

Briefing note

Proposal for a daily weather forecast for Kenyan fishermen on Lake Victoria

Introduction

The purpose of the Western Kenya project is to decentralise climate information services for decision making in this region. Output two of the project is to develop and roll out communications channels identified for each county. A proposal has been produced by Robert Powell, Communications Consultant, for a daily weather forecast for Kenyan fishermen on Lake Victoria. This briefing note provides an overview of the key points within the report.

The full report can be viewed [here](#).

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Summary

There are about 40,000 fishermen in the Kenyan sector of Lake Victoria. Most of them fish from open wooden canoes powered by paddles and sail. Only 20% of the fishing boats have an outboard motor. The canoes capsize frequently as a result of adverse weather conditions and drownings are common.

Fishermen in the Kenyan section of Lake Victoria do not benefit from any weather forecast service at present. Regular and reliable weather forecasts could help fishermen to avoid navigating on the lake in severe weather conditions and save lives.

User engagement

The following research was undertaken to develop this proposal:

- Focus group discussions with fishermen at Kamin Oningo Beach in Siaya County and Arengo Beach in Kisumu County.
- Conversations with fishermen at Port Victoria in Busia County.
- A meeting with Tom Guda, the National Chairman of Beach Management Units in Kenya.
- Discussions with several Kenyan fisheries experts, including the directors of fisheries of Kisumu and Siaya counties, the Agricultural Sector Development Support Programme (ASDSP) in Kisumu County, and the Kenyan Maritime and Fisheries Research Institute (KEMFRI) in Kisumu.
- Discussions with meteorologists of Kenya Meteorological Department.
- A two-day workshop in Kisumu with fishermen's leaders from Migori, Homa Bay, Kisumu, Siaya and Busia counties and a representative of the Uganda National Meteorological Authority.
- Desk research on the SMS-based severe weather warning system for fishermen on Lake Victoria developed by the Uganda National Meteorological Agency.

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Daily forecast

Following the research it is proposed that Kenya Meteorological Department (KMD) create a daily weather forecast for fishermen active in the Kenyan sector of the lake. This would be issued every morning at 09.00 and would cover a period of two days. Each bulletin would forecast the weather on the lake for the day of issue and the following day.

The forecast for fishermen would consistently provide information on wind speed and direction, rainfall volume and spatial distribution and visibility. It would also provide early warning of potential hazards, such as strong winds, high waves, water spouts and thunderstorms. The bulletin would forecast the weather separately for the Gulf of Winam and for an area of the open lake to the west up to 60 km from the Kenyan coastline.

The forecast would be posted on the KMD website. It would also be sent direct to subscribers by email and social media applications such as WhatsApp. However, the forecast would mainly reach fishermen through Luo language radio stations broadcasting to audiences in Western Kenya and via SMS messages to committee members of the 281 Beach Management Units (BMUs) along the Kenyan shore of Lake Victoria.

KMD would prepare the forecasts in SMS format, but they would be disseminated to individual BMUs by the national secretariat of the Kenyan Association of Beach Management Units, using a FrontlineCloud/Frontline Sync SMS portal. The forecasts would use the same language and terminology that fishermen use to describe weather conditions on Lake Victoria in preference to scientific terminology.

It is proposed that KMD adopt the following three-colour traffic light system for all its forecasts and hazard warnings related to weather conditions on Lake Victoria:

Green – No hazard warnings in force. It is safe for small craft to navigate on the lake.

Amber – **Be prepared** Potentially dangerous weather and water conditions are expected. Small craft should take special care if they decide to go out.

Red - **Take action.** Severe and dangerous weather and water conditions are expected. All vessels on the lake should take immediate and appropriate action to ensure their safety.

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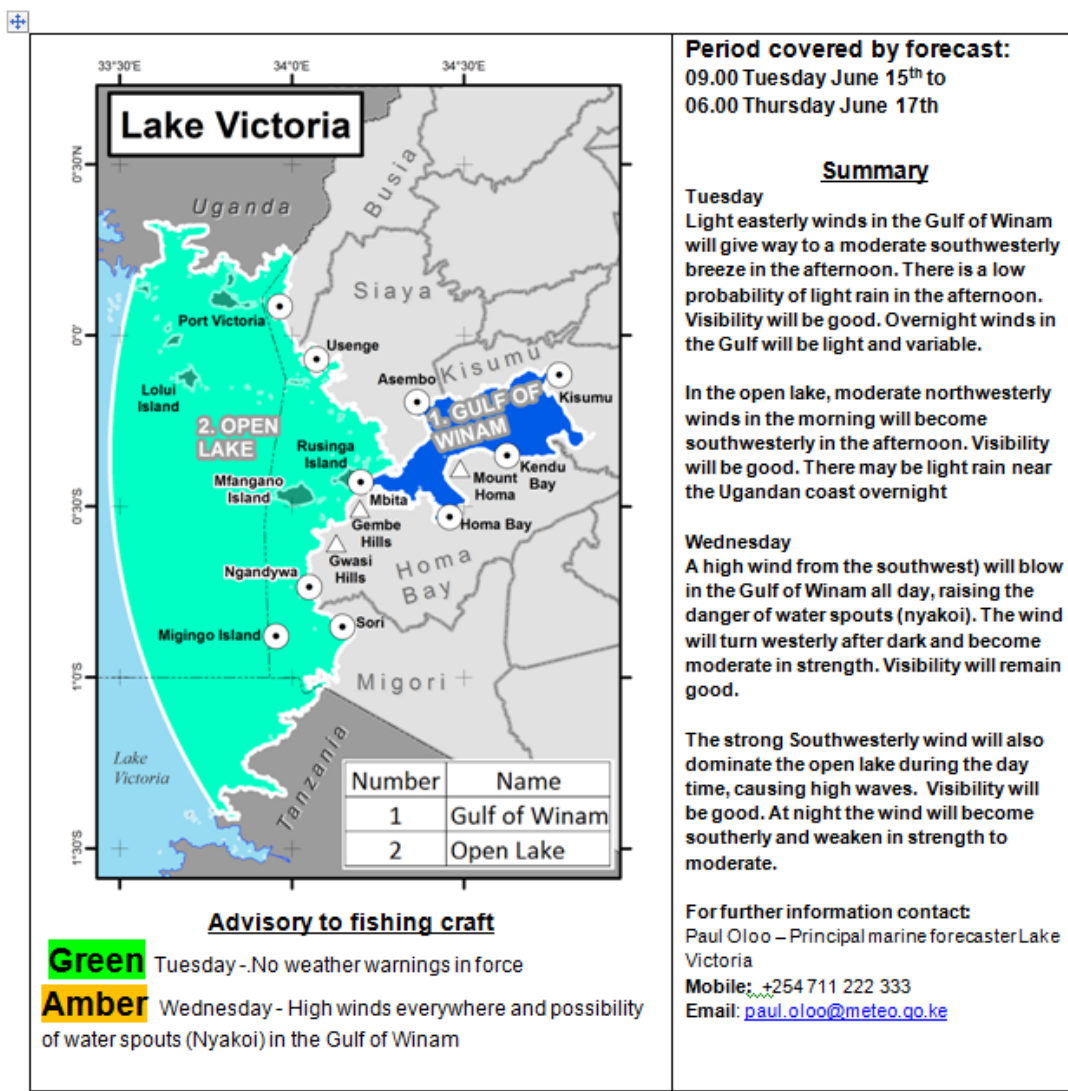
Sample forecast

Kenya Meteorological Department



Daily weather forecast for fishermen on Lake Victoria

Date of issue: 15th June 2016



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





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






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Zone 1: Gulf of Winam

Tuesday July 18	Wind speed and direction	Rainfall/ Cloud cover	Rainfall distribution	Visibility	Hazards/ Warning level
Morning	E Light	 Sunny intervals		 Good	No warnings in force
Afternoon	SW Moderate	 Light rain	 Few places	 Good	No warnings in force
Night	VARIABLE Light	 Cloud cover			No warnings in force
Wednesday July 19					
Morning	SW High	 Sunny		 Good	Amber warning High wind/ Water spouts
Afternoon	SW High	 Sunny intervals		 Good	Amber warning High wind/ Water spouts
Night	W Moderate	 Partial cloud cover			No warnings in force

Zone 2, Open Lake

Tuesday July 18	Wind speed/ direction	Rainfall/ Cloud cover	Rainfall distribution	Visibility	Hazards/ Warning level
Morning	NW Moderate	 Sunny intervals		 Good	No warnings in force
Afternoon	SW Moderate	 Sunny intervals		 Good	No warnings in force
Night	VARIABLE Light	 Light rain	 Few places		No warnings in force
Wednesday July 19					
Morning	SW High	 Sunny		 Good	Amber warning High wind/ Water spouts
Afternoon	SW High	 Sunny intervals		 Good	Amber warning High wind/ Water spouts
Night	S Moderate	 Partial cloud cover			No warnings in force

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Sample severe weather warning

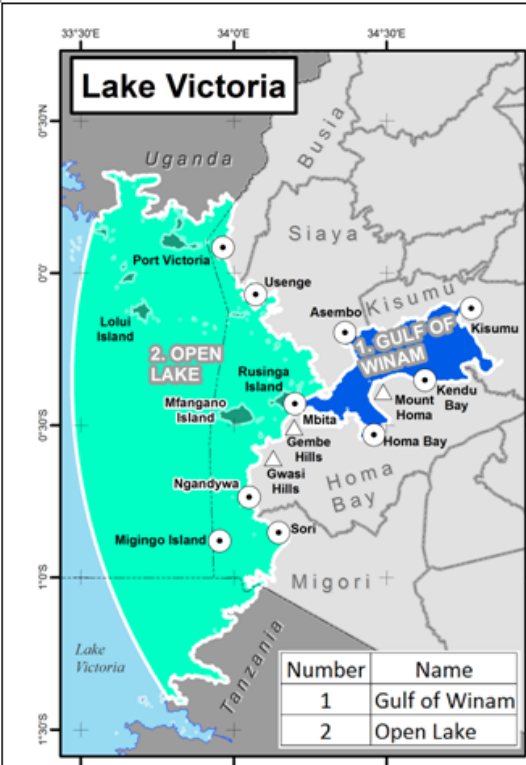
Kenya Meteorological Department



Severe weather warning for fishermen on Lake Victoria

Date of issue: Tuesday 5th July 2016

Time of issue 15.45 East Africa Time (EAT)



Number	Name
1	Gulf of Winam
2	Open Lake

Kenya Meteorological Department (KMD) issued the following red "take action" warning to all shipping in the Open Lake zone of Lake Victoria. It applies from 17.00 EAT on Tuesday July 5th until 06.00 EAT on Wednesday July 6th

A very high wind from the south will blow throughout the night. Sustained wind speeds of more than 80 kph and gusts of up to 100 kph are likely. There will be high waves and heavy showers of rain in many places.

KMD also issued an amber "Be aware" warning for all shipping in the Gulf of Winam. It applies from 18.00 EAT on Tuesday July 5th until 05.00 EAT on Wednesday July 6th.

High southerly winds of up to 55 kph and moderate waves are expected. Moderate rain will occur in a few places.

Key to colour code of hazard warnings

Green – No hazard warnings in force. It is safe for all boats to navigate on the lake.

Amber – Be prepared. Potentially dangerous weather and water conditions are expected.

Red – Take action. Dangerous and potentially life threatening weather and water conditions are expected. Take immediate and appropriate action to ensure your safety.

For further information, please contact:
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Email: paul.ooloo@meteo.go.ke

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Sample SMS messages

Please note that a reference guide is also available for recipients of these messages.

Example of daily forecast for next 48 hours split into two SMS messages

LV Mon Jul 28:1:AM, li wind SE,good. PM,mo wind,W, li rain few,good, NIGHT li windvar.2, AM mo wind S, li rain many, mo vis, PM mo wind SW, good, NIGHT li wind SE, clear - KMD

LV Tue Jul 29:1.AM ,li wind E,good,.PM,mo wind NW, mo rain many, poor,NIGHT, li wind var,2, AM li wind SE, li rain few, mo vis.PM mo wind W, good,NIGHT li wind E,p/cloud - KMD

Example of hazard warning message

LV YELLOW WARNING. Tue Mar 12. 1, PM tstorm, v hi wind SW, he rain most, nyakoi, 2, PM, tstorm, v hi wind W, v he rain most - KMD

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