

# **LAND SUITABILITY MAP**

## **NATURAL RUBBER**

### **LAND RESOURCES EVALUATION AND SUITABILITY ASSESSMENT OF STRATEGIC PRODUCTION AREAS**

### **PROVINCE OF CAMIGUIN**



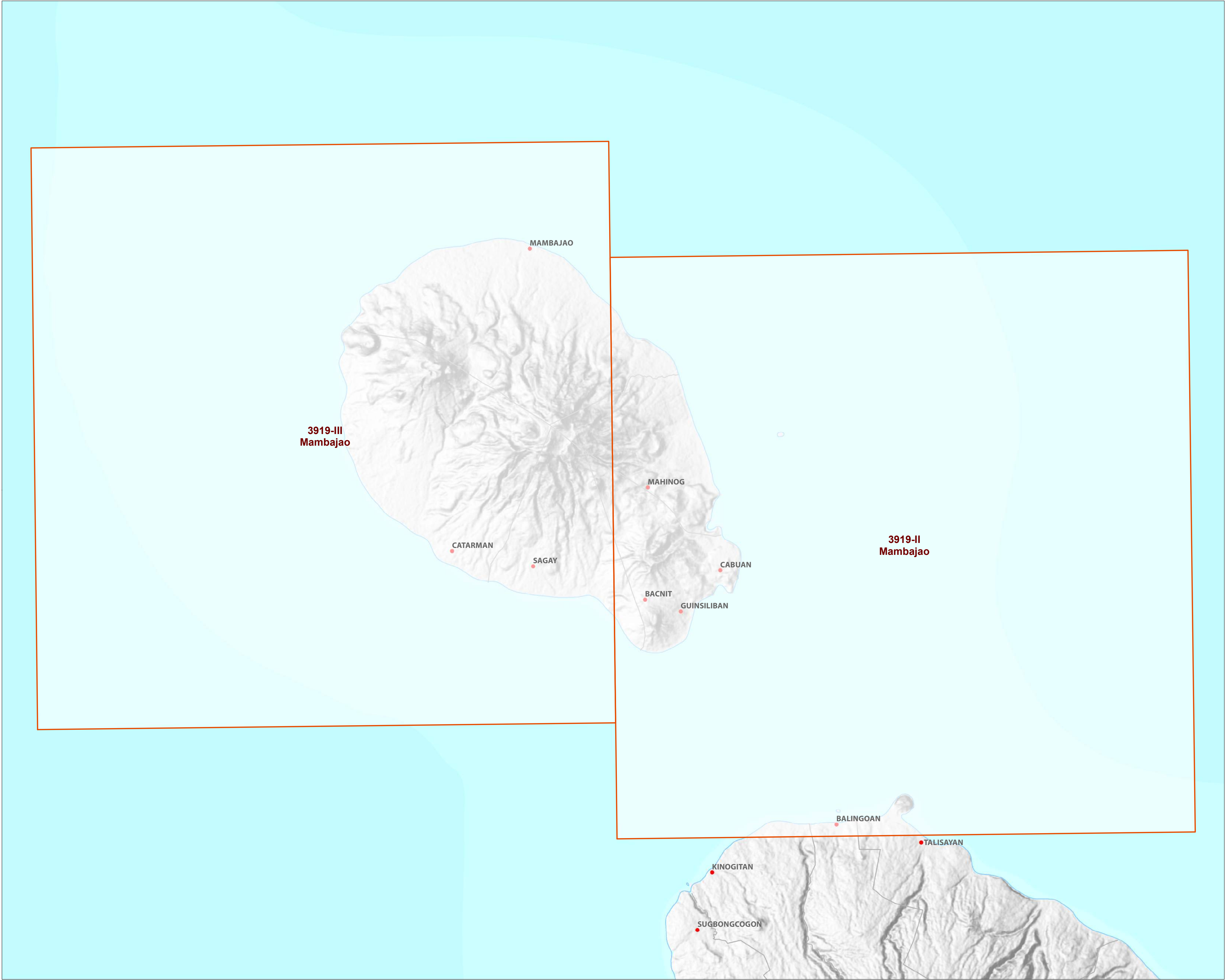
**REPUBLIC OF THE PHILIPPINES**  
**DEPARTMENT OF AGRICULTURE**  
**BUREAU OF SOILS AND WATER MANAGEMENT**

SRDC Bldg., Elliptical Road Cor. Visayas Avenue, Diliman, Quezon City 1101  
Tel/Fax No.: (+632) 332-9534 E-mail: [bswmclientcenter@yahoo.com](mailto:bswmclientcenter@yahoo.com)



# MAP INDEX

## LAND RESOURCES EVALUATION AND SUITABILITY ASSESSMENT OF STRATEGIC PRODUCTION AREAS PROVINCE OF CAMIGUIN



**LEGEND**

**Places**

- ★ Capital City
- ★ City
- ⊙ Capital Town
- Town

**Administrative Boundary**

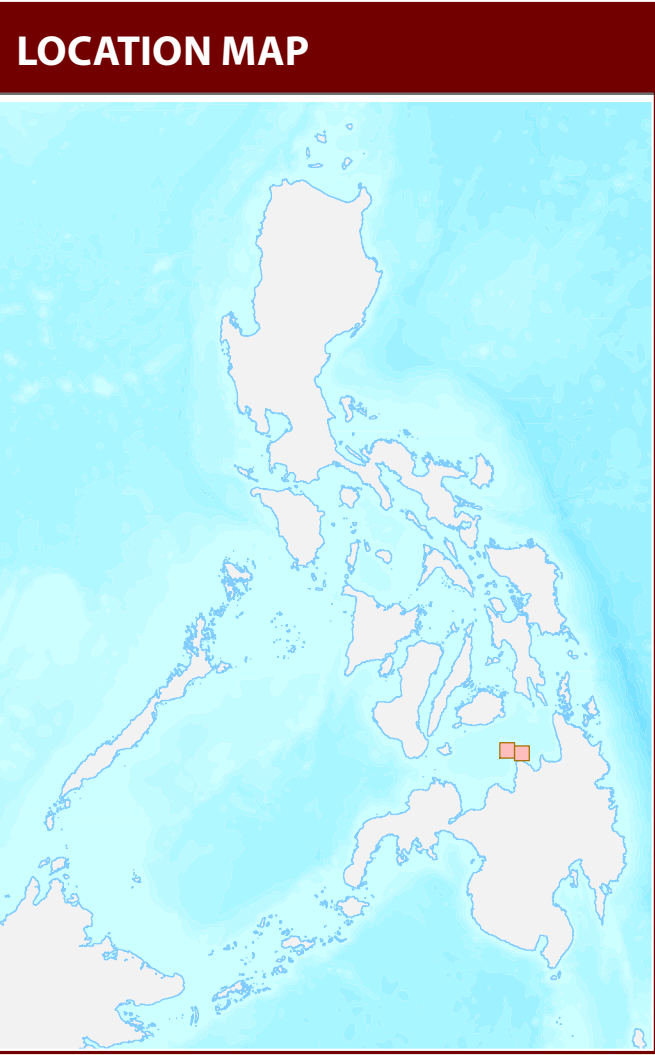
- Regional
- Provincial
- City
- Municipal

**Map Index**

- Index grid

**Topographic Relief**

**Bathymetry**



**MISCELLANEOUS INFORMATION**

Land suitability information produced by the Bureau of Soils and Water Management (BSWM) through the **Land Resources Evaluation and Suitability Assessment of Strategic Production Areas for Major Commodities Project** duly supported by the Philippine Council on Agriculture and Fisheries (PCA-F) and funded by the Bureau of Agricultural Research (BAR).

Map produced by the Geomatics and Soil Information Technology Division, Bureau of Soils and Water Management (BSWM).

Users noting errors or omissions in this publication are requested to inform the Bureau of Soils and Water Management.

Unless otherwise noted, copyright and any other intellectual property rights is owned by the Philippine Government.

**REPUBLIC OF THE PHILIPPINES**  
**DEPARTMENT OF AGRICULTURE**  
**BUREAU OF SOILS AND WATER MANAGEMENT**  
SRDC Bldg., Elliptical Road Cor. Visayas Avenue,  
Diliman, Quezon City 1101 Philippines  
Tel/Fax No.: (+632) 332-9534 E-mail: bswwmclientcenter@yahoo.com



# LAND SUITABILITY MAP FOR RUBBER

## LAND RESOURCES EVALUATION AND SUITABILITY ASSESSMENT OF STRATEGIC PRODUCTION AREAS CAMIGUIN, REGION X

### EXTENT OF SUITABILITY FOR RUBBER PRODUCTION BY MUNICIPALITY

MUNICIPALITY	EXISTING RUBBER (Ha)			TOTAL EXISTING AREA (Ha)	EXPANSION AREA (Ha)						CONFLICT RESOLUTION AREA (Ha)						TOTAL POTENTIAL EXPANSION AREA (Ha)
					Coconut		Shrubland, unmanaged*		Grassland, unmanaged*		Corn		Paddy rice, non-irrigated		Other crops		
	S1	S2	S3		S1	S2	S1	S2	S1	S2	S1	S2	S1	S2			
CATARMAN	-	-	-	-	580	1,849	-	-	7	9	-	-	-	-	-	-	2,444
GUINSILIBAN	-	-	-	-	104	483	-	-	-	34	-	-	-	-	-	-	621
MAHINOG	-	-	-	-	183	629	-	-	12	12	25	-	-	-	-	-	862
MAMBAJAO	-	-	-	-	1,233	1,778	-	-	17	32	40	73	-	-	-	-	3,172
SAGAY	-	-	-	-	137	788	-	-	3	55	29	3	-	-	-	-	1,015
TOTAL	-	-	-	-	2,236	5,529	-	-	39	142	93	76	-	-	-	-	8,115

Note: Delivery of rubber planting materials must be started on the onset of rainy season.  
\*establishment of shade trees prior to planting of rubber.

### SUITABILITY CLASSES:

<div></div> <b>Highly Suitable (S1)</b> Land having no significant limitation to sustained application of a given use, or only minor limitations that will not significantly reduce productivity or benefits and will not raise inputs above an acceptable level.	<div></div> <b>Marginally Suitable (S3)</b> Land having limitations which in aggregate are severe for sustained application of a given use and will so reduce productivity or benefits, or increase required inputs, that this expenditure will be only marginally justified.
<div></div> <b>Moderately Suitable (S2)</b> Land having limitation which in aggregate are moderately severe for sustained application of a given use; the limitation will reduce productivity or benefits and increase required inputs to the extent that the overall advantage to be gained from the use, although still attractive, will be appreciably inferior to that expected on class S1 land.	<div></div> <b>Not Suitable / Not Relevant</b> Land having limitations which may be surmountable in time but which cannot be corrected with existing knowledge at currently acceptable cost; the limitations are so severe as to preclude successful sustained use of the land in the given manner. Existing forest, shrubland greater than 18% slope, irrigated paddy rice and miscellaneous land types such as built up areas, roads, etc are considered as not relevant.

### AGRONOMIC REQUIREMENT OF RUBBER PRODUCTION

LAND UTILIZATION TYPE	SUITABILITY RATING	SLOPE (%)	SOIL DEPTH (cm)	SOIL TEXTURE	SOIL DRAINAGE	SOIL REACTION (pH)	INHERENT FERTILITY	FLOODING CLASS	EROSION CLASS	ROCK OUTCROPS	ELEVATION (masl)	ANNUAL RAINFALL (mm)	CLIMATIC TYPE
Rubber Tree	S1	<8	>100	CL, SiCL, SCL, SC, SiC, C, HC	WD,MWD, SPD	5.6 -7.2	high	none-slight	none-slight	none-few	<500	1000-2000	III, IV
	S2	8 - 30	30 - 100	FSL, L, SiL, SL	PD,VPD	4.5 - 5.5 7.3 - 7.8	medium	moderate	moderate	common	500-1000	2001-4500	I, II, III
	S3	>30	<30	S, LS, CSL	ED	<4.5 - > 7.9	low	severe	severe	many	>1000	<1000 >4500	

#### SLOPE (%)

0 - 3 - level to gently sloping  
3 - 8 - gently sloping to undulating  
8 - 18 - undulating to rolling  
18 - 30 - rolling to moderately steep  
30 - 50 - steep  
> 50 - very steep

#### SOIL DRAINAGE

ED - excessively drained  
WD - well drained  
MWD - moderately well drained  
SPD - somewhat poorly drained  
PD - poorly drained  
VPD - very poorly drained

#### SOIL REACTION (pH)

< 4.5 - extremely acid  
4.5 - 5.0 - very strongly acid  
5.1 - 5.5 - strongly acid  
5.6 - 6.0 - medium acid  
6.1 - 6.5 - slightly acid  
6.6 - 7.2 - neutral  
7.3 - 7.8 - mildly alkaline  
7.9 - 8.4 - moderately alkaline  
> 8.5 - strongly alkaline

#### SOIL TEXTURE

##### Coarse

S - sand  
LS - loamy sand  
CSL - coarse sandy loam  
SL - sandy loam

##### Medium

FSL - fine sandy loam  
L - loam  
SiL - silt loam  
CL - clay loam  
SiCL - silty clay loam  
SCL - sandy clay loam

##### Fine

SC - sandy clay  
SiC - silty clay  
C - clay  
HC - heavy clay

#### SOIL DEPTH (cm)

0 - 30 - very shallow  
30 - 50 - shallow  
50 - 100 - moderately deep  
> 100 - deep to very deep

#### SURFACE IMPEDIMENT

ROCK OUTCROPS  
< 10% - none - few  
10 - 30% - common  
> 30% - many

### LAND LIMITATIONS DESCRIPTION AND COMBINATIONS

#### ELEVATION

EI2 - 500 - 1000m or 2000 - 2500m  
EI3 - < 500m or > 2500m

#### SOIL DRAINAGE

D2 - Somewhat poorly drained to poorly drained  
D3 - Very poorly drained or excessively drained

#### SLOPE/TOPOGRAPHY

T2 - Undulating to moderately steep  
T3 - Steep to very steep

#### SOIL TEXTURE

Tc - Coarse texture

#### SOIL DEPTH

Sh2 - Shallow to moderately deep (30 - 100cm)  
Sh3 - Very shallow (< 30cm)

#### SOIL EROSION

E2 - Moderate erosion  
E3 - Severe erosion

#### ROCK OUTCROPS

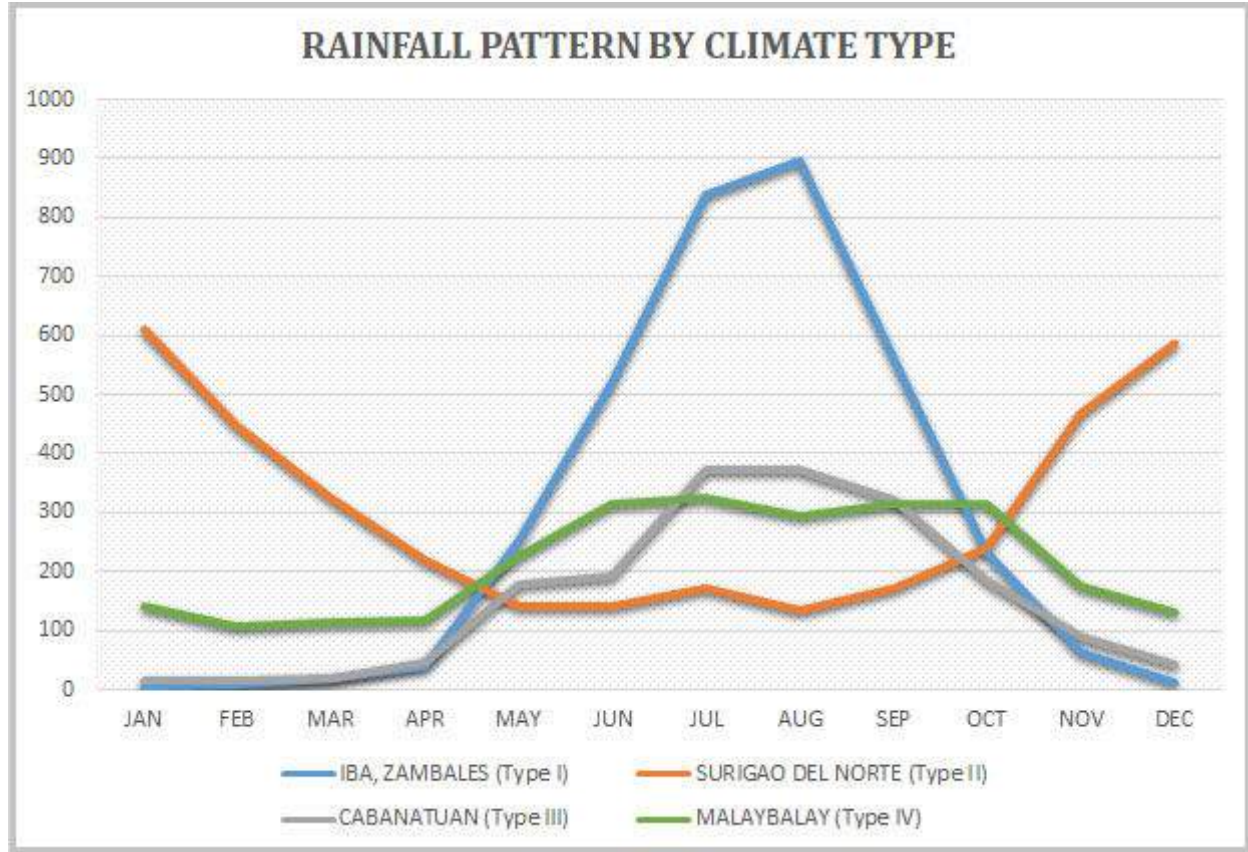
Rc2 - Common  
Rc3 - Many

#### FLOODING

F2 - Moderate seasonal flooding  
F3 - Severe seasonal flooding

CODE	LIMITATION	CODE	LIMITATION	CODE	LIMITATION
1	EI2-Sh2-Rc2	11	T3	21	T3-EI3-E3-Sh3-Rc3
2	F2-Tc	12	T3-E3-Sh3-Rc2	22	Tc
3	Sh2-Rc2	13	T3-E3-Sh3-Rc3		
4	T2	14	T3-EI2		
5	T2-E2-Sh2-Rc2	15	T3-EI2-E3-Sh3-Rc2		
6	T2-E3-Sh2-Rc2	16	T3-EI3-E3-Sh3-Rc2		
7	T2-E3-Sh2-Rc3	17	T3		
8	T2-EI2	18	T3-E3-Sh3-Rc3		
9	T2-EI2-E3-Sh2-Rc2	19	T3-EI2		
10	T2-EI2-Sh2-Rc2	20	T3-EI2-E3-Sh3-Rc3		

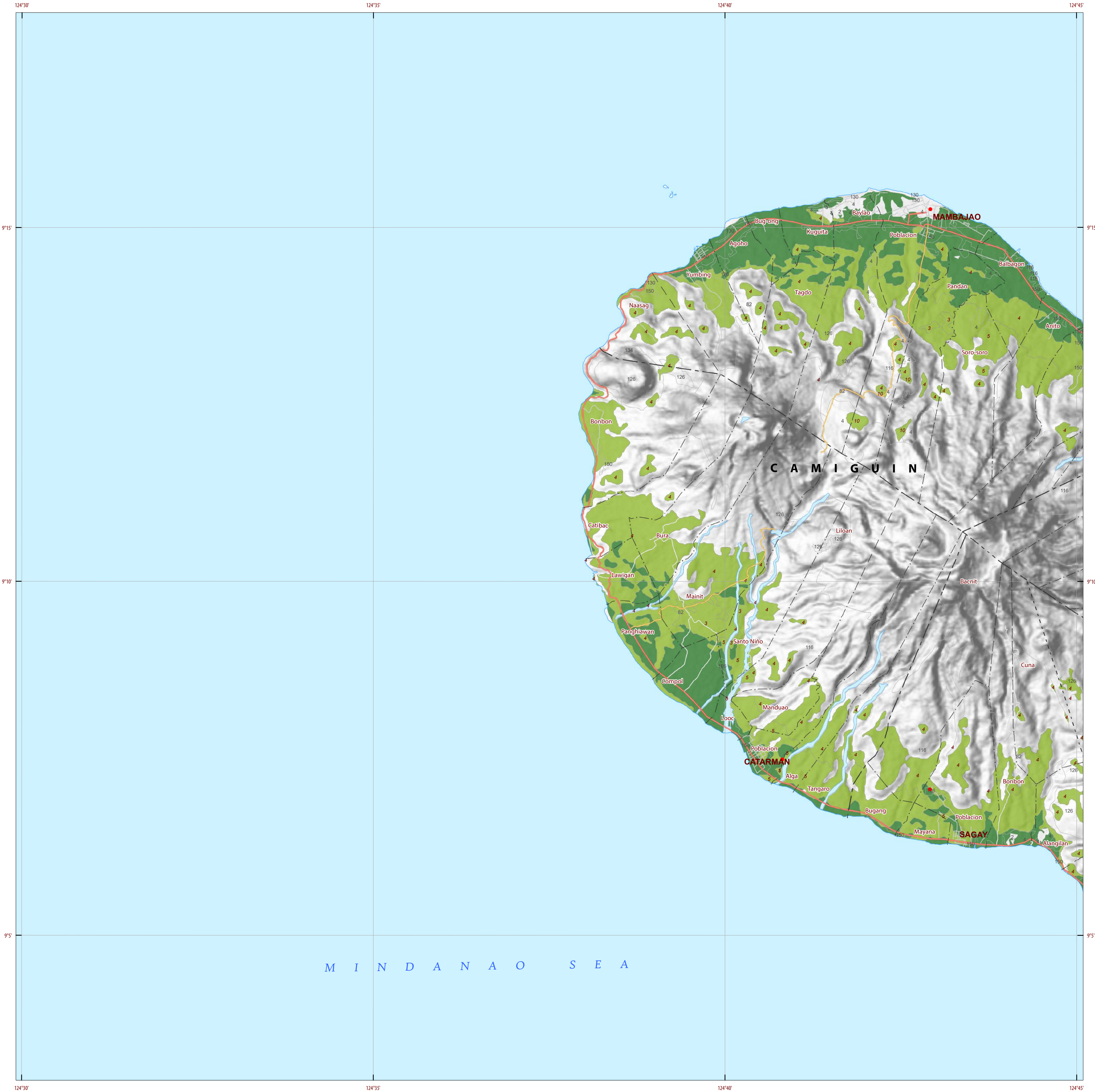
CODE	LANDUSE
1	Paddy rice, irrigated
2	Paddy rice, non-irrigated
4	Corn
82	Cacao
116	Coconut
126	Grassland
130	Bare areas, unmanaged
134	Shrubs, unmanaged



Source: PAGASA 2018, *Climatological Normals (Rainfall)*, Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA), accessed 27 July 2018, <<https://www1.pagasa.dost.gov.ph/index.php/climate/climatological-normals>>.

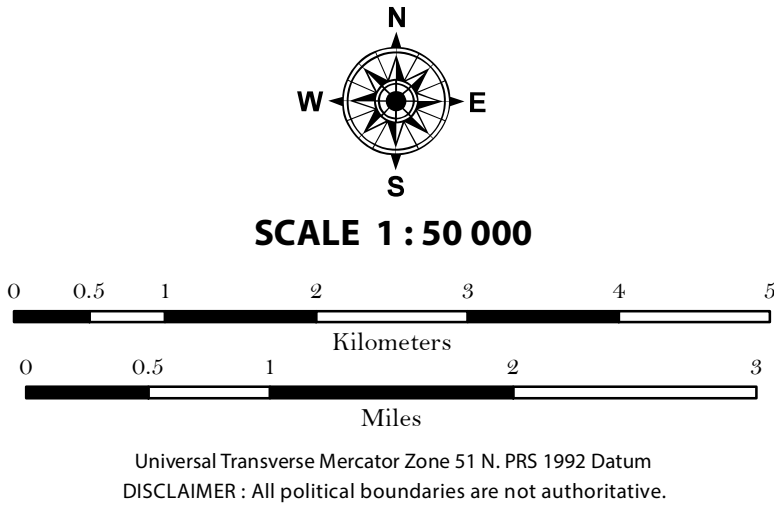
Whole part of Camiguin is classified as climatic Type IV.





LAND SUITABILITY MAP  
RUBBER

LAND RESOURCES EVALUATION AND SUITABILITY  
ASSESSMENT OF STRATEGIC PRODUCTION AREAS



LEGEND

SUITABILITY CLASSES

- S1 Highly Suitable** - Land having no significant limitations to sustained application of a given use, or only minor limitations that will not significantly reduce productivity or benefits and will not raise inputs above an acceptable level.
- S2 Moderately Suitable** - Land having limitations which in aggregate are moderately severe for sustained application of a given use; the limitations will reduce productivity or benefits and increase required inputs to the extent that the overall advantage to be gained from the use, although still attractive, will be appreciably inferior to that expected on class S1 land.
- S3 Marginally Suitable** - Land having limitations which in aggregate are severe for sustained application of a given use and will so reduce productivity or benefits, or increase required inputs, that this expenditure will be only marginally justified.
- Not Suitable/ Not Relevant**

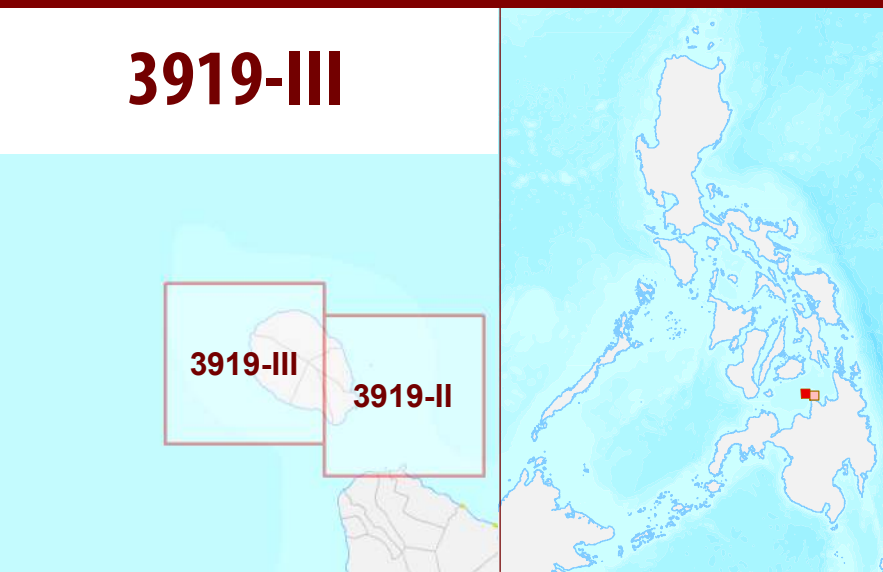
OTHER SIGNS

- NGP Areas
- Cacao
- Land limitation
- Land use

CONVENTIONAL SIGNS

- ROADS**: Expressway, Trunk line, Primary, Secondary, Tertiary
- BOUNDARY**: Region, Province, District, Municipality, Barangay
- HYDROLOGY**: Sea / Shoreline, Lakes / Rivers
- PLACES**: Capital City / City, Capital Town / Town
- LAND USE**: Built-up, Fishpond, Mangrove

ADJOINING SHEETS



MISCELLANEOUS INFORMATION

**SOURCES OF INFORMATION** : Topographic information taken from NAMRIA Topographic Map at 1:50,000 scale. Land resources information from the Agricultural Land Management and Evaluation Division (ALMED), Soils Survey Division (SSD) and Laboratory Services Division (LSD) of BSWM. Rice areas obtained from the Land Use System (FAO, 2015) and Philippine Rice Information System (PRISM) (IRRI, 2015). Data analysis and compilation through the **Land Resources Evaluation and Suitability Assessment of Strategic Production Areas for Major Commodities Project** implemented by BSWM (2017).

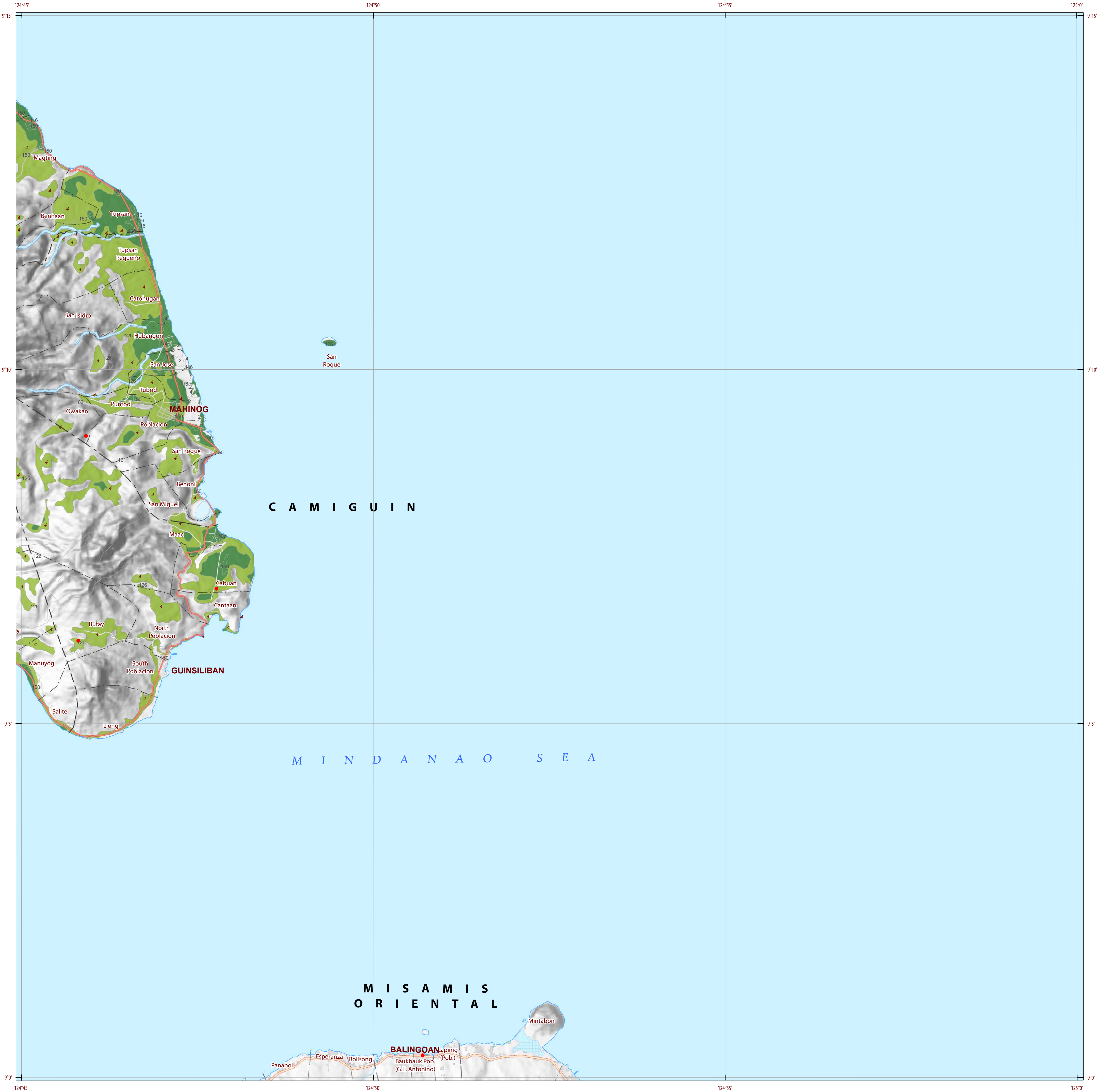
Project Leader : BERNARDO B. PASCUA  
GIS and Cartography : IRVIN K. SAMALCA  
Funding Agency : Department of Agriculture - Bureau of Agricultural Research (DA-BAR)  
Collaborating Agencies : Philippine Council on Agriculture and Fisheries (PCAF)  
: Department of Agriculture and Fisheries - ARMM, Department of Agriculture Regional Field Office of Region IX, X, XI, XII and XIII (Caraga)  
: Local Government Unit (LGU) of covered provinces and municipalities

Map produced by the Geomatics and Soil Information Technology Division, Bureau of Soils and Water Management (BSWM). Users noting errors or omissions in this publication are requested to inform the Bureau of Soils and Water Management.

This publication is licensed under a Creative Commons Attribution 4.0 International License. Unless otherwise noted, copyright and any other intellectual property rights, in this publication is owned by the Philippine Government. This publication should be attributed as : BSWM, 2019. Land Suitability Map Series for Rubber of the PROVINCE OF CAMIGUIN (50,000 Scale) . CC BY NC SA 4.0.

REPUBLIC OF THE PHILIPPINES  
DEPARTMENT OF AGRICULTURE  
BUREAU OF SOILS AND WATER MANAGEMENT  
SRDC Bldg, Elliptical Road Cor. Visayas Avenue, Diliiman, Quezon City 1101  
Tel/Fax No. : (+632) 332-9534 E-mail: bswmcenter@da.gov.ph





LAND SUITABILITY MAP  
RUBBER

LAND RESOURCES EVALUATION AND SUITABILITY  
ASSESSMENT OF STRATEGIC PRODUCTION AREAS



SCALE 1 : 50 000



Universal Transverse Mercator Zone 51 N, PRS 1992 Datum  
DISCLAIMER : All political boundaries are not authoritative.

LEGEND

SUITABILITY CLASSES

- S1 Highly Suitable** - Land having no significant limitations to sustained application of a given use, or only minor limitations that will not significantly reduce productivity or benefits and will not raise inputs above an acceptable level.
- S2 Moderately Suitable** - Land having limitations which in aggregate are moderately severe for sustained application of a given use; the limitations will reduce productivity or benefits and increase required inputs to the extent that the overall advantage to be gained from the use, although still attractive, will be appreciably inferior to that expected on class S1 land.
- S3 Marginally Suitable** - Land having limitations which in aggregate are severe for sustained application of a given use and will so reduce productivity or benefits, or increase required inputs, that this expenditure will be only marginally justified.

**Not Suitable/ Not Relevant**

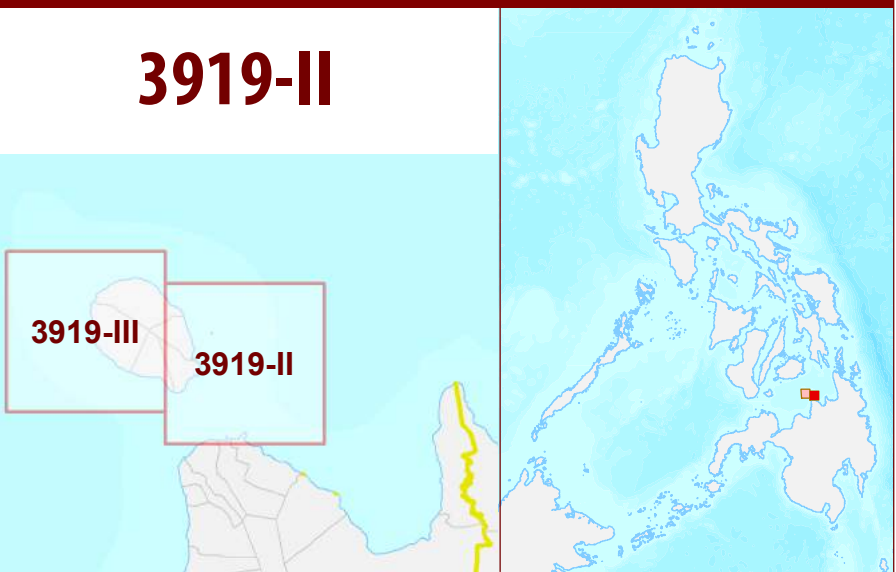
OTHER SIGNS

- NGP Areas  
Cacao  
Land limitation  
Land use

CONVENTIONAL SIGNS

- ROADS**  
Expressway  
Trunk line  
Primary  
Secondary  
Tertiary
- BOUNDARY**  
Region  
Province  
District  
Municipality  
Barangay
- HYDROLOGY**  
Sea / Shoreline  
Lakes / Rivers
- PLACES**  
Capital City / City  
Capital Town / Town
- LAND USE**  
Built-up  
Fishpond  
Mangrove

ADJOINING SHEETS



MISCELLANEOUS INFORMATION

**SOURCES OF INFORMATION** : Topographic information taken from NAMRIA Topographic Map at 1:50,000 scale. Land resources information from the Agricultural Land Management and Evaluation Division (ALMED), Soils Survey Division (SSD) and Laboratory Services Division (LSD) of BSWM. Rice areas obtained from the Land Use System (FAO, 2015) and Philippine Rice Information System (PRISM) (IRRI, 2015). Data analysis and compilation through the **Land Resources Evaluation and Suitability Assessment of Strategic Production Areas for Major Commodities Project** implemented by BSWM (2017).

Project Leader : BERNARDO B. PASCUA  
GIS and Cartography : IRVIN K. SAMALCA

Funding Agency : Department of Agriculture - Bureau of Agricultural Research (DA-BAR)  
Collaborating Agencies : Philippine Council on Agriculture and Fisheries (PCAF)  
: Department of Agriculture and Fisheries - ARMM, Department of Agriculture Regional Field Office of Region IX, X, XI, XII and XIII (Caraga)  
: Local Government Unit (LGU) of covered provinces and municipalities

Map produced by the Geomatics and Soil Information Technology Division, Bureau of Soils and Water Management (BSWM).  
Users noting errors or omissions in this publication are requested to inform the Bureau of Soils and Water Management.



This publication is licensed under a Creative Commons Attribution 4.0 International License. Unless otherwise noted, copyright and any other intellectual property rights, in this publication is owned by the Philippine Government. This publication should be attributed as :  
BSWM, 2019. Land Suitability Map Series for Rubber of the PROVINCE OF CAMIGUIN (50,000 Scale) . CC BY NC SA 4.0.

REPUBLIC OF THE PHILIPPINES  
DEPARTMENT OF AGRICULTURE  
BUREAU OF SOILS AND WATER MANAGEMENT  
SRDC Bldg., Elliptical Road Cor. Visayas Avenue, Diliman, Quezon City 1101  
Tel/Fax No. : (+632) 332-9534 E-mail : bswmclientcenter@yahoo.com