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Documenting human responses to changes in weather and climate in Africa

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World Wildlife Fund
on behalf of the African Biodiversity
Collaborative Group



Thank you.



USAID

FROM THE AMERICAN PEOPLE

climate change affects people

people respond to climate change

those responses can degrade
ecosystems

degraded ecosystems affect people

Samburu, Kenya 2009



00.00

BBC NEWS



02.13

Samburu, Kenya 2010



Samburu National Reserve
Kenya
March 2010

Footage: Save the Elephants



Ewaso Lions

flood impacts in Samburu



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tourist lodges destroyed



SBhalla/STE

bridge and roads demolished



livelihoods lost, increased conflict, increased poaching

Amazonas, Brazil 2010



A photograph of a rhinoceros in a swampy, forested area. The rhino is partially submerged in water, surrounded by dense green vegetation and trees. The scene is captured in a natural, outdoor setting.

Assam, India 2012

At least two rhinos are confirmed to be poached outside KNP as they strayed out. One rhino (adult female) was poached in Pobitora Wildlife Sanctuary on 5th July.

Documenting unplanned responses to climate change in Africa

1. How are people in rural Africa responding to extreme events and chronic change in the absence of outside technical and financial assistance or formal planning?
2. Are these responses effective?
3. How do these responses affect ecosystems?
4. What are the barriers to more effective responses?
5. What can we learn from their

African Biodiversity Collaborative Group

Climate Change Adaptation Team

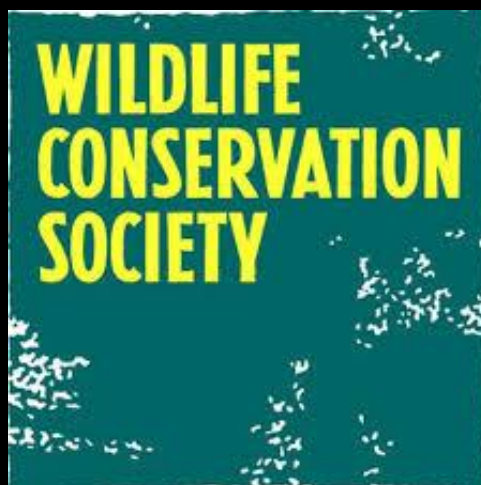
Camila Donatti
David Hole



Chris Zganjar



Dan Segan
James Watson



Nikhil Advani
Shaun Martin



Adaptation to Climate Change

UNPLANNED

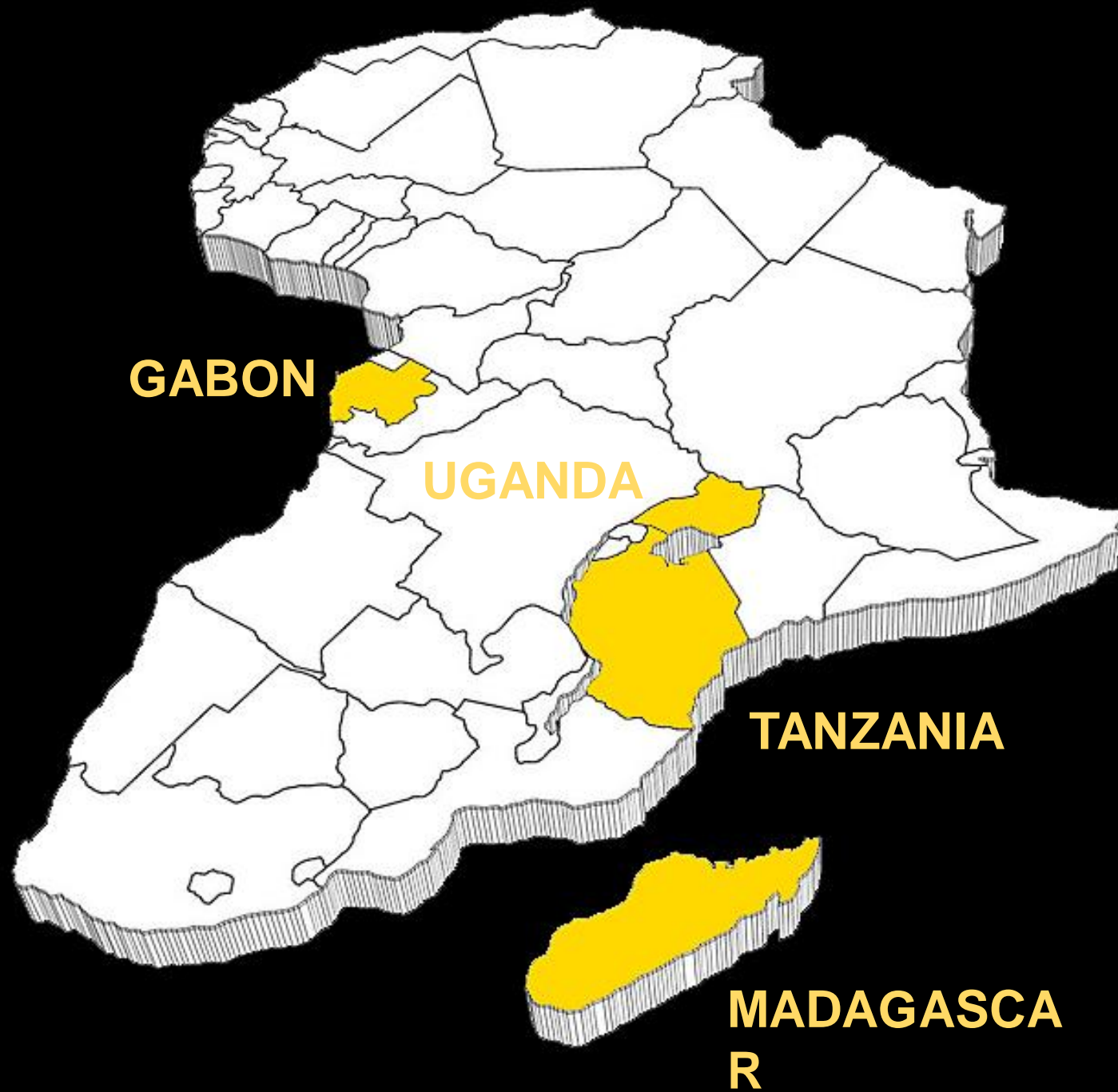
coping: reactive, short-term survival strategies that do not reduce underlying vulnerabilities (selling off assets, poaching)

autonomous: informal strategies in response to observed changes that have the potential to reduce underlying vulnerability

(switching crops)

PLANNED

anticipatory: formal, proactive strategies to reduce vulnerability to observed and future changes that often require enabling policies, financial and technical resources (irrigation)



GABON

UGANDA

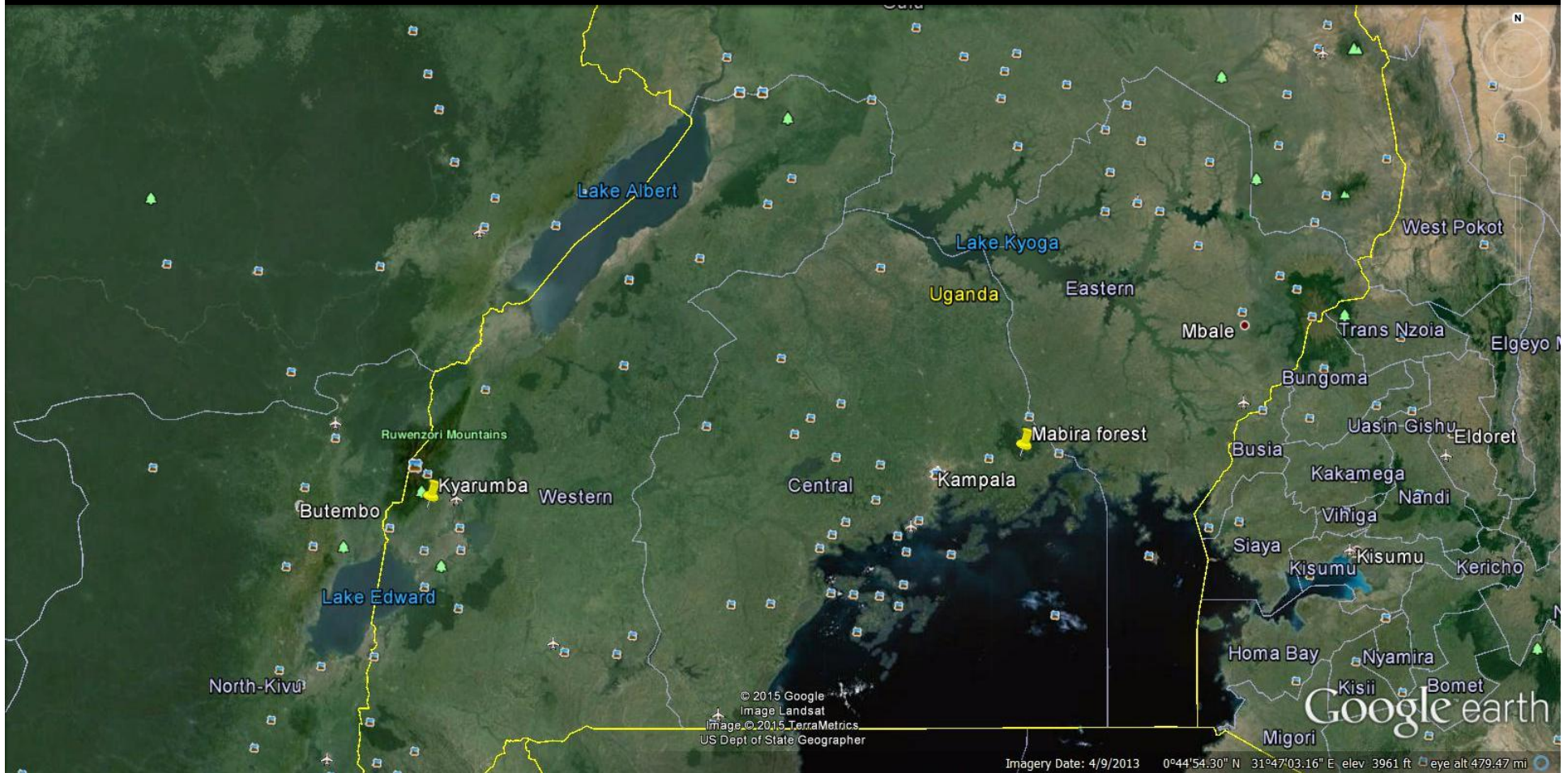
TANZANIA

**MADAGASCA
R**

Key Findings

1. All communities observed changes in climate and weather and have been negatively impacted.
2. All communities have responded with coping and autonomous adaptation strategies.
3. All communities sited barriers to more effective (planned) responses.
4. Unplanned responses have led to negative impacts on the local environment in all locations.

Uganda



Kyarumba, Western Uganda



Key Findings - Kyarumba

- Increased flooding
- Changing seasonality of rainfall
- Warmer temperatures
- Plant trees along the rivers edge
- Move further away from the river
- Selection for heat-tolerant crops
- Weather system installed

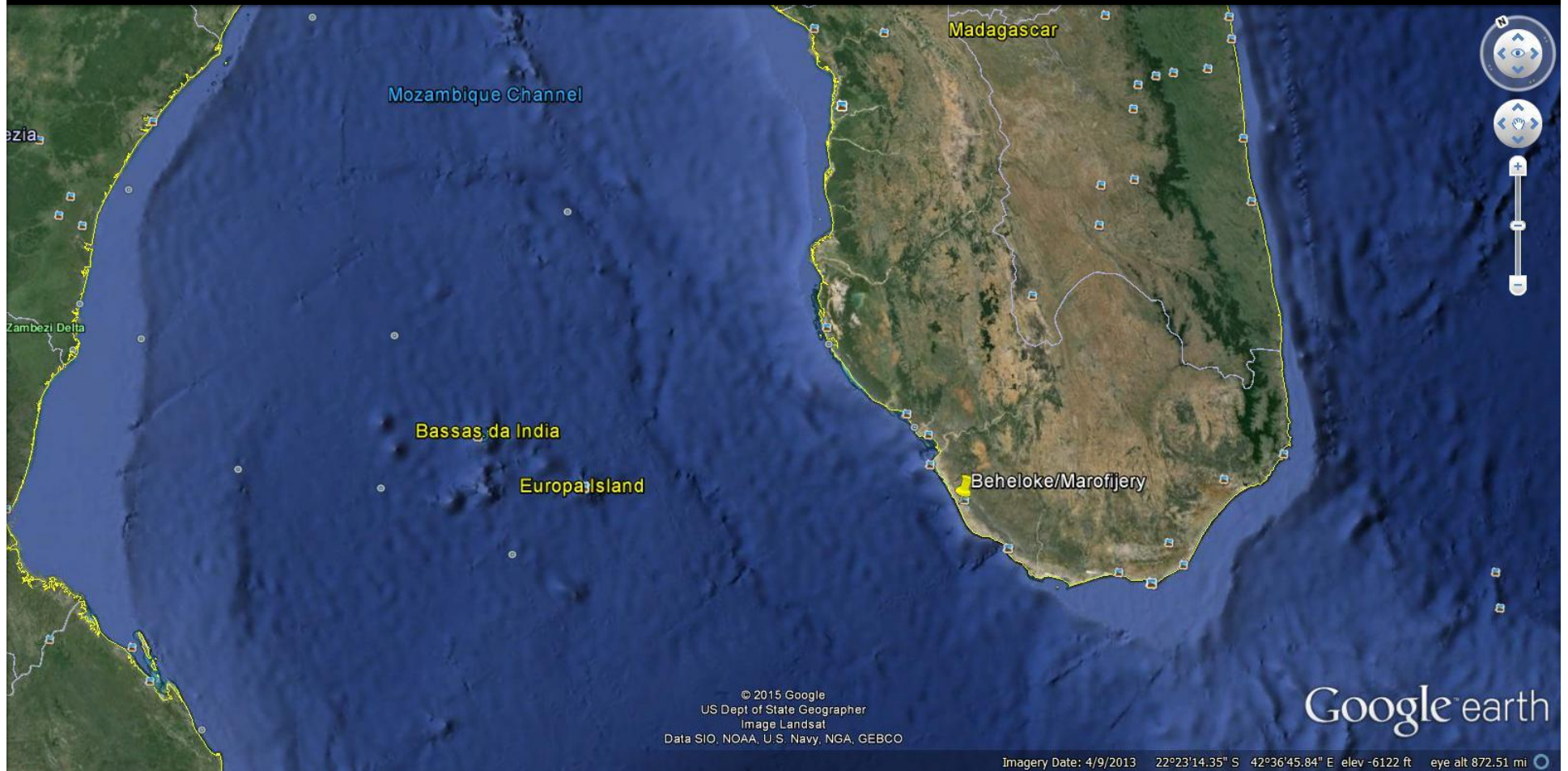
Mabira forest, Eastern Uganda



Key Findings – Mabira forest

- Changing seasonality of rainfall
- Coffee/banana disease
- Sterilize cutting tools
- Switch from *C. arabica* to *C. robusta*
- Less wildlife

Madagascar



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US Dept of State Geographer
Image Landsat
Data SIO, NOAA, U.S. Navy, NGA, GEBCO

Google earth

Imagery Date: 4/9/2013 22°23'14.35" S 42°36'45.84" E elev -6122 ft eye alt 872.51 mi

Beheloke/Marofijery, SW Madagascar



Key Findings – SW Madagascar

- More frequent, intense, cyclones
- Changing seasonality of rainfall
- Poor crop harvest
- Switch from farming to fishing
- Harvest wild plants
- Wildlife has moved away from the coast
- Damage to corals

Adaptation strategies

Reactive responses (coping)

- Gathering wild plants and animals
- Selling assets

Reactive responses (adaptation)

- Conservation agriculture and land management
- Changing farming practices
- Livelihood diversification
- Migration

Planned adaptation

- Improved technology
- Subsidies

Anticipatory adaptation

- Weather forecasts and early warning systems

Barriers to adaptation

- Lack of access to finance and credit
- Lack of access to information and technical know how
- Land tenure

Challenges for Conservation and Development

1. Unplanned responses and even suggested planned responses often have negative consequences for biodiversity/ecosystems. How can we help people in ways that support rather than harm ecosystems?
2. People in the same communities can perceive changes differently. How do we accommodate this in planning?
3. We can learn a lot from traditional knowledge and techniques. But how do we use traditional knowledge while acknowledging the need to think and do things differently under unprecedented change?

What's Next?

1. Scale-up research in many more locations throughout Africa (and the world)
2. Look for useful patterns in behavior and responses that can inform policy and practice
3. Raise awareness of issues in conservation and development community
4. Implement solutions

Questions?



**WILDLIFE
CONSERVATION
SOCIETY**

The logo for the Wildlife Conservation Society features the words "WILDLIFE", "CONSERVATION", and "SOCIETY" stacked in a bold, yellow, sans-serif, all-caps font. The text is set against a dark teal background with a white, textured pattern resembling splatters or snow.