



Berlin Summit
for EVE

**« Potentials impacts of EVE on the Global South =
Provision of better climate information services
based on more efficient modelling approach »**

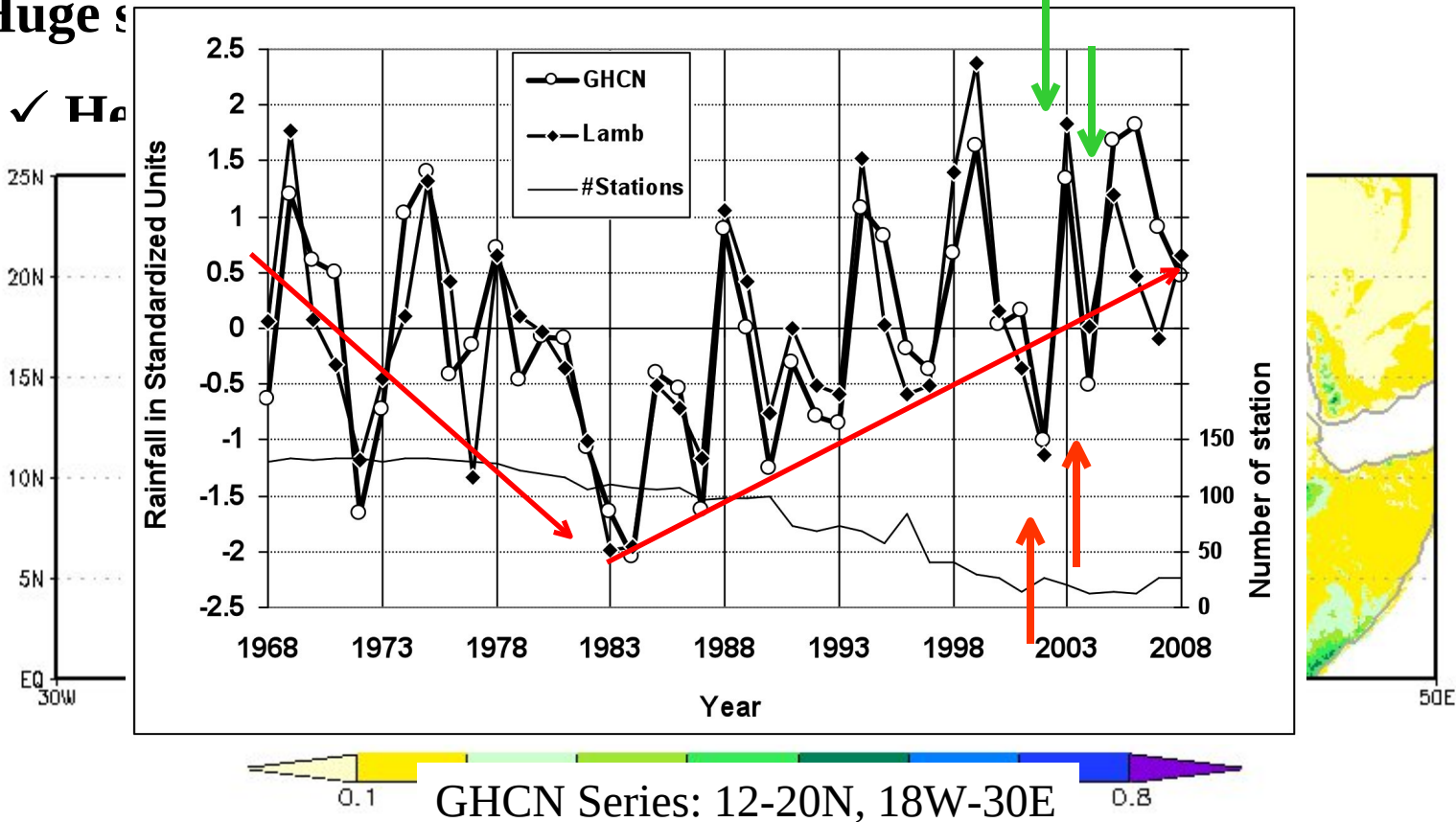


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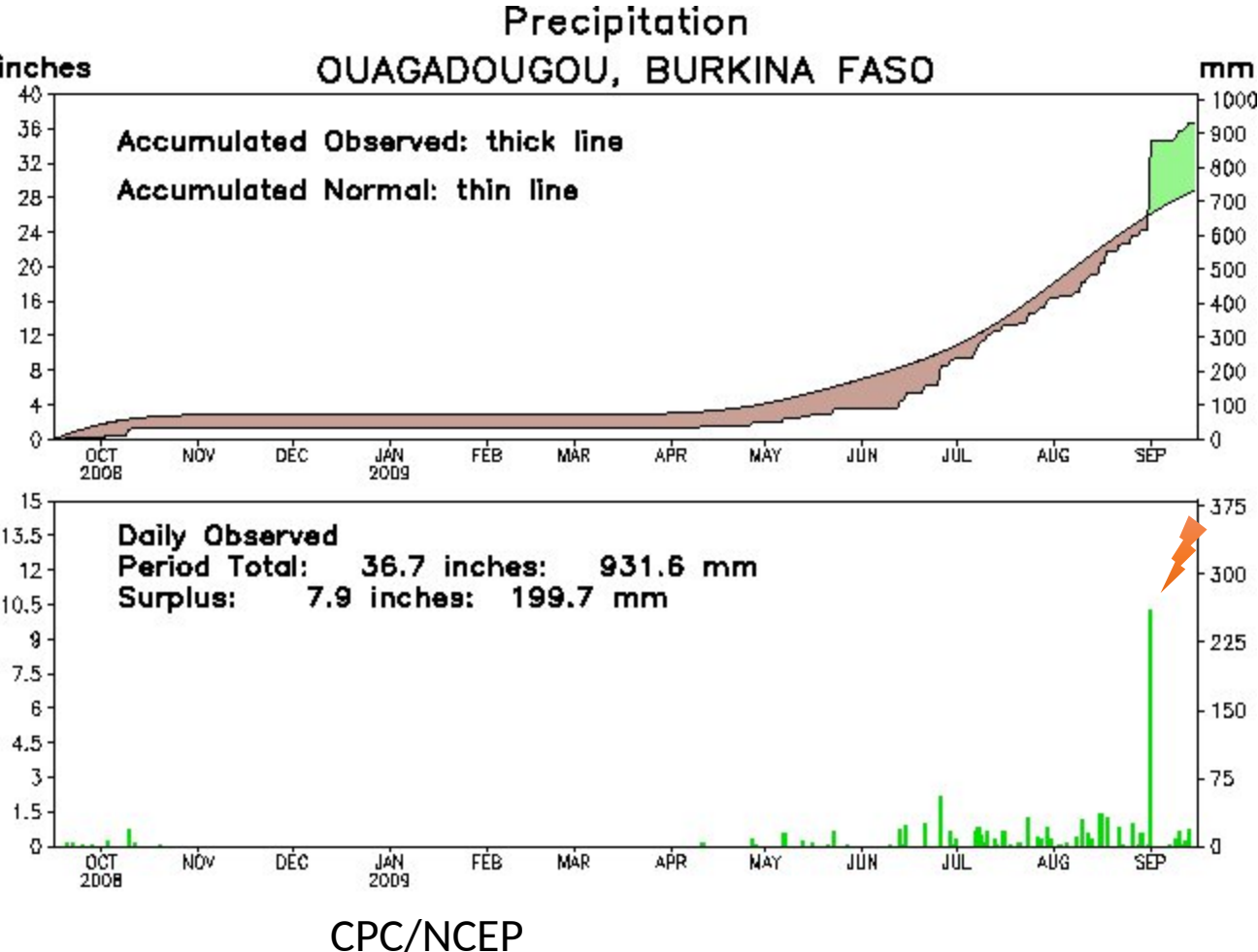
THE SAHEL IN AFRICA

- ✓ Short rainy season : 4-5 months per year (activities related)
- ✓ Strong climate variability (one of the strongest in the world and for all time scales)
- ✓ Huge s



in, storm

Strong intra-seasonal variability (extreme events)



on 1 September 2009, **263mm fell in 12 hours**, representing 36% of the area's annual mean precipitation is 722 mm (1993–2010 annual mean), and **86% of the total monthly** precipitation in September 2009. **flooding and widespread displacement** within and around the capital, Ouagadougou. Over **180,000 people** were severely affected, about **41 people** died and **33,172 houses** completely destroyed.

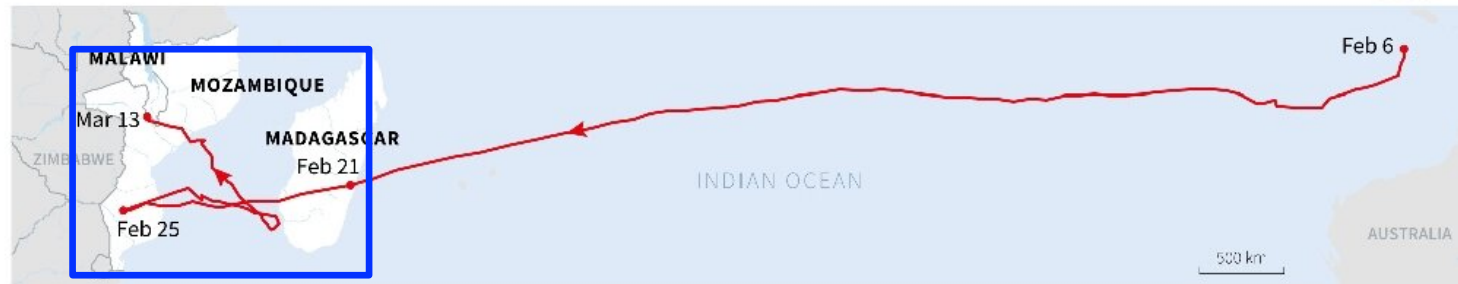
One single event can change the whole story

Cyclone Freddy (February and March 2023)

Freddy, an exceptional tropical cyclone

The cyclone, characterised by unusual longevity, has torn across southern Africa twice

— Freddy's observed trajectory



Source: World Meteorological Organization

Map data: Natural Earth

AFP

<https://phys.org/news/2023-03-cyclone-freddy-eye-storm.html>

Nation/Territory	Fatalities	Injuries	Affected
Mozambique	198 ^{[95][96]}	280[97]	≥1,074,970[96]
Réunion	0	0	≥25,000
Zimbabwe	2[98]	0	—
Madagascar	17[84]	—	299,000[84]
Mauritius	1[91]	0	2,500[94]
Malawi	1,216 ^{[86][87][88]}	1,724[89]	>500,000[90]
Totals:	1,434	2,004	≥1,712,987

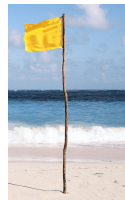
https://en.wikipedia.org/wiki/Cyclone_Freddy

REACHING THE LAST MILES (EWS4All)

END USERS ORGANISATION

- o CLPA
- o ORGANISATIONS PAYSANNES
- o GTP
- o FAO (appli mobile)
- o Naatal Mbay
- o DPM/DPSP – HASSMAR
- o DPC
- o Comités de Veille (St-Louis et Mbour)

Plateforme de relais



FLAGS :

- o Beaches
- o Ports

Internet



ONLINE :

- o Site web ANACIM: www.anacim.sn
- o Application Mobile: Rechercher ANACIM
- o Sur Google Play Store
- o Portail web du Cadre National des Services Climatiques
- o Email



Radio

Community Radios

- o Radios nationales
- o Emissions
- o URAC
- o REJAQUES
- o PRESSE ECRITE



TV

TV Bulletin

- o Participation aux émissions TV
- o Infos Météo dans les émissions TV Yeewoulen(TFM), Sen Show(SEN TV), Kinkeliba (RTS) et RDV



Sms

TELEPHONE (text msg)

o Alertes SMS et **VOCALES**: pêcheurs (CLPA), organisations paysannes, CNGI, services techniques (pêche, croix rouge, Enda NRJ, FAO, Ministères...)



Voix

TELEPHONE (voice messaging)

Android App

- o Accessing Alerts

translating climate information into action at local level

Seasonal forecast

Weather forecast

Nowcasting

Météo (ANACIM)



Local Pluri-Disciplinary Group

Rural radio

Text messaging

Social gatherings

Bulletin

Climate information

Local Pluri-disciplinary Working Group

Community

Statistics of early warning sent to lead-farmers through telephone: from 2018 to 2021

	Fisher-men		Farmers	
	Txt msg	Voice msg	Txt msg	Voice msg
2018	90 089	78 369	97 573	39 614
2019	86 168	66 343	149 162	36 126
2020	122 592	73 979	523 711	50 170
2021	108 775	46 480	840 081	3 130

Txt msg : sending text message

Voice : pre-recorder voice message in local language with choice (replaying)

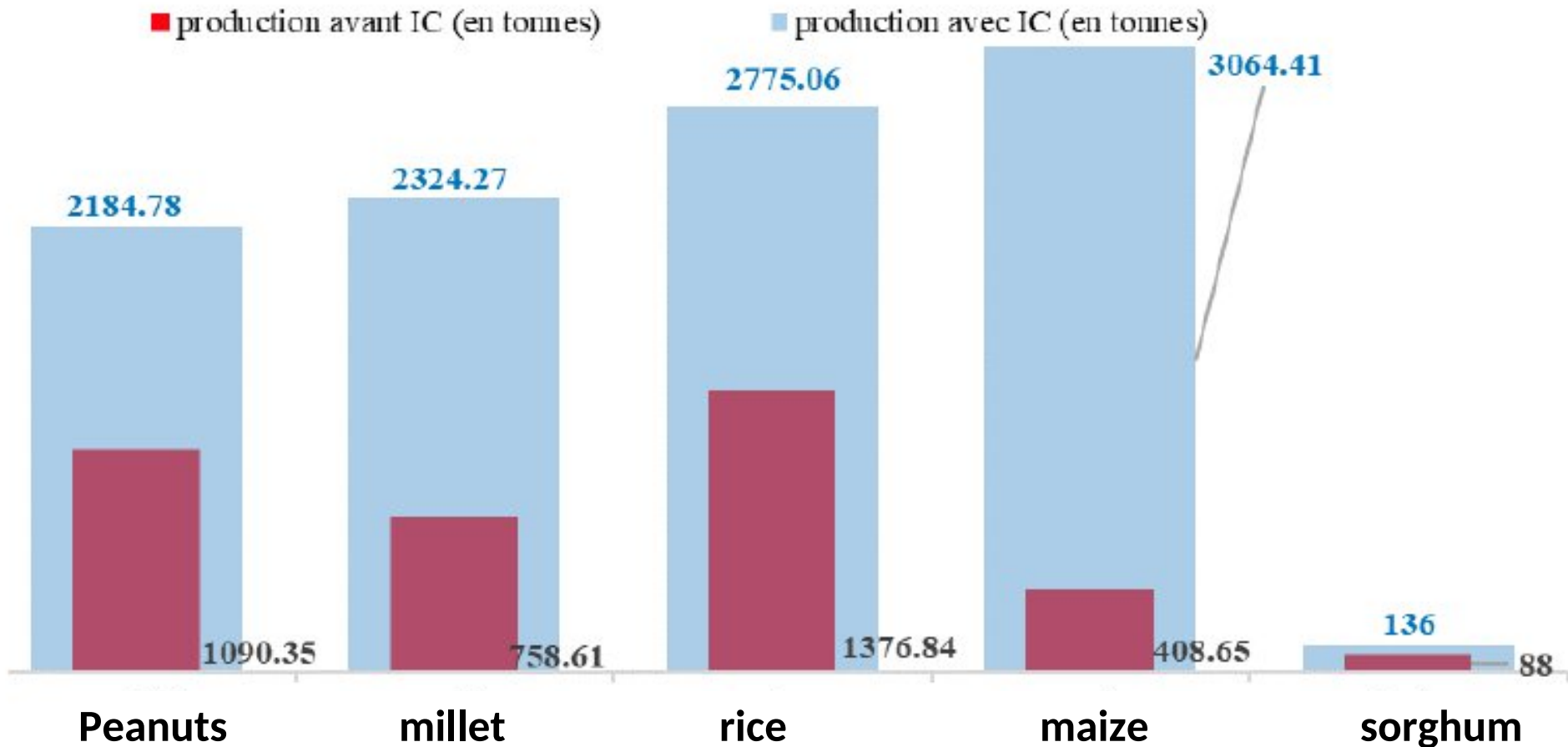
social media :

- **Facebook** : 28 829 followers ;
- **twitter** : 16 768 followers ;
- **YouTube channel** : 1 060 registered
- **WhatsApp** : user group (for Farmers and for fishermen)



IMPACT OF USING CLIMATE INFORMATION IN FARMING

(tone / hectare)



Credits : USAID/CINSERE project

MESSAGE FROM « GLOBAL SOUTH »

NEED :

Economy depends a lot on climate variabilities :

- Rain-fed agriculture (poor farmers)
- Fisheries : materials + death
- Health : malaria, dengue

Vulnerabilities :

- Lowest GDP
- Lack of infrastructures (hospital, road, ...)
- Government main focus : education + health
- Population : mostly rural + suburb

Sustain CIS through PPP : accuracy

Private business wants accurate forecast in time and space

Best solution (adaptation) :
anticipation by using better forecast/information (EWS).

PARTNERSHIP :

Global south in general :

- Slow internet (Power outage)
- Lack of critical mass of experts
- Infrastructures expensive and need maintenance

Not just access to model outputs (maps)

- Being part of the development efforts : understanding the science behind (not just users)
- Model correction (chain of the modelling)
- Building Interest future generation (students)
- Capacity : hands on (coding, assimilation, post-processing, limitation -parametrization-)
- Experts on their local climate (years of living with weather, climatologists,)
- Fulfill our mandate of delivering services to their population (sovereignty)
- Contributing to data assimilation (reason)

EVE = accuracy (how much + when) + **precision** (where)

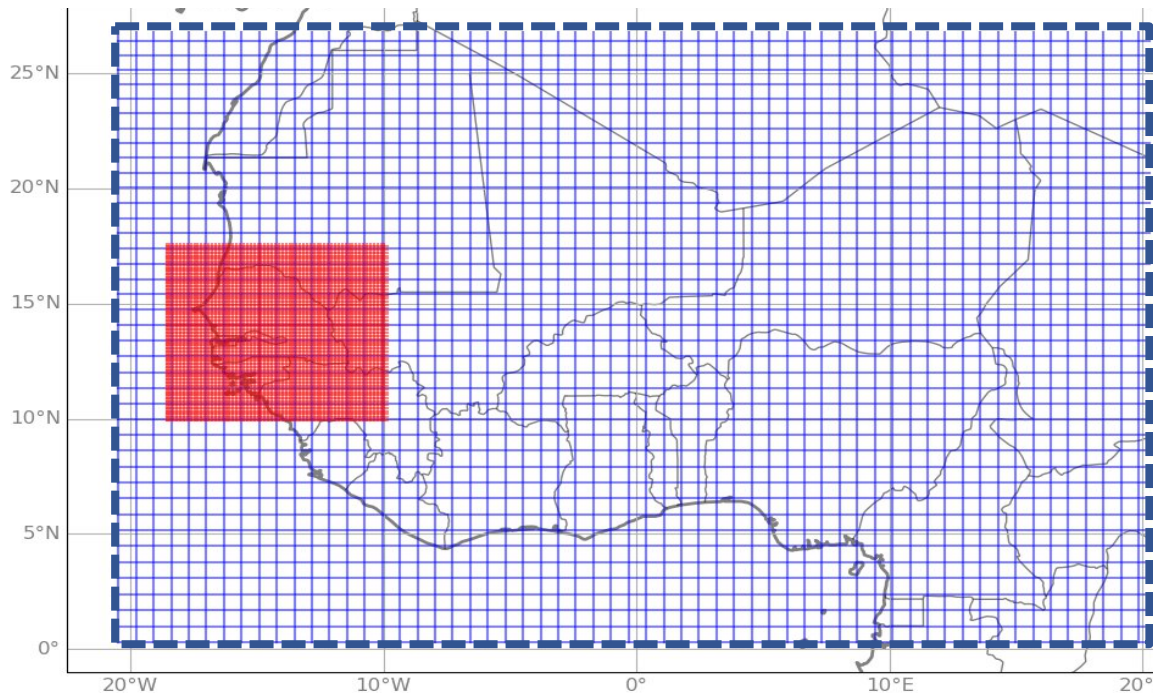
less contributing on GHG emissions



Thanks you

NUMERICAL WEATHER PREDICTION USING : WRF AND GFS

Provide climate information services at high resolution in time and space for better decision making in sectors related to climate ;



Senegal :
Spatial resolution 3 km:
316 grid pts in n X (E-W)
286 grid pts in Y (N-S)

West and Central Africa:
Spatial resolution 15 km:
295 grid pts in n X (E-W)
200 grid pts in Y (N-S)

- Assess the **skill** of the model ;
- Produce **downscaled** forecast at weather (1 to 10 days), seasonal (1 to 6 months) and climate change (10 to 50 years) time scales ;
- **Train** national experts on regional modeling
- **Improve** extreme events forecasts (heat waves, flood, drought, ...)
- Capacitate the Senegalese **Regional** Meteorological Specialized Center (RMSC)