

Monday 29<sup>th</sup> January 2024

## **WISER EWSA Testbed 1 Daily Narrative Report from the Forecast Office at ZMD**

This is the first day of the testbed and necessarily involved a shake-down of various procedures. We began the day with some general briefings, so there was reduced time available for active forecasting. Being the first day, there was no evaluation of a previous day's forecast and nowcasting commenced after the lunchtime meeting, when the first synoptic briefing was complete.

The meteorological situation is still suppressed over southern Zambia, but with signs of more chance of rainfall relative to previous days. Following the heavy rains earlier in January, the soil is generally wet and any rain could have an impact in terms of flooding.

Based on the developing situation in early afternoon, we agreed to focus on sites to the north of Zambia for afternoon nowcasting, as well as our 3 focus communities. Significant weather has been developing in the vicinity of Katlehong, but around Kanyama and Boane, the forecast for the coming hours is quiet. Overnight nowcasting will focus on Katlehong and Northern Zambia.

We have noted a number of things which need to be improved in future days.

- The creation and transmission of messages is still ad hoc. We need to get more practice at extracting information from the IBF table. We need to use warning levels in the messages to make the evaluation more systematic.
- We need some clarity on which messages are sent to which groups, from which centres. Today, this office has started sending regular messages to the Kanyama community group, but not to Katlehong nor Boane. Tomorrow, this may be changed.
- The messages we are sending have been quite simple. We should try tomorrow to create a more detailed pdf synoptic message, following SAWS template.
- The synoptic message was translated into Nyanja, but the nowcast was not. We will not always have bilingual people on duty, especially at night. We should get some translation of the IBF table in advance to enable forecasters to send standard messages in multiple languages. The layout of the translated message should match that of the English version.
- Nowcasting in depth is intensive and time-consuming and 5 active targets would be too many for the nowcasting teams. We have dropped the number of targets for the overnight nowcasting to 2 (Katlehong and Northern Zambia).
- Plotting impact areas on the template maps in powerpoint is very time-consuming, especially for the nowcasting groups. Is there any other software to do this?

The synoptic summary of regional drivers can be made more systematic by defining a set of standard plots which can be pre-loaded every morning without too much discussion. This will make the workflow more efficient. These plots should reflect the following regional drivers relevant for Zambia (list provided by Victor).

- Congo air boundary (confluence of winds)  
Meridional arm of the ITCZ
- Airflow (SE winds are a "stable wind")
- Surface pressure
  - o Mascarene high
  - o Angola low pressure system
  - o Botswana low
- Subtropical troughs can move from west to east across Zambia
- Tropical storms in the Indian Ocean

Tomorrow we can go through these and select some plots and features to draw.

## **WISER EWSA Testbed 1 Report from the Community Hub in Kanyama (Zambia)**

26 community members and 11 community observers participated in the community hub in Kanyama (Lusaka). This group included a variety of ages (up to 90s!) and people with sight and mobility disabilities. With testbed forecasts and nowcasts not yet issued, the group discussed the daily forecasts that were issued by ZMD on their whatsapp group on 28th January 2024 (one issued at noon to cover the afternoon and evening; one chart on rainfall observations and one on temperature observations and predictions).

Weather information is used for a variety of purposes: deciding what clothes to wear/whether to carry an umbrella, how to engage in economic activities (e.g. whether or not to go and sell goods in an open market), when to charge solar panels, when to do washing, as well as gardening tasks.

Very few members of the group reported receiving weather information (and no one had seen the forecasts that were discussed before they were shared). In general information is deemed useful (although in the community observer training one participant noted that the forecast is not useful as “it is always the same”). However, of course to be useful it first has to be received. Many highlighted that there is a big gap here, with cellphones proposed as the best communication channel (for example modelled on the cholera messaging which was distributed universally through local cellphone networks).

Language of communication was also highlighted as essential, with two dimensions. First is the use of the English language (which not everyone understands) and second is the use of complicated terms (one group highlighted that the meaning of “isolated” is not clear). Language of communication leads to social differentiation in terms of who understands and who does not. Overcoming this could be achieved through more use of symbols and graphics (although that said, the groups were given the temperature and rainfall tables that ZMD transmits and largely did not focus on them during discussions), as well as local language transmissions and the use of multiple channels to suit varied needs.

Tomorrow we will discuss feedback on the forecasts issued by the testbed this afternoon, and undertake participatory flood risk mapping exercises.

