

# Local Community Perceptions of Change and Climate Variability in Tropical Forests of Papua (Indonesia)

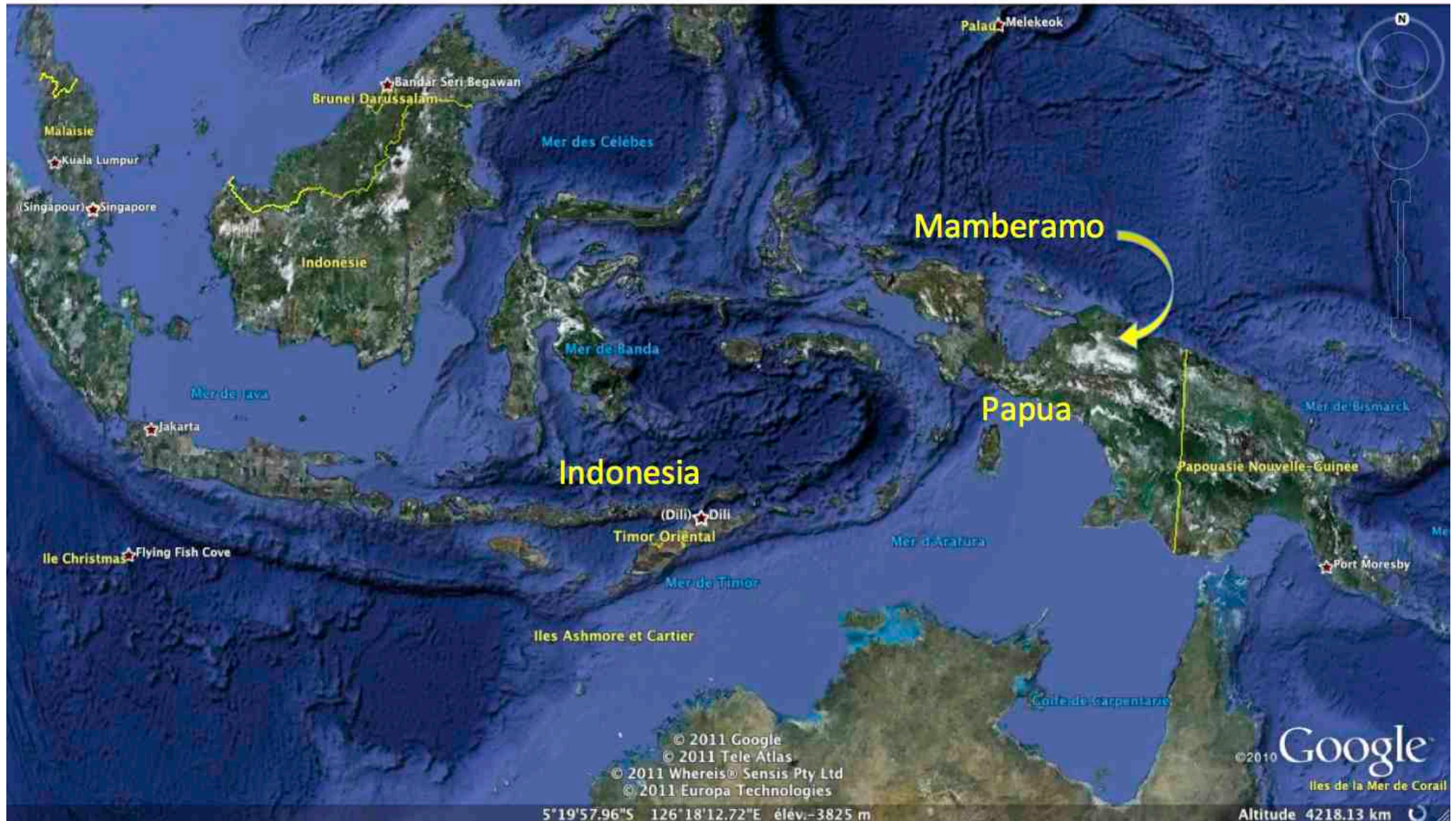


ICE 2012, Montpellier, 21-25 May 2012

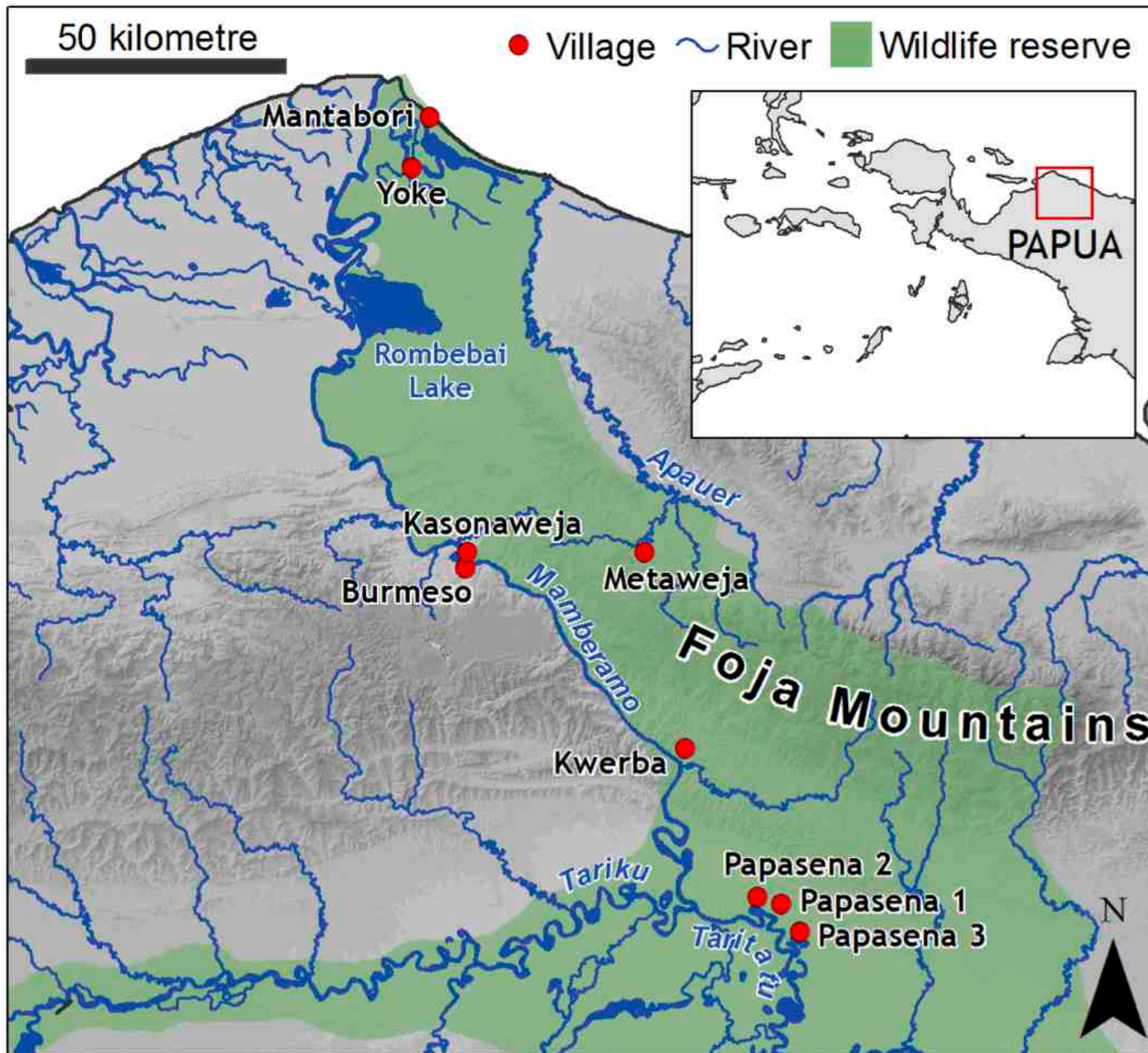
Manuel Boissière, Bruno Locatelli, Douglas Sheil, Michael Padmanaba , Ermayanti



# Site description



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## Some numbers:

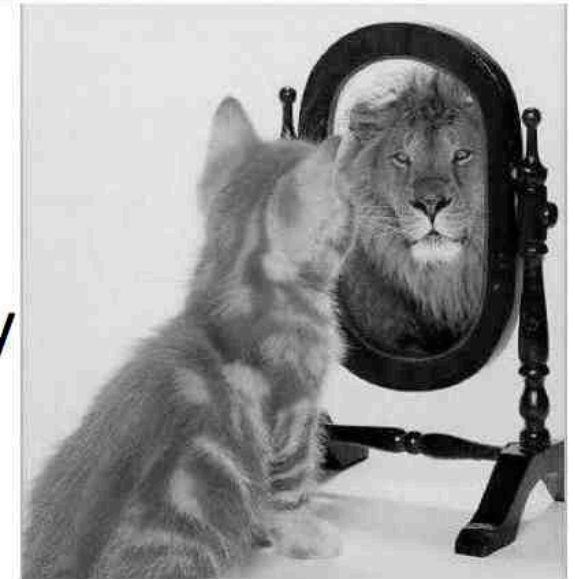
- Mamberamo Raya Regency: **2,8 million hectare**
- **90% natural forest** (swamp, montane, mangrove, lowland)
- Mamberamo-Foja Wildlife Reserve: **+ - 2 million hectares**
- Population: **about 19,000 inhabitants**, cultivators, hunter gatherers, sago collectors
- Threats: logging (>600,000 ha), coal mining project, dam project

# Introduction

- Why questions on perception of CC matter?
- What differences between **scientific** and **local** knowledge about seasonality, climate variability and climate?

=> **Some definitions are necessary**

- **Seasonality** = normal variation in weather during an average year
- **Climate variability** = deviation from average
- **Climate change** = long-term trend in climate, from decades to millions of years.

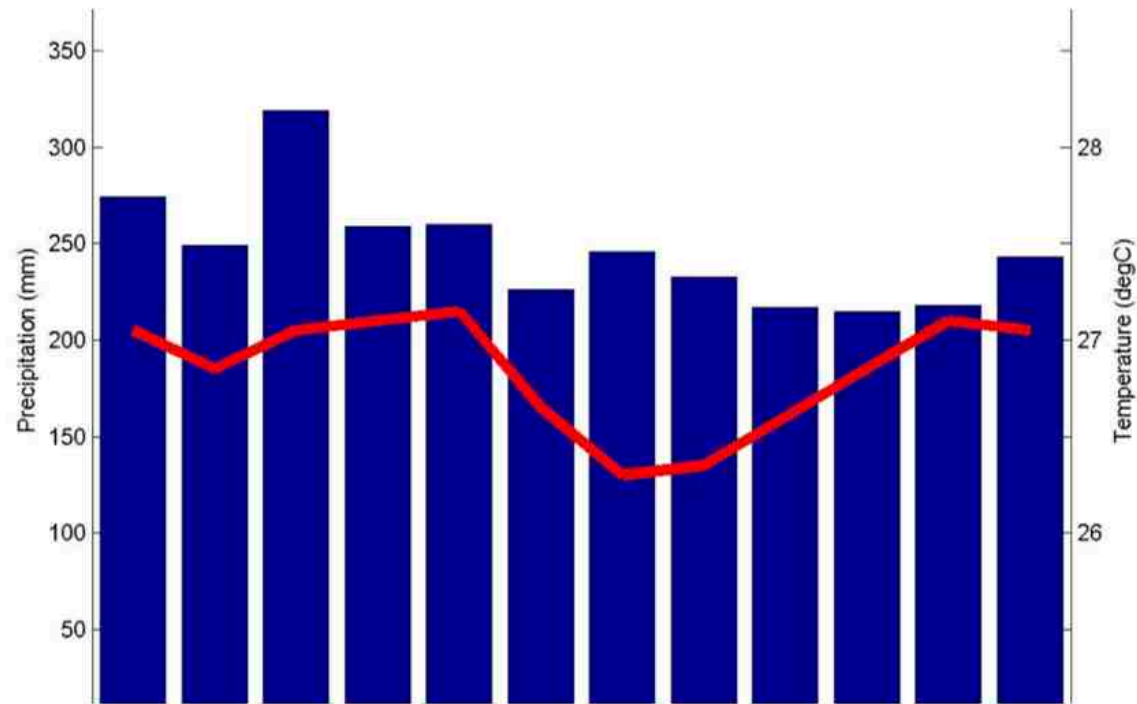


# Methods

- FGD part of a broader research
- 4 groups of women, men of different age per village
- Household surveys
- Climatic data: no local meteorological station, database WorldClimCL25 (mean climate based on interpolation of weather station data)



# Seasonality



		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Papasena	Perception	Blue	Blue	Blue	Blue	Blue	White	Orange	Orange	Orange	White	White	Blue
	Climate data	Blue	Blue	Blue	Blue	White	Orange	Orange	Orange	Orange	Orange	White	White
Kwerba	Perception	Blue	Orange	Orange	Blue	White	White	White	Orange	Orange	Orange	Orange	Orange
	Climate data	Blue	White	Blue	White	White	White	White	Orange	Orange	Orange	Orange	White
Burmeso	Perception	White	White	White	White	White	Orange	Orange	Orange	White	Blue	Blue	Blue
	Climate data	Blue	White	Blue	White	White	White	White	Orange	Orange	Orange	Orange	White
Metaweja	Perception	Blue	White	Orange	Orange	Orange	White	White	White	Orange	Orange	Blue	Blue
	Climate data	Blue	White	Blue	White	White	White	White	Orange	Orange	Orange	Orange	White
Yoke	Perception	Blue	Blue	Blue	Orange	Orange	Orange	Orange	Orange	Orange	Blue	Blue	Blue
	Climate data	Blue	White	Blue	White	Blue	White	White	Orange	Orange	Orange	Orange	White

Blue = wet  
 Orange = dry  
 White = unclear

# Climate variability

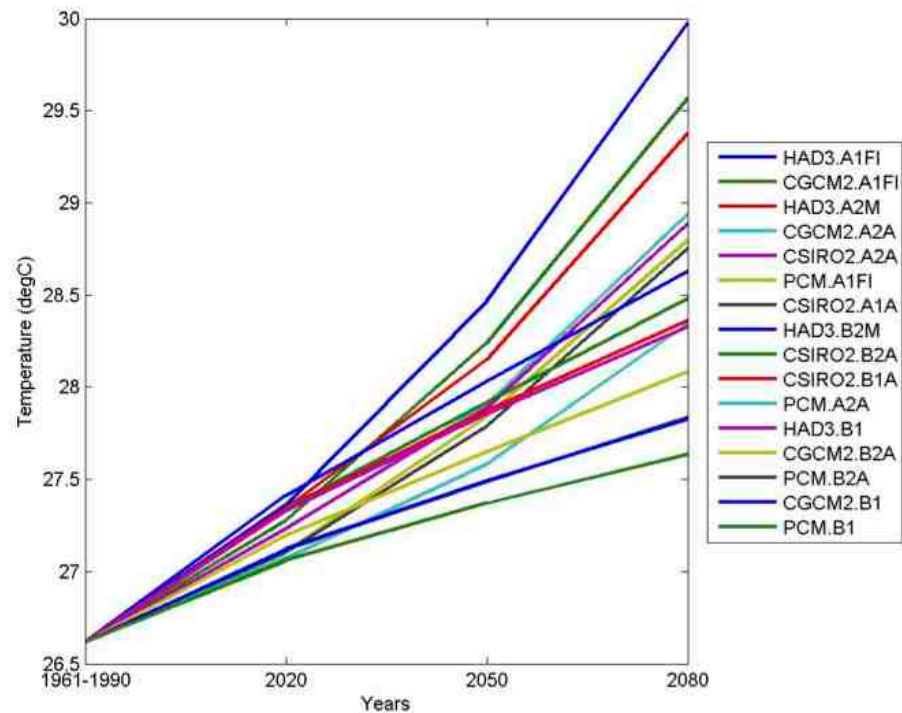
- Recorded inter-annual variability is relatively minor.
- **Precipitation/temperature:** lower coefficient of inter-annual variation than 70%/95% of other places in the world with similar climate.
- **Local people:** three major events related to climate variability in the last 10 years: extreme heat, strong winds, and flash floods.



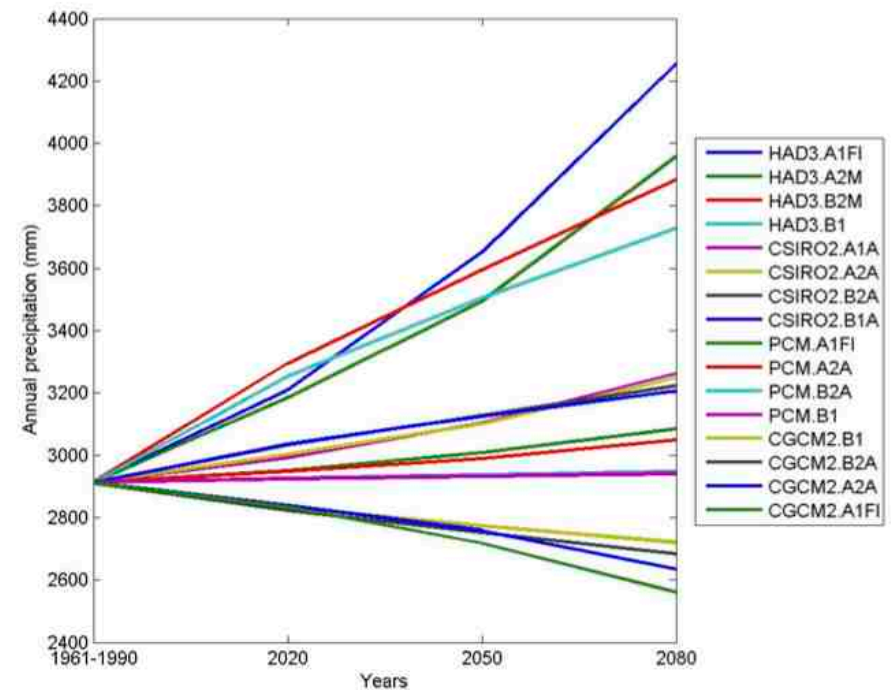
# Future changes

## Climate Models

Temperatures: Increasing



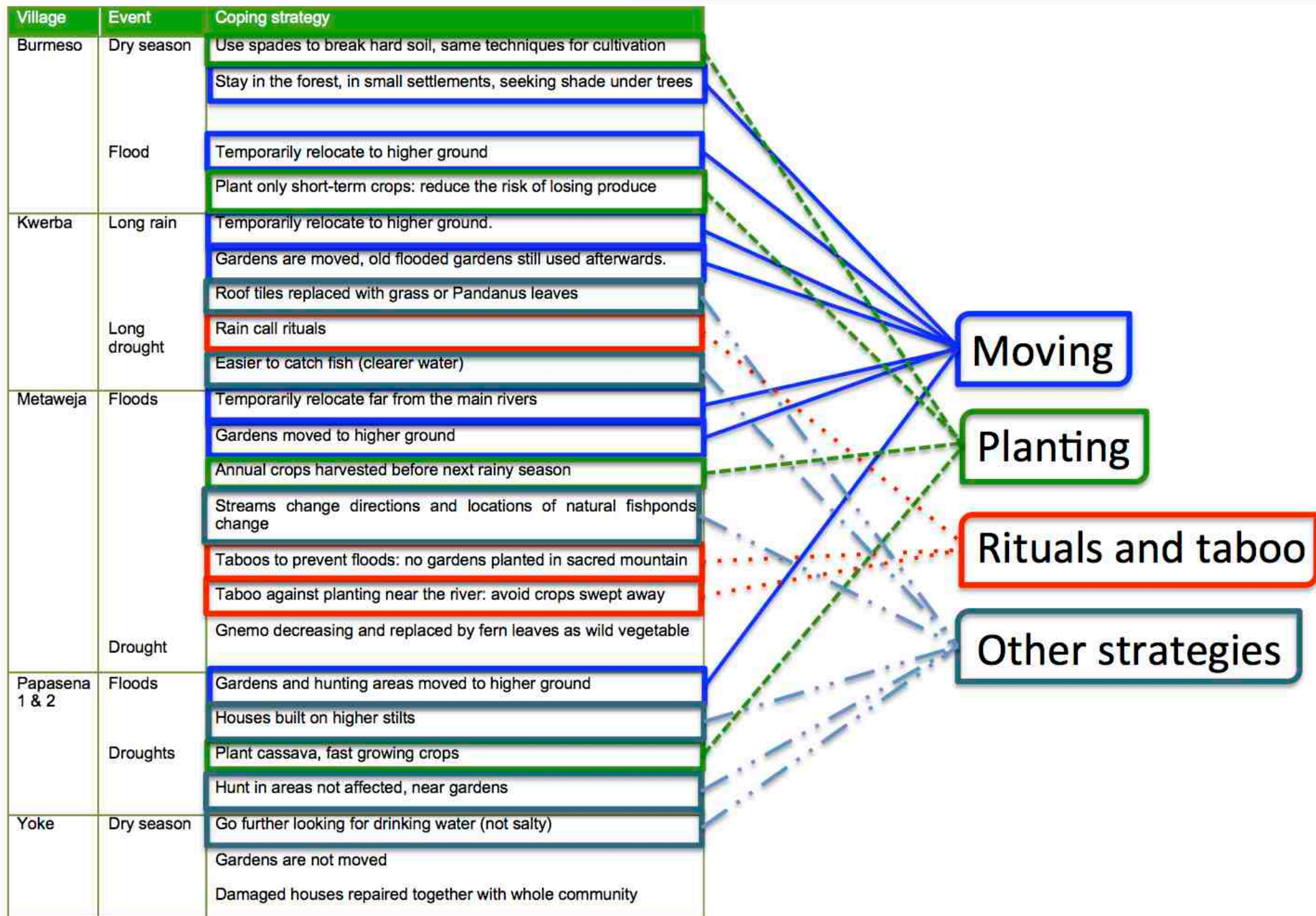
Annual precipitations: ?



**Local Perception: No perceived change**

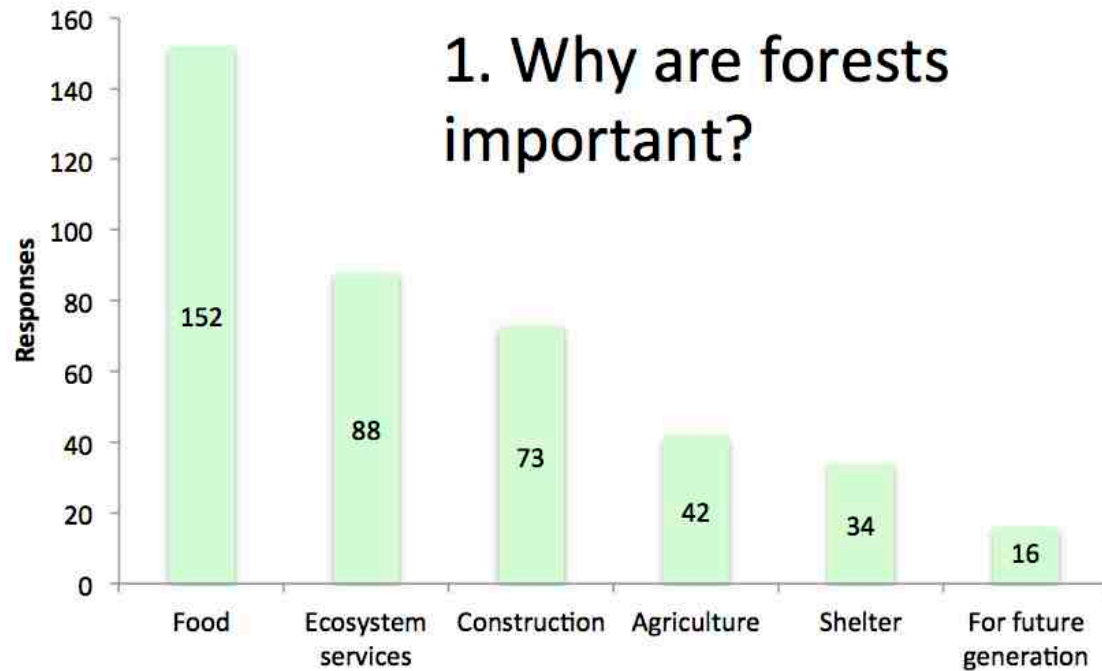


# How do people adapt to climatic events?

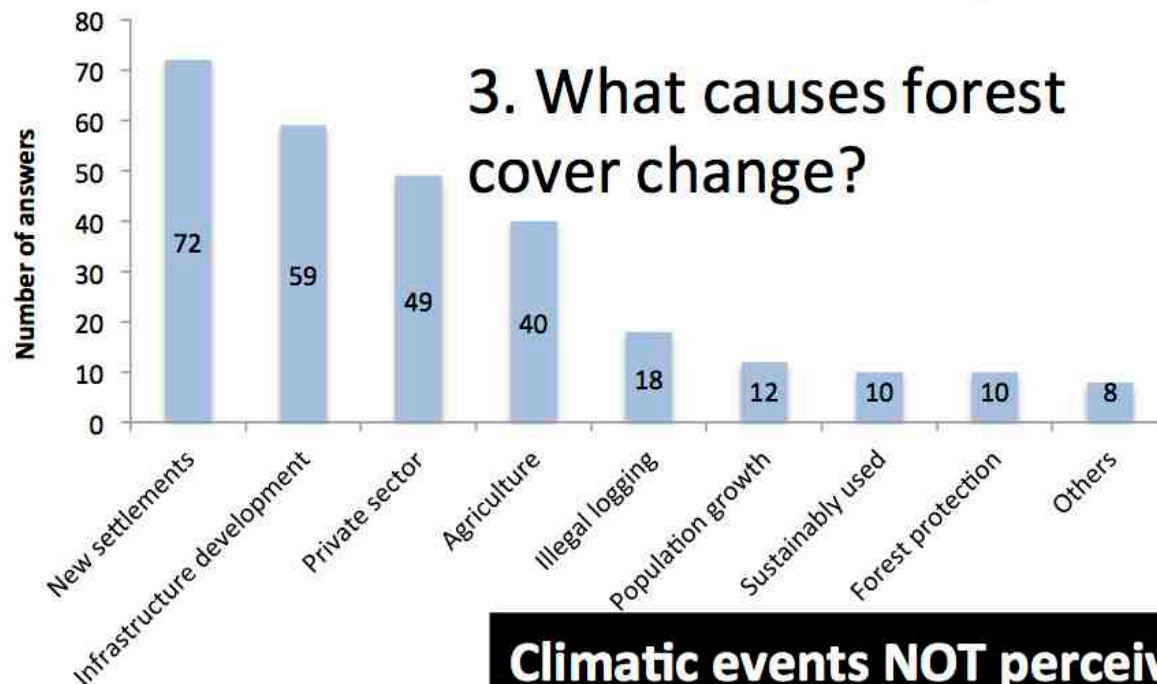


# Beyond climate: perception of other changes

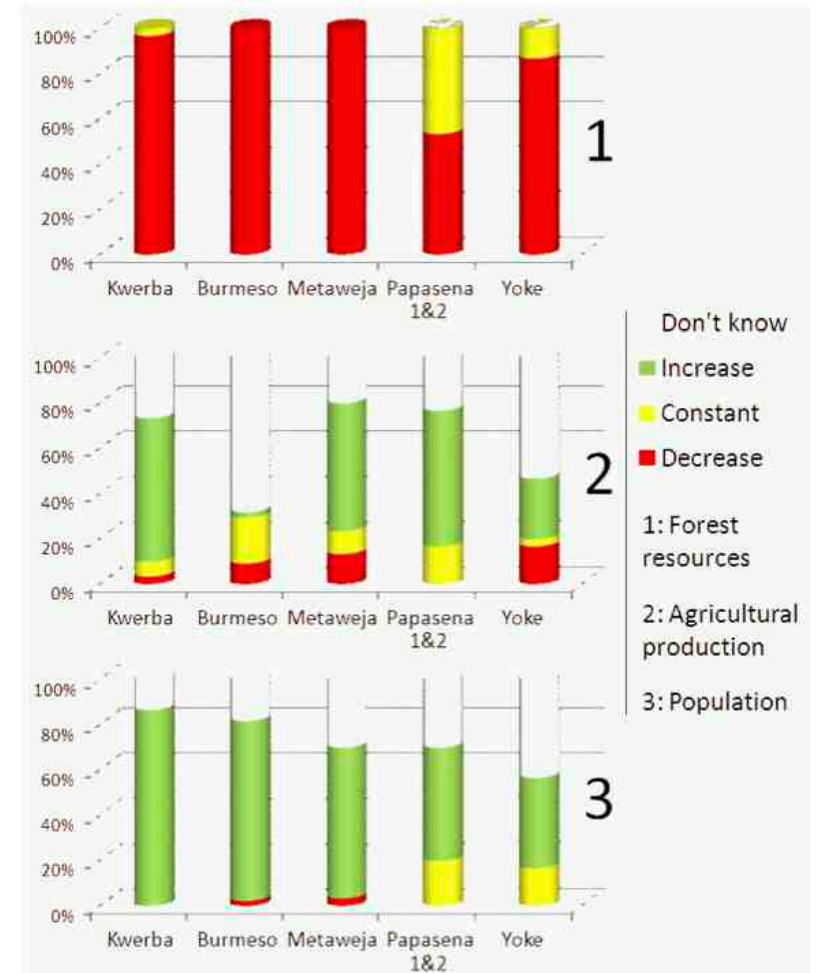
1. Why are forests important?



3. What causes forest cover change?



2. How are forest areas changing?



**Climatic events NOT perceived cause of forest cover change**

# Discussion & conclusion

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- **Meteorological data:** general information on climate variability.
- **Local people:** more detailed and locally relevant information on changes.
- They react to changes that does not include “climate change” => respond to **climate variability** and to **non climatic events** (economic, political)
- Local knowledge = **complementary source of information** for analysing extreme events (floods and droughts), and consequences.
- **Future research and adaptation programs** should use the similarities between local and technical knowledge (engagement in common activities) and the gaps as direction for further clarification.



# Thank you

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