

UGANDA

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World Meteorological Organization
Organisation météorologique mondiale

HIGHWAY Workshop on RWCs in East Africa
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Outline

- I. Brief introduction to the country and the NMHS (2 slides)
- II. Current national observing capabilities (3 slides)
 - i. Operational stations (both NMHS and other national organizations)
 - ii. Known issues and major challenges
- III. Existing plans for any future changes to the networks (1 slide)
- IV. Other remarks (1 slide)

Brief introduction to the country and the NMHS

Uganda National Meteorological Authority (UNMA)
formerly Department of Meteorology (DoM)

UNMA was formed by an Act of Parliament known as the
“Uganda National Meteorological Act 2012”

Mandate of UNMA

To provide for the control and development of technically sound and scientific meteorological services and to provide for other related matters.

Brief introduction to the country and the NMHS

Uganda experiences two rainfall seasons

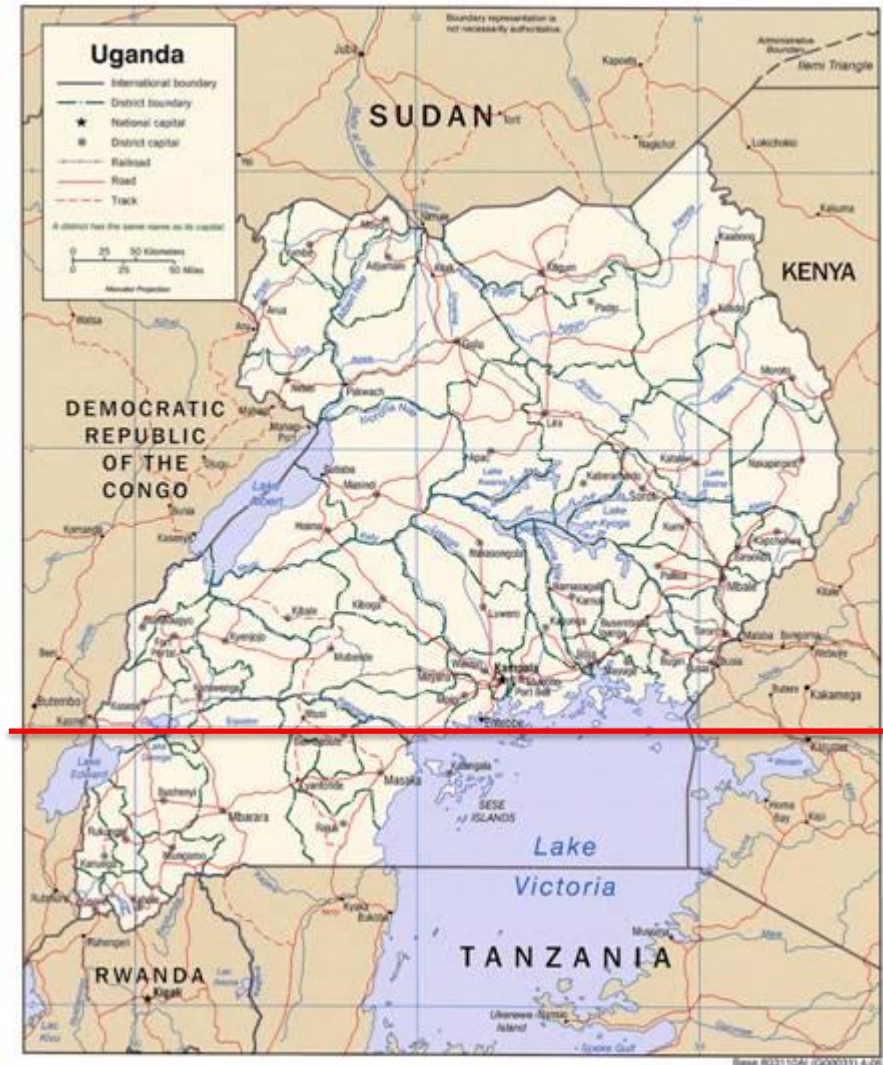
Near the equator

1) March-May

2) September-November

Single rainfall season in the north

April-September



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Types of Weather Stations

No	Category	Type	Qty	Functional	%age
1	Surface	AWS	223	110	49
2	Surface	Manual	52	29	56
3	Surface	Rainfall	325	110	34
4	Upper	Upper Air	1	1	100
5	Upper	Weather Radar	3	1	33
6	Upper	Wind Sheer	1	0	

Networks of Manual Weather Stations

KEY

● Synoptic 12/12

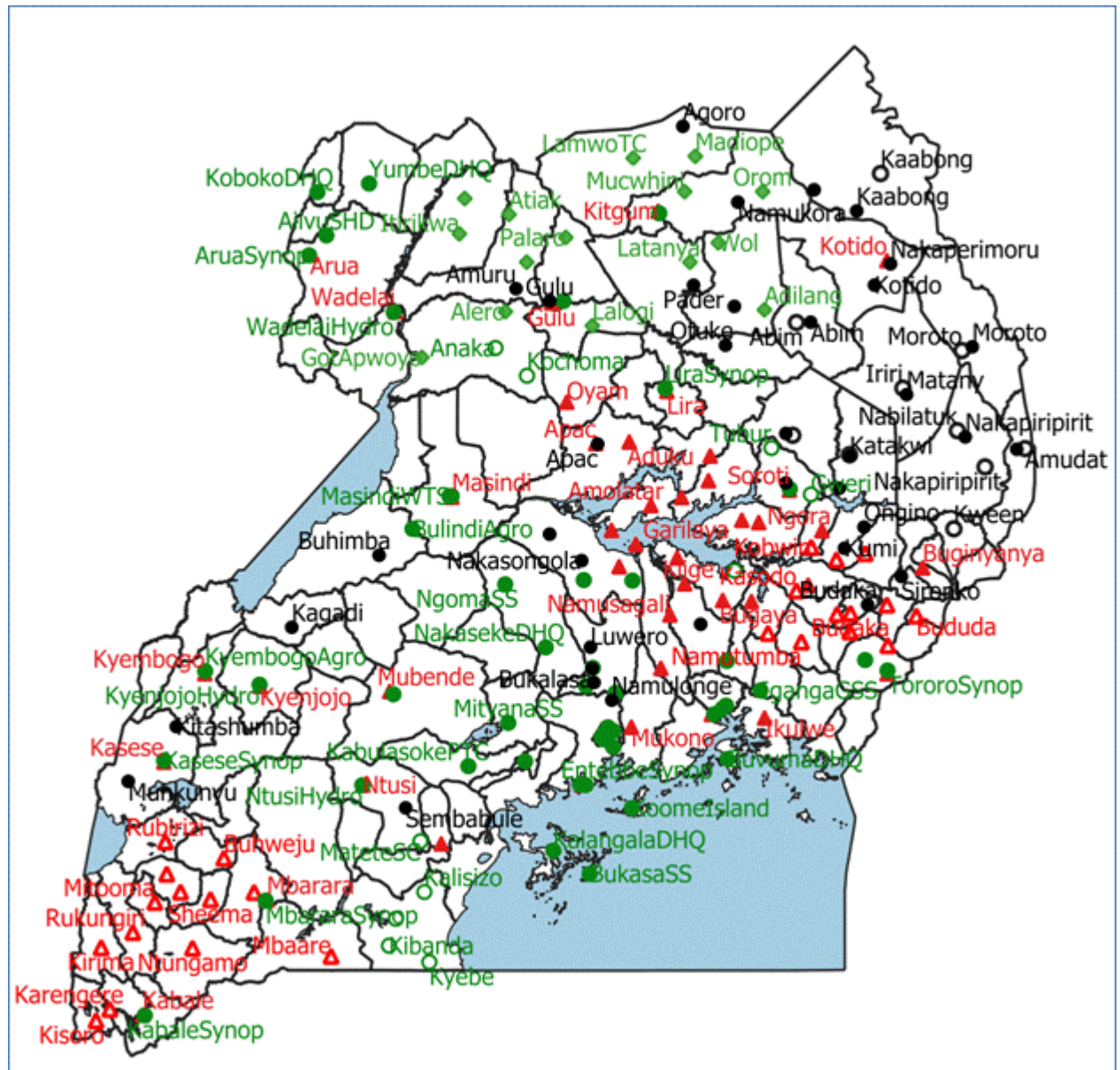
● Agromet 9/23

● Hydromet 8/17



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Networks of Automatic Weather Stations in Uganda



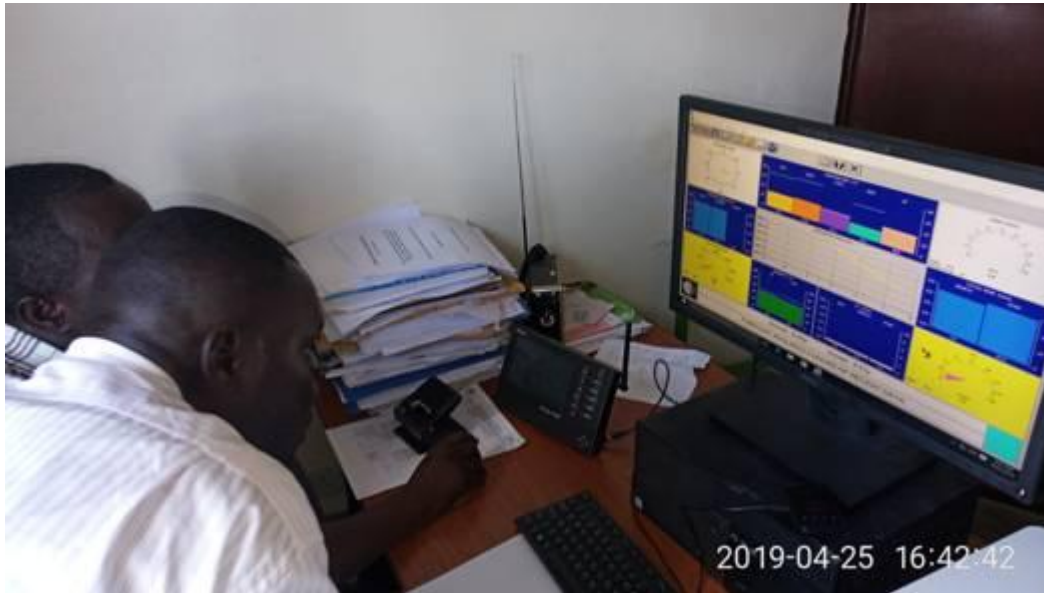
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Status of AWS Networks

SNO	Brand	Qty	Installed	Functional	Not Functional	InStore
1	Davis	42	42	5	37	0
2	Adcon	79	53	44	10	25
3	Meter	48	38	38	0	10
4	Campbell	23	13	8	5	10
5	Rika	15	15	15	0	0
6	Sutron	6	6	0	6	0
7	Others	10	10	0	10	0
	Total	223	177	110	68	45

Current national observing capabilities

Challenges with Davis AWS



The set up of a Davis AWS, needs a person on ground to switch on power, a computer connect receiver and modem for the AWS to transmit weather data to a Server.



Current national observing capabilities

Solution with Davis AWS



Makerere University, IT students displaying the prototype data logger for Davis AWS to UNMA Staff.

Under the NORAD WIMEA Project, UNMA requested , Makerere University, Computer School, to produce a customized data logger for Davis AWS.

The data-logger produced can transmit weather data directly to UNMA server without need of human intervention.

UNMA has an MoU with Makerere to finance reproduction of the 40 data loggers



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Existing plans for any future changes to the networks

“DAVIS, ADCON, METER, CAMPBELL, RIKA”

AWSs of different brands displays weather data differently which complicates integration of weather databases and exchange of data with WMO

Three strategies to harmonize the problem

- 1) Through Procurement of the same existing brand.
- 2) Develop a standard software to grab data from different servers and covert to standard display format.
- 3) **Adapt the different AWS to a universal data logger like of (ADCON)**



Adapt existing AWSs to a Universal Data loggers



Successful tests on adapting a Davis AWS to use a Campbell data logger were conducted



In consideration of majority AWS, power consumption, solar panel size, size of battery, data transmission costs and data display, UNMA will adapt other AWS to use ADCON data logger



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Thank you

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