



Republic of the Philippines
Department of Environment and Natural Resources
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MEMORANDUM

TO : THE REGIONAL EXECUTIVE DIRECTORS
Regions CAR, I, II, III, NCR, IV-A, IV-B, V, VI, VII, and VIII

FROM : THE UNDERSECRETARY
Field Operations – Luzon, Visayas and Environment

SUBJECT : **PRESENTATION OF THE MINES AND GEOSCIENCES BUREAU OPCEN DURING THE AUGUST 19, 2022 NDRRMÇ WEATHER UPDATE RELATIVE TO THE LOW-PRESSURE AREA AT 1,325 KM EAST OF CENTRAL LUZON**

DATE : SEP 05 2022

This pertains to the Memorandum dated 19 August 2022 by the Director, Mines and Geosciences Bureau, submitting the presentation of the Bureau during the Weather Update conducted last August 19, 2022 highlighting the list of barangays that may be affected by flood and rain-induced landslide due to the rainfall brought about by the low pressure area (LPA) and Habagat.

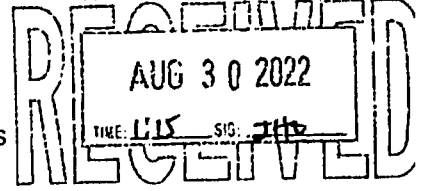
Attached is the presentation of the Bureau on the matter per region for reference.


ATTY. JUAN MIGUEL T. CUNA, *CESO I*



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Department of Environment and Natural Resources
MINES AND GEOSCIENCES BUREAU
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DEPT. OF ENVIRONMENT AND NATURAL RESOURCE
RECORDS MANAGEMENT DIVISION



MEMORANDUM

FOR : The Secretary
Department of Environment and Natural Resources

THRU : The Undersecretary
Field Operations and Environment
Department of Environment and Natural Resources

FROM : The Director
This Bureau

SUBJECT : Presentation of the Mines and Geosciences Bureau OpCen during the August 19, 2022 NDRRMC Weather Update Relative to the Low-Pressure Area at 1,325 km East of Central Luzon

DATE : 19 August 2022

Relative to the development of a low-pressure area at 1,325 km East of Central Luzon, the persistence of the southwest monsoon (Habagat) across various parts of the country, and the cascading hazards of affected areas of the Mw 7.0 Abra earthquake last July 27, 2022, and the Mw 5.9 earthquake in Maguindanao last August 13, 2022, the Mines and Geosciences Bureau Central and Regional Offices have activated their respective Geohazard Operation Centers for vigilant monitoring of flood and landslide incidents within their jurisdictions. Additionally, the Central Office has been constantly sending out barangay listings using GSM and WRF Rainfall Data provided by DOST-PAGASA.

With this, we are respectfully submitting the presentation of this Bureau during the Weather Update conducted last August 19, 2022, highlighting the list of barangays that may be affected by flood and rain-induced landslide due to the rainfall brought about by the LPA and Habagat.

Further, included in the presentation are the lists of areas that have experienced high antecedent rainfall recorded by PAGASA weather stations. Despite some of these areas not included in the recent barangay lists, the local government units (LGUs), through their Local Disaster Risk Reduction and Management Offices (LDRRMOs), are advised to vigilantly monitor their areas of jurisdiction due to the oversaturation of the grounds from the high antecedent rainfall, which increases the probability of flood and rain-induced landslide events to occur. Representative pictures from various regions, as reported by MGB Regional Offices, are shown in the presentation.

Moreover, the MGB Regional Offices CAR and No. I have conducted post-disaster geohazard assessments in select sites, as requested by the LGUs and previously identified as critical. Drone surveys were also utilized in their assessments, with



accompanying pictures, results, and recommendations enclosed in the attached reports.

For your information and further instruction.


ATTY. WILFREDO G. MONCANO,
Encl.: as stated



**MINES &
GEOSCIENCES
BUREAU**
Office of the Director

082822-0005



08/28/2022 MEMORANDUM 3:00 PM

RAIN-INDUCED LANDSLIDE AND FLOOD HAZARDS DUE TO WEATHER SYSTEMS

August 19, 2022



MINES AND GEOSCIENCES BUREAU

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
MINES AND GEOSCIENCES BUREAU

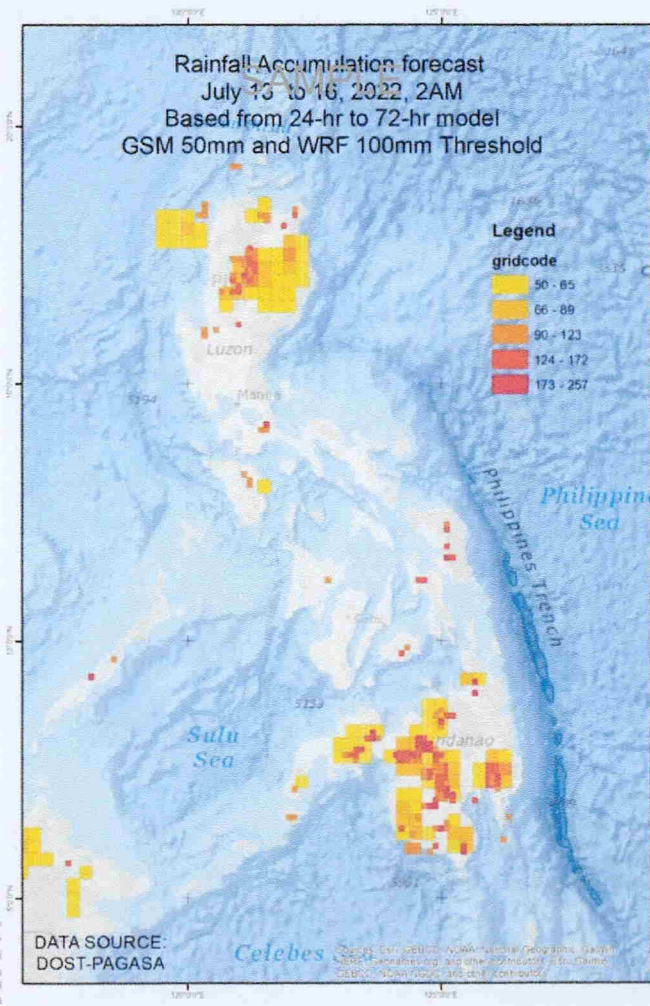


DATA FROM PAGASA-DOST

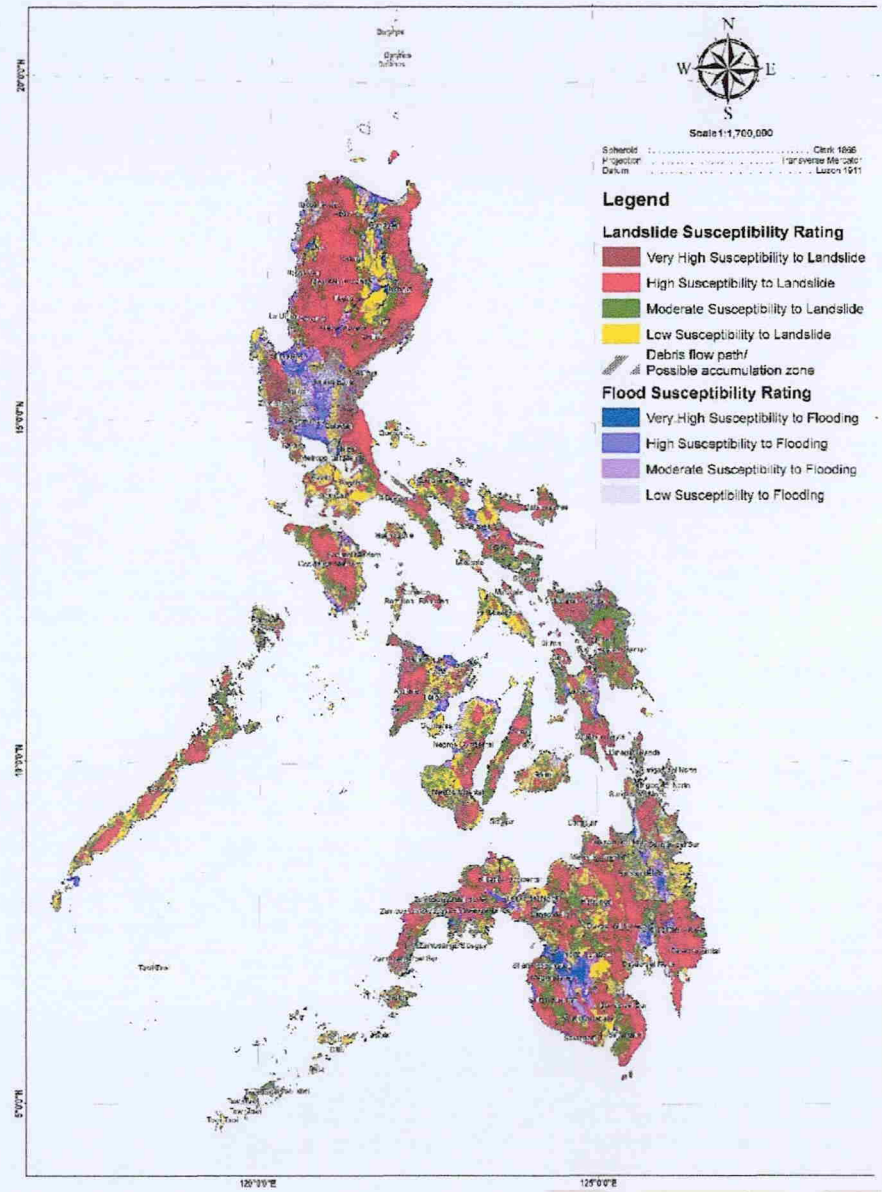
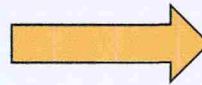
- **Cumulative WRF and GSM 72-hr Forecast Rainfall:**
 - WRF – 130mm; GSM – 80mm
 - ✓ Metro Manila: 50mm; Cebu City: 80mm
 - ✓ Debris Flow: 250mm
- Antecedent Rainfall from August 12 to 16
- Valid until August 22 (2AM)



CUMULATIVE GSM 72-HR AND WRF 72-HR RAINFALL DATA AUGUST 19 TO 22, 2AM



Overlay with MGB Geohazard Map



LIST OF CITIES/MUNICIPALITIES SUSCEPTIBLE TO LANDSLIDE AND FLOOD



MGB Rainfall Accumulation Forecast for Rain-Induced Landslide and Flood
 Rainfall Accumulation Forecast: Cumulative from 18-August-2022 1400 to 19-August-2022 0200
 Period Covered: August 18, 19, 20, 21, 22, 2022
 Model and Threshold: GSM-80 mm and WRF-130mm

Data Utilized:
 DOST-PAGASA, GSM and WRF Models;
 DENR-MEMPA, Topographic Map Boundary;
 DENR-MGB, Hazard Susceptibility Map.

Data Processing:
 DENR-MGB;
 LGSD-LGMS

Legend (mm)
 80 - 119 140 - 159 180 - 199
 120 - 139 160 - 179 200 - 534



August 18 2pm to August 19 2am, 2022

GSM 80mm WRF 130mm

Row Labels

Count of BARANGAY

Row Labels	Count of BARANGAY
Autonomous Region of Muslim Mindanao (ARMM)	96
Lanao del Sur	60
Shariff Kabunsuan	36
Davao Region (Region XI)	6
Davao Oriental	4
Davao de Oro (ComVal)	2
Northern Mindanao (Region X)	58
Bukidnon	19
Lanao del Norte	2
Misamis Oriental	37
Cordillera Administrative Region (CAR)	564
Benguet	260
Mountain Province	105
Abra	170
Ifugao	8
Kalinga	21
Ilocos Region (Region I)	392
Ilocos Sur	47
La Union	253
Pangasinan	92
Cagayan Valley (Region II)	33
Nueva Vizcaya	32
Quirino	1
Central Luzon (Region III)	70
Aurora	1
Bulacan	6
Nueva Ecija	7
Zambales	4
Tarlac	36
Pampanga	16
MIMAROPA (Region IV-B)	138
Oriental Mindoro	97
Occidental Mindoro	38
Palawan	3
CALABARZON (Region IV-A)	451
Batangas	74
Cavite	231
Laguna	145
Quezon	1
Metropolitan Manila	856
Metropolitan Manila	856
San Juan	18
Manila	604
Mandaluyong	12
Quezon City	83
Malabon	20
Navotas	10
Kalookan City	100
Valenzuela	9
Bicol Region (Region V)	183
Albay	38
Camarines Sur	119
Camarines Norte	26
Caraga (Region XIII)	19
Agusan del Norte	10
Agusan del Sur	9
Western Visayas (Region VI)	375
Aklan	4
Capiz	185
Negros Occidental	13
Antique	137
Iloilo	36
Eastern Visayas (Region VIII)	17
Northern Samar	16
Samar	1
Grand Total	3258

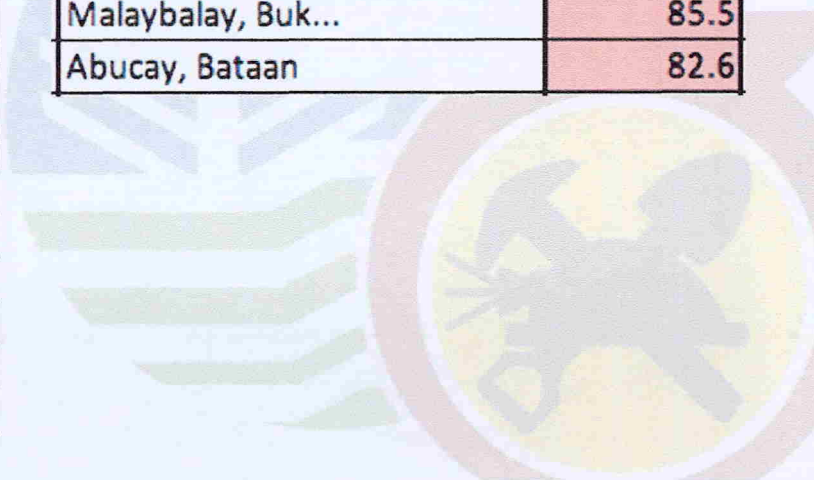
RECORDED RAINFALL FROM JULY 28 TO AUGUST 11

Name	Jul 28 - Aug 1
Subic, Zambales	231.6
Tanay, Rizal	178.7
San Jose, Occidental Mindoro	141.7
Science Garden, Quezon City	134.6
Juban, Sorsogon	127.4
Coron, Palawan	108.6
Casiguran, Aurora	105.3
Dagupan City, Pangasinan	103.1
Cuyo, Palawan	102.5
Munoz, Nueva Ecija	101.9
Abucay, Bataan	98.8
Legazpi City, Albay	88.7
Roxas City, Capiz	88.5
Maasin City, Southern Leyte	88

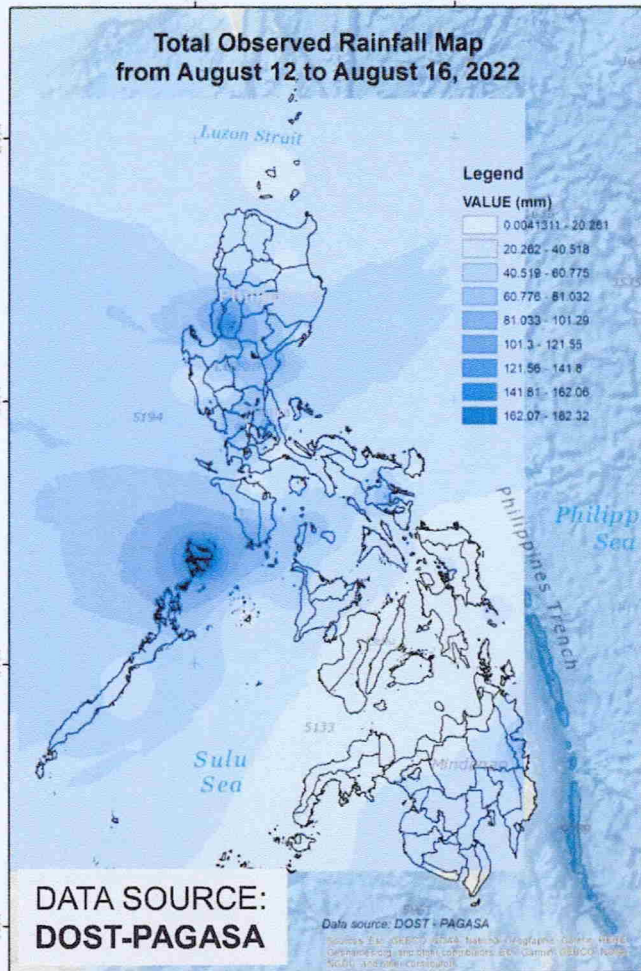
Name	Aug 2 - 6
Casiguran, Aurora	232.8
Mactan City, Cebu	197.5
Baler, Aurora	173.4
Port Area, Manila City	167.9
Subic, Zambales	163.9
Catarman, North...	162.2
Alabat, Quezon	159.5
Guiuan, Eastern...	141.2
Catbalogan City...	128.5
Infanta, Quezon	122.4
Cuyo, Palawan	120.5
Iba, Zambales	119.7
Dumaguete City,...	118.7
Juban, Sorsogon	115.2
San Jose, Occidental Mindoro	114.4
Borongan City,...	111.3
Masbate City, M...	109.6
Cotabato City,...	104.9
Aparri, Cagayan	102.3
Tanay, Rizal	101.6
Roxas City, Capiz	100.5

Name	Aug 7 - 11
Hinatuan, Surigao del Sur	217.1
San Jose, Occidental Mindoro	171.5
Davao City, Dav...	123.8
Port Area, Manila City	108.2
Tayabas, Quezon	103.4
Dumaguete City,...	102.3
Dauis, Bohol	99.1
Alabat, Quezon	87.3
Coron, Palawan	86.6
Malaybalay, Buk...	85.5
Abucay, Bataan	82.6

DATA SOURCE:
DOST-PAGASA



RECORDED RAINFALL FROM AUGUST 12 TO 16, 2022



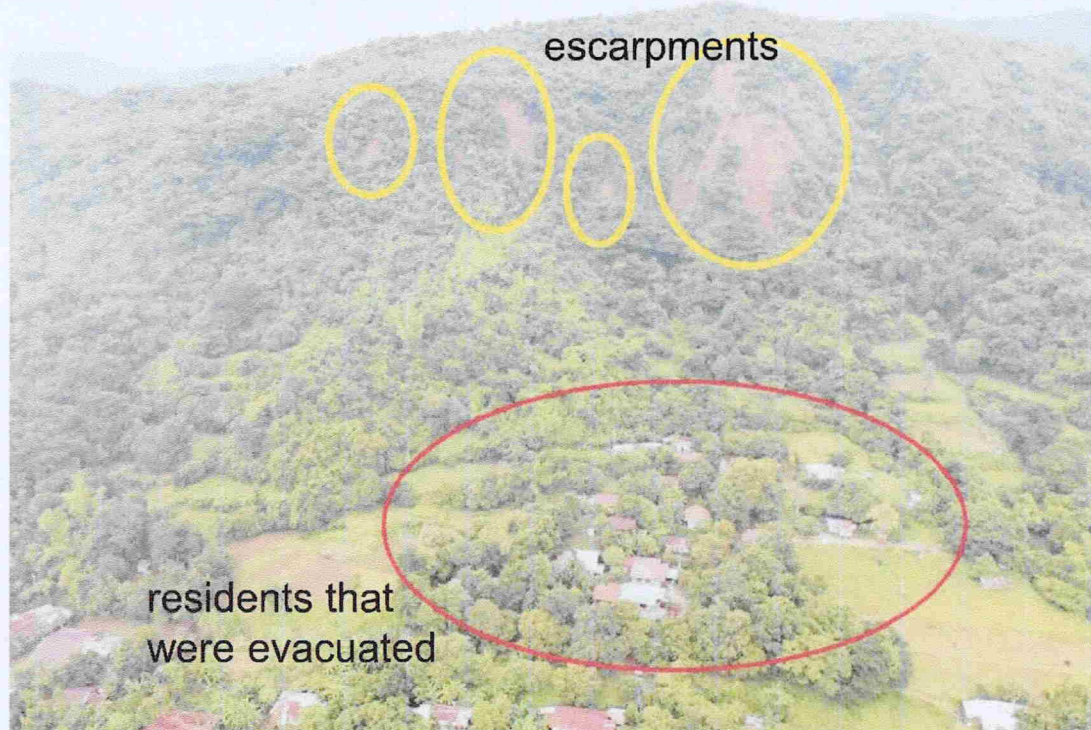
The continuous rainfall brought about by the southwest monsoon and previous low-pressure areas have resulted to the oversaturation of the ground in various parts of the country.

The projected rainfall based on PAGASA rainfall models may lead to a higher probability of flood and rain-induced landslide events in areas with moderate, high, and very high susceptibility to said hazards. The areas in this list should remain vigilant, despite their non-inclusion in the barangay listing.

Name	Aug 12 - 16
Coron, Palawan	182.4
Baguio City, Be...	161.7
Sangley Pt, Cavite City	125.2
San Jose, Occidental Mindoro	106.5
Tanay, Rizal	104.4
Baler, Aurora	90
Legazpi City, Albay	85.8
Iba, Zambales	84
Munoz, Nueva Ecija	83.8

PICTURES ON THE GROUND

Region CAR



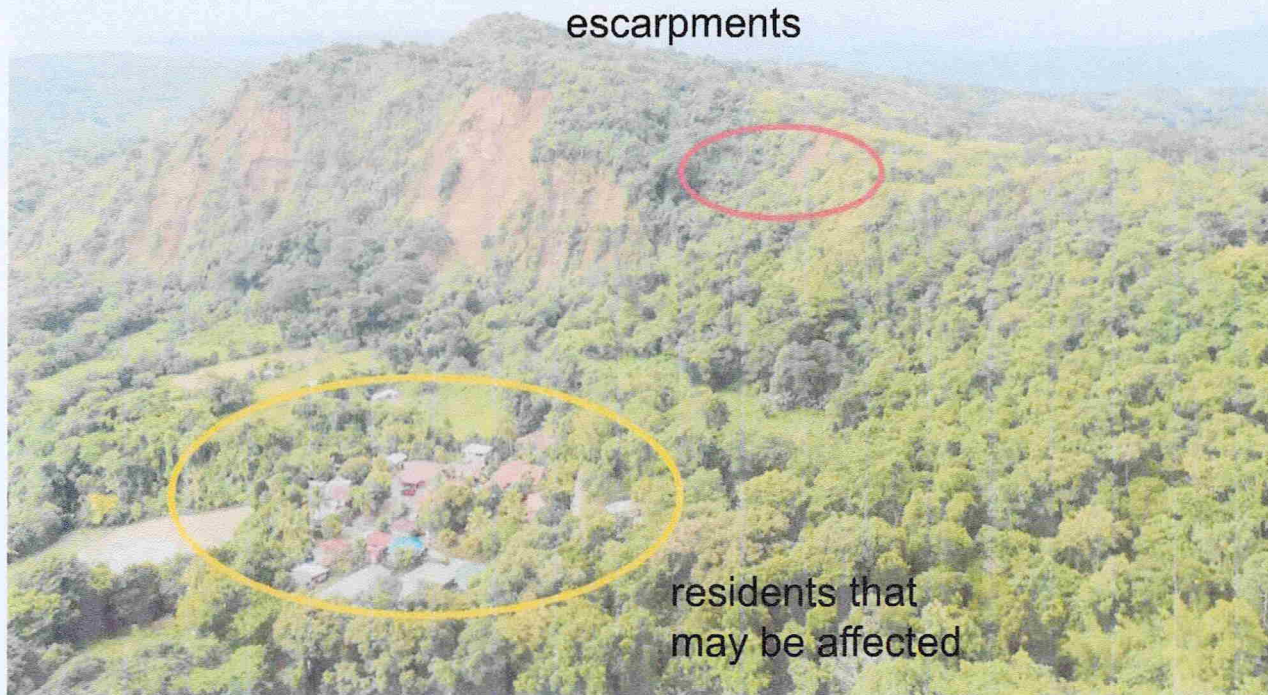
Tangadan, San Quintin, Abra

Assessment conducted by MGB CAR,
Aug 2 – 7, 2022

The area should be declared as “Danger Zone” therefore, the residents downslope of the area should be immediately evacuated and as a long-term solution, the residents should be relocated to more stable ground.

PICTURES ON THE GROUND

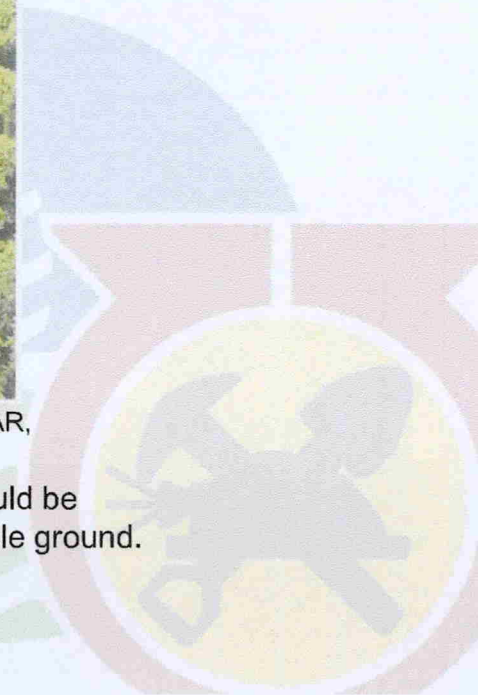
Region CAR



Tiquib, Villaviciosa, Abra

Assessment conducted by MGB CAR,
Aug 2 – 7, 2022

The area should be declared as "Danger Zone" therefore, the residents downslope of the area should be immediately evacuated and as a long-term solution, the residents should be relocated to more stable ground.



RECOMMENDATIONS

MGB REGION CAR

- Constant monitoring of untoward incidents through continuous coordination with the LGUs affected by the Localized Thunderstorms and other weather systems; especially in areas affected by the recent earthquake.



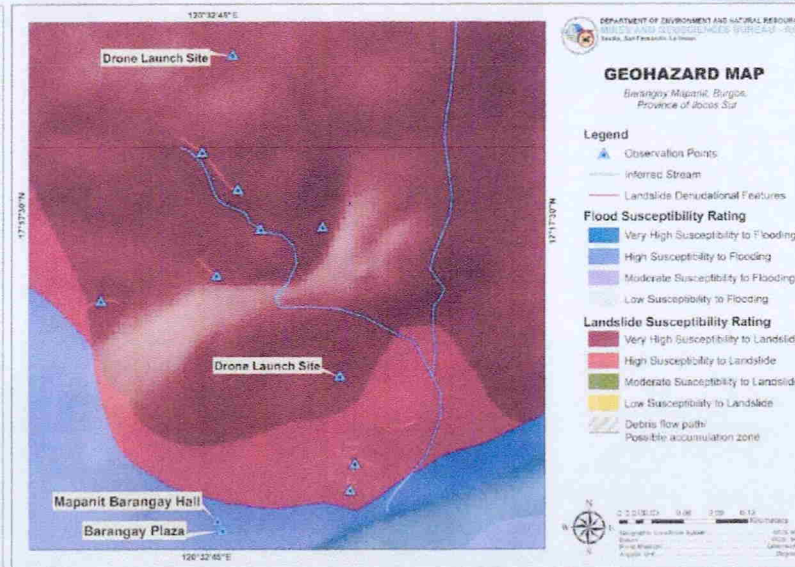
PICTURES ON THE GROUND

Region I



Figure 3 Terraces on the hillsides with vertical displacement of more than 0.5 meter. GPS Coordinates: 17° 17' 16.7"N 120° 32' 55.0"E

Assessment conducted
by MGB RO I
Aug 4 – 6, 2022



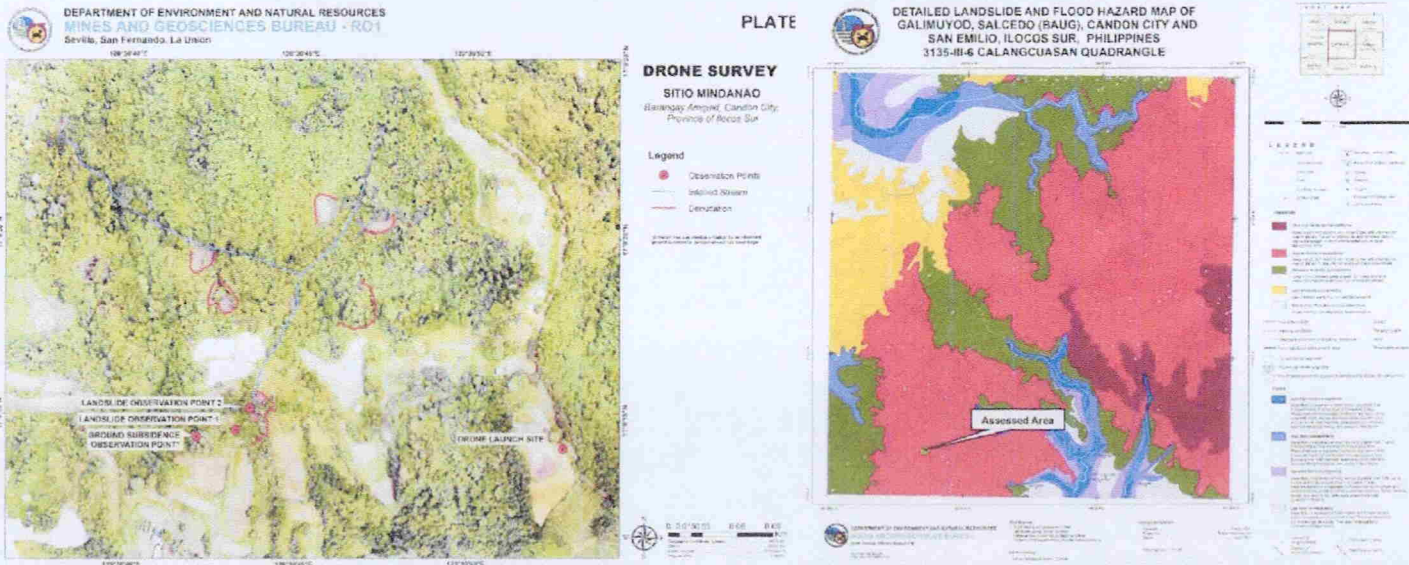
PICTURES ON THE GROUND

Region I



Figure 6 Scoured road sections along Barangay Mababayag, GPS Coordinates: 17°10'31.1" N, 120°30'37.5" E

Assessment conducted
by MGB RO I
Aug 4 – 6, 2022



RECOMMENDATIONS

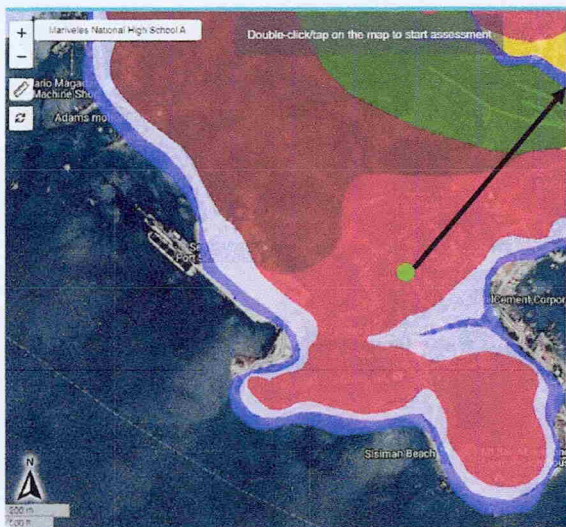
MGB REGION I

- Constant monitoring of untoward incidents through continuous coordination with the LGUs affected by the Localized Thunderstorms and other weather systems; especially in areas affected by the recent earthquake.



PICTURES ON THE GROUND

Region III



Cracks on the flooring of Grade 9 Students Building of Mariveles National High School Poblacion Annex

Assessment conducted by MGB RO III and MDRRMO August 10, 2022

Brgy. Sisiman, Mariveles, Bataan

The area should be declared as "Danger Zone" therefore, the residents downslope of the area should be immediately evacuated and as a long-term solution, the residents should be relocated to more stable ground.

RECOMMENDATIONS

MGB REGIONAL OFFICE NO. III

- For the Mariveles NHS - Poblacion Annex - Flooring restoration should be conducted on the school building for grade 9 pupils. Likewise, installation of a gutter along the roof of each school building, proper drainage canal, and riprap should be constructed at the back of the school buildings



PICTURES ON THE GROUND

Region VII



Brgy. Malolos, Barili, Cebu

August 9, 2022

Photo from: Wilnevir Lara via Pegeen Sararana, CDN Digital

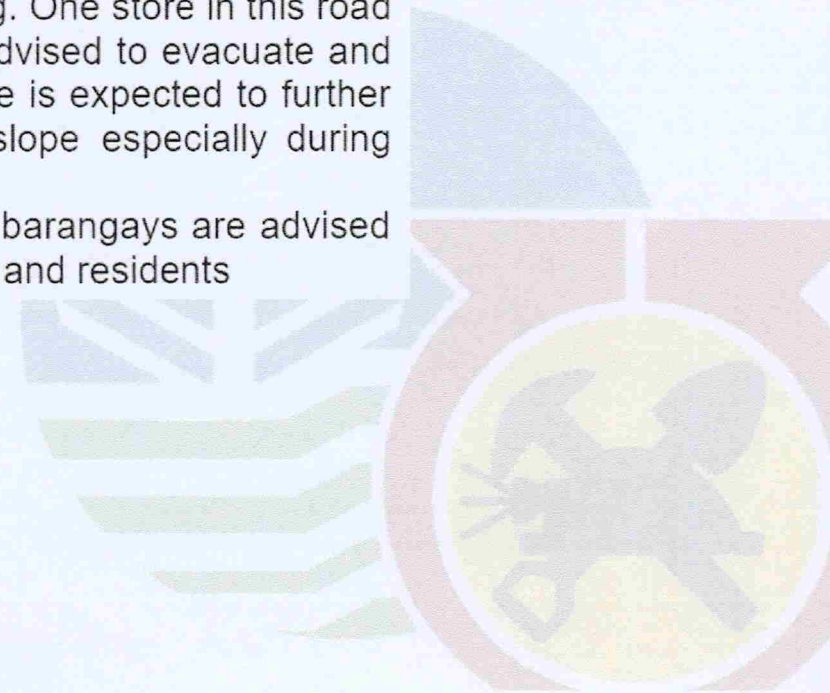
Collapsed road due to
oversaturated ground

The area should be declared as "Danger Zone" therefore, the residents downslope of the area should be immediately evacuated and as a long-term solution, the residents should be relocated to more stable ground.

RECOMMENDATIONS

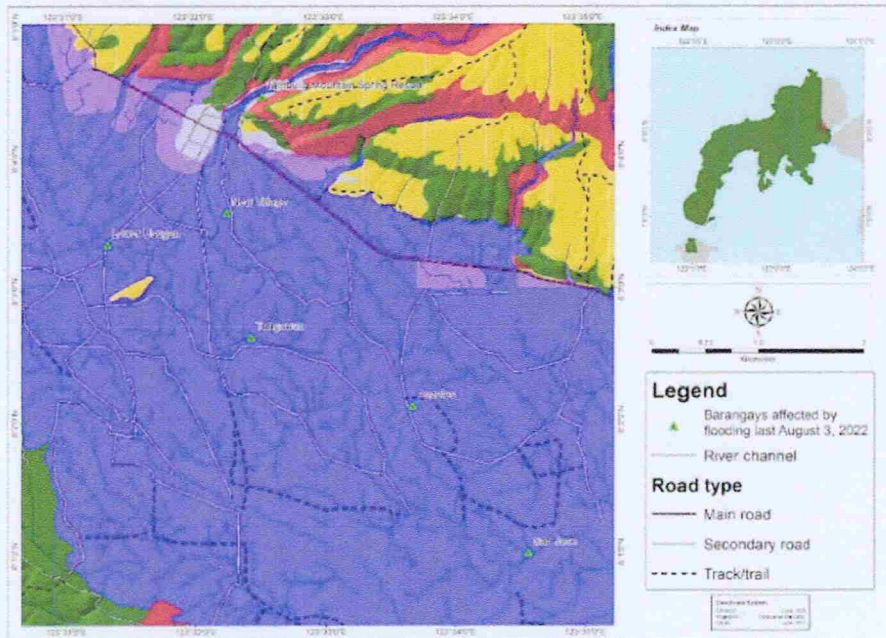
MGB REGIONAL OFFICE NO. VII

- Constant coordination with LGU Officials and monitoring of reports on tri-media for areas affected by the incessant rains due to localized southwest monsoon and thunderstorms
- The slumping of soil along the national road of Brgy. Malolos, Barili Cebu has reported ground cracks and slumping. One store in this road section was affected. Affected residents are advised to evacuate and relocate as the area is still unstable. Landslide is expected to further develop, and debris is seen to move downslope especially during heavy rainfall
- The LGU of Barili and officials of the affected barangays are advised to install necessary warning signs for motorists and residents



PICTURES ON THE GROUND

Region IX



Tambulig, Zamboanga del Sur



Flashflood along Usugan River

August 3, 2022
Photos from: LDRRMC

The area should be declared as "Danger Zone" therefore, the residents downslope of the area should be immediately evacuated and as a long-term solution, the residents should be relocated to more stable ground.

RECOMMENDATIONS

MGB REGIONAL OFFICE NO. IX

- Continuous coordination with the LGUs affected by the Localized Thunderstorms and other weather systems;
- Sending of Updated Geohazard Advisories based on the up-to-date weather forecast of PAGASA and latest barangay listing of the MGB Central OPCEN.



PICTURES ON THE GROUND

Region XII



Senator Ninoy Aquino, Sultan Kudarat

Around seven – meter wide opening of tension cracks that cut across a hill, NE-SW direction

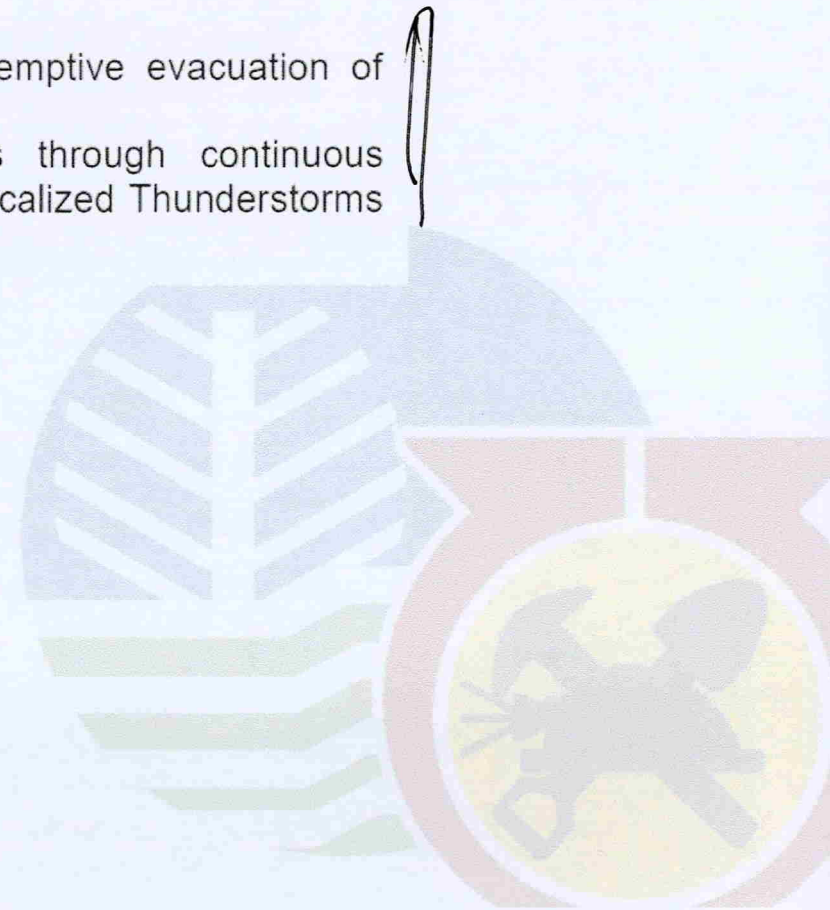
Assessment conducted by MGB RO XII August 11 – 12

The area should be declared as “Danger Zone” therefore, the residents downslope of the area should be immediately evacuated and as a long-term solution, the residents should be relocated to more stable ground.

RECOMMENDATIONS

MGB REGION XII

- Recommended to the concerned LGUs pre-emptive evacuation of affected residents;
- Constant monitoring of untoward incidents through continuous coordination with the LGUs affected by the Localized Thunderstorms and other weather systems;



FLOOD



Ang **flooding** o **pagbaha** ay ang pag-apaw ng sobrang tubig sa natural nitong daluyan (sapa, ilog at dagat).



sheet floods

Ang ganitong klase ng baha ay mas malawak ang sakop at hindi nalilimitahan sa isang daluyan. Kadalasang mas matagal ito bago humupa.



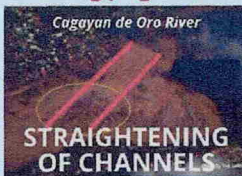
flashflood

Ang ganitong klase ng baha ay saglitang lamang at mas maliit ang saklaw. Limitado ang baha sa natural nitong daluyan.

ANO ANG DAPAT GAWIN UPANG MAKAIWAS SA BAHA?

Sundin ang pre-emptive evacuation protocols na ipinapatupad ng LGU at Barangay DRRMO

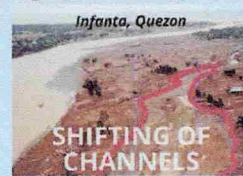
Bilang paghahanda, mainam na bantayan ang mga proseson ito:



Itong "short cut" channel ay nangyayari sa patiku-likong ilog, dahil dumidirekso ang malakas at mapinsalang daloy ng tubig-baha.



Itong uri ng ilog, na hindi lang liisa ang daluyan, ay kaugmay ng mga malalakas na bahang may dalang maraming ibang materyal.



pagbabago ng daloy ng tubig sa ilog pagkatapos ng baha: maaring permanente



Kahit hindi umapaw ang ilog, ang aksyon ng rumaragasang daloy ng tubig ay posibleng magsohni ng pagbagsak ng lupa sa gilid ng ilog.

MGA REKOMENDASYON

1. Mahigpit na bantayan ang lagay ng panahon at ang pagtaas ng lebel ng tubig sa ilog.
2. Mainam na lumikas kaagad kapag nakatira sa tabi ng ilog o iba pang daluyan ng tubig, lalo na yung mga lugar na nakakaranas ng paulit-ulit ng pagbaha.
3. Isara ang main switch ng kuryente bago iisanin ang bahay patungo sa Evacuation Center.
4. Huwag lumusong o lumangoy sa tubig baha upang makaiwas sa sakit. Habang naglalakad sa baha, magingat sa mga bukas na manhole, imburnal at iba pang daluyan ng tubig. Sa mga motorista, iwasan ang pagtawid sa rumaragasang tubig baha kahit ito ay mababa lamang.
5. Iwasan ang pagbalik sa bahay pagkatapos ng baha hanggat walang abiso mula sa mga kinauukulan.

Mayroon ka bang napansin lansido o senyales nito sa inyong lugar na dulot ng maka-pas na bagyo? Maaari lamang na ipagpatay ito sa inyong City o Municipal Disaster Risk Reduction and Management Office (C/MDRRMO) o sa:



Department of Environment and Natural Resources
MINES AND GEOSCIENCES BUREAU
central@mg.gov.ph | 8-987-8700
geology@mg.gov.ph | gis@mg.gov.ph | 438257644414

Maaring itulak at mawdownload ang ating mapa sa mga website na ito: <http://gsd.mgb.gov.ph/mgbgoogle/> <https://hazardhunter.geonik.gov.ph/>

LANDSLIDE



Ang **rain-induced landslide** o **guho** ay pagbaba ng lupa, bato, o burak dahil sa "gravity" o hatak ng natural na magneto ng daigdig; bunga ito ng matagalang malakas na pag-ulan

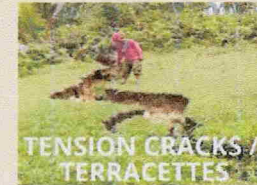
ANO ANG MGA DAPAT GAWIN PARA MAGING LIGTAS SA RAIN-INDUCED LANDSLIDE

Sundin ang pre-emptive evacuation protocols na ipinapatupad ng LGU at Barangay Officials

Alamin at maging mapagmatiyag sa iba't ibang mga senyales ng rain-induced landslide:



paglabas ng tubig mula sa lupa/lugar na hindi kadalasang makakakita ng tubig



mga bitok sa lupa na isahan o kaya'y nagmimistulang umuulit na mga hagdan



pagtobing ng mga puna at bakod na nagpapahiwatig ng paunti-unting paggalaw ng lupa

ANO NAMAN ANG "DEBRIS FLOWS"?



Ito ay uri ng pagguho na nilalaman ng halu-halong lupa, burak, bato, at iba pang materyales, na may mataas na porsyento ng tubig. Posibleng mangyari sa matatarik na dalisdas na dinadaluyan ng malilit na mga sapa; **lahar** naman ang tawag kung sa gilid ng aktibong bulkan nangyari.

MGA REKOMENDASYON

1. Mahigpit na bantayan ang lagay ng panahon, lalo na kung may parating na bagyo o ibang weather systems na magdudulot ng malalakas na ulan. Alamin ang mga lugar na makaranas ng higit sa 100mm na ulan sa loob ng 24 hours
2. Alamin ang lokasyon ng evacuation center at daanan (escape routes) na ligtas sa landslide.
3. Alamin ang landslide susceptibility rating ng inyong lugar o barangay na maaring daanan ng bagyo. Ito ay maaring makikita sa MGB Geohazard Map.
4. Pag nasa labas ng bahay at may nakaambang panganib ng landslide, pumunta sa malapit na matataas na lugar na malayo sa maaring daanan ng landslide/debris flow.
5. Pagkatapos ng landslide, iwasan ang mga lugar na may posiblidad ng secondary landslide, paggalaw ng mga earth materials sa dalisdas at flashflood na sanhi ng artificial damming. Alamin ang mga danger zones gaya ng mahinang dalisdas, malambot na lupa, at ang mga babad sa tubig na mga deposito ng landslide.

Mayroon ka bang napansin lansido o senyales nito sa inyong lugar na dulot ng maka-pas na bagyo? Maaari lamang na ipagpatay ito sa inyong City o Municipal Disaster Risk Reduction and Management Office (C/MDRRMO) o sa:



Department of Environment and Natural Resources
MINES AND GEOSCIENCES BUREAU
central@mg.gov.ph | 8-987-8700
geology@mg.gov.ph | gis@mg.gov.ph | 438257644414

Maaring itulak at mawdownload ang ating mapa sa mga website na ito: <http://gsd.mgb.gov.ph/mgbgoogle/> <https://hazardhunter.geonik.gov.ph/>

BAHA

Ang pagbaha ay ang pag-apaw ng sobrang tubig mula sa natural nitong daluyan (ilog, sapa, at dagat).

ANO ANG DAPAT GAWIN?

BAGO



Alamin ang kalagayan ng baha sa inyong lugar sa pagbibigay sa lagay ng panahon at pakikipag-ugnayan sa lokal na awtoridad tungkol sa MGB Flood Hazard Maps, evacuation plan, at early warning system.



Machanda ng "Go Bag" na may larangang first aid kit, pagkiling ready-to-eat, matatag na tutas, radyo at mga importante ng dokumento.



Panatilihang walang baro at malinis ang mga makalapit na daluyan ng tubig gaya ng ilog at sapa, upang hindi macaciling behain ang inyong lugar.



Magkalisig ng isang emergency contact na bagayinang bayan at kilala ng buong panhiya sa panahon ng baha at sakaling respektuhin ito bilang kayo.



Ibabang mga dekuruyenteng kapamitan maging ang mga importante ng dokumento sa lugar ng bahay na mas mataas sa inaasahang taas ng tubig-baha.

HABANG PAGKATAPOS



Kung maabutan ng tubig-baha bago pa makalabas, pumunta sa mataas na parte ng bahay. Linis ang parte ng katawan na kumubog sa tubig-baha upang maiwasan sa sakit.



Iwasan ang paglusing o pagdusa sa lugar na binaha. Hindi ka lamang matutumba ng pagpapasa nito, riskado rin dahil sa mga posibleng natumbang poste ng kuryente.



Sundin ang evacuation protocol ng barangay, at tulungan ang kababayang may kapansanan, matatanda, bata, buntis, atbp sa paglikas. Sumunod sa alituntunin ng evacuation center.



Umiiwas sa mga lugar na makapit sa ilog o anumang anyong-tubig na maaaring daayan ng flashfloods kaya't maging maalam sa pagkasira ng mga dam at pag-ulat sa itaas na bahagi ng ilog.



Siguraduhing nakatutay sa main switch ng kuryente at nakasara ang gas valve bago lumikas.



Iwasan ang paglalik sa bahay pagkatapos ng baha nangangailangan ng hindi pagpapasa ng elektrisidad. Mangit na surin ang bahay para sa mga bitak at sira.



Huwag munang buksan ang main power switch hangga't hindi pa nasusunin ng electrician. Mangit na surin ang bahay para sa mga bitak at sira.



Maging mapagmatiyag sa kapaligiran, ipaalam agad sa kapaligiran kung may mga nasungit utility lines tulad ng kable ng kuryente, tubo ng tubig, atbp.



Magpakonsulta sa pinakamalapit na health center o ospital kung may keramdam, isip na sa mga sakit na dala ng baha tulad ng leptospirosis, tipus, cholera, atbp.



Ikaon ang mga naipon ng tubig sa mga gulong, pasco, at iba pang ilagyan, upang hindi pugalan ng mga imok. Laging maali-alin ang mga bagay na nababad sa tubig-baha.

PAGGUHO

Ang landslide o pagguho ng lupa ay pagbaba ng lupa, burak, at bata dahil sa gravity, kadalasang dulot ng matagalang malakas na pag-ulan.

ANO ANG DAPAT GAWIN?

BAGO



Alamin ang posibilidad ng landslide sa inyong lugar sa pagbibigay sa lagay ng panahon at pakikipag-ugnayan sa lokal na awtoridad tungkol sa MGB landslide hazard map, evacuation plan, at early warning system.



Maging mapagmatiyag sa mga senyales ng landslide sa inyong lugar tulad ng biglaang pagbukal ng tubig, pagbitak, at pagtatangi ng puno.



Iwasan ang pagtayo ng mga istruktura sa mga lugar na may matatag na dalidid at may dating deposito ng landslide.



Kapag may matagalang malakas na pag-ulan, maghanda ng "Go Bag" at family communications plan.



Kung may hinihinalang pagguho, ipagbigay-alam sa mga awtoridad (M/DBDRMC) ang MGB-Regional Office, at ang inyong komunidad. **8-667-6700**

HABANG



Maging mapagmatiyag sa mga senyales ng nakasabang landslide tulad ng tunog ng pagyanig, biglaang pagtaas at paglaba ng tubig sa ilog, atbp.



Kung maabutan sa labes, iwasan ang maaaring daanan ng landslide at magtungo sa ligtas/mataas na lugar.



Kung ikaw ay nagmamaneho, maging mapagmatiyag sa mga bumabagsak na materyales mula sa landslide at huwag tumawid sa mga tutas.



Kung ikaw ay nagmamaneho, magtungo sa mataas at ligtas na lugar. Mangyaring buksan ang hazard lights upang maialaro ang ibang mga motorista.



Kung maabutan sa loob ng gusali, manatili sa ilalim ng matibay na mesa at balukrubin ang katawan habang pinoprotektahan ang ulo.

PAGKATAPOS



Umiiwas sa lugar ng pagguho dahil posible pa rin ang panibagong pagguho at pagbaha. Hintayin ang abisang mga awtoridad bago lumalik.



Bago bumalik sa bahay, ipaalamunin muna ang mga sira sa pundasyon sa mga structural engineers.



Kung ikaw ay nagmamaneho, maging mapagmatiyag sa mga bumabagsak na materyales mula sa landslide at huwag tumawid sa mga tutas.



Subaybayan ang balita mula sa M/DBDRMC, TV, radio, at mga opiyal na social networking sites ng mga ahensya ng gobyerno at media.



Komunikata sa Inyong MGB Regional Office at geotechnical experts para sa karagandang impormasyon upang makaraisa sa kabura sa hinaharap.

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
MINES AND GEOSCIENCES BUREAU

Department of Environment and Natural Resources
MINES AND GEOSCIENCES BUREAU

Tingnan ang MGB Flyer sa Baha para sa higit pang mga detalye.
Kung mayroon kang mga kamakailang karanasan sa pagbaha, mangyaring makipag-ugnay sa MGB sa:
central@mgb.gov.ph | geology@mgb.gov.ph | ghegs@mgb.gov.ph | 8667-6700

Maaari rin mag-access at i-download ang MGB Flood at Rain-Induced Landslide na Mapa sa: (lgid.mgb.gov.ph/mgbgoogle) | (hazardhunter.georisk.gov.ph)

Department of Environment and Natural Resources
MINES AND GEOSCIENCES BUREAU

Kung mayroon kayong napansin na mga senyales ng nagbabantang landslide o pagguho tungang mayroong malakas at tuloy-tuloy na pag-ulan, maging ipalam sa inyong local Disaster Risk Reduction and Management Office o makipag-ugnayan sa MGB sa:
central@mgb.gov.ph | geology@mgb.gov.ph | ghegs@mgb@gmail.com | 8-667-6700

Maaari rin mag-access at i-download ang MGB Rain-Induced Landslide and Flood Maps sa: (lgid.mgb.gov.ph/mgbgoogle) | (hazardhunter.georisk.gov.ph)