



Barriers to Application of Weather and Climate Information and Climate-Based Decision Support Tools for Agriculture



Climate Resilient Agriculture office (CRAO)
Department of Agriculture



Special Farm Weather Outlook and Advisory for CALABARZON Region as of 8:00 am Oct. 14, 2020



Republic of the Philippines
DEPARTMENT OF AGRICULTURE
REGIONAL FIELD OFFICE NO. 4A
Research Division
Marawoy, Lipa City Batangas


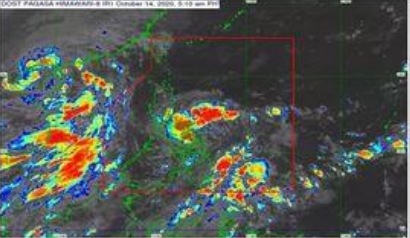


Building Climate-Resilient Livelihoods and Agrifisheries Communities

SPECIAL FARM WEATHER OUTLOOK AND ADVISORY FOR CALABARZON REGION

SEVERE WEATHER BULLETIN#6

as of 8:00 AM, October 14, 2020

TROPICAL DEPRESSION "OFEL"		Tropical Cyclone Wind Signal:	
 <p>Track of Tropical Depression "OFEL"</p> <p>2AM, 17 Oct 2020 (Sat) 2AM, 16 Oct 2020 (Fri) 2AM, 15 Oct 2020 (Thu) 2AM, 14 Oct 2020 (Wed) 2PM, 13 Oct 2020 (Tue) (Initial Position)</p> <p>Philippine Atmospheric, Geophysical and Astronomical Services Administration DOST-PAGASA (MARAWOY) 8:00 AM October 14, 2020, 8:10 am PHT</p> 		<p>Signal No. 1: Northern Samar, Eastern Samar, Samar, Biliran, Batangas, Southern portion of Laguna (Luisiana, Majayjay, Liliw, Nagcarlan, Rizal, San Pablo City, Calauan, Alaminos, Los Banos, Bay, Magdalena), Southern Portion of Quezon (Guinayangan, Tagkawayan, Buenavista, San Narciso, San Andres, Mulanay, San Francisco, Catanauan, Lopez, Calauag, Quezon, Alabat Perez, Atimonan, Tayabas City, Mauban, Sampaloc Lucban, Gumaca, General Luna, Macalelon, Pitogo, Unisan, Plaridel, Padre Burgos, Agdangan, Pagbilao, Lucena City, Sariaya, Candelaria, Dolores Tiaong, San Antonio) and Burias Island</p> <p>Issued by DOST- PAGASA Source: http://bagong.pagasa.dost.gov.ph/tropical-cyclone/severe-weather-bulletin/2</p>	
<p>Maximum Sustained Wind: up to 45km/hr near the center Gustiness: Up to 55km/hr Movement: Moving North Northwestward at 25km/hr</p> <p>Forecast Positions and Intensities * Oct 15: 140km West of Calapan, City Oriental Mindoro * Oct 16: 570km West of Calapan, City Oriental Mindoro * Oct 17: 1,015km west of Southern Luzon</p> <p>Effect in CALABARZON Region: Today through tomorrow morning: "Ofel" will bring Moderate to Heavy rains with occasional Intense rains in CALABARZON region</p>			
CLIMATE RESILIENT AGRICULTURE PRACTICES		IMPACT OUTLOOKS	
<p>Before the Typhoon:</p> <ul style="list-style-type: none"> Dissemination of Weather Advisories. Disseminating typhoon forecast in Local Government Unit's to do their precautionary measures. Evacuation of livestock. Evacuate the livestock in the designated evacuation center. Practice cut and carry feeding. Store feeds/silage enough or last for one month consumption. Administer vitamins before the tropical depression and antibiotic after to guard them from stress. Functional drainage. Clear the irrigation canals from weeds and silt to prevent clogging and water stagnation that may cause flooding. High Value Crops. Conduct early harvesting. Pruning of Fruit Bearing Trees. Early harvesting for fisheries to prevent fish kill and loss in the production of fisheries sector. Secure seeds for rehabilitation. If planting was already conducted, secure from co-farmers or from the community-seed bank the needed seeds for rehabilitation. Delay planting. Pre-emptive evacuation. Follow the orders released by your Local Government Units. <p>During the Typhoon:</p> <ul style="list-style-type: none"> Stay at the evacuation center or at your safe homestead. Avoid going outside to check for damages. <p>After the Typhoon:</p> <ul style="list-style-type: none"> Risk transfer from Philippine Crop Insurance Corporation. For areas damaged crops, livestock, and fishery, document it and report to the Municipal/City Agriculture Office (M/CAO). File Indemnity Claim from PCIC. For non-RSBSA farmers, there is an on-going registration of farmers. Visit your M/CAO. For the incoming wet season planting, insure the farms prior to planting. 		<p>RICE AND CORN STANDING CROP: May affect rice and corn production which are at reproductive and maturity stage.</p> <p>HIGH VALUE CROPS: Approximately a total of 15,000 and above vegetables farmer may be affected.</p> <p>Livestock : Possible, drowning of large and small ruminants and respiratory diseases in poultry productions.</p> <p>Fruit Bearing Trees: Fruit tree in Flowering to Reproductive stage possibly affected of heavy rain and strong winds.</p> <p>* Flooding in low-lying areas and flood-prone areas may happen. Furthermore, rain-induced landslide may threaten upland communities.</p> <p>*POSITIVE IMPACT: Availability of moisture to soil is conducive for crops in the seedling and vegetative stages.</p>	
		DA RFO 4A SUPPORTS	<ul style="list-style-type: none"> *Pre-positioned planting materials and other farm inputs *Farm machineries stationed in the DA RFO 4A, APCO's and Research Station in every province *Buffer stock for rehabilitation after the Typhoon *Climate Information services



Adaptation & Mitigation Initiatives in Agriculture

Climate Information Service

- Localized climate information are effective early warning tools for agr-fisheries
- Provides 10 –day, monthly to seasonal weather forecast
- Translated to farm advisories
- Bases for farm management & operations
- Minimize losses on labor and inputs
- Lesser damages on crops and infrastructures
- Greater productivity and incomes

Existing CIS initiatives for agri-fishery in the country

LGU	Dumangas Climate Field School, since 2007
CSO	Rice Watch and Action Network (R1) model on Localized Climate Services and the Climate- Resiliency Field School – e.g. Gerona, Tarlac
NGA	BSWM's agromet projects and enhanced FFS AMIA Village – e.g. Pamplona, Camarines Sur



Republic of the Philippines
DEPARTMENT OF AGRICULTURE
REGIONAL FIELD OFFICE NO. 5
San Agustin, Pili, Camarines Sur, 4418



Building Climate-Resilient Livelihoods and Agrifisheries Communities

SPECIAL FARM WEATHER OUTLOOK AND ADVISORY FOR BICOL REGION

as of 5:00 AM, May 14, 2020

TYPHOON "AMBO" (VONGFONG)



Maximum Sustained Winds up to 150km/hr near the center
Gustiness: Up to 185km/hr
Movement: Moving West at 15 km/hr
Forecast Positions and Intensities
* May 14: At 4:00 AM today, the eye of Typhoon "AMBO" was located based on all available data including those from Guisun Doppler Radar at 230 km East of Catarman, Northern Samar
* May 15: In the vicinity of Guisubatan, Albay
* May 17: In the vicinity of Carranglan, Nueva Ecija
* May 18: 30 km West of Calayan, Cagayan
* May 19: 485 km Northeast of Baco, Batanes
* May 20: 1,815 km Northeast of Extreme Northern Luzon
Tropical Cyclone Wind Signal no.
Bicol Region
TCWS No. 2: Catarman to the eastern part of Camarines Sur



CLIMATE RESILIENT AGRICULTURE PRACTICES

Before the Typhoon:

• **Use of postharvest machineries.** Expedite harvesting by using combine mechanical dryers available at the Department of Agriculture RFO 5 or in Government Units (e.g. Corn Combine Harvester, and Rice Combine Harvester) to be used after the typhoon. Store the harvested and dried grains in an elevated seedbank or in safe warehouses.

Available machines:

A. Corn: Corn Combine Harvester: Camarines Sur: 6 units, Masbate: 2 units
Mechanical Dryer: Albay: 6; CN: 1; CS-26 and Masbate-6 units

B. Rice: Rice Combine Harvester: Albay: 9 units; CS: 36 units; CN: 7 units, Sorsogon: 9 units; Mechanical Dryer: Albay: 3 units, CS: 13 units, Sorsogon: 9 units

• **Evacuation of livestock.** Evacuate the livestock in the designated evac Practice cut and carry feeding. Store feeds/silage enough or last for one in Administer vitamins before the tropical depression and antibiotic after to stress.

• **Functional drainage.** Clear the irrigation canals from weeds and silt to and water stagnation that may cause flooding.

• **High Value Crops.** Conduct early harvesting.

• **Pruning of Fruit Bearing Trees.**

• **Early harvesting for fisheries** to prevent fish kill and loss in the production sector.

• **Secure seeds for rehabilitation.** If planting was already conducted, set or from the community-seed bank the needed seeds for rehabilitation.

• **Delay planting.**

• **Pre-emptive evacuation.** Follow the orders released by your Local Gov

During the Typhoon:

• **Stay at the evacuation center or at your safe homestead.** Avoid going damages.

CROP	COMMODITIES	
	STAGE/% of the Standing Crop	FARM OPERATIONS
Rice	Maturing (71%) Reproductive (25%) Vegetative (20%) Newly Planted (4%)	Harvesting/Threshing/ Drying Irrigating Fertilizer Application
Corn	Maturing (65%) Reproductive (20%) Vegetative (9%) Newly Planted (3%)	Harvesting/Threshing/ Drying Fertilizer Application
High Value Crops	Vegetative, Flowering, Harvest Seedling Stage	Spraying, Weeding, Irrigating, Harvesting
Pili	Harvest	Harvesting, Nut Drying

IMPACT OUTLOOKS

• **Outlook:** Tropical Depression may affect the rice production in the Bicol Region.



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Building Climate-Resilient Livelihoods and Agrifisheries Communities

REGIONAL SEASONAL CLIMATE OUTLOOK AND ADVISORY

October 2020 - March 2021

CLIMATE OUTLOOK SUMMARY

- Recent cooling of SSTs have reached La Nina condition;
- La Nina Advisory will be issued in October 2020;
- ENSO Alert System Status: LA NIÑA ALERT



WEATHER SYSTEMS THAT MAY AFFECT THE REGION

Month	Tropical Cyclones	Prov	Dry Days							• Tail end of cold front
			Oct	Nov	Dec	Jan	Feb	Mar	• Thunderstorms	
Oct	2 OR 3	ALB	10	9	7	11	13	14	• Southwest Monsoon	
Nov	1 OR 2	CN	8	6	4	9	9	16	• Intertropical Convergence Zone (ITCZ)	
Dec	1 OR 2	CS	10	8	6	12	13	16	• Ridge High Pressure Areas	
Jan	1 OR 2	CAT	12	9	8	16	21	20	• Easterlies	
Feb	0 OR 1	MAS	16	14	12	14	15	20	• Transition to NE (Oct-Nov)	
Mar	0 OR 1	SOR	12	9	6	7	9	11	• Northeast Monsoon	
									• Low Pressure Areas	
									• Tropical Cyclones	

FORECAST RAINFALL ANALYSIS¹

Prov	October 2020			November 2020			December 2020			January 2021			February 2021			March 2021		
	Normal (mm)	Forecast (mm)	% of Normal	Normal (mm)	Forecast (mm)	% of Normal	Normal (mm)	Forecast (mm)	% of Normal	Normal (mm)	Forecast (mm)	% of Normal	Normal (mm)	Forecast (mm)	% of Normal	Normal (mm)	Forecast (mm)	% of Normal
ALB	349.2	443.2	126.7	457.4	521.7	113.5	463.2	697.5	151.8	276.5	472.7	171.1	204.1	256.6	123.2	170.3	294.4	174.6
CN	454.5	586.5	129.2	490.8	584.1	117.2	504.5	803.9	154.5	355.0	363.2	146.8	174.9	210.8	119.3	144.3	262.1	181.2
CS	401.4	518.4	129.3	439.2	515.2	117.3	475.8	755.3	156.8	250.5	401.3	156.6	175.8	214.8	120.1	149.2	267.3	179.3
CAT	386.6	484.5	125.5	442.0	472.0	107.3	465.8	700.3	150.9	269.5	489.3	186.3	159.4	175.9	110.4	150.4	247.0	167.6
MAS	282.9	369.6	131.2	300.4	335.4	111.7	316.6	504.1	152.7	183.7	331.2	179.6	118.9	144.5	125.4	103.4	200.3	197.0
SOR	326.1	412.4	127.0	420.9	469.6	113.9	451.1	682.4	154.1	293.2	524.3	170.6	205.2	263.3	124.8	169.4	298.0	179.5

OTO PO SA AMIN

Naka-text na ang 'weather advisory' sa mga magsasaka



'Talaga naman, ang farm weather outlook at advisory ay tuluyang gabay namin sa pagtatanim, mula pagbungkal ng lupa hanggang paglalagay ng pataba.'

DATI RATI, umasa lang ang mga magsasaka sa maging maayos ang panahon ng

Mahirap talaga hanggang pumasok ang programang AMIA

magsasaka at mangingisda.



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Building Climate-Resilient Livelihoods and Agrifisheries Communities

MASBATE

PROVINCIAL SEASONAL CLIMATE OUTLOOK AND ADVISORY

October 2020 - March 2021

CLIMATE OUTLOOK SUMMARY

- Recent cooling of SSTs have reached La Nina condition;
- La Nina Advisory will be issued in October 2020;
- ENSO Alert System Status: LA NIÑA ALERT



WEATHER SYSTEMS THAT MAY AFFECT THE REGION

Month	Tropical Cyclones	Dry Days	Notes
Oct	2 OR 3	16	• Tail end of cold front
Nov	1 OR 2	14	• Thunderstorms
Dec	1 OR 2	12	• Southwest Monsoon
Jan	1 OR 2	14	• Intertropical Convergence Zone (ITCZ)
Feb	0 OR 1	15	• Ridge High Pressure Areas
Mar	0 OR 1	20	• Easterlies

FORECAST RAINFALL ANALYSIS¹

Prov	October 2020			November 2020			December 2020			January 2021			February 2021			March 2021		
	Normal (mm)	Forecast (mm)	% of Normal	Normal (mm)	Forecast (mm)	% of Normal	Normal (mm)	Forecast (mm)	% of Normal	Normal (mm)	Forecast (mm)	% of Normal	Normal (mm)	Forecast (mm)	% of Normal	Normal (mm)	Forecast (mm)	% of Normal
CN	282.9	369.6	131.7	300.4	335.4	111.7	316.6	504.1	152.7	183.7	331.2	179.6	118.9	144.5	125.4	103.4	200.3	197.0

All Climate Forecast/Information is based on EL NIÑO & CLIMATE OUTLOOK (September 2020 - February 2021, issued by PAGASA. Source: <https://pasa.gov.ph/forecast>)

Points for CIS implementation

CRITICAL DATA

- Knowledge of crops-weather relationship (phenology)
- Forecast or weather outlook
- Risk management/farm advisories
- Climate Resilient Agriculture (CRA) options

ACTORS

PAGASA
DA RFOs
CSO, LGUs, AEWs
Farmers Group

- Forecast provider
- Translator of forecasts into risk management/
farm advisories
- Communicator of warnings

PROCESSES

- Translation of forecasts into risk management/farm advisories
- Dissemination/ Communication of advisories

Challenges in Climate-based EWS/CIS in Agriculture

Based on actual lessons in CIS implementation

- How often should the advisory services be? (R1 model provides for rapid onset, 10 days, seasonal)
- Who should translate the forecasts into risk management/ farm advisory? Translation to be easily understood (local dialect)
- Knowledge of risk management options (technical experts/local-indigenous experiences)
- Communication strategies to immediately reach communities
- Access of farmers to risk management technologies, especially in emergency situations (e. g. Tropical Cyclones)

“*The preparation and dissemination of farm and fishing advisories based on climate and weather outlook is one of the basic critical services to be provided by DA Regional Field Offices*”

....on mainstreaming
Climate and Weather Advisories
Memo Circular No. 4, series 2020



WILLIAM D. DAR, Ph.D.
Secretary, Department of Agriculture

Adaptation and Mitigation Initiatives in Agriculture

AMIA



CLIMATE RESILIENT AGRICULTURE OFFICE

DA Support Loan Programs

A. Expanded SURE-Aid & Recovery Project

Micro and Small Enterprises (MSEs)

- ✓ Up to P 10M loanable amount
- ✓ Zero (0%) interest rate
- ✓ Payable up to five (5) years

Marginalized, Small Farmers & Fishers (MSFF)

- ✓ P25,000 loanable amount per household
- ✓ Zero (0%) interest rate
- ✓ No collateral
- ✓ Payable up to ten (10) years



DA Support Loan Programs

B. Agri-Negosyo (ANYO)

Micro Agri-Negosyo

- ✓ Up to P 300,000 loanable amount
- ✓ Zero (0%) interest rate
- ✓ Depends on the cash flow of the project, but not to exceed five (5) years

Small Agri-Negosyo

- ✓ From P 300,000 up to 15M loanable amount
- ✓ Zero (0%) interest rate
- ✓ Depends on the cash flow of the project, but not to exceed five (5) years



DA Support Loan Programs

C. Kapital Access for Young Agriprenuers (KAYA)

KAYA Program will finance capital requirements of start-up or existing agri-based projects of young entrepreneurs and agri-fishery graduates aged 18-30 years old.

- ✓ Up to P 500,000 loanable amount
- ✓ Zero (0%) interest rate
- ✓ Depends on the cash flow of the project, but not to exceed five (5) years



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