

LAND SUITABILITY MAP

CACAO

LAND RESOURCES EVALUATION AND SUITABILITY ASSESSMENT OF STRATEGIC PRODUCTION AREAS

PROVINCE OF SURIGAO DEL NORTE

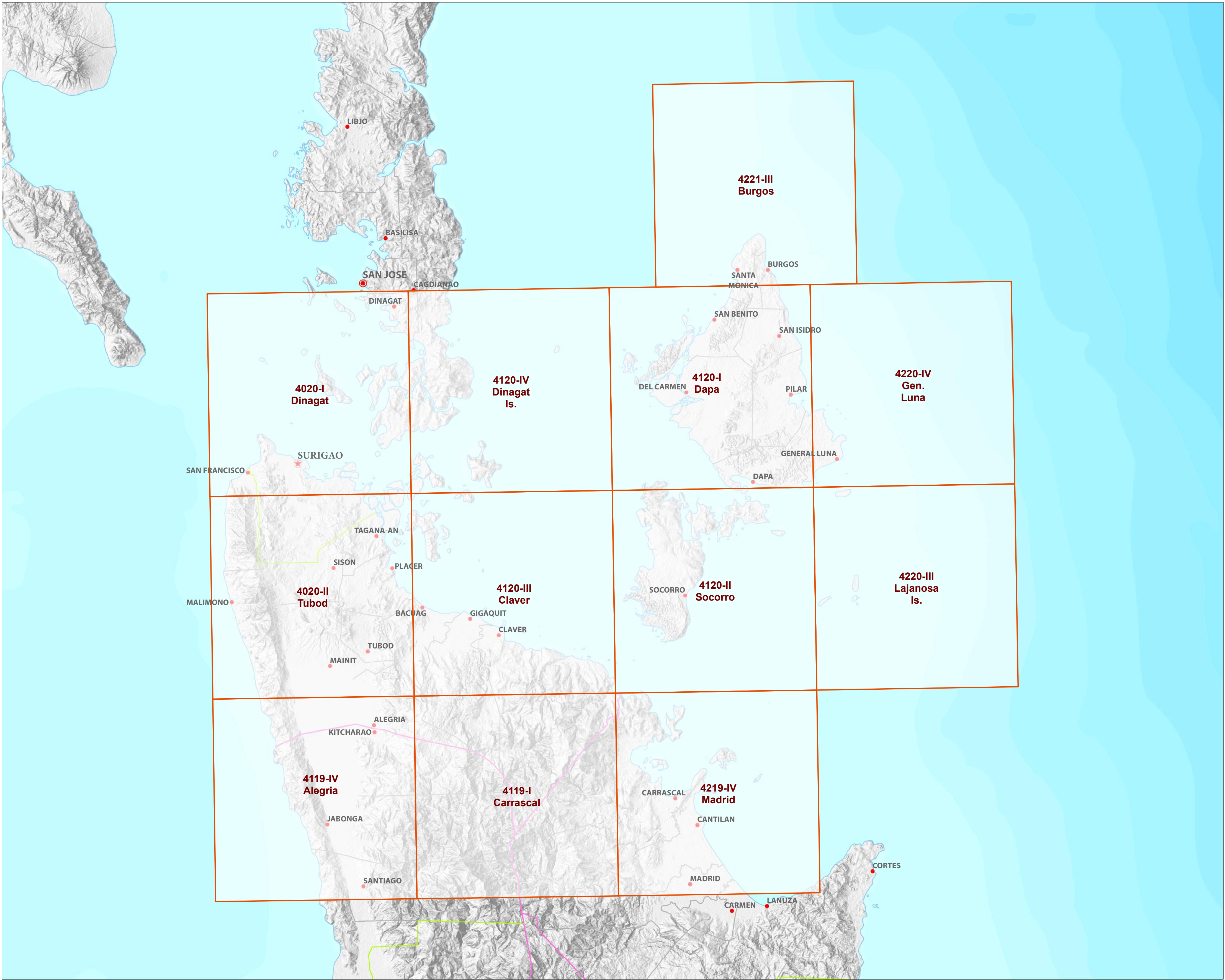


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DEPARTMENT OF AGRICULTURE
BUREAU OF SOILS AND WATER MANAGEMENT

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MAP INDEX

LAND RESOURCES EVALUATION AND SUITABILITY ASSESSMENT OF STRATEGIC PRODUCTION AREAS PROVINCE OF SURIGAO DEL NORTE



LEGEND

Places

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

Administrative Boundary

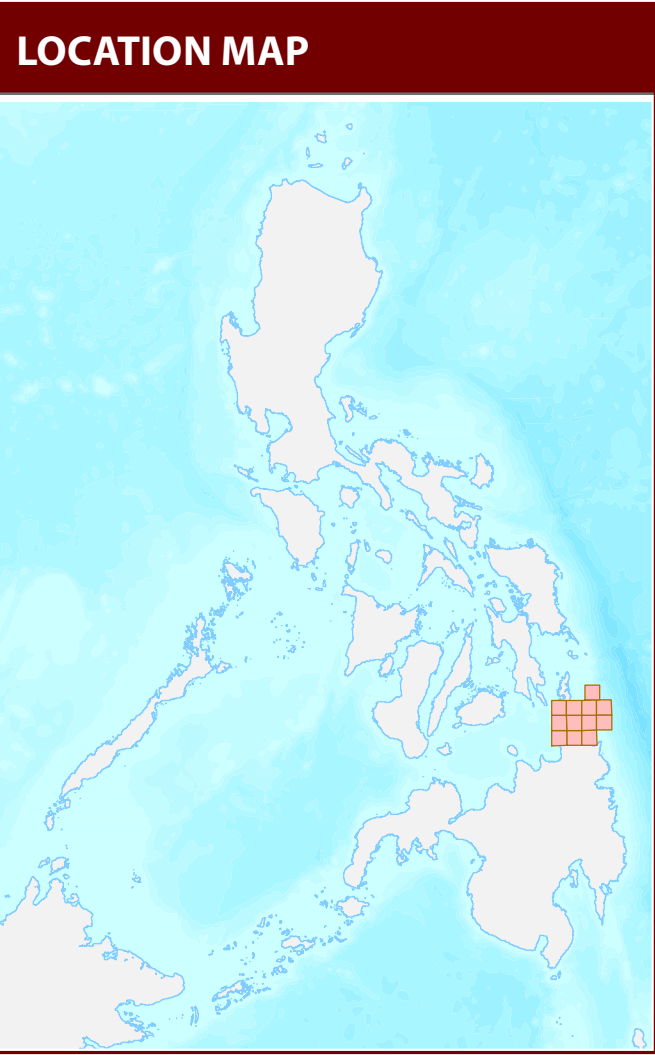
- Regional
- Provincial
- City
- Municipal

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 (PCAF) 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).

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LAND SUITABILITY MAP FOR CACAO

LAND RESOURCES EVALUATION AND SUITABILITY ASSESSMENT OF STRATEGIC PRODUCTION AREAS SURIGAO DEL NORTE, REGION XIII

EXTENT OF SUITABILITY FOR CACAO PRODUCTION BY MUNICIPALITY

MUNICIPALITY	EXISTING CACAO (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	S1	S2	
ALEGRIA	3	-	-	-	1,321	56	24	4	6	-	382	-	-	-	-	-	1,793
BACUAG	-	-	-	-	1,350	2	71	-	381	-	528	7	-	-	-	-	2,339
BURGOS	-	-	-	-	861	-	190	-	-	-	207	-	-	-	-	-	1,258
CLAYER	-	-	-	-	711	539	70	122	193	1,210	247	210	-	-	-	-	3,302
DAPA	-	-	-	-	2,318	13	187	9	345	-	305	-	-	-	-	-	3,177
DEL CARMEN	-	-	-	-	4,196	54	906	1	248	-	1,434	-	-	-	-	-	6,839
GENERAL LUNA	-	-	-	-	1,341	-	710	95	-	-	1,302	4	-	-	-	-	3,453
GIGAQUIT	-	-	-	-	1,451	246	218	8	62	-	644	193	-	-	-	-	2,822
MAINIT	-	-	-	-	4,236	14	49	3	139	8	1,289	11	-	-	-	-	5,749
MALIMONO	-	-	-	-	764	135	-	12	80	123	49	6	-	-	-	-	1,169
PILAR	-	-	-	-	2,397	-	427	-	18	-	1,568	-	-	-	-	-	4,411
PLACER	-	-	-	-	1,677	903	19	-	214	15	232	32	-	-	-	-	3,092
SAN BENITO	-	-	-	-	1,150	-	517	5	10	-	88	-	-	-	-	-	1,770
SAN FRANCISCO	-	-	-	-	549	113	-	-	38	24	147	-	-	-	-	-	871
SAN ISIDRO	-	-	-	-	1,981	-	645	-	-	-	1,284	-	-	-	-	-	3,910
SANTA MONICA	-	-	-	-	1,715	5	68	-	4	-	375	5	-	-	-	-	2,173
SISON	-	-	-	-	3,048	408	-	62	191	20	546	67	-	-	-	-	4,340
SOCORRO	-	-	-	-	532	318	331	315	98	1,570	765	881	-	-	-	-	4,808
SURIGAO CITY	-	-	-	-	3,845	954	362	168	1,825	1,285	2,323	594	-	-	-	-	11,356
TAGANA-AN	-	-	-	-	1,467	391	5	2	29	3	130	25	-	-	-	-	2,053
TUBOD	-	-	-	-	1,214	32	47	-	21	-	264	53	-	-	-	-	1,630
TOTAL	-	-	-	3	38,125	4,186	4,847	804	3,901	4,258	14,108	2,088	-	-	-	-	72,316

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

SUITABILITY CLASSES:

Highly Suitable (S1)
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.

Moderately Suitable (S2)
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.

Marginally Suitable (S3)
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
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.

CLIMATE TYPE

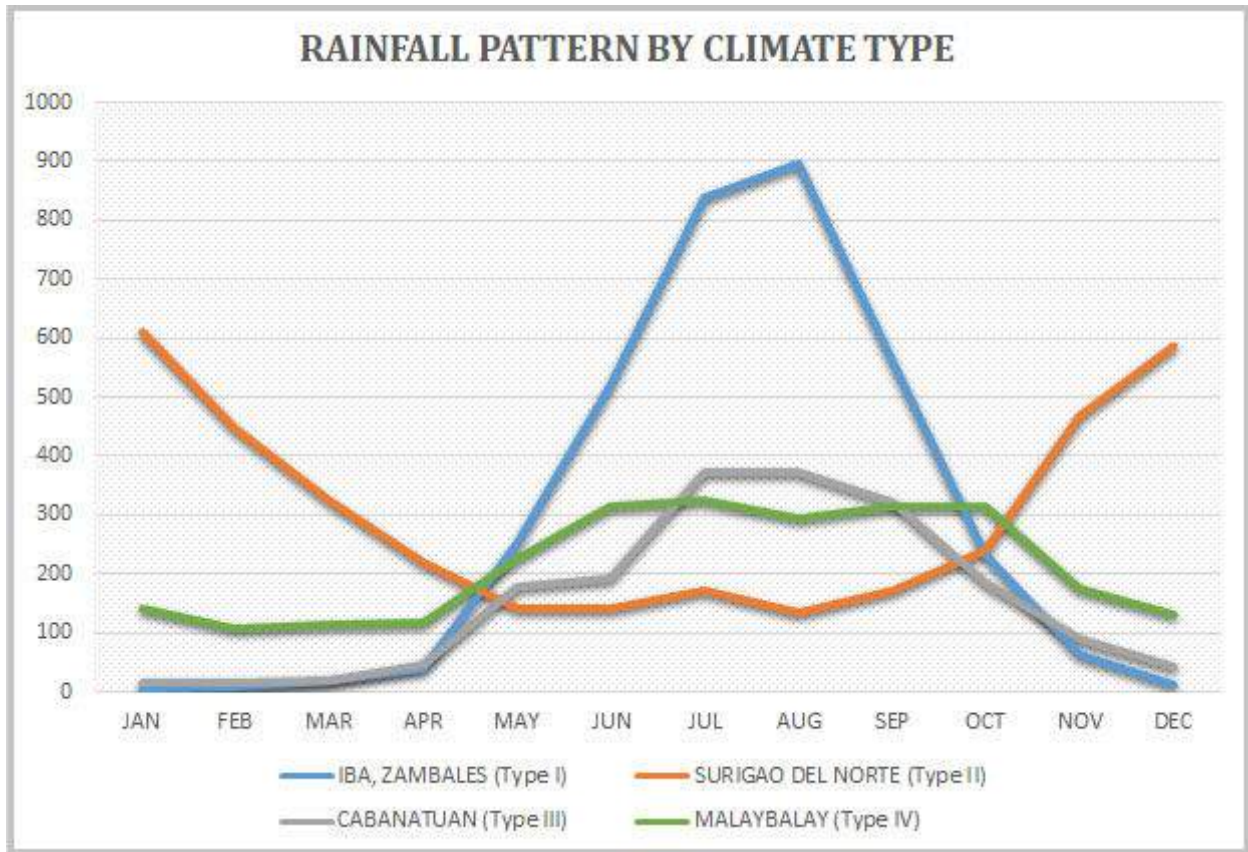
TYPE I : Two pronounced season, dry from November to April and wet during the rest of the year. Maximum rain period is from June to September

TYPE II : No dry season with a very pronounced maximum rain period from December to February. There is not a single dry month. Maximum monthly rainfall occurs during the period from March to May.

TYPE III : No very pronounced maximum rain period, with a dry season lasting only from one to three months, either during the period from December to February or from March to May. This type resembles Type I since it has a short dry season.

TYPE IV : Rainfall is more or less evenly distributed throughout the year. This type resembles Type II since it has no dry season.

Surigao Del Norte is classified as climatic Type II



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>>.

AGRONOMIC REQUIREMENT OF CACAO 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
Cacao	S1	<8	>100	CL, SICL, SCL, SC, SiC, C, HC	WD,MWD	5.6 -7.2	high	none-slight	none-slight	none-few	<1000	2001-4500	I, III, IV
	S2	8 - 30	50 - 100	FSL, L, SiL	SPD,PD	5.1 - 5.5 7.3 - 7.8	medium	moderate	moderate	common	1000-1500	1000-2000	I, II
	S3	>30	<50	S, LS, CSL, SL	VPD,ED	<5.0 - > 7.9	low	severe	severe	many	>1500	<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 - 1000m - 1500m
EI3 - > 1500m

SOIL DRAINAGE

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

SOIL DEPTH

Sh2 - Moderately deep (50 - 100cm)
Sh3 - Very shallow to shallow (< 50cm)

SOIL EROSION

E2 - Moderate erosion
E3 - Severe erosion

SLOPE/TOPOGRAPHY

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

SOIL TEXTURE

Tc - Coarse texture

ROCK OUTCROPS

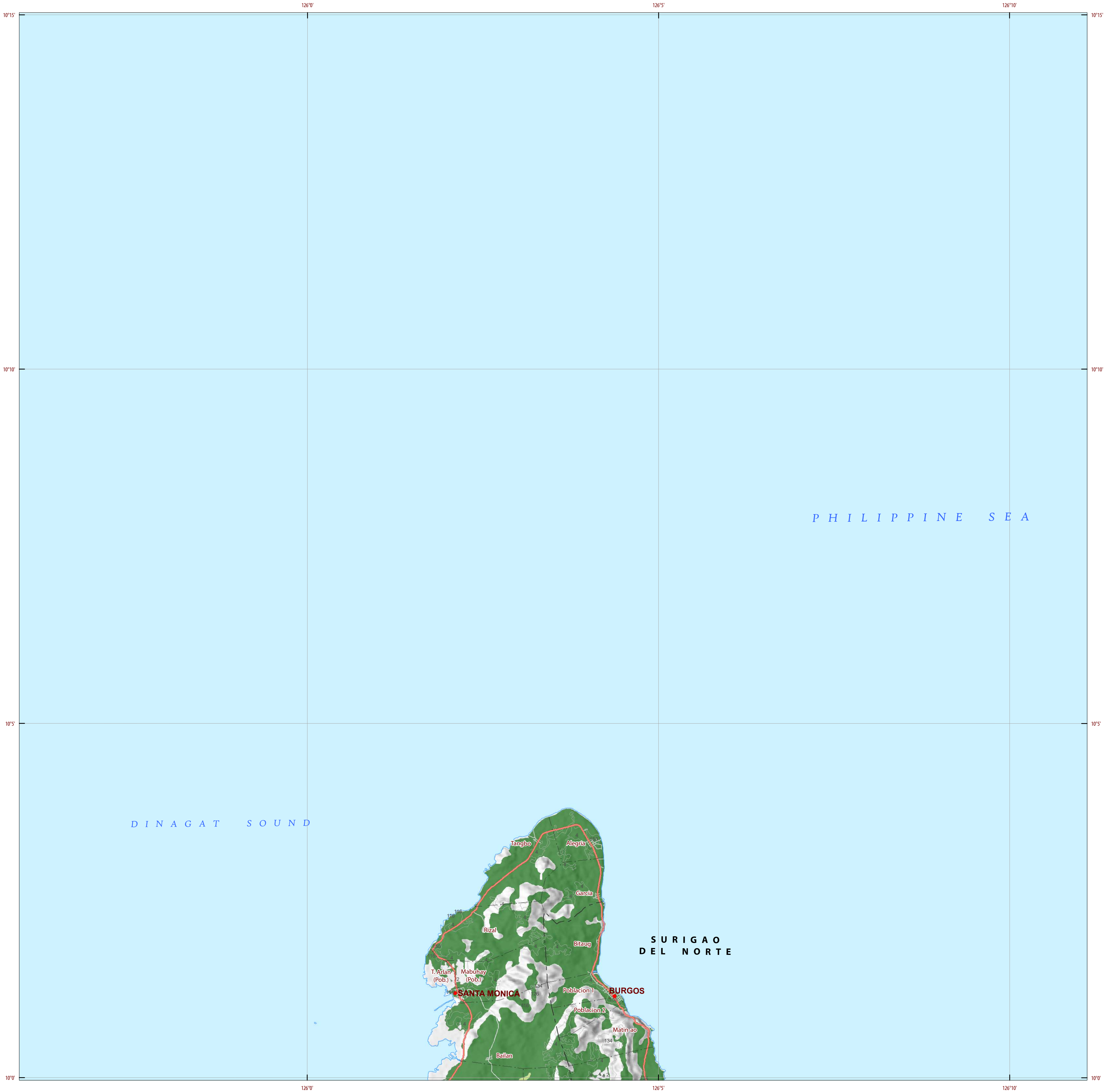
Rc2 - Common
Rc3 - Many




FLOODING

F2 - Moderate seasonal flooding
F3 - Severe seasonal flooding

CODE	LIMITATION	CODE	LIMITATION	CODE	LIMITATION	CODE	LIMITATION	CODE	LIMITATION
1	E2	11	T2	21	T2-F3-D2	31	T3-F2-D2	41	Tc
2	E2-Sh2-Rc2	12	T2-E3	22	T3	32	T3-F3-D2		
3	EI2	13	T2-E3-Rc2	23	T3-E3	33	T3		
4	EI2-E3-Rc3	14	T2-E3-Rc3	24	T3-E3-Rc2	34	T3-E3		
5	EI2-Sh2-Rc2	15	T2-E3-Sh2-Rc2	25	T3-E3-Sh2-Rc3	35	T3-E3-Rc3		
6	F2-D2	16	T2-E3-Sh2-Rc3	26	T3-E3-Sh2-Rc2	36	T3-E3-Sh3-Rc3		
7	F2-Tc	17	T2-EI2-E3	27	T3-E3-Sh3-Rc3	37	T3-EI2-E3		
8	F3-D2	18	T2-EI2-E3-Rc3	28	T3-EI2-E3	38	T3-EI2-E3-Sh3-Rc3		
9	Sh2	19	T2-EI2-E3-Sh2-Rc2	29	T3-EI2-E3-Sh2-Rc3	39	T3-F3-D2		
10	Sh2-Rc2	20	T2-F2-D2	30	T3-EI2-E3-Sh3-Rc2	40	T3-EI3		

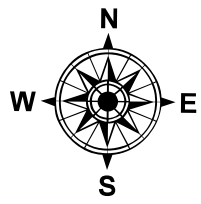
CODE	LANDUSE
4	Corn
81	Coffee
82	Cacao
116	Coconut
126	Grassland
134	Shrubs, unmanaged



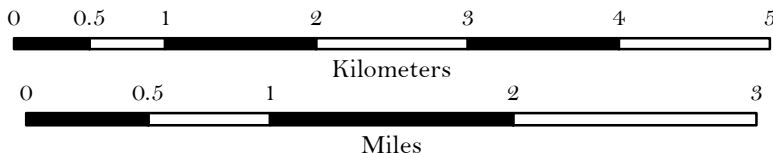


LAND SUITABILITY MAP CACAO

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

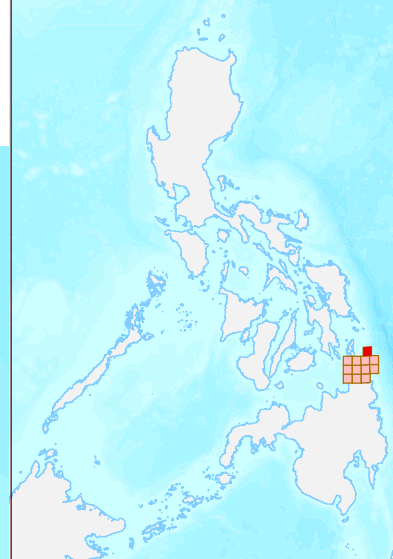
- Built-up
- Fishpond
- Mangrove

ADJOINING SHEETS

4221-III

4120-IV 4120-I 4220-IV

INDEX MAP



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).

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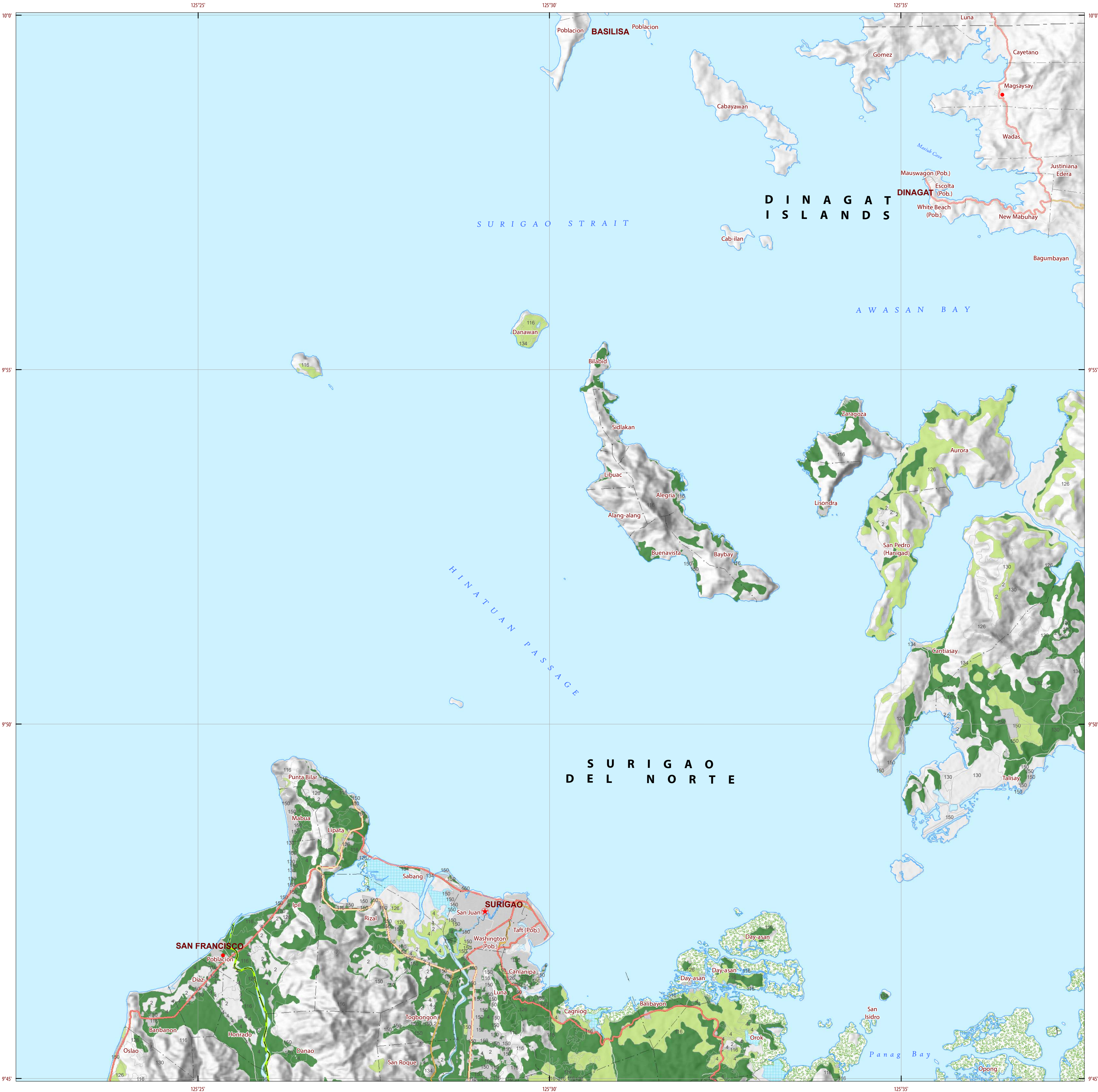
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PROVINCE OF SURIGAO DEL NORTE

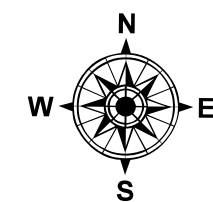
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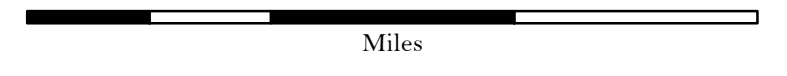



LAND SUITABILITY MAP
CACAO

LAND RESOURCES EVALUATION AND SUITABILITY
ASSESSMENT OF STRATEGIC PRODUCTION AREAS



SCALE 1 : 50 000



Universal Transverse Mercator Zone 51 N, PRS 1992 Datum
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LEGEND

SUITABILITY CLASSES

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S2

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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

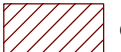
Marginally Suitable


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

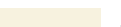
 Land limitation

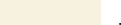
 Land use

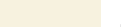
CONVENTIONAL SIGNS

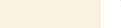
ROADS

 Expressway


 Trunk line

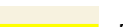
 Primary

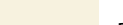
 Secondary


 Tertiary

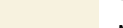
BOUNDARY

 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

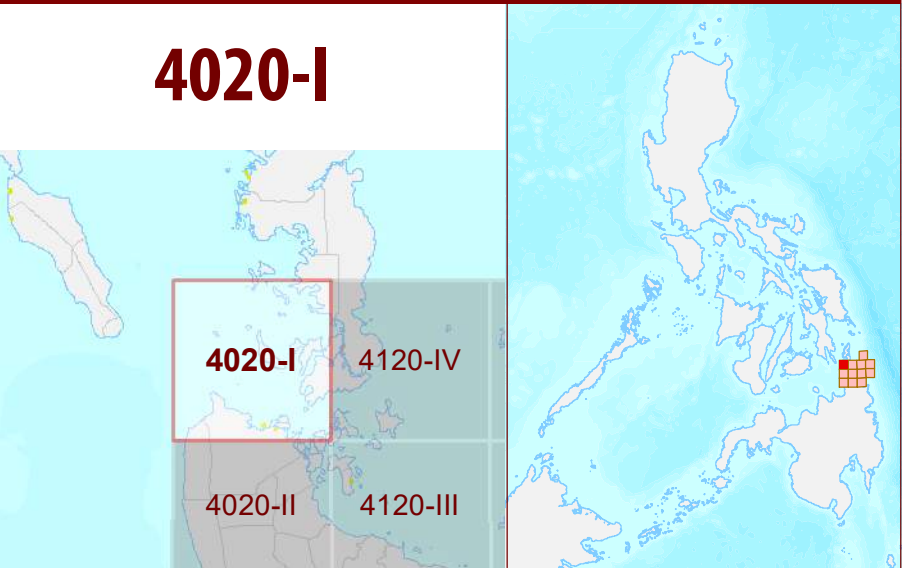
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4020-II

4020-III

4020-IV

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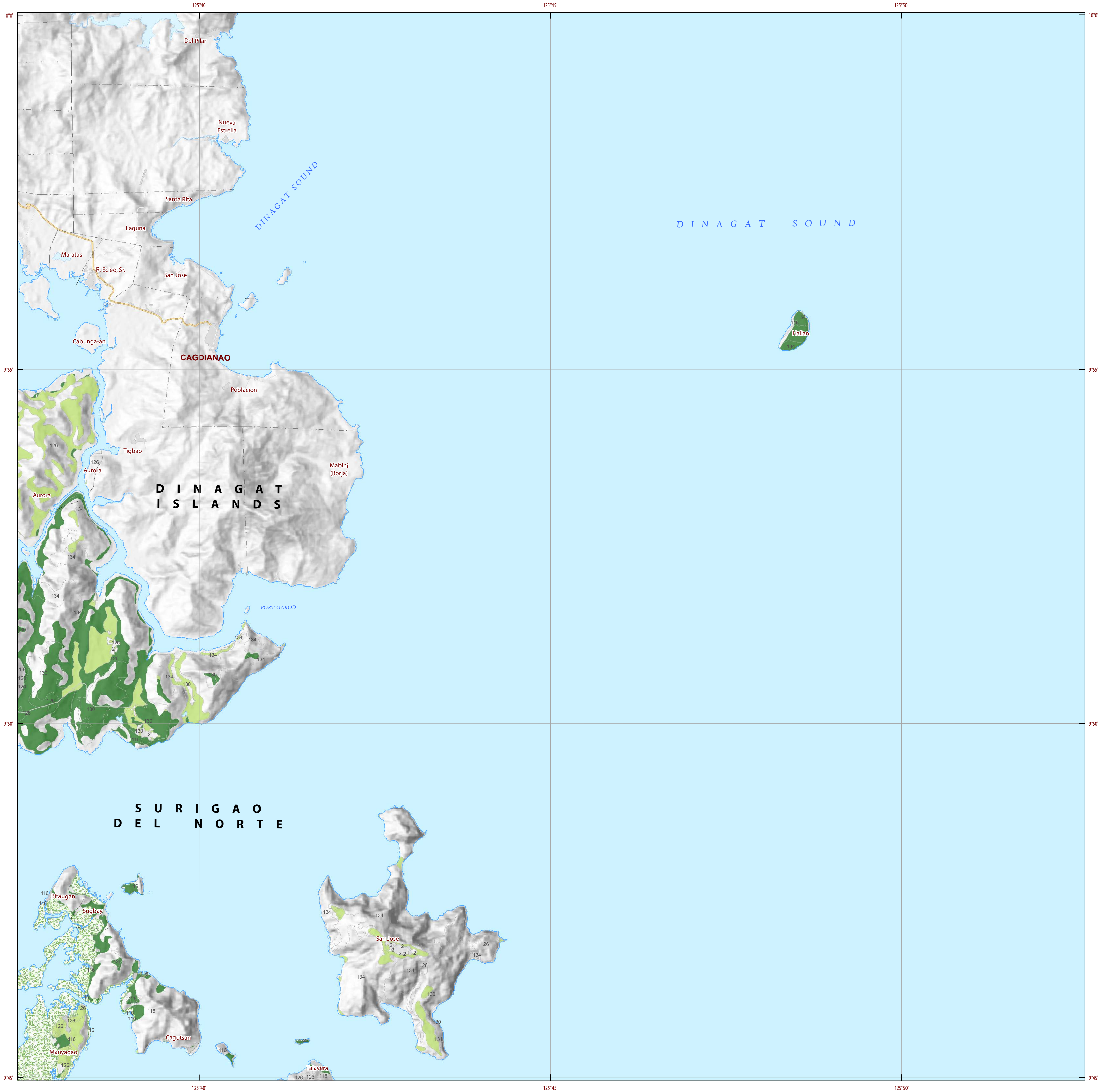
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PROVINCE OF SURIGAO DEL NORTE

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LAND SUITABILITY MAP CACAO

LAND RESOURCES EVALUATION AND SUITABILITY ASSESSMENT OF STRATEGIC PRODUCTION AREAS

SCALE 1 : 50 000

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OTHER SIGNS

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- Cacao
- Land limitation
- Land use

CONVENTIONAL SIGNS

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HYDROLOGY

- Sea / Shoreline
- Lakes / Rivers

PLACES

- Capital City / City
- Capital Town / Town

LAND USE

- Built-up
- Fishpond
- Mangrove

ADJOINING SHEETS

4120-IV

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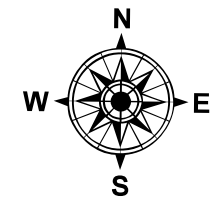
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Tel/Fax No. : (+632) 332-9534 E-mail : bswmcenter@da.gov.ph




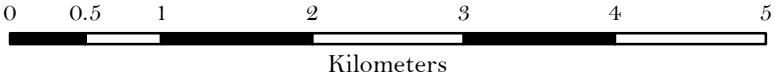


LAND SUITABILITY MAP
CACAO

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

4120-I

4221-III

4120-IV

4220-IV

4120-III

4120-II

4220-III

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MISCELLANEOUS INFORMATION

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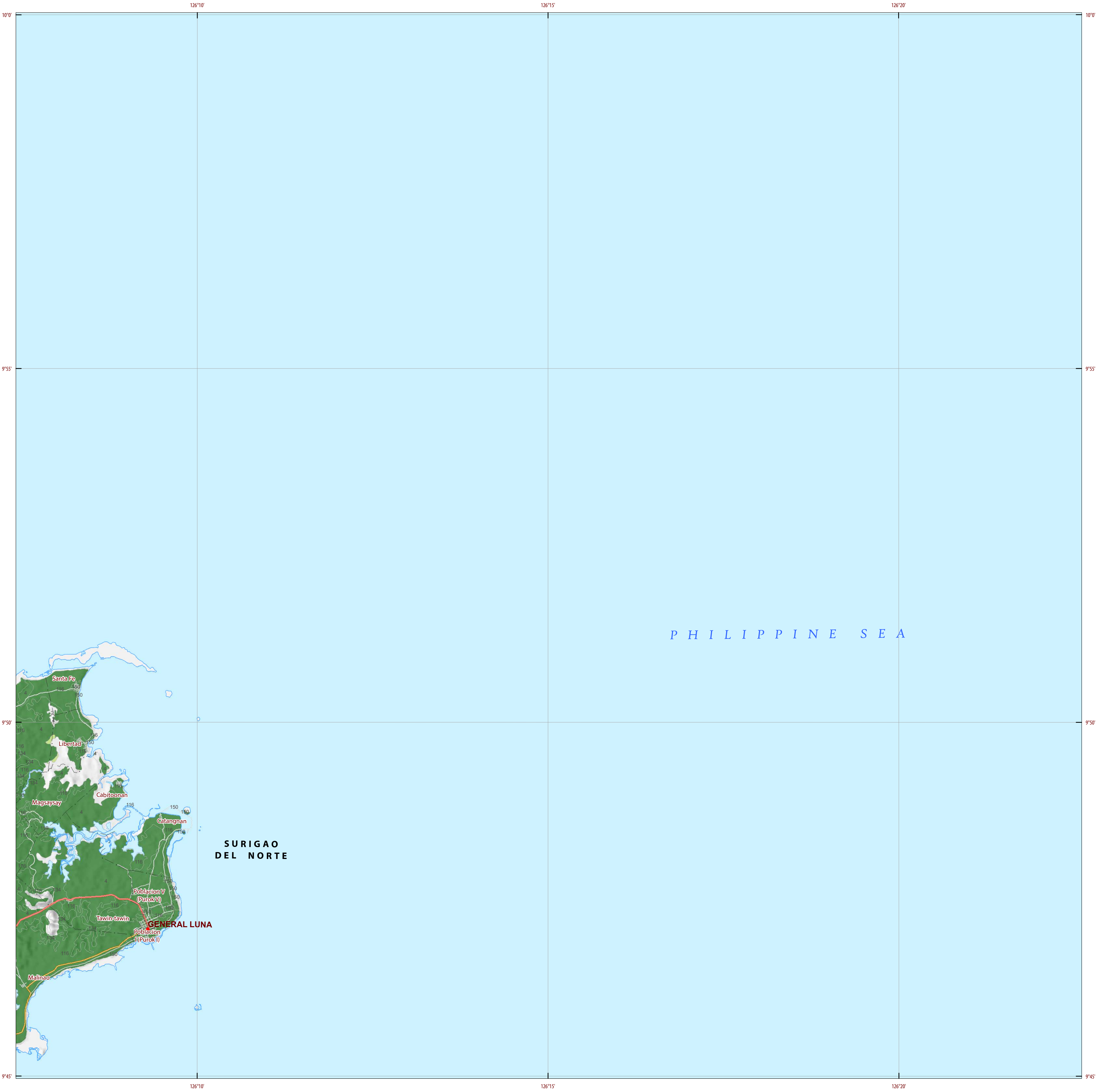
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PROVINCE OF SURIGAO DEL NORTE

Sheet 4 of 12

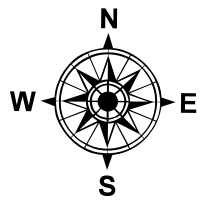
Sheet No. 4120-I





LAND SUITABILITY MAP
CACAO

LAND RESOURCES EVALUATION AND SUITABILITY
ASSESSMENT OF STRATEGIC PRODUCTION AREAS



SCALE 1 : 50 000

00.512345

Kilometers

00.5123

Miles

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.

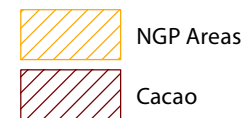
S3

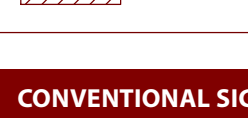
Marginally Suitable

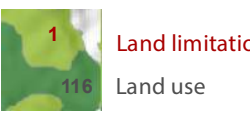
Land having limitations which in aggregate are severe for sustained application of a given use and will so reduce productivity or benefits, or increase required inputs, that this expenditure will be only marginally justified.


Not Suitable/ Not Relevant

OTHER SIGNS

NGP Areas


Cacao

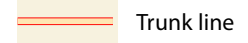
Land limitation


Land use

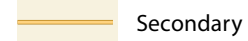
CONVENTIONAL SIGNS

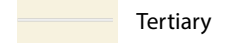
ROADS

Expressway


Trunk line


Primary

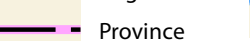
Secondary


Tertiary

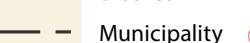
BOUNDARY

Region


Province

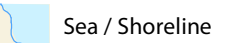
District

Municipality


Barangay


HYDROLOGY

Sea / Shoreline


Lakes / Rivers

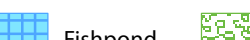
PLACES


Capital City / City

Capital Town / Town

LAND USE

Built-up

Fishpond

Mangrove

ADJOINING SHEETS

4220-IV

4221-III

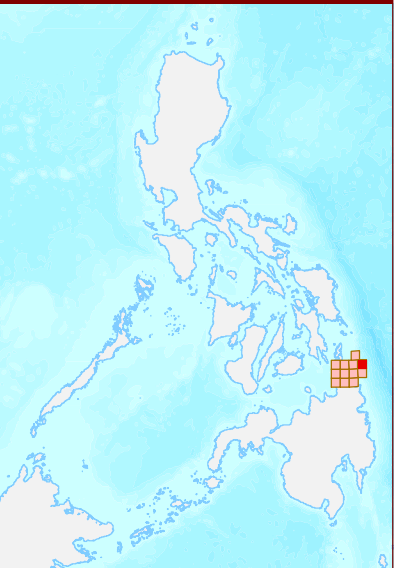
4120-I

4220-IV

4120-II

4220-III

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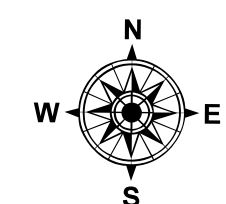
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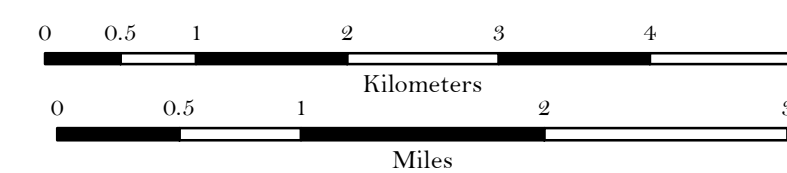
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LAND RESOURCES EVALUATION AND SUITABILITY ASSESSMENT OF STRATEGIC PRODUCTION AREAS



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

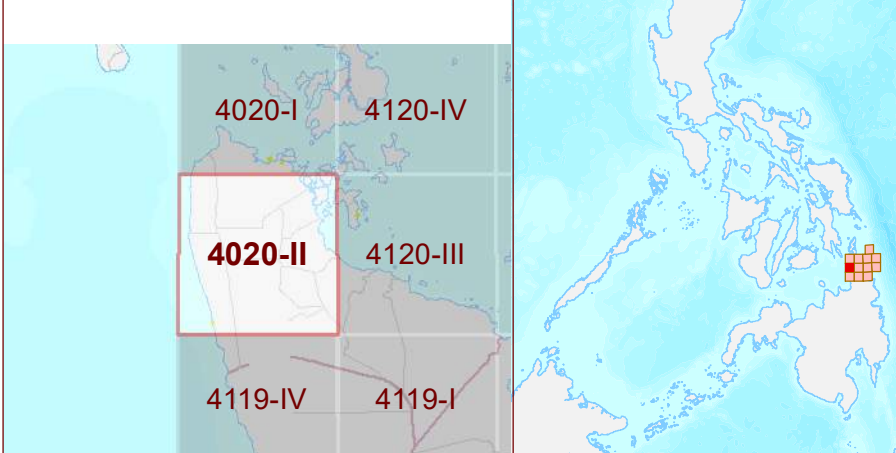
CONVENTIONAL SIGNS

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

ADJOINING SHEETS

INDEX MAP

4020-II



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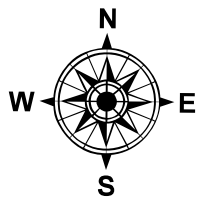
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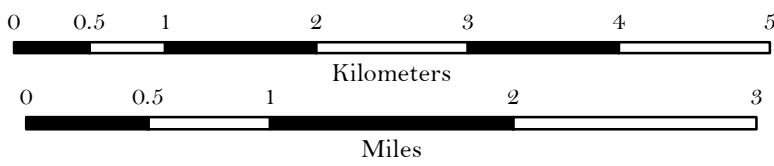


LAND SUITABILITY MAP CACAO

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.
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- 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

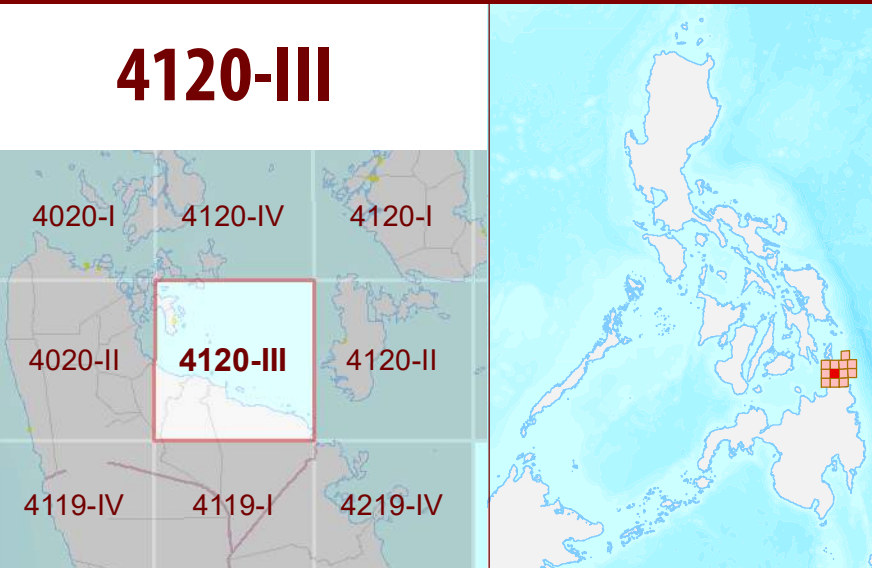
OTHER SIGNS

- 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



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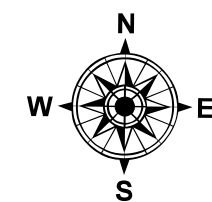
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LAND SUITABILITY MAP
CACAO

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

4120-II

4120-IV

4120-I

4220-IV

4120-III

4120-II

4220-III

4119-I

4219-IV

INDEX MAP



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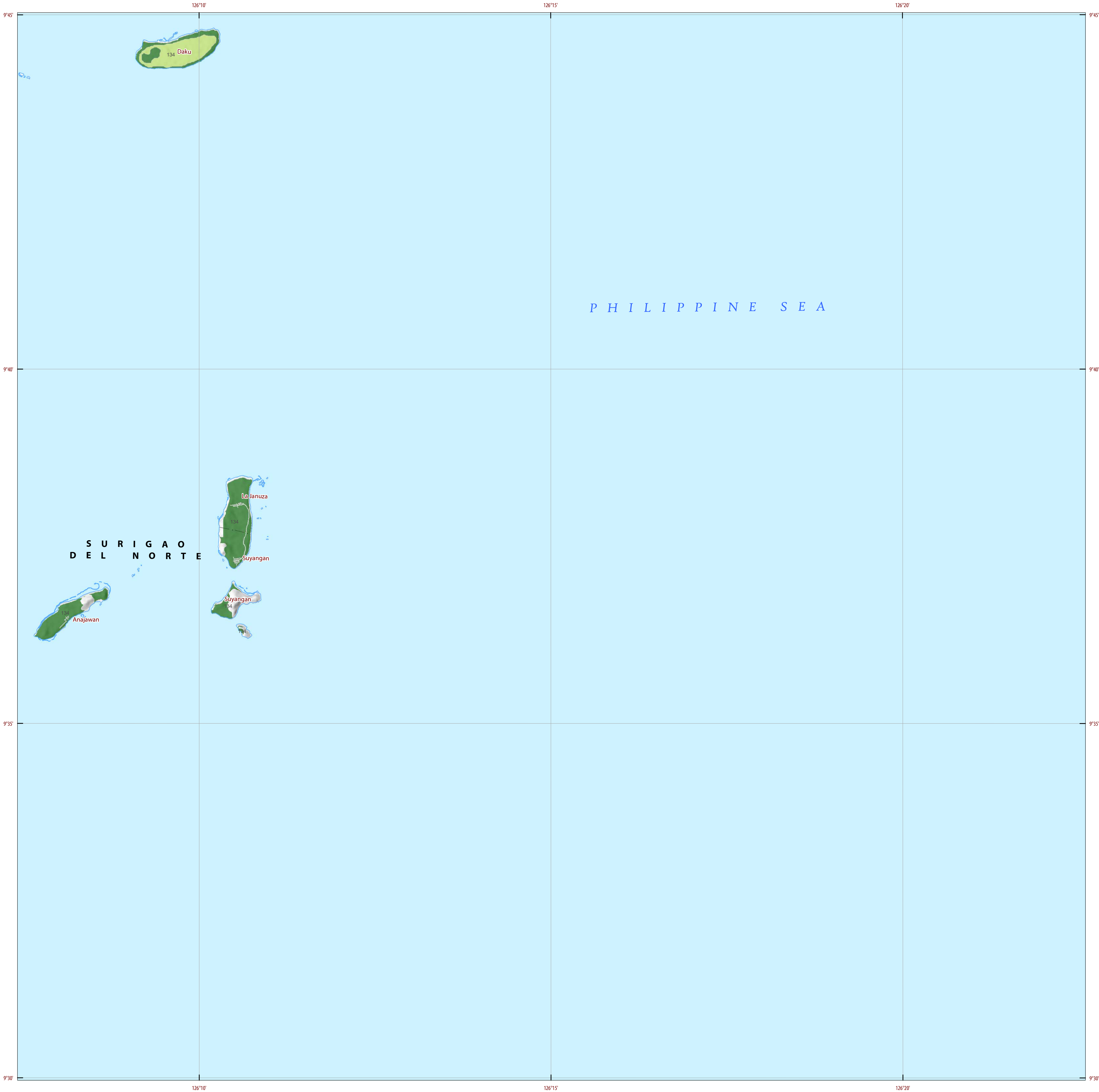
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PROVINCE OF SURIGAO DEL NORTE

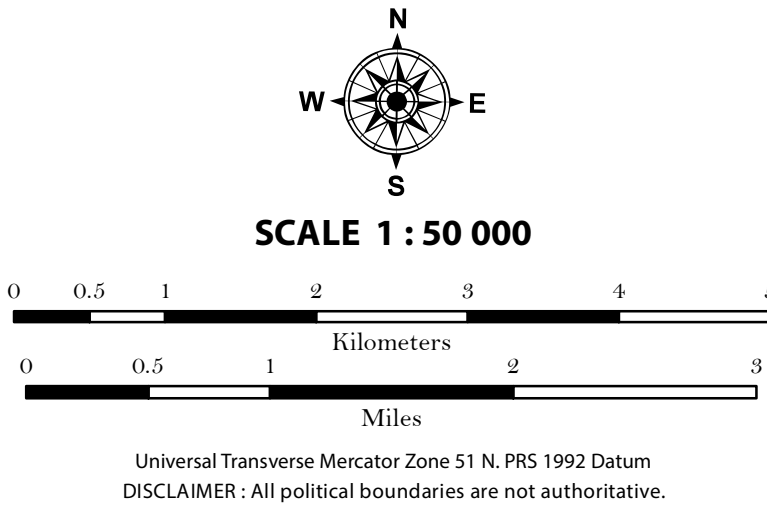
Sheet 8 of 12

Sheet No. 4120-II



LAND SUITABILITY MAP
CACAO

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

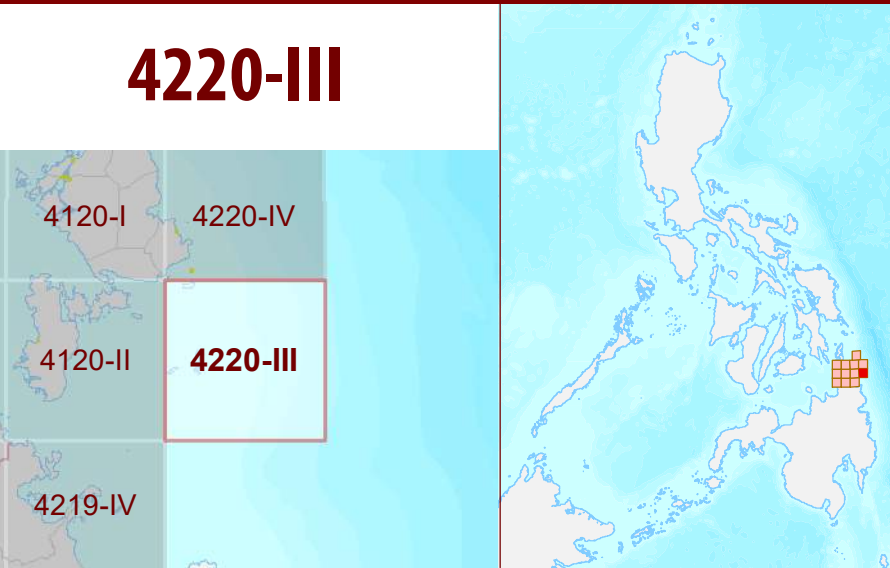
OTHER SIGNS

- 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



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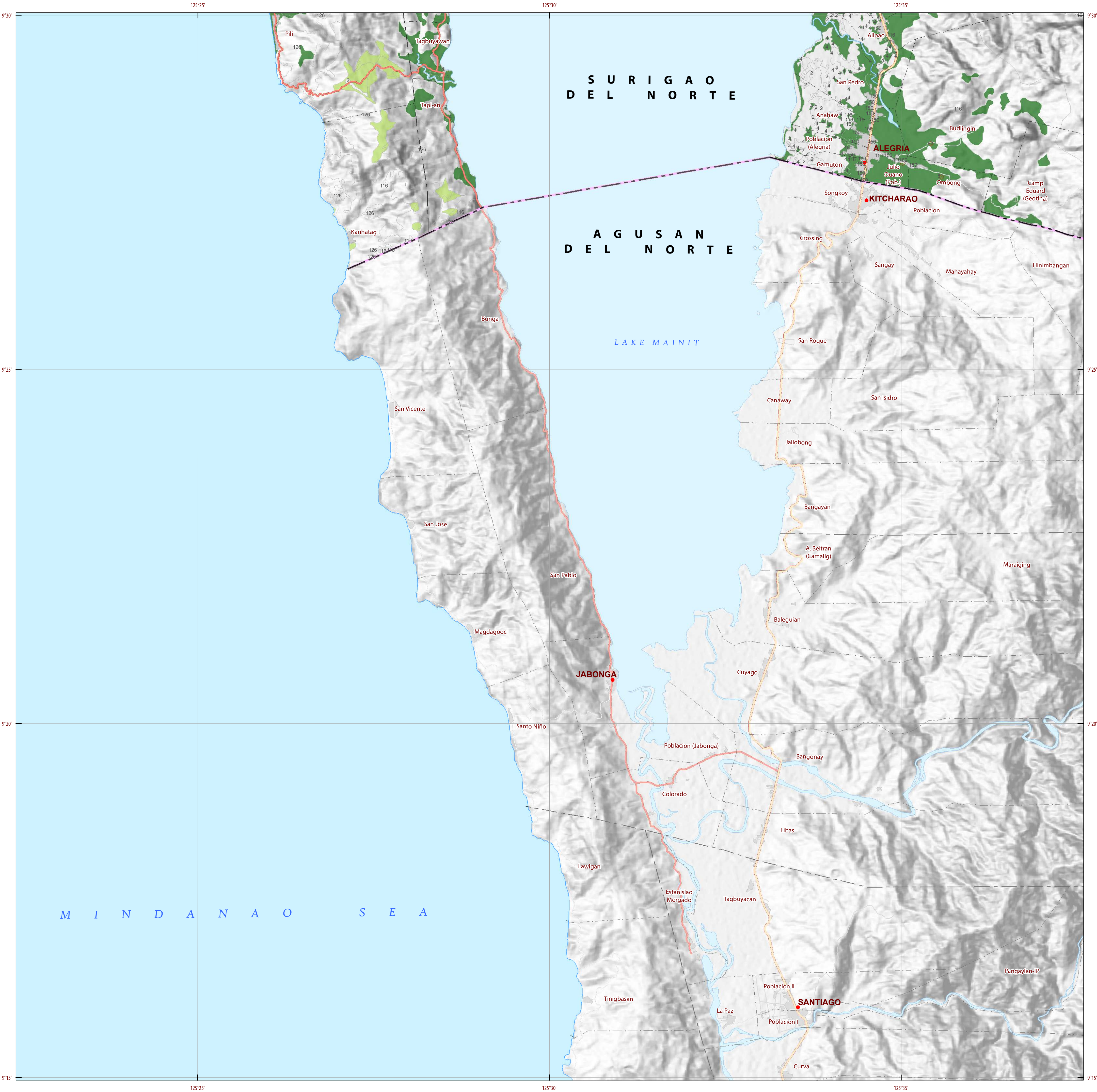
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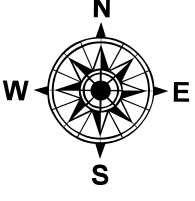
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Tel/Fax No. : (+632) 332-9534 E-mail: bswmcenter@da.gov.ph



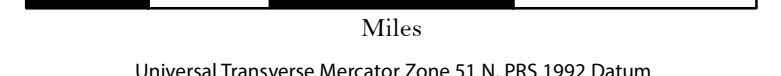
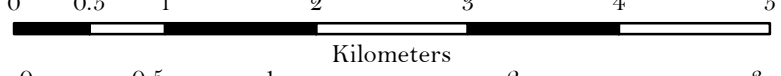


LAND SUITABILITY MAP
CACAO

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

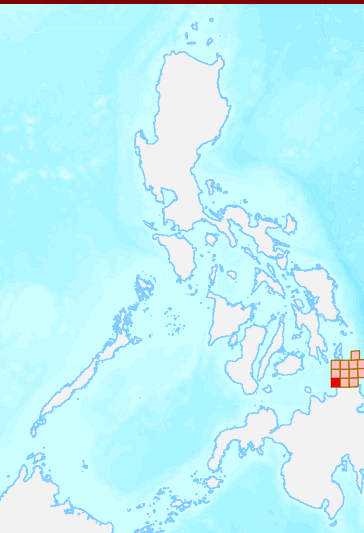
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4120-III

4119-I

INDEX MAP



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).

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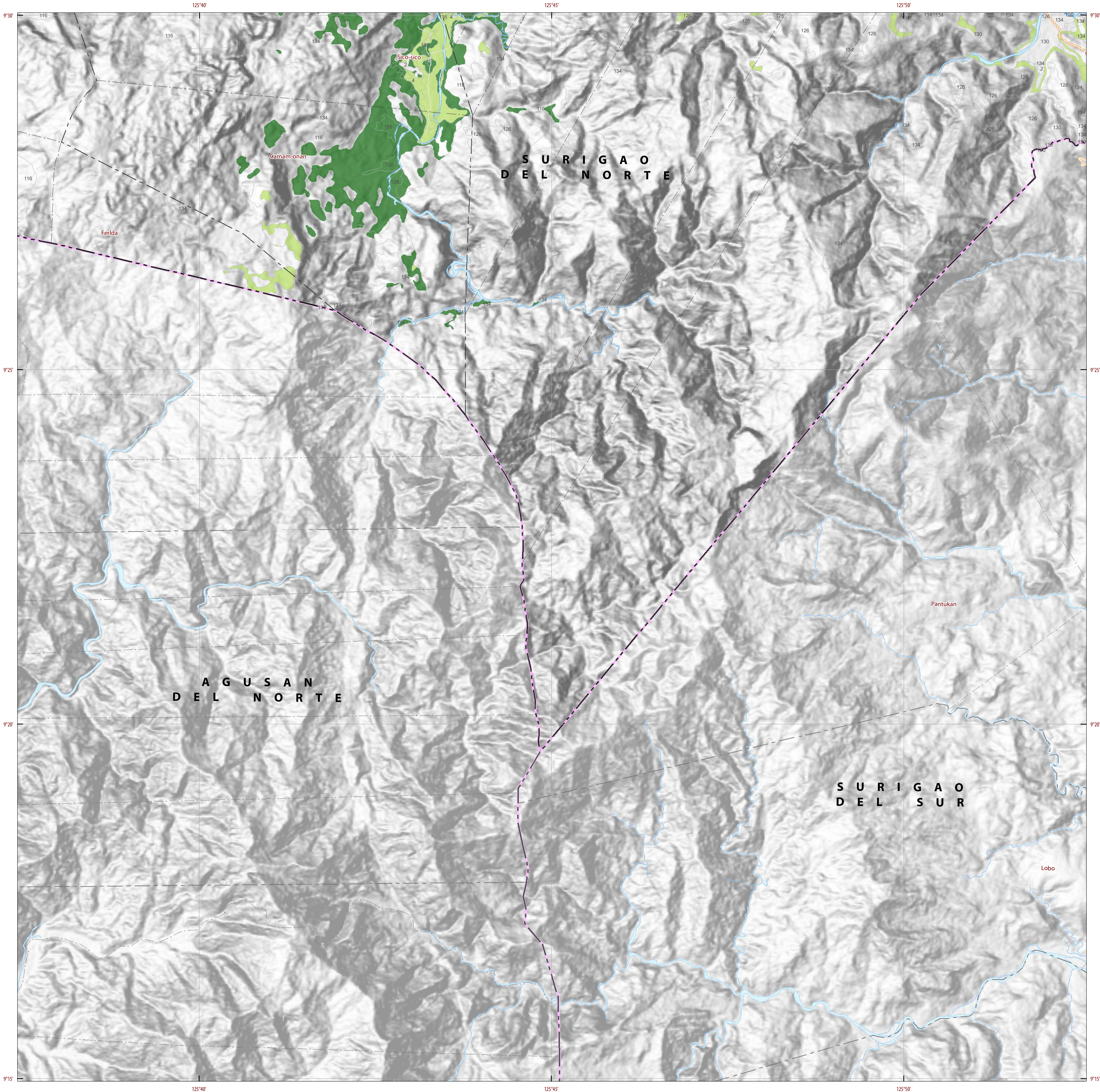
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PROVINCE OF SURIGAO DEL NORTE Sheet 10 of 12 Sheet No. 4119-IV







LAND SUITABILITY MAP
CACAO

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.

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

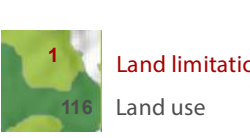
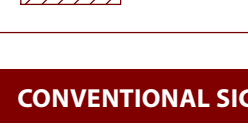
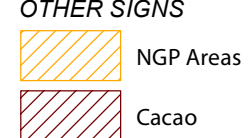
Moderately Suitable - Land having limitations which in aggregate are moderately severe for sustained application of a given use; the limitations will reduce productivity or benefits and increase required inputs to the extent that the overall advantage to be gained from the use, although still attractive, 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



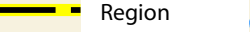




CONVENTIONAL SIGNS

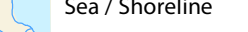

ROADS




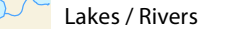
BOUNDARY






HYDROLOGY



PLACES



LAND USE



ADJOINING SHEETS

INDEX MAP

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PROVINCE OF SURIGAO DEL NORTE

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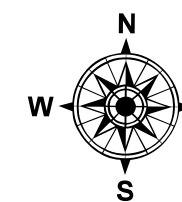
Sheet No. 4119-I







LAND SUITABILITY MAP
CACAO

LAND RESOURCES EVALUATION AND SUITABILITY
ASSESSMENT OF STRATEGIC PRODUCTION AREAS



SCALE 1 : 50 000



Universal Transverse Mercator Zone 51 N, PRS 1992 Datum
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LEGEND

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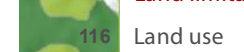
Not Suitable/ Not Relevant

OTHER SIGNS

 NGP Areas


 Cacao

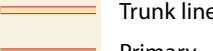
 Land limitation

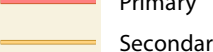
 Land use

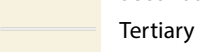
CONVENTIONAL SIGNS


ROADS

 Expressway


 Trunk line


 Primary


 Secondary


 Tertiary


BOUNDARY

 Region


 Province


 District

 Municipality


 Barangay


HYDROLOGY

 Sea / Shoreline

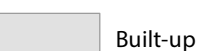
 Lakes / Rivers


PLACES


 Capital City / City

 Capital Town / Town

LAND USE

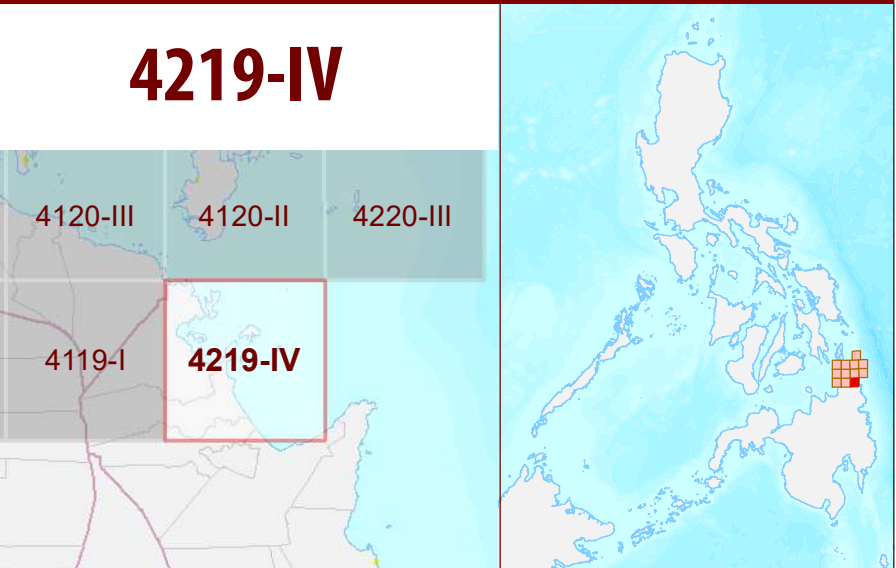
 Built-up

 Fishpond

 Mangrove

ADJOINING SHEETS

4219-IV



MISCELLANEOUS INFORMATION

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