REPUBLIQUE DU NIGER
----------0----------
MINISTERE DES TRANSPORTS
----------0----------
DIRECTION DE LA METEOROLOGIE NATIONALE

GFCS GLOBAL FRAMEWORK FOR CLIMATE SERVICES

OMM Organisation Météorologique Mondiale

USAID FROM THE AMERICAN PEOPLE

Public Weather Services (PWS) Communications Workshop

(Niamey, Niger, 30 July - 02 August 2018)

Rapporteur:
Moumouni Kaougé Boubacar,
Meteorologist

Edited by Samuel Muchemi (WMO)

Executive Summary

At the request of the Government of Niger, WMO through the Public Weather Services Delivery Programme (PWSD) organized the “PWS Communications Workshop in Niamey, Niger from 30 July to 02 August 2018. Some 33 participants from the Meteorological Service of Niger (DMN) and various organizations participated.

One of the main outcomes of the Workshop was to identify gaps in service delivery that exist in Niger and to discuss possible solutions. There was special focus on introducing the subjects of Impact-based Forecast and Warning Services (IBFWS), the Common Alerting Protocol (CAP) standard format for communication of alerts and warnings as well as the WMO register of Alerting Authorities.

The Workshop also produced recommendations as follows:

Recommendations

a) For DMN

- To take action at DMN to start the process of providing impact-based forecast and warning services (IBFWS) to users. This would include forming a mechanism to steer the implementation of IBFWS including training of stakeholders and developing MoUs and standard Operating Procedures (SOPs)
- To take action for the implementation of the Common Alerting Protocol (CAP) standard in the DMN
- Nominate an editor for the WMO Register of Alerting Authorities for Niger
- Identify media interested in disseminating DMN products and take steps to engage them;
- Put an announcement of the weather forecast on the official websites of other organizations (civil protection for example);
- Strengthen collaboration between DMN and the Community Media Directorate (DMC) for the dissemination of climate and weather information;
- Build the capacity of community radio presenters in the field of meteorology by organizing training workshops and seminars for them;
- Initiate communication with Office of Radio and Television of Niger (ORTN) with a view to laying down procedures and mechanisms to ensure the availability of regional weather information in the ORTN regional offices;
- Organize trainings events for the communicators of the weather information to the media.

b) For ORTN

- Encourage the creation of a weather section on the schedule of regional radio stations.

c) For WMO

- Support the DMN to put in place the Impact Based Forecast and warning Services (IBFWS) and CAP based forecasting system.

Introduction

The Public Weather Services (PWS) Communications Workshop was held in Niamey, Niger from 30 July to 02 August 2018, at Hotel Sahel. This event was organized by the Meteorological Service of Niger (DMN) in collaboration with the Public Weather Services Delivery (PWSD) program of WMO and the Agricultural Meteorology Division (AgMet). The UK Met Office, WMO and the Meteorological Service of Mauritania provided the lecturers. The Workshop was sponsored under the Global Framework for Climate Services (GFCS) project named "Climate Services for Increased Resilience in the Sahel", which is funded by the United States Agency for International Development (USAID).

The overall objective of the workshop was to assist DMN improve provision of weather services to users, and provide a platform to identify gaps in the provision of these services. The workshop allowed the participants to discuss and find ways to fill these gaps. Annex 1 is the list of the participants and Annex 2 is the Workshop Programme.

Specific objectives:

- Identify gaps in the provision of services by the DMN to users (channels of communication, user engagement skills, etc.) including:
    - Authorities managing disaster and preparedness;
    - Media;
    - Agriculture;
- Discuss improvement of the delivery of services to users;
- Introduce the concept of Impact-Based Forecast and Warning Services to participants;
- Get participants to understand the Common Alerting Protocol (CAP) standard and discuss the potential to implement in Niger;

The workshop was attended by participants from various disciplines including: radio and national TV, the *Réseau National des Chambres d'Agriculture du Niger* (RECA), the network of community radio stations, management of community media, the ministries of agriculture and livestock, the Ministry responsible for management and humanitarian organizations, disasters and civil protection.

1. Opening ceremony

The opening ceremony was marked by the speech of the Secretary-General of the Department of transport. He welcomed the participants and commended their commitment to effective dissemination of weather information to users. He opened the training workshop and urged participants to be diligent and involved during the workshop.

2. Weather Warning Dissemination Status: Weather products available at the DMN (Mr Ousman Baoua, DMN)

Mr Ousman Baoua presented in detail the different products and services developed by the DMN for the benefit of the public. He mentioned that all these products were free and available for all. He showed the different broadcast channels utilized by the DMN, including social media, website, national radio, television and electronic mail. Table 1 below shows the products produced by DMN, Niger and the channels of communication. The Table was developed through group discussions during the Workshop.

***Table 1** : Weather and climate products developed by DMN and their communication channels*

produits Meteo	Radio nationales	Radio regionales	Radio communautaires	Medias prives	Télé	Journaux	Web	Mailing list	Facebook	Twiter	Youtube	Instagram	Whatapp	Atelier itinérants	Courier
Bulletin de Briefing météo							X	X	X						
Bulletin météo quotidien	X						X	X	X				X		
Bulletin télé					X										
Bulletin météo de vigilance	X						X	X	X				X		
Bulletin spécial week-end	X						X	X	X				X		
Bulletin agro-météo dékadaire							X	X							X
Bulletin spécial maraicher			X - A LA DEMANDE												
Bulletin PRESASS	X			X	X	X	X	X	X				X	X	X
Bulletin Assistance agro-météo			X - A LA DEMANDE												
Bulletin climat santé								X							X
Bulletin climat ressources en eaux								X						X	X
Bulletin météo d'alerte	X			X			X	X	X				X		X
Bulletin spécial décideurs							X	X							X
Bulletin radio	X												X		

3. Determination of the gaps in the delivery of services: (Mr. Samuel Muchemi, WMO)

4.1 The participants were divided into groups according to their sectors. They discussed the various products developed by the DMN and the channels of dissemination, and they identified the gaps that they experienced and proposed possible solutions. Three groups were established:

- Group 1: community radio, the national radio;
- Group 2: the ORTN; and
- Group 3: agriculture, farming risk management.

***Photo 1:** Group work "identifying gaps and proposing solutions"*

Results:

Users found the following products useful:

- Daily weather bulletin;
- Weather warning bulletin;
- Special gardener newsletter.
- Weekend special bulletin;
- Bulletin of seasonal climate prediction;
- Climate health bulletin.
- Alert newsletter.

4.2 Gaps related to the dissemination of the products and services of the DMN were identified by the groups and suggestions they made for improvements as indicated in Tables 2, 3 and 4 below:

Table 2: *Gaps and Solutions of the Agriculture Group*

Gaps	**Solutions**
Non-use / insufficient involvement of the radios in communication of weather products	Use more radio stations in the communication of weather information
Illiteracy of the majority of agricultural producers	Use local language support - WhatsApp
Low coverage of the radios in remote rural areas	-
Lack of awareness of weather website by technical services	Enlargement of the mailing List (extensions TBD strategies)
Difficulties of access to internet	-
Lack of knowledge of the products available at the DMN and their uses in Agriculture by agricultural services	Increase awareness workshops for stakeholders in the agricultural sector on the weather products and climate, and their use in Agriculture

Table 3: *Gaps and solutions of the MEDIA group*

Products/gaps	**solutions**
Weather briefing Insufficient information broadcast by some channels such as TV and radio stations (national and regional)	• It is proposed that other communication channels be used to augment TV and radio • To review hours of weather broadcast programmes both at national and regional level
Daily weather 24-hour forecasts Daily weather passes only in French	Include daily weather programme on television at 8:30 in local languages
Special weekend bulletin	Provide it in local languages on radio and television
Decadal agro meteorological bulletin	Provide it in local languages on radio and television
Regarding follow-up and the evolution of weather patterns Non broadcast at the level of the regional radio stations	Extend weather development programmes to regional channels in order to help media communicate the consequences of weather situations to users for their awareness
Seasonal climate forecast bulletin Little known by the media	Media training needed in order for them to understand the seasonal forecast bulletin

Table 4: *Gaps and Solutions by the Community Radios Group*

Products	Solutions
Daily weather report	A. Transmit the WhatsApp information into local languages and convey this information to the Directors and Presidents of community radio presenters to relay this information; B. Community radios need financial and technical support (broadcasting equipment) for feedback of information to the National Meteorological Directorate; C. At the level of the National Meteorological Service, make a professional electronic mailing box in order to solve email problems; D. Modernize the equipment of the Weather Studio in order to interest private broadcast stations to use the bulletins. Currently, the recording of the TV bulletin is still on tape, which does not allow for broadcast on social networks such as YouTube etc.

4. Impact-based Forecast and Warning Services (Dr Issa Lélé, consultant UK Met office)

Impact-based Forecast and Warning Services is a relatively new approach of providing weather warnings and including likely impacts the severe weather might have. It associates the forecast weather and climate to impacts. This form of forecast requires the involvement of key stakeholders in order to establish a classification of the impacts of the various weather phenomena.

Photo 2: *Dr Issa Lele presents the Impact-based Forecast and Warning Services (IBFWS) approach*

5.1 Practical group work: development of a contingency plan based on floods

The exercise was to develop a contingency plan following heavy rainfall that could cause flooding in a given locality. The goal of the plan was to minimize the impact of the extreme event through prioritizing actions anticipated by a local Committee formed by administrative authorities, community leaders, NGOs and technical services of the State. For simulation, three groups of seven actors were formed namely:

- a representative weather and hydrology;
- a representative of agriculture and livestock;
- a health representative;
- a representative of civil society;
- The Mayor;
- The media;

• a representative of disaster risk management; • a representative of the Red Cross.

Photos 3: *Working Groups discuss action based on a warning*

The groups proceeded in the following manner:

- identify the hazards associated with the prediction of extreme rain by sector;
- Identify the needs by sector;
- Evaluate the cost per sector involved (agriculture, livestock, weather, health, hydrology...);
- Allocate financial resources by sector according to a budget (five hundred thousand dollars).

Photo 4: *Determining the needs of the groups*

Table 5: *Needs by sectors and budget for action as decided by the participants*

Institutions	Needs	Cost (USD)	Total (USD)
Civil society	Sensitization	25000	100000
	Media training	50000	
		25000	
Hydrology/Meteorology	Hydro	50000	100000
	Meteo	50000	
Red Cross	Camp	10000	10000
Agriculture/Livestock	Transport of cattle	30000	105000
	Cattle pen	5000	
	Landscaping	15000	
	Crops	25000	
	Ground preparation	50000	
Health	Equiping maternity facilities	50000	150000
	Stocking dispensary clinics	1000000	

Summary:

- The dangers of extreme rainfall forecasting were understood and incorporated by each sector;
- The needs and actions to be taken by industry were identified; and
- The financial resources allocated to sectors were well distributed.

5. Steps for the Implementing of IBFWS (Dr. Issa Lélé)

There are six steps to implementing IBFWS which respond to the following questions:

a) what are the impacts related to the weather and climate?
b) What measures can be taken upstream to mitigate these impacts?
c) Precisely what can the weather and climate that produce these impacts be predicted?
d) The actions were conducted?
e) have the impacts been reduced? How to communicate forecasts based on the impact?
f) How weather and climate information available can be used to take action?

Participants broke into three groups to discuss and form Impact Matrices for flood, drought and heat wave. **Table 6:** Impact Matrix developed by the Drought Group

Low Impacts	***Medium Impacts***	***High Impacts***
Water stress	*drying of water courses*	*Drying up of rivers*
Food insecurity	*Malnutrition*	*Famine*
Exodus	*Loss of crop*	*Loss of human life*
Migration	*Deforestation*	*Loss of livestock*
	Conflict	*desertification*

Table 7: Impact matrix developed by the flood group

Low impacts	**Medium Impacts**	**High Impacts**
	Interruption of electricity	Loss of human life
	Breaking of bridges	Destruction of roads
	Loss of crops	collapsing of buildings
	Social insecurity	Disease epidemics
	Lack of portable water	Interruption of basic services (education, health etc)
		Displacement of populations

Table 7: Impact matrix developed by the Heatwave Group

Low impacts	Medium Impacts	High Impacts
Overheating of communications equipment leading to suspension of broadcasts	Animals	Pregnant animals and poultry risk death
	Drying of crops	Drying up of vegetables
	Negative effects on young children	Severe dehydration of old people
		Hypertention
		Measles
		Meningitis
		High electricity consumption
		Excessive evaporation

The second phase of the group work focused on actions to mitigate drought, flood and heat wave impacts and identification of different frameworks for collaboration with DMN.

Table 8 : *Actions to be taken when faced with the impacts - Flood Group*

Impacts	Action to be taken	Responsible for the action	Quality of collaboration with DMN
Multiple losses in human life (by collapsing infrastructure, drowning...)	Adapt homes to flood risk	Directorate of the Ministry of Housing: Respect Housing Construction Procedures	Strong collaboration
	Evacuate high-risk areas and relocate people as necessary	• Humanitarian Department • Town Hall • Civil protection Agencies	Strong collaboration
	Make water drainage systems	Town Hall	Strong collaboration
	Cut off electricity to avoid electrocution by high voltages cables	Nigelec	No collaboration
	Create flood awareness	Media and non-media	Strong collaboration
Emergence of disease epidemics	Warn people on likely health risks and actions to avoid being affected	Regional Directorate of health	Strong collaboration
Drinking water	Provide drinking water	Humanitarian	Strong collaboration
Stopping children from attending school	Inform pupils not to attend school and to educate them on the impacts	Ministry of education	Weak collaboration

Table 9 : *Actions to be taken in the face of the impacts - Heatwave Group*

Sectors	Action to be taken	Responsible for the action	Quality of collaboration with DMN
Water resources	• Ration use of water • Tree planting for the long term around waterways to reduce evaporation	• Department of water and environment • NGOs and various projects	There is collaboration
Energy	• Diversify energy sources • Promote the use of solar energy • Awareness on the use of energy	• State • Population • NGO • Media	No information on collaboration
Health	**Animals** • Making suitable animal shelters • Change of grazing areas (transhumance) • Support from NGOs and projects **Plants** • Making shade structures (shade against wind, heat ...) • Intensification of irrigation **Human** • Put the elderly, children and patients in a safe environment • Organize awareness and prevention campaigns against climate-sensitive diseases • Advise and encourage people to drink more water during the heat wave	• Ministry of health • Humanitarian organizations • The people impacted	There is collaboration
Communication	Staffing and maintaining stations with generators	State and partners	No information on collaboration

6. The Common Alerting Protocol (CAP) (S Muchemi, WMO)

Photo 6: *Presentation on CAP*

a) Mr Muchemi introduced the Common Alerting Protocol (CAP) standard. The aim of the presentation was to ensure that upon completion of the CAP session, participants would have an appreciation of:

- what CAP is
- why CAP is needed
- the benefits of CAP
- the WMO Register of Alerting Authorities

and

- the WMO Alert Hub

The Common Alerting Protocol (CAP) is **) is a standard message format** XML-based data format for exchanging public warnings and emergencies between alerting technologies. CAP allows a warning message to be consistently disseminated simultaneously over many warning systems to many applications. It increases warning effectiveness and simplifies the task of activating a warning for responsible officials.

CAP presents alerts in a standard manner describing them in terms of **Severity** *(Extreme, Severe, Moderate, Minor, Unknown) and* **Certainty:** *(Very Likely, Likely, Possible, Unlikely, Unknown).*

Since CAP is an XML-based data format, it makes it possible for machine to machine routing while allowing users to sought by severity, certainty etc. It is therefore suitable for All-Hazards, all-Media and allows **simultaneous dissemination** over many warning channels (e.g. TV, radio, internet, mobile phones, digital road signs … etc).

To make a CAP alert easier for a humans to read, a "Stylesheet" transforms the XML document into HTML.

b) Participants were introduced to the WMO Register of Alerting Authorities whose purpose is to provide an authoritative register of organizations authorized to issue alerts in each country. They understood why DMN should ensure to nominate a national editor for the register.

c) Implementation of CAP

In order to implement the CAP, WMO within the framework of the program (PWSD) helps its members through the CAP Jump-start support. At the request of NMHSs, WMO experts assist them with training and free CAP software. Developing countries are also supported with funding in this process.

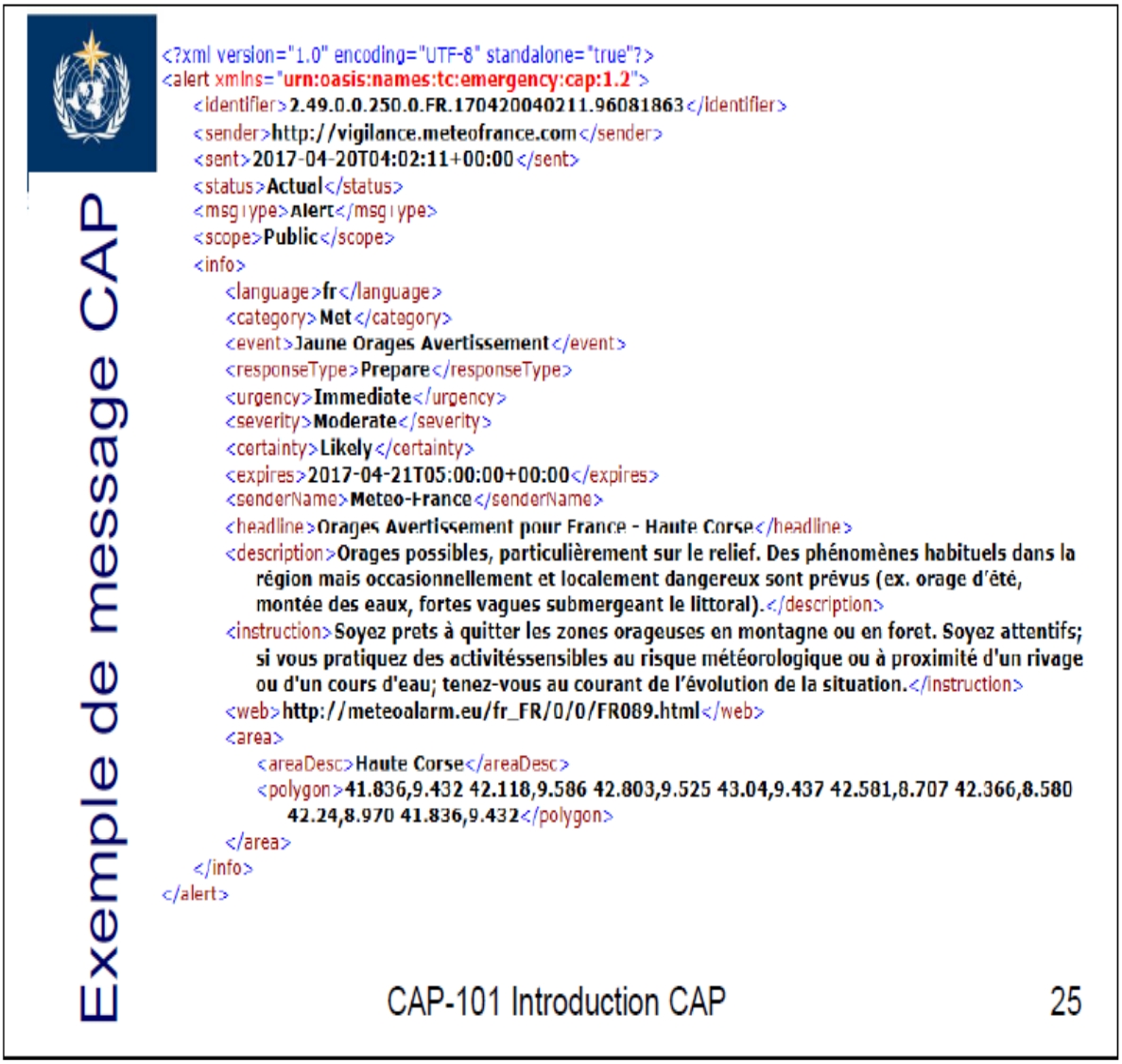

Figure 1: *Example of a CAP Format warning in XML*

CAP Alert

SEVERE THUNDERSTORM WARNING

Summary

Identifier:	KSTO1055887203
Sender:	KSTO@NWS.NOAA.GOV
Sent:	2003-06-17T14:57:00-07:00
Status:	Actual
Message Type:	Alert
Scope:	Public

Additional Details:

Category:	Met
Event:	SEVERE THUNDERSTORM
Urgency:	Immediate
Severity:	Severe
Certainty:	Observed
Sender Name:	NATIONAL WEATHER SERVICE SACRAMENTO CA
Headline:	SEVERE THUNDERSTORM WARNING
Description:	AT 254 PM PDT...NATIONAL WEATHER SERVICE DOPPLER RADAR INDICATED A SEVERE THUNDERSTORM OVER SOUTH CENTRAL ALPINE COUNTY...MOVING SOUTHWEST AT 5 MPH. HAIL...INTENSE RAIN AND STRONG DAMAGING WINDS ARE LIKELY WITH THIS STORM.
Instruction:	TAKE COVER IN A SUBSTANTIAL SHELTER UNTIL THE STORM PASSES.
Contact:	BARUFFALDI/JUSKIE
Area Description:	EXTREME NORTH CENTRAL TUOLUMNE COUNTY IN CALIFORNIA, EXTREME NORTHEASTERN CALAVERAS COUNTY IN CALIFORNIA, SOUTHWESTERN ALPINE COUNTY IN CALIFORNIA
Polygon:	38.47,-120.14 38.34,-119.95 38.52,-119.74 38.62,-119.89 38.47,-120.14

Figure 2: *CAP Message in HTML format*

7. Mauritania's experience in disseminating weather and climate information. (Mr. Coulibaly Hamidou, National Office of Meteorology (ONM), Mauritania)

Mr Hamidou presented on the experience of the National Office of Meteorology of Mauritania in servicing the agricultural and livestock sector. He pointed out that in the Sahel, climate variability is very strong in all timescales and has a strong impact on agricultural production.

It has become imperative for farmers and herders in the Sahel to use climate information to adapt to the vagaries of the changing climate.

Because communities have access to information, they have strengthened their ability to cope with climate risks.

Community radios are the most effective communication tools. They guarantees farmers and ranchers rapid access to reliable weather information that helps them adapt their farming practices to absorb climate shocks.

Photo7: *Presentation on service to the agricultural sector of Mauritania: C Hamidou*

He pointed out that the main constraints encountered in the dissemination of weather information to the sector are:

- Lack of collaboration between the different sectors concerned;
- Lack of visibility on weather products and services;
- The complexity of the weather language.

Discussions

After the presentation and the feedback from the groups, very fruitful exchanges took place, after which recommendations of the workshop were formulated.

8. Workshop Recommendations

d) Recommendations to the DMN

- Take action at DMN to start the process of providing impact-based forecast and warning services (IBFWS) to users. This should include forming a mechanism to steer the implementation of IBFWS including training of stakeholders and developing MoUs and standard Operating Procedures (SOPs)
- Nominate an editor for the WMO Register of Alerting Authorities for Niger
- Identify media interested in disseminating DMN products and take steps to engage them;
- Put an announcement of the weather forecast on the official websites of other organizations (civil protection for example);
- Strengthen collaboration between DMN and the Community Media Directorate (DMC) for the dissemination of climate and weather information;
- Build the capacity of community radio presenters in the field of meteorology by organizing training workshops and seminars for them;
- Initiate communication with ORTN with a view to laying down procedures and mechanisms to ensure the availability of regional weather information in the ORTN regional offices;
- Organize training events for the animators of the weather broadcast sections of the media.
- Take action for the implementation of the Common Alerting Protocol (CAP) standard in the DMN

e) To the ORTN

- Encourage the creation of a weather section on the schedule of regional radio stations.

f) To the WMO

- Support the DMN to put in place the IBFWS and CAP based forecasting system.

Annex 1

List of Participants

N°	NOM	PRENOM	STRUCTURE	Email &Téléphone
1	SEYDOU NIANDOU	IBRAHIM	RECA	iseydouniandou@gmail.com 90 66 19 12
2	M^{me} ALBADIA	BORIKA	DMC/MC	albadia02@yahoo.fr 90 67 31 84
3	OUMAN	BAOUA	DMN	ousmanebaoua@yahoo.fr 96 59 23 28
4	WAIZA HANATOU	ALI SOUMAILA	ORTN / DOSSO	waizahanat@gmail.com 96 99 66 98
5	SANDA	NATAHI	ORTN / MARADI	sandanatahi@yahoo.fr 96 56 56 69
6	COULIBALY	HAMIDOU	ONM / MAURITANIE	coulibaly_hamd@yahoo.fr +222 410 25 62
7	GOUMEY	SADOU	MT/ DARD	goumeys@yahoo.fr 98 30 69 69
8	SAHADATOU	MOUNKAILA KODA	ORTN	98 00 27 57
9	LAWAL AMADOU	FADJIMATA ZARA	DGA/MAG/EL	fadji.lawal@gmail.com 92 11 54 65
10	Mme AMINOU	NAFISSA	DMN	nafissa_dignon@yahoo.fr 94 55 25 55
11	ISSA LELE	MOUHAMADOU	UK MET OFFICE CONSULTANT	missalele@gmail.com 91 96 33 54
12	TCHIFFA	MAMANE	DMN	mtchifa@yahoo.fr 90 10 38 33
13	MOUMOUNI KAOUGE	BOUBACAR	DMN	bkaouge@gmail.com 93 57 21 21
14	KATIELLOU	GAPTIA LAWAN	DMN	katielloulaw@gmail.com 96 50 82 04
15	ADAMOU	MAHAMADOU	ASECNA	mahamadou.adamou@gmail.com 90 38 28 66
16	MAMAN ABDOU	ALI	ASECNA	magaria2@yahoo.fr 96 97 97 56
17	SOFIANI SALOU	DAOUDA	CRA/ TI	sofiani2511@yahoo.fr 96 41 96 62
18	BOUBACAR YOUNOUSSOU	ISSOUFOU	MAH/ GC	boubacarissoufou97@gmail.com 98554411
19	SEYDOU	SOUMANA	ARENE	seydousoumana67@gmail.com 96

				26 08 89
20	KARANTA IBRAHIM	SEYNI SOUMAILA	ORTN/ TILLABERI	seynisoumailaibrahim@yahoo.fr 96 57 10 57
21	DOURAMANE	SOUMANA	ORTN/ TAHOUA	soumanadouramane29@gmail.com 96 503925
22	PHILIPPE TCHAOU	SIDIKOU	ORTN/ NIAMEY	96 29 10 78
23	IDRISSA	OUSSEINI	Réseau Radio COM	reracorniger@gmail.com 96 00 30 23
24	NAZIROU	TOUNE	DMN	fatimid.oran@gmail.com 97 51 15 07
25	HAOUA	MAMOUDOU	ORTN	88 97 79 59
26	M^{me} GOUNGA	AICHATOU	DMN	aliboukar@yahoo.com 96 82 70 27
27	M^{me} LIMAN	AISSA DIALLO	DMN	limanaissa@yahoo.fr 96 59 12 29
28	LAOUALI MOUSSA	SOULEYMANE	MAH/ GC	slaouali@yahoo.fr 88 17 11 03
29	MOUSSA AMADOU	MOUSSA	DGA/MAG/EL	m_mahaad@yahoo.fr 96 88 74 23
30	M^{me} ADAMOU	AISSATOU SITTA	DMN	aissasita_s@yahoo.fr 96 96 46 13
31	ABDOU	TAHIROU	DGPC	kaocent@gmail.com 97 74 21 64
32	LABO	MOUSSA	DMN	moussa.labo@yahoo.fr
33	ATTAOULLAHI	ZAKAOUANOU	SG/ MT	
34	SAMUEL	MUCHEMI	WMO	SMuchemi@wmo.int +417308137

PUBLIC WEATHER SERVICES (PWS) COMMUNICATIONS WORKSHOP

(Niamey, Niger 30 July-2 August 2018)

Provisional Programme

Date	Time	Agenda Items	Who
30 July 2018 (Monday)	09:00-13:00	**Item 1**: Opening/welcome **Item 2.1**: Working Arrangements **Item 2.2**: Workshop objectives and outline **Item 3**: Presentations by DMN Niger on weather forecast and warnings dissemination, status to the public, Disaster Management and Civil Protection Authorities (DMCPA), Media and Agriculture.	Representative DMN, Niger Representative (S. Muchemi , WMO) DMN, Niger Moderator (S. Muchemi)
	14:30-17:00	- Practical Session: Determining Service Delivery gaps - Service Delivery: The case of UK Met Office **Item 4:** Impact-Based Forecasting & warning Services (IBF) - Introduction to IBF	S. Muchemi Dr Issa Lele (UK Met Office Consultant) Issa Lele
31 July 2018 (Tuesday)	09:00-13:00	- IBF	Issa Lele
	14:30-17:00	- IBF	Issa Lele
1 August 2018 (Wednesday)	09:00-13:00	- IBF - User perspective: Disaster Manager	Issa Lele Disaster Management Representative
	14:30-17:00	- Common Alerting Protocol **Item 5:** Farmers and livestock communities - communicating with the farming / Livestock communities	S. Muchemi Coulibaly Hamidou (Mauritania Met Service)
2 August 2018 (Thursday)	09:00-13:00	**Item 5:** Farmers and livestock communities - communicating with the farming / Livestock communities **Item 6:** Working with the media - User perspective: media Working with the media	Coulibaly Hamidou Media Representative
	14:30-17:00	**Item 7:** Participating in WMO global platforms for service delivery (WWIS, WMO Register for Alerting Authorities) **Item 8:** Practical session Improvement in service delivery: Way forward for Niger	S. Muchemi All participants
Daily Breaks	10:30-11:00	Morning Coffee	
	13:00-14:30	Lunch Break	
	16:00-16:30	Evening Coffee	