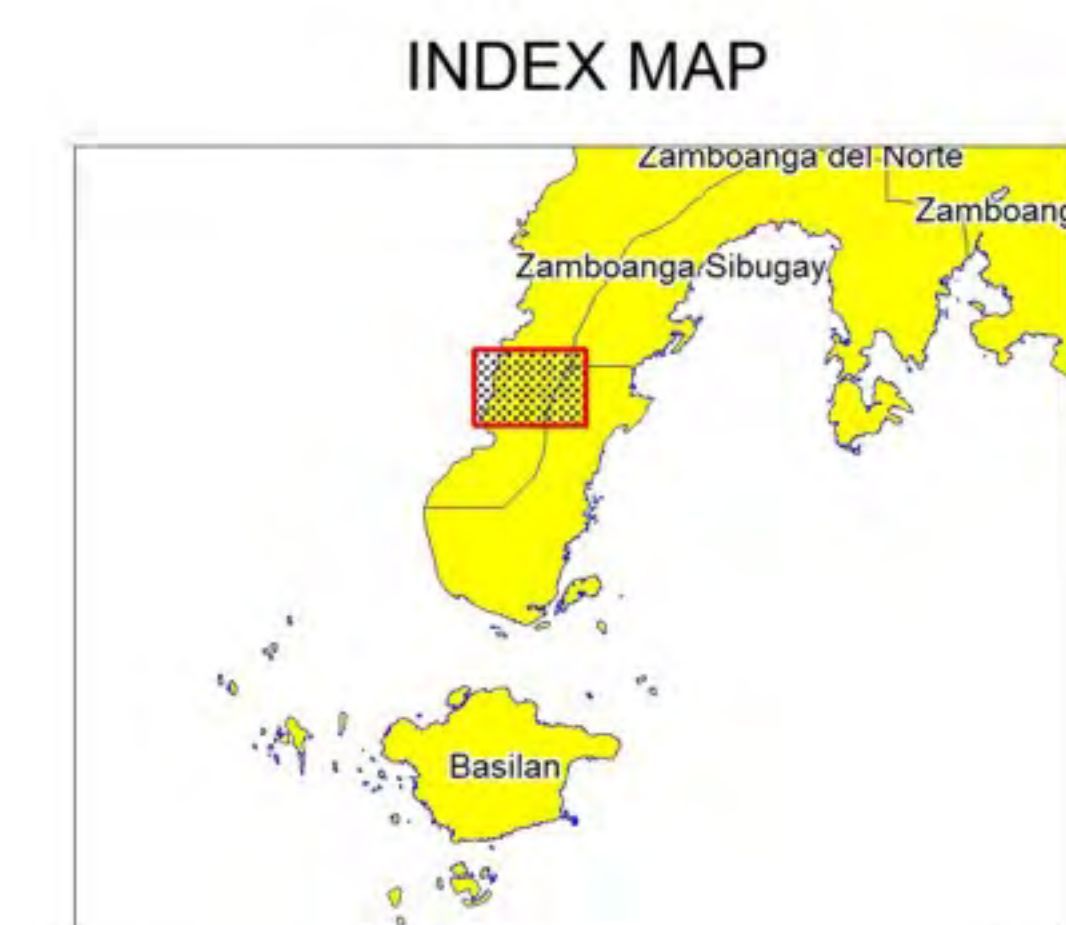
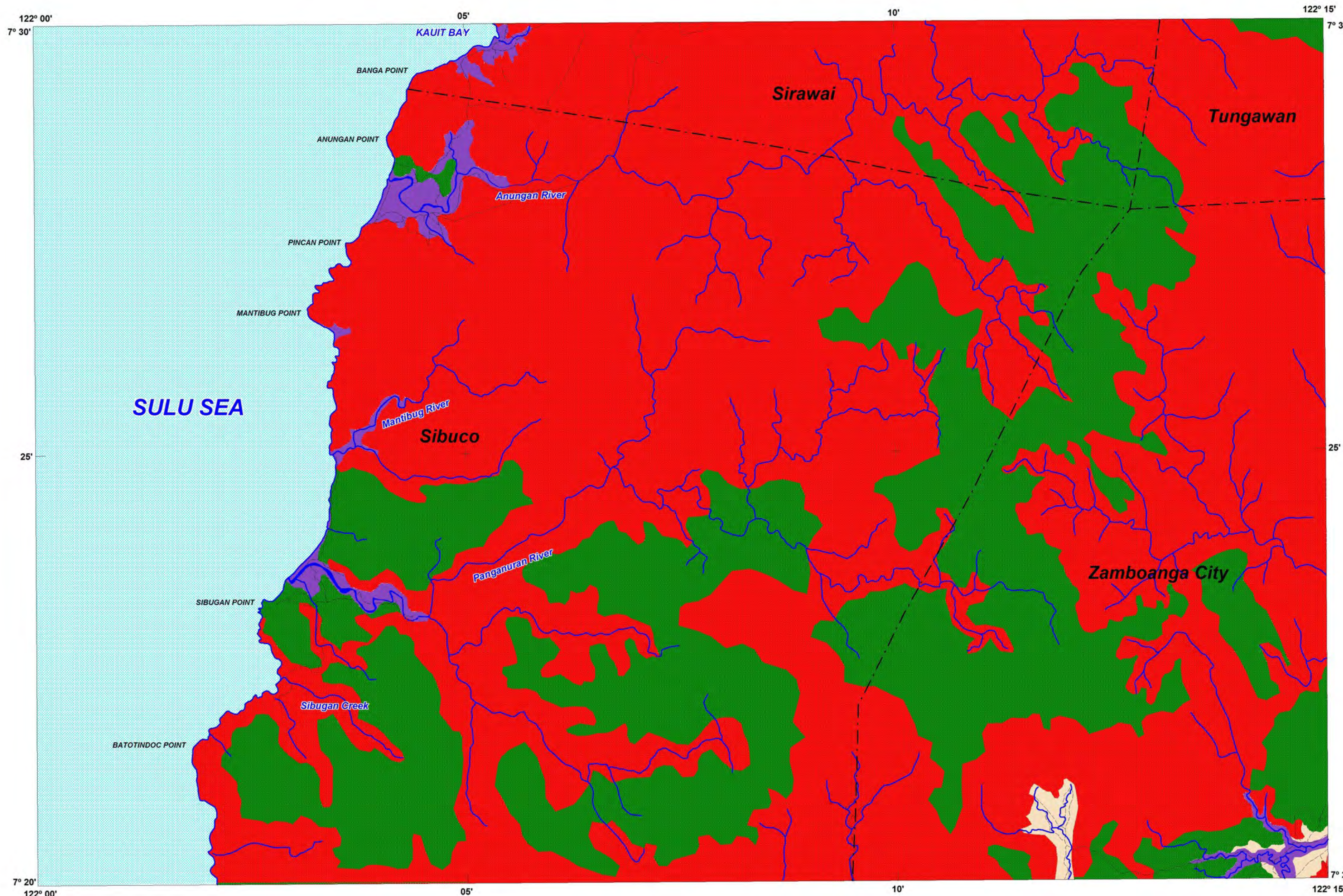
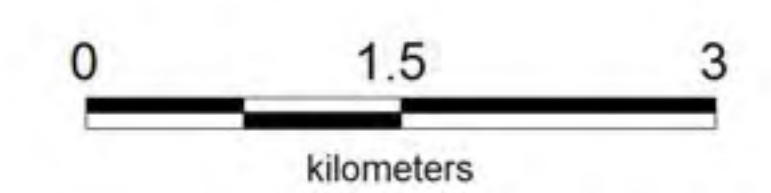


# LANDSLIDE AND FLOOD SUSCEPTIBILITY MAP OF ANUNGAN QUADRANGLE SURIGAO DEL SUR PROVINCE, PHILIPPINES



**LEGEND :**

- **High susceptibility to landslide**  
Areas with high landslide susceptibility rating have active/recent landslides and tension cracks that would directly affect the community. Those with steep slopes and drainages that are prone to landslide damming are also highly susceptible to landslides.
  - **Moderate susceptibility to landslide**  
Areas with moderate landslide susceptibility rating have inactive/old landslides and tension cracks which are located away from the community. These areas usually have moderate slopes.
  - **High susceptibility to flooding**  
Areas with greater than 1 meter flood height. These areas are usually flooded for several hours during heavy rains; include landforms of topographic lows such as active river channels, abandoned river channels and areas along river banks; also prone to flashfloods.
  - **Low to moderate susceptibility to flooding**  
Areas with less than 1.0 meter flood height. These are usually inundated during prolonged and extensive heavy rainfall or extreme weather condition
- 
- Main Road
  - Secondary Road
  - Trail
  - River
  - Municipal boundary
  - Barangay center location



TRANSVERSE MERCATOR PROJECTION  
MAPPING SCALE 1:50, 000

**GIS Processing :**  
Lands Geological Survey Division

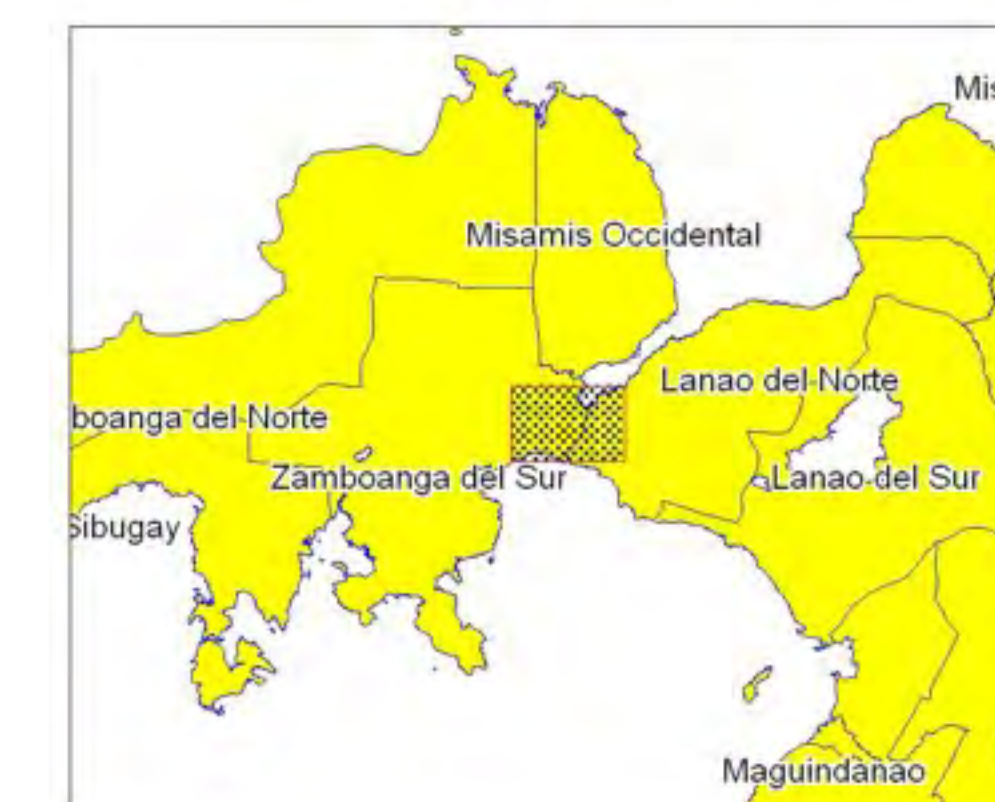
**Data Sources:**  
MGB Geohazard Assessment Team  
Geological Database and Information Systems Section  
Lands Geological Survey Division  
Geosciences Division MGB RO IX

**Base Map :**  
Sheet No. 3442 III "Anungan Quadrangle"



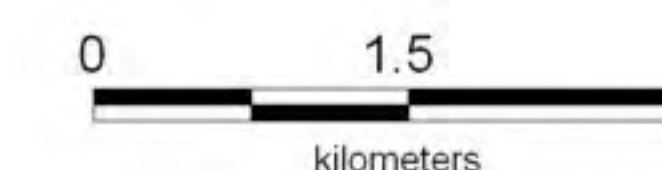
# LANDSLIDE AND FLOOD SUSCEPTIBILITY MAP OF AURORA QUADRANGLE LANAO DEL NORTE AND ZAMBOANGA DEL SUR PROVINCES, PHILIPPINES

INDEX MAP



LEGEND :

- **High susceptibility to landslide**  
Areas with high landslide susceptibility rating have active/recent landslides and tension cracks that would directly affect the community. Those with steep slopes and drainages that are prone to landslide damming are also highly susceptible to landslides.
  - **Moderate susceptibility to landslide**  
Areas with moderate landslide susceptibility rating have inactive/old landslides and tension cracks which are located away from the community. These areas usually have moderate slopes.
  - **Low susceptibility to landslide**  
Areas with low to gentle slopes and lacking tension cracks have low landslide susceptibility rating.
  - Possible landslide debris accumulation zone**  
These are areas where landslide debris could accumulate.
  - **High susceptibility to flooding**  
Areas with greater than 1 meter flood height. These areas are usually flooded for several hours during heavy rains; include landforms of topographic lows such as active river channels, abandoned river channels and areas along river banks; also prone to flashfloods.
  - **Low to moderate susceptibility to flooding**  
Areas with less than 1.0 meter flood height. These are usually inundated during prolonged and extensive heavy rainfall or extreme weather condition
- |                |                          |
|----------------|--------------------------|
| Main Road      | River                    |
| Secondary Road | Municipal boundary       |
| Trail          | Barangay center location |



TRANSVERSE MERCATOR PROJECTION  
MAPPING SCALE 1:50,000

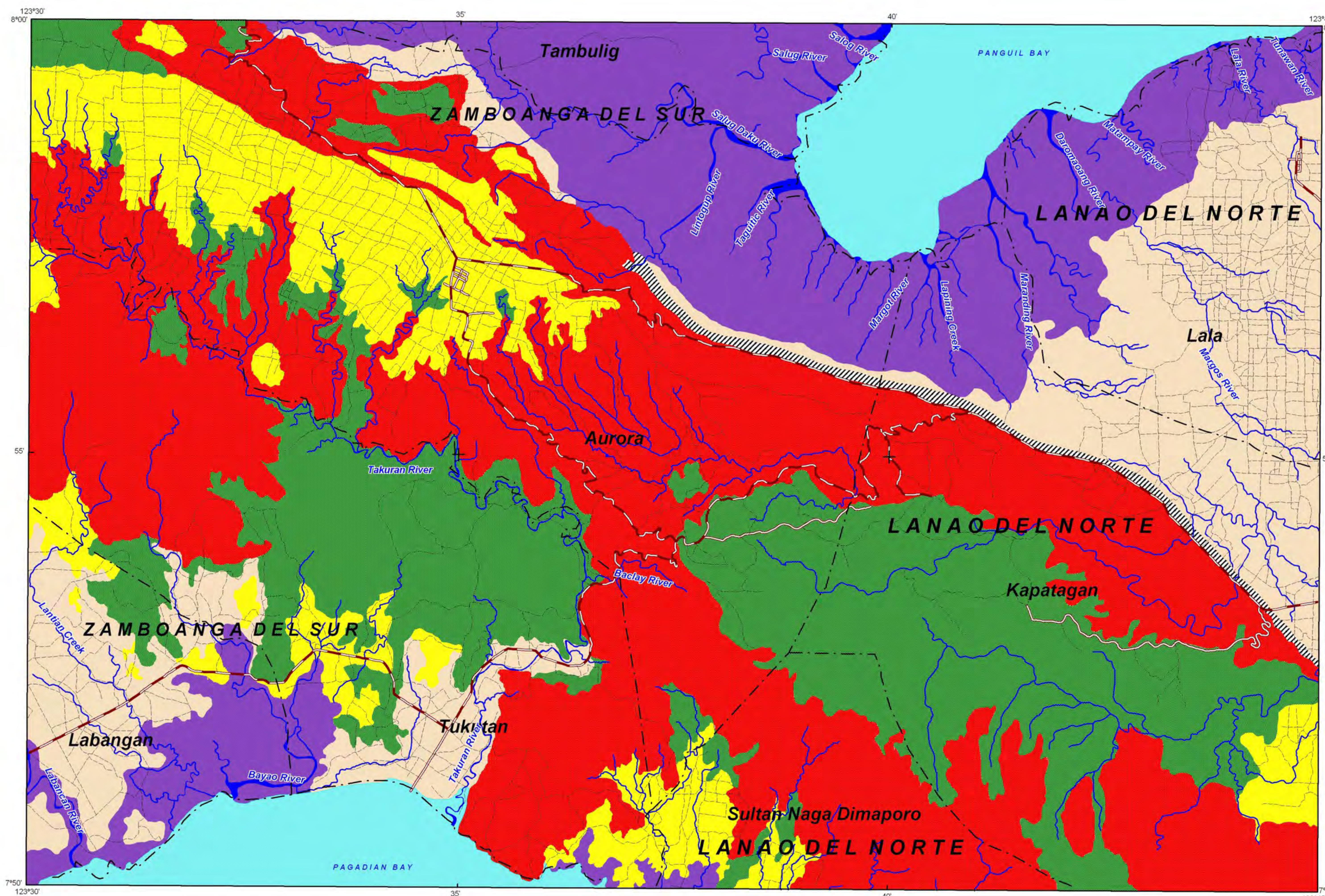
GIS Processing :  
Lands Geological Survey Division

Data Sources:  
MGB Geohazard Assessment Team  
Geological Database and Information Systems Section  
Lands Geological Survey Division  
Geosciences Division MGB RO IX

Base Map :  
Sheet No.3743 IV "Aurora Quadrangle"

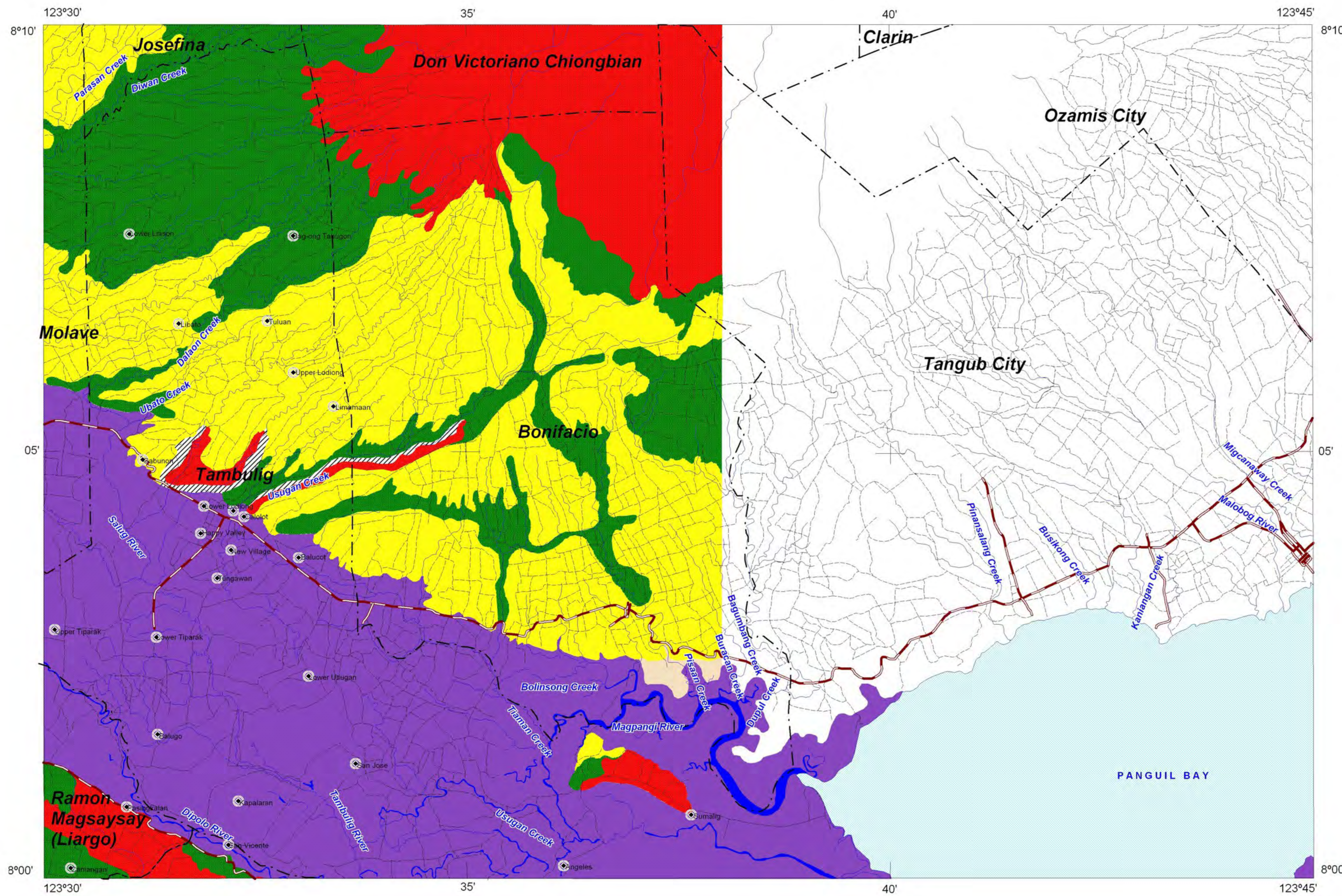


DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES  
**MINES AND GEOSCIENCES BUREAU**  
LANDS GEOLOGICAL SURVEY DIVISION



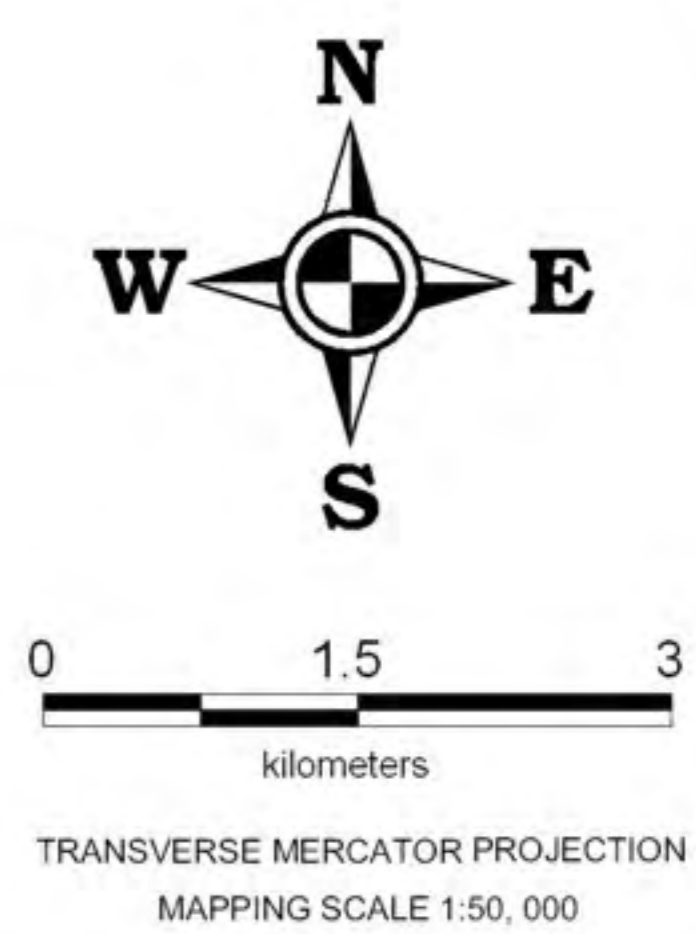
# LANDSLIDE AND FLOOD SUSCEPTIBILITY MAP OF BONIFACIO QUADRANGLE ZAMBOANGA DEL SUR PROVINCE, PHILIPPINES

INDEX MAP



**LEGEND :**

- **High susceptibility to landslide**  
Areas with high landslide susceptibility rating have active/recent landslides and tension cracks that would directly affect the community. Those with steep slopes and drainages that are prone to landslide damming are also highly susceptible to landslides.
  - **Moderate susceptibility to landslide**  
Areas with moderate landslide susceptibility rating have inactive/old landslides and tension cracks which are located away from the community. These areas usually have moderate slopes.
  - **Low susceptibility to landslide**  
Areas with low to gentle slopes and lacking tension cracks have low landslide susceptibility rating.
  - Possible landslide debris accumulation zone**  
These are areas where landslide debris could accumulate.
  - **High susceptibility to flooding**  
Areas with greater than 1 meter flood height. These areas are usually flooded for several hours during heavy rains; include landforms of topographic lows such as active river channels, abandoned river channels and areas along river banks; also prone to flashfloods.
  - **Low to moderate susceptibility to flooding**  
Areas with less than 1.0 meter flood height. These are usually inundated during prolonged and extensive heavy rainfall or extreme weather condition
- Main Road
  - River
  - Secondary Road
  - Municipal boundary
  - Trail
  - Barangay center location



**GIS Processing :**  
Lands Geological Survey Division

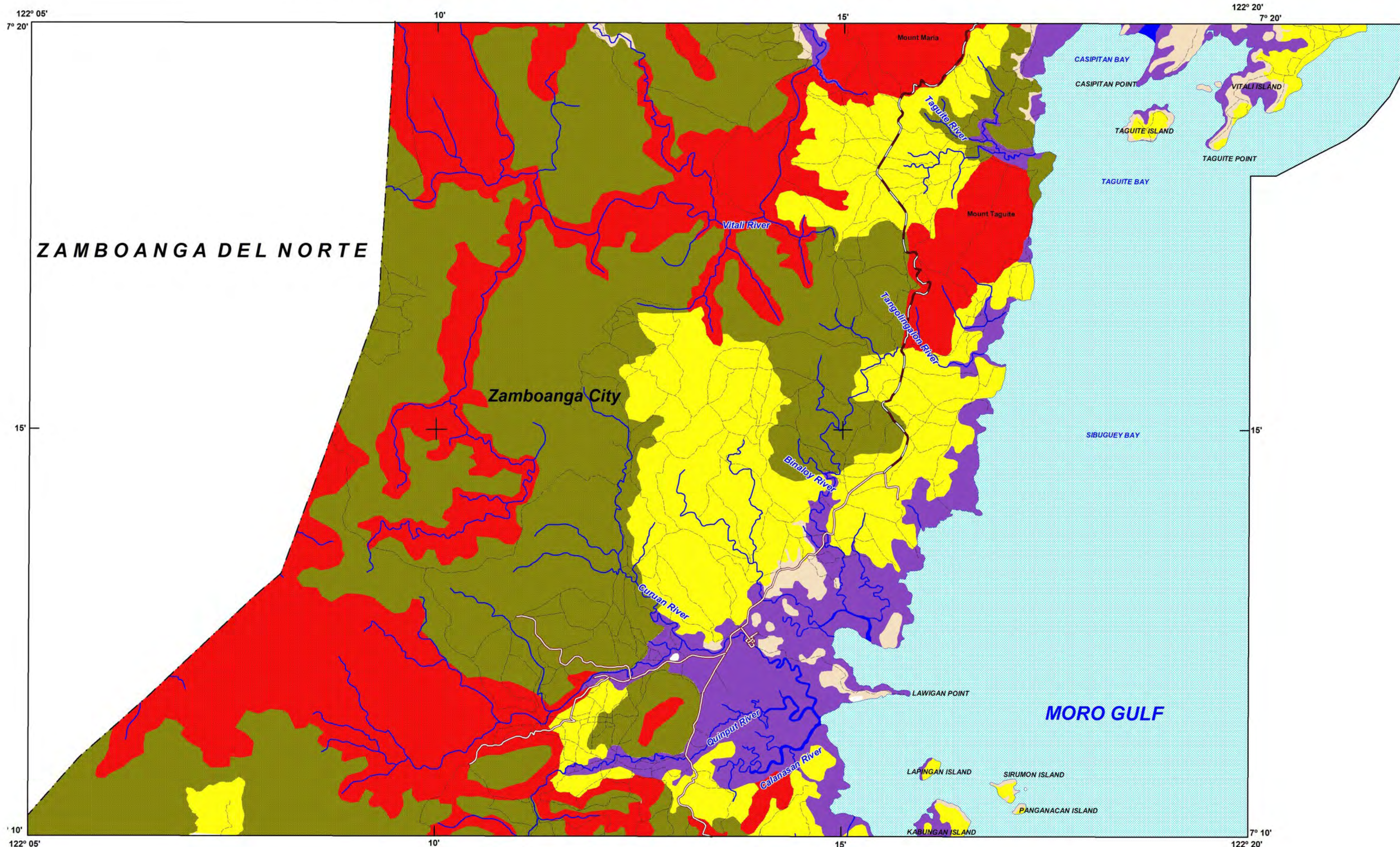
**Data Sources:**  
MGB Geohazard Assessment Team  
Geological Database and Information Systems Section  
Lands Geological Survey Division  
Geosciences Division MGB RO IX

**Base Map :**  
Sheet No. 3744 III "Bonifacio Quadrangle"



# LANDSLIDE AND FLOOD SUSCEPTIBILITY MAP OF CURUAN QUADRANGLE ZAMBOANGA DEL SUR PROVINCE, PHILIPPINES

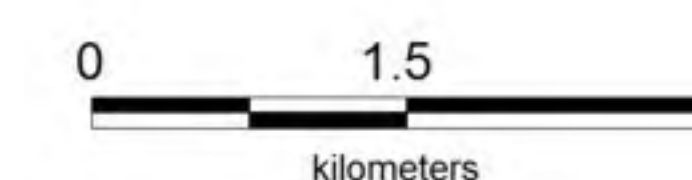
INDEX MAP



**LEGEND :**

- **High susceptibility to landslide**  
Areas with high landslide susceptibility rating have active/recent landslides and tension cracks that would directly affect the community. Those with steep slopes and drainages that are prone to landslide damming are also highly susceptible to landslides.
- **Moderate susceptibility to landslide**  
Areas with moderate landslide susceptibility rating have inactive/old landslides and tension cracks which are located away from the community. These areas usually have moderate slopes.
- **Low susceptibility to landslide**  
Areas with low to gentle slopes and lacking tension cracks have low landslide susceptibility rating.
- **Low to moderate susceptibility to flooding**  
Areas with less than 1.0 meter flood height. These are usually inundated during prolonged and extensive heavy rainfall or extreme weather condition
- **High susceptibility to flooding**  
Areas with greater than 1 meter flood height. These areas are usually flooded for several hours during heavy rains; include landforms of topographic lows such as active river channels, abandoned river channels and areas along river banks; also prone to flashfloods.

- Main Road
- River
- Secondary Road
- Municipal boundary
- Trail
- Barangay center location



TRANSVERSE MERCATOR PROJECTION  
MAPPING SCALE 1:50,000

GIS Processing :  
Lands Geological Survey Division

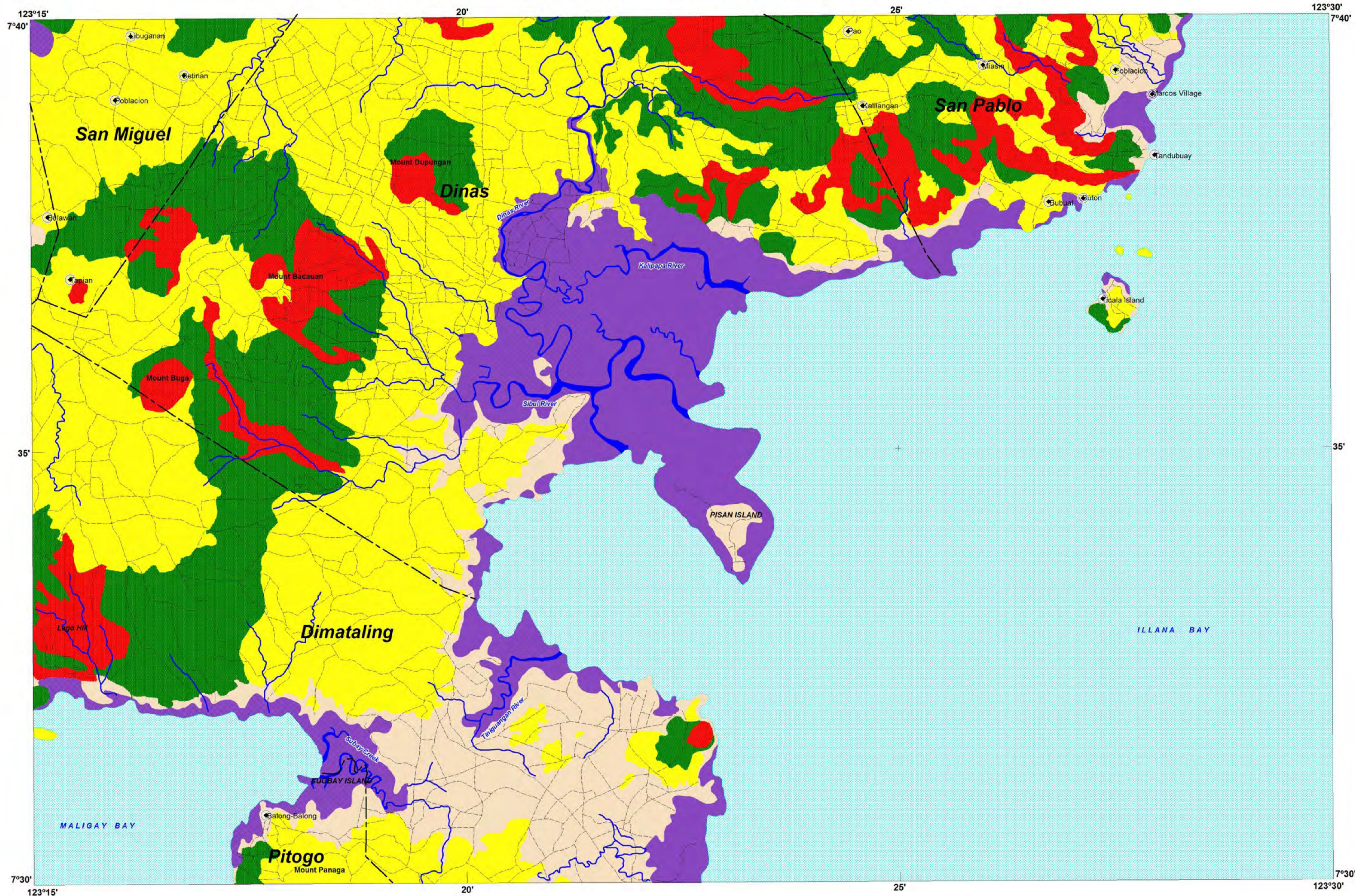
Data Sources:  
MGB Geohazard Assessment Team  
Geological Database and Information Systems Section  
Lands Geological Survey Division  
Geosciences Division MGB RO IX

Base Map :  
Sheet No. 3441 IV "Curuan Quadrangle"



DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES  
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LANDS GEOLOGICAL SURVEY DIVISION

# LANDSLIDE AND FLOOD SUSCEPTIBILITY MAP OF DINAS QUADRANGLE ZAMBOANGA DEL SUR PROVINCE, PHILIPPINES



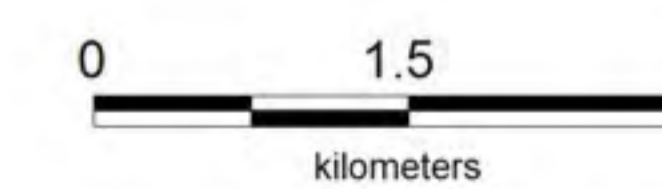
INDEX MAP



**LEGEND :**

- **High susceptibility to landslide**  
Areas with high landslide susceptibility rating have active/recent landslides and tension cracks that would directly affect the community. Those with steep slopes and drainages that are prone to landslide damming are also highly susceptible to landslides.
- **Moderate susceptibility to landslide**  
Areas with moderate landslide susceptibility rating have inactive/old landslides and tension cracks which are located away from the community. These areas usually have moderate slopes.
- **Low susceptibility to landslide**  
Areas with low to gentle slopes and lacking tension cracks have low landslide susceptibility rating.
- **High susceptibility to flooding**  
Areas with greater than 1 meter flood height. These areas are usually flooded for several hours during heavy rains; include landforms of topographic lows such as active river channels, abandoned river channels and areas along river banks; also prone to flashfloods.
- **Low to moderate susceptibility to flooding**  
Areas with less than 1.0 meter flood height. These are usually inundated during prolonged and extensive heavy rainfall or extreme weather condition

- Main Road
- Secondary Road
- Trail
- Municipal boundary
- Barangay center location
- River



TRANSVERSE MERCATOR PROJECTION  
MAPPING SCALE 1:50,000

**GIS Processing :**  
Lands Geological Survey Division

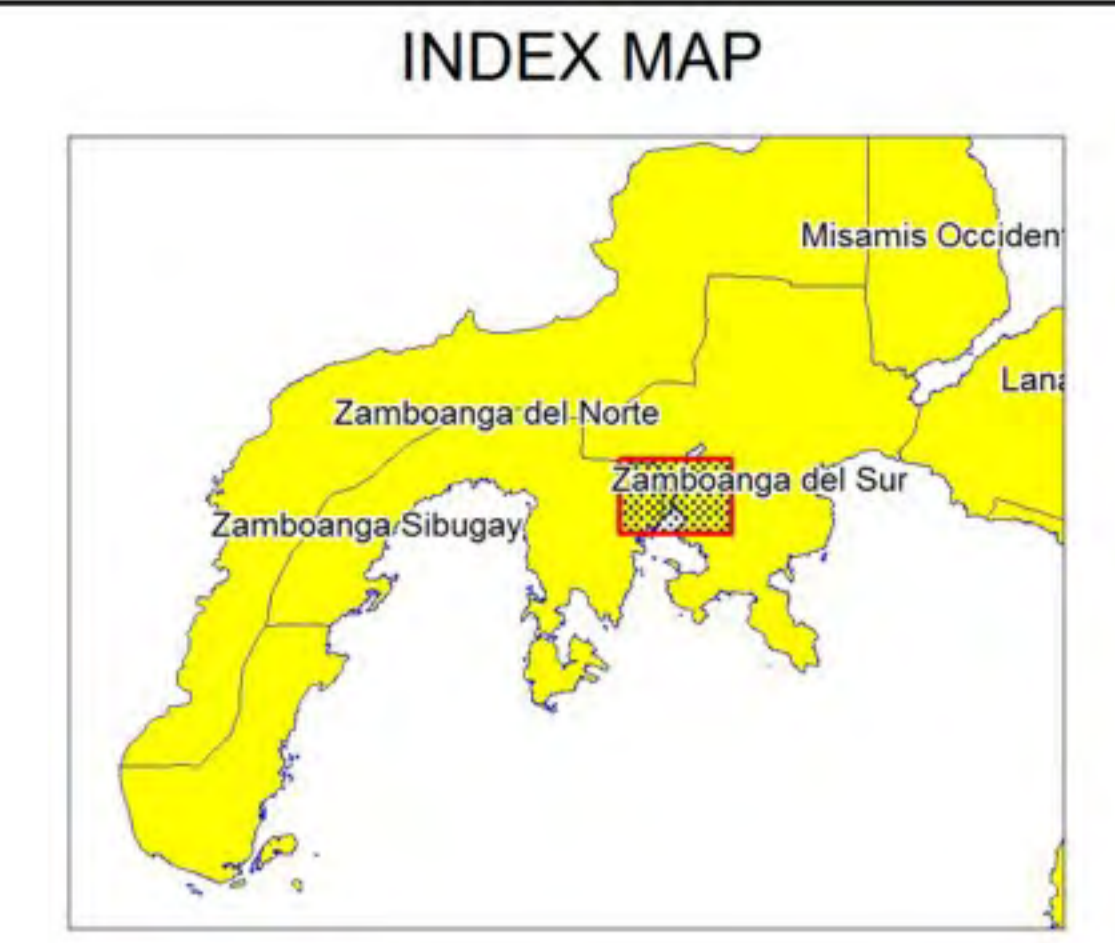
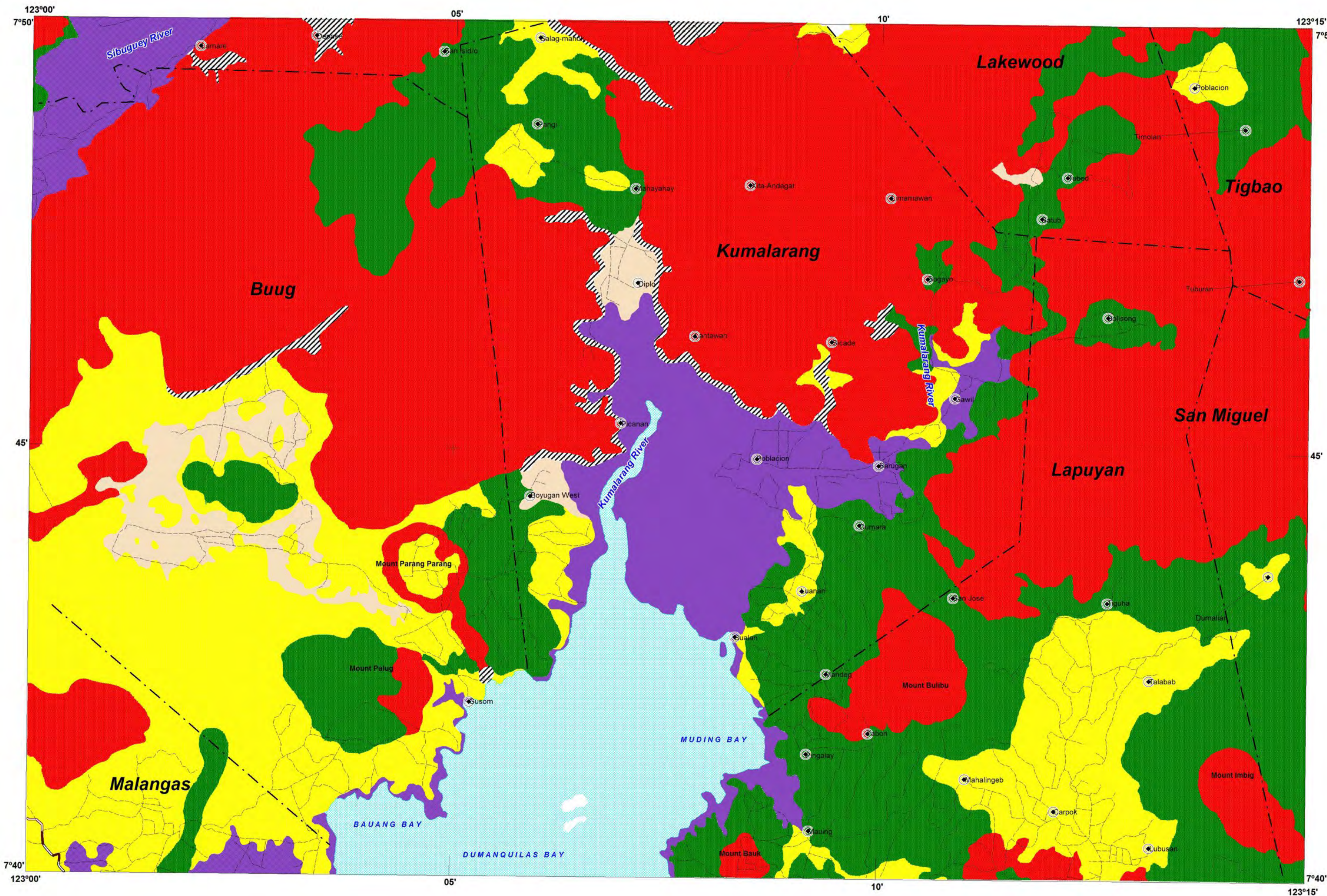
**Data Sources:**  
MGB Geohazard Assessment Team  
Geological Database and Information Systems Section  
Lands Geological Survey Division  
Geosciences Division MGB RO IX

**Base Map :**  
Sheet No. 3642 I "Dinas Quadrangle"

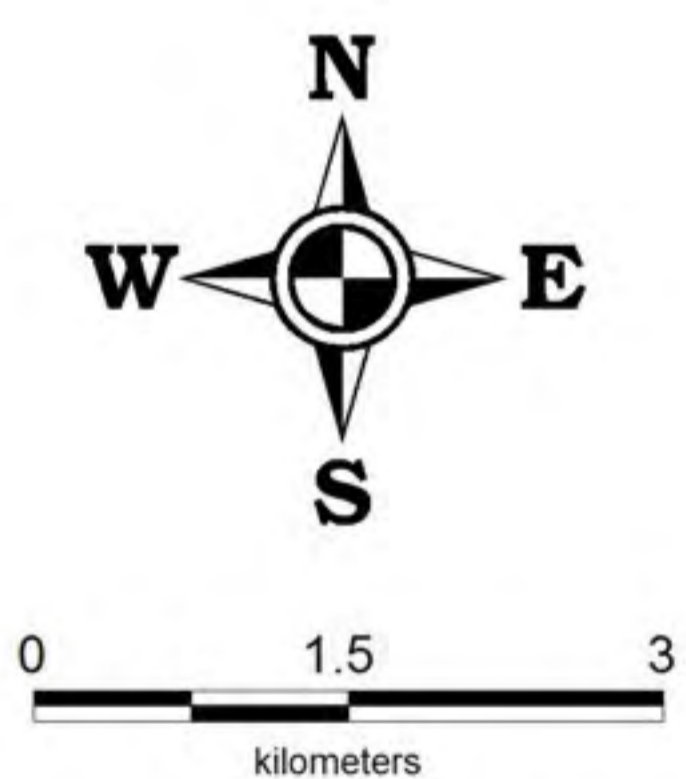


DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES  
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LANDS GEOLOGICAL SURVEY DIVISION

# LANDSLIDE AND FLOOD SUSCEPTIBILITY MAP OF KUMALARANG QUADRANGLE ZAMBOANGA DEL SUR PROVINCE, PHILIPPINES



- LEGEND :**
- **High susceptibility to landslide**  
Areas with high landslide susceptibility rating have active/recent landslides and tension cracks that would directly affect the community. Those with steep slopes and drainages that are prone to landslide damming are also highly susceptible to landslides.
  - **Moderate susceptibility to landslide**  
Areas with moderate landslide susceptibility rating have inactive/old landslides and tension cracks which are located away from the community. These areas usually have moderate slopes.
  - **Low susceptibility to landslide**  
Areas with low to gentle slopes and lacking tension cracks have low landslide susceptibility rating.
  - Possible landslide debris accumulation zone**  
These are areas where landslide debris could accumulate.
  - **High susceptibility to flooding**  
Areas with greater than 1 meter flood height. These areas are usually flooded for several hours during heavy rains; include landforms of topographic lows such as active river channels, abandoned river channels and areas along river banks; also prone to flashfloods.
  - **Low to moderate susceptibility to flooding**  
Areas with less than 1.0 meter flood height. These are usually inundated during prolonged and extensive heavy rainfall or extreme weather condition
- Main Road
  - River
  - Secondary Road
  - Municipal boundary
  - Trail
  - Barangay center location



TRANSVERSE MERCATOR PROJECTION  
MAPPING SCALE 1:50,000

**GIS Processing :**  
Lands Geological Survey Division

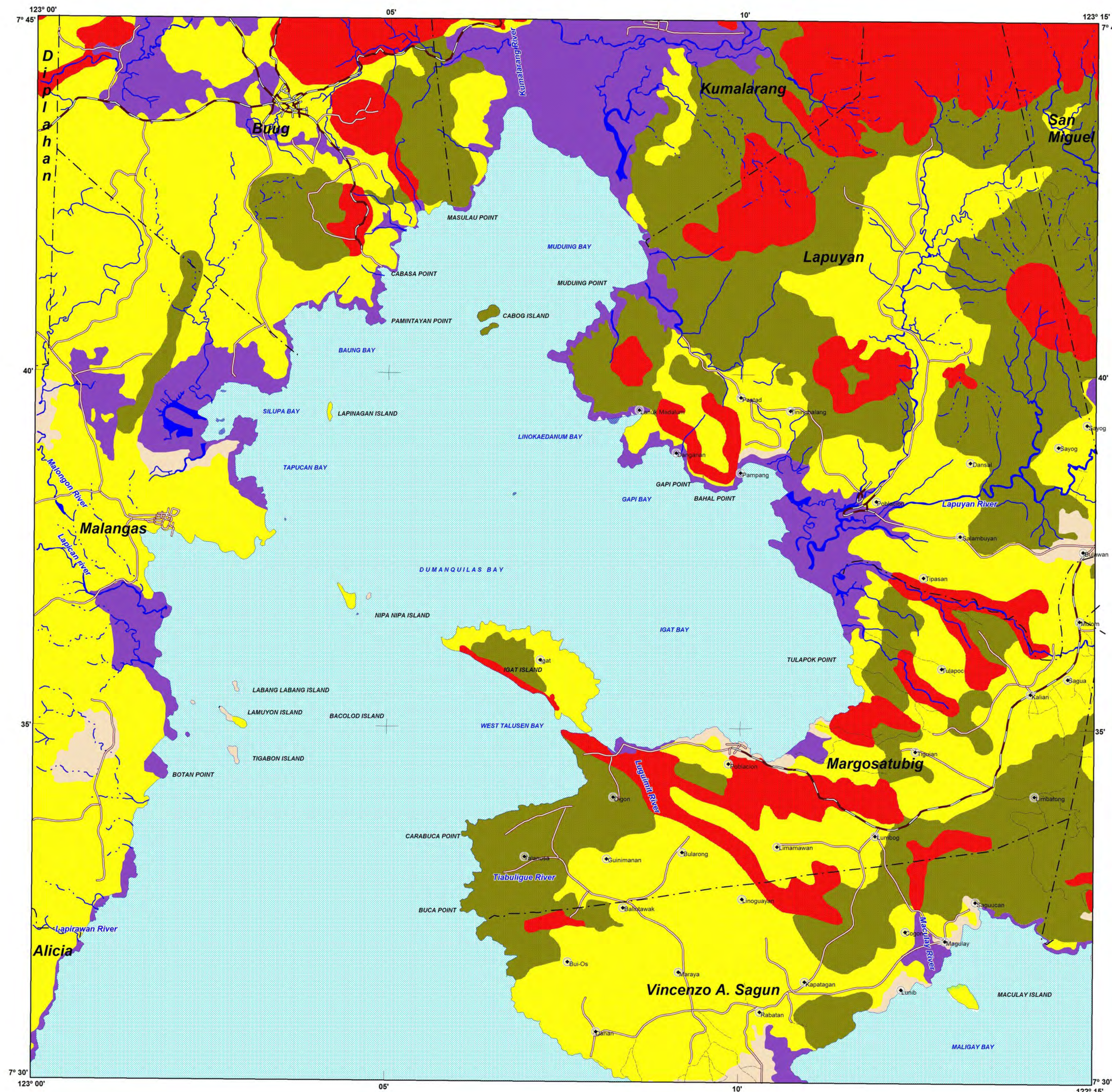
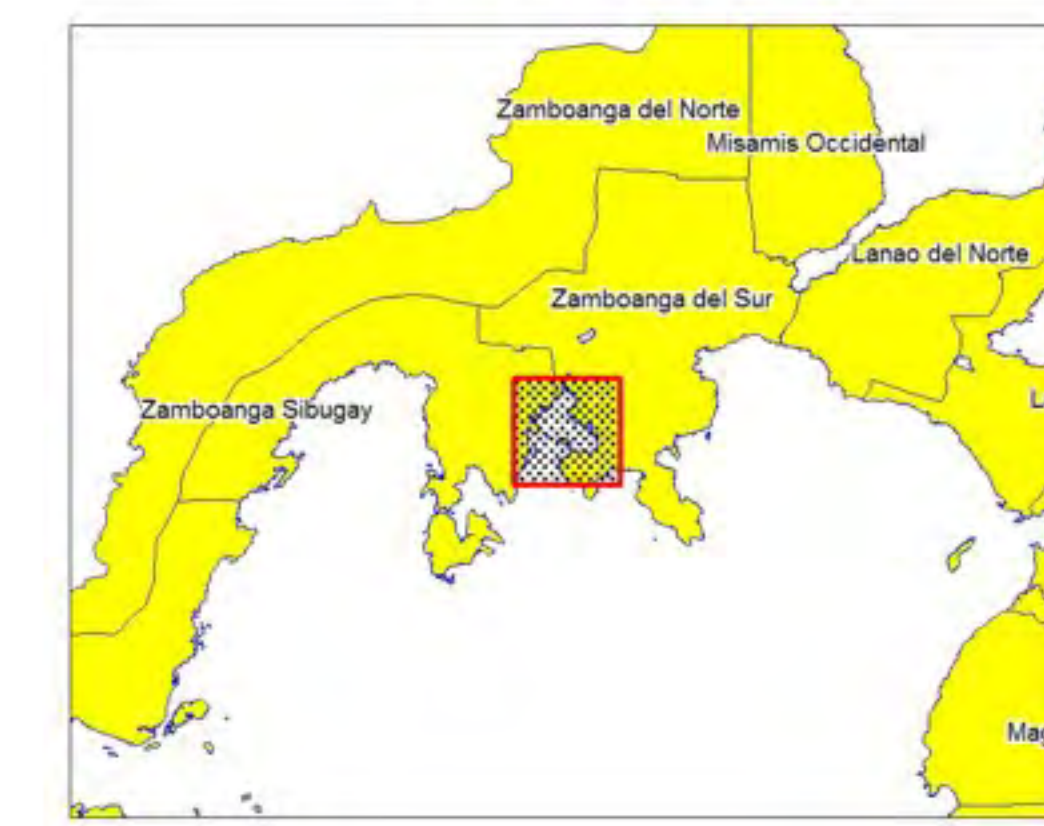
**Data Sources:**  
MGB Geohazard Assessment Team  
Geological Database and Information Systems Section  
Lands Geological Survey Division  
Geosciences Division MGB RO IX

**Base Map :**  
Sheet No. 3643 III "Kumalarang Quadrangle"



# LANDSLIDE AND FLOOD SUSCEPTIBILITY MAP OF MARGOSATUBIG QUADRANGLE ZAMBOANGA DEL SUR PROVINCE, PHILIPPINES

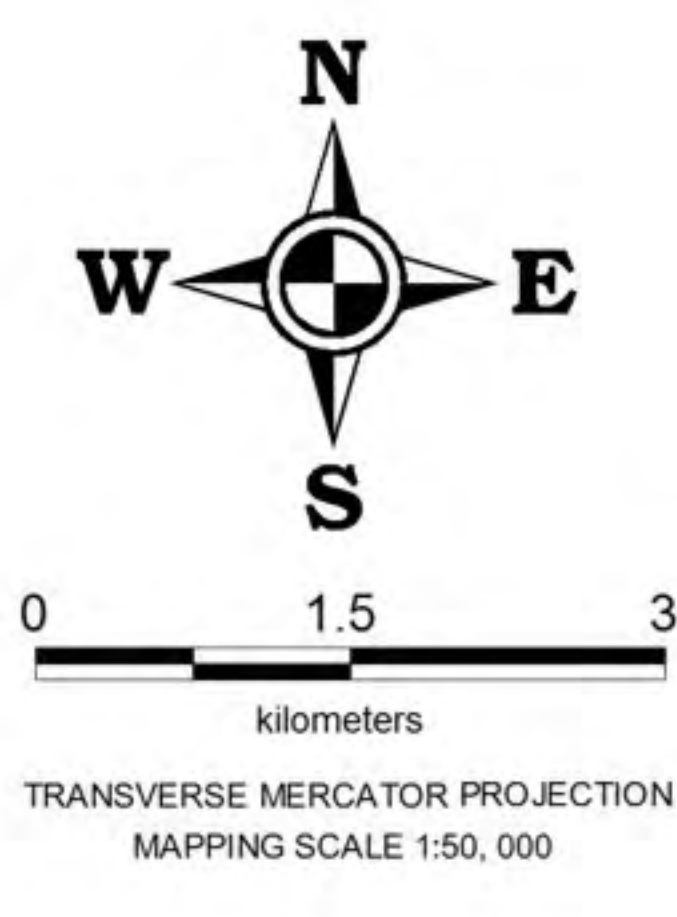
INDEX MAP



**LEGEND :**

- **High susceptibility to landslide**  
Areas with high landslide susceptibility rating have active/recent landslides and tension cracks that would directly affect the community. Those with steep slopes and drainages that are prone to landslide damming are also highly susceptible to landslides.
- **Moderate susceptibility to landslide**  
Areas with moderate landslide susceptibility rating have inactive/old landslides and tension cracks which are located away from the community. These areas usually have moderate slopes.
- **Low susceptibility to landslide**  
Areas with low to gentle slopes and lacking tension cracks have low landslide susceptibility rating.
- **High susceptibility to flooding**  
Areas with greater than 1 meter flood height. These areas are usually flooded for several hours during heavy rains; include landforms of topographic lows such as active river channels, abandoned river channels and areas along river banks, also prone to flashfloods.
- **Low to moderate susceptibility to flooding**  
Areas with less than 1.0 meter flood height. These are usually inundated during prolonged and extensive heavy rainfall or extreme weather condition

- River
- Main Road
- Municipal boundary
- Secondary Road
- Barangay center location
- Trail



GIS Processing :  
Lands Geological Survey Division

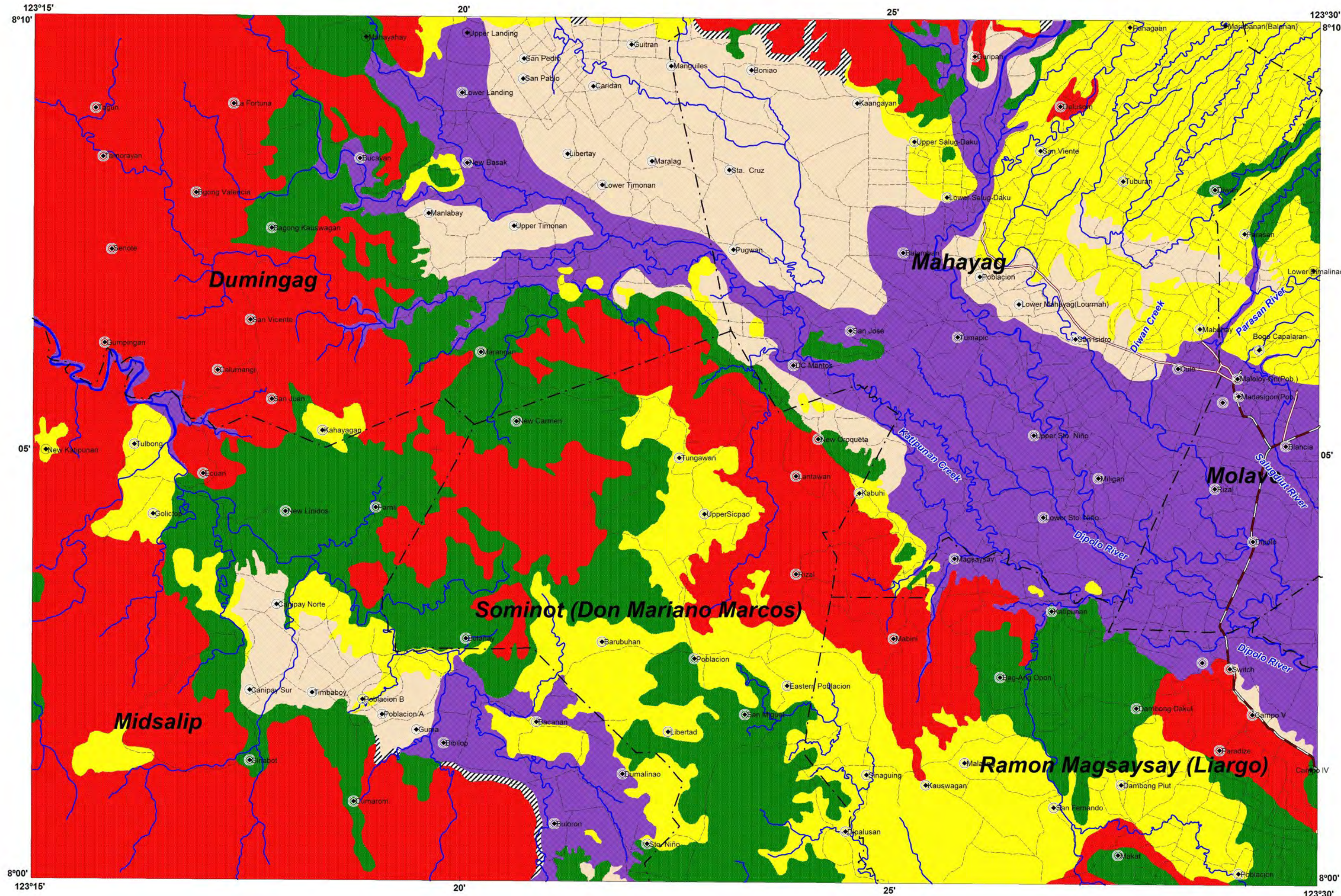
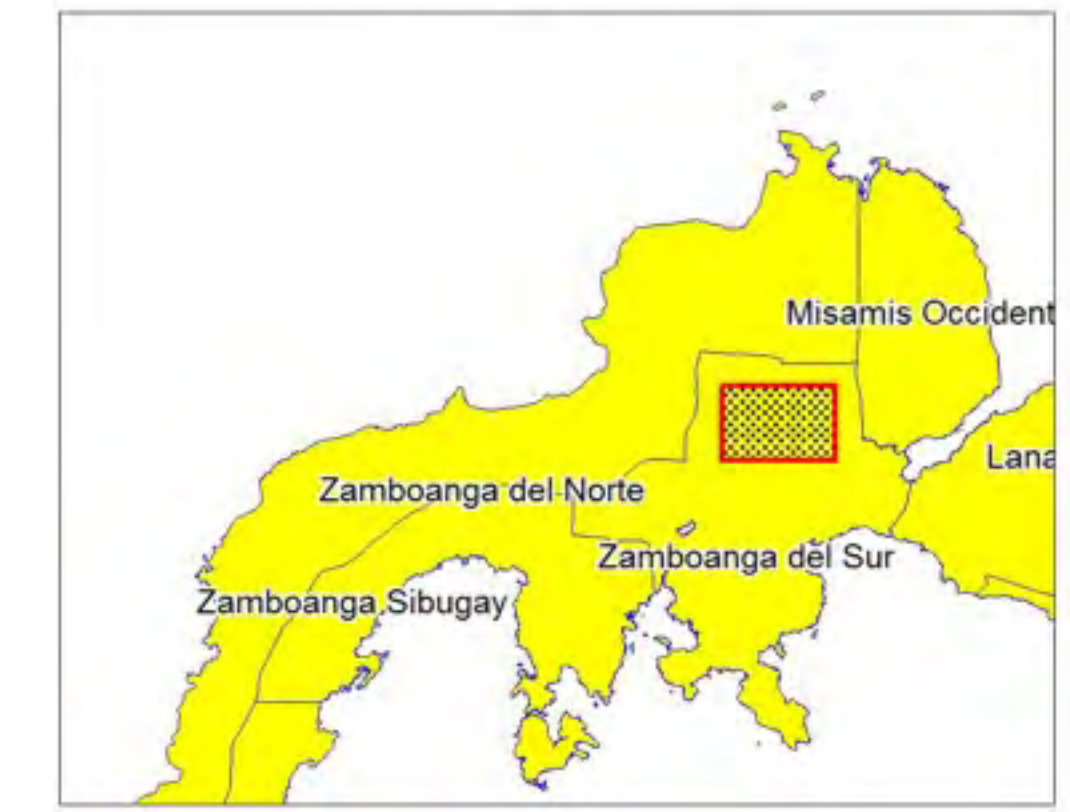
Data Sources:  
MGB Geohazard Assessment Team  
Geological Database and Information Systems Section  
Lands Geological Survey Division  
Geosciences Division MGB RO IX

Base Map :  
Sheet No. 3616 III "Margosatubig Quadrangle"



# LANDSLIDE AND FLOOD SUSCEPTIBILITY MAP OF MOLAVE QUADRANGLE ZAMBOANGA DEL SUR PROVINCE, PHILIPPINES

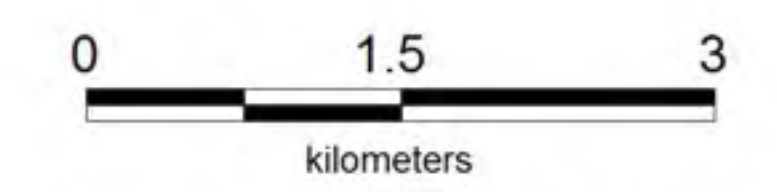
INDEX MAP



LEGEND :

- **High susceptibility to landslide**  
Areas with high landslide susceptibility rating have active/recent landslides and tension cracks that would directly affect the community. Those with steep slopes and drainages that are prone to landslide damming are also highly susceptible to landslides.
- **Moderate susceptibility to landslide**  
Areas with moderate landslide susceptibility rating have inactive/old landslides and tension cracks which are located away from the community. These areas usually have moderate slopes.
- **Low susceptibility to landslide**  
Areas with low to gentle slopes and lacking tension cracks have low landslide susceptibility rating.
- Possible landslide debris accumulation zone**  
These are areas where landslide debris could accumulate.
- **High susceptibility to flooding**  
Areas with greater than 1 meter flood height. These areas are usually flooded for several hours during heavy rains; include landforms of topographic lows such as active river channels, abandoned river channels and areas along river banks; also prone to flashfloods.
- **Low to moderate susceptibility to flooding**  
Areas with less than 1.0 meter flood height. These are usually inundated during prolonged and extensive heavy rainfall or extreme weather condition

- Main Road
- Secondary Road
- Trail
- River
- Municipal boundary
- Barangay center location



TRANSVERSE MERCATOR PROJECTION  
MAPPING SCALE 1:50,000

**GIS Processing :**  
Lands Geological Survey Division

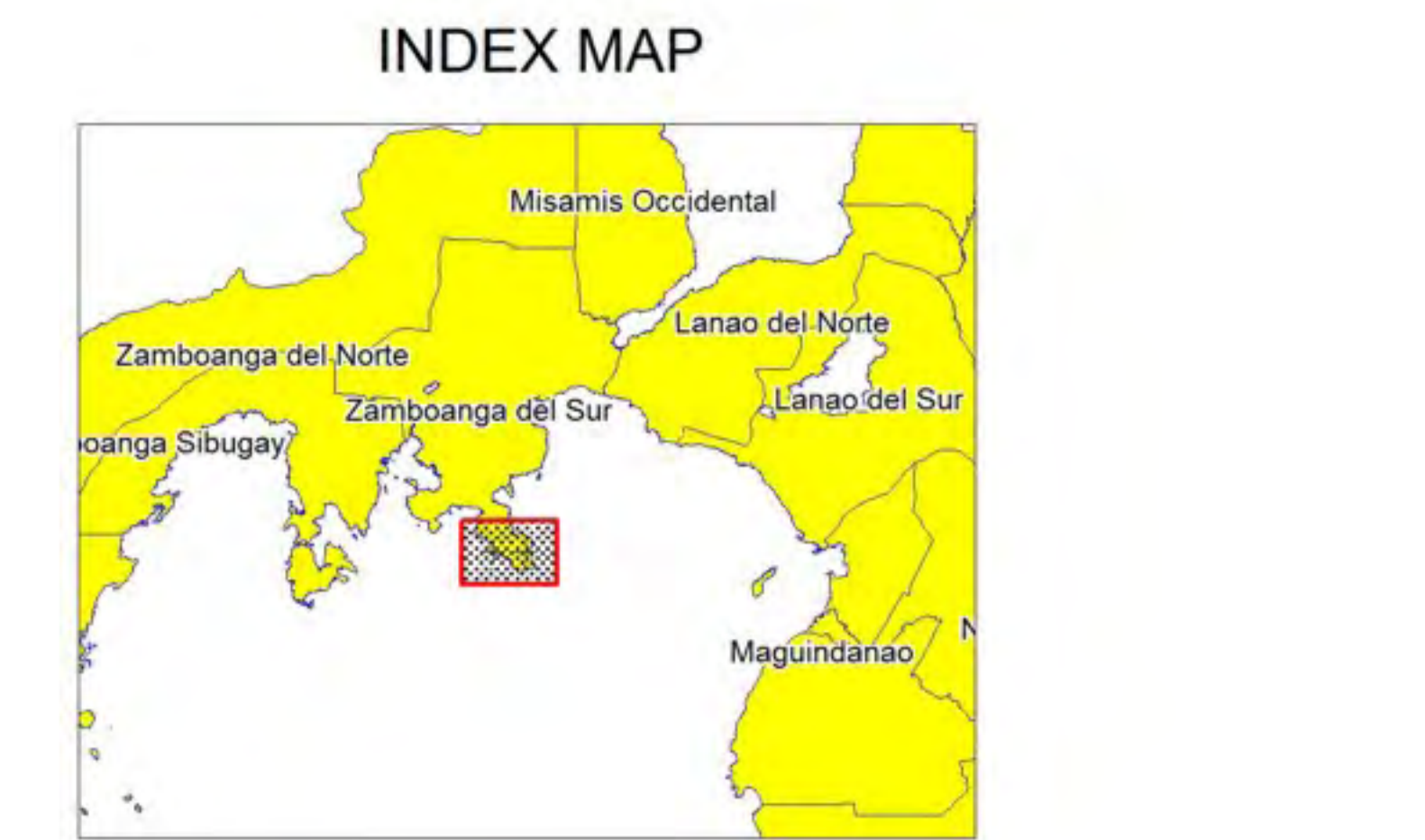
**Data Sources:**  
MGB Geohazard Assessment Team  
Geological Database and Information Systems Section  
Lands Geological Survey Division  
Geosciences Division MGB RO IX

**Base Map :**  
Sheet No. 3644 II "Molave Quadrangle"





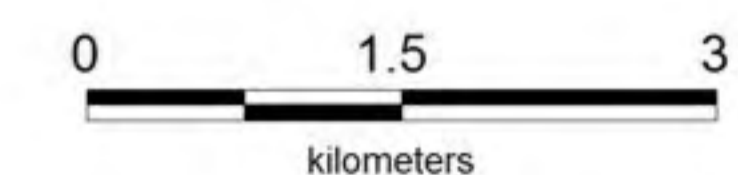
# LANDSLIDE AND FLOOD SUSCEPTIBILITY MAP OF PITOGO QUADRANGLE ZAMBOANGA DEL SUR PROVINCE, PHILIPPINES



**LEGEND :**

- **High susceptibility to landslide**  
Areas with high landslide susceptibility rating have active/recent landslides and tension cracks that would directly affect the community. Those with steep slopes and drainages that are prone to landslide damming are also highly susceptible to landslides.
- **Moderate susceptibility to landslide**  
Areas with moderate landslide susceptibility rating have inactive/old landslides and tension cracks which are located away from the community. These areas usually have moderate slopes.
- **Low susceptibility to landslide**  
Areas with low to gentle slopes and lacking tension cracks have low landslide susceptibility rating.
- **High susceptibility to flooding**  
Areas with greater than 1 meter flood height. These areas are usually flooded for several hours during heavy rains; include landforms of topographic lows such as active river channels, abandoned river channels and areas along river banks; also prone to flashfloods.
- **Low to moderate susceptibility to flooding**  
Areas with less than 1.0 meter flood height. These are usually inundated during prolonged and extensive heavy rainfall or extreme weather condition

- Main Road
- River
- Secondary Road
- Municipal boundary
- Trail
- Barangay center location



TRANSVERSE MERCATOR PROJECTION  
MAPPING SCALE 1:50,000

**GIS Processing :**  
Lands Geological Survey Division

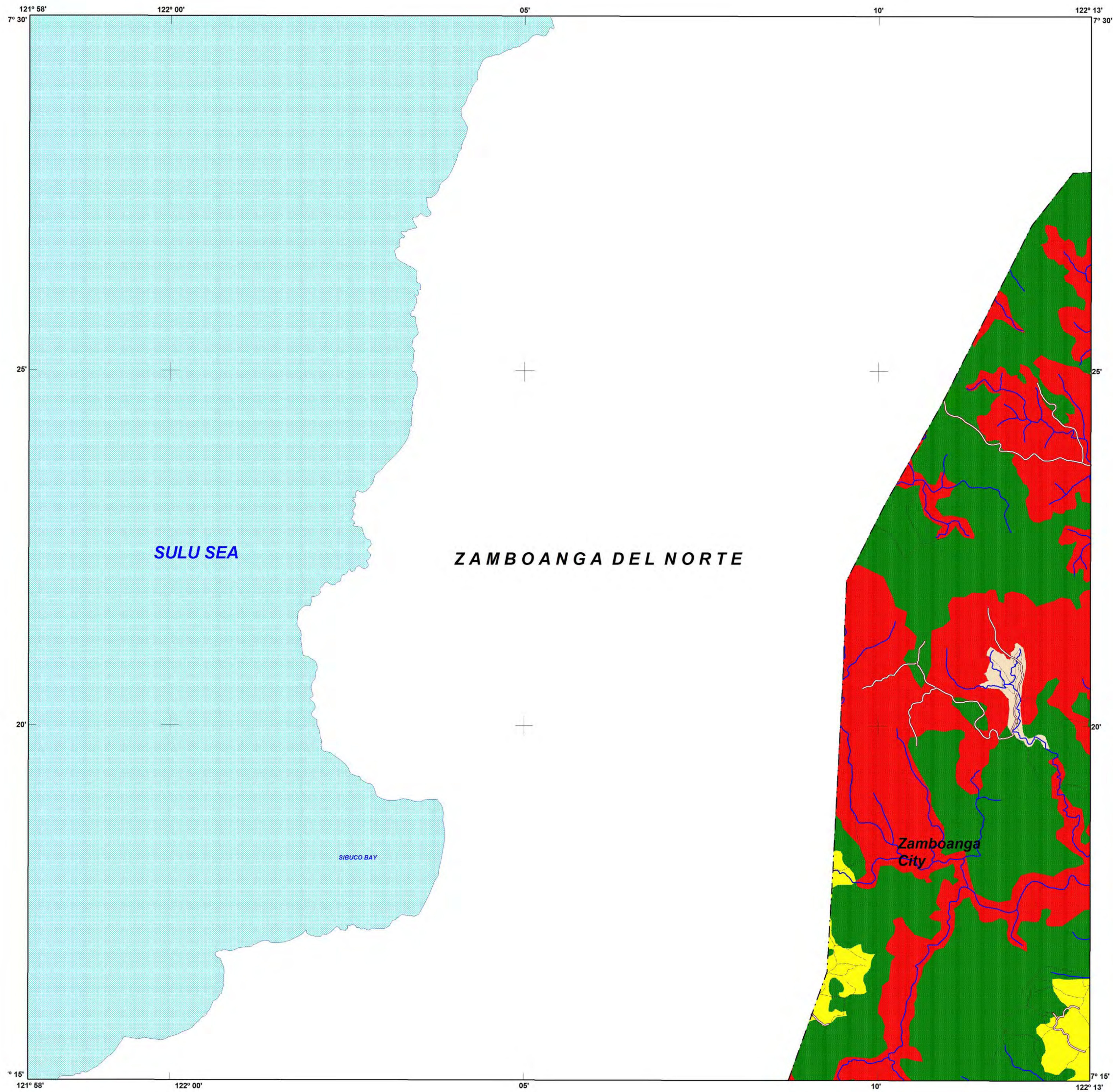
**Data Sources:**  
MGB Geohazard Assessment Team  
Geological Database and Information Systems Section  
Lands Geological Survey Division  
Geosciences Division MGB RO IX

**Base Map :**  
Sheet No. 3642 II "Pitogo Quadrangle"



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# LANDSLIDE AND FLOOD SUSCEPTIBILITY MAP OF SIBUCO QUADRANGLE ZAMBOANGA DEL SUR PROVINCE, PHILIPPINES



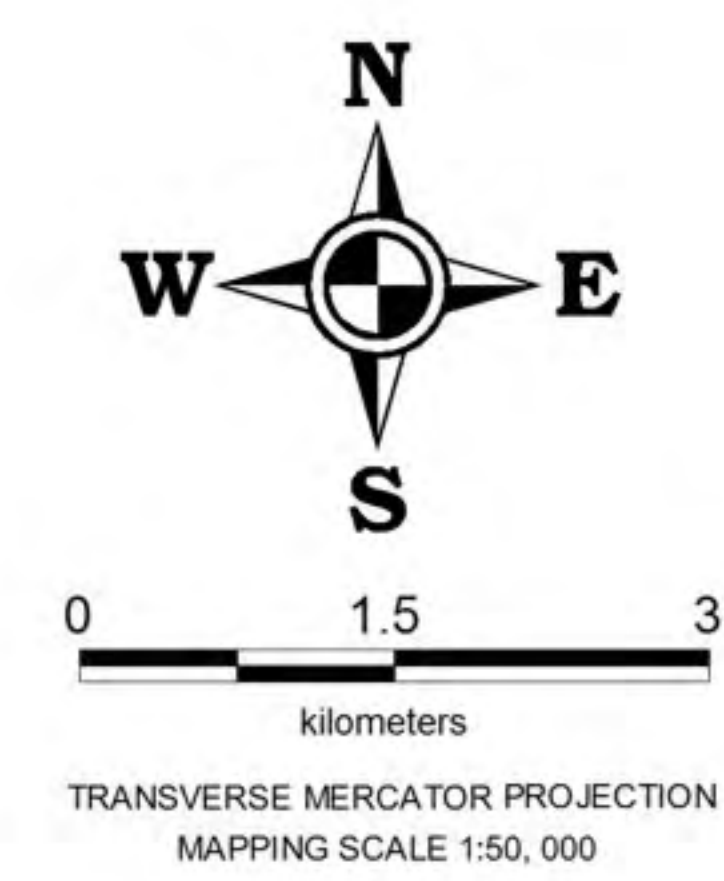
INDEX MAP



**LEGEND :**

- **High susceptibility to landslide**  
Areas with high landslide susceptibility rating have active/recent landslides and tension cracks that would directly affect the community. Those with steep slopes and drainages that are prone to landslide damming are also highly susceptible to landslides.
- **Moderate susceptibility to landslide**  
Areas with moderate landslide susceptibility rating have inactive/old landslides and tension cracks which are located away from the community. These areas usually have moderate slopes.
- **Low susceptibility to landslide**  
Areas with low to gentle slopes and lacking tension cracks have low landslide susceptibility rating.
- **Low to moderate susceptibility to flooding**  
Areas with less than 1.0 meter flood height. These are usually inundated during prolonged and extensive heavy rainfall or extreme weather condition

- Main Road
- Secondary Road
- Trail
- River
- Municipal boundary
- Barangay center location
- Flash flood exit point
- Debris flow direction



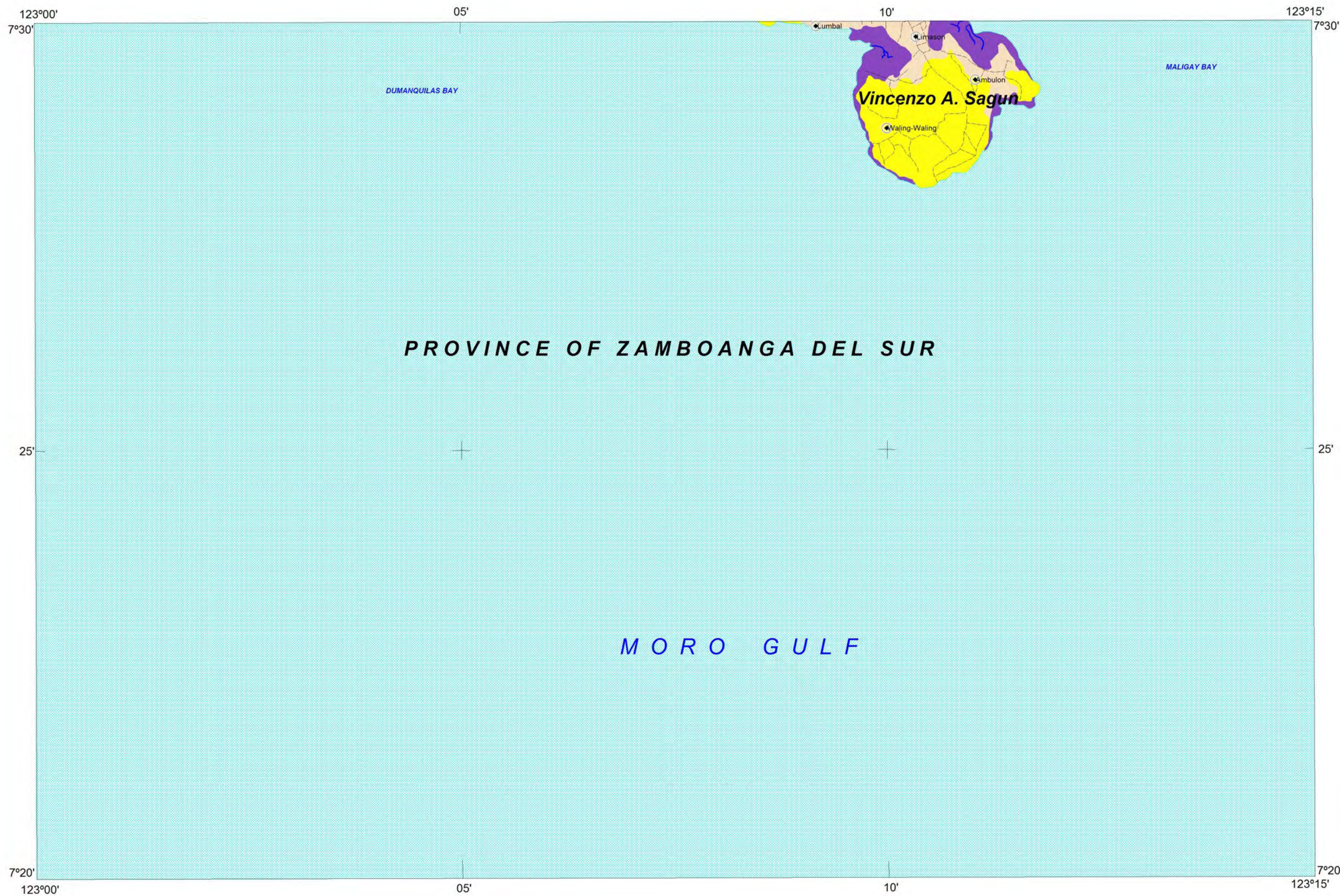
GIS Processing :  
Lands Geological Survey Division

Data Sources:  
MGB Geohazard Assessment Team  
Geological Database and Information Systems Section  
Lands Geological Survey Division  
Geosciences Division MGB RO IX

Base Map :  
Sheet No. 3415 IV "Sibuco Quadrangle"



# LANDSLIDE AND FLOOD SUSCEPTIBILITY MAP OF SUGBAY QUADRANGLE ZAMBOANGA DEL SUR PROVINCE, PHILIPPINES

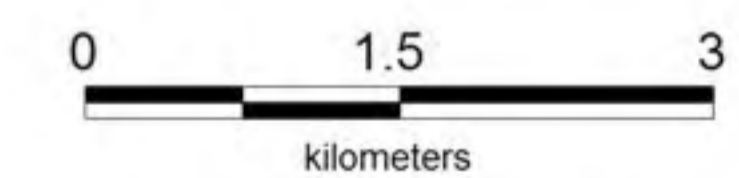


## INDEX MAP



## LEGEND :

- **High susceptibility to landslide**  
Areas with high landslide susceptibility rating have active/recent landslides and tension cracks that would directly affect the community. Those with steep slopes and drainages that are prone to landslide damming are also highly susceptible to landslides.
  - **Moderate susceptibility to landslide**  
Areas with moderate landslide susceptibility rating have inactive/old landslides and tension cracks which are located away from the community. These areas usually have moderate slopes.
  - **Low susceptibility to landslide**  
Areas with low to gentle slopes and lacking tension cracks have low landslide susceptibility rating.
  - Possible landslide debris accumulation zone**  
These are areas where landslide debris could accumulate.
  - **High susceptibility to flooding**  
Areas with greater than 1 meter flood height. These areas are usually flooded for several hours during heavy rains; include landforms of topographic lows such as active river channels, abandoned river channels and areas along river banks; also prone to flashfloods.
  - **Low to moderate susceptibility to flooding**  
Areas with less than 1.0 meter flood height. These are usually inundated during prolonged and extensive heavy rainfall or extreme weather condition
- |                |                          |
|----------------|--------------------------|
| Main Road      | River                    |
| Secondary Road | Municipal boundary       |
| Trail          | Barangay center location |



TRANSVERSE MERCATOR PROJECTION  
MAPPING SCALE 1:50,000

**GIS Processing :**  
Lands Geological Survey Division

**Data Sources:**  
MGB Geohazard Assessment Team  
Geological Database and Information Systems Section  
Lands Geological Survey Division  
Geosciences Division MGB RO IX

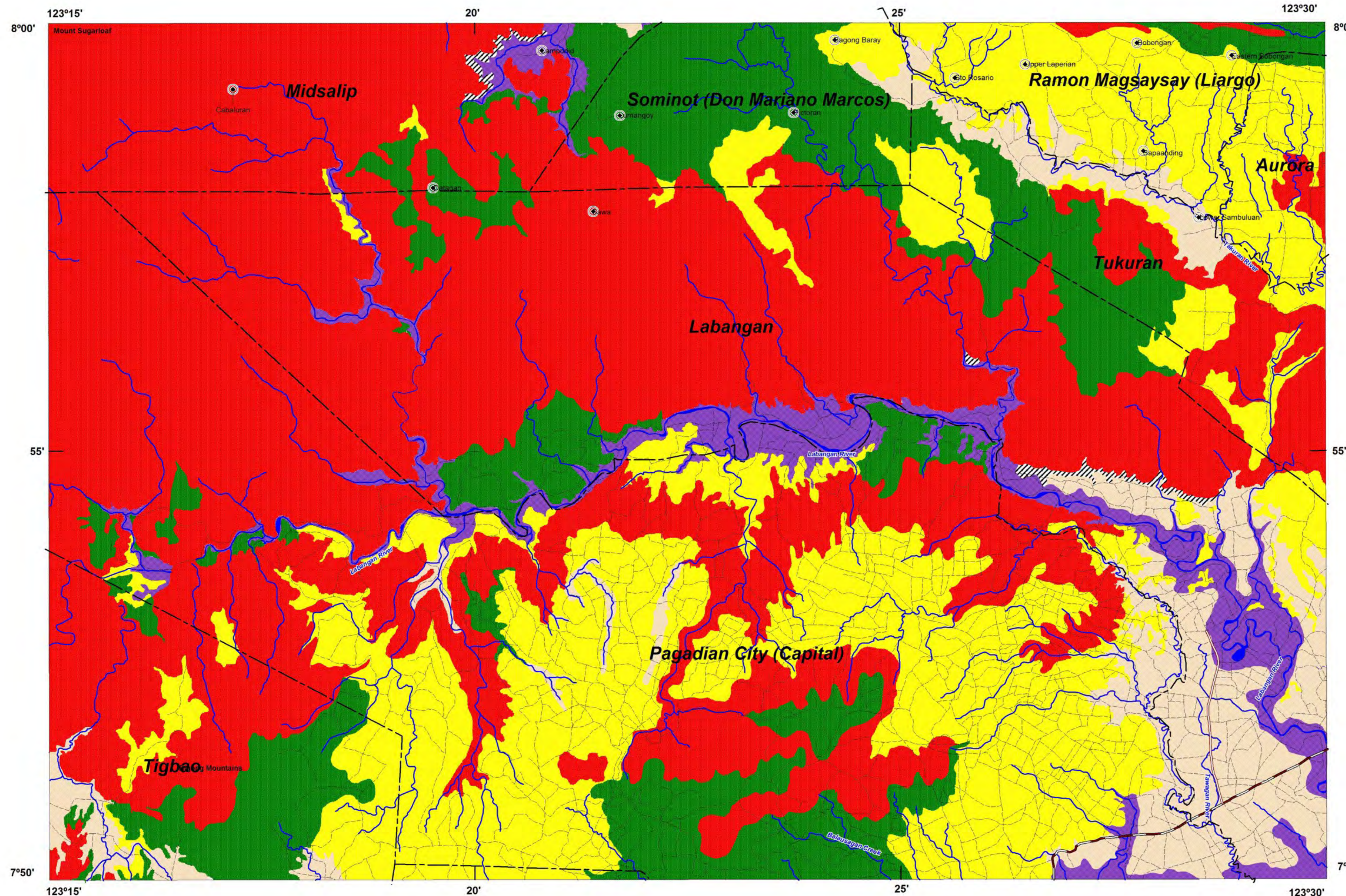
**Base Map :**  
Sheet No. 3642 III "Sugbay Quadrangle"



DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES  
**MINES AND GEOSCIENCES BUREAU**  
LANDS GEOLOGICAL SURVEY DIVISION

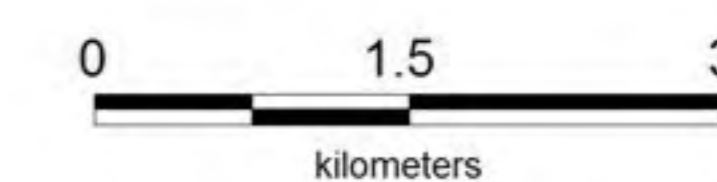
# LANDSLIDE AND FLOOD SUSCEPTIBILITY MAP OF TAWAGAN QUADRANGLE ZAMBOANGA DEL SUR PROVINCE, PHILIPPINES

INDEX MAP



**LEGEND :**

- High susceptibility to landslide**  
Areas with high landslide susceptibility rating have active/recent landslides and tension cracks that would directly affect the community. Those with steep slopes and drainages that are prone to landslide damming are also highly susceptible to landslides.
  - Moderate susceptibility to landslide**  
Areas with moderate landslide susceptibility rating have inactive/old landslides and tension cracks which are located away from the community. These areas usually have moderate slopes.
  - Low susceptibility to landslide**  
Areas with low to gentle slopes and lacking tension cracks have low landslide susceptibility rating.
  - Possible landslide debris accumulation zone**  
These are areas where landslide debris could accumulate.
  - High susceptibility to flooding**  
Areas with greater than 1 meter flood height. These areas are usually flooded for several hours during heavy rains; include landforms of topographic lows such as active river channels, abandoned river channels and areas along river banks; also prone to flashfloods.
  - Low to moderate susceptibility to flooding**  
Areas with less than 1.0 meter flood height. These are usually inundated during prolonged and extensive heavy rainfall or extreme weather condition
- |                          |                |
|--------------------------|----------------|
| River                    | Main Road      |
| Municipal boundary       | Secondary Road |
| Barangay center location | Trail          |



TRANSVERSE MERCATOR PROJECTION  
MAPPING SCALE 1:50,000

**GIS Processing :**  
Lands Geological Survey Division

**Data Sources:**  
MGB Geohazard Assessment Team  
Geological Database and Information Systems Section  
Lands Geological Survey Division  
Geosciences Division MGB RO IX

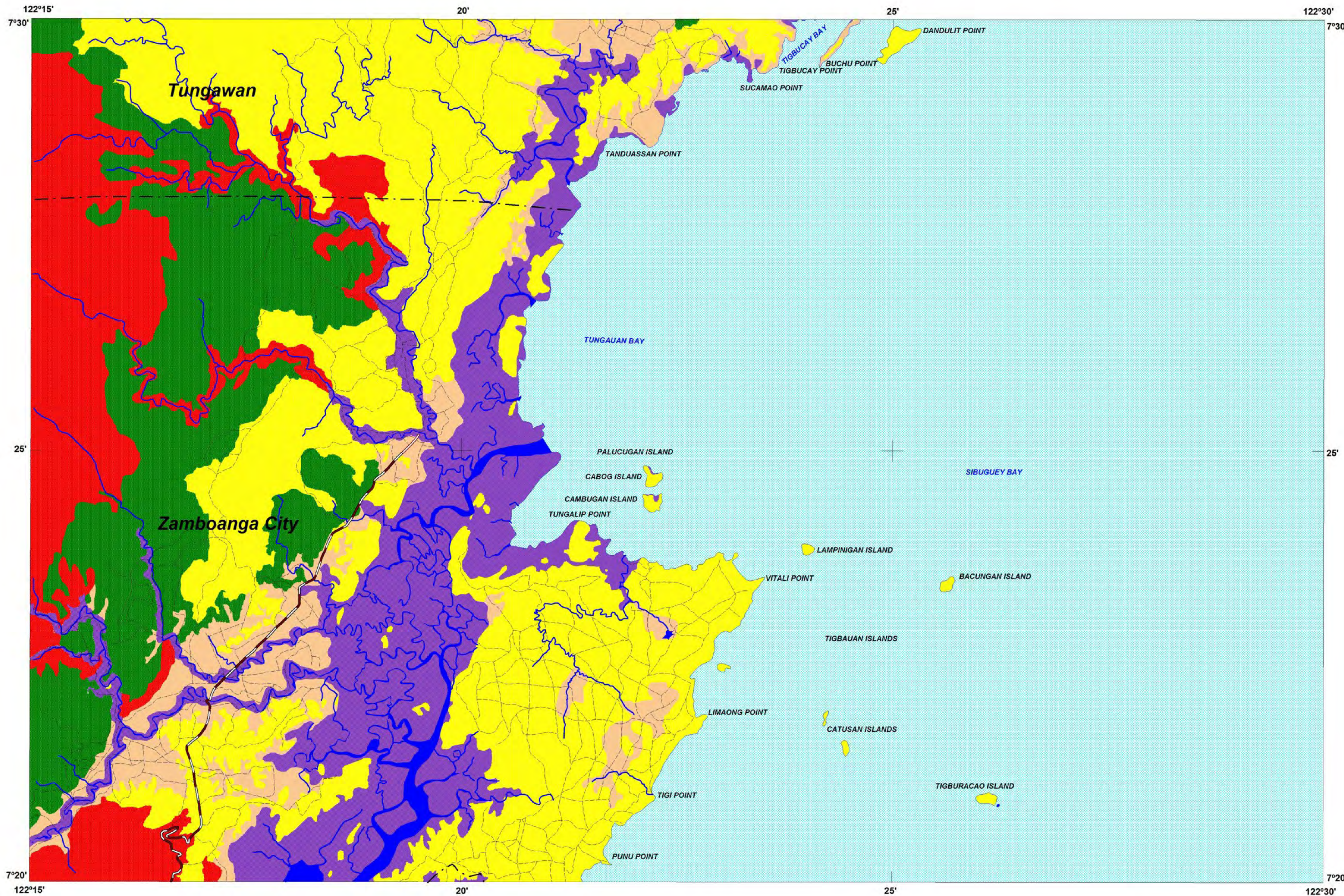
**Base Map :**  
Sheet No. 3643 I "Tawagan Quadrangle"



DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES  
**MINES AND GEOSCIENCES BUREAU**  
LANDS GEOLOGICAL SURVEY DIVISION

# LANDSLIDE AND FLOOD SUSCEPTIBILITY MAP OF VITALI QUADRANGLE ZAMBOANGA DEL SUR PROVINCE, PHILIPPINES

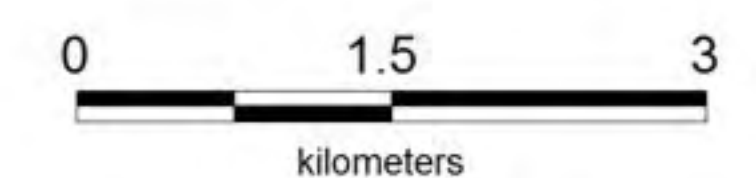
INDEX MAP



**LEGEND :**

- **High susceptibility to landslide**  
Areas with high landslide susceptibility rating have active/recent landslides and tension cracks that would directly affect the community. Those with steep slopes and drainages that are prone to landslide damming are also highly susceptible to landslides.
- **Moderate susceptibility to landslide**  
Areas with moderate landslide susceptibility rating have inactive/old landslides and tension cracks which are located away from the community. These areas usually have moderate slopes.
- **Low susceptibility to landslide**  
Areas with low to gentle slopes and lacking tension cracks have low landslide susceptibility rating.
- **High susceptibility to flooding**  
Areas with greater than 1 meter flood height. These areas are usually flooded for several hours during heavy rains; include landforms of topographic lows such as active river channels, abandoned river channels and areas along river banks; also prone to flashfloods.
- **Low to moderate susceptibility to flooding**  
Areas with less than 1.0 meter flood height. These are usually inundated during prolonged and extensive heavy rainfall or extreme weather condition

- Main Road
- Secondary Road
- Trail
- River
- Municipal boundary
- Barangay center location



TRANSVERSE MERCATOR PROJECTION  
MAPPING SCALE 1:50,000

**GIS Processing :**  
Lands Geological Survey Division

**Data Sources:**  
MGB Geohazard Assessment Team  
Geological Database and Information Systems Section  
Lands Geological Survey Division  
Geosciences Division MGB RO IX

**Base Map :**  
Sheet No. 3442 II "Vitali Quadrangle"



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