KWAZULU-NATAL PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

2030 NDP

CLIMATE CHANGE AND HEALTH

BY

B MHLONGO

GROWING KWAZULU-NATAL TOGETHER

Purpose

- To provide an overview of the KwaZulu-Natal risk profile by examining historical data from the five-year period between 2019 and 2023.
- To share KZN Preparedness and Response to climate change

Background

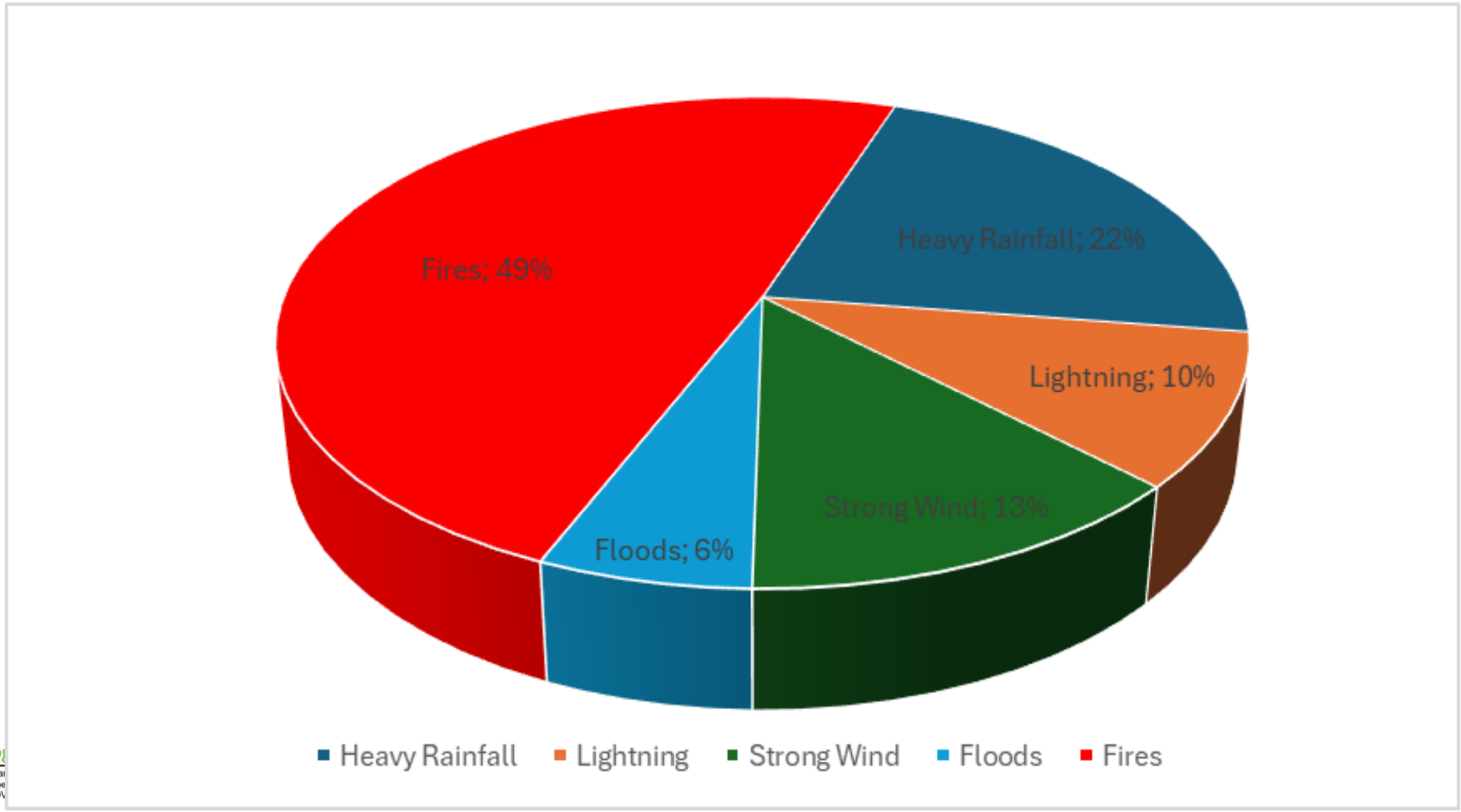
SEASONAL VARIATIONS IN THE PROVINCE OF KWAZULU-NATAL

Spring			Summer			Autumn			Winter		
Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
9th	10th	11th	12th	1st	2nd	3rd	4th	5th	6th	7th	8th

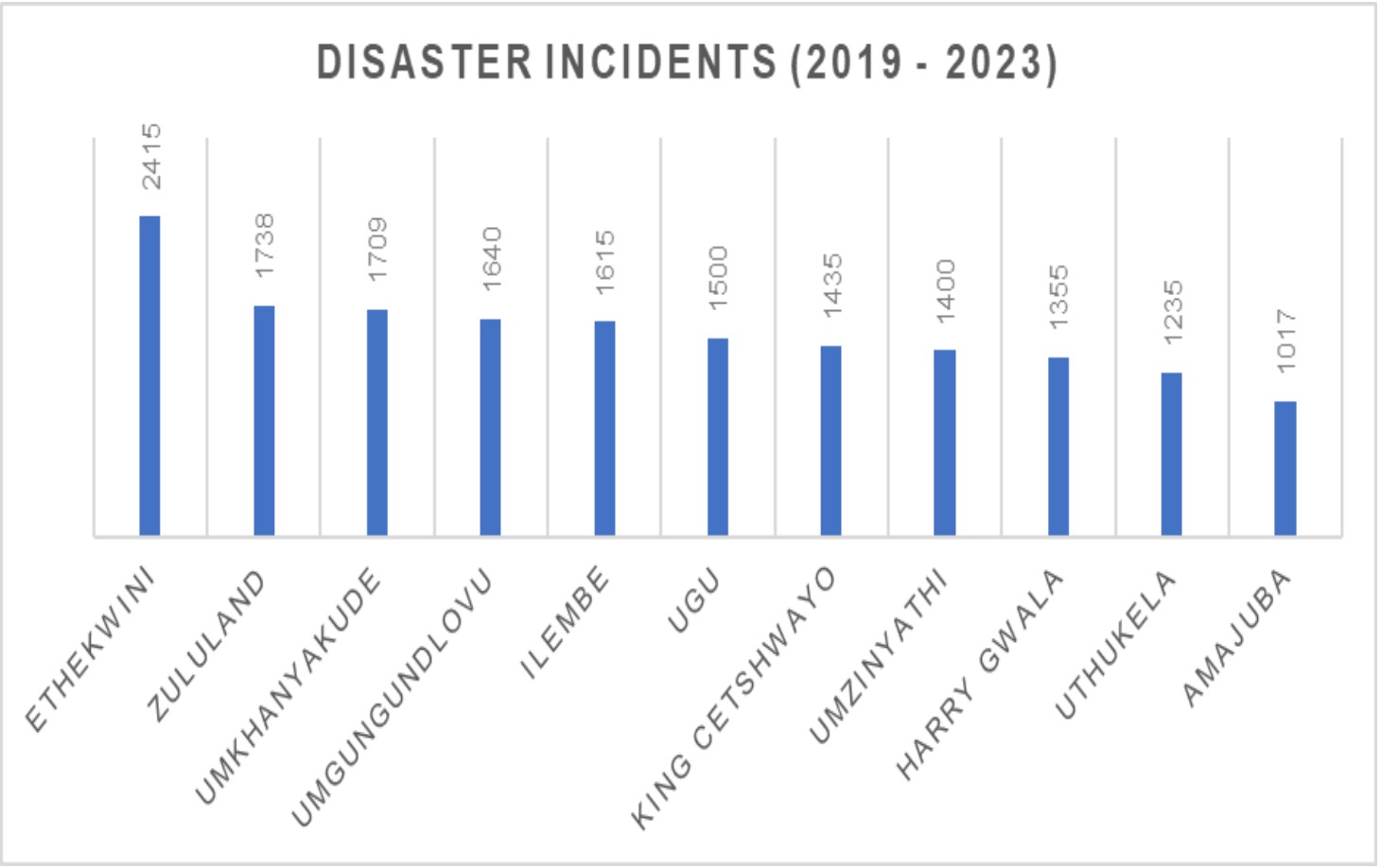
- **Heavy Rainfall:** Heavy rainfall during the summer months can lead to flash floods, particularly in low-lying areas and river valleys. These floods can cause damage to infrastructure, homes, and agriculture, as well as loss of life and displacement of communities.
- **Storms:** Intense thunderstorms, sometimes accompanied by strong winds and hail, are common during the summer season. These storms can cause structural damage, power outages, and disruptions to transportation and communication networks.
- **Flooding:** Spring brings the onset of the wet season, with an increase in rainfall and the potential for flooding, particularly in flood-prone areas. Flash floods and riverine flooding can occur, resulting in Drowning, Injuries, Hypothermia, Animal bites, Contaminated waters, water borne diseases etc.
- **Hailstorms:** Spring thunderstorms can also bring hail, which can damage crops, vehicles, and property, impacting agricultural livelihoods and local economies.

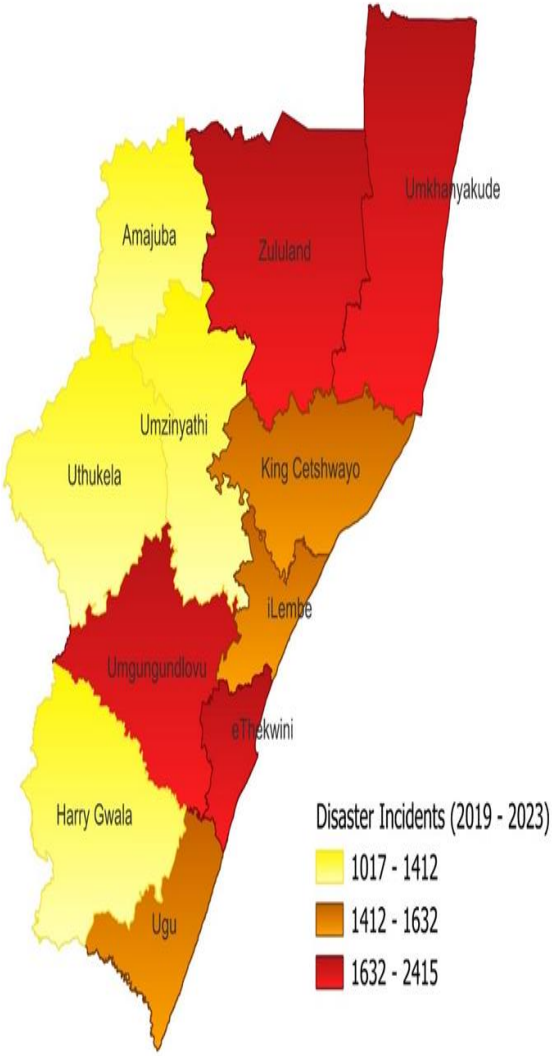
- **Wildfires:** Autumn marks the transition from the wet summer season to drier conditions. This period is often associated with an increased risk of wildfires, especially in grasslands and bush areas. Dry vegetation, coupled with occasional strong winds, can fuel the spread of fires, posing a threat to property, wildlife, and human lives.
- **Mudslides and Landslides:** Heavy rainfall in the autumn months can saturate the soil, increasing the risk of mudslides and landslides in hilly and mountainous regions. These events can damage infrastructure, block roads, and endanger communities living in vulnerable areas.
- **Cold Waves:** Although winters in KwaZulu-Natal are relatively mild compared to other regions, cold waves can still occur, especially in higher elevation areas. Cold temperatures combined with inadequate shelter and heating infrastructure can pose risks to vulnerable populations, including the homeless and those living in informal settlements.
- **Storm Surges:** Winter storms along the coastline can generate storm surges, leading to coastal erosion, flooding, and damage to coastal infrastructure and properties.

Distribution of disaster incidents in KwaZulu Natal



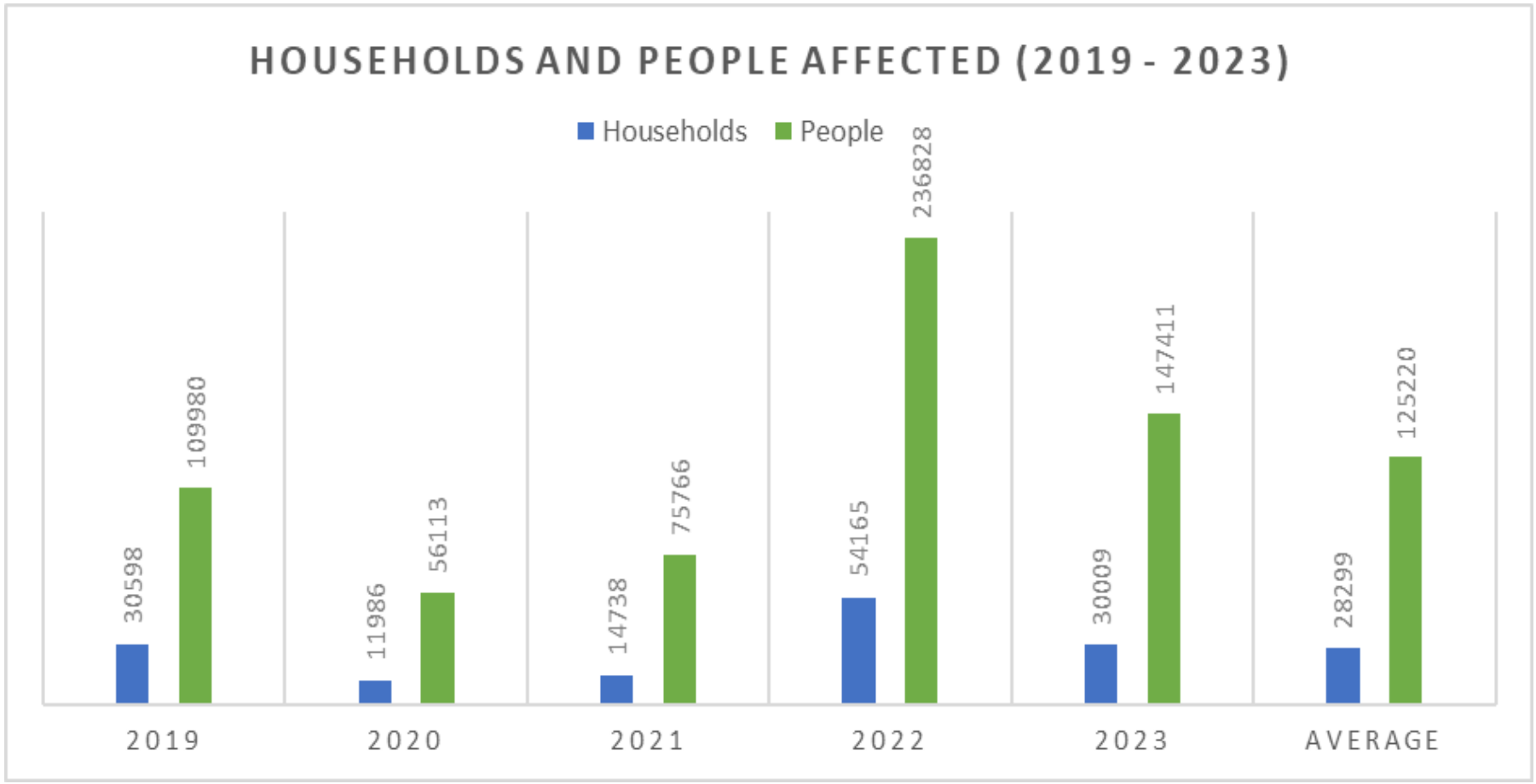
DISASTER INCIDENTS PER DISTRICT AND METRO





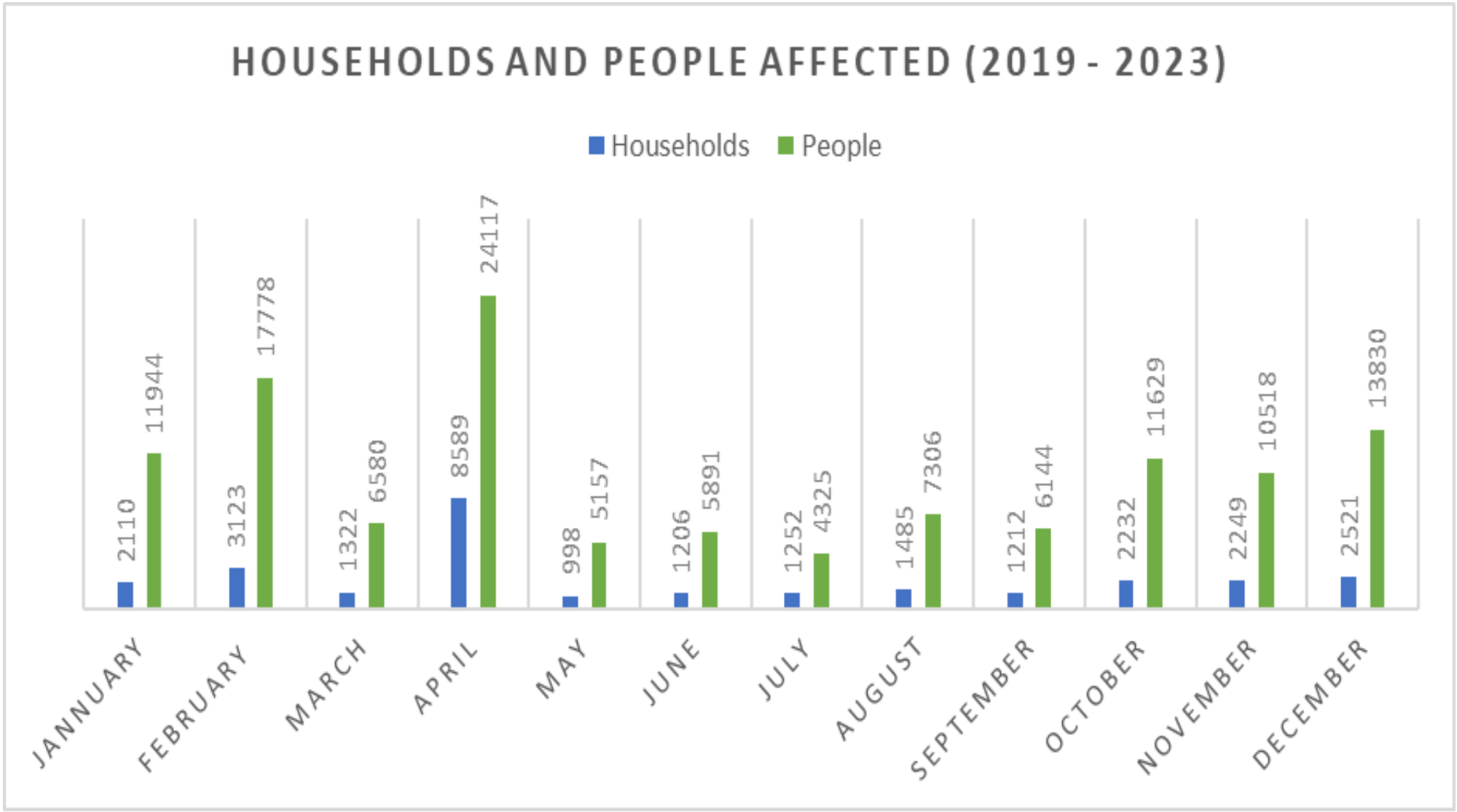
KWAZULU-NATAL PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

HOUSEHOLDS AND PEOPLE AFFECTED



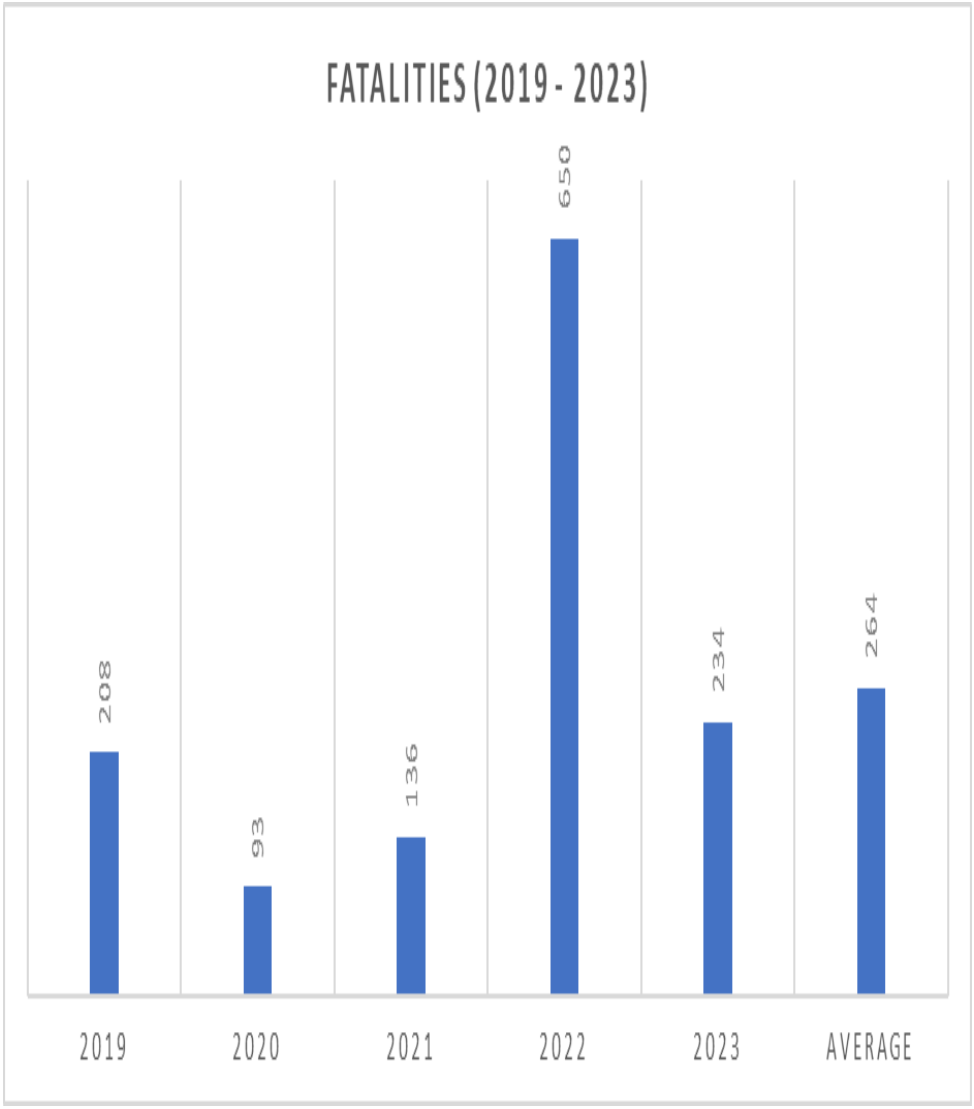
KWAZULU-NATAL PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

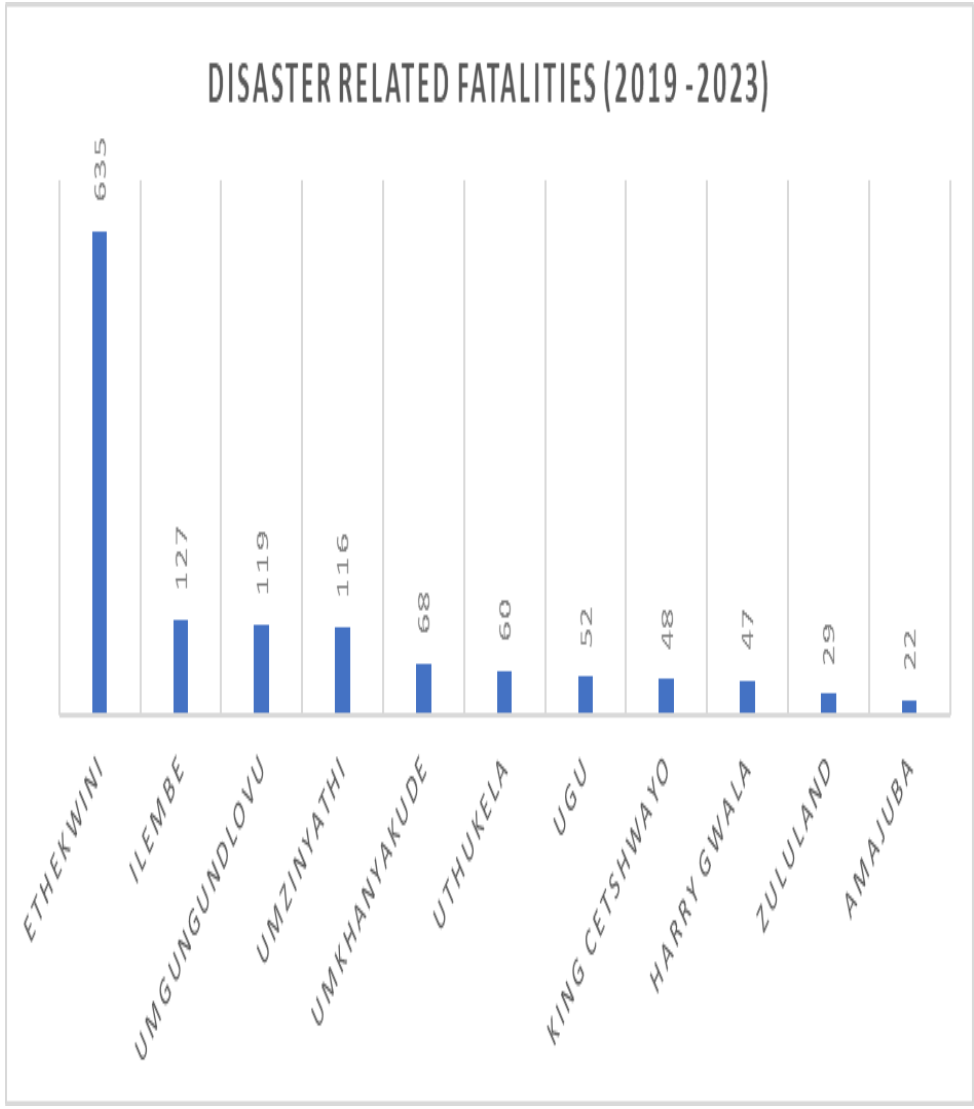
HOUSEHOLDS AND PEOPLE AFFECTED



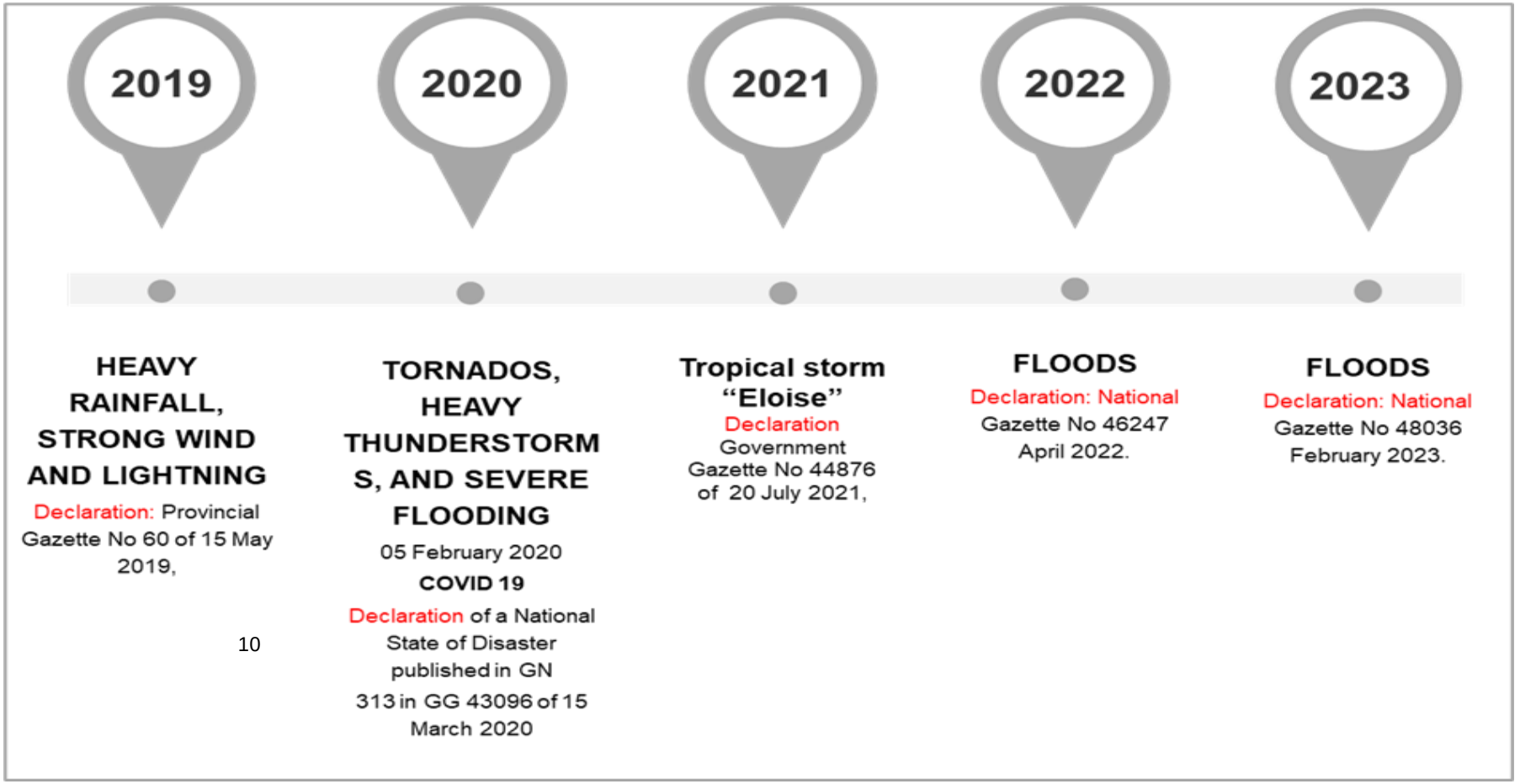
KWAZULU-NATAL PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

FATALITIES





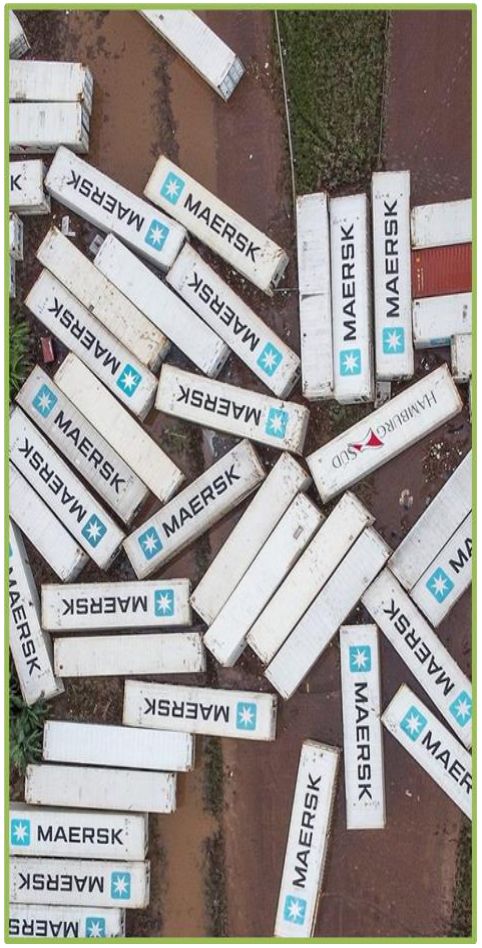
DISASTER DECLARATIONS IN THE PROVINCE



Importance of emergency planning

Nobody expects an emergency, especially one that affects them, their families, their employees and their business. Yet a simple fact is that emergencies and disasters may strike anyone, anytime and anywhere.

Fail to prepare, prepare to fail!

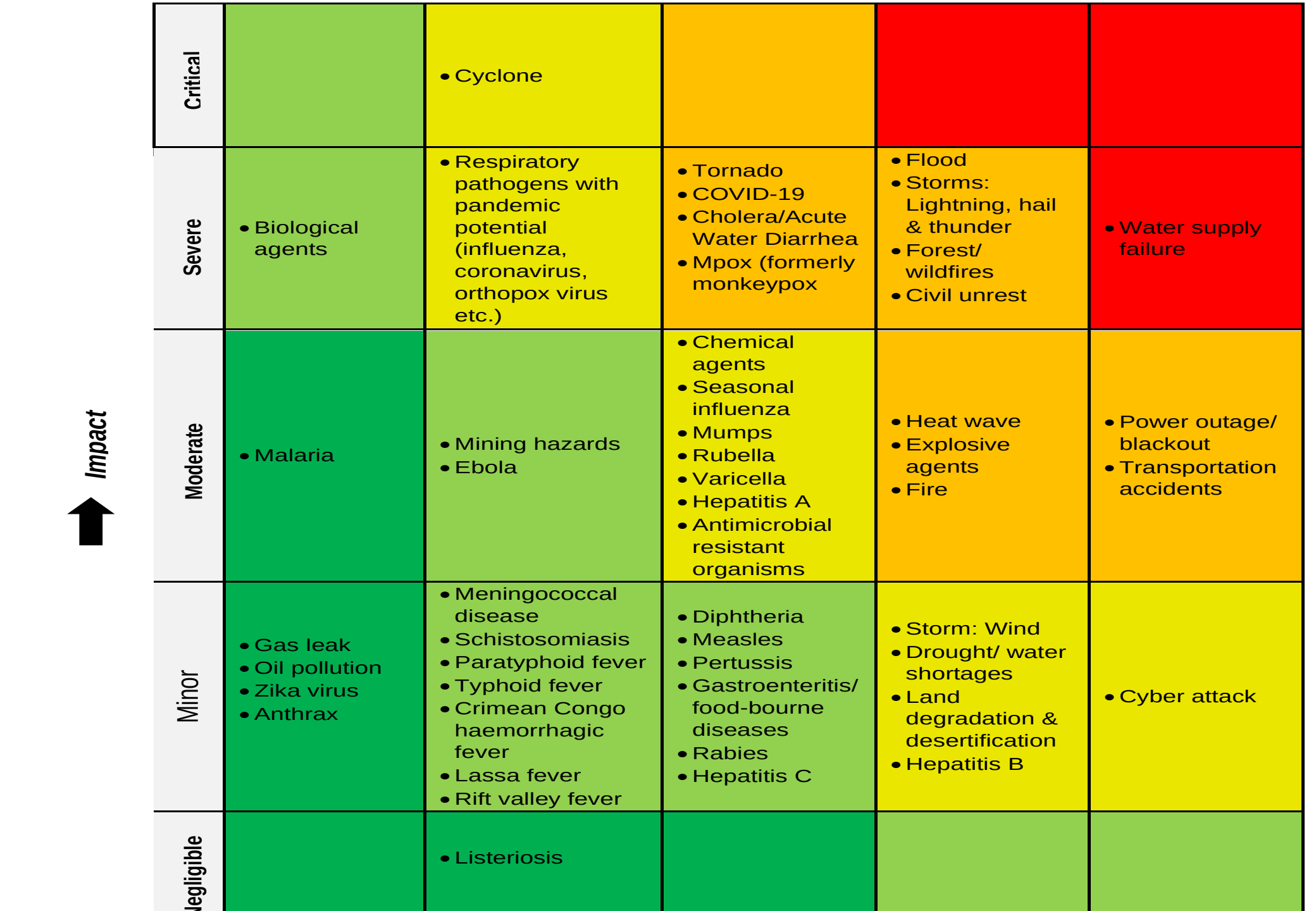


KZN RESPONSE

- Disaster Management Plan
- KZN Climate Change Implementation plan (Human Health Section)
- KZN has established Public Health Operation Centre (PHEOC)
- All hazards risk assessment using WHO Strategic Tool for Assessing Risks
- Contingency plans

Cont…

Risk Level	No.	Hazards
Very high	1	Water supply shortages
High	13	Tornado, Covid – 19, Cholera/Acute Water Diarrhoea, Mpox (formerly monkeypox), Flood, Storms: Lightning, hail & thunder, Forest/wildfires, Civil unrest, Heat wave, Explosive Agents, Fire, Power outage/blackout, transportation accidents
Moderate	14	Cyclone, Respiratory pathogens with pandemic potential (influenza, coronavirus, orthopox virus, etc), Chemical agents, Seasonal influenza, Mumps, Rubella, Varicella, Hepatitis A, Antimicrobial resistant organisms, Storm: Wind, Drought/ water shortages, Land degradation & desertification, Hepatitis B, Cyber attack
Low	16	Biological agents, Mining hazards, Ebola disease, Meningococcal disease, Schistosomiasis, Paratyphoid fever, Typhoid fever, Crimean-Congo haemorrhagic fever, Lassa fever, Rift valley fever, Diphtheria, Measles, Pertussis, Gastroenteritis/ food-borne diseases, Rabies, Hepatitis C
Very low	6	Malaria, Gas leak, Oil pollution, Zika virus, Anthrax, Listeriosis


Impact
Critical
Severe
Moderate
Minor
Negligible
• Cyclone
• Biological agents
• Respiratory pathogens with pandemic potential (influenza, coronavirus, orthopox virus etc.)
• Tornado
• COVID-19
• Cholera/Acute Water Diarrhea
• Mpox (formerly monkeypox
• Flood
• Storms: Lightning, hail & thunder
• Forest/ wildfires
• Civil unrest
• Water supply failure
• Malaria
• Mining hazards
• Ebola
• Chemical agents
• Seasonal influenza
• Mumps
• Rubella
• Varicella
• Hepatitis A
• Antimicrobial resistant organisms
• Heat wave
• Explosive agents
• Fire
• Power outage/ blackout
• Transportation accidents
• Gas leak
• Oil pollution
• Zika virus
• Anthrax
• Meningococcal disease
• Schistosomiasis
• Paratyphoid fever
• Typhoid fever
• Crimean Congo haemorrhagic fever
• Lassa fever
• Rift valley fever
• Diphtheria
• Measles
• Pertussis
• Gastroenteritis/ food-bourne diseases
• Rabies
• Hepatitis C
• Storm: Wind
• Drought/ water shortages
• Land degradation & desertification
• Hepatitis B
• Cyber attack
• Listeriosis

Seasonal Calendar

Hazard	Risk level	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Flood	High												
Storm: lightning, hail & thunder	High												
Heat wave	High												
Tornado	High												
Forest/Wildfires	High												
Fire (human-induced)	High												
Transportation accidents	High												
Storm: wind	Moderate												
Cyclone	Moderate												
Drought/water shortages	Moderate												
Seasonal influenza	Moderate												
Respiratory pathogens with pandemic potential	Moderate												

Next Steps

Provincial Health Emergency Response Operational Plan will be developed/completed with the development of the contingency plans for the 14 hazards

Existing standard operating procedures should be sourced from provinces and national, and the missing SOPs must be identified and developed

Training of health workers

After action reviews should be prioritized after all health emergencies

Simulation exercise should be planned and performed for each of the high-priority hazards

Orientate district/sub-district levels on the STAR process and report, consider performing the STAR process in districts

Source or perform program-level risk reviews

Fast track the implementation of a dashboard for the PHEOC highlighting geographic vulnerabilities and risks to ensure a more intersectoral approach (e.g. mapping food insecurity, heat stroke

THANK YOU

GROWING
KWAZULU-NATAL
TOGETHER