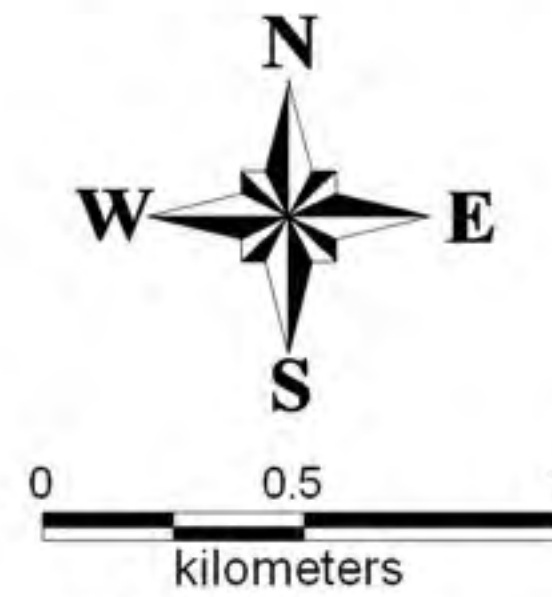


DETAILED GEOHAZARD MAP OF BALINGASAG MISAMIS ORIENTAL , PHILIPPINES



UTM Zone 51 Clarke 1866 Luzon Datum
MAPPING SCALE 1 : 10,000

LEGEND :

- Flashflood Area
- Perennially Flooded Areas
- Regularly to Frequently Flooded Areas
- Seasonally to Rarely Flooded Areas
- Not Prone to Flood
- Inhabited Areas
- Dike
- River
- Possible Path of River Migration
- Roads

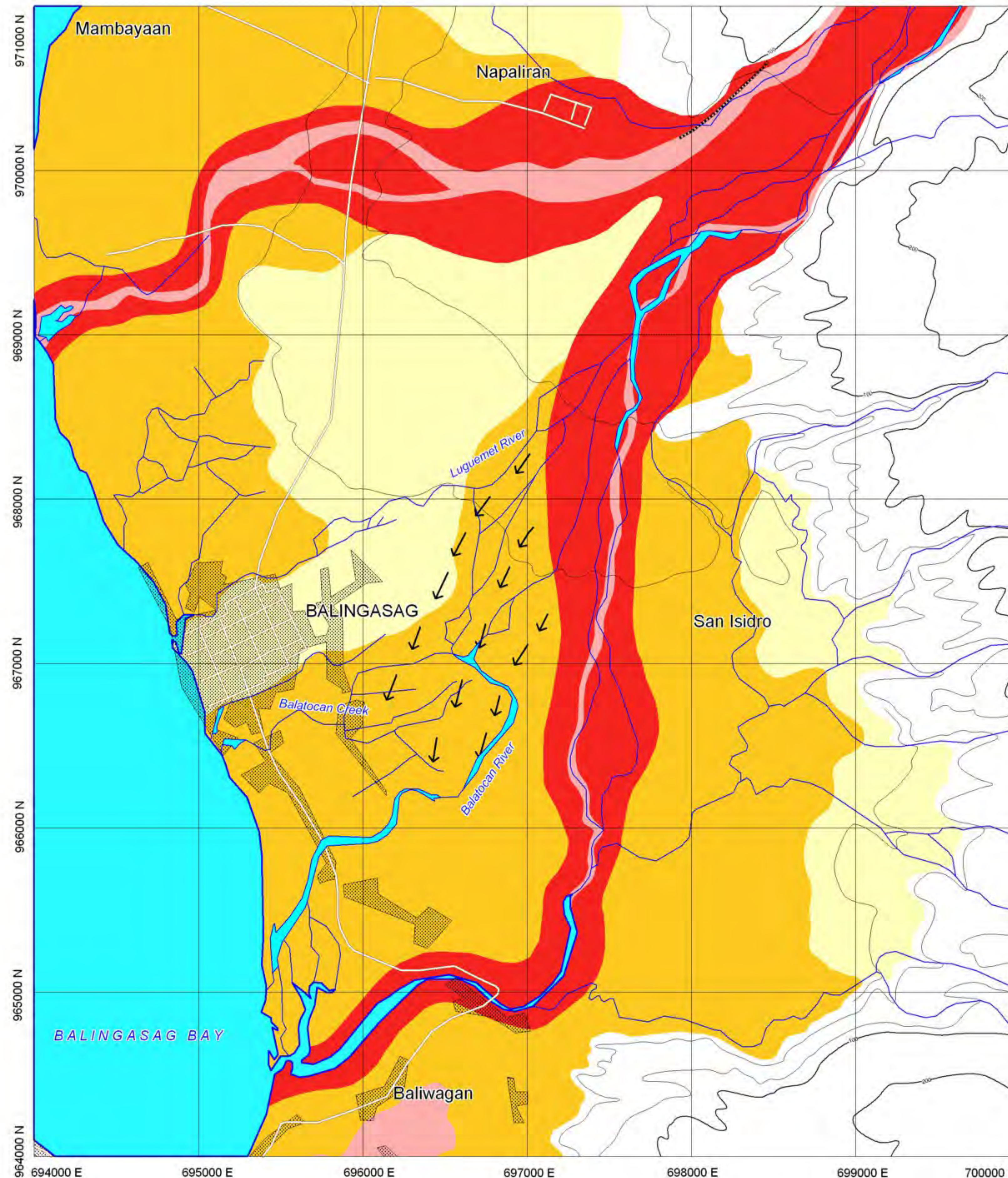
Index Map



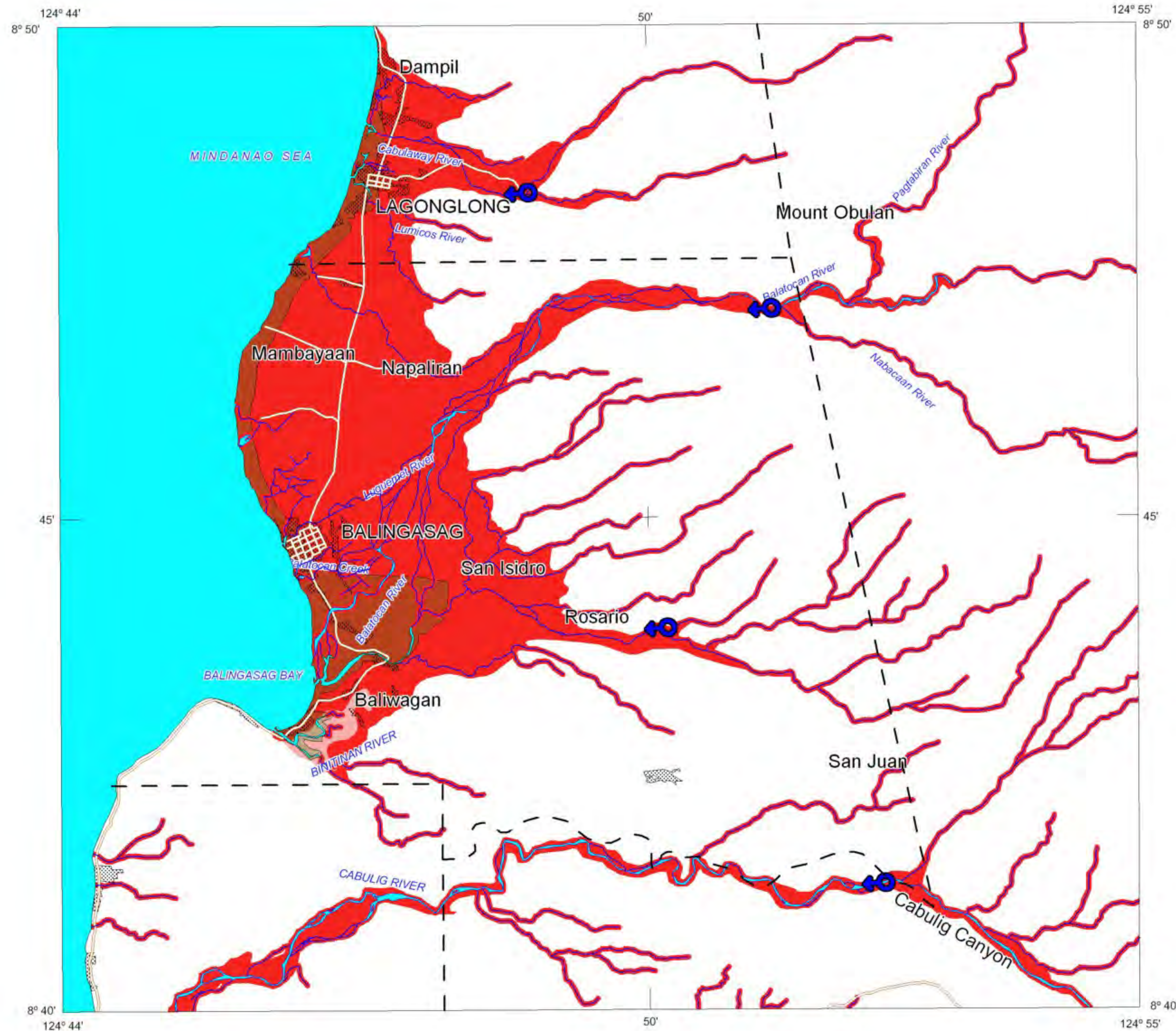
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MINES AND GEOSCIENCES BUREAU
LANDS GEOLOGICAL SURVEY DIVISION



United Nations Development Programme
PHI/03/002 - ENR Framework Development and Implementation



FLOOD AND FLASHFLOOD SUSCEPTIBILITY MAP OF BALINGASAG QUADRANGLE , MISAMIS ORIENTAL, PHILIPPINES



1:000 500 0' 1000 2000 3000 4000Meters
TRANSVERSE MERCATOR PROJECTION
MAPPING SCALE 1:50, 000

LEGEND :

- | | |
|---|---|
| ■ High Susceptibility | ● Potential Flashflood Exit Points |
| ■ Perennially Flooded | ↗ Prone to bank erosion and overflow |
| ■ Not Prone to Flood | — Road |
| ■ Prone to Tidal Flood | --- Municipal Boundary |
| ■ Inhabited Areas | |

GIS Processing :

Geological Database and Information Systems Section
Lands Geological Survey Division

MGB RO X Geological Survey Division

Data Sources:

Geological Survey Research Section
Geological Database and Information Systems Section
Urban Geology Section
MGB RO X Geological Survey Division

Base Maps :

Sheet No. 3946 II "Balingasag Quadrangle"
Spot 5 2002 Imagery

INDEX MAP

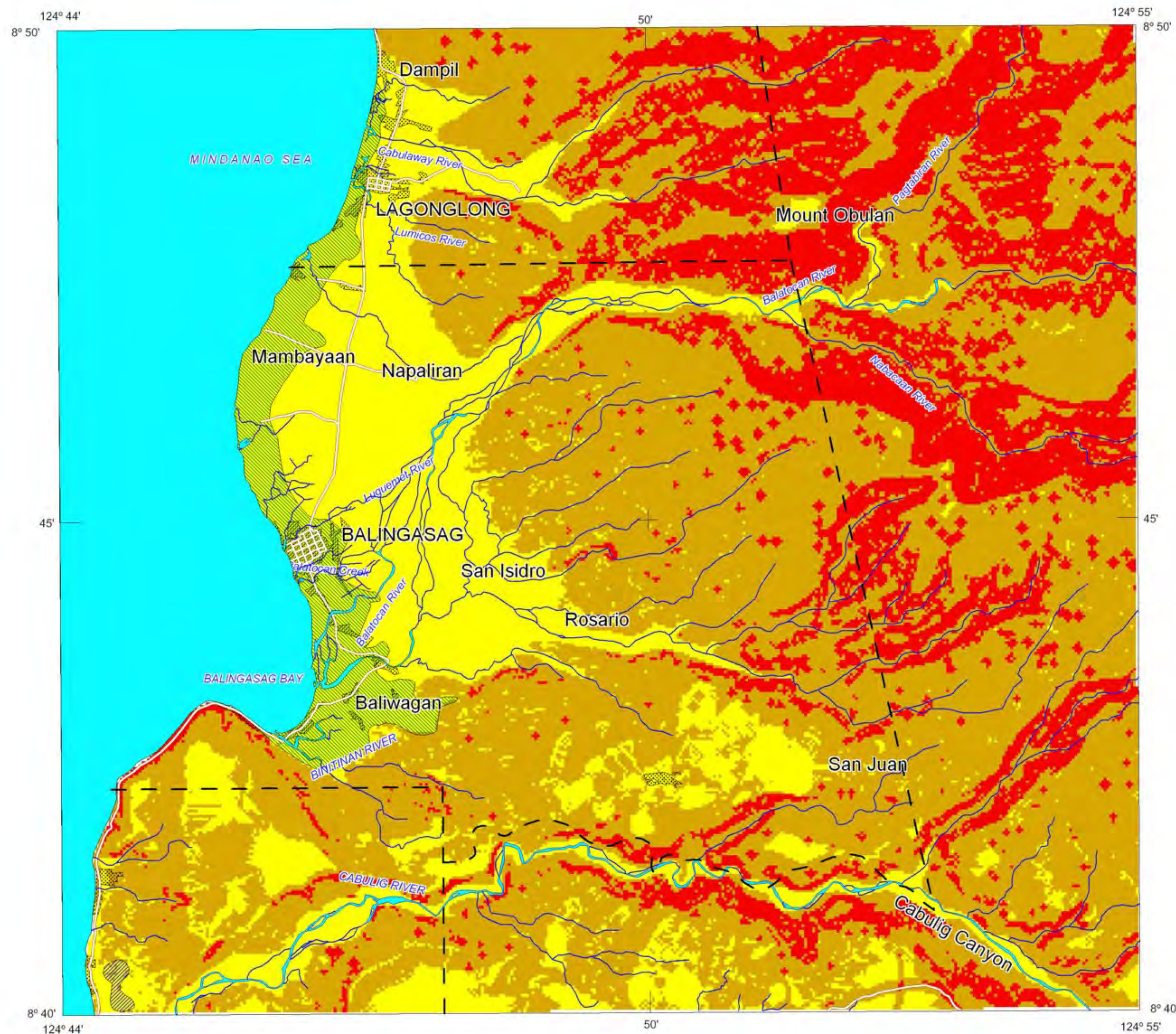


DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
MINES AND GEOSCIENCES BUREAU
LANDS GEOLOGICAL SURVEY DIVISION



United Nations Development Programme
PHI/03/002 - ENR Framework Development and Implementation

LANDSLIDE AND SUBSIDENCE SUSCEPTIBILITY MAP OF BALINGASAG QUADRANGLE , MISAMIS ORIENTAL, PHILIPPINES



1:000 500 0 1000 2000 3000 4000Meters
TRANSVERSE MERCATOR PROJECTION
MAPPING SCALE 1:50, 000

Legend for Landslide Susceptibility :

- High Susceptibility
- Moderate Susceptibility
- None to Low Susceptibility
- Road
- River
- Municipal Boundary

Legend for Subsidence Susceptibility :

- Areas prone to subsidence due to ground settlement
- Areas prone to subsidence due to underground cave collapse
- Inhabited Areas

GIS Processing :

Geological Database and Information Systems Section
Lands Geological Survey Division

MGB RO X Geological Survey Division

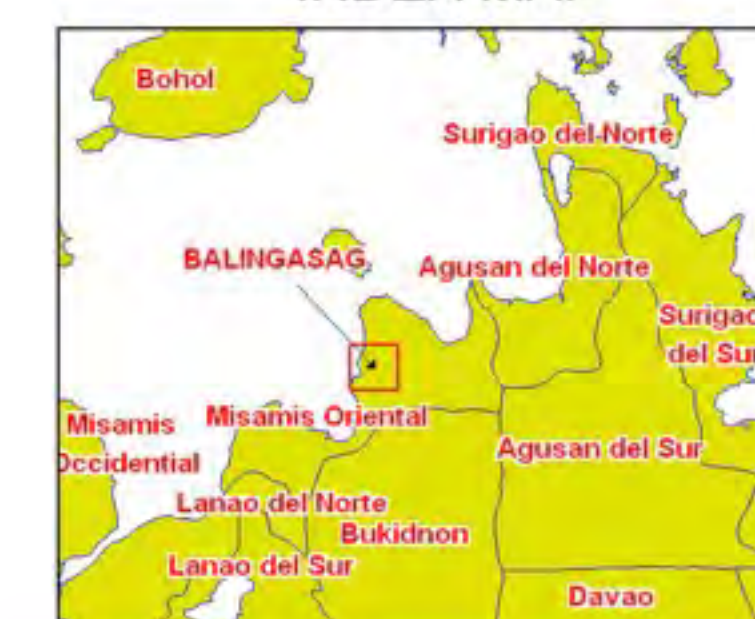
Data Sources:

Geological Survey Research Section
Geological Database and Information Systems Section
Urban Geology Section
MGB RO X Geological Survey Division

Base Maps :

Sheet No. 3946 II "Balingasag Quadrangle"
Spot 5 2002 Imagery

INDEX MAP

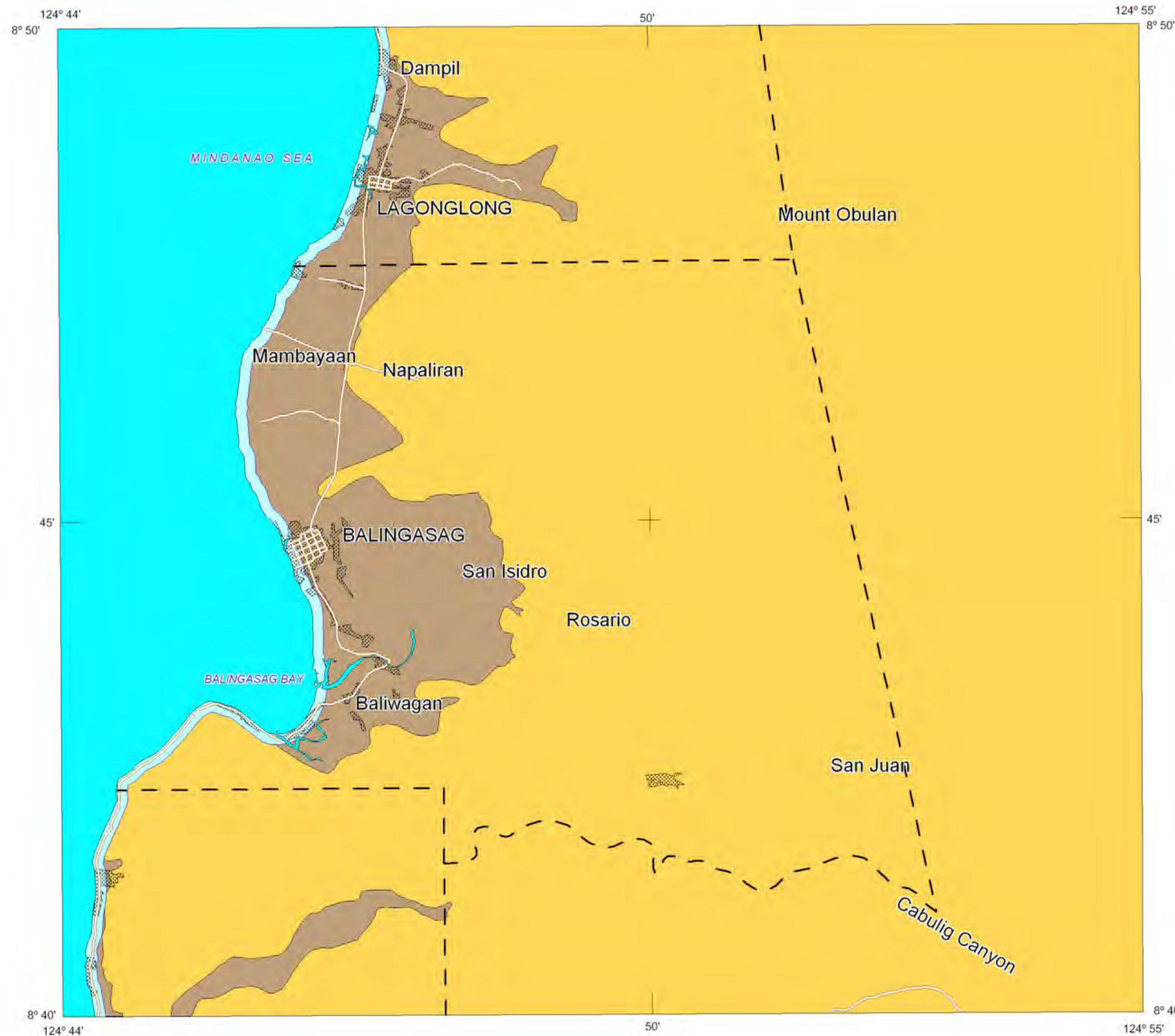


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LANDS GEOLOGICAL SURVEY DIVISION



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EARTHQUAKE-RELATED HAZARD MAP OF BALINGASAG QUADRANGLE MISAMIS ORIENTAL, PHILIPPINES



1:000 500 0' 1000 2000 3000 4000 Meters
TRANSVERSE MERCATOR PROJECTION
MAPPING SCALE 1:50, 000

Legend for earthquake-induced ground-shaking hazard :

- Moderate Susceptibility
These are areas with peak ground acceleration values ("g") less than 0.3 g as computed from the formula by Fukushima and Tanaka (1990).

Attenuation Relation used : Fukushima and Tanaka , 1990
Earthquake Generator : Philippine Fault
Maximum Earthquake Magnitude : 7.8

Legend for Liquefaction :

- Liquefaction Likely
These are areas that are expected to experience sporadic or extensive liquefaction of the ground in times of earthquakes. Building owners are advised to consult with geotechnical engineers to properly design their building foundations.

- Inhabited Areas
- Tsunami Prone Areas
- Road
- Municipal Boundaries

INDEX MAP

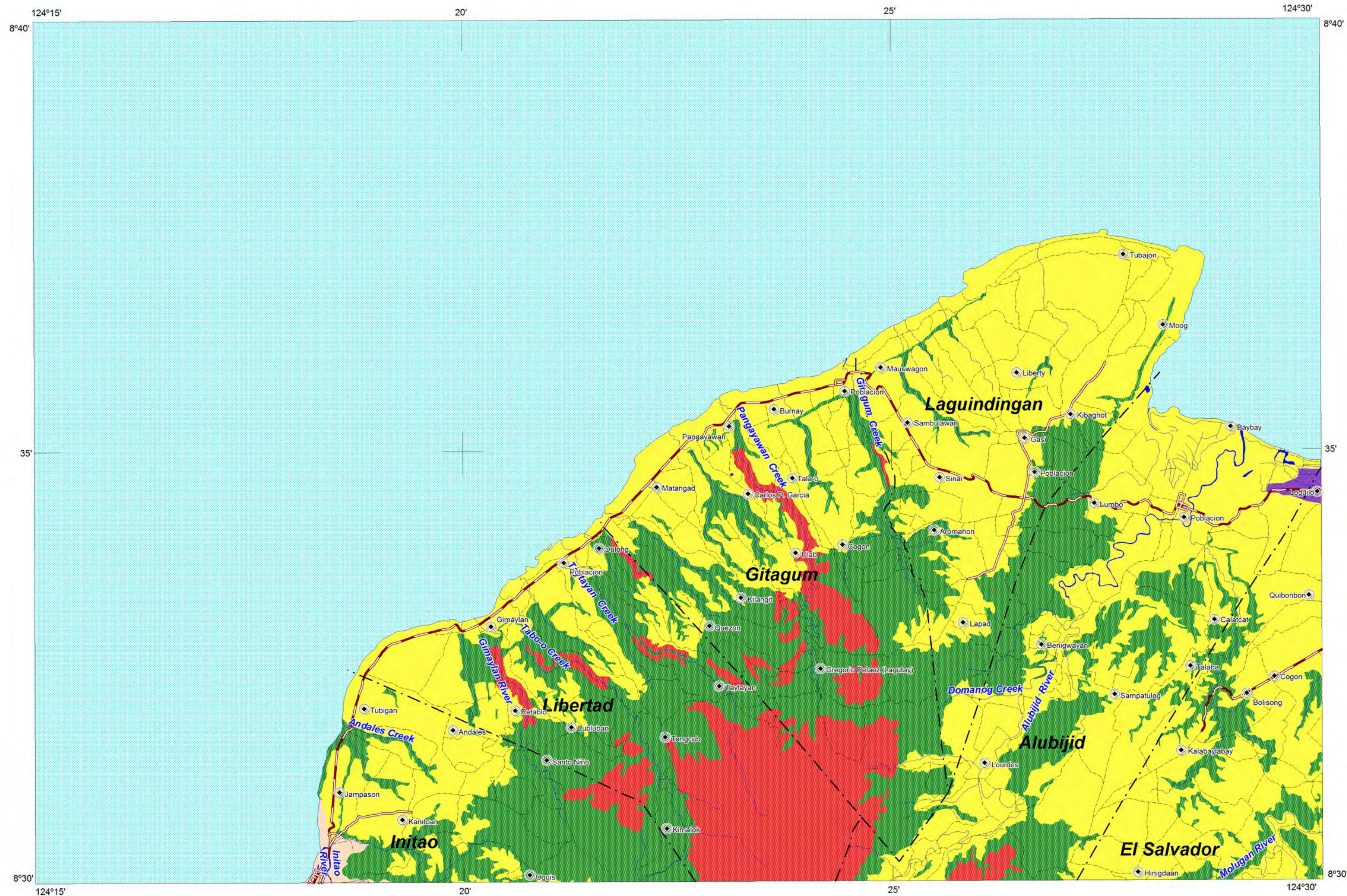


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LANDSLIDE AND FLOOD SUSCEPTIBILITY MAP OF ALUBIJID QUADRANGLE MISAMIS ORIENTAL PROVINCE, PHILIPPINES



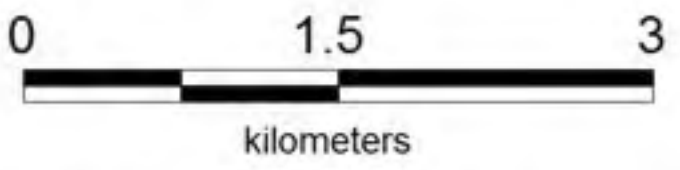
INDEX MAP



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

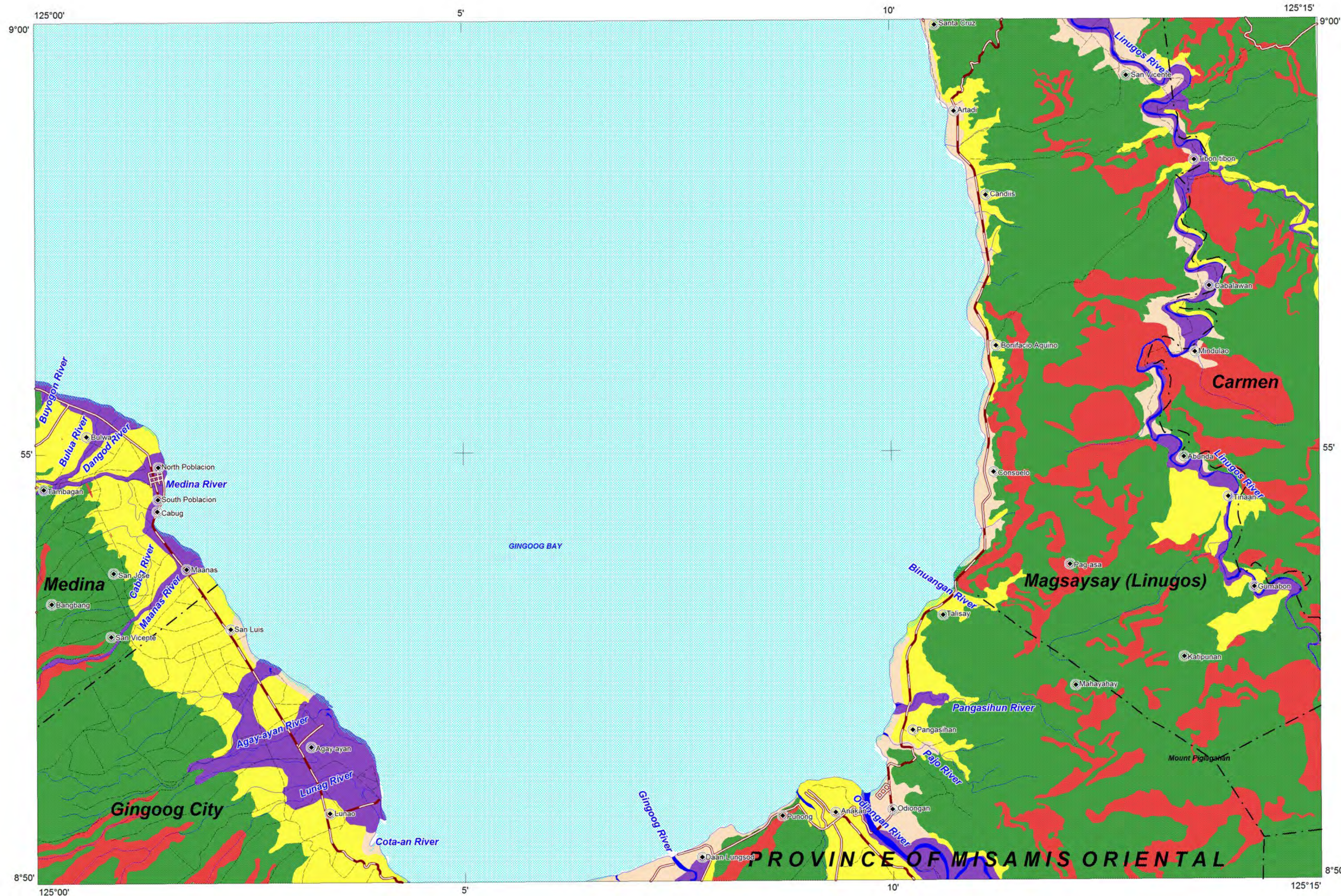
Data Sources:
MGB Geohazard Assessment Team
Geological Database and Information Systems Section
Lands Geological Survey Division
Geosciences Division MGB RO X

Base Map :
Sheet No. 3845-I "Alubijid Quadrangle"

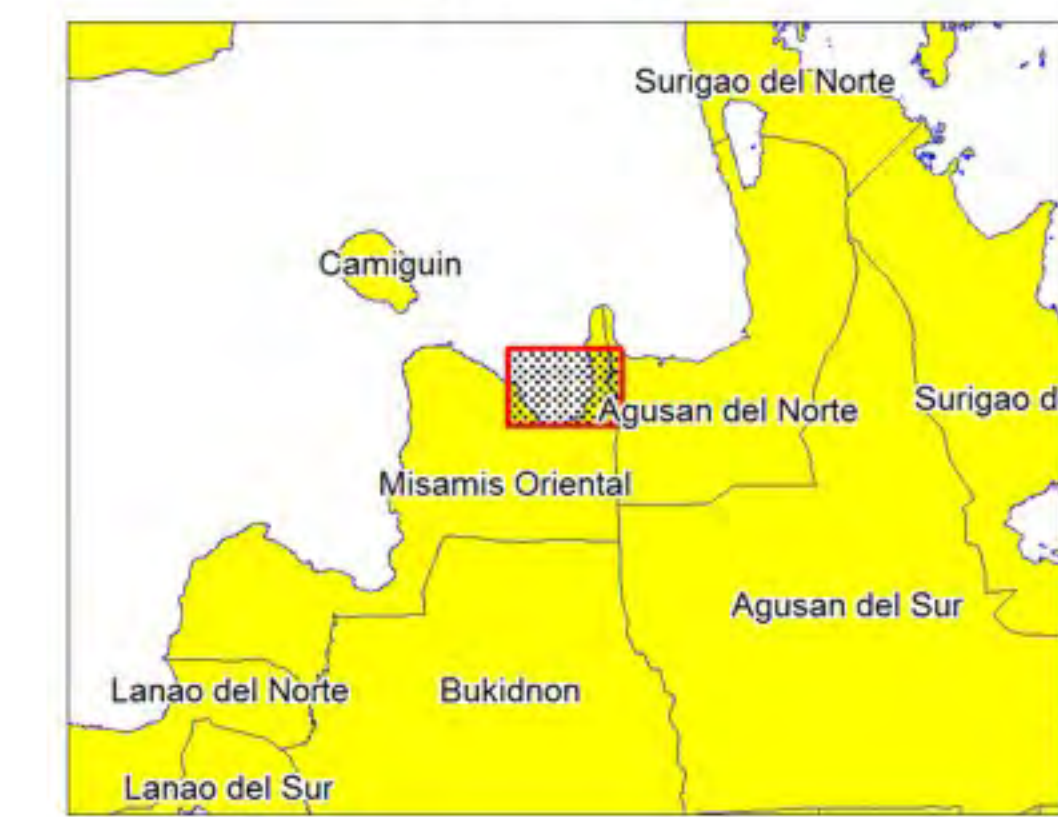


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MINES AND GEOSCIENCES BUREAU
LANDS GEOLOGICAL SURVEY DIVISION

LANDSLIDE AND FLOOD SUSCEPTIBILITY MAP OF ANAKAN QUADRANGLE MISAMIS ORIENTAL PROVINCE, PHILIPPINES



INDEX MAP



LEGEND :

- 

High susceptibility to landslides

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
 - 

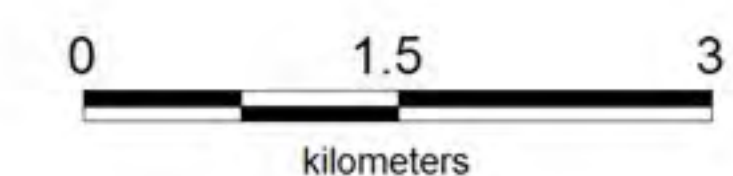
Secondary Road
 - 

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 X

Base Map :
Sheet No. 4046 IV "Anakan Quadrangle"



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LANDS GEOLOGICAL SURVEY DIVISION

LANDSLIDE AND FLOOD SUSCEPTIBILITY MAP OF BALINGASAG QUADRANGLE MISAMIS ORIENTAL 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



0 1.5 3
kilometers

TRANSVERSE MERCATOR PROJECTION
MAPPING SCALE 1:50,000

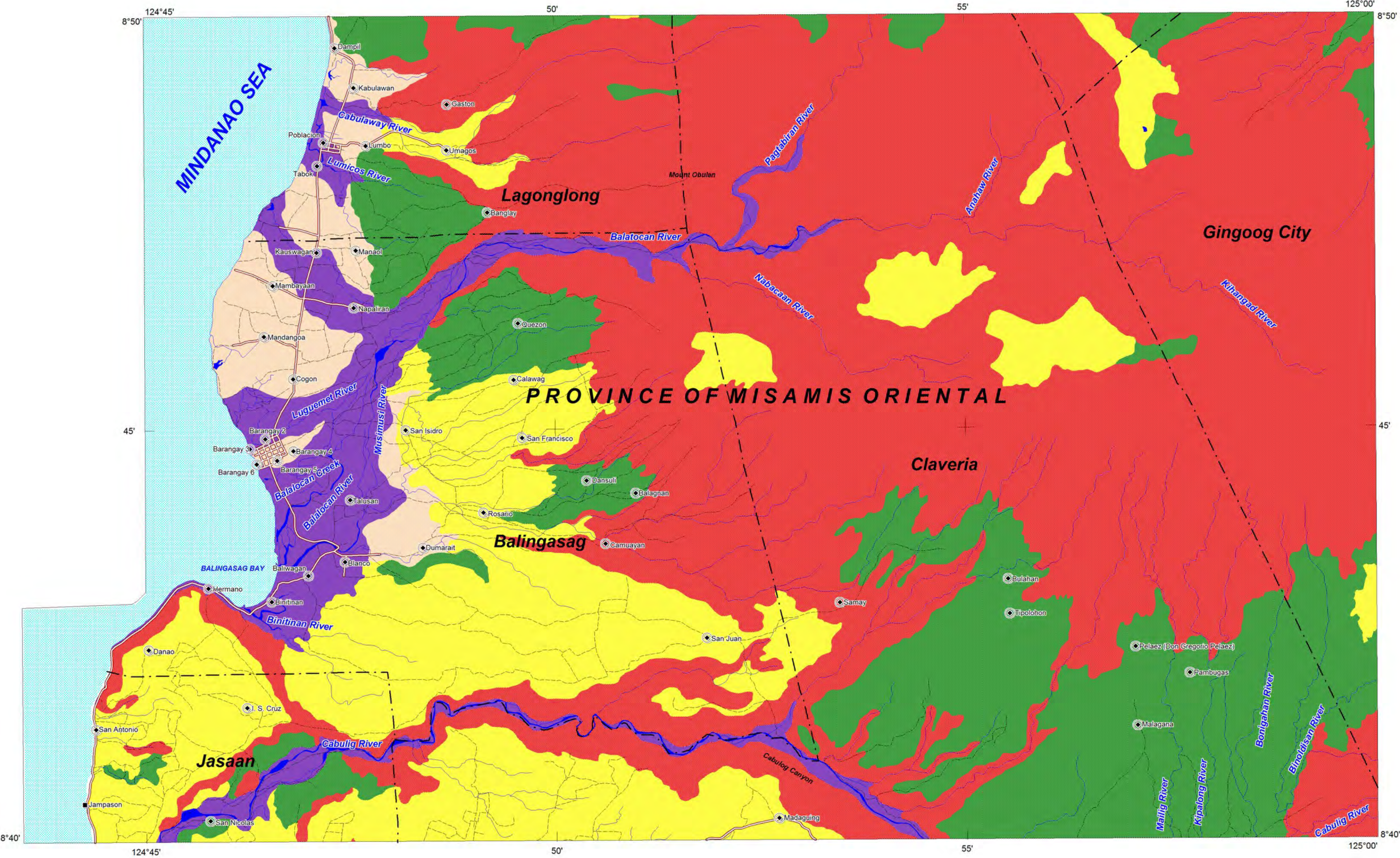
GIS Processing :
Lands Geological Survey Division

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

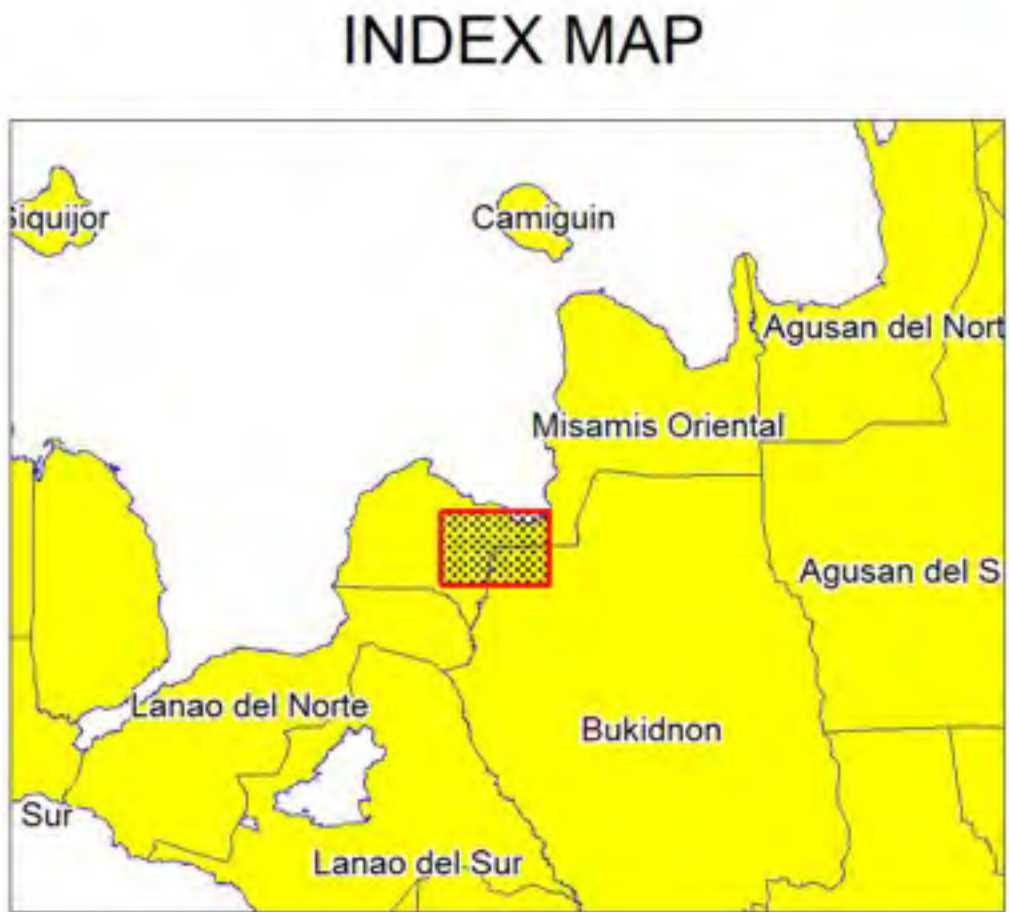
Base Map :
Sheet No. 3946-II "Balingasag Quadrangle"



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LANDS GEOLOGICAL SURVEY DIVISION



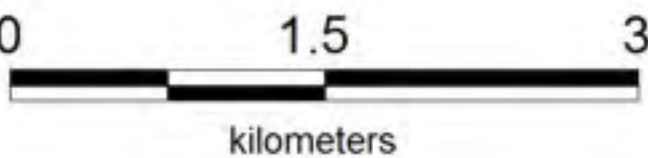
LANDSLIDE AND FLOOD SUSCEPTIBILITY MAP OF CAGAYAN DE ORO QUADRANGLE MISAMIS ORIENTAL AND BUKIDNON PROVINCES, PHILIPPINES



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 areas 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

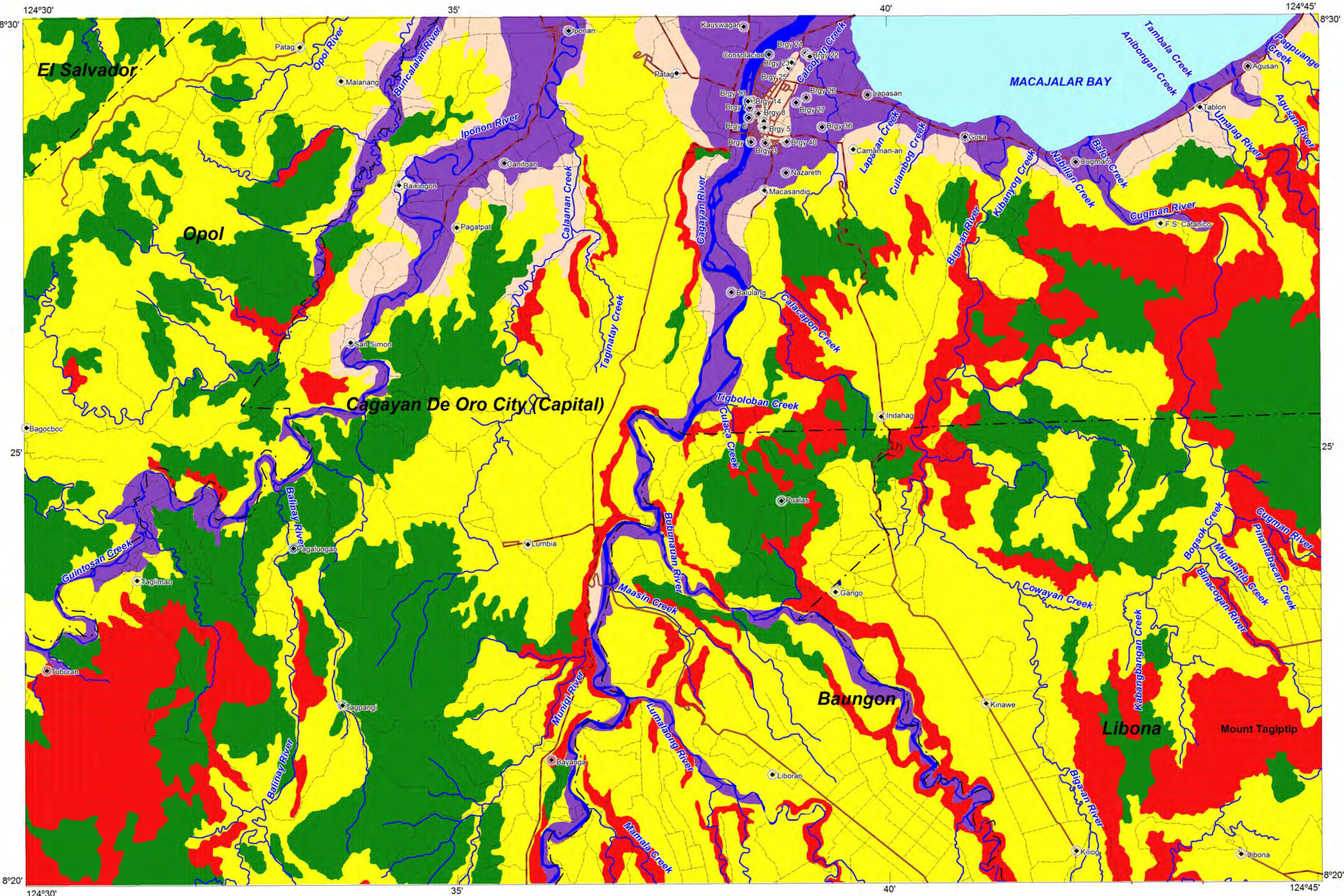
GIS Processing :
Lands Geological Survey Division

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

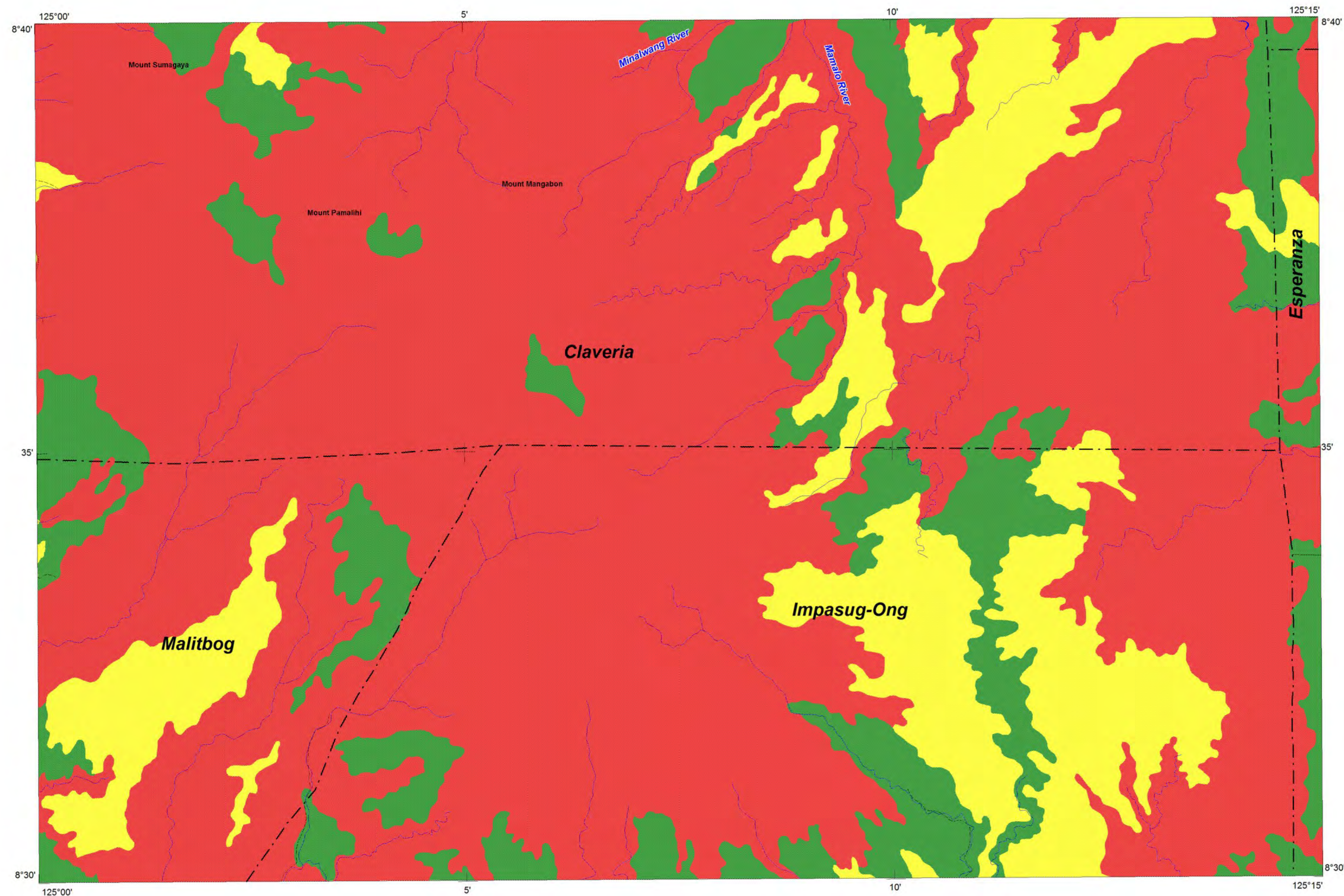
Base Map :
Sheet No. 3945 III "Cagayan De Oro Quadrangle"



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LANDS GEOLOGICAL SURVEY DIVISION



LANDSLIDE SUSCEPTIBILITY MAP OF CALABUGAO PLAIN QUADRANGLE MISAMIS ORIENTAL AND BUKIDNON 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.

- Trail
- River
- Municipal boundary



0 1.5 3
kilometers

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 X

Base Map :
Sheet No. 4045-IV "Calabugao Plain Quadrangle"



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LANDS GEOLOGICAL SURVEY DIVISION

LANDSLIDE AND FLOOD SUSCEPTIBILITY MAP OF CLAVERIA QUADRANGLE MISAMIS ORIENTAL AND BUKIDNON 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.
- 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



0 1.5 3
Kilometers

TRANSVERSE MERCATOR PROJECTION
MAPPING SCALE 1:50,000

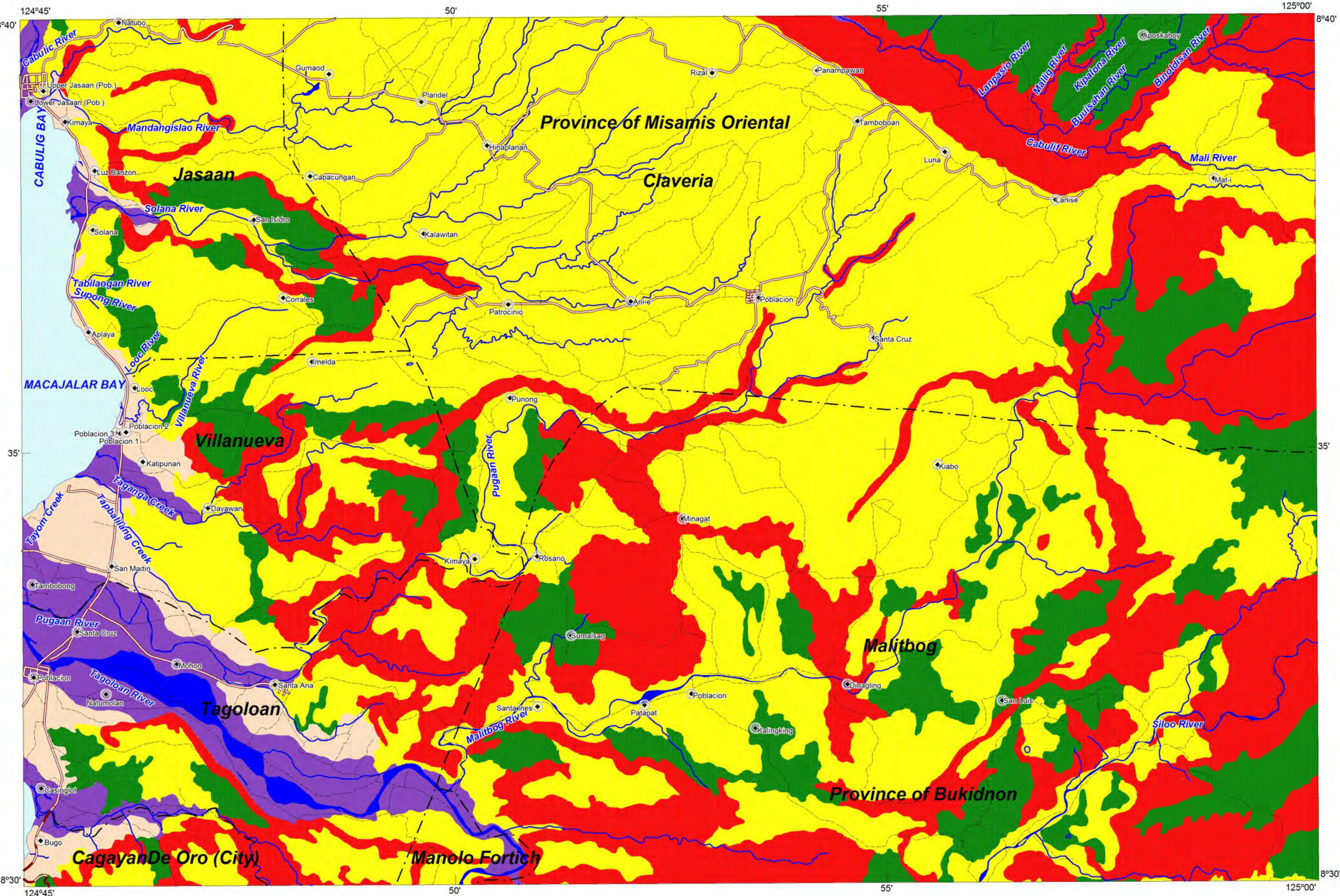
GIS Processing :
Lands Geological Survey Division

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

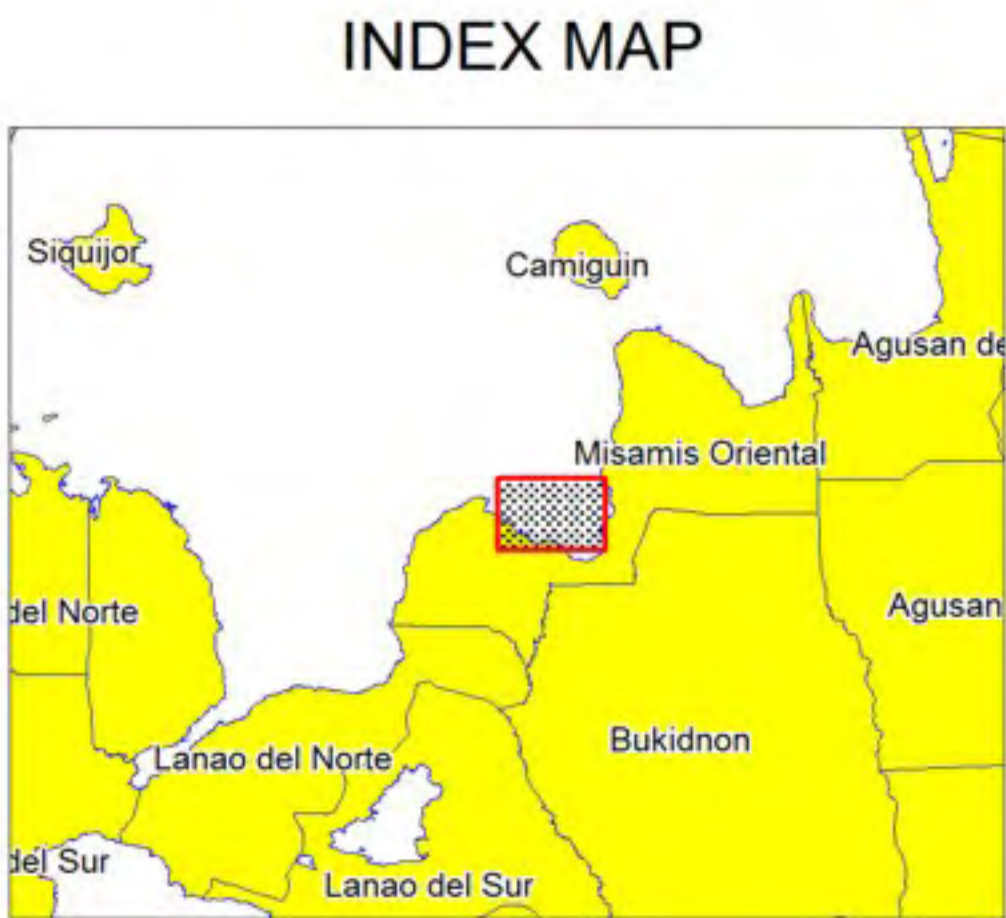
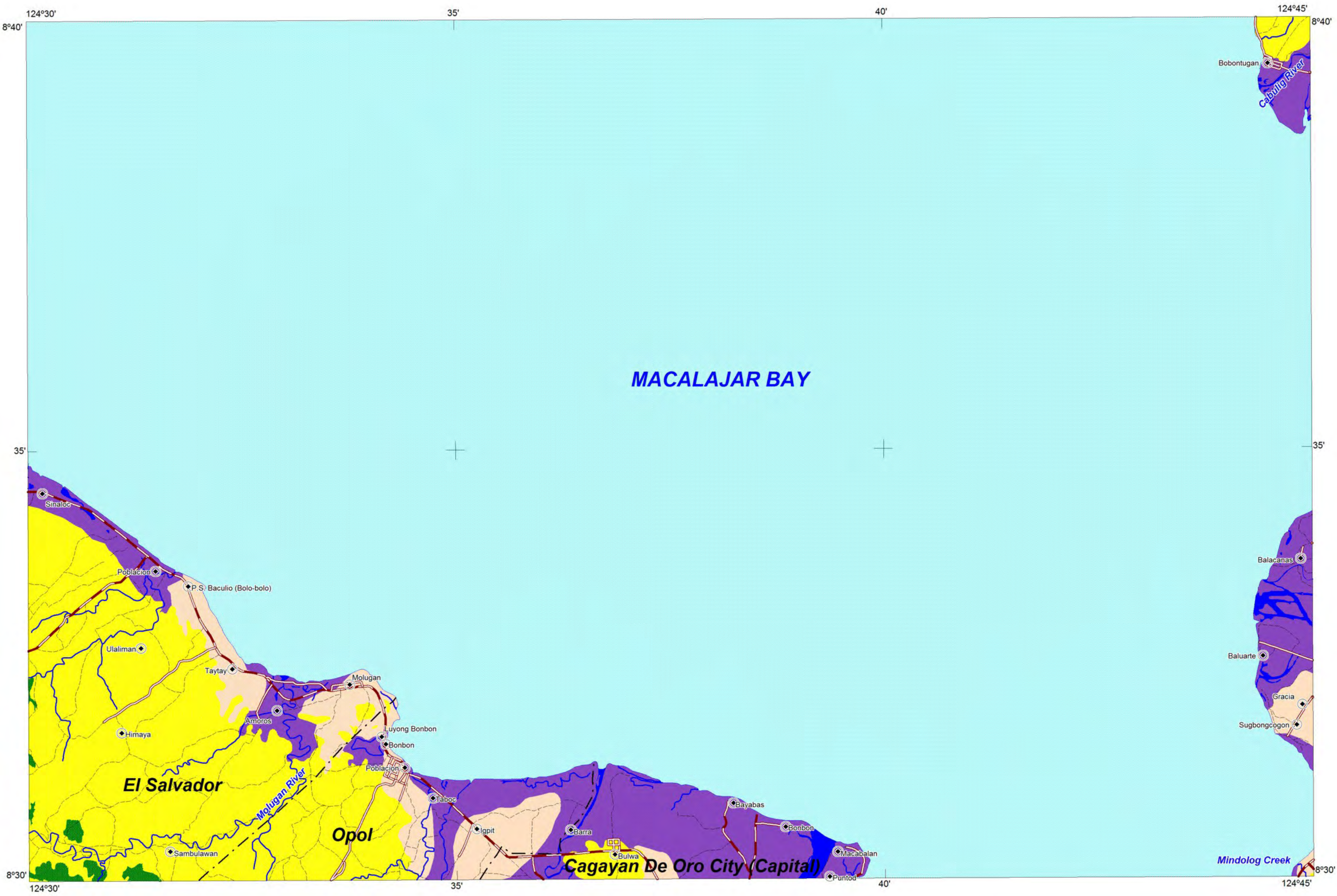
Base Map :
Sheet No. 3945 I "Claveria Quadrangle"



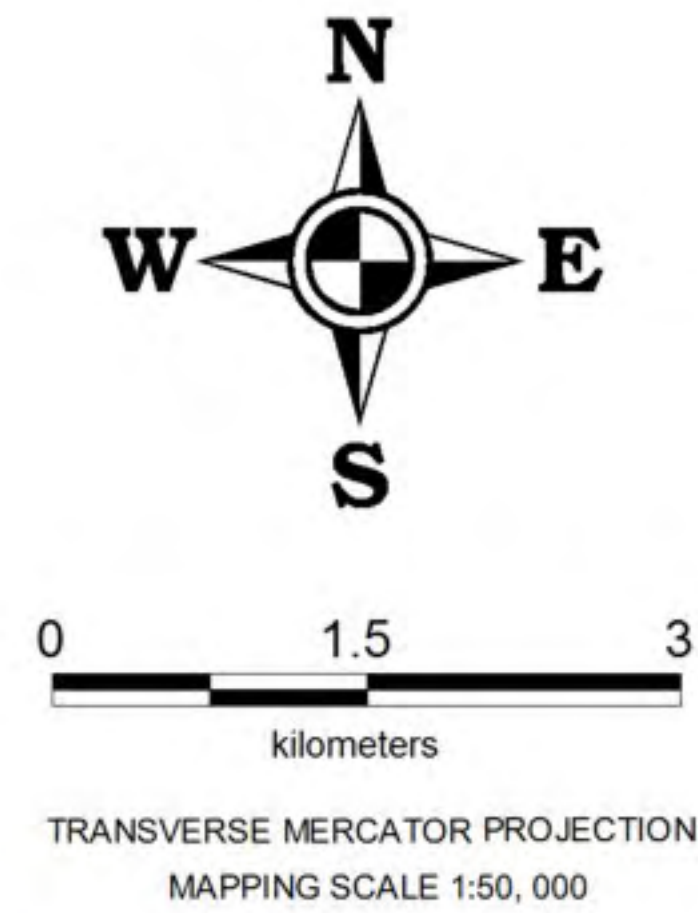
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MINES AND GEOSCIENCES BUREAU
LANDS GEOLOGICAL SURVEY DIVISION



LANDSLIDE AND FLOOD SUSCEPTIBILITY MAP OF EL SALVADOR QUADRANGLE MISAMIS ORIENTAL 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**
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 - 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



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 X

Base Map :
Sheet No. 3945 IV "El Salvador Quadrangle"

LANDSLIDE AND FLOOD SUSCEPTIBILITY MAP OF GINGOOG CITY QUADRANGLE MISAMIS ORIENTAL 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**
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 - Low susceptibility to landslide**
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 - 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



0 1.5 3
kilometers

TRANSVERSE MERCATOR PROJECTION
MAPPING SCALE 1:50,000

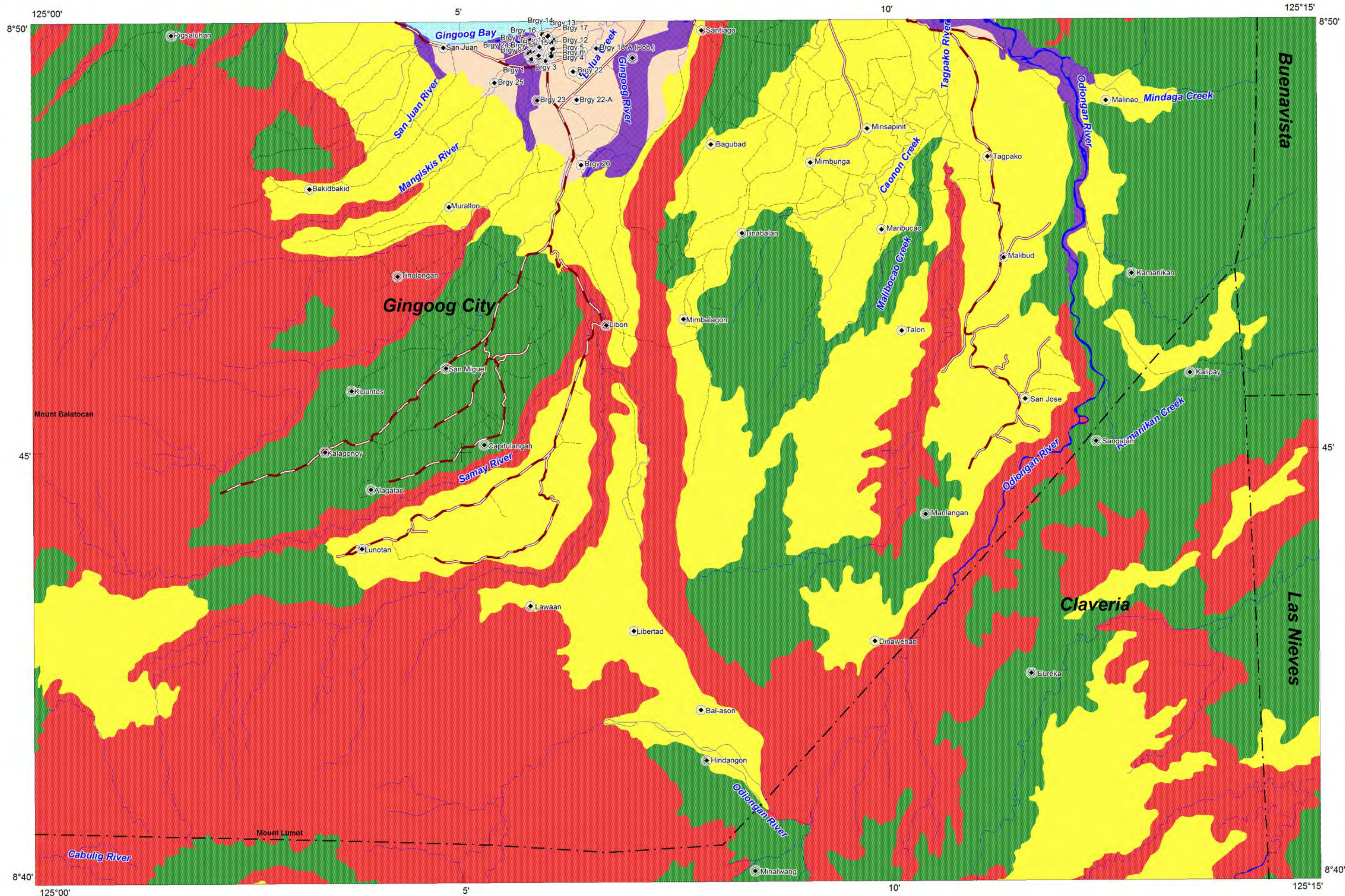
GIS Processing :
Lands Geological Survey Division

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

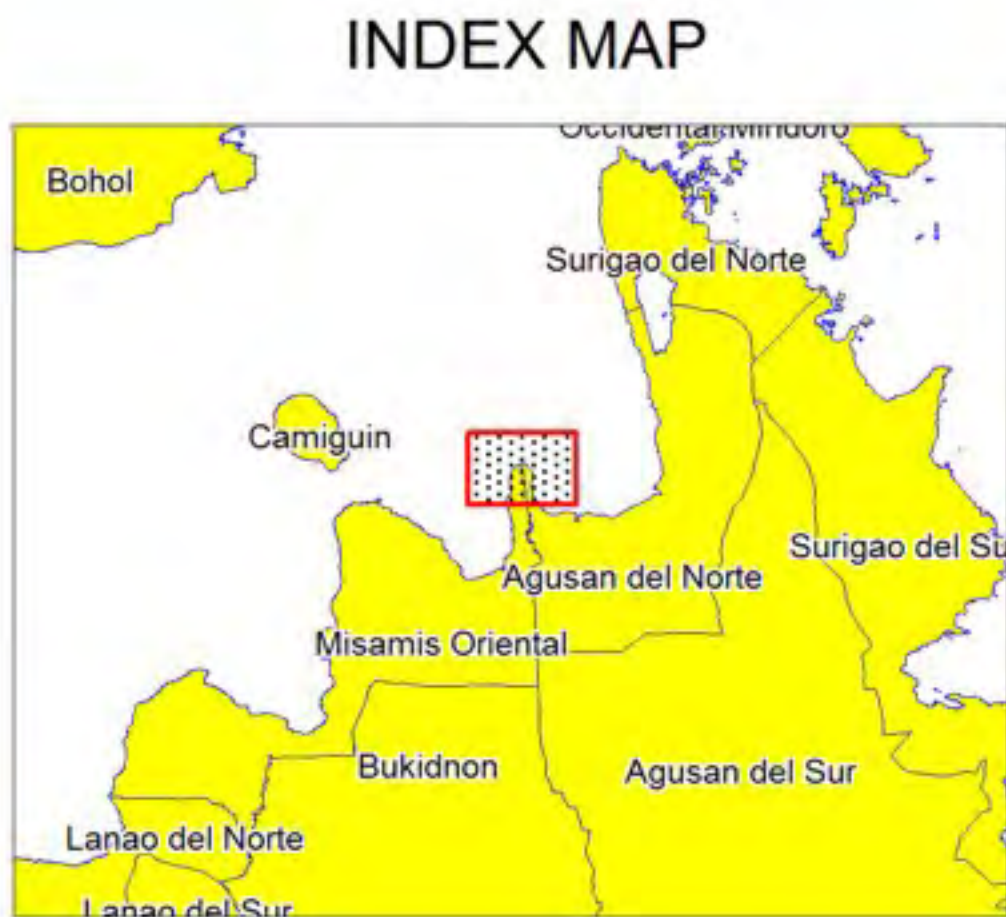
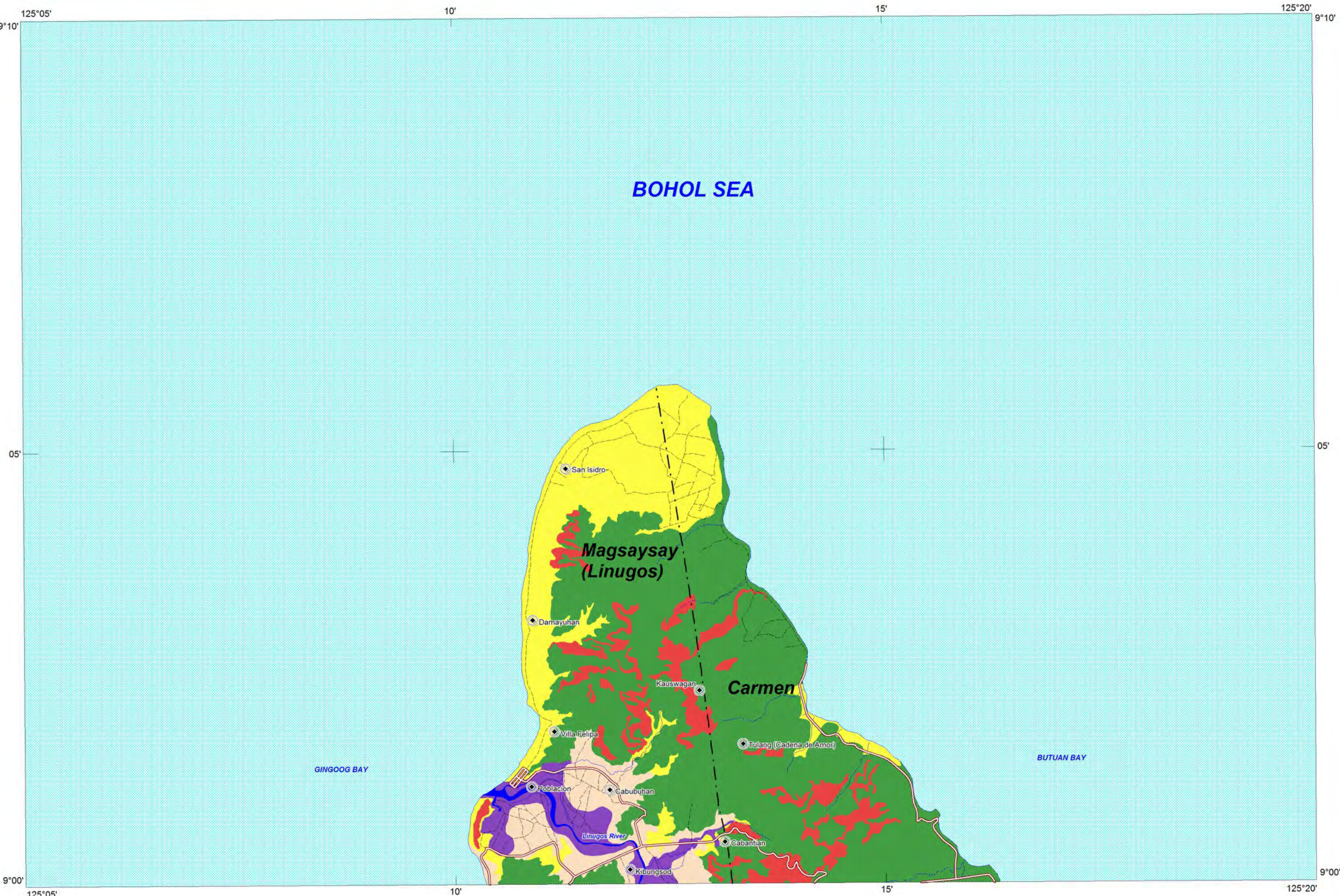
Base Map :
Sheet No. 4046-III "Gingoog City Quadrangle"



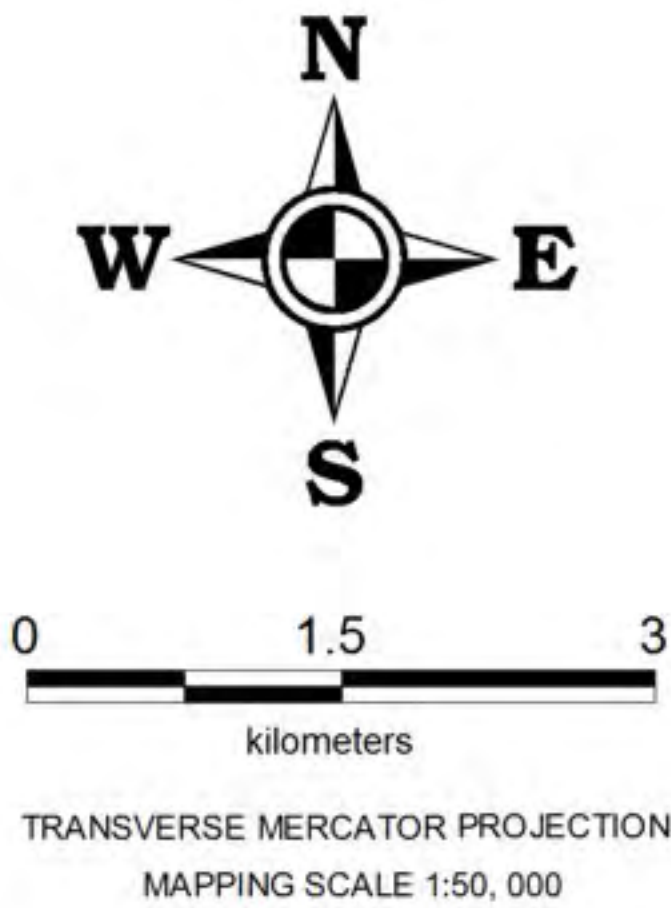
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
MINES AND GEOSCIENCES BUREAU
LANDS GEOLOGICAL SURVEY DIVISION



LANDSLIDE AND FLOOD SUSCEPTIBILITY MAP OF MAGSAYSAY QUADRANGLE MISAMIS OREINTAL AND AGUSAN DEL NORTE PROVINCES, 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.
 - Secondary Road**
 - Trail**
 - River**
 - Municipal boundary**
 - 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 X

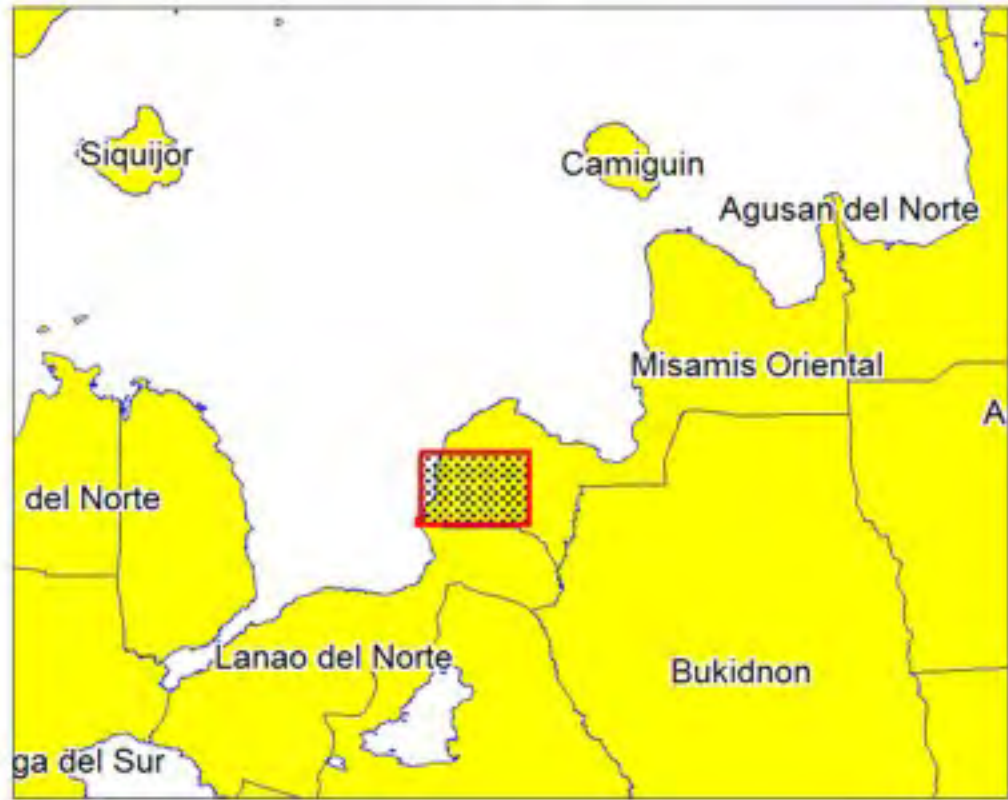
Base Map :
Sheet No. 4047-III "Magsaysay Quadrangle"



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LANDS GEOLOGICAL SURVEY DIVISION

LANDSLIDE AND FLOOD SUSCEPTIBILITY MAP OF MANTICAO QUADRANGLE MISAMIS ORIENTAL 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



0 1.5 3
kilometers

TRANSVERSE MERCATOR PROJECTION
MAPPING SCALE 1:50,000

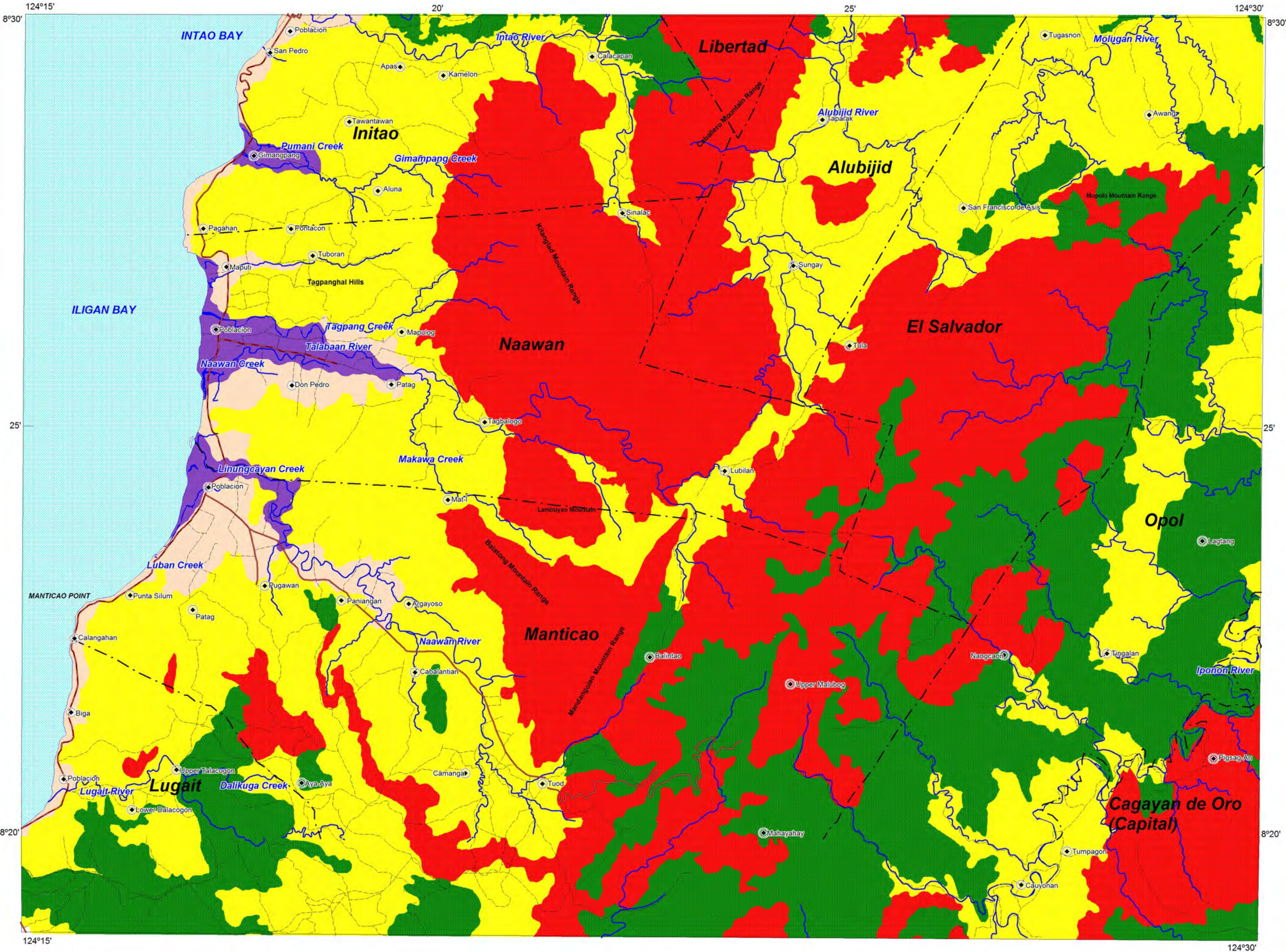
GIS Processing :
Lands Geological Survey Division

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

Base Map :
Sheet No. 3845 II "Manticao Quadrangle"



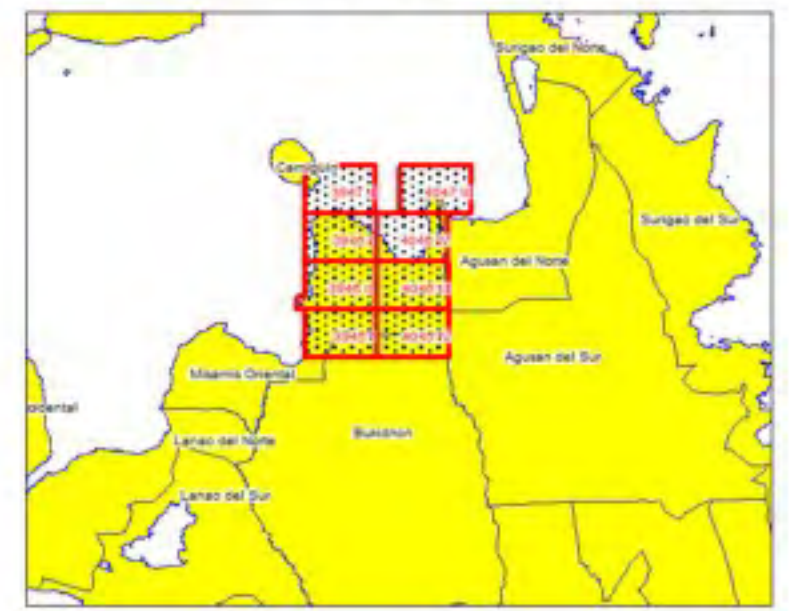
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
MINES AND GEOSCIENCES BUREAU
LANDS GEOLOGICAL SURVEY DIVISION



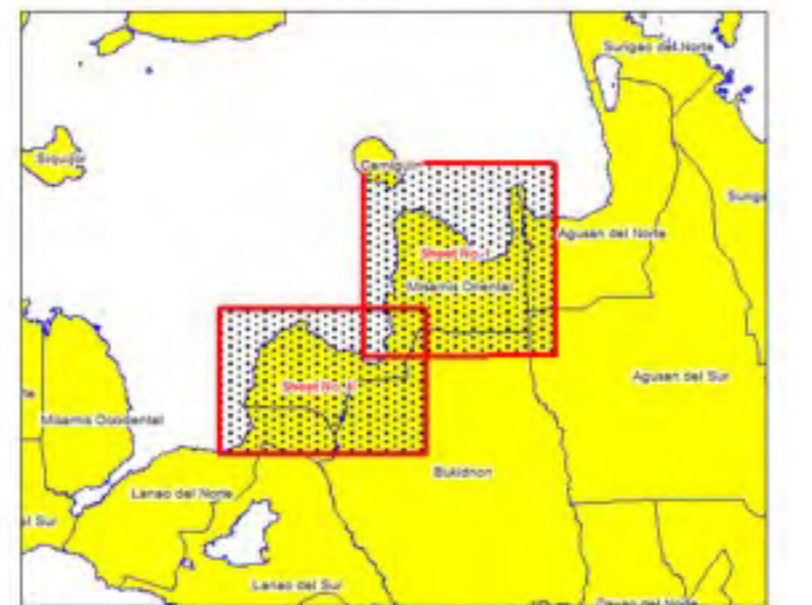
LANDSLIDE AND FLOOD SUSCEPTIBILITY MAP OF MISAMIS ORIENTAL PROVINCE, PHILIPPINES

Sheet No. I

INDEX MAP



INDEX TO ADJOINING SHEET



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



0 4 8
Kilometers
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 X

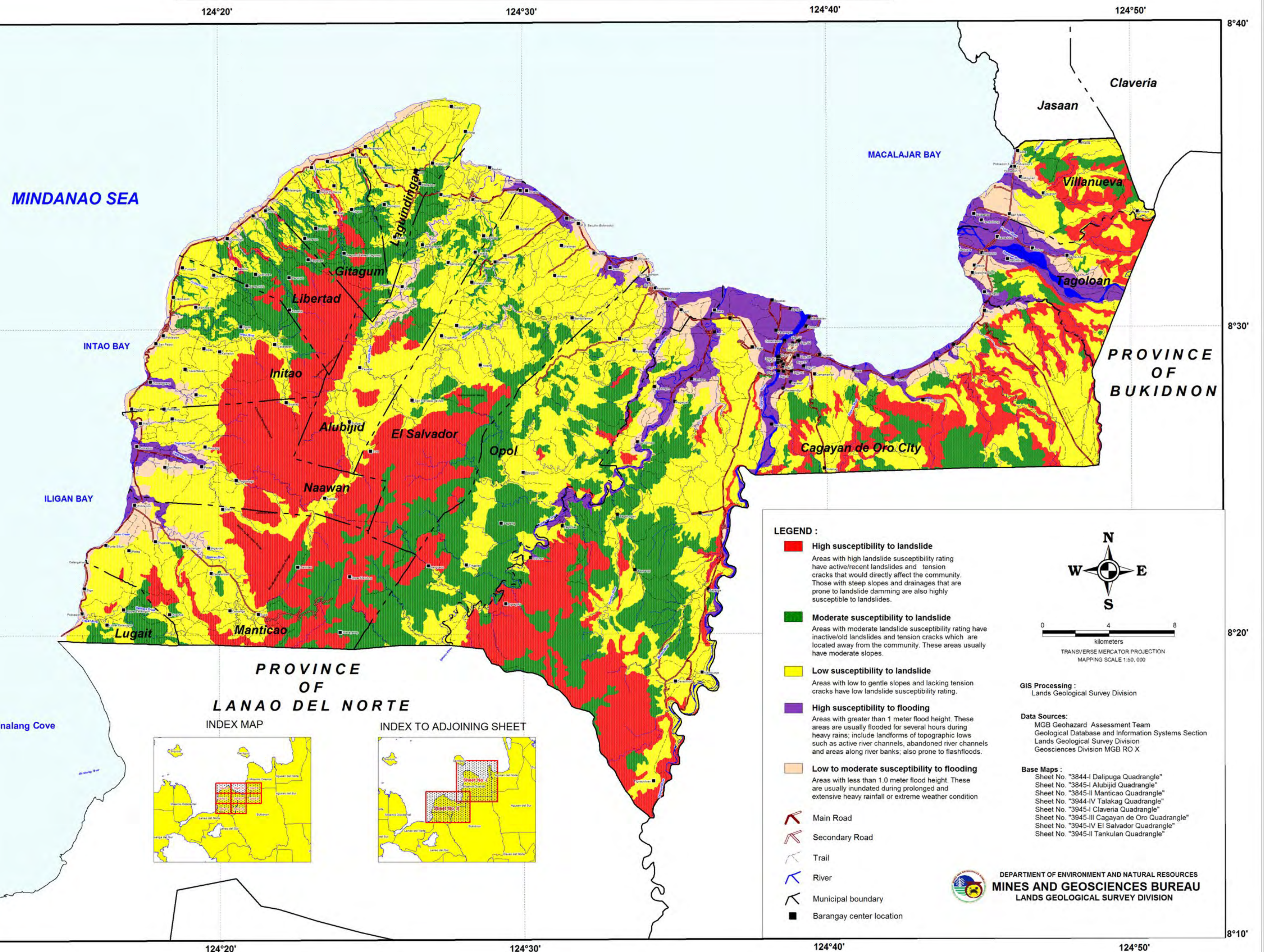
Base Maps :
Sheet No. "3947-II Guinsiliban Quadrangle"
Sheet No. "4047-III Magsaysay Quadrangle"
Sheet No. "4046-IV Anak-an Quadrangle"
Sheet No. "3946-I Salay Quadrangle"
Sheet No. "4046-III Gingoog City Quadrangle"
Sheet No. "3946-II Balingasag Quadrangle"
Sheet No. "4045-IV Calabugao Plain Quadrangle"
Sheet No. "3945-I Claveria Quadrangle"



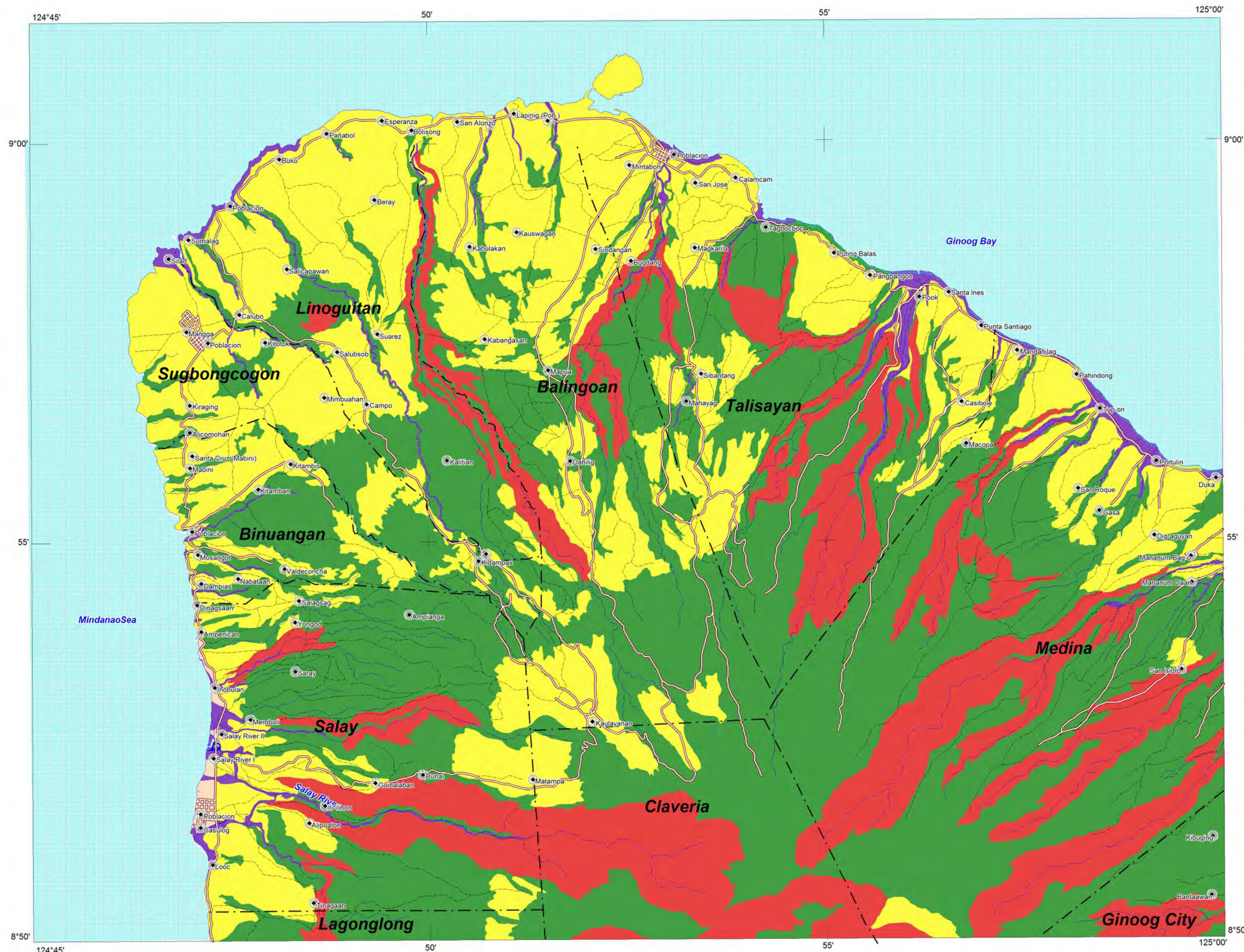
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
MINES AND GEOSCIENCES BUREAU
LANDS GEOLOGICAL SURVEY DIVISION

LANDSLIDE AND FLOOD SUSCEPTIBILITY MAP OF MISAMIS ORIENTAL PROVINCE, PHILIPPINES

Sheet No. II



LANDSLIDE AND FLOOD SUSCEPTIBILITY MAP OF SALAY QUADRANGLE MISAMIS ORIENTAL 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.
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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
- Secondary Road
- Trail
- River
- Municipal boundary
- Barangay center location



0 1.5 3
kilometers

TRANSVERSE MERCATOR PROJECTION
MAPPING SCALE 1:50,000

GIS Processing :
Lands Geological Survey Division

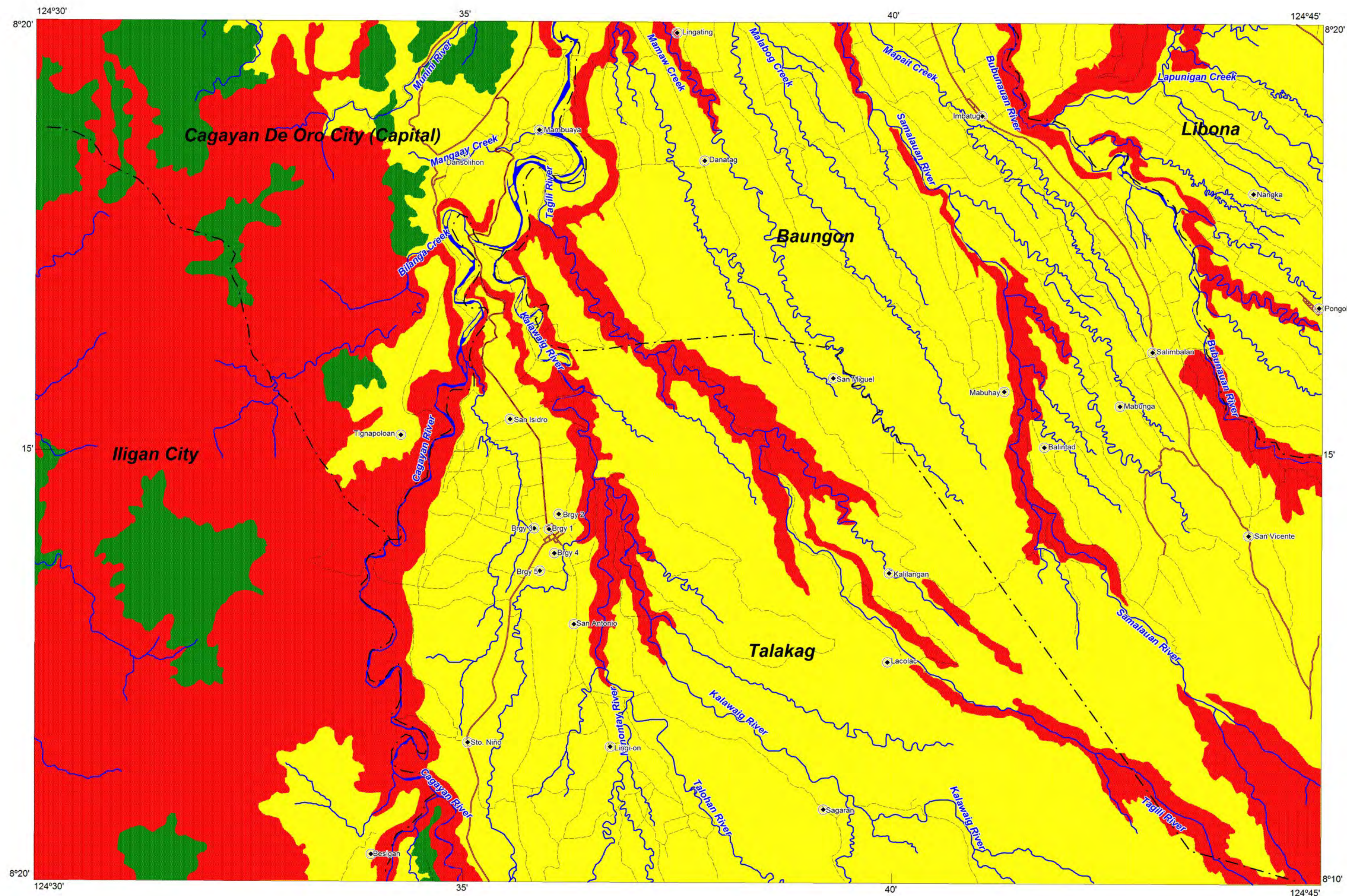
Data Sources:
MGB Geohazard Assessment Team
Geological Database and Information Systems Section
Lands Geological Survey Division
Geosciences Division MGB RO X

Base Map :
Sheet No. 3946-I "Salay Quadrangle"

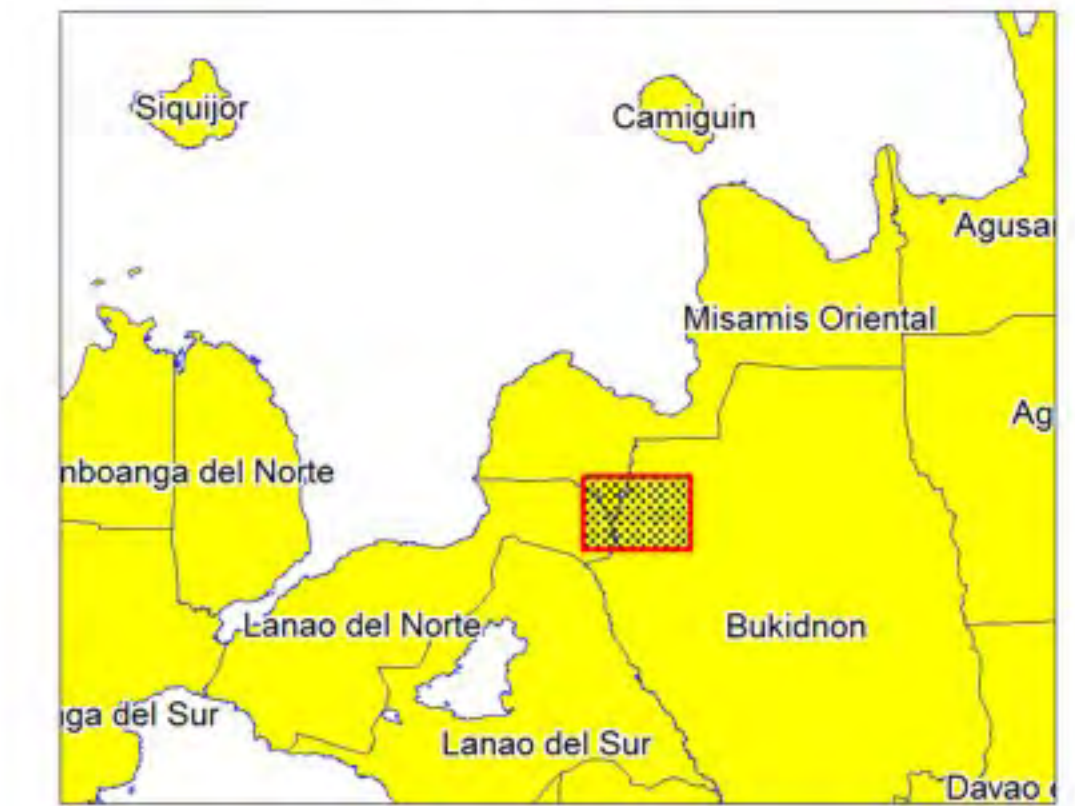


DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
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LANDS GEOLOGICAL SURVEY DIVISION

LANDSLIDE AND FLOOD SUSCEPTIBILITY MAP OF TALAKAG QUADRANGLE MISAMIS ORIENTAL AND BUKIDNON 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.

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



0 1.5 3
kilometers

TRANSVERSE MERCATOR PROJECTION
MAPPING SCALE 1:50, 000

GIS Processing :
Lands Geological Survey Division

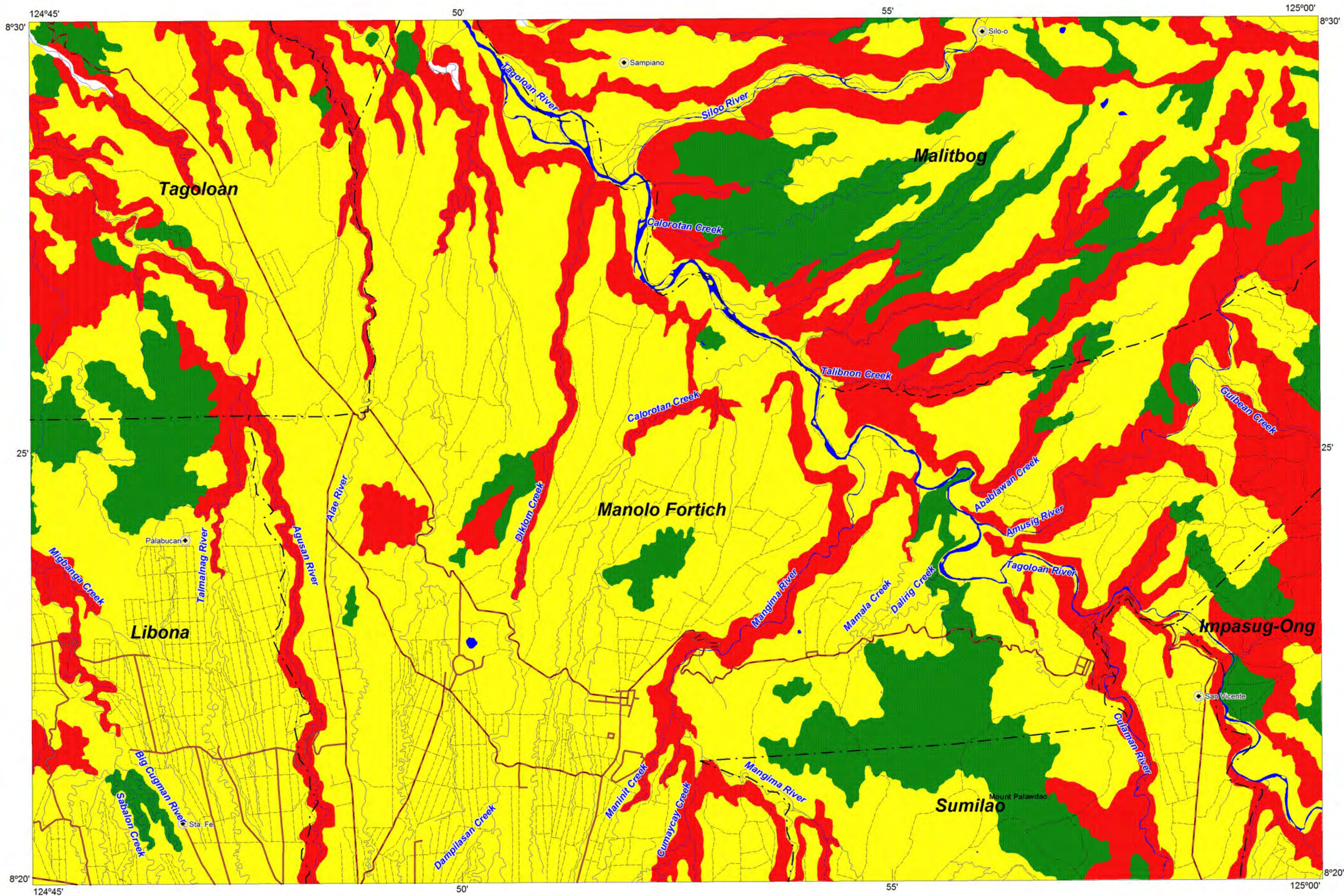
Data Sources:
MGB Geohazard Assessment Team
Geological Database and Information Systems Section
Lands Geological Survey Division
Geosciences Division MGB RO X

Base Map :
Sheet No. 3944 IV "Talakag Quadrangle"



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

LANDSLIDE SUSCEPTIBILITY MAP OF TANKULAN QUADRANGLE MISAMIS ORIENTAL AND BUKIDNON PROVINCES, PHILIPPINES



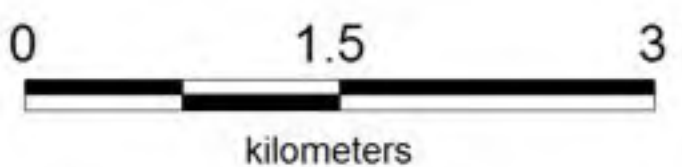
INDEX MAP



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**
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- Low susceptibility to landslide**
Areas with low to gentle slopes and lacking tension cracks have low landslide susceptibility rating.

- 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 X

Base Map :
Sheet No. 3945 II "Tankulan Quadrangle"