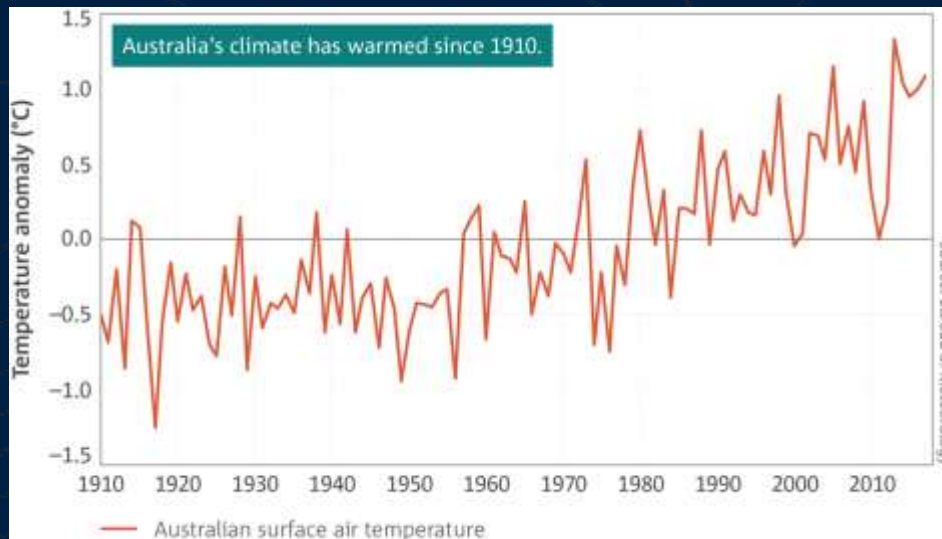


1. Shifting climate, shifting problems



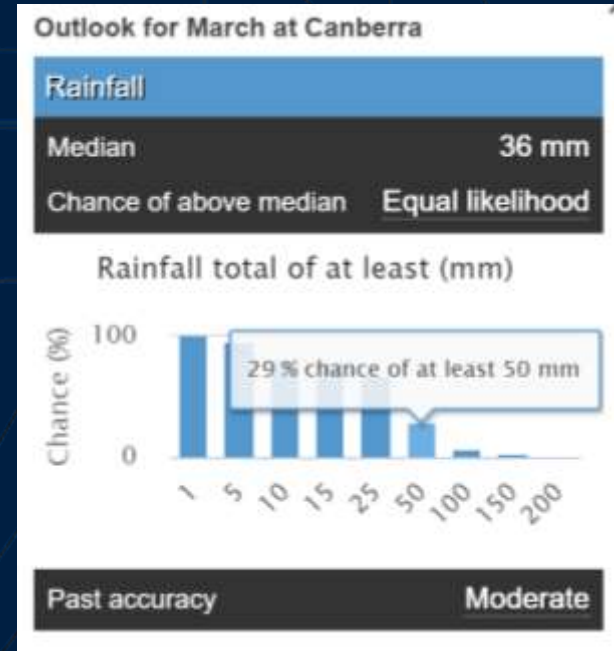
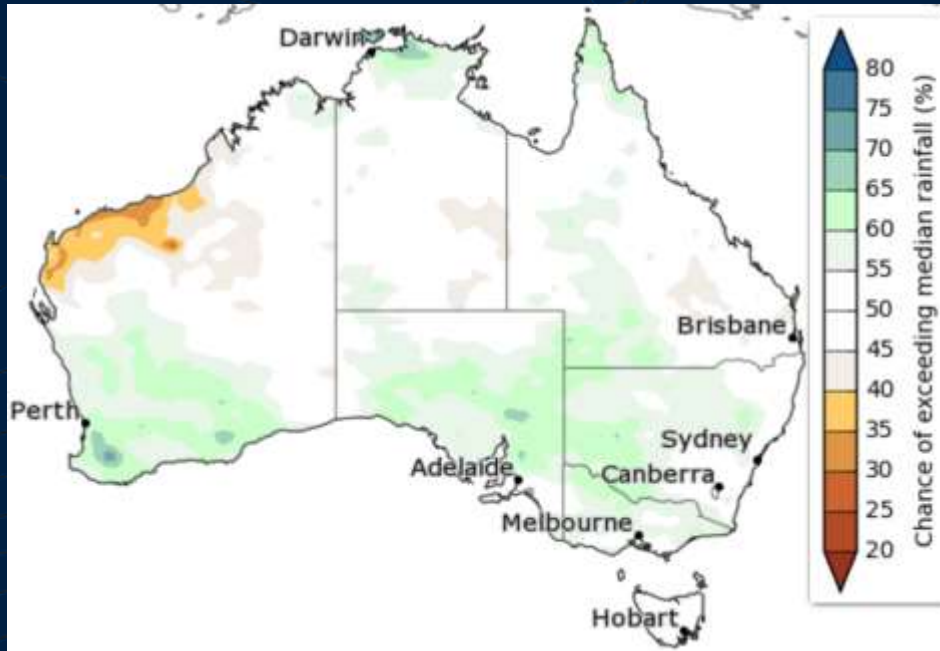
2. Tailoring for key decisions

- Strategic decision to be made: *Should I change my business model to focus on stock instead of crops?*
- Information required: *Will my crops be exposed to too many heatwaves or frosts during flowering, and/or will they spend too long in drought to generate sufficient yield?*



2. Tailoring for key decisions

- Tactical decision to be made: *Should I sell my cattle or hold on?*
- Information required: *What is the chance of getting enough rain next month for significant pasture growth (>50 mm within three days)?*



3. New alternatives to physical risk mitigation

- Rate of improvement of physical risk mitigation methods is equal to increasing disbenefits of climate change
- Alternative non-physical risk mitigation (e.g. insurance):
 - Is independent and complementary to physical methods; and
 - Opens opportunities to safely take bigger risks with bigger rewards; towards \$100b

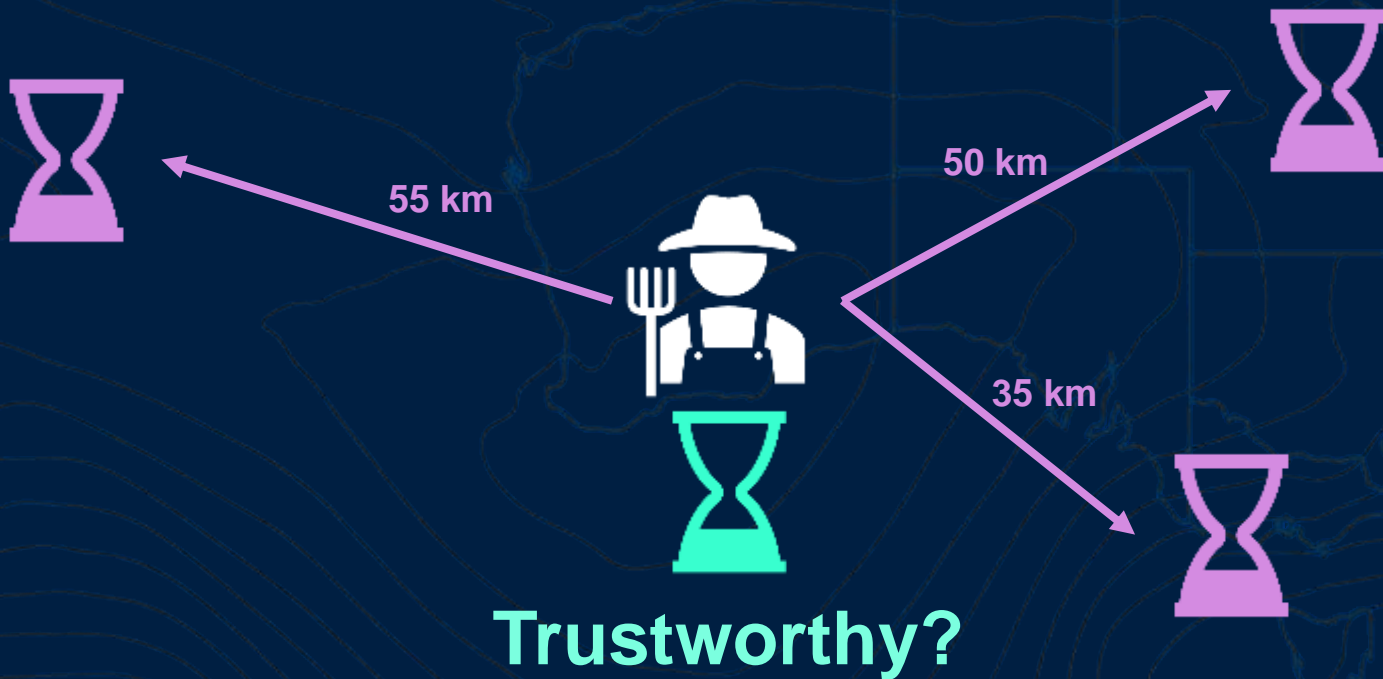
Insure: Wheat yield reduces by 10% for every degree above 25 degrees during flowering.

Hedge: Irrigated sugar cane producers highly sensitive to water prices; when rainfall is low, cost of production increases.

New opportunity: Biscuit wheat is highly profitable, though sprouts in the head. Producers plant a small portion of their crop to reduce financial volatility.

3. New alternatives to physical risk mitigation

- Opportunity under development: Trusted Private Automatic Weather Stations (TPAWS) as part of the National Drought Mission.



4. Don't forget!

- Climate change is presenting new problems which require new methods of management.
- Decision makers require new information tailored to their key decisions.
- Insurance provides opportunity for new profits, towards \$100b sector.