

PROTECTING HUMAN HEALTH AGAINST CLIMATE CHANGE IN AFRICA

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Science volunteer

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PROJECT OBJECTIVES

- Assess status and make recommendations on climate change and resilience in Africa
- Review evidence on climate change and health impacts in Africa
- Consider and assess adaptation and mitigation strategies
- Develop solution-based recommendations



Photos: CY Wright



PROJECT TEAM

Project Lead:
Prof Deoraj Caussy



Photo: Internet

The CCHH Team
will be supported
by NASAC
members from 28
countries and
external peer
review

Current project team from
several African countries



CURRENT REPORT

Main Chapters

Introduction to challenges of climate change and relevance to Africa

About the project

Known major health effects of climate change (current, future, recommendations)

- Direct, indirect (ecosystem change, economic change, societal change)
- Vulnerable populations and regions

What are the main adaptation and mitigation policy options?

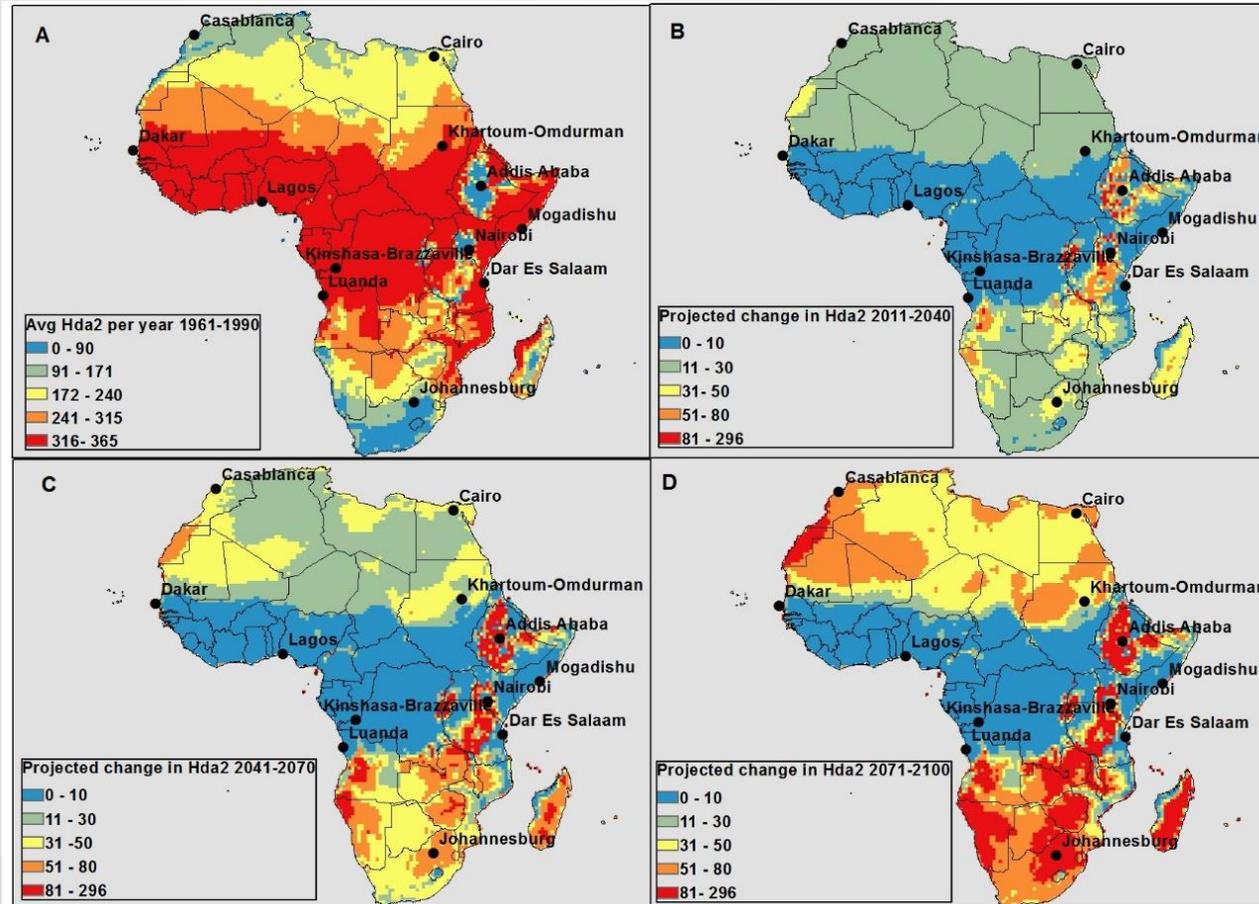
- e.g. NAPs, approaches to adaptation / mitigation, case studies

Conclusions and recommendations

- Using the evidence base for solutions



HIGHLIGHTS: RISING TEMPERATURES



CCAM model derived:

- (A) average number of Hda2 per year in present climate;
- (B) projected change in average number of Hda2 per year in 2011–2040 compared to 1961–1990;
- (C) projected change in average number of Hda2 per year in 2041–2070 compared to 1961–1990;
- (D) projected change in average number of Hda2 per year in 2071–2100 compared to 1961–1990.

Garland R, Matoaane M, Engelbrecht E, Bopape M-J, Landman W, Naidoo M, van der Merwe J and Wright CY. Regional projections of extreme apparent temperature days in Africa and the related potential risk to human health. *Int J Environ Res Public Health* 2015, 12(10): 12577-12604.

How to keep babies and children safe when it's hot

When the weather is hot, babies and young children should be kept in a cool, shady place, given enough clean, cool water to drink, and get plenty of rest. Babies and children have thin skins, and may easily suffer from sunburn. They should wear wide-brimmed hats that allow the air to move through them.

How to prevent heat illnesses

Heat illnesses, such as heat stroke, can be very serious and may even cause death. How to avoid heat illnesses:

1. Take hot weather warnings seriously
This is one of the best ways to prevent dehydration.
2. Drink lots of clean water
Breastfeeding moms: Babies who are being breastfed may need extra feeds in hot weather. You can give your baby small amounts of cool boiled water between feeds, especially if the baby is having other foods. Breastfeeding moms should also drink water.
Bottle fed babies: If you are bottle feeding your baby, you can give her some formula or small amounts of cool boiled water.
Children: Give children water to drink often throughout the day. Don't give any coffee or tea, sugary or fatty drinks, too much sugar, fatty or salty foods.
3. Rest
Help babies and children rest as much as possible, or participate in quiet activities such as reading stories and solving puzzles. They can rest indoors or outside, so long as they are in the shade. They should not do any strenuous physical exercises, if possible, between 11:00 and 1:00 on hot days.
4. Keep cool indoors
• Try to cook when it is cooler.
• Keep windows open but close curtains or blinds during the day.
• Make sure babies and children sleep in the coolest places.
5. Stay in shade outside
Keep babies and children in deep, cool shade when they are outside.
6. When you have to travel
It is best not to go on a journey when it is very hot. If you have to go, make sure your baby or child wears loose, light clothing and a wide-brimmed, breathable hat. Shading them with an umbrella may also help. Don't wrap or cover babies or young children with a blanket.
7. When in a vehicle
It gets much, much hotter inside a vehicle like a car, bus or taxi than outdoors.
• Never ever leave a baby, small child, pet or anyone in a parked vehicle – even with the windows open.
• Put a cloth up as a window if the sun is shining onto you and your baby. Do not cover babies – it may cause them to overheat.

Signs of heat illness

Serious signs of heat illness:

- unconscious
- irritable, restless and confused
- floppy body and no energy
- can't breathe easily
- dizzy
- sore head
- the skin spots on top of a baby's head (fontanelle) may be lower (sunken) than usual
- sunken 'soft spots', eyes or cheeks
- vomiting
- dry mouth or tongue
- thirsty at first, but as baby gets weaker he may drink less
- dry eye and baby or child doesn't have many tears when crying
- temperature going up but no sweating
- after skin has cooled, heat illness gets worse, skin becomes cool and moist
- skin is cool when you touch it, but then becomes hot and red
- fewer wet nappies than usual
- dark yellow or smelly urine
- muscle cramps in legs or stomach

Keep an eye out for signs of heat illness. If you think your baby or child is suffering from heat illness, get medical help as soon as possible.

Tiny red spots, like bitterns or pimples. This can be a heat rash. It is not a medical emergency.

What to do

If you see a baby (or anyone) showing signs of a heat illness, get medical advice. The baby or child may need to be treated at a hospital or clinic in the meantime:

- settle her in a cool place
- wet his clothes with cool water, or wet a cloth and wipe it on his skin
- talk with your baby or child in a calm way
- if your baby or child can still respond to you, try to give her something to drink
- give the baby plenty of breast milk or formula and, if she's 6 months or older, a little water
- don't give your baby or child medicine – let the healthcare workers decide what is best.

Tell people in your community about the signs of heat illnesses, and how to prevent them.

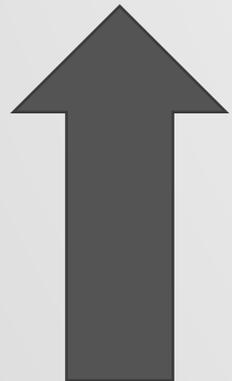


HIGHLIGHTS: HEAVY PRECIPITATION AND FLOODS

Coastal erosion in Congo Basin



Flood damage in DRC, Rwanda, Burundi



**Increase in
heavy rainfall
and flooding**



Photos: Draft NASAC report

HIGHLIGHTS: HOUSEHOLD AIR POLLUTION

In Africa, 600 000 annual deaths are attributed to exposure to indoor air pollution. A much larger number of people suffer from related acute and chronic respiratory diseases



A Case study: **Alternatives**

- Cleaner stove
- Cleaner heating device
- Ceiling installation
 - Solar cookers (wonderbag slow cookers)



Photos: A Mathee, CY Wright and Internet

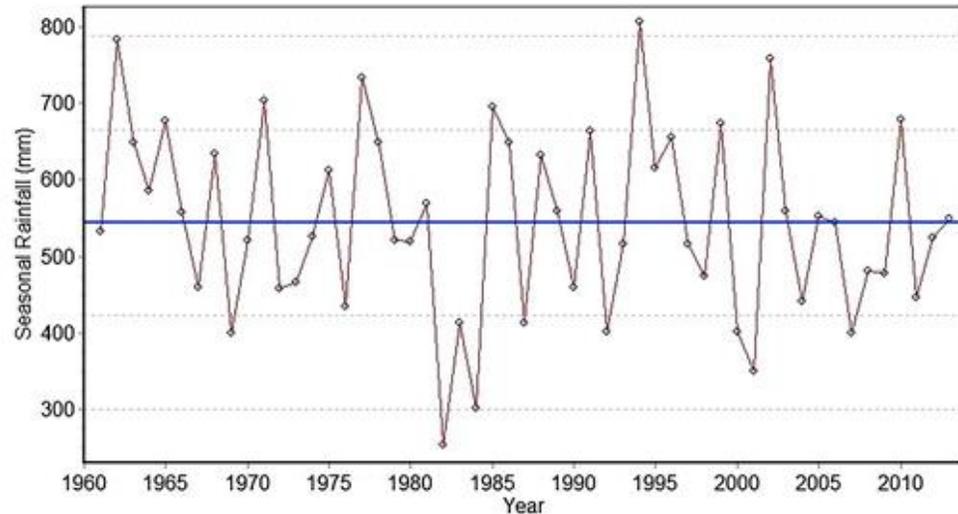
HIGHLIGHTS: CLIMATE SERVICES FOR AFRICAN AGRICULTURE



Looking backwards to
plan forwards

Figure 1. Example of graph showing historical seasonal rainfall totals: March – May total seasonal rainfall, Kisumu, Kenya.

Source: Data from Kenya Meteorological Department.



**Access
to data
is critical**

Key essential elements:

- Working with farmers and the agricultural sector
- Incorporate indigenous knowledge and know-how
- Think holistically about health impacts (heat stress, food insecurity, malnutrition)
- Difficult to overcome uncertainties in rainfall projections
- Co-production of solutions

DRAFT RECOMMENDATIONS

Detailed recommendations are given but here, one example is provided:

1. **Temperature rise: undertake a comprehensive health and environment climate change vulnerability assessment**
2. **Heavy rains and precipitation: regional planning**
3. **Storms: capacity building in early warning systems**
4. **Bush fires: monitoring, fire resistant**
5. **Zoonoses: embrace One Health**
6. **Vector-borne diseases: strengthen surveillance**
7. **Food and water-borne diseases: understand sensitivities**
8. **Non-Communicable Diseases: support collaborative research**
9. **Cataract: health promotion, WaSH**
10. **Household air pollution: clean energy interventions**
11. **Urban air quality: more monitoring**
12. **UV and ozone: health promotion**
13. **Vulnerable population and forced migration: strengthen health systems**



Photos: CY Wright

ACKNOWLEDGEMENTS



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*I thank NASAC for the opportunity to
present today*



Graphic: V Muskett for CY Wright

