Reference Guide for Climate Information Services (CIS) Intermediaries in Makueni and Kitui Counties

Kenya Meteorological Department

ADA consortium

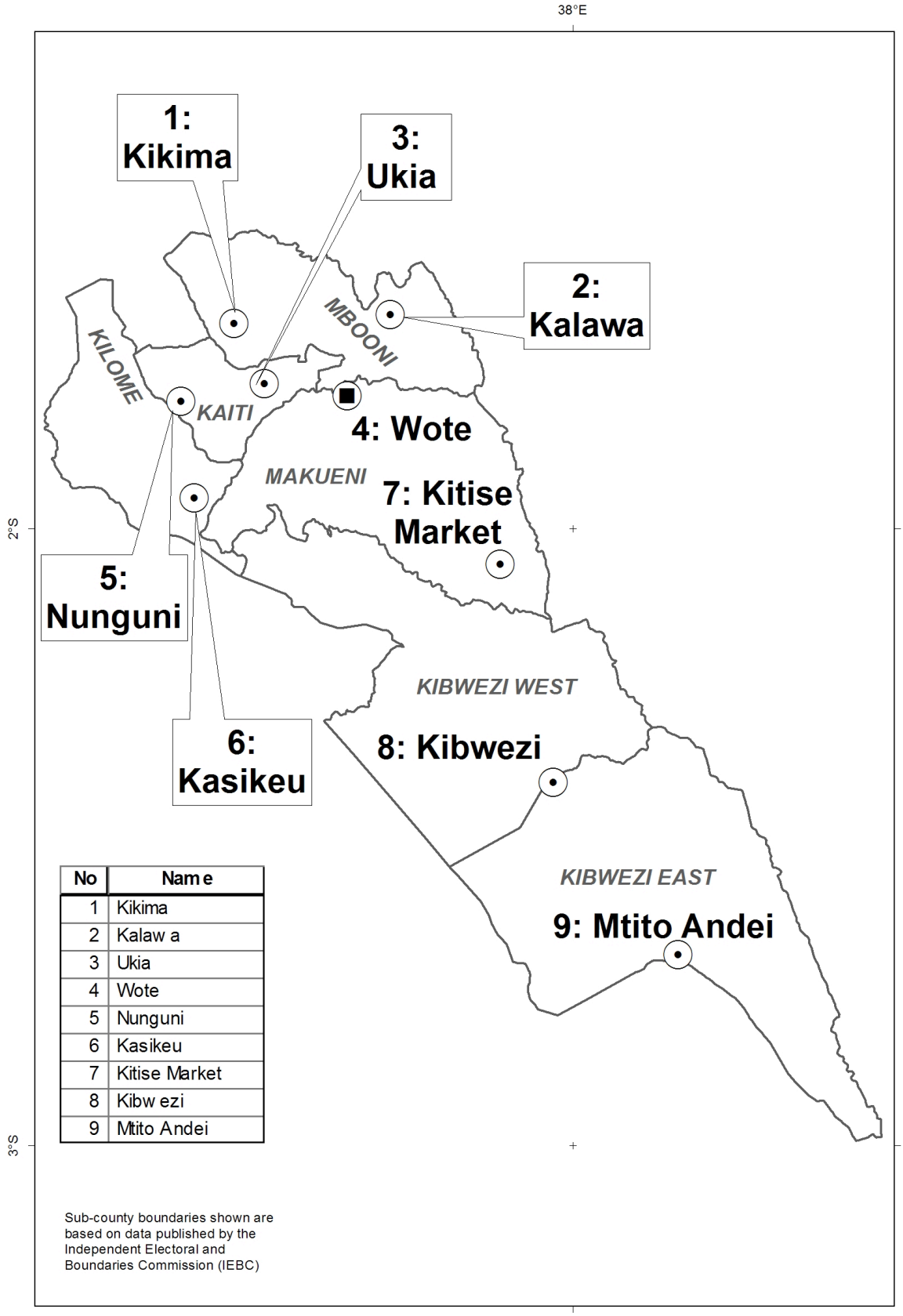
Met Office Hadley Centre

Reference guide for Climate Information Service (CIS) Intermediaries in Makueni and Kitui County

Key to abbreviations used in SMS weather forecasts for Makueni and Kitui County

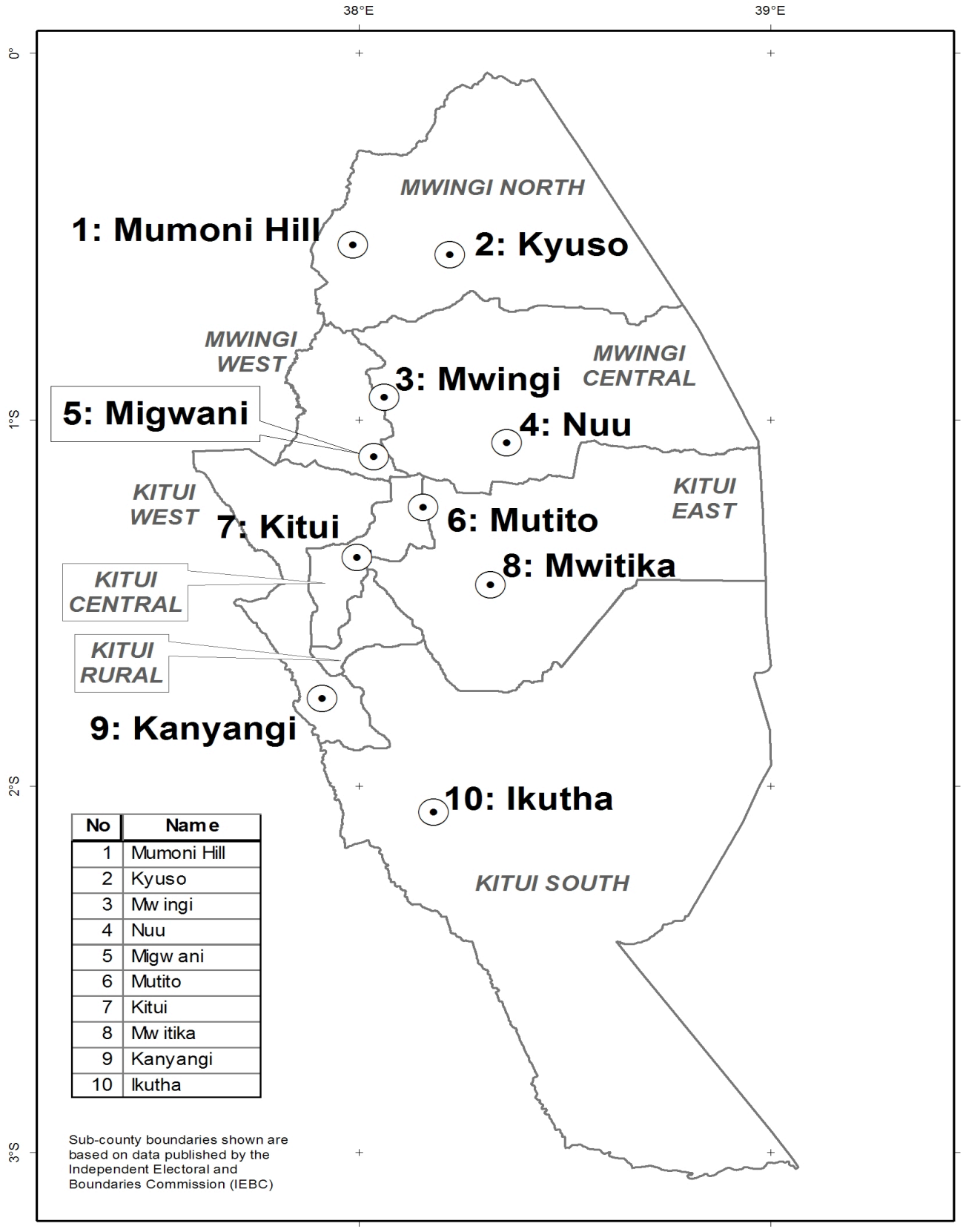
am	Morning
C	Centigrade
E	East (wind direction)
Fri	Friday
he rain	heavy rain – between 20 and 50 mm in 24 hours
hi	High probability of occurrence – more than 66%
hi wind	High winds may damage crops
KMS	Kenya Meteorological Service
kph	Kilometres per hour (wind speed)
li rain	Light rain – less than 5 mm in 24 hours
lo	Low probability of occurrence – less than 33%
max	Maximum (of temperature)
min	Minimum (of temperature)
mm	Millimetres (of rainfall)
mod	Moderate probability of occurrence – between 33 and 66%
mod rain	Moderate rain – between 5 and 20 mm in 24 hours
Mon	Monday
N	North (wind direction)
NE	Northeast (wind direction)
NW	Northwest (wind direction)
pm	Afternoon
S	South (wind direction)
Sat	Saturday
Sun	Sunday
SE	Southeast (wind direction)
SW	Southwest (direction of wind)
temp	Temperature
Thu	Thursday
Tue	Tuesday
v he rain	Very heavy rain – more than 50 mm in 24 hours
v hi wind	Very high winds - may flatten crops and damage buildings
Wed	Wednesday
W	West (wind direction)
%	Percent (used to express the level of humidity)

Map of Makueni County showing the numeric code used to indicate towns that are representative of the main climatic zones in SMS messages



No	Name
1	Kikima
2	Kalaw a
3	Ukia
4	Wote
5	Nunguni
6	Kasikeu
7	Kitise Market
8	Kibw ezi
9	Mtito Andei

Map of Kitui County showing the numeric code used to indicate towns that are representative of the main climatic zones in SMS messages



No	Name
1	Mumoni Hill
2	Kyuso
3	Mw ingi
4	Nuu
5	Migw ani
6	Mutito
7	Kitui
8	Mw itika
9	Kanyangi
10	Ikutha

Definitions of common terms used in SMS messages

Probability

High probability	More than 66% likely to happen - higher than two out of three chance
Moderate probability	33% to 66% likely to happen - between one and two out of three chance
Low probability	Less than 33% likely to happen – lower than one in three chance

Rainfall and moisture

Very heavy rain	More than 50 mm over 24 hours – flash floods and gully erosion likely
Heavy rain	20 to 50 mm over 24 hours – puddles form, surface run-off occurs
Moderate rain	5 to 20 mm over 24 hours - moisture penetrates the soil deeply, but there is very little surface run-off
Light rain	Less than 5 mm in 24 hours -dust settles, but moisture does not penetrate the soil deeply.
Hail	Rain drops freeze to form pellets of ice – they can damage crops.
Thunderstorm	Clouds emit flashes of lightning and rumbles of thunder. Thunderstorms often bring sharp downpours of rain and high winds that can flatten crops
Fog	Ground level cloud which reduces visibility to less than 1km - fog lowers the air temperature and can provide moisture to plants.
Dew	Condensation of moisture from the atmosphere into droplets of water that form on the ground at night - useful source of moisture for plants.
Humidity	Degree to which air is saturated with moisture, expressed as a percentage - high humidity reduces water evaporation from the soil and dams.

Floods

Flash Flood	Sudden flooding that occurs when floodwater rise swiftly within hours of intense rainfall
Flood	Rising water levels cover land that is normally dry. Floods are usually caused by rivers overflowing after heavy rain. They also occur when the sluice gates of dams are opened to release water suddenly
Flood Plain	Flat land by a river which may flood when the water level rises

Wind

High wind	Gale-force winds which may flatten crops, but are unlikely to cause structural damage to buildings
Very high wind	Storm-force winds which may flatten crops and cause structural damage to buildings. Roofs may be blown away
Dust/ sand storm	Strong turbulent winds blow over loose sand or soil, lifting particles into the air and reducing visibility to less than 1 km.
Tornado	Powerful twisting columns of wind which can cause heavy local destruction. They may be accompanied by a loud roaring noise

Temperature

Maximum temperature	Highest temperature over a specified period of time – usually 24 hours
Mean temperature	The average temperature over a specified period of time
Minimum temperature	Lowest temperature over a specified period of time – usually 24 hours
Temperature	The degree of heat in an object or substance. Weather forecasts indicate the air temperature in the shade, not in direct sunlight.

Explanation of other common terms used in climate information messages

Advisory	Advice on action that to take in the light of the weather forecast.
Climate	Weather averaged over an extended period of time.
Climate Outlook	A future estimate of climate. It rates the likelihood of changes in rainfall and temperature averaged over a specified period of time.
CIS	Climate Information Service – the development and delivery, with key stakeholders, of accessible, timely and relevant weather-related information which can support decision making across timeframes, sectors and livelihoods.
CIS Intermediary	Respected and influential focal point who receives weather-related information and shares this across their networks and community.
Common Alert Protocol	An international standard format for emergency alert and public warning messages designed for all hazards and all media.
Community Climate Monitors	Volunteers who maintain a rain gauge and report daily readings to the County Director of Meteorology
Downscaling	Translating national and regional weather forecasts into what they mean at the local level.
Drought	Abnormally dry weather in a region over an extended period that causes water shortages. Droughts typically cause crop damage, pasture shortage and the drying up of water sources.
El Niño	The unusual warming of the surface waters of the Pacific Ocean along the coast of South America. This causes changes in wind patterns that have a major impact on weather across the globe.
La Niña	A widespread cooling of the surface waters of the eastern Pacific Ocean off the coast of South America. It is the opposite of El Niño, but likewise has a major impact on global weather systems.
Lightning	A powerful spark of electricity produced by clouds in thunderstorms. Lightning can kill people and animals and start bush fires
Overcast	Clouds cover the whole sky.
Probabilistic forecast	A forecast which assesses the chances of several different outcomes occurring.
Rain Gauge	Instrument used to measure the amount of rain that has fallen.
Severe Weather	Extreme weather that may endanger life and damage property
Thermometer	Instrument to measure temperature - Weather forecasts express temperature in degrees centigrade. 0 C is freezing point, 100 C is the boiling point of water
Thunder	The explosive sound of air expanding as it is heated by lightning
Variability	Fluctuations which take place without affecting the overall average - a wetter than normal year may be followed by a drier than normal year, but the average annual rainfall stays nearly the same.
Warning	An urgent message telling people that a specific weather event is likely to occur soon which may endanger life or damage property
Watch	An advisory message warning that conditions are favorable for a particular weather hazard to occur.
Weather	The condition of the atmosphere at a particular time and place in terms of temperature, wind, cloud cover, rainfall, humidity etc

The Adaptation (ADA) consortium is a core component of the National Drought Management Authority strategy and funded within the Strengthening Resilience and Adaptation to Climate Change in Kenya plus (STARCK+) programme. The aim of the Adaptation Consortium is to pilot climate change adaptation planning approaches to enhance climate resilience in five Arid and Semi-Arid Lands (ASALs) counties (Garissa, Isiolo, Kitui, Makueni and Wajir) that, if successful, will be replicated in other ASAL counties and beyond. The consortium consist of Christian Aid working with ADS-Eastern in Kitui and Makueni, International Institute of Environment and Development (IIED) working with Resource Advocacy Programme (RAP) in Isiolo, WomanKind Kenya in Garissa,and Arid Lands Development Focus (ALDEF) in Wajiir, Met Office (UK) and the Kenya Meteorological Services (KMS.

Adaptation Consortium
email: info@adaconsortium.org
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Funded by:

This research was funded by UK aid from the UK Government,however the views expressed do not necessarily reflect the views of the UK Government.