A person in a small boat on a calm river at sunset, with trees and a small hut in the background.

# **Anticipating Disaster: Local Dependence on Formal Climate Information vs. Traditional Ways of Knowing**

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# Overview of Presentation

Introduction

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# Climate Trends & Anticipated Impacts on Southern Zambia



Image Left: Map of Zambia including Southern Province

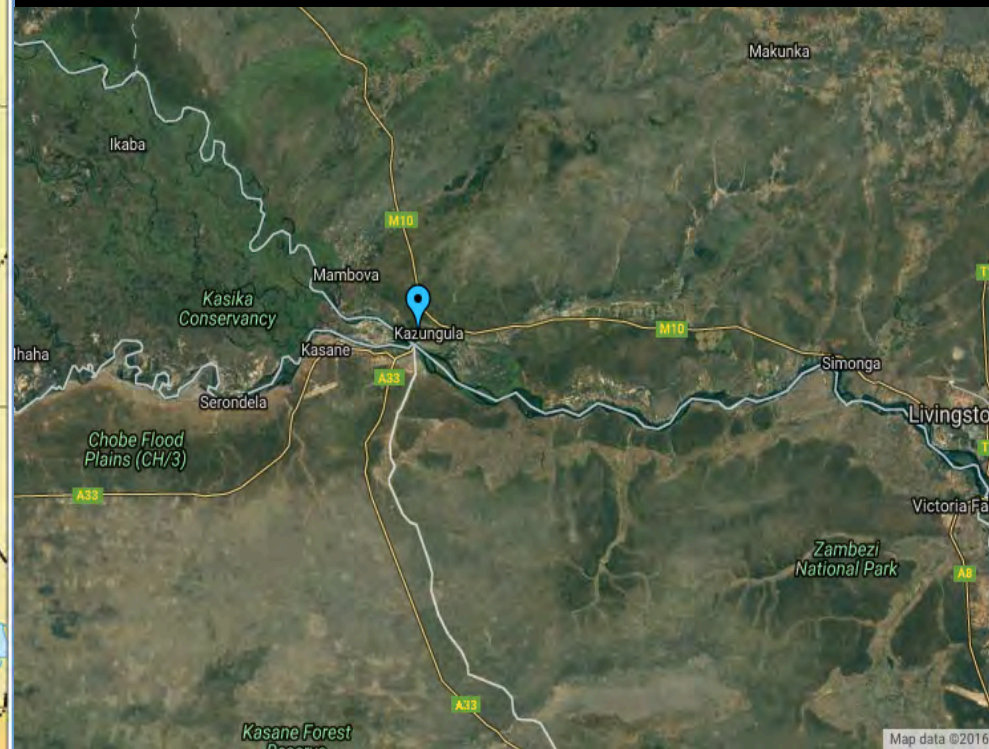


Image Right. Map of Kazungula District, Southern Zambia



# Research Objectives & Methodology



1 current barriers in coping with and  
ing to climate-induced disasters  
opportunities to improve access to early  
ings and enhance local preparedness

- Two weeks of data collection (July 20
- Interviews, focus groups, participant observation, and site visits



# Findings & Analysis for Climate-Induced Disasters Impacting Communities

Droughts



Water-stressed residents in Kawewa draw drinking water and irrigate their fields.



# Findings & Analysis for Climate-Induced Disasters Impacting Communities

## Floods



In the fishing village of Simalaha, residents illustrate water levels during the 2006 floods.



# Local Coping Mechanisms & Adaptation Strategies



## **Agricultural Adaptive Strategies**

- **Timing of Planting**
- **Crop selection**
- **Keeping fields in upland/lowland**
- **Earthen ridges and furrows**

## **Temporary or Seasonal Relocation**

## **Structural Reinforcement**

houses, even those constructed on earthen mounts, often suffer irreparable damage during floods.

# Local Access to Formal Weather & Climate Information

via Meteorology  
Department (ZMD)'s  
Local Advisories:  
- 3-month forecasts  
- 7-day forecasts  
- Daily forecasts  
- Extreme Weather  
Advisories



**Image:** Automatic weather station in Sikaunzwe, which sends data directly to the ZMD but is not disseminated locally.



# Uses and Limits of Formal Climate and Weather Information







# Traditional Mechanisms Predicting Floods & Drought

## Seasonal Indicators

- Trees (flowers, fruit, leaves)

## More Immediate Indicators

- Clouds and Wind
- Movements of Birds
- Presence of Cobwebs in the



# Formal Data vs. Traditional Ways of Knowing





# Status of Formal Flood Early Warning Systems (EWS)

Dissemination of ZMD-prepared forecasts and extreme weather advisories  
Interventions to establish community-based EWS after 2006 & 2008 floods



# Existing Informal Community-Based EWS



Image: Community meetings provide an efficient avenue for rapidly communicating early warnings.



Examples of  
Formal  
Communication  
Structures for  
Managing  
Local  
Information  
between  
Communities





commendations



Opportunity  
for Improvement  
Community  
Based EV

Image: Major flood  
from the 2008 flood  
Kasaya Bridge.



Conclusion





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# Questions?

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Full Report, Blog and Photo  
Gallery available at:

<http://sciencepolicy.colorado.edu/students/redcross/gladfelter>