The development quandary featuring the “Swingometer”

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You are a city planner tasked with developing a new **low cost housing** area in Cape Town. The area in question is **low lying** and most winters at least some homes will experience flooding and **severe flooding affecting the whole area every 10 years** on average.

Using standard **low cost housing** designs you can afford to build **1000 homes** which will accommodate approximately 5000 people. The standard design home is poorly adapted to current climate (no insulation, vulnerable to flooding, etc.) but does provide a great improvement over typical informal accommodation.

An improved **medium cost house** design has been developed that incorporates various passive design elements (shading, adjoining walls, insulation, flood resilient foundations, etc.) However, using this design you will only be able to afford to build **700 homes** accommodating approximately 3500 people, leaving 1500 people living in informal accommodation.

Do you choose:

1000 homes using the standard house design

700 homes using the improved house design

1000 homes using the standard house design

700 homes using the improved house design

1000 homes using the standard house design
700 homes using the improved house design

IPCC SREX

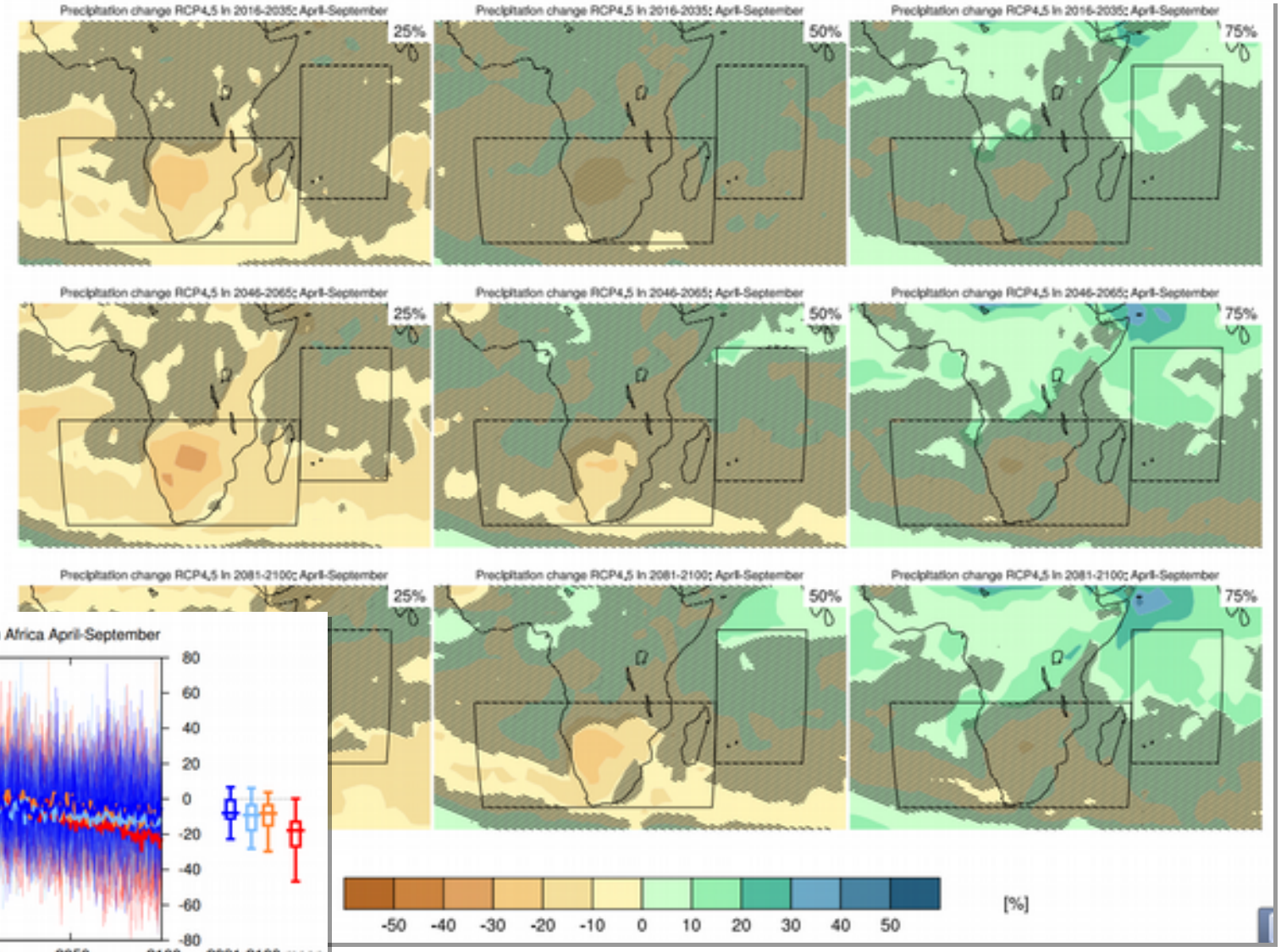
"It is likely that the frequency of heavy precipitation or the proportion of total rainfall from heavy rainfalls will increase in the 21st century over many areas of the globe."

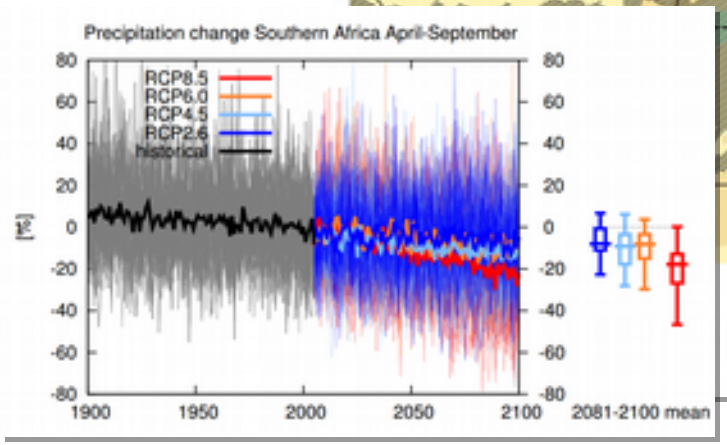
– page 113

1000 homes using the standard house design

700 homes using the improved house design

AR5 WG1: Annex 1 | Regional Atlas





1000 homes using the standard house design
700 homes using the improved house design

WC Government | Climate Change Strategy and Action Plan (2008/9)

Increased intensity of extreme events	✓ **Increased risk to human lives and health.** ✓ **Increased storm surge leading to coastal flooding, coastal erosion and damage** ✓ **to coastal infrastructure.** ✓ **Increased damage to coastal ecosystems.** ✓ **Increased soil erosion.** ✓ **Increased pressure on disaster relief systems**

1000 homes using the standard house design

700 homes using the improved house design

Contract a consultant

1000 homes using the standard house design
700 homes using the improved house design

A non-climatic stressor

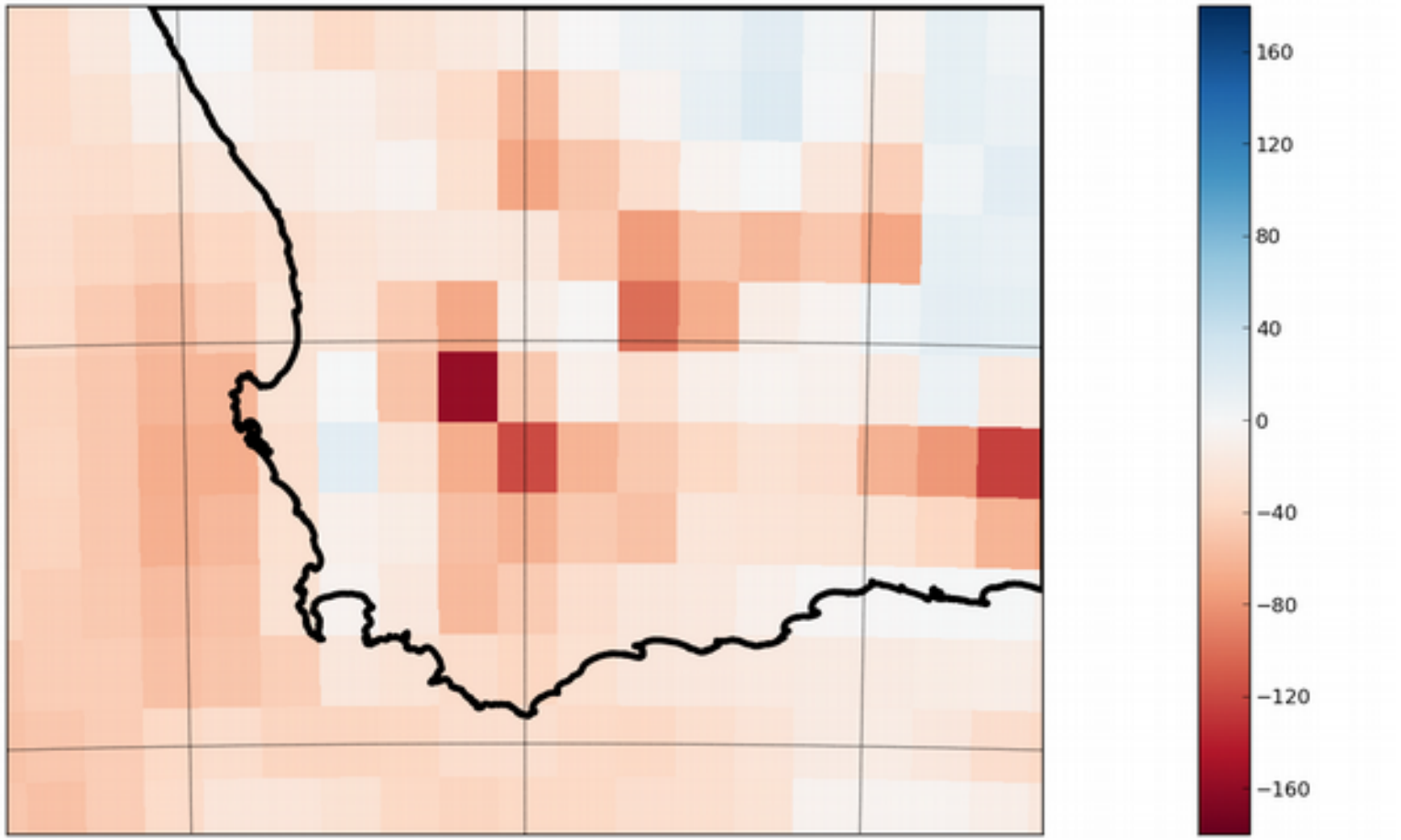
"With rapid urbanisation comes increased competition for urban land for housing, industry, commerce, and peri-urban agriculture. Increased competition leads to higher land prices which disadvantage the poor and marginalised. It is critical that low cost housing features prominently and urgently on the agenda of every African city planner." -

1000 homes using the standard house design

700 homes using the improved house design

CORDEX | High resolution projections for decision making

RCA4/MIROC5 50km projected changes in annual rainfall for 2031-2060



1000 homes using the standard house design

700 homes using the improved house design

Multi-model, downscaled projections for Cape Town Int. Airport