DSWD DROMIC Preparedness for Response Report #27 on the Mayon Volcano Seismic Activity

as of 18 September 2022, 6AM

I. Brief Background on Mayon Volcano

- Mayon Volcano, called the world's most perfect volcanic cone because of the symmetry of its shape, has a base 80 miles (130 km) in circumference and rises to 8,077 feet (2,462 meters) from the shores of Albay Gulf.[1]

- A highly active stratovolcano with recorded historical eruptions dating back to 1616. The most recent eruptive episode began in early January 2018 that consisted of phreatic explosions, steam-and-ash plumes, lava fountaining, and pyroclastic flows (BGVN 43:04). The previous report noted small but distinct thermal anomalies, gas-and-steam plumes, and slight inflation (BGVN 44:05) that continued to occur from May into mid-October 2019.

- Between May and October 2019, white gas-and-steam plumes rose to a maximum altitude of 800 m on 17 May 2019. The Philippine Institute of Volcanology and Seismology (PHIVOLCS) reported that faint summit incandescence was frequently observed at night from May-July and Sentinel-2 thermal satellite imagery showed weaker thermal anomalies in September and October; the last anomaly was identified on 12 October. Average sulfur dioxide (SO_2) emissions as measured by PHIVOLCS generally varied between 469-774 tons/day; the high value of the period was on 25 July 2022 with 1,171 tons/day. Small SO_2 plumes were detected by the TROPOMI satellite instrument a few times during May-September 2019.[2]

II. Situation Overview

- Mayon Volcano is at **Alert Level 1**, which means that it is at low-level volcanic unrest.[3]

- Alert Level 1 indicates slight increase in volcanic earthquake and steam/gas activity. Sporadic explosions from the summit crater or new vents. Notable increase in the temperature, acidity and volcanic gas concentrations of monitored springs and fumaroles. Slight inflation or swelling of the edifice.

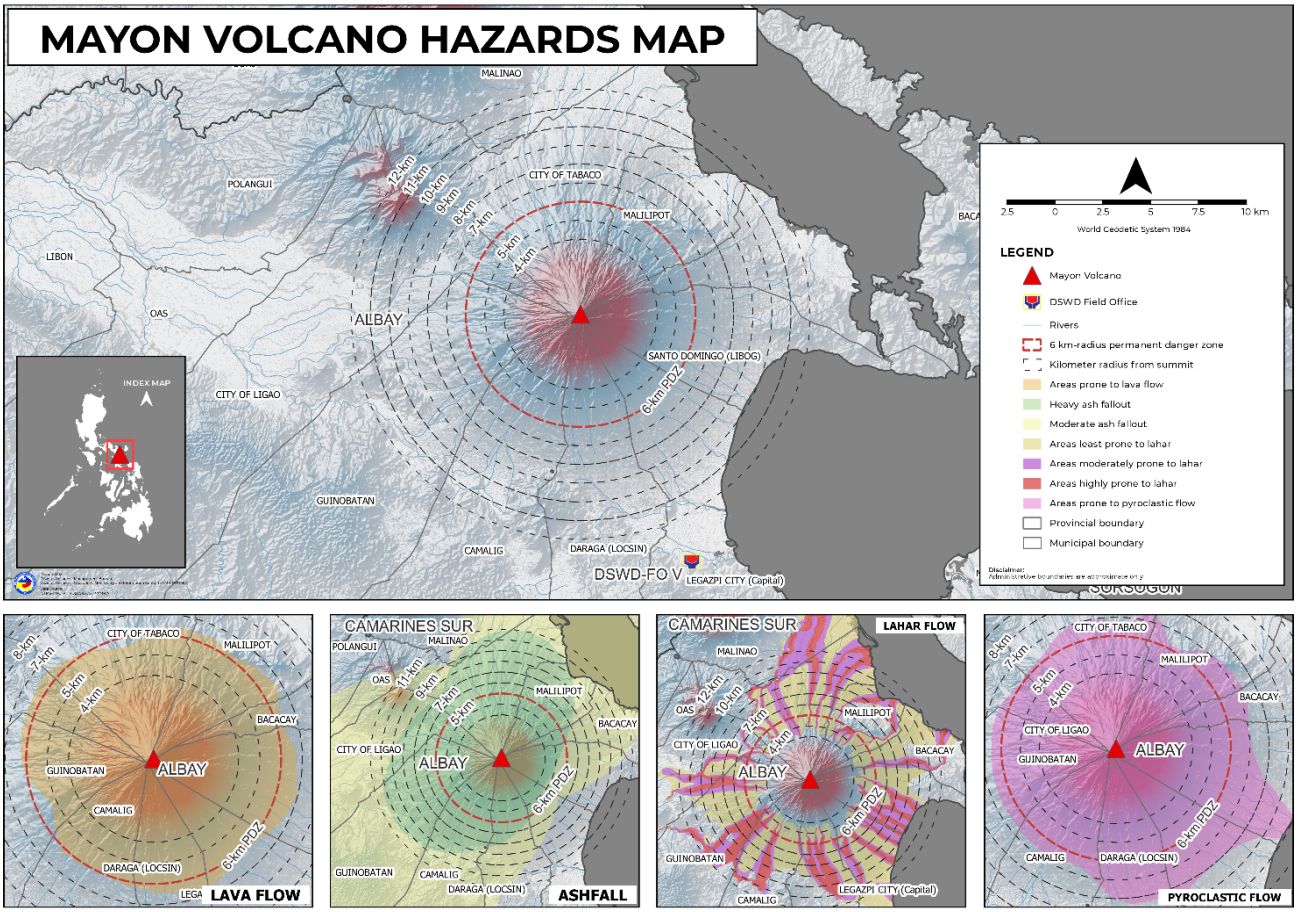
- This means that the volcano is exhibiting abnormal conditions and has entered a period of unrest. The public is reminded that entry into the **6-km Permanent Danger Zone or PDZ must be strictly avoided** due to an increase in the chances of sudden steam-driven or phreatic eruption, as well as the perennial hazards of rockfalls, avalanches and ash bursts at the summit area, that may occur without warning. Furthermore, people living in valleys and active river channels are

[1] *Britannica website (www.britannica.com)*
[2] *Smithsonian Institution National Museum of Natural History – Global Volcanism Program (www.volcano.si.edu)*
[3] *Based on the latest DOST-PHIVOLCS Advisory issued on 16 September 2022, 5AM*

cautioned to remain vigilant against sediment-laden streamflows and lahars in the event of prolonged and heavy rainfall brought about by the advent of the rainy season.

- Civil aviation authorities must also advise pilots to avoid flying close to the volcano's summit as ejecta from any sudden phreatic eruption can be hazardous to aircraft.

- DOST-PHIVOLCS is closely monitoring Mayon Volcano's activity and any new development will be relayed to all concerned.



III. Predictive Analytics for Humanitarian Response (PAHR)

A total of **15,734 families** or **78,692 persons** in **30 barangays** in **Region V** lying within the 6-kilometer (km) PDZ are at high risk on Mayon's eruption. A massive eruption would directly affect **182,284 families** or **911,418 persons** spanning nine (9) municipalities in Province of Albay (see Table 1).

Table 1. Projected Affected Population

Affected Areas	6-km PDZ			Total Population (PSA 2022)		
	Barangays	Families	Persons	Barangays	Families	Persons
TOTAL	30	15,734	78,692	417	182,284	911,418

Affected Areas	6-km PDZ			Total Population (PSA 2022)		
	Barangays	Families	Persons	Barangays	Families	Persons
Bacacay	1	1,600	7,998	56	14,497	72,485
Camalig	4	1,567	7,833	50	14,408	72,042
City of Ligao	1	769	3,845	55	23,619	118,096
City of Tabaco	5	2,856	14,281	47	28,192	140,961
Daraga	1	224	1,119	54	26,779	133,893
Guinobatan	4	1,951	9,755	44	17,157	85,786
Legazpi City	5	2,733	13,665	70	41,907	209,533
Malilipot	5	2,113	10,563	18	8,171	40,857
Santo Domingo	4	1,927	9,633	23	7,553	37,765

A total of **₱8,339,020.00** worth of **family food packs (FFPs)** is projected to be provided to **15,734 families** in the Province of Albay based on the 6-km PDZ. A massive eruption would require **182,284 FFPs** for the same number of families that would be directly affected, costing **₱96,610,520.00** for a two (2)-day food requirement for a family of five (5) members (see Table 2).

Table 2. Projected FFPs Requirement

Affected Areas	6-km PDZ		Total Population (PSA 2022)	
	Families	FFP Cost (₱)	Families	FFP Cost (₱)
TOTAL	**15,734**	**8,339,020.00**	**182,284**	**96,610,520.00**
Bacacay	1,600	848,000.00	14,497	7,683,410.00
Camalig	1,567	830,510.00	14,408	7,636,240.00
City of Ligao	769	407,570.00	23,619	12,518,070.00
City of Tabaco	2,856	1,513,680.00	28,192	14,192,870.00
Daraga	224	118,720.00	26,779	14,192,870.00
Guinobatan	1,951	1,034,030.00	17,157	9,093,210.00
Legazpi City	2,733	1,448,490.00	41,907	22,210,710.00
Malilipot	2,113	1,119,890.00	8,171	4,330,630.00
Santo Domingo	1,927	1,021,310.00	7,553	9,093,210.00

IV. Response Actions and Interventions

a. Standby Funds and Prepositioned Relief Stockpile

OFFICE	STANDBY FUNDS	STOCKPILE			TOTAL STANDBY FUNDS & STOCKPILE
		FAMILY FOOD PACKS		OTHER FOOD AND NON-FOOD ITEMS (FNIs)	
		QUANTITY	TOTAL COST		
TOTAL	**600,441,200.86**	**546,805**	**324,482,675.60**	**655,406,493.11**	**1,580,330,369.57**
DSWD CO	517,026,212.12	-	-	-	517,026,212.12
NRLMB NROC	-	60,176	37,749,746.00	116,391,300.34	154,141,046.34
NRLMB VDRC	-	41,829	26,867,910.00	35,177,750.40	62,045,660.40
DSWD FO V	5,000,000.00	67,861	35,846,919.28	45,116,702.97	85,963,622.25
Other FOs	78,414,988.74	376,939	224,018,100.32	458,720,739.40	761,153,828.46

Note: The Inventory Summary is as of 17 September 2022, 6PM.

Sources: DSWD-DRMB and DSWD-NRLMB

1. **Standby Funds**
   - ₱517.03 million Quick Response Fund (QRF) at the DSWD Central Office.
   - ₱5 million available at DSWD FO V.

- ₱78.41 million in other DSWD FOs which may support the relief needs through inter-FO augmentation.

2. **Prepositioned FFPs and Other Relief Items**
   - 102,005 FFPs available in Disaster Response Centers; of which, 60,176 FPs are at the National Resource Operations Center (NROC), Pasay City and 41,829 FFPs are at the Visayas Disaster Resource Center (VDRC), Mandaue City.
   - 67,861 FFPs available at DSWD FO V.
   - 376,949 FFPs in other DSWD FOs which may support the relief needs through inter-FO augmentation.
   - ₱655.40 million worth of other FNIs at NROC, VDRC, and DSWD FO warehouses.

b. Other Activities

DSWD-DRMB

DATE	SITUATIONS / ACTIONS UNDERTAKEN
18 September 2022	• The Disaster Response Operations Monitoring and Information Center (DROMIC) of the DSWD-DRMB monitors and closely coordinates with DSWD FO V for significant updates on preparedness measures and actions taken.

DSWD-NRLMB

DATE	SITUATIONS / ACTIONS UNDERTAKEN
18 September 2022	• DSWD-NRLMB is continuously producing goods for possible augmentation.

DSWD FO V

DATE	SITUATIONS / ACTIONS UNDERTAKEN
22 August 2022	• DSWD FO V through its Disaster Response Management Division (DRMD) continuously monitors the situation in their area of responsibility and coordinates with other partners for other significant information. • The Regional Resource Operation Section (RROS) ensures the availability of FFPs and non-food items as need arises.

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The Disaster Response Operations Monitoring and Information Center (DROMIC) of DSWD-DRMB is closely coordinating with DSWD FO V for significant preparedness for response updates and technical assistance needed.

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