

# **LAND SUITABILITY MAP**

## **CACAO**

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

### **PROVINCE OF DAVAO DEL NORTE**



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

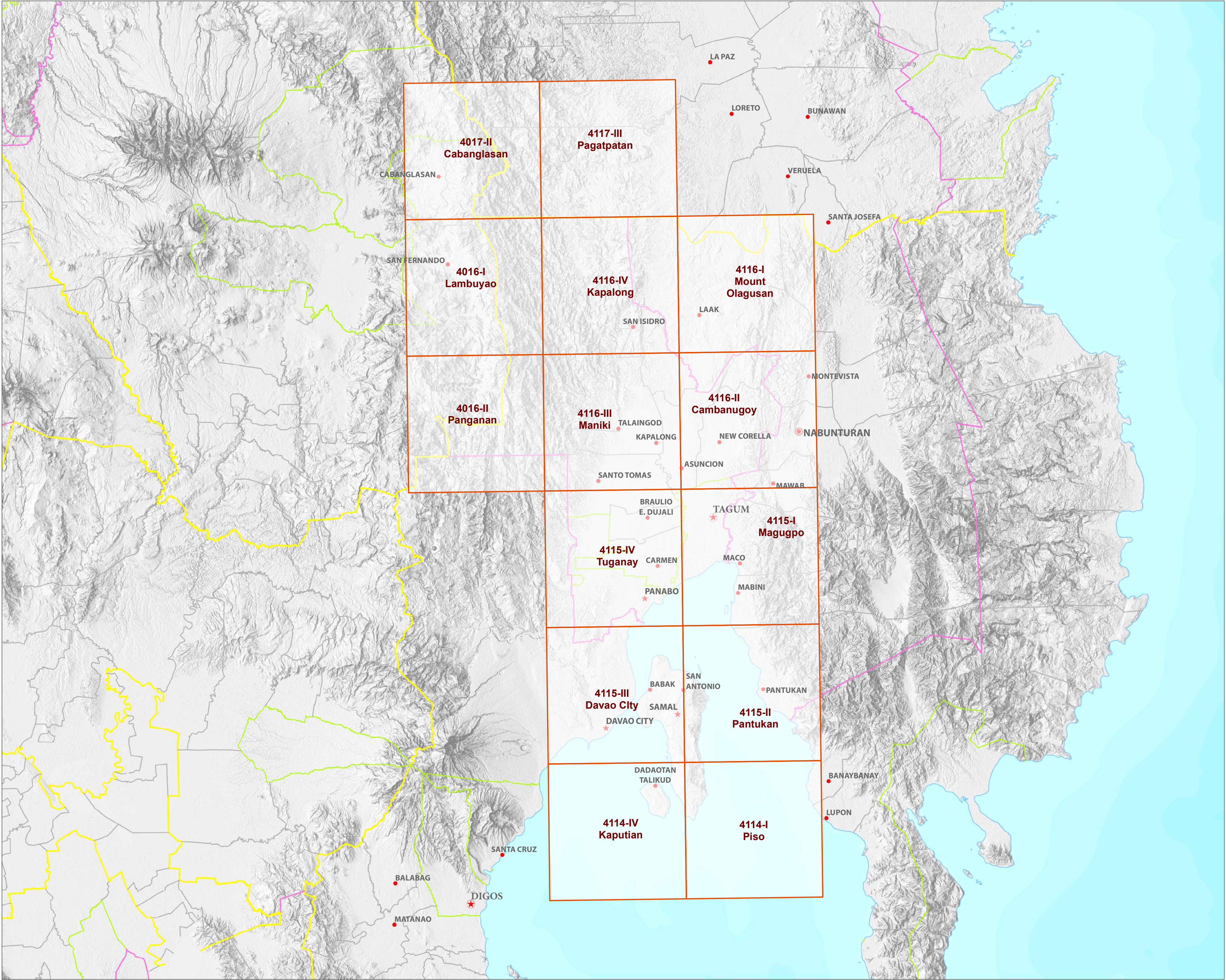
SRDC Bldg., Elliptical Road Cor. Visayas Avenue, Diliman, Quezon City 1101  
Tel/Fax No.: (+632) 332-9534 E-mail: [bswmclientcenter@yahoo.com](mailto:bswmclientcenter@yahoo.com)



# MAP INDEX

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

### PROVINCE OF DAVAO DEL NORTE



**LEGEND**

**Places**

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

**Administrative Boundary**

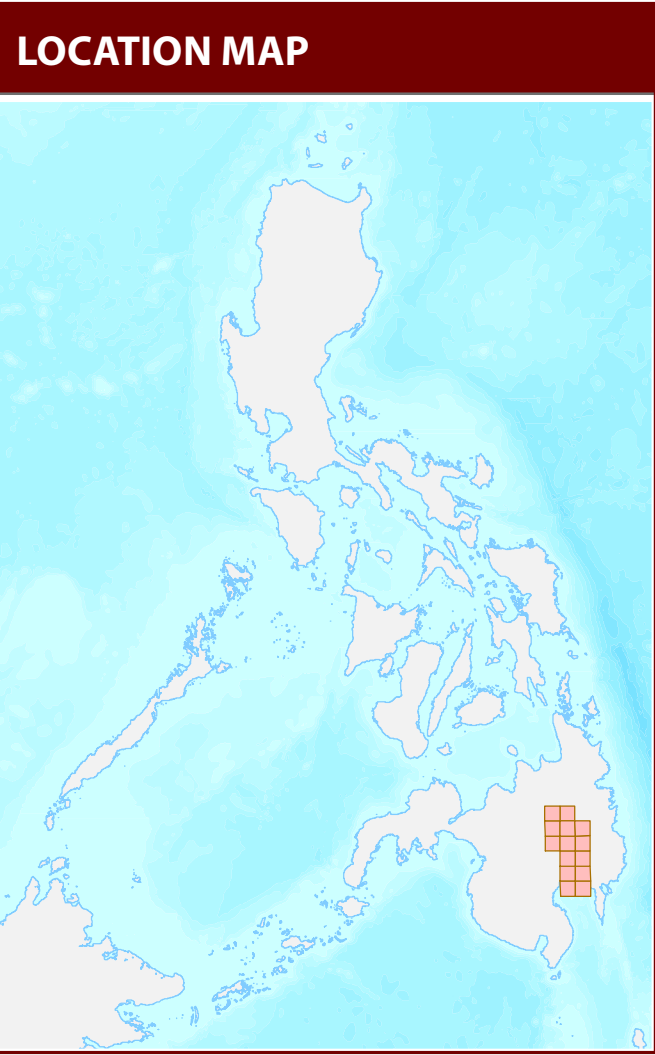
- Regional
- Provincial
- City
- Municipal

**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).

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: [bswmclientcenter@yahoo.com](mailto:bswmclientcenter@yahoo.com)



# LAND SUITABILITY MAP FOR CACAO

## LAND RESOURCES EVALUATION AND SUITABILITY ASSESSMENT OF STRATEGIC PRODUCTION AREAS DAVAO DEL NORTE, REGION XI

### 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*		Banana		Corn		Mango		Other crops		
	S1	S2	S3		S1	S2	S1	S2	S1	S2	S1	S2	S1	S2	S1	S2			
ASUNCION	-	-	-	-	3,485	69	1,266	-	2,327	5	3,616	169	101	9	36	-	90	-	11,173
BRAULIO E. DUJALI	-	-	-	-	26	-	-	-	123	-	3,280	-	84	-	-	-	-	-	3,513
CARMEN	-	-	-	-	1,318	12	3	-	1,762	6	4,150	-	1,485	-	25	-	234	-	8,995
CITY OF PANABO	33	-	17	50	2,938	353	50	-	687	32	13,629	764	230	-	184	8	244	-	19,119
CITY OF TAGUM	-	-	-	-	9,053	390	-	-	414	47	1,823	83	19	-	-	-	87	13	11,927
ISLAND GARDEN CITY OF SAMAL	-	-	-	-	14,963	3,844	225	24	343	15	7	24	20	-	270	6	4	17	19,761
KAPALONG	-	-	-	-	64	6	2,828	358	4,394	480	6,137	156	134	46	549	3	2	1	15,159
NEW CORELLA	-	-	1	-	1,210	40	436	-	96	1	3,814	-	222	13	18	-	6,359	143	12,352
SAN ISIDRO	-	-	-	-	175	1	1,318	-	5,005	-	6	-	-	-	-	-	160	1	6,667
SANTO TOMAS	-	-	-	-	278	5	1,189	47	1,197	75	8,585	244	552	8	342	-	278	-	12,802
TALAINGOD	-	-	-	-	87	7	560	-	2,809	9	774	12	3	-	-	-	-	-	4,262
TOTAL	33	-	18	51	33,597	4,726	7,876	429	19,158	669	45,822	1,452	2,849	76	1,423	16	7,458	175	125,728

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:

<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 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	

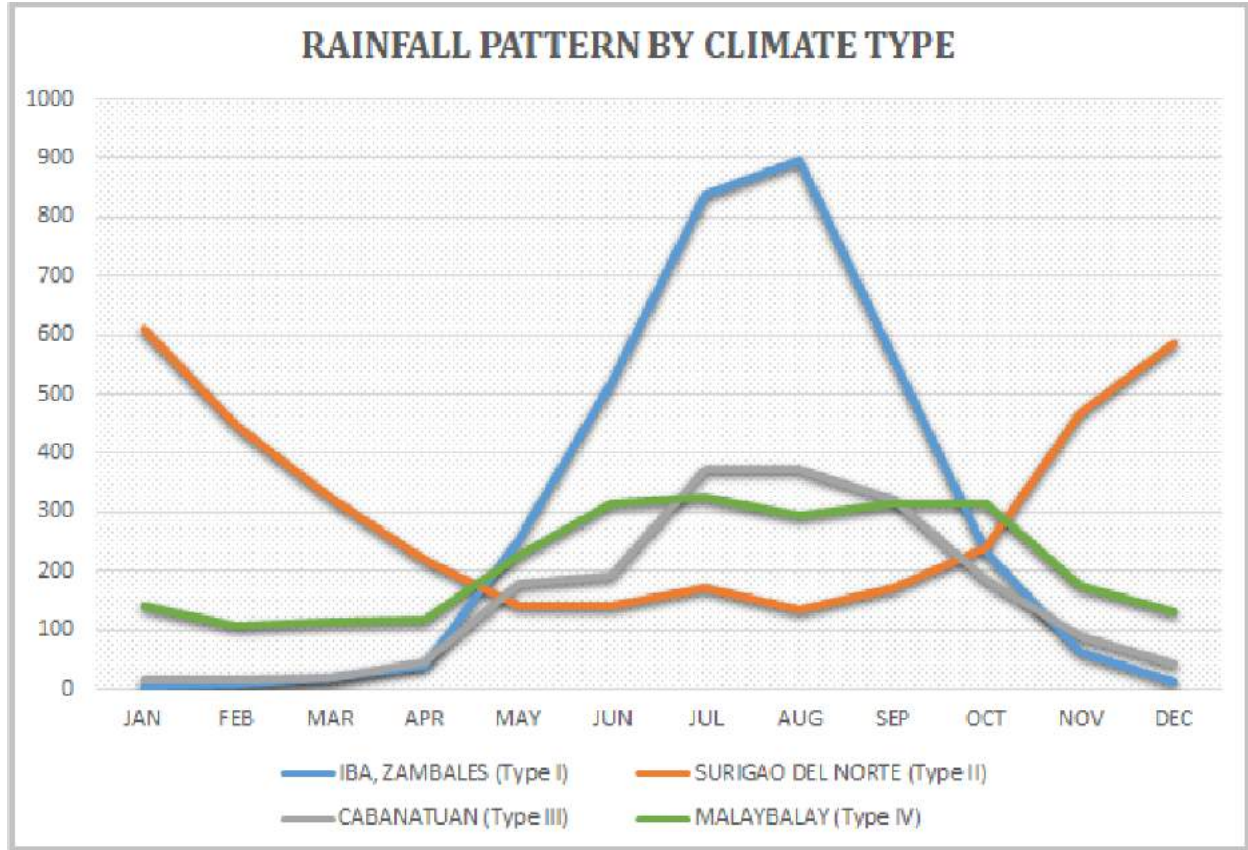
<b>SLOPE (%)</b> 0 - 3 - level to gently sloping 3 - 8 - gently sloping to undulating 8 - 18 - undulating to rolling 18 - 30 - rolling to moderately steep 30 - 50 - steep > 50 - very steep	<b>SOIL DRAINAGE</b> ED - excessively drained WD - well drained MWD - moderately well drained SPD - somewhat poorly drained PD - poorly drained VPD - very poorly drained	<b>SOIL REACTION (pH)</b> < 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	<b>SOIL TEXTURE</b> <b>Coarse</b> S - sand LS - loamy sand CSL - coarse sandy loam SL - sandy loam <b>Medium</b> FSL - fine sandy loam L - loam SiL - silt loam CL - clay loam SiCL - silty clay loam SCL - sandy clay loam	<b>Fine</b> SC - sandy clay SiC - silty clay C - clay HC - heavy clay
<b>SOIL DEPTH (cm)</b> 0 - 30 - very shallow 30 - 50 - shallow 50 - 100 - moderately deep > 100 - deep to very deep	<b>SURFACE IMPEDIMENT</b> ROCK OUTCROPS < 10% - none - few 10 - 30% - common > 30% - many			

### LAND LIMITATIONS DESCRIPTION AND COMBINATIONS

<b>ELEVATION</b> EI2 - 1000m - 1500m EI3 - > 1500m	<b>SOIL DRAINAGE</b> D2 - Somewhat poorly drained to poorly drained D3 - Very poorly drained or excessively drained	<b>SOIL DEPTH</b> Sh2 - Moderately deep (50 - 100cm) Sh3 - Very shallow to shallow (< 50cm)	<b>SOIL EROSION</b> E2 - Moderate erosion E3 - Severe erosion
<b>SLOPE/TOPOGRAPHY</b> T2 - Undulating to moderately steep T3 - Steep to very steep	<b>SOIL TEXTURE</b> Tc - Coarse texture	<b>ROCK OUTCROPS</b> Rc2 - Common Rc3 - Many	<b>FLOODING</b> F2 - Moderate seasonal flooding F3 - Severe seasonal flooding

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

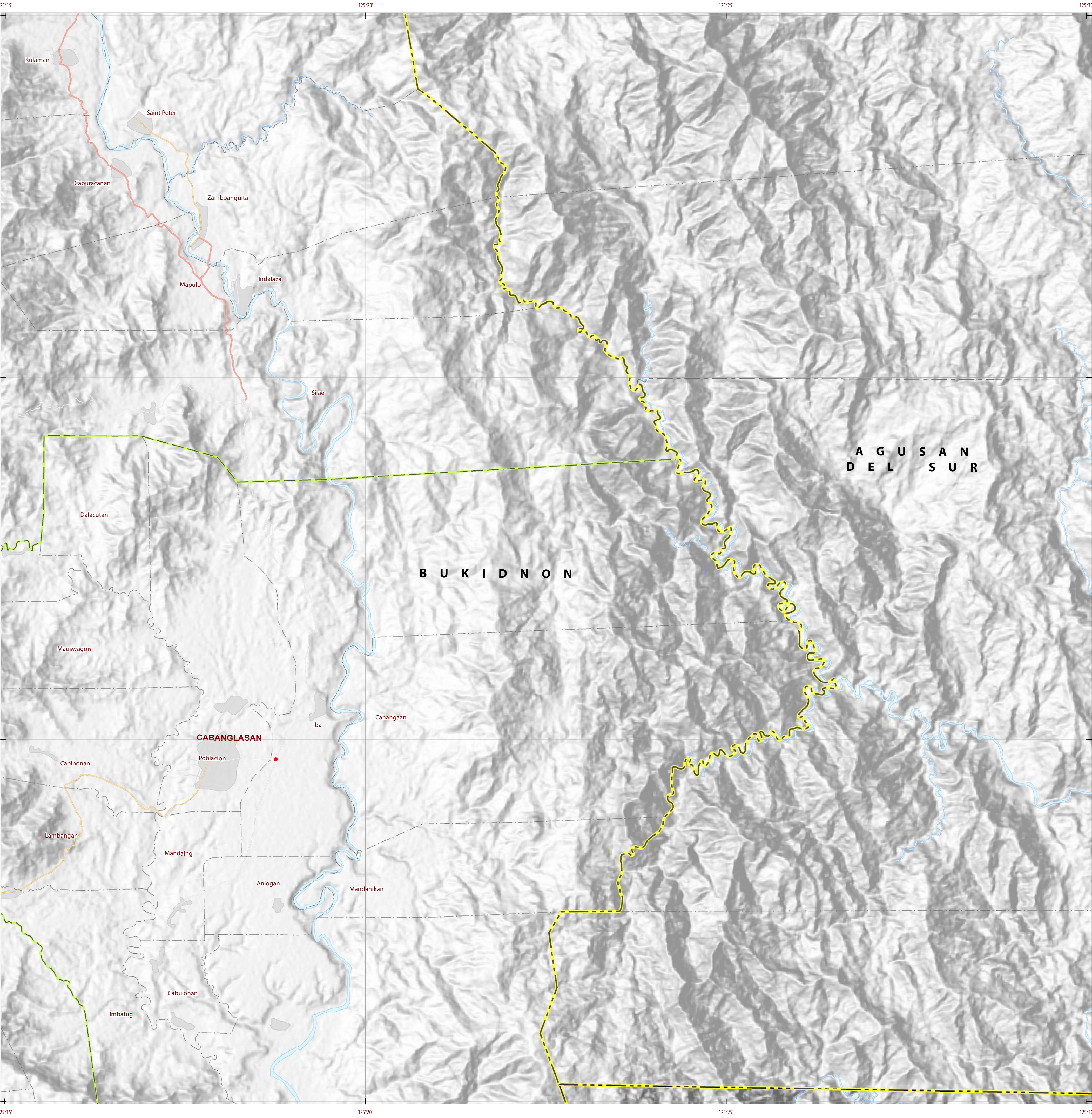
CODE	LANDUSE	CODE	LANDUSE
4	Corn	134	Shrubs, unmanaged
47	Vegetable	137	Rubber (T)
81	Coffee		
85	Mango		
90	Pomelo		
91	Banana		
105	Fruit trees, mixed		
116	Coconut		
119	Oil palm		
126	Grassland		



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>>.

Davao Del Norte is classified as climatic Type 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.

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

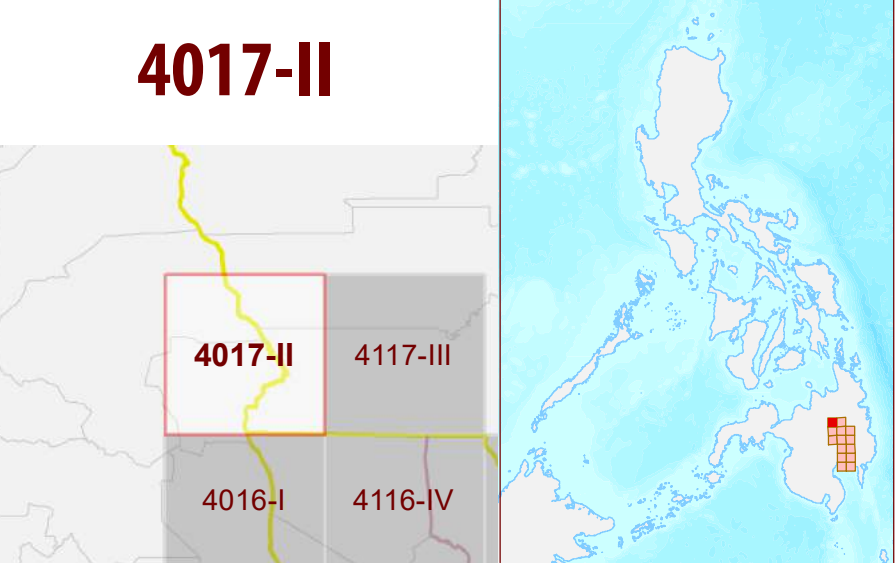
OTHER SIGNS

- 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).

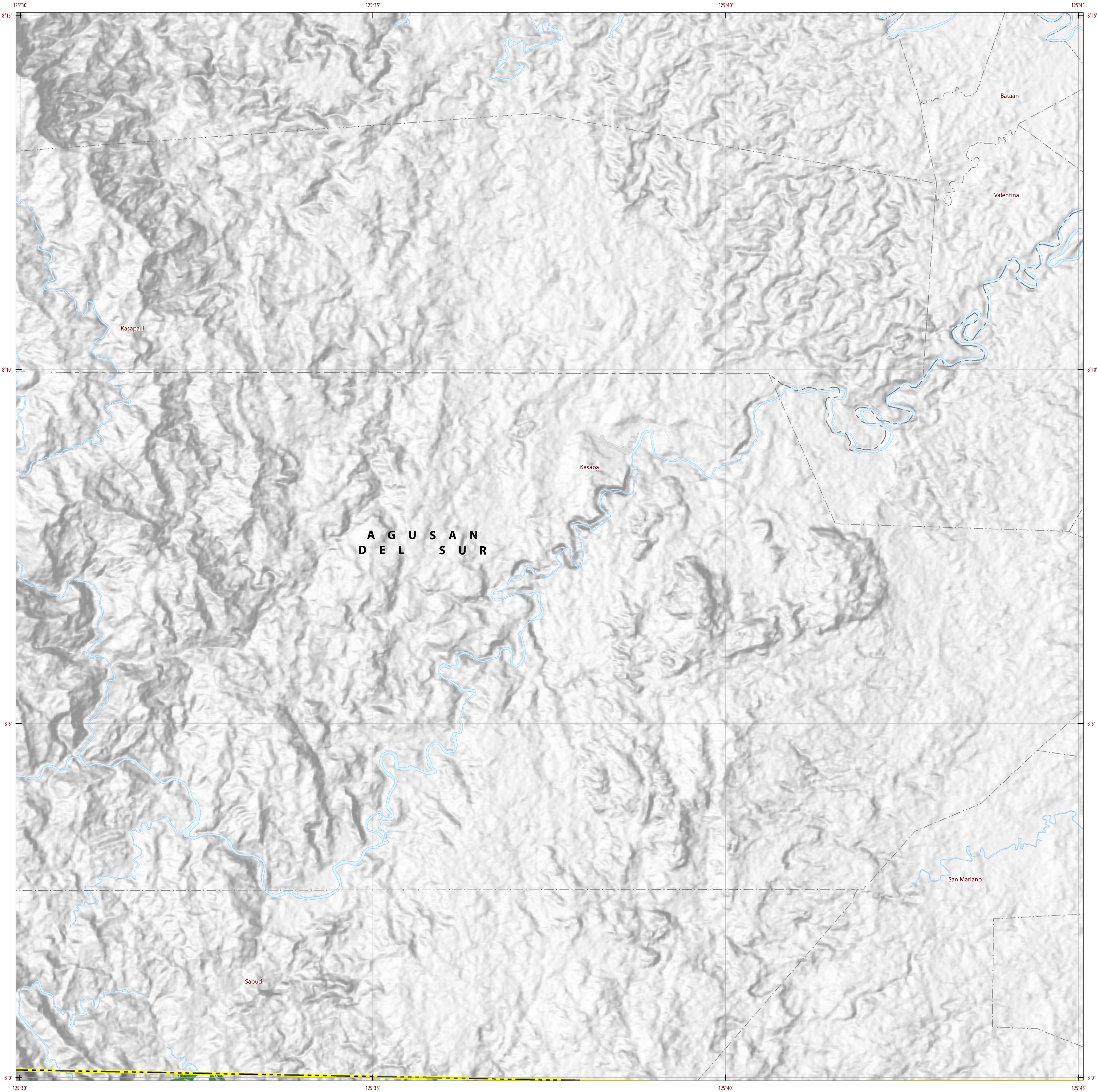
Project Leader : BERNARDO B. PASCUA  
GIS and Cartography : IRVIN K. SAMALCA  
Funding Agency : Department of Agriculture - Bureau of Agricultural Research (DA-BAR)  
Collaborating Agencies : Philippine Council on Agriculture and Fisheries (PCAF)  
: Department of Agriculture and Fisheries - ARMM, Department 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 Cacao of the PROVINCE OF DAVAO DEL NORTE (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. Wisayas Avenue, Dilliman, Quezon City 1101  
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**

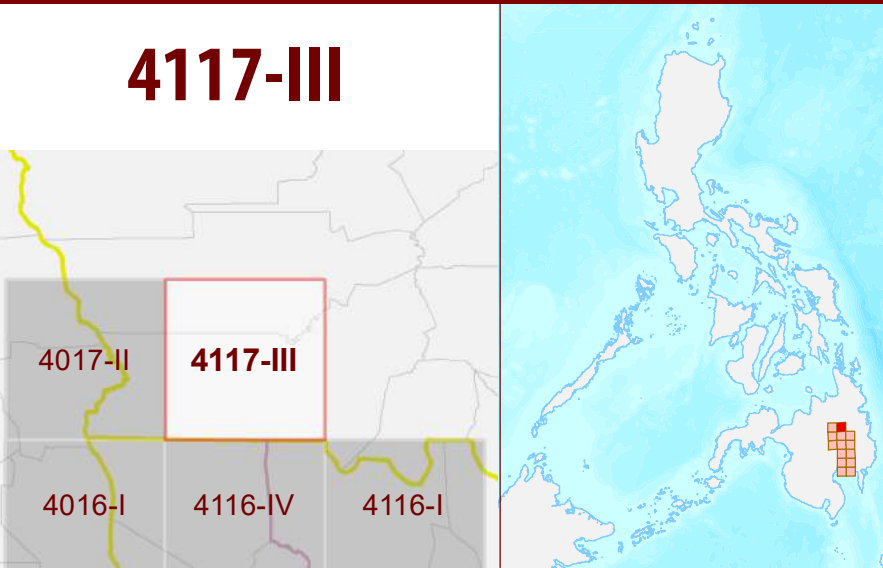
##### OTHER SIGNS

- 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



#### 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), Soil 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

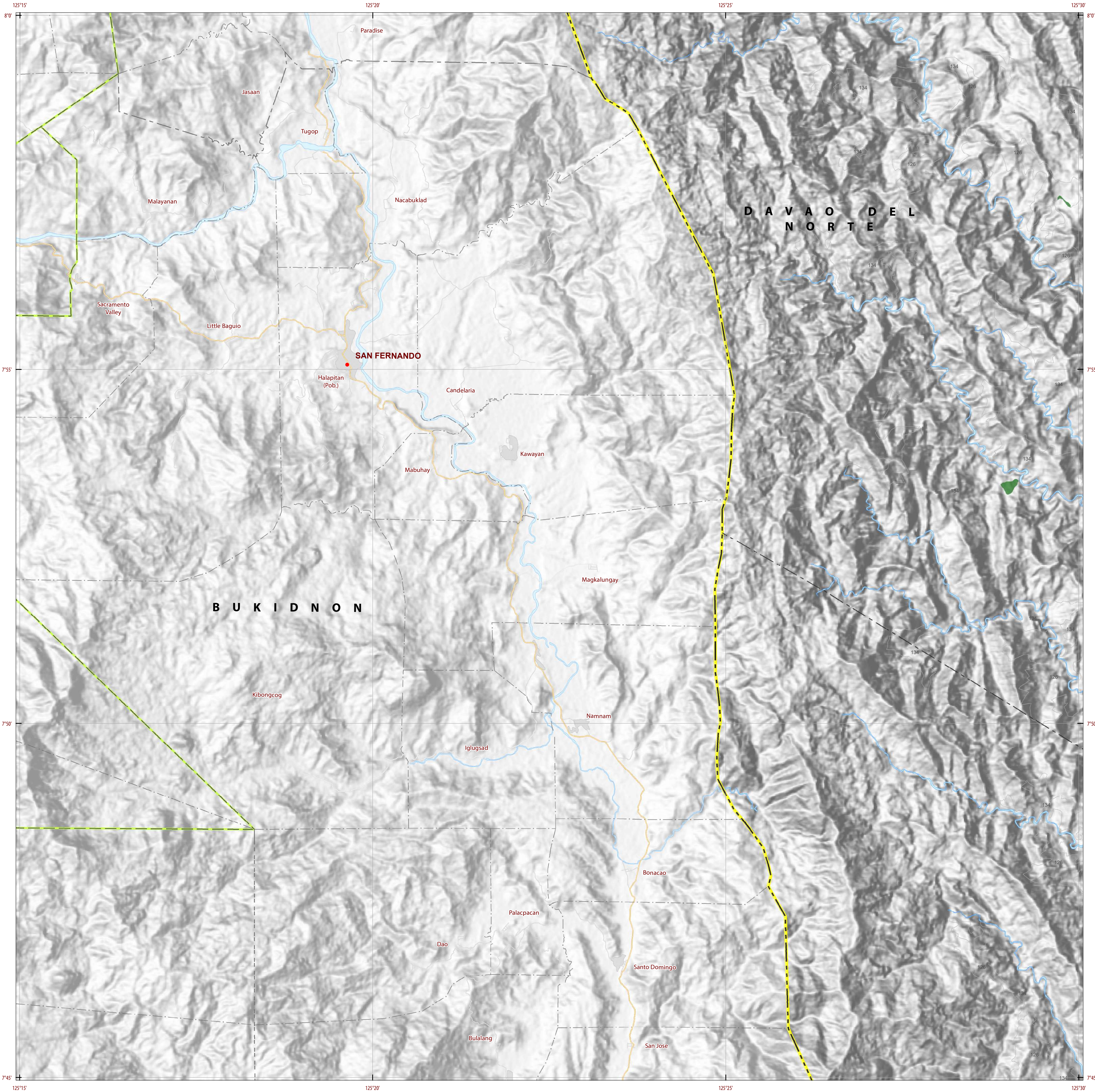
Map produced by the Geomatics and Soil Information Technology Division, Bureau of Soils and Water Management (BSWM). Users noting errors or omissions in this publication are requested to inform the Bureau of Soils and Water Management.






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 Cacao of the PROVINCE OF DAVAO DEL NORTE (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: bswmcenter@da.gov.ph

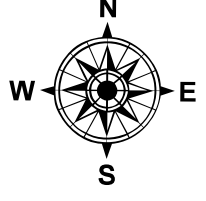






LAND SUITABILITY MAP  
CACAO

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.

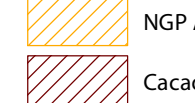
S3


Marginally Suitable

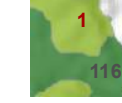
- Land having limitations which in aggregate are severe for sustained application of a given use and will so reduce productivity or benefits, or increase required inputs, that this expenditure will be only marginally justified.


Not Suitable/ Not Relevant

OTHER SIGNS

 NGP Areas


 Cacao

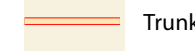
 Land limitation


 Land use

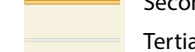
CONVENTIONAL SIGNS

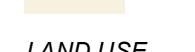
ROADS

 Expressway


 Trunk line


 Primary


 Secondary

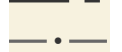
 Tertiary


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

4016-I

4017-II

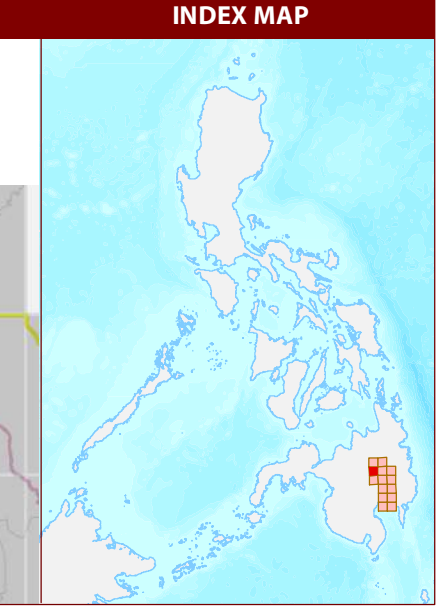
4117-III

4016-I

4116-IV

4016-II

4116-III



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

: IRWIN 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 Cacao of the PROVINCE OF DAVAO DEL NORTE (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, Dilliman, Quezon City 1101

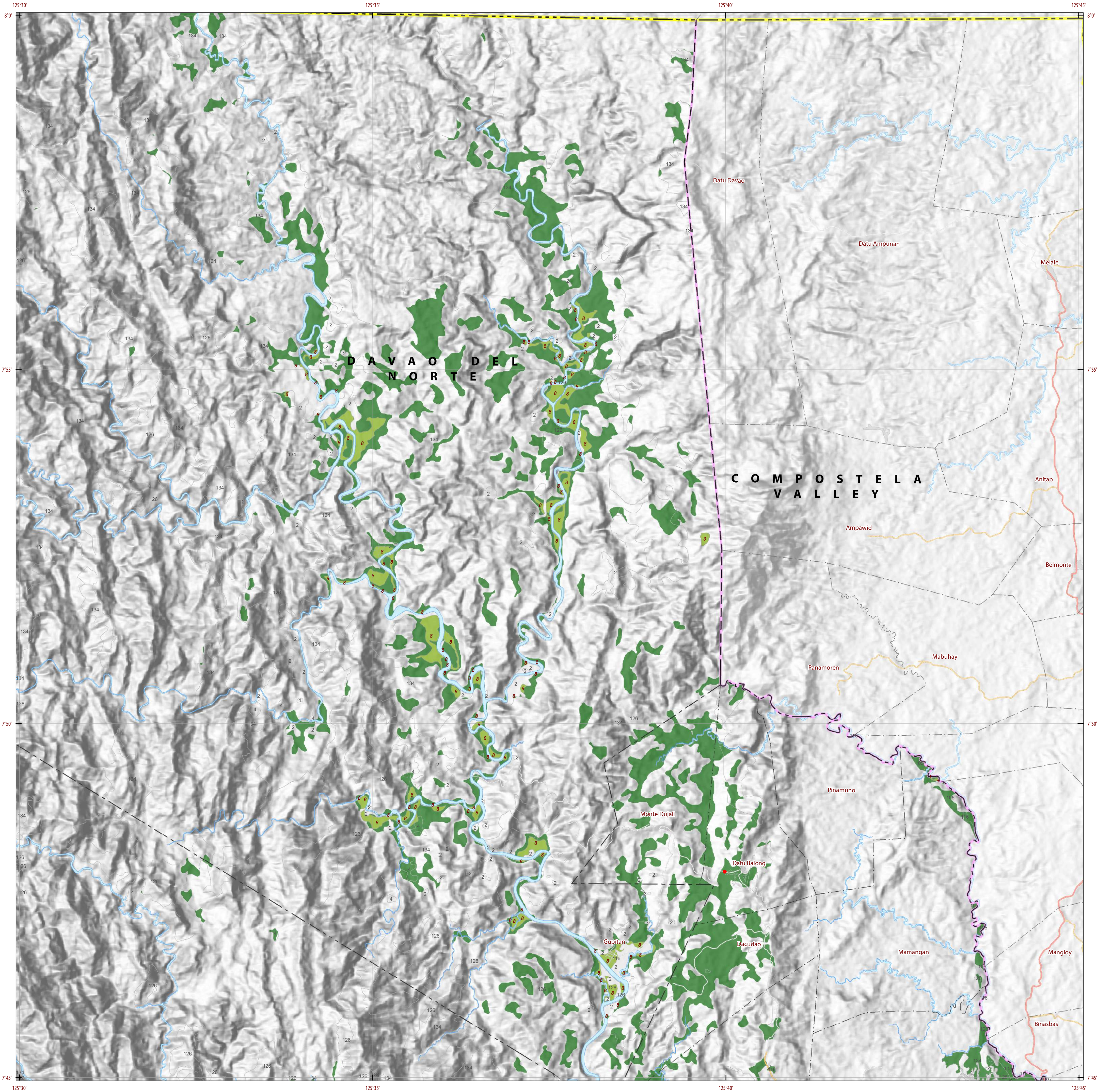
Tel/Fax No. : (+632) 332-9534 E-mail: bswmcenter@da.gov.ph

PROVINCE OF DAVAO DEL NORTE

Sheet 3 of 14

Sheet No. 4016-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  
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

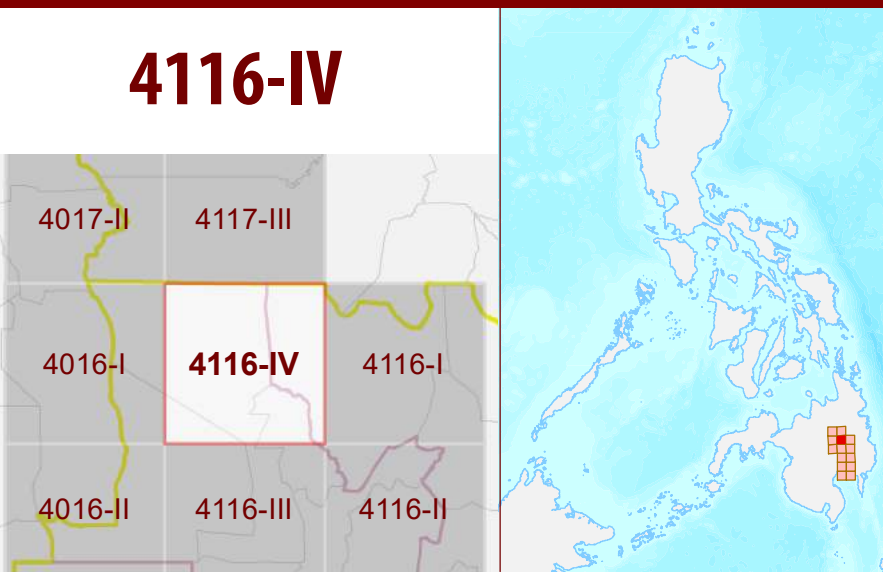
##### OTHER SIGNS

- 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), Soil 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).

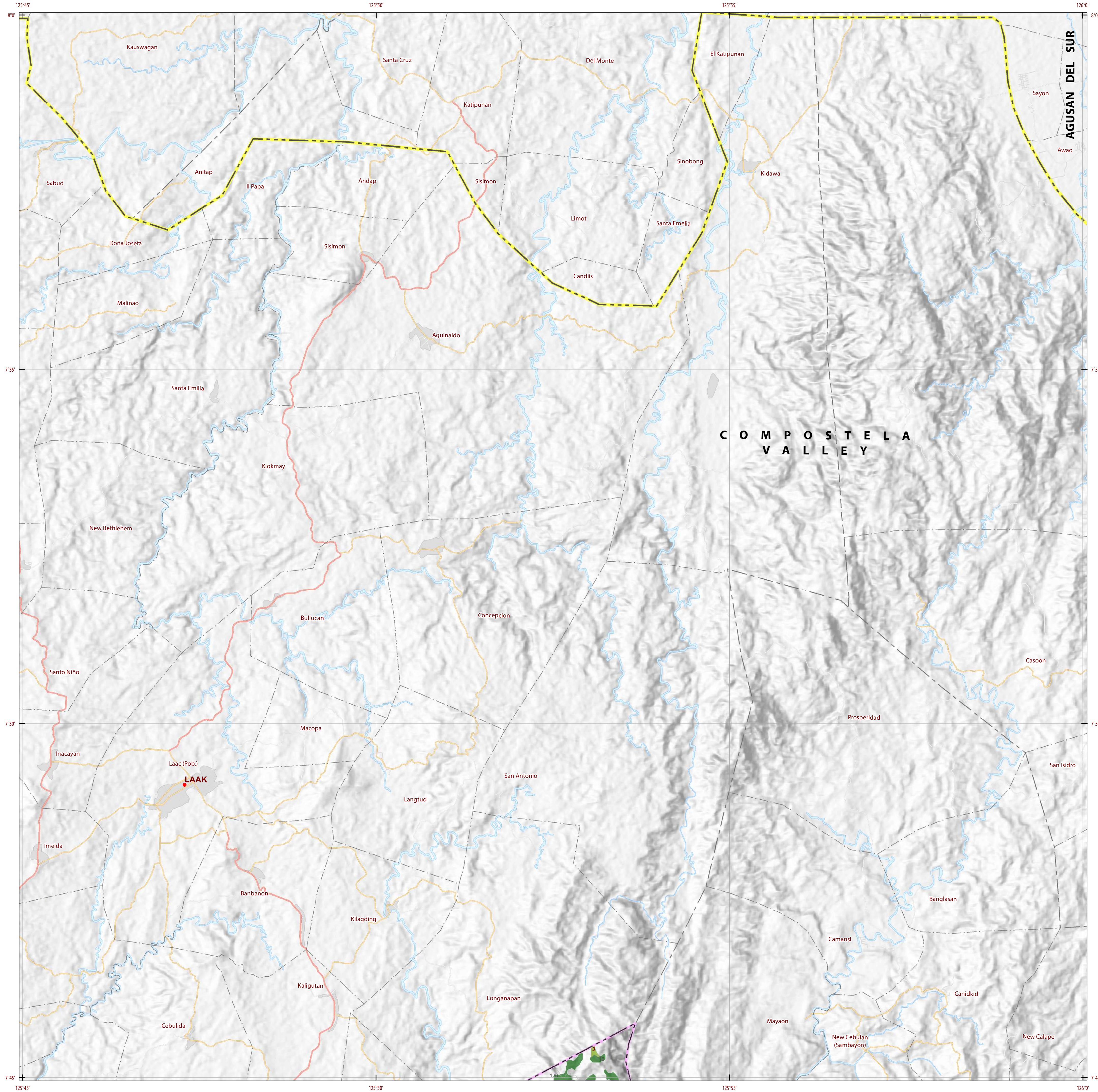
Project Leader : BERNARDO B. PASCUA  
GIS and Cartography : IRVIN K. SAMALCA  
Funding Agency : Department of Agriculture - Bureau of Agricultural Research (DA-BAR)  
Collaborating Agencies : Philippine Council on Agriculture and Fisheries (PCAF)  
: Department of Agriculture and Fisheries - ARMM, Department 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 Cacao of the PROVINCE OF DAVAO DEL NORTE (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: bswmcenter@da.gov.ph

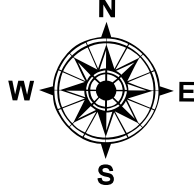





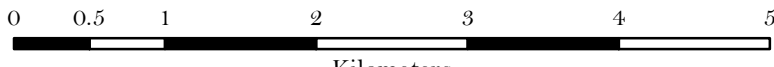


LAND SUITABILITY MAP  
CACAO

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

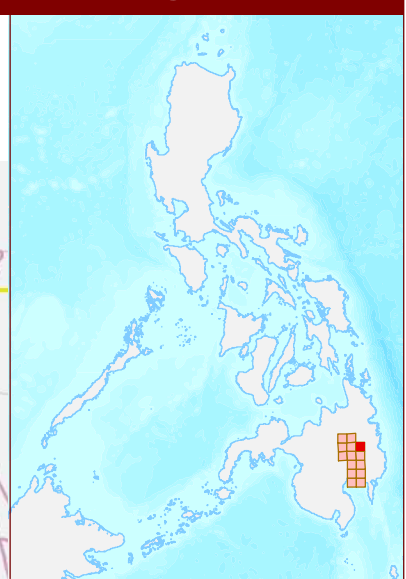
Built-up

Fishpond

Mangrove

ADJOINING SHEETS

4116-I



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), Soil 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 Cacao of the PROVINCE OF DAVAO DEL NORTE (50,000 Scale). CC BY NC SA 4.0.

REPUBLIC OF THE PHILIPPINES

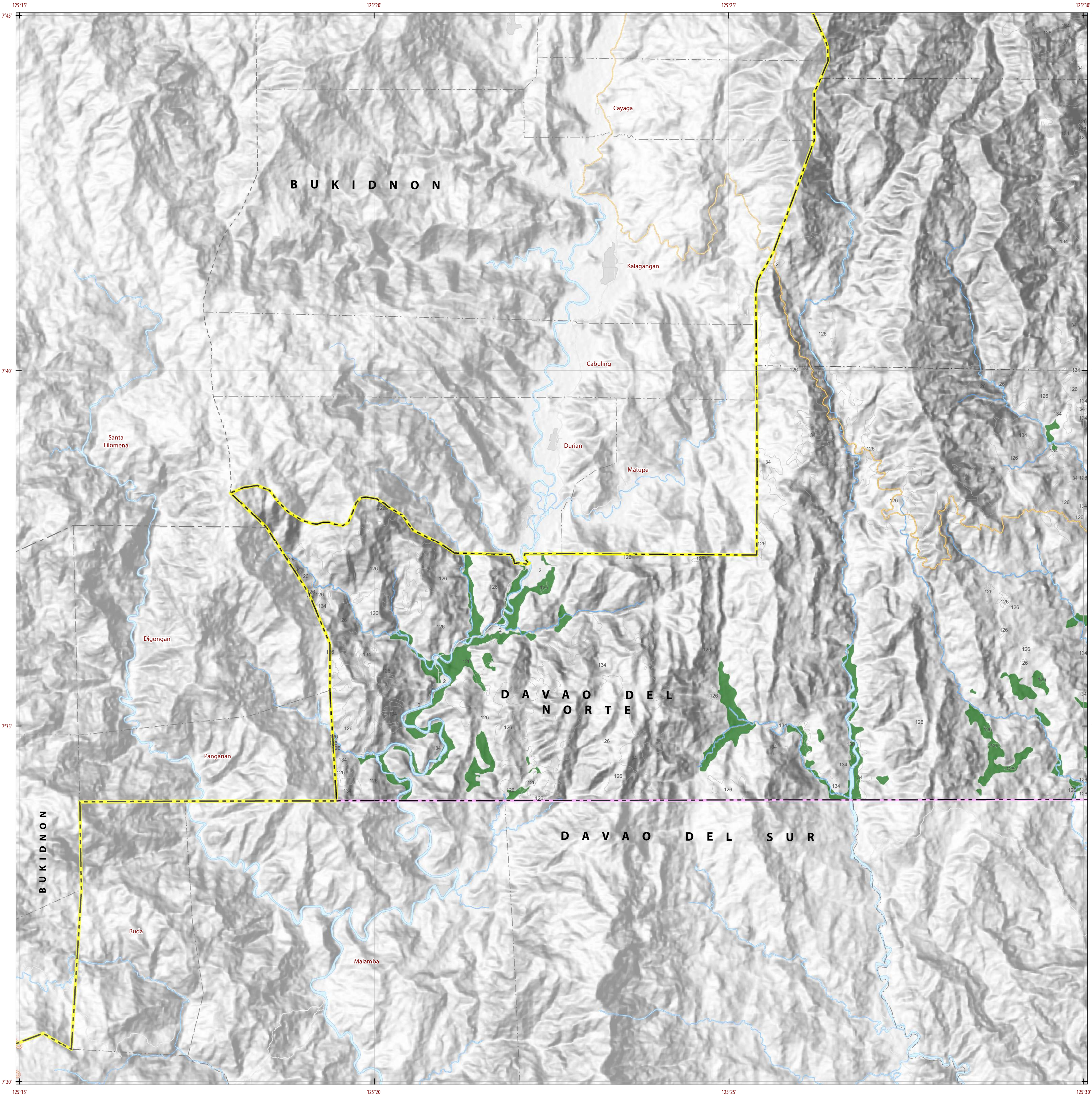
DEPARTMENT OF AGRICULTURE

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@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**

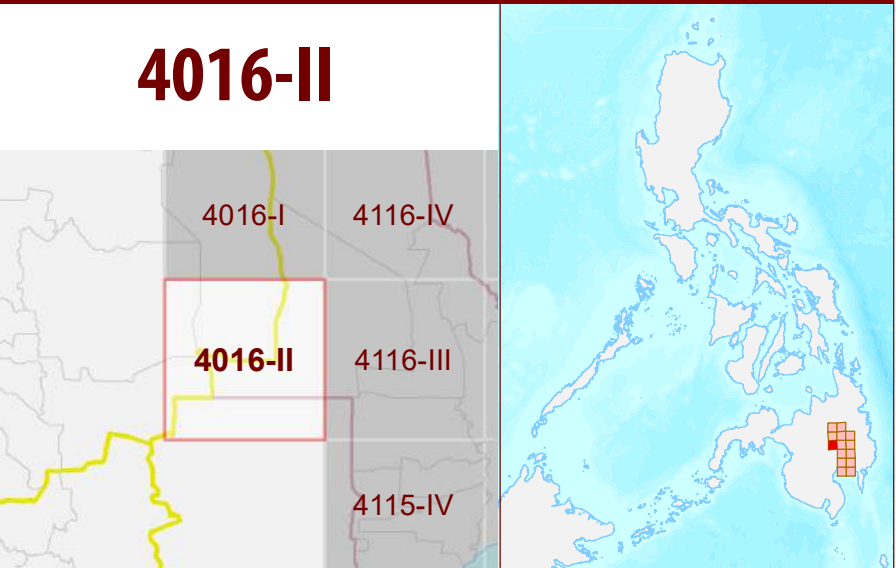
##### OTHER SIGNS

- 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



#### 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

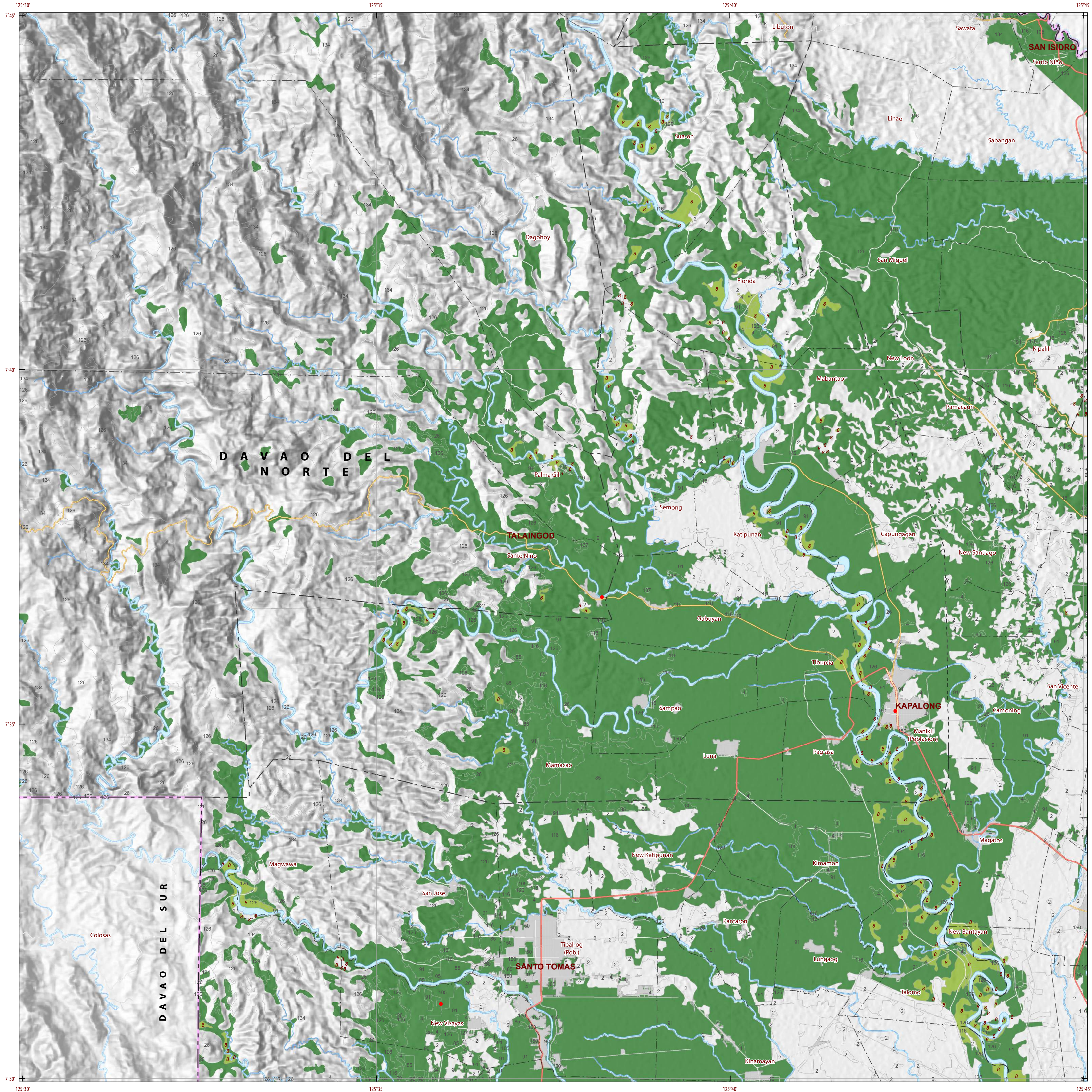
Map produced by the Geomatics and Soil Information Technology Division, Bureau of Soils and Water Management (BSWM).  
Users noting errors or omissions in this publication are requested to inform the Bureau of Soils and Water Management.



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 Cacao of the PROVINCE OF DAVAO DEL NORTE (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, Dilliman, Quezon City 1101  
Tel/Fax No. : (+632) 332-9534 E-mail: bswmclientcenter@yahoo.com





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

4116-III

4016-I

4116-IV

4116-I

4016-II

4116-III

4116-II

4115-IV

4115-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), Soil 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)

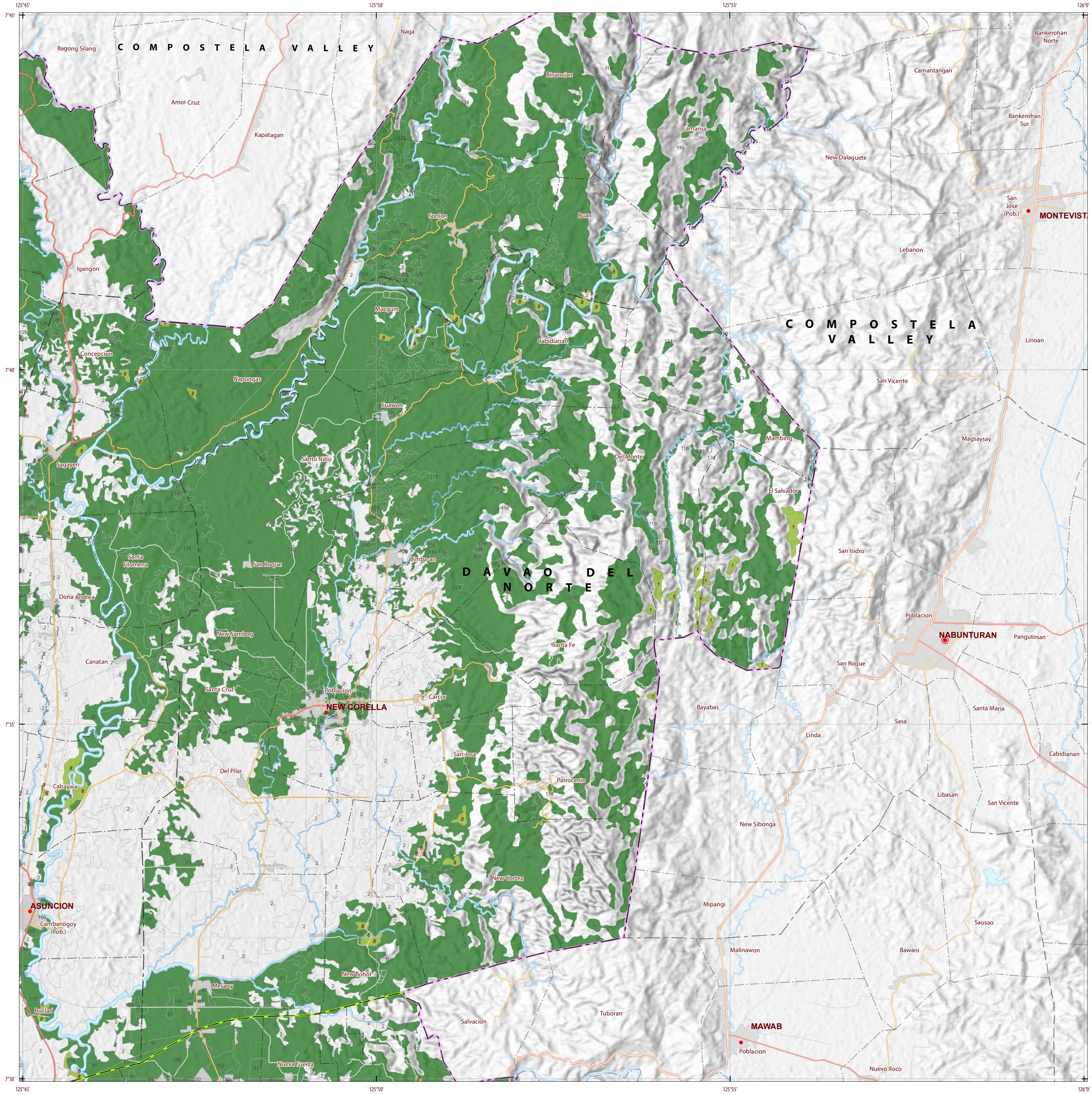
Collaborating Agencies : Philippine Council on Agriculture and Fisheries (PCAF)  
: Department of Agriculture and Fisheries - ARMM, Department of Agriculture Regional Field Office of Region IX, X, XII and XIII (Caraga)  
: Local Government Unit (LGU) of covered provinces and municipalities

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 Cacao of the PROVINCE OF DAVAO DEL NORTE (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: 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

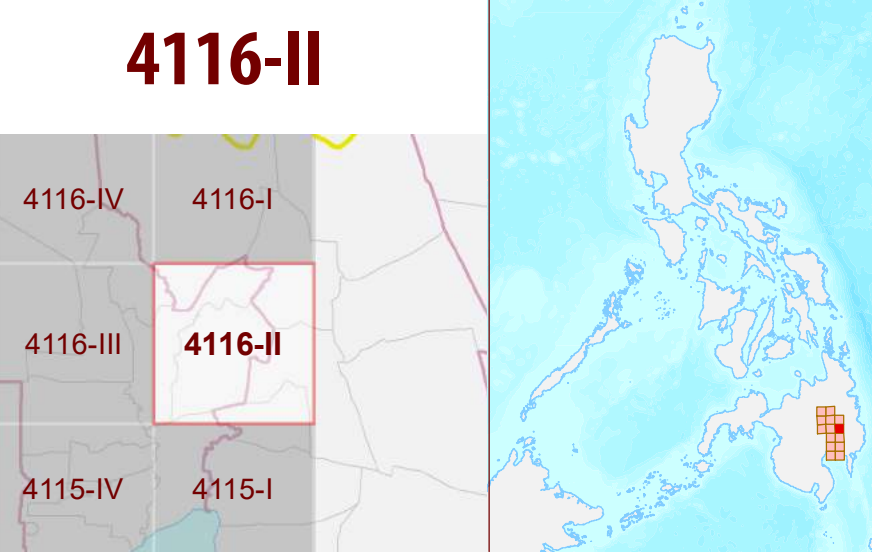
##### OTHER SIGNS

- 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



#### 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, 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 Cacao of the PROVINCE OF DAVAO DEL NORTE (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, Dilliman, Quezon City 1101  
Tel/Fax No. : (+632) 332-9534 E-mail: bswmclientcenter@da.gov.ph





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



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

### SUITABILITY CLASSES

- ☐
- Not Suitable/ Not Relevant

 NGP.

- Land limitation**  
**Land use**

## ROADS


- LAND USE
- |   |          |   |          |   |          |
|---|----------|---|----------|---|----------|
|  | Built-up |  | Fishpond |  | Mangrove |
|---|----------|---|----------|---|----------|

## INDEX MAP

**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

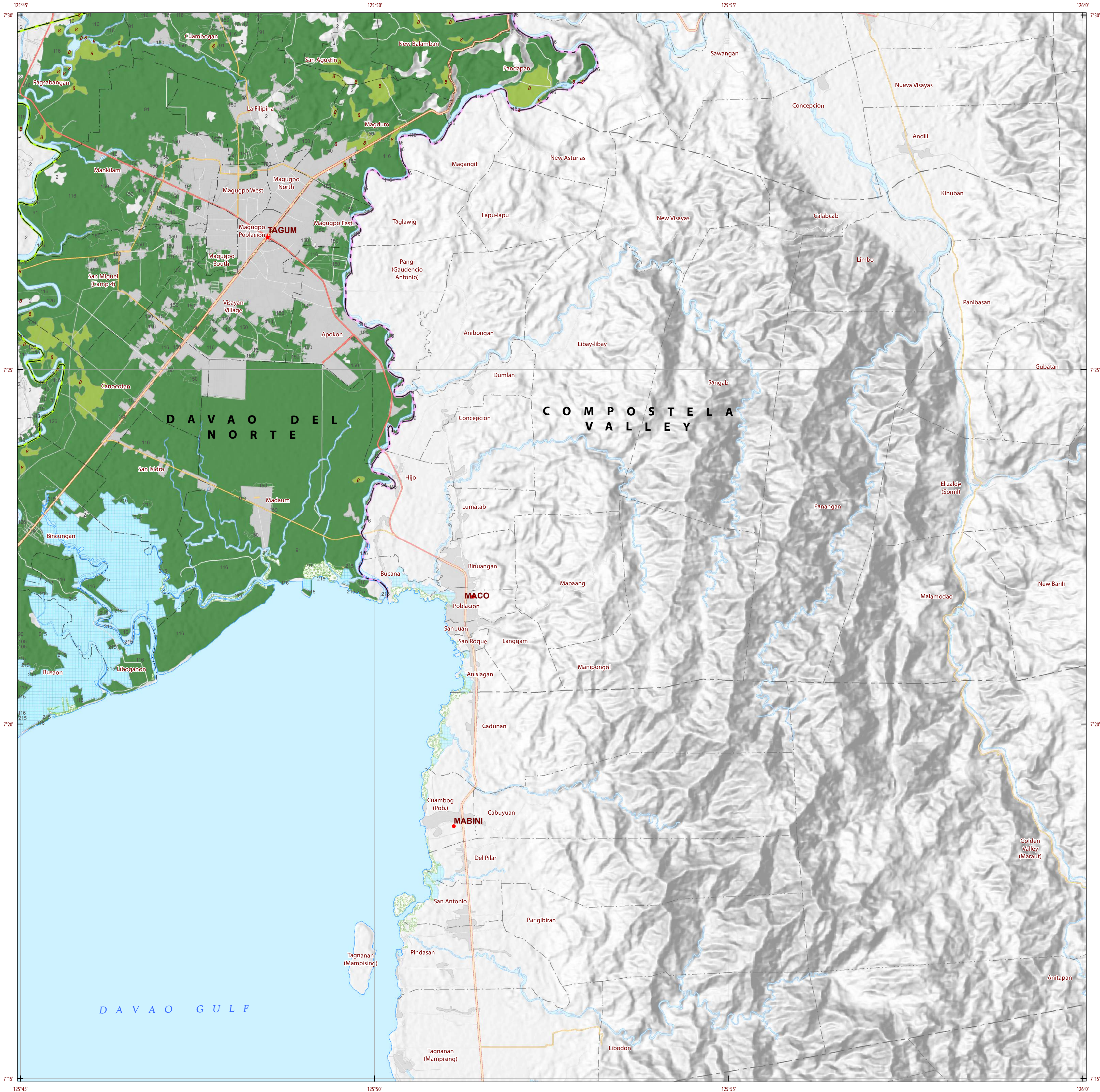
Map produced by the Geomatics and Soil Information Technology Division, Bureau of Soils and Water Management (BSWM).  
Users noting errors or omissions in this publication are requested to inform the Bureau of Soils and Water Management.




 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 Cacao of the PROVINCE OF DAVAO DEL NORTE (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](mailto:bswmclientcenter@yahoo.com)

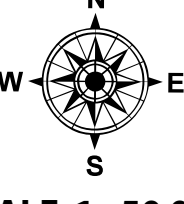




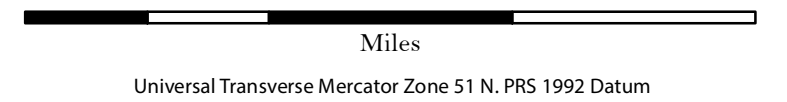
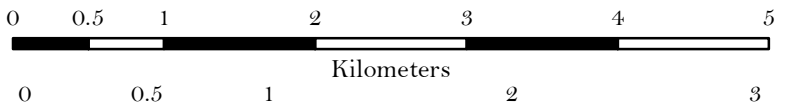


LAND SUITABILITY MAP  
CACAO

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.

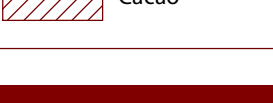
S3

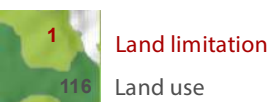
**Marginally Suitable** - Land having limitations which in aggregate are severe for sustained application of a given use and will so reduce productivity or benefits, or increase required inputs, that this expenditure will be only marginally justified.


**Not Suitable/ Not Relevant**

OTHER SIGNS

 NGP Areas






 Cacao

 Land limitation






 Land use

CONVENTIONAL SIGNS



**ROADS**

-  Expressway
-  Trunk line
-  Primary
-  Secondary
-  Tertiary



**BOUNDARY**

-  Region
-  Province
-  District
-  Municipality
-  Barangay

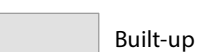


**HYDROLOGY**

-  Sea / Shoreline
-  Lakes / Rivers

**PLACES**

-  Capital City / City
-  Capital Town / Town

**LAND USE**

-  Built-up
-  Fishpond
-  Mangrove

ADJOINING SHEETS

INDEX MAP

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), Soil 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 Cacao of the PROVINCE OF DAVAO DEL NORTE (50,000 Scale)* . CC BY NC SA 4.0.

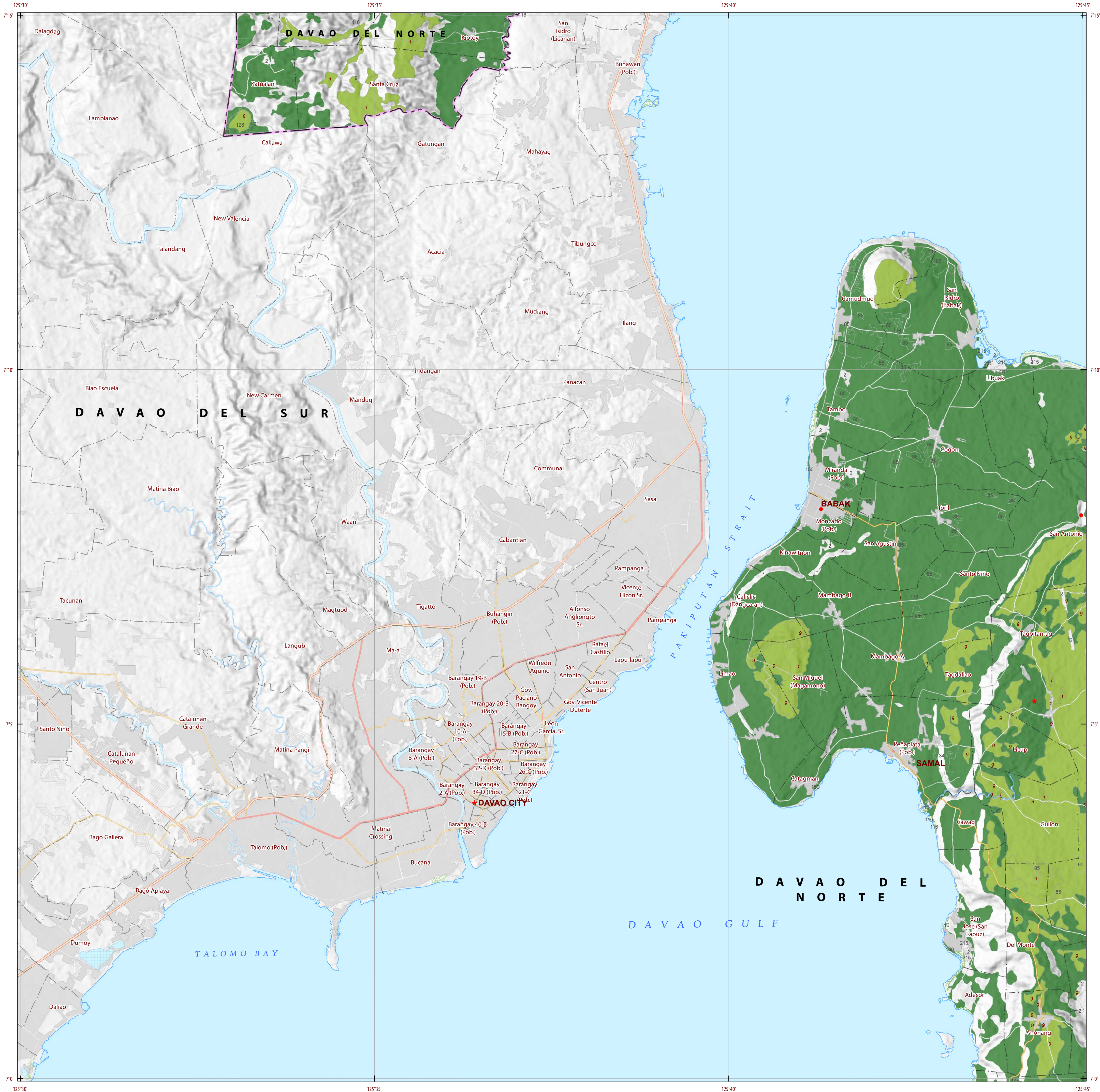
REPUBLIC OF THE PHILIPPINES  
DEPARTMENT OF AGRICULTURE  
BUREAU OF SOILS AND WATER MANAGEMENT  
SRDC Bldg, Elliptical Road Cor. Visayas Avenue, Diliman, Quezon City 1101  
Tel/Fax No. : (+632) 332-9534 E-mail: bswmidentcenter@da.gov.com




PROVINCE OF DAVAO DEL NORTE

Sheet 10 of 14

Sheet No. 4115-I

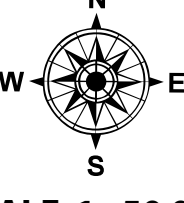





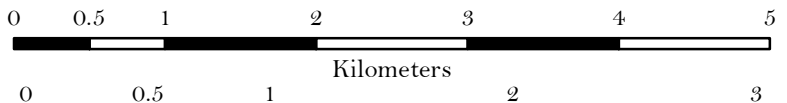


LAND SUITABILITY MAP  
CACAO

LAND RESOURCES EVALUATION AND SUITABILITY  
ASSESSMENT OF STRATEGIC PRODUCTION AREAS



SCALE 1 : 50 000



Universal Transverse Mercator Zone 51 N, PRS 1992 Datum  
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

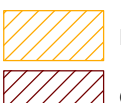
**Moderately Suitable** - Land having limitations which in aggregate are moderately severe for sustained application of a given use; the limitations will reduce productivity or benefits and increase required inputs to the extent that the overall advantage to be gained from the use, although still attractive,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

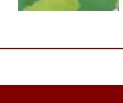
**Not Suitable/ Not Relevant**

OTHER SIGNS

 NGP Areas


 Cacao


 Land limitation

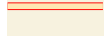
 Land use


CONVENTIONAL SIGNS

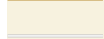
**ROADS**

 Expressway

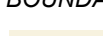
 Trunk line


 Primary

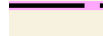
 Secondary

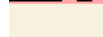
 Tertiary


**BOUNDARY**

 Region


 Province

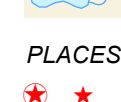
 District

 Municipality


 Barangay


**HYDROLOGY**

 Sea / Shoreline

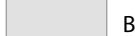
 Lakes / Rivers


**PLACES**


 Capital City / City

 Capital Town / Town

**LAND USE**

 Built-up

 Fishpond

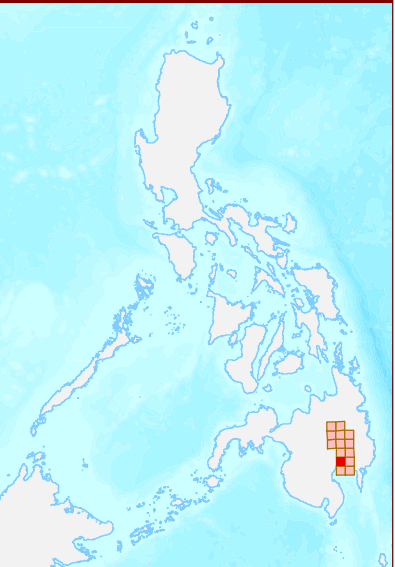
 Mangrove

ADJOINING SHEETS

4115-III

4115-IV 4115-I  
4115-III 4115-II  
4114-IV 4114-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).


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 Cacao of the PROVINCE OF DAVAO DEL NORTE (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: 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**

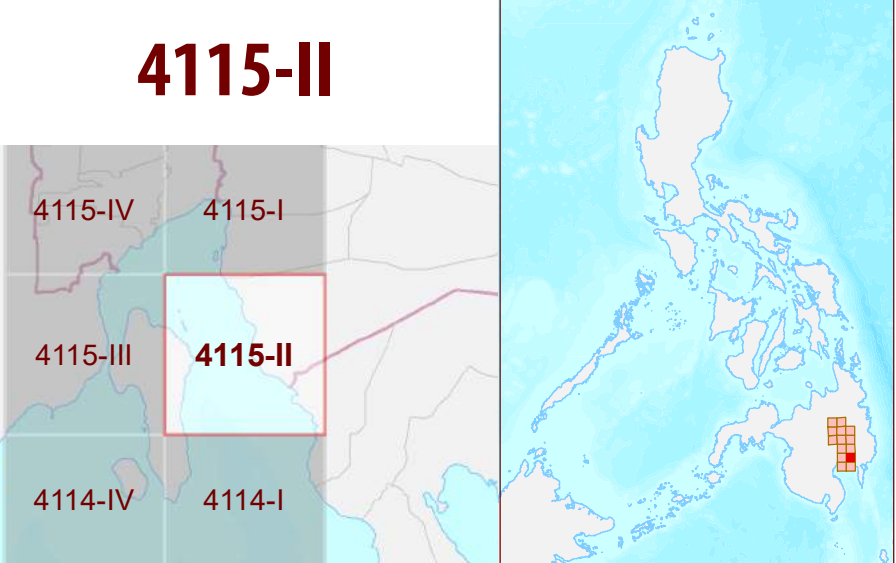
##### OTHER SIGNS

- 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



#### 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

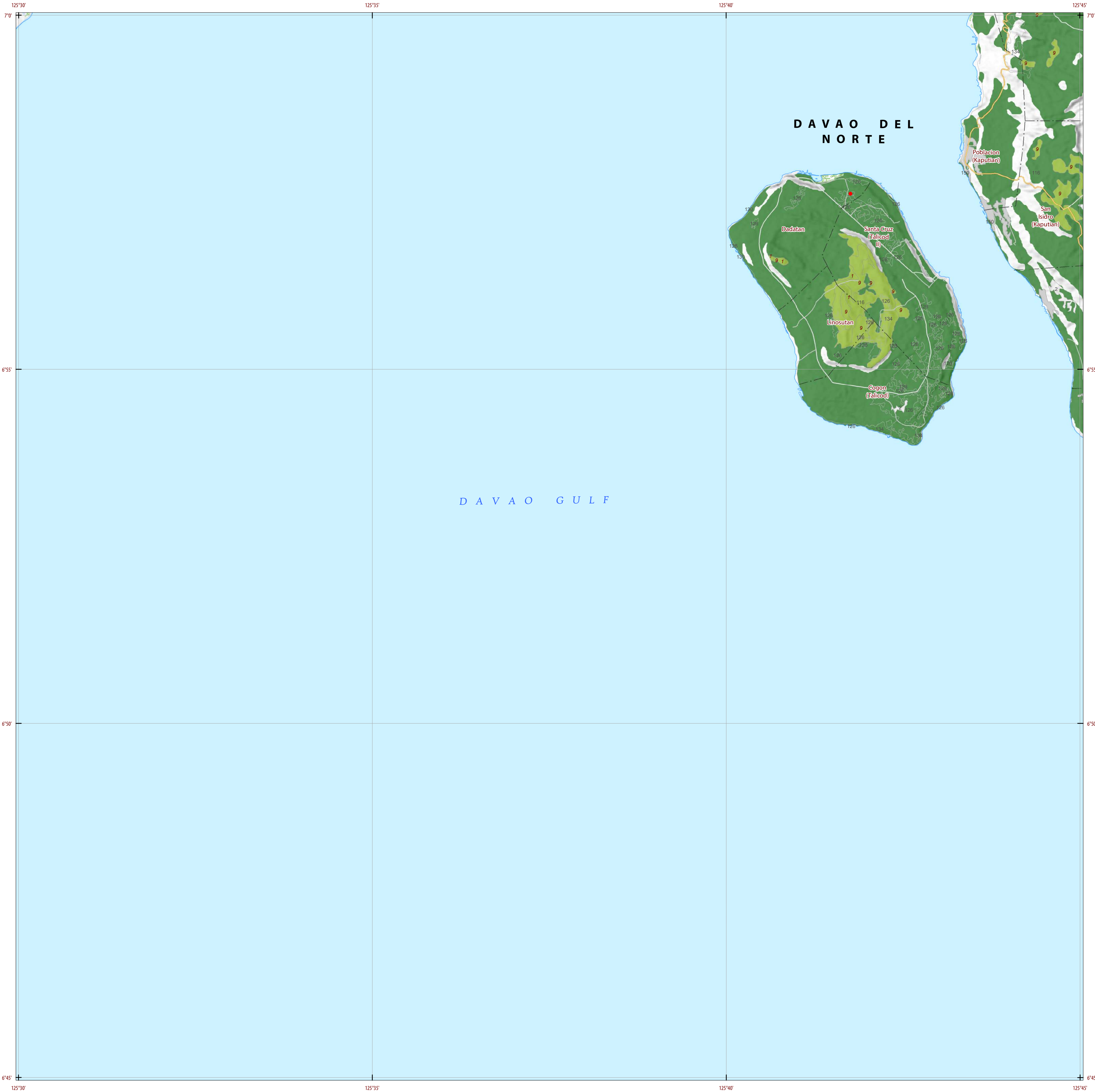
Funding Agency : Department of Agriculture - Bureau of Agricultural Research (DA-BAR)  
Collaborating Agencies : Philippine Council on Agriculture and Fisheries (PCAF)  
: Department of Agriculture and Fisheries - ARMM, Department of Agriculture Regional Field Office of Region IX, X, XI, XII and XIII (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 Cacao of the PROVINCE OF DAVAO DEL NORTE (50,000 Scale)*. CC BY NC SA 4.0.

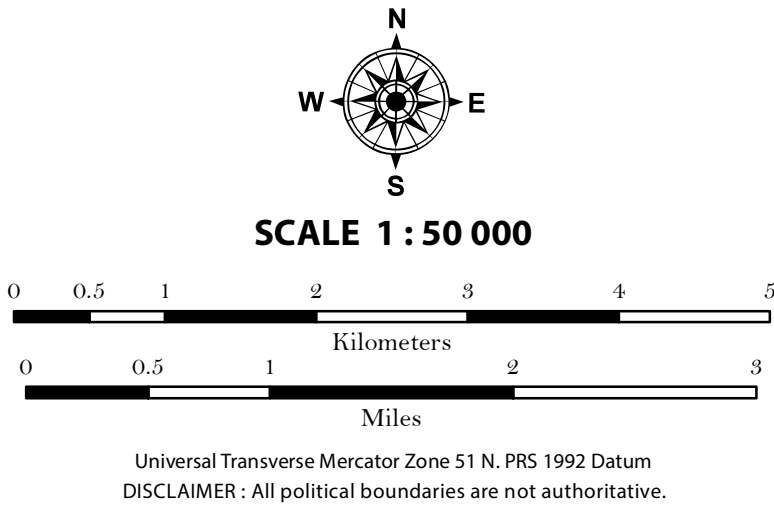
REPUBLIC OF THE PHILIPPINES  
DEPARTMENT OF AGRICULTURE  
BUREAU OF SOILS AND WATER MANAGEMENT  
SRDC Bldg., Elliptical Road Cor. Visayas Avenue, Dilliman, Quezon City 1101  
Tel/Fax No.: (+632) 332-9534 E-mail: [bswmcenter@da.gov.ph](mailto:bswmcenter@da.gov.ph)





## 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**

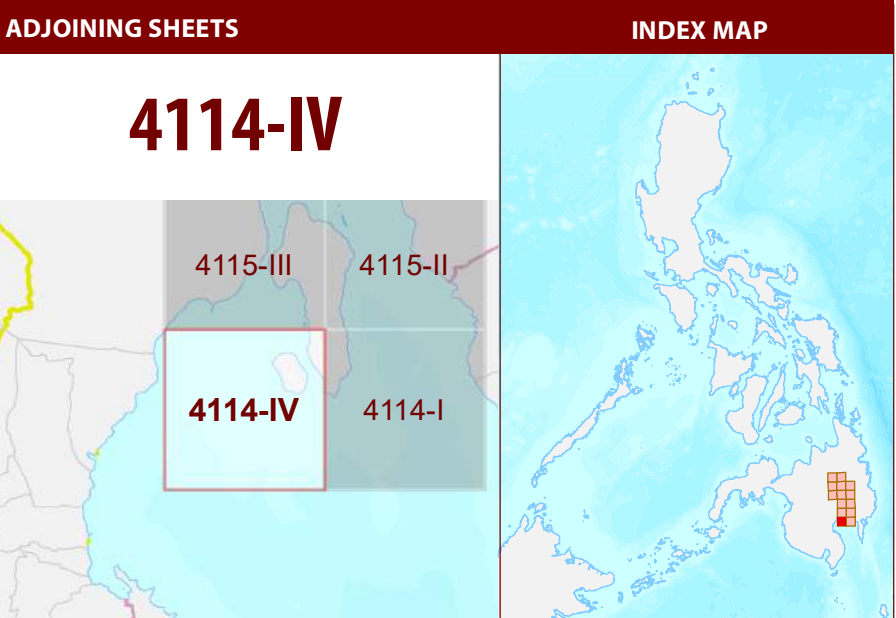
- NGP Areas
- Cacao
- Land limitation
- Land use

**CONVENTIONAL SIGNS**

<b>ROADS</b>	<b>BOUNDARY</b>	<b>HYDROLOGY</b>
Expressway	Region	Sea / Shoreline
Trunk line	Province	Lakes / Rivers
Primary	District	<b>PLACES</b>
Secondary	Municipality	Capital City / City
Tertiary	Barangay	Capital Town / Town

**LAND USE**

- Built-up
- Fishpond
- Mangrove



**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).

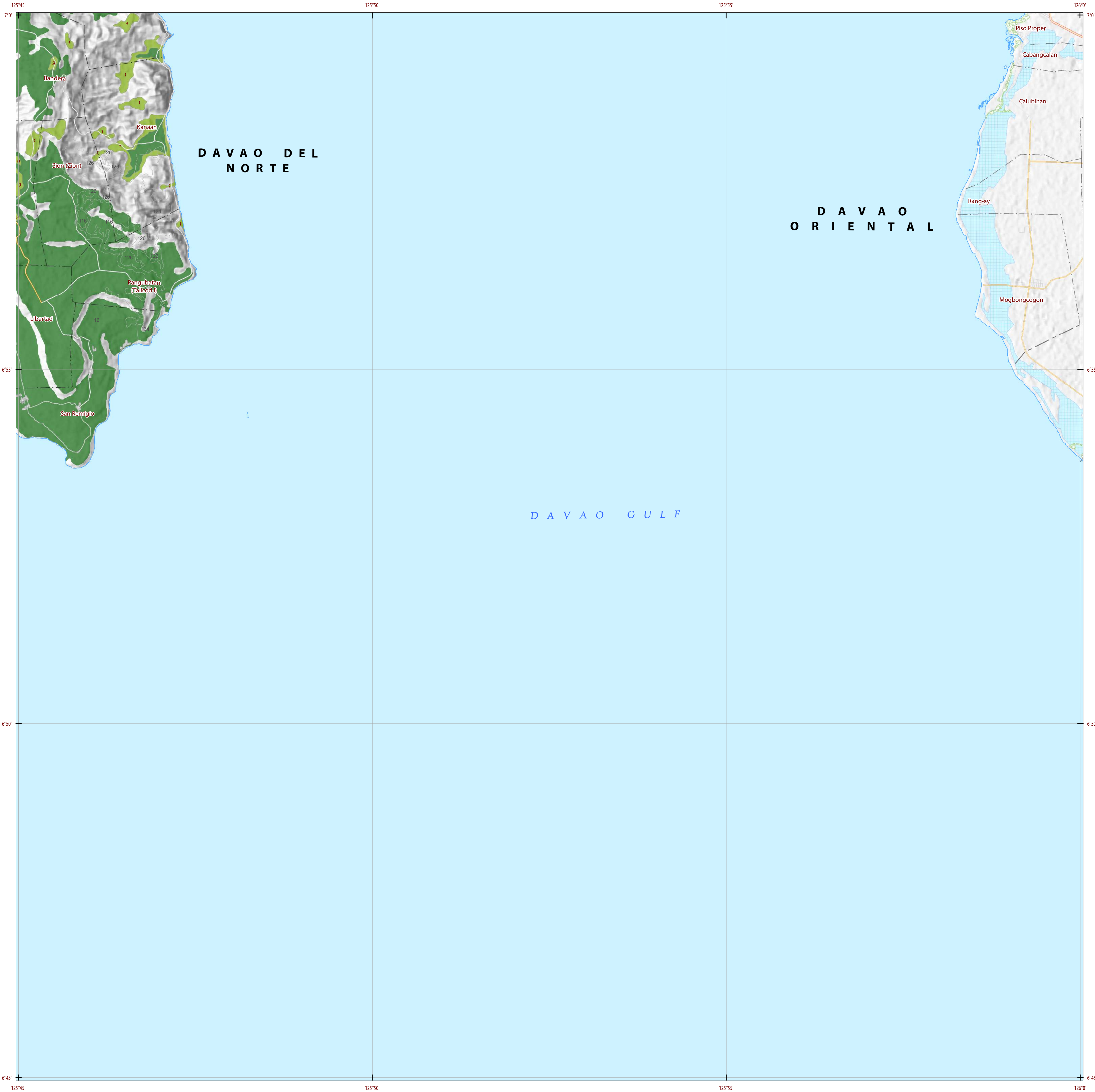
Project Leader : BERNARDO B. PASCUA  
GIS and Cartography : IRVIN K. SAMALCA




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 Cacao of the PROVINCE OF DAVAO DEL NORTE (50,000 Scale)* . CC BY NC SA 4.0.

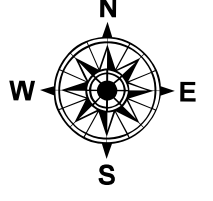





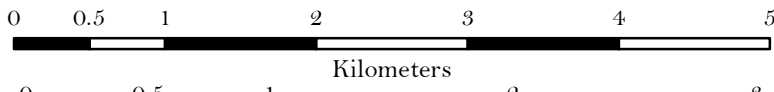


LAND SUITABILITY MAP  
CACAO

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

4114-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).

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 Cacao of the PROVINCE OF DAVAO DEL NORTE (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@da.gov.ph

PROVINCE OF DAVAO DEL NORTE

Sheet 14 of 14

Sheet No. 4114-I