Package 'ALUES'

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```
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Maintainer Al-Ahmadgaid B. Asaad <alahmadgaid@gmail.com>
Author Al-Ahmadgaid B. Asaad [aut, cre]
       (<https://orcid.org/0000-0003-3784-8593>),
      Arnold R. Salvacion [aut] (<a href="https://orcid.org/0000-0001-8868-2226">https://orcid.org/0000-0001-8868-2226</a>),
      Bui Tan Yen [aut]
```

Description Evaluates land suitability for different crops production.

The package is based on the Food and Agriculture Organization (FAO) and the International Rice Research Institute (IRRI) methodology for land evaluation. Development of ALUES is inspired by similar tool for land evaluation, Land Use Suitability Evaluation Tool (LUSET). The package uses fuzzy logic approach to evaluate land suitability of a particular area based on inputs such as rainfall, temperature, topography, and soil properties. The membership functions used for fuzzy modeling are the following: Triangular, Trapezoidal and Gaussian. The methods for computing the overall suitability of a particular area are also included, and these are the Minimum, Maximum and Average. Finally, ALUES is a highly optimized library with core algorithms written in C++.

```
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Description

ALUES-package

Agricultural Land Use Evaluation System (ALUES) is a package that evaluates land suitability for different crop production. The package is based on the Food and Agriculture Organization (FAO) and the International Rice Research Institute (IRRI) methodology for land evaluation. Development of ALUES is inspired by similar tool for land evaluation, Land Use Suitability Evaluation Tool (LUSET). The package uses fuzzy logic approach to evaluate land suitability of a particular area based on inputs such as rainfall, temperature, topography, and soil properties. The membership functions used for fuzzy modeling are the following: Triangular, Trapezoidal, Gaussian, Sigmoidal and custom models with functions that can be defined by the user. The package also aims on complicated methods like considering more than one fuzzy membership function on different suitability class. The methods for computing the overall suitability of a particular area are also included, and these are the Minimum, Maximum, Product, Sum, Average, Exponential and Gamma. Finally, ALUES utilizes the power of Rcpp library for efficient computation.

Author(s)

Al-Ahmadgaid B. Asaad <alahmadgaid@gmail.com> (maintainer)

Arnold R. Salvacion <arsalvacion@gmail.com>

Bui Tan Yen

ALFALFASoil Alfalfa soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Alfalfa.

Format

A data frame with 12 rows and 8 columns

8 ALFALFATemp

Details

The following are the factors for evaluation:

- SoilTe 12 classes of soil texture (Soil Taxonomy)
- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- Gyps Gypsum (%)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC Organic carbon (%)
- ECedS ECe (dS/m)
- ESP ESP (%)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

ALFALFATemp

Alfalfa temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Alfalfa.

Format

A data frame with 1 rows and 8 columns

Details

The following are the factors for evaluation:

• TgAv - Mean temperature of the growing cycle (°C)

See Also

ALFALFATerrain 9

ALFALFATerrain

Alfalfa terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Alfalfa.

Format

A data frame with 6 rows and 8 columns

Details

The following are the factors for evaluation:

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of management with full mechanization.)
- Slope3 Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood Flooding
- Drainage4 Drainage (Medium and fine textured soils)
- Drainage5 Drainage (Coarse textured soils Sandy families)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

ALFALFAWater

Alfalfa water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Alfalfa.

Format

A data frame with 3 rows and 8 columns

Details

- CropLen Length of growing period (days)
- WgAv Precipitation of growing cycle (mm)
- WghAv Relative humidity growing cycle (%)

10 AVOCADOSoil

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

AVOCADOSoil

Avocado soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Avocado.

Format

A data frame with 10 rows and 8 columns

Details

The following are the factors for evaluation:

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC Organic carbon (%)
- ECedS ECe (dS/m)
- ESP ESP (%)

See Also

AVOCADOTemp 11

AVOCADOTemp

Avocado temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Avocado.

Format

A data frame with 2 rows and 8 columns

Details

The following are the factors for evaluation:

- TgAv Mean temperature of the growing cycle (°C)
- TmMinXm Avarage minimum temperature of coldest month (C)

See Also

 Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). LUSET: Land Use Suitability Evaluation Tool User's Guide. International Rice Research Institute.

AVOCADOTerrain

Avocado terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Avocado.

Format

A data frame with 5 rows and 8 columns

Details

The following are the factors for evaluation:

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of management with full mechanization.)
- Slope3 Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood Flooding
- Drainage Drainage

See Also

12 BAMBOOSoil

AVOCADOWater

Avocado water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Avocado.

Format

A data frame with 2 rows and 8 columns

Details

The following are the factors for evaluation:

- WyAv Annual precipitation (mm)
- WmDryLen Length dry season (months : P < 1/2 PET)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

BAMB00Soil

Bamboo soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Bamboo.

Format

A data frame with 4 rows and 8 columns

Details

The following are the factors for evaluation:

- SoilDpt Soil depth (cm)
- OC Organic carbon (%)
- SoilTe 12 classes of soil texture (Soil Taxonomy)
- pHH2O pH H2O

See Also

BAMBOOTemp 13

BAMBOOTemp

Bamboo temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Bamboo.

Format

A data frame with 1 rows and 8 columns

Details

The following are the factors for evaluation:

• TyAv - Mean annual temperature (°C)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

BAMB00Terrain

Bamboo terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Bamboo.

Format

A data frame with 1 rows and 8 columns

Details

The following are the factors for evaluation:

• SlopeD - Slope (degree, 6 classes)

See Also

14 BANANASoil

BAMBOOWater

Bamboo water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Bamboo.

Format

A data frame with 1 rows and 8 columns

Details

The following are the factors for evaluation:

• WyAv - Annual precipitation (mm)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

BANANASoil

Banana soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Banana.

Format

A data frame with 12 rows and 8 columns

Details

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- Gyps Gypsum (%)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)

BANANATemp 15

- pHH2O pH H2O
- OC Organic carbon (%)
- ECedS ECe (dS/m)
- ESP ESP (%)
- SoilTe 12 classes of soil texture (Soil Taxonomy)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

BANANATemp

Banana temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Banana.

Format

A data frame with 3 rows and 8 columns

Details

The following are the factors for evaluation:

- TyMaxAv Mean annual maximum temperature (°C)
- TmMinXm Avarage minimum temperature of coldest month (C)
- TmMinXmAb Absolute min temp. coldest month (°C)

See Also

16 BANANAWater

BANANATerrain

Banana terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Banana.

Format

A data frame with 6 rows and 8 columns

Details

The following are the factors for evaluation:

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of management with full mechanization.)
- Slope3 Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood Flooding
- Drainage Drainage
- SlopeD Slope (degree, 6 classes)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

BANANAWater

Banana water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Banana.

Format

A data frame with 2 rows and 8 columns

Details

- WyAv Annual precipitation (mm)
- WmDryLen Length dry season (months : P < 1/2 PET)

BARLEYSoil 17

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

BARLEYSoil

Barley soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Barley.

Format

A data frame with 13 rows and 8 columns

Details

The following are the factors for evaluation:

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- Gyps Gypsum (%)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC6 Organic carbon (%) Kaolinitic materials
- OC7 Organic carbon (%) Non Kaolinitic, Non calcareous materials
- OC8 Organic carbon (%) Calcareous materials
- ECedS ECe (dS/m)
- ESP ESP (%)

See Also

18 BARLEYTerrain

BARLEYTemp

Barley temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Barley.

Format

A data frame with 3 rows and 8 columns

Details

The following are the factors for evaluation:

- TmAv2 Mean temp. crop development stage (2nd month) (°C)
- TmAv3 Mean temp. of the flowering stage (°C)
- TmAv4 Mean temp. of the ripening stage (°C)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

BARLEYTerrain

Barley terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Barley.

Format

A data frame with 6 rows and 8 columns

Details

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of management with full mechanization.)
- Slope3 Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood Flooding
- Drainage4 Drainage (Medium and fine textured soils)
- Drainage5 Drainage (Coarse textured soils Sandy families)

BARLEYWater 19

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

BARLEYWater

Barley water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Barley.

Format

A data frame with 3 rows and 8 columns

Details

The following are the factors for evaluation:

- WgAv Precipitation of growing cycle (mm)
- WmAv2 Mean precipitation of second month (mm)
- WmAv3 Mean precipitation of third month (mm)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

BEANCASoil

Castor Beans soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Castor Beans.

Format

A data frame with 9 rows and 8 columns

20 BEANCATemp

Details

The following are the factors for evaluation:

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC Organic carbon (%)
- ECedS ECe (dS/m)
- ESP ESP (%)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

BEANCATemp

Castor Beans temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Castor Beans.

Format

A data frame with 2 rows and 8 columns

Details

The following are the factors for evaluation:

- TgAv Mean temperature of the growing cycle (°C)
- TmAv1 Mean temp. of the initial stage(C)

See Also

BEANCATerrain 21

BEANCATerrain

Castor Beans terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Castor Beans.

Format

A data frame with 6 rows and 8 columns

Details

The following are the factors for evaluation:

- Slope 1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of managemnet with full mechanization.)
- Slope3 Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood Flooding
- Drainage4 Drainage (Medium and fine textured soils)
- Drainage5 Drainage (Coarse textured soils Sandy families)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

BEANCAWater

Castor Beans water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Castor Beans.

Format

A data frame with 2 rows and 8 columns

Details

- WgAv Precipitation of growing cycle (mm)
- WmhAv3 Relative humidity of maturation Stage (%)

22 BEANSSoil

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

BEANSSoil

Beans soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Beans.

Format

A data frame with 12 rows and 8 columns

Details

The following are the factors for evaluation:

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- Gyps Gypsum (%)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC Organic carbon (%)
- ECedS ECe (dS/m)
- ESP ESP (%)
- SoilTe 12 classes of soil texture (Soil Taxonomy)

See Also

BEANSTemp 23

BEANSTemp

Beans temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Beans.

Format

A data frame with 2 rows and 8 columns

Details

The following are the factors for evaluation:

- TgAv Mean temperature of the growing cycle (°C)
- TgMinAv Mean min. temp. of growing cycle (°C)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

BEANSTerrain

Beans terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Beans.

Format

A data frame with 7 rows and 8 columns

Details

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of management with full mechanization.)
- Slope3 Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood Flooding
- Drainage4 Drainage (Medium and fine textured soils)
- Drainage5 Drainage (Coarse textured soils Sandy families)
- SlopeD Slope (degree, 6 classes)

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See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

BEANSWater

Beans water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Beans.

Format

A data frame with 5 rows and 8 columns

Details

The following are the factors for evaluation:

- WgAv Precipitation of growing cycle (mm)
- WmhAv2 Relative humidity of devel. Stage (%)
- WmhAv3 Relative humidity of maturation Stage (%)
- WmnN2 n/N develop. Stage (2nd month)
- WmnN4 n/N maturation stage (4th month)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

CABBAGESoil

Cabbage soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Cabbage.

Format

A data frame with 12 rows and 8 columns

CABBAGETemp 25

Details

The following are the factors for evaluation:

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- Gyps Gypsum (%)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC Organic carbon (%)
- ECedS ECe (dS/m)
- ESP ESP (%)
- SoilTe 12 classes of soil texture (Soil Taxonomy)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

CABBAGETemp

Cabbage temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Cabbage.

Format

A data frame with 3 rows and 8 columns

Details

The following are the factors for evaluation:

- TgAv Mean temperature of the growing cycle (°C)
- TmAv0 Mean temp. at germination (°C) (1st month)
- TdDiff Temp diffrence day/night (C)

See Also

26 CABBAGEWater

CABBAGETerrain

Cabbage terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Cabbage.

Format

A data frame with 7 rows and 8 columns

Details

The following are the factors for evaluation:

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of management with full mechanization.)
- Slope3 Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood Flooding
- Drainage4 Drainage (Medium and fine textured soils)
- Drainage5 Drainage (Coarse textured soils Sandy families)
- SlopeD Slope (degree, 6 classes)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

CABBAGEWater

Cabbage water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Cabbage.

Format

A data frame with 2 rows and 8 columns

Details

- WgAv Precipitation of growing cycle (mm)
- WghAv Relative humidity growing cycle (%)

CARROTSSoil 27

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

CARROTSSoil

Carrots soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Carrots.

Format

A data frame with 11 rows and 8 columns

Details

The following are the factors for evaluation:

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- Gyps Gypsum (%)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC Organic carbon (%)
- ECedS ECe (dS/m)
- ESP ESP (%)

See Also

28 CARROTSTerrain

CARROTSTemp

Carrots temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Carrots.

Format

A data frame with 2 rows and 8 columns

Details

The following are the factors for evaluation:

- TgAv Mean temperature of the growing cycle (°C)
- TmAv0 Mean temp. at germination (°C) (1st month)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

CARROTSTerrain

Carrots terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Carrots.

Format

A data frame with 6 rows and 8 columns

Details

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of management with full mechanization.)
- Slope3 Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood Flooding
- Drainage4 Drainage (Medium and fine textured soils)
- Drainage5 Drainage (Coarse textured soils Sandy families)

CARROTSWater 29

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

CARROTSWater

Carrots water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Carrots.

Format

A data frame with 2 rows and 8 columns

Details

The following are the factors for evaluation:

- WgAv Precipitation of growing cycle (mm)
- WghAv Relative humidity growing cycle (%)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

CASHEWSoil

Cashew soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Cashew.

Format

A data frame with 8 rows and 8 columns

30 CASHEWTemp

Details

The following are the factors for evaluation:

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC Organic carbon (%)
- ECedS ECe (dS/m)
- ESP ESP (%)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

CASHEWTemp

Cashew temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Cashew.

Format

A data frame with 2 rows and 8 columns

Details

The following are the factors for evaluation:

- TyMaxAv Mean annual maximum temperature (°C)
- TmMinXm Avarage minimum temperature of coldest month (C)

See Also

CASHEWTerrain 31

CASHEWTerrain

Cashew terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Cashew.

Format

A data frame with 8 rows and 8 columns

Details

The following are the factors for evaluation:

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of management with full mechanization.)
- Slope3 Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood Flooding
- Drainage4 Drainage (Medium and fine textured soils)
- Drainage5 Drainage (Coarse textured soils Sandy families)
- SlopeD Slope (degree, 6 classes)
- SoilTe 12 classes of soil texture (Soil Taxonomy)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

CASHEWWater

Cashew water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Cashew.

Format

A data frame with 2 rows and 8 columns

Details

- WyAv Annual precipitation (mm)
- WmDryLen Length dry season (months : P < 1/2 PET)

32 CASSAVASoil

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

CASSAVASoil

Cassava soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Cassava.

Format

A data frame with 12 rows and 8 columns

Details

The following are the factors for evaluation:

- CFragm1 Coarse fragment in surface (Vol.%)
- CFragm2 Coarse fragment in depth (Vol.%)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- Gyps Gypsum (%)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC Organic carbon (%)
- ECedS ECe (dS/m)
- SoilTe 12 classes of soil texture (Soil Taxonomy)

See Also

CASSAVATemp 33

CASSAVATemp

Cassava temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Cassava.

Format

A data frame with 3 rows and 8 columns

Details

The following are the factors for evaluation:

- TyMaxAv Mean annual maximum temperature (°C)
- TmMinXmAb Absolute min temp. coldest month (°C)
- TgAv Mean temperature of the growing cycle (°C)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

CASSAVATerrain

Cassava terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Cassava.

Format

A data frame with 6 rows and 8 columns

Details

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of management with full mechanization.)
- Slope3 Slope (%) (3. Low level of management animal traction or handwork.)
- Flood Flooding
- Drainage Drainage
- SlopeD Slope (degree, 6 classes)

34 CHICKPEASoil

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

CASSAVAWater

Cassava water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Cassava.

Format

A data frame with 3 rows and 8 columns

Details

The following are the factors for evaluation:

- WyAv Annual precipitation (mm)
- WmDryLen Length dry season (months : P < 1/2 PET)
- WmnN5 n/N of the 5 dryest months

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

CHICKPEASoil

Chickpea soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Chickpea.

Format

A data frame with 11 rows and 8 columns

CHICKPEATemp 35

Details

The following are the factors for evaluation:

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- Gyps Gypsum (%)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC Organic carbon (%)
- ECedS ECe (dS/m)
- ESP ESP (%)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

CHICKPEATemp

Chickpea temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Chickpea.

Format

A data frame with 1 rows and 8 columns

Details

The following are the factors for evaluation:

• TgAv - Mean temperature of the growing cycle (°C)

See Also

36 CHICKPEAWater

CHICKPEATerrain

Chickpea terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Chickpea.

Format

A data frame with 8 rows and 8 columns

Details

The following are the factors for evaluation:

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of management with full mechanization.)
- Slope3 Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood Flooding
- Drainage4 Drainage (Medium and fine textured soils)
- Drainage5 Drainage (Coarse textured soils Sandy families)
- SlopeD Slope (degree, 6 classes)
- SoilTe 12 classes of soil texture (Soil Taxonomy)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

CHICKPEAWater

Chickpea water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Chickpea.

Format

A data frame with 3 rows and 8 columns

CINNAMONSoil 37

Details

The following are the factors for evaluation:

- WgAv Precipitation of growing cycle (mm)
- WmAv3 Mean precipitation of third month (mm)
- WmAv4 Mean precipitation of fourth month (mm)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

CINNAMONSoil

Cinnamon soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Cinnamon.

Format

A data frame with 9 rows and 8 columns

Details

The following are the factors for evaluation:

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- Gyps Gypsum (%)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC Organic carbon (%)

See Also

38 CINNAMONTerrain

CINNAMONTemp

Cinnamon temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Cinnamon.

Format

A data frame with 1 rows and 8 columns

Details

The following are the factors for evaluation:

• TgAv - Mean temperature of the growing cycle (°C)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

CINNAMONTerrain

Cinnamon terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Cinnamon.

Format

A data frame with 2 rows and 8 columns

Details

The following are the factors for evaluation:

- SlopeD Slope (degree, 6 classes)
- Flood Flooding

See Also

CINNAMONWater 39

CINNAMONWater

Cinnamon water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Cinnamon.

Format

A data frame with 2 rows and 8 columns

Details

The following are the factors for evaluation:

- WgAv Precipitation of growing cycle (mm)
- WghAv Relative humidity growing cycle (%)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

CITRUSSoil

Citrus soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Citrus.

Format

A data frame with 12 rows and 8 columns

Details

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- Gyps Gypsum (%)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)

40 CITRUSTemp

- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC Organic carbon (%)
- ECedS ECe (dS/m)
- ESP ESP (%)
- SoilTe 12 classes of soil texture (Soil Taxonomy)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

CITRUSTemp

Citrus temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Citrus.

Format

A data frame with 8 rows and 8 columns

Details

The following are the factors for evaluation:

- TyAv Mean annual temperature (°C)
- TmMax38 No of months with mean temp. > 38 °C
- TmMin13 No of months with mean temp. < 13 °C
- TyMinAb Absolute minimum temperature (°C)
- TmAv3 Mean temp. of the flowering stage (°C)

See Also

CITRUSTerrain 41

CITRUSTerrain

Citrus terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Citrus.

Format

A data frame with 6 rows and 8 columns

Details

The following are the factors for evaluation:

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of management with full mechanization.)
- Slope3 Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood Flooding
- Drainage Drainage
- SlopeD Slope (degree, 6 classes)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

CITRUSWater

Citrus water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Citrus.

Format

A data frame with 5 rows and 8 columns

Details

- WyAv Annual precipitation (mm)
- WmDryLen Length dry season (months : P < 1/2 PET)
- WmhColdXm Relative humidity of coldest month if frost (%)
- WmhAv4 Relative humidity at harvest stage (%)
- WmhAv3 Relative humidity of maturation Stage (%)

42 COCOASoil

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

COCOASoil

Cocoa soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Cocoa.

Format

A data frame with 10 rows and 8 columns

Details

The following are the factors for evaluation:

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- Gyps Gypsum (%)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC Organic carbon (%)
- ECedS ECe (dS/m)

See Also

COCOATemp 43

COCOATemp

Cocoa temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Cocoa.

Format

A data frame with 3 rows and 8 columns

Details

The following are the factors for evaluation:

- TyAv Mean annual temperature (°C)
- TyMaxAv Mean annual maximum temperature (°C)
- TyMaxAv Mean annual maximum temperature (°C)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). LUSET: Land Use Suitability Evaluation Tool User's Guide. International Rice Research Institute.

COCOATerrain

Cocoa terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Cocoa.

Format

A data frame with 5 rows and 8 columns

Details

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of management with full mechanization.)
- Slope3 Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood Flooding
- Drainage Drainage

44 COCONUTSoil

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

COCOAWater

Cocoa water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Cocoa.

Format

A data frame with 4 rows and 8 columns

Details

The following are the factors for evaluation:

- WyAv Annual precipitation (mm)
- WmDryLen Length dry season (months : P < 1/2 PET)
- WmhDryXm Mean rel. humidity dryest month (%)
- WmhDryXm Mean rel. humidity dryest month (%)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

COCONUTSoil

Coconut soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Coconut.

Format

A data frame with 6 rows and 8 columns

COCONUTTemp 45

Details

The following are the factors for evaluation:

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- OC Organic carbon (%)
- ECemh ECe (mmhos/cm)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

COCONUTTemp

Coconut temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Coconut.

Format

A data frame with 1 rows and 8 columns

Details

The following are the factors for evaluation:

• TyAv - Mean annual temperature (°C)

See Also

46 COCONUTWater

COCONUTTerrain

Coconut terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Coconut.

Format

A data frame with 5 rows and 8 columns

Details

The following are the factors for evaluation:

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of management with full mechanization.)
- Slope3 Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood Flooding
- Drainage Drainage

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

COCONUTWater

Coconut water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Coconut.

Format

A data frame with 3 rows and 8 columns

Details

- WyAv Annual precipitation (mm)
- WmDryLen Length dry season (months : P < 1/2 PET)
- WyhAv Mean annual rel. humidity (%)

COFFEEARSoil 47

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

COFFEEARSoil

Arabica Coffee soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Arabica Coffee.

Format

A data frame with 11 rows and 8 columns

Details

The following are the factors for evaluation:

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- Gyps Gypsum (%)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC Organic carbon (%)
- ECedS ECe (dS/m)
- SoilTe 12 classes of soil texture (Soil Taxonomy)

See Also

48 COFFEEARTerrain

COFFEEARTemp

Arabica Coffee temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Arabica Coffee.

Format

A data frame with 3 rows and 8 columns

Details

The following are the factors for evaluation:

- TyMaxAv Mean annual maximum temperature (°C)
- TdMinXm Mean daily minimum temperature of coldest month (°C)
- TyAv Mean annual temperature (°C)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

COFFEEARTerrain

Arabica Coffee terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Arabica Coffee.

Format

A data frame with 6 rows and 8 columns

Details

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of management with full mechanization.)
- Slope3 Slope (%) (3. Low level of management animal traction or handwork.)
- Flood Flooding
- Drainage Drainage
- SlopeD Slope (degree, 6 classes)

COFFEEARWater 49

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

COFFEEARWater

Arabica Coffee water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Arabica Coffee.

Format

A data frame with 4 rows and 8 columns

Details

The following are the factors for evaluation:

- WyAv Annual precipitation (mm)
- WmDryLen Length dry season (months : P < 1/2 PET)
- WmhDryXm Mean rel. humidity dryest month (%)
- WmnN5 n/N of the 5 dryest months

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

COFFEEROSoil

Robusta Coffee soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Robusta Coffee.

Format

A data frame with 10 rows and 8 columns

50 COFFEEROTemp

Details

The following are the factors for evaluation:

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- Gyps Gypsum (%)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC Organic carbon (%)
- ECedS ECe (dS/m)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). LUSET: Land Use Suitability Evaluation Tool User's Guide. International Rice Research Institute.

COFFEEROTemp

Robusta Coffee temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Robusta Coffee.

Format

A data frame with 3 rows and 8 columns

Details

The following are the factors for evaluation:

- TyAv Mean annual temperature (°C)
- TyMaxAv Mean annual maximum temperature (°C)
- TdMinXm Mean daily minimum temperature of coldest month (°C)

See Also

COFFEEROTerrain 51

COFFEEROTerrain

Robusta Coffee terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Robusta Coffee.

Format

A data frame with 5 rows and 8 columns

Details

The following are the factors for evaluation:

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of management with full mechanization.)
- Slope3 Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood Flooding
- Drainage Drainage

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

COFFEEROWater

Robusta Coffee water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Robusta Coffee.

Format

A data frame with 4 rows and 8 columns

Details

- WyAv Annual precipitation (mm)
- WmDryLen Length dry season (months : P < 1/2 PET)
- WmhDryXm Mean rel. humidity dryest month (%)
- WmnN5 n/N of the 5 dryest months

52 COTTONSoil

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

COTTONSoil

Cotton soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Cotton.

Format

A data frame with 13 rows and 8 columns

Details

The following are the factors for evaluation:

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- Gyps Gypsum (%)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC6 Organic carbon (%) Kaolinitic materials
- OC7 Organic carbon (%) Non Kaolinitic, Non calcareous materials
- OC8 Organic carbon (%) Calcareous materials
- ECemh ECe (mmhos/cm)
- SoilTe 12 classes of soil texture (Soil Taxonomy)

See Also

COTTONTemp 53

COTTONTemp

Cotton temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Cotton.

Format

A data frame with 6 rows and 8 columns

Details

The following are the factors for evaluation:

- TgAv Mean temperature of the growing cycle (°C)
- TgMaxAv Mean max temp. of growing cycle (°C)
- TmMaxXm Average max. temp. warmest month (°C)
- TmAv2 Mean temp. crop development stage (2nd month) (°C)
- TdAvg3 Mean DAY temp. of flowering stage (°C)
- TdMinN3 Mean Night temp. of flowering stage (°C)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

COTTONTerrain

Cotton terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Cotton.

Format

A data frame with 7 rows and 8 columns

54 COTTONWater

Details

The following are the factors for evaluation:

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of management with full mechanization.)
- Slope3 Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood Flooding
- Drainage4 Drainage (Medium and fine textured soils)
- Drainage5 Drainage (Coarse textured soils Sandy families)
- Slope nan

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

COTTONWater

Cotton water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Cotton.

Format

A data frame with 6 rows and 8 columns

Details

The following are the factors for evaluation:

- WgAv Precipitation of growing cycle (mm)
- WmAv1 Mean precipitation of first month (mm)
- WmAv2 Mean precipitation of second month (mm)
- WmAv5 Mean precipitation of fifth month (mm)
- WmAv6 Precipitation of ripening stage (mm)(6th month)
- WmhAv3 Relative humidity of maturation Stage (%)

See Also

COWPEASoil 55

COWPEASoil

Cowpea soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Cowpea.

Format

A data frame with 11 rows and 8 columns

Details

The following are the factors for evaluation:

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- Gyps Gypsum (%)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC Organic carbon (%)
- ECedS ECe (dS/m)
- SoilTe 12 classes of soil texture (Soil Taxonomy)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

COWPEATemp

Cowpea temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Cowpea.

Format

A data frame with 3 rows and 8 columns

56 COWPEATerrain

Details

The following are the factors for evaluation:

- TgAv Mean temperature of the growing cycle (°C)
- TmAv0 Mean temp. at germination (°C) (1st month)
- TyMinAv Mean annual minimum temperature (°C)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

COWPEATerrain

Cowpea terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Cowpea.

Format

A data frame with 7 rows and 8 columns

Details

The following are the factors for evaluation:

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of management with full mechanization.)
- Slope3 Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood Flooding
- Drainage4 Drainage (Medium and fine textured soils)
- Drainage5 Drainage (Coarse textured soils Sandy families)
- SlopeD Slope (degree, 6 classes)

See Also

COWPEAWater 57

COWPEAWater

Cowpea water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Cowpea.

Format

A data frame with 6 rows and 8 columns

Details

The following are the factors for evaluation:

- WgAv Precipitation of growing cycle (mm)
- WmAv1 Mean precipitation of first month (mm)
- WmAv2 Mean precipitation of second month (mm)
- WmAv3 Mean precipitation of third month (mm)
- WmAv4 Mean precipitation of fourth month (mm)
- WmhAv4 Relative humidity at harvest stage (%)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

CUCUMBERSoil

Cucumber soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Cucumber.

Format

A data frame with 10 rows and 8 columns

58 CUCUMBERTemp

Details

The following are the factors for evaluation:

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC Organic carbon (%)
- ECedS ECe (dS/m)
- ESP ESP (%)
- SoilTe 12 classes of soil texture (Soil Taxonomy)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

 ${\tt CUCUMBERTemp}$

Cucumber temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Cucumber.

Format

A data frame with 1 rows and 8 columns

Details

The following are the factors for evaluation:

• TgAv - Mean temperature of the growing cycle (°C)

See Also

CUCUMBERTerrain 59

CUCUMBERTerrain

Cucumber terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Cucumber.

Format

A data frame with 7 rows and 8 columns

Details

The following are the factors for evaluation:

- SlopeD Slope (degree, 6 classes)
- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of managemnet with full mechanization.)
- Slope3 Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood Flooding
- Drainage4 Drainage (Medium and fine textured soils)
- Drainage5 Drainage (Coarse textured soils Sandy families)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

CUCUMBERWater

Cucumber water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Cucumber.

Format

A data frame with 2 rows and 8 columns

Details

- WgAv Precipitation of growing cycle (mm)
- WghAv Relative humidity growing cycle (%)

60 GROUNDNUTSSoil

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

GROUNDNUTSSoil

Groundnuts soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Groundnuts.

Format

A data frame with 15 rows and 8 columns

Details

The following are the factors for evaluation:

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- Gyps Gypsum (%)
- CECs Apparent CEC Soil (cmol (+)/kg soil)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC6 Organic carbon (%) Kaolinitic materials
- OC7 Organic carbon (%) Non Kaolinitic, Non calcareous materials
- OC8 Organic carbon (%) Calcareous materials
- ECedS ECe (dS/m)
- ESP ESP (%)
- OC Organic carbon (%)
- SoilTe 12 classes of soil texture (Soil Taxonomy)

See Also

GROUNDNUTSTemp 61

GROUNDNUTSTemp

Groundnuts temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Groundnuts.

Format

A data frame with 3 rows and 8 columns

Details

The following are the factors for evaluation:

- TgAv Mean temperature of the growing cycle (°C)
- TgMaxAv Mean max temp. of growing cycle (°C)
- TgMinAv Mean min. temp. of growing cycle (°C)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

GROUNDNUTSTerrain

Groundnuts terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Groundnuts.

Format

A data frame with 7 rows and 8 columns

Details

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of managemnet with full mechanization.)
- Slope3 Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood Flooding
- Drainage4 Drainage (Medium and fine textured soils)
- Drainage5 Drainage (Coarse textured soils Sandy families)
- SlopeD Slope (degree, 6 classes)

62 GUAVASoil

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

GROUNDNUTSWater

Groundnuts water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Groundnuts.

Format

A data frame with 6 rows and 8 columns

Details

The following are the factors for evaluation:

- WgAv Precipitation of growing cycle (mm)
- WmAv1 Mean precipitation of first month (mm)
- WmAv2 Mean precipitation of second month (mm)
- WmAv3 Mean precipitation of third month (mm)
- WmAv4 Mean precipitation of fourth month (mm)
- WghAv Relative humidity growing cycle (%)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

GUAVASoil

Guava soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Guava.

Format

A data frame with 9 rows and 8 columns

GUAVATemp 63

Details

The following are the factors for evaluation:

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC Organic carbon (%)
- ECedS ECe (dS/m)
- ESP ESP (%)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

GUAVATemp

Guava temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Guava.

Format

A data frame with 1 rows and 8 columns

Details

The following are the factors for evaluation:

• TyAv - Mean annual temperature (°C)

See Also

64 GUAVAWater

GUAVATerrain

Guava terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Guava.

Format

A data frame with 5 rows and 8 columns

Details

The following are the factors for evaluation:

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of managemnet with full mechanization.)
- Slope3 Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood Flooding
- Drainage Drainage

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

GUAVAWater

Guava water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Guava.

Format

A data frame with 1 rows and 8 columns

Details

The following are the factors for evaluation:

• WyAv - Annual precipitation (mm)

See Also

LaoCaiLT 65

LaoCaiLT

Land and Terrain Chracteristics of Lao Cai, Vietnam

Description

A dataset containing the land and terrain characteristics of the land units in Lao Cai, Vietnam.

Format

A data frame with 2928 rows and 10 columns

Details

- SlopeD Slope (degree, 6 classes);
- CFragm Coarse fragment (Vol.%);
- SoilDpt Soil depth (cm);
- SoilTe 12 classes of soil texture (Soil Taxonomy);
- CECc Apparent CEC Clay (cmol (+)/kg clay);
- SumBCs Sum of basic caions (cmol (+)/kg soil);
- pHH20 pH H2O;
- BS Base Saturation (%);
- OC Organic carbon (%);
- Flood Flooding;

LaoCaiTemp

Temperature Chracteristics of Lao Cai, Vietnam

Description

A dataset containing the temperature characteristics of the land units in Lao Cai, Vietnam.

Format

A data frame with 2928 rows and 12 columns

66 LaoCaiWater

Details

- Jan January;
- Feb February;
- Mar March;
- Apr April;
- May May;
- Jun June;
- Jul July;
- Aug August;
- Sep September;
- Oct October;
- Nov November;
- Dec December;

LaoCaiWater

Water Chracteristics of Lao Cai, Vietnam

Description

A dataset containing the water chracteristics of the land units in Lao Cai, Vietnam.

Format

A data frame with 2928 rows and 12 columns

Details

- Jan January;
- Feb February;
- Mar March;
- Apr April;
- May May;
- Jun June;
- Jul July;
- Aug August;
- Sep September;
- Oct October;
- Nov November;
- Dec December;

LONGANSoil 67

LONGANSoil

Longan soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Longan.

Format

A data frame with 12 rows and 8 columns

Details

The following are the factors for evaluation:

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- Gyps Gypsum (%)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC Organic carbon (%)
- ECedS ECe (dS/m)
- ESP ESP (%)
- SoilTe 12 classes of soil texture (Soil Taxonomy)

See Also

68 LONGANTerrain

LONGANTemp

Longan temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Longan.

Format

A data frame with 3 rows and 8 columns

Details

The following are the factors for evaluation:

- TyAv Mean annual temperature (°C)
- TdMinXm Mean daily minimum temperature of coldest month (°C)
- TyMinAv Mean annual minimum temperature (°C)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

LONGANTerrain

Longan terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Longan.

Format

A data frame with 6 rows and 8 columns

Details

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of management with full mechanization.)
- Slope3 Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood Flooding
- Drainage Drainage
- SlopeD Slope (degree, 6 classes)

LONGANWater 69

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

LONGANWater

Longan water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Longan.

Format

A data frame with 1 rows and 8 columns

Details

The following are the factors for evaluation:

• WyAv - Annual precipitation (mm)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

MAIZESoil

Maize soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Maize.

Format

A data frame with 15 rows and 8 columns

70 MAIZETemp

Details

The following are the factors for evaluation:

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- Gyps Gypsum (%)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC6 Organic carbon (%) Kaolinitic materials
- OC7 Organic carbon (%) Non Kaolinitic, Non calcareous materials
- OC8 Organic carbon (%) Calcareous materials
- ECedS ECe (dS/m)
- ESP ESP (%)
- OC Organic carbon (%)
- SoilTe 12 classes of soil texture (Soil Taxonomy)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

MAIZETemp

Maize temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Maize.

Format

A data frame with 2 rows and 8 columns

Details

The following are the factors for evaluation:

- TgAv Mean temperature of the growing cycle (°C)
- TgMinAv Mean min. temp. of growing cycle (°C)

See Also

MAIZETerrain 71

MAIZETerrain

Maize terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Maize.

Format

A data frame with 7 rows and 8 columns

Details

The following are the factors for evaluation:

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of managemnet with full mechanization.)
- Slope3 Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood Flooding
- Drainage4 Drainage (Medium and fine textured soils)
- Drainage5 Drainage (Coarse textured soils Sandy families)
- SlopeD Slope (degree, 6 classes)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

MAIZEWater

Maize water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Maize.

Format

A data frame with 9 rows and 8 columns

72 MANGOSoil

Details

The following are the factors for evaluation:

- WgAv Precipitation of growing cycle (mm)
- WmAv1 Mean precipitation of first month (mm)
- WmAv2 Mean precipitation of second month (mm)
- WmAv3 Mean precipitation of third month (mm)
- WmAv4 Mean precipitation of fourth month (mm)
- WmhAv2 Relative humidity of devel. Stage (%)
- WmhAv3 Relative humidity of maturation Stage (%)
- WmnN2 n/N develop. Stage (2nd month)
- WmnN4 n/N maturation stage (4th month)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

MANGOSoil

Mango soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Mango.

Format

A data frame with 12 rows and 8 columns

Details

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- Gyps Gypsum (%)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCc Sum of basic cations (cmol (+)/kg of clay)
- pHH2O pH H2O
- OC Organic carbon (%)
- ECedS ECe (dS/m)
- ESP ESP (%)
- SoilTe 12 classes of soil texture (Soil Taxonomy)

MANGOTemp 73

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

MANGOTemp

Mango temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Mango.

Format

A data frame with 2 rows and 8 columns

Details

The following are the factors for evaluation:

- TyAv Mean annual temperature (°C)
- TyMinAv Mean annual minimum temperature (°C)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

MANGOTerrain

Mango terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Mango.

Format

A data frame with 6 rows and 8 columns

Details

- Slope1 Slope (%) (1) Basin furrow irrigation
- Slope2 Slope (%) (2) Mechanized, high management level
- Slope3 Slope (%) (3) Manual, low management level
- Flood Flooding
- Drainage Drainage
- SlopeD 6 classes of slope (Degree)

74 MarinduqueLT

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

MANGOWater

Mango water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Mango.

Format

A data frame with 5 rows and 8 columns

Details

The following are the factors for evaluation:

- WyAv Annual precipitation (mm)
- WmDryLen Length dry season (months : P < 1/2 PET)
- WmAvDry Monthly precipitation during dry season (mm)
- WyhAv Mean annual rel. humidity (%)
- WmnN4 n/N maturation stage (4th month)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

MarinduqueLT

Land and Terrain Chracteristics of Marinduque, Philippines

Description

A dataset containing the land and terrain characteristics of the land units in Marinduque, Philippines.

Format

A data frame with 881 rows and 6 columns

MarinduqueTemp 75

Details

- Lat Latitude of Land Units;
- Lon Longitude of Land Units;
- CECc Apparent CEC Clay (cmol (+)/kg clay);
- pHH20 pH H2O;
- CFragm Coarse fragment (Vol.%);
- SoilTe 12 classes of soil texture (Soil Taxonomy);

MarinduqueTemp

Temperature Chracteristics of Marinduque, Philippines

Description

A dataset containing the temperature characteristics of the land units in Marinduque, Philippines.

Format

A data frame with 881 rows and 14 columns

Details

- Lat Latitude of Land Units;
- Lon Longitude of Land Units;
- Jan January;
- Feb February;
- Mar March;
- Apr April;
- May May;
- Jun June;
- Jul July;
- Aug August;
- Sep September;
- Oct October;
- Nov November;
- Dec December;

76 MILLETSSoil

MarinduqueWater

Water Chracteristics of Marinduque, Philippines

Description

A dataset containing the water characteristics of the land units in Marinduque, Philippines.

Format

A data frame with 881 rows and 14 columns

Details

- Lat Latitude of Land Units;
- Lon Longitude of Land Units;
- Jan January;
- Feb February;
- Mar March;
- Apr April;
- May May;
- Jun June;
- Jul July;
- Aug August;
- Sep September;
- Oct October;
- Nov November;
- Dec December;

MILLETSSoil

Millets soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Millets.

Format

A data frame with 11 rows and 8 columns

MILLETSTemp 77

Details

The following are the factors for evaluation:

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- Gyps Gypsum (%)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC6 Organic carbon (%) Kaolinitic materials
- ECedS ECe (dS/m)
- ESP ESP (%)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

MILLETSTemp

Millets temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Millets.

Format

A data frame with 3 rows and 8 columns

Details

The following are the factors for evaluation:

- TgAv Mean temperature of the growing cycle (°C)
- TgMaxAv Mean max temp. of growing cycle (°C)
- TgMinAv Mean min. temp. of growing cycle (°C)

See Also

78 MILLETSWater

MILLETSTerrain

Millets terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Millets.

Format

A data frame with 6 rows and 8 columns

Details

The following are the factors for evaluation:

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of management with full mechanization.)
- Slope3 Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood Flooding
- Drainage4 Drainage (Medium and fine textured soils)
- Drainage5 Drainage (Coarse textured soils Sandy families)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

MILLETSWater

Millets water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Millets.

Format

A data frame with 5 rows and 8 columns

Details

- WgAv Precipitation of growing cycle (mm)
- WmAv1 Mean precipitation of first month (mm)
- WmAv2 Mean precipitation of second month (mm)
- WmAv4 Mean precipitation of fourth month (mm)
- WmhAv4 Relative humidity at harvest stage (%)

OILPALMSoil 79

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

OILPALMSoil

Oil Palm soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Oil Palm.

Format

A data frame with 10 rows and 8 columns

Details

The following are the factors for evaluation:

- CFragm2 Coarse fragment in depth (Vol.%)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- Gyps Gypsum (%)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC Organic carbon (%)
- ECedS ECe (dS/m)

See Also

80 OILPALMTerrain

OILPALMTemp

Oil Palm temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Oil Palm.

Format

A data frame with 3 rows and 8 columns

Details

The following are the factors for evaluation:

- TyMaxAv Mean annual maximum temperature (°C)
- TdMinXm Mean daily minimum temperature of coldest month (°C)
- TyAv Mean annual temperature (°C)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

OILPALMTerrain

Oil Palm terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Oil Palm.

Format

A data frame with 4 rows and 8 columns

Details

The following are the factors for evaluation:

- Slope Slope
- Flood Flooding
- Drainage4 Drainage (4) Medium & fine textured soils
- Drainage5 Drainage (5) Coarse textured soils

See Also

OILPALMWater 81

OILPALMWater

Oil Palm water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Oil Palm.

Format

A data frame with 3 rows and 8 columns

Details

The following are the factors for evaluation:

- WyAv Annual precipitation (mm)
- WmDryLen Length dry season (months : P < 1/2 PET)
- WynN Mean annual n/N

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

OLIVESSoil

Olives soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Olives.

Format

A data frame with 10 rows and 8 columns

Details

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- Gyps Gypsum (%)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)

82 OLIVESTemp

- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC Organic carbon (%)
- ECedS ECe (dS/m)
- ESP ESP (%)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

OLIVESTemp

Olives temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Olives.

Format

A data frame with 2 rows and 8 columns

Details

The following are the factors for evaluation:

- TyAv Mean annual temperature (°C)
- TmMinXm Avarage minimum temperature of coldest month (C)

See Also

OLIVESTerrain 83

OLIVESTerrain

Olives terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Olives.

Format

A data frame with 6 rows and 8 columns

Details

The following are the factors for evaluation:

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of managemnet with full mechanization.)
- Slope3 Slope (%) (3. Low level of management animal traction or handwork.)
- Flood Flooding
- Drainage Drainage
- SlopeD Slope (degree, 6 classes)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

OLIVESWater

Olives water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Olives.

Format

A data frame with 3 rows and 8 columns

Details

- WyAv Annual precipitation (mm)
- WmSpecial1 Monthly rainfall during the sclerification of stone (mm) August (N hem) February (S hem.)
- WmSpecial2 Monthly rainfall during the sclerification of stone (mm) September (N hem) March (S hem.)

84 ONIONSoil

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

ONIONSoil

Onion soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Onion.

Format

A data frame with 11 rows and 8 columns

Details

The following are the factors for evaluation:

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- Gyps Gypsum (%)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC Organic carbon (%)
- ECedS ECe (dS/m)
- ESP ESP (%)

See Also

ONIONTemp 85

ONIONTemp

Onion temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Onion.

Format

A data frame with 2 rows and 8 columns

Details

The following are the factors for evaluation:

- TgAv Mean temperature of the growing cycle (°C)
- TmAv0 Mean temp. at germination (°C) (1st month)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

ONIONTerrain

Onion terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Onion.

Format

A data frame with 6 rows and 8 columns

Details

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of management with full mechanization.)
- Slope3 Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood Flooding
- Drainage4 Drainage (Medium and fine textured soils)
- Drainage5 Drainage (Coarse textured soils Sandy families)

86 overall_suit

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

ONIONWater

Onion water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Onion.

Format

A data frame with 2 rows and 8 columns

Details

The following are the factors for evaluation:

- WgAv Precipitation of growing cycle (mm)
- TmAvDlen3 Daylength (h) during yield form. Period

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

overall_suit

Overall Suitability Scores/Class of the Land Units

Description

This function computes the overall suitability scores and class of the land units.

Usage

```
overall_suit(suit, method = NULL, interval = NULL)
```

overall_suit 87

Arguments

suit an object of class suitability.

method a character for the method for computing the overall suitability, choices are:

"minimum", "maximum", and "average". If NULL, method is set to "minimum".

interval if NULL, the interval of the suitability class are the following: 0% - 25% (Not

suitable, N), 25% - 50% (Marginally Suitable, S3), 50% - 75% (Moderately Suitable, S2), and 75% - 100% (Highly Suitable, S1). But users can assign custom intervals by specifying the values of the end points of the intervals. Say for intervals: 0% - 20% (Not suitable, N), 20% - 50% (Marginally Suitable, S3), 50% - 80% (Moderately Suitable, S2), and 80% - 100% (Highly Suitable, S1),

is equivalent to interval = c(0, 0.2, 0.5, 0.8, 1).

Value

A data frame with columns:

- Score the overall suitability scores
- Class the overall suitability classes

See Also

```
suit, https://alstat.github.io/ALUES/
```

Examples

```
library(ALUES)
out <- suit("ricebr", terrain=MarinduqueLT, water=MarinduqueWater, temp=MarinduqueTemp, sow_month=1)
out[["terrain"]]
# Soil Overall Suitability
head(overall_suit(out[["soil"]]))
head(overall_suit(out[["soil"]], "average"))
head(overall_suit(out[["soil"]], "maximum"))
head(overall_suit(out[["soil"]], "average", c(0, 0.3, 0.35, 0.6, 1.0)))
# Water Overall Suitability
head(overall_suit(out[["water"]], "average"))
head(overall_suit(out[["water"]], "maximum"))
head(overall_suit(out[["water"]], "average", c(0, 0.3, 0.35, 0.6, 1.0)))
# Temperature Overall Suitability
head(overall_suit(out[["temp"]], "average"))
head(overall_suit(out[["temp"]], "maximum"))
head(overall_suit(out[["temp"]], "average", c(0, 0.3, 0.35, 0.6, 1.0)))
```

88 PAPAYATemp

PAPAYASoil

Papaya soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Papaya.

Format

A data frame with 9 rows and 8 columns

Details

The following are the factors for evaluation:

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC Organic carbon (%)
- ECedS ECe (dS/m)
- ESP ESP (%)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

PAPAYATemp

Papaya temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Papaya.

Format

A data frame with 2 rows and 8 columns

PAPAYATerrain 89

Details

The following are the factors for evaluation:

- TyAv Mean annual temperature (°C)
- TyMinAv Mean annual minimum temperature (°C)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

PAPAYATerrain

Papaya terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Papaya.

Format

A data frame with 0 rows and 8 columns

Details

The following are the factors for evaluation:

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

PAPAYAWater

Papaya water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Papaya.

Format

A data frame with 3 rows and 8 columns

90 PEACHSoil

Details

The following are the factors for evaluation:

- WyAv Annual precipitation (mm)
- WynN Mean annual n/N
- WyhAv Mean annual rel. humidity (%)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

PEACHSoil

Peach soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Peach.

Format

A data frame with 12 rows and 8 columns

Details

The following are the factors for evaluation:

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- Gyps Gypsum (%)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC Organic carbon (%)
- ECedS ECe (dS/m)
- ESP ESP (%)
- SoilTe 12 classes of soil texture (Soil Taxonomy)

See Also

PEACHTemp 91

PEACHTemp

Peach temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Peach.

Format

A data frame with 1 rows and 8 columns

Details

The following are the factors for evaluation:

• TyAv - Mean annual temperature (°C)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

PEACHTerrain

Peach terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Peach.

Format

A data frame with 6 rows and 8 columns

Details

The following are the factors for evaluation:

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of management with full mechanization.)
- Slope3 Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood Flooding
- Drainage Drainage
- SlopeD Slope (degree, 6 classes)

See Also

92 PEARSoil

PEACHWater

Peach water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Peach.

Format

A data frame with 1 rows and 8 columns

Details

The following are the factors for evaluation:

• WyAv - Annual precipitation (mm)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

PEARSoil

Pear soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Pear.

Format

A data frame with 12 rows and 8 columns

Details

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- Gyps Gypsum (%)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)

PEARTemp 93

- pHH2O pH H2O
- OC Organic carbon (%)
- ECedS ECe (dS/m)
- ESP ESP (%)
- SoilTe 12 classes of soil texture (Soil Taxonomy)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

PEARTemp

Pear temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Pear.

Format

A data frame with 1 rows and 8 columns

Details

The following are the factors for evaluation:

• TyAv - Mean annual temperature (°C)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

PEARTerrain

Pear terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Pear.

Format

A data frame with 6 rows and 8 columns

94 PEARWater

Details

The following are the factors for evaluation:

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of management with full mechanization.)
- Slope3 Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood Flooding
- Drainage Drainage
- SlopeD Slope (degree, 6 classes)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

PEARWater

Pear water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Pear.

Format

A data frame with 1 rows and 8 columns

Details

The following are the factors for evaluation:

• WyAv - Annual precipitation (mm)

See Also

PEASoil 95

PEASoil

Pea soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Pea.

Format

A data frame with 11 rows and 8 columns

Details

The following are the factors for evaluation:

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- Gyps Gypsum (%)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- OC Organic carbon (%)
- ECedS ECe (dS/m)
- ESP ESP (%)
- SoilTe 12 classes of soil texture (Soil Taxonomy)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

PEATemp

Pea temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Pea.

Format

A data frame with 2 rows and 8 columns

96 PEATerrain

Details

The following are the factors for evaluation:

- TgAv Mean temperature of the growing cycle (°C)
- TmMinAv0 Mean min. temp. at germination (°C)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

PEATerrain

Pea terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Pea.

Format

A data frame with 7 rows and 8 columns

Details

The following are the factors for evaluation:

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of management with full mechanization.)
- Slope3 Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood Flooding
- Drainage4 Drainage (Medium and fine textured soils)
- Drainage5 Drainage (Coarse textured soils Sandy families)
- SlopeD Slope (degree, 6 classes)

See Also

PEAWater 97

PEAWater

Pea water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Pea.

Format

A data frame with 1 rows and 8 columns

Details

The following are the factors for evaluation:

• WgAv - Precipitation of growing cycle (mm)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

PEPPERGRSoil

Green Pepper soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Green Pepper.

Format

A data frame with 11 rows and 8 columns

Details

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- Gyps Gypsum (%)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)

98 PEPPERGRTerrain

- pHH2O pH H2O
- OC Organic carbon (%)
- ECedS ECe (dS/m)
- SoilTe 12 classes of soil texture (Soil Taxonomy)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

PEPPERGRTemp

Green Pepper temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Green Pepper.

Format

A data frame with 2 rows and 8 columns

Details

The following are the factors for evaluation:

- TgAv Mean temperature of the growing cycle (°C)
- TmAv0 Mean temp. at germination (°C) (1st month)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

PEPPERGRTerrain

Green Pepper terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Green Pepper.

Format

A data frame with 7 rows and 8 columns

PEPPERGRWater 99

Details

The following are the factors for evaluation:

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of managemnet with full mechanization.)
- Slope3 Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood Flooding
- Drainage4 Drainage (Medium and fine textured soils)
- Drainage5 Drainage (Coarse textured soils Sandy families)
- Slope nan

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

PEPPERGRWater

Green Pepper water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Green Pepper.

Format

A data frame with 1 rows and 8 columns

Details

The following are the factors for evaluation:

• WgAv - Precipitation of growing cycle (mm)

See Also

100 PERSIMMONSoil

PERSIMMONSoil

Persimmon soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Persimmon.

Format

A data frame with 12 rows and 8 columns

Details

The following are the factors for evaluation:

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- Gyps Gypsum (%)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC Organic carbon (%)
- ECedS ECe (dS/m)
- ESP ESP (%)
- SoilTe 12 classes of soil texture (Soil Taxonomy)

See Also

PERSIMMONTemp 101

PERSIMMONTemp

Persimmon temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Persimmon.

Format

A data frame with 1 rows and 8 columns

Details

The following are the factors for evaluation:

• TgAv - Mean temperature of the growing cycle (°C)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

PERSIMMONTerrain

Persimmon terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Persimmon.

Format

A data frame with 6 rows and 8 columns

Details

The following are the factors for evaluation:

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of management with full mechanization.)
- Slope3 Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood Flooding
- Drainage Drainage
- SlopeD Slope (degree, 6 classes)

See Also

102 PINEAPPLESoil

PERSIMMONWater

Persimmon water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Persimmon.

Format

A data frame with 1 rows and 8 columns

Details

The following are the factors for evaluation:

• WyAv - Annual precipitation (mm)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

PINEAPPLESoil

Pineapple soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Pineapple.

Format

A data frame with 12 rows and 8 columns

Details

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- Gyps Gypsum (%)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)

PINEAPPLETemp 103

- pHH2O pH H2O
- OC Organic carbon (%)
- ECedS ECe (dS/m)
- ESP ESP (%)
- SoilTe 12 classes of soil texture (Soil Taxonomy)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

PINEAPPLETemp

Pineapple temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Pineapple.

Format

A data frame with 1 rows and 8 columns

Details

The following are the factors for evaluation:

• TyAv - Mean annual temperature (°C)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

PINEAPPLETerrain

Pineapple terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Pineapple.

Format

A data frame with 7 rows and 8 columns

104 PINEAPPLEWater

Details

The following are the factors for evaluation:

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of management with full mechanization.)
- Slope3 Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood Flooding
- Drainage4 Drainage (Medium and fine textured soils)
- Drainage5 Drainage (Coarse textured soils Sandy families)
- SlopeD Slope (degree, 6 classes)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

PINEAPPLEWater

Pineapple water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Pineapple.

Format

A data frame with 2 rows and 8 columns

Details

The following are the factors for evaluation:

- WyAv Annual precipitation (mm)
- WyhAv Mean annual rel. humidity (%)

See Also

PLUMSoil 105

PLUMSoil

Plum soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Plum.

Format

A data frame with 12 rows and 8 columns

Details

The following are the factors for evaluation:

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- Gyps Gypsum (%)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC Organic carbon (%)
- ECedS ECe (dS/m)
- ESP ESP (%)
- SoilTe 12 classes of soil texture (Soil Taxonomy)

See Also

106 PLUMTerrain

PLUMTemp

Plum temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Plum.

Format

A data frame with 1 rows and 8 columns

Details

The following are the factors for evaluation:

• TyAv - Mean annual temperature (°C)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

PLUMTerrain

Plum terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Plum.

Format

A data frame with 6 rows and 8 columns

Details

The following are the factors for evaluation:

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of management with full mechanization.)
- Slope3 Slope (%) (3. Low level of management animal traction or handwork.)
- Flood Flooding
- Drainage Drainage
- SlopeD Slope (degree, 6 classes)

See Also

PLUMWater 107

PLUMWater

Plum water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Plum.

Format

A data frame with 1 rows and 8 columns

Details

The following are the factors for evaluation:

• WyAv - Annual precipitation (mm)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

POTATOSoil

Potato soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Potato.

Format

A data frame with 12 rows and 8 columns

Details

- CFragm Coarse fragment (Vol.%)
- SoilDpt1 Surface Soil Depth (cm)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)

108 POTATOSWSoil

- pHH2O pH H2O
- OC Organic carbon (%)
- ECedS ECe (dS/m)
- ESP ESP (%)
- SoilTe 12 classes of soil texture (Soil Taxonomy)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

POTATOSWSoil

Sweet Potato soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Sweet Potato.

Format

A data frame with 12 rows and 8 columns

Details

The following are the factors for evaluation:

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- Gyps Gypsum (%)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC Organic carbon (%)
- ECedS ECe (dS/m)
- ESP ESP (%)
- SoilTe 12 classes of soil texture (Soil Taxonomy)

See Also

POTATOSWTemp 109

POTATOSWTemp

Sweet Potato temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Sweet Potato.

Format

A data frame with 2 rows and 8 columns

Details

The following are the factors for evaluation:

- TgAv Mean temperature of the growing cycle (°C)
- TgMinAv Mean min. temp. of growing cycle (°C)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

POTATOSWTerrain

Sweet Potato terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Sweet Potato.

Format

A data frame with 7 rows and 8 columns

Details

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of management with full mechanization.)
- Slope3 Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood Flooding
- Drainage4 Drainage (Medium and fine textured soils)
- Drainage5 Drainage (Coarse textured soils Sandy families)
- SlopeD Slope (degree, 6 classes)

POTATOTemp

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

POTATOSWWater

Sweet Potato water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Sweet Potato.

Format

A data frame with 5 rows and 8 columns

Details

The following are the factors for evaluation:

- WyAv Annual precipitation (mm)
- WmDryLen Length dry season (months : P < 1/2 PET)
- WmhAv4 Relative humidity at harvest stage (%)
- WmnN2 n/N develop. Stage (2nd month)
- WmnN4 n/N maturation stage (4th month)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

POTATOTemp

Potato temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Potato.

Format

A data frame with 4 rows and 8 columns

POTATOTerrain 111

Details

The following are the factors for evaluation:

- TgAv Mean temperature of the growing cycle (°C)
- TmMinAv1 Average absolut Min. temperature of the first month (°C)
- TmMinAv4 Average absolut Min. temperature of other months (°C)
- TdAvgDiff Average Temperature difference between day-night (°C)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

POTATOTerrain

Potato terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Potato.

Format

A data frame with 7 rows and 8 columns

Details

The following are the factors for evaluation:

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of management with full mechanization.)
- Slope3 Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood Flooding
- Drainage4 Drainage (Medium and fine textured soils)
- Drainage5 Drainage (Coarse textured soils Sandy families)
- SlopeD Slope (degree, 6 classes)

See Also

112 RICEBRSoil

POTATOWater

Potato water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Potato.

Format

A data frame with 5 rows and 8 columns

Details

The following are the factors for evaluation:

- WmAv1 Mean precipitation of first month (mm)
- WmAv2 Mean precipitation of second month (mm)
- WmAv3 Mean precipitation of third month (mm)
- WmAv4 Mean precipitation of fourth month (mm)
- TgAvDlen Average daylength growing cycle (h)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

RICEBRSoil

Rainfed Bunded Rice soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Rainfed Bunded Rice.

Format

A data frame with 6 rows and 8 columns

RICEBRTemp 113

Details

The following are the factors for evaluation:

- CFragm Coarse fragment (Vol.%)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC Organic carbon (%)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

RICEBRTemp

Rainfed Bunded Rice temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Rainfed Bunded Rice.

Format

A data frame with 4 rows and 8 columns

Details

The following are the factors for evaluation:

- TgAv Mean temperature of the growing cycle (°C)
- TmMaxXm Average max. temp. warmest month (°C)
- TmAv2 Mean temp. crop development stage (2nd month) (°C)
- TmMinAv4 Average absolut Min. temperature of other months (°C)

See Also

114 RICEBRWater

RICEBRTerrain

Rainfed Bunded Rice terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Rainfed Bunded Rice

Format

A data frame with 3 rows and 8 columns

Details

The following are the factors for evaluation:

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Flood Flooding
- Drainage Drainage

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

RICEBRWater

Rainfed Bunded Rice water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Rainfed Bunded Rice.

Format

A data frame with 7 rows and 8 columns

Details

- WmAv1 Mean precipitation of first month (mm)
- WmAv2 Mean precipitation of second month (mm)
- WmAv3 Mean precipitation of third month (mm)
- WmAv4 Mean precipitation of fourth month (mm)

RICEIWSoil 115

- WmhAv2 Relative humidity of devel. Stage (%)
- WmhAv4 Relative humidity at harvest stage (%)
- WynN Mean annual n/N

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

RICEIWSoil

Irrigated Rice soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Irrigated Rice.

Format

A data frame with 12 rows and 8 columns

Details

The following are the factors for evaluation:

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- Gyps Gypsum (%)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- OC Organic carbon (%)
- ECedS ECe (dS/m)
- ESP ESP (%)
- pHH2O pH H2O
- SoilTe 12 classes of soil texture (Soil Taxonomy)

See Also

116 RICEIWTerrain

RICEIWTemp

Irrigated Rice temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Irrigated Rice.

Format

A data frame with 4 rows and 8 columns

Details

The following are the factors for evaluation:

- TgAv Mean temperature of the growing cycle (°C)
- TmMaxXm Average max. temp. warmest month (°C)
- TmAv2 Mean temp. crop development stage (2nd month) (°C)
- TmMinAv4 Average absolut Min. temperature of other months (°C)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

RICEIWTerrain

Irrigated Rice terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Irrigated Rice.

Format

A data frame with 4 rows and 8 columns

Details

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Flood Flooding
- Drainage Drainage
- SlopeD Slope (degree, 6 classes)

RICEIWWater 117

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

RICEIWWater

Irrigated Rice water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Irrigated Rice.

Format

A data frame with 7 rows and 8 columns

Details

The following are the factors for evaluation:

- WmAv1 Mean precipitation of first month (mm)
- WmAv2 Mean precipitation of second month (mm)
- WmAv3 Mean precipitation of third month (mm)
- WmAv4 Mean precipitation of fourth month (mm)
- WmhAv2 Relative humidity of devel. Stage (%)
- WmhAv4 Relative humidity at harvest stage (%)
- WynN Mean annual n/N

See Also

118 RICENFSoil

RICENFSoil Rice Cultivation under Natural Floods soil requirement for land eval- uation	RICENFSoil	· · · · · · · · · · · · · · · · · · ·
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Description

A dataset containing the soil characteristics of the crop requirements for farming Rice Cultivation under Natural Floods.

Format

A data frame with 11 rows and 8 columns

Details

The following are the factors for evaluation:

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- Gyps Gypsum (%)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC Organic carbon (%)
- ECedS ECe (dS/m)
- ESP ESP (%)

See Also

RICENFTemp 119

RICENFTemp	Rice Cultivation under Natural Floods temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Rice Cultivation under Natural Floods.

Format

A data frame with 4 rows and 8 columns

Details

The following are the factors for evaluation:

- TgAv Mean temperature of the growing cycle (°C)
- TmMaxXm Average max. temp. warmest month (°C)
- TmAv2 Mean temp. crop development stage (2nd month) (°C)
- TmMinAv4 Average absolut Min. temperature of other months (°C)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

RICENFTerrain	Rice Cultivation under Natural Floods terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Rice Cultivation under Natural Floods.

Format

A data frame with 2 rows and 8 columns

Details

- Flood Flooding
- Drainage Drainage

120 RICENFWater

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

RICENFWater

Rice Cultivation under Natural Floods water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Rice Cultivation under Natural Floods.

Format

A data frame with 7 rows and 8 columns

Details

The following are the factors for evaluation:

- WmAv1 Mean precipitation of first month (mm)
- WmAv2 Mean precipitation of second month (mm)
- WmAv3 Mean precipitation of third month (mm)
- WmAv4 Mean precipitation of fourth month (mm)
- WmhAv2 Relative humidity of devel. Stage (%)
- WmhAv4 Relative humidity at harvest stage (%)
- WynN Mean annual n/N

See Also

RICEURSoil 121

RICEURSoil

Rainfed Upland Rice soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Rainfed Upland Rice.

Format

A data frame with 8 rows and 8 columns

Details

The following are the factors for evaluation:

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC Organic carbon (%)
- SoilTe 12 classes of soil texture (Soil Taxonomy)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

RICEURTemp

Rainfed Upland Rice temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Rainfed Upland Rice.

Format

A data frame with 4 rows and 8 columns

122 RICEURTerrain

Details

The following are the factors for evaluation:

- TgAv Mean temperature of the growing cycle (°C)
- TmMaxXm Average max. temp. warmest month (°C)
- TmAv2 Mean temp. crop development stage (2nd month) (°C)
- TmMinAv4 Average absolut Min. temperature of other months (°C)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

RICEURTerrain

Rainfed Upland Rice terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Rainfed Upland Rice.

Format

A data frame with 6 rows and 8 columns

Details

The following are the factors for evaluation:

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of management with full mechanization.)
- Flood Flooding
- Drainage4 Drainage (Medium and fine textured soils)
- Drainage5 Drainage (Coarse textured soils Sandy families)
- SlopeD Slope (degree, 6 classes)

See Also

RICEURWater 123

RICEURWater

Rainfed Upland Rice water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Rainfed Upland Rice.

Format

A data frame with 7 rows and 8 columns

Details

The following are the factors for evaluation:

- WmAv1 Mean precipitation of first month (mm)
- WmAv2 Mean precipitation of second month (mm)
- WmAv3 Mean precipitation of third month (mm)
- WmAv4 Mean precipitation of fourth month (mm)
- WmhAv2 Relative humidity of devel. Stage (%)
- WmhAv4 Relative humidity at harvest stage (%)
- WynN Mean annual n/N

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

RUBBERSoil

Rubber soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Rubber.

Format

A data frame with 10 rows and 8 columns

124 RUBBERTemp

Details

The following are the factors for evaluation:

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- Gyps Gypsum (%)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC Organic carbon (%)
- ECedS ECe (dS/m)
- SoilTe 12 classes of soil texture (Soil Taxonomy)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). LUSET: Land Use Suitability Evaluation Tool User's Guide. International Rice Research Institute.

 ${\sf RUBBERTemp}$

Rubber temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Rubber.

Format

A data frame with 3 rows and 8 columns

Details

The following are the factors for evaluation:

- TyAv Mean annual temperature (°C)
- TyMaxAv Mean annual maximum temperature (°C)
- TdMinXm Mean daily minimum temperature of coldest month (°C)

See Also

RUBBERTerrain 125

RUBBERTerrain

Rubber terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Rubber.

Format

A data frame with 4 rows and 8 columns

Details

The following are the factors for evaluation:

- Slope2 Slope (%) (2. High level of managemnet with full mechanization.)
- Flood Flooding
- Drainage Drainage
- Slope nan

See Also

 Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). LUSET: Land Use Suitability Evaluation Tool User's Guide. International Rice Research Institute.

RUBBERWater

Rubber water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Rubber.

Format

A data frame with 3 rows and 8 columns

Details

The following are the factors for evaluation:

- WyAv Annual precipitation (mm)
- WmER Months of excessive rain (x)
- WmDryLen Length dry season (months : P < 1/2 PET)

See Also

126 SAFFLOWERTemp

SAFFLOWERSoil

Safflower soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Safflower.

Format

A data frame with 8 rows and 8 columns

Details

The following are the factors for evaluation:

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC Organic carbon (%)
- ECedS ECe (dS/m)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

SAFFLOWERTemp

Safflower temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Safflower.

Format

A data frame with 2 rows and 8 columns

Details

- TmAv1 Mean temp. of the initial stage(C)
- TmAv2 Mean temp. crop development stage (2nd month) (°C)

SAFFLOWERTerrain 127

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

SAFFLOWERTerrain

Safflower terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Safflower.

Format

A data frame with 6 rows and 8 columns

Details

The following are the factors for evaluation:

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of management with full mechanization.)
- Slope3 Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood Flooding
- Drainage4 Drainage (Medium and fine textured soils)
- Drainage5 Drainage (Coarse textured soils Sandy families)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

SAFFLOWERWater

Safflower water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Safflower.

Format

A data frame with 6 rows and 8 columns

128 SESAMESoil

Details

The following are the factors for evaluation:

- WmAv1 Mean precipitation of first month (mm)
- WmAv2 Mean precipitation of second month (mm)
- WmAv3 Mean precipitation of third month (mm)
- WmAv4 Mean precipitation of fourth month (mm)
- WmhAv3 Relative humidity of maturation Stage (%)
- WmhAv4 Relative humidity at harvest stage (%)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

SESAMESoil

Sesame soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Sesame.

Format

A data frame with 7 rows and 8 columns

Details

The following are the factors for evaluation:

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC Organic carbon (%)
- ECedS ECe (dS/m)

See Also

SESAMETemp 129

SESAMETemp

Sesame temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Sesame.

Format

A data frame with 3 rows and 8 columns

Details

The following are the factors for evaluation:

- TgAv Mean temperature of the growing cycle (°C)
- TgMaxAv Mean max temp. of growing cycle (°C)
- TgMinAv Mean min. temp. of growing cycle (°C)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

SESAMETerrain

Sesame terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Sesame.

Format

A data frame with 6 rows and 8 columns

Details

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of management with full mechanization.)
- Slope3 Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood Flooding
- Drainage4 Drainage (Medium and fine textured soils)
- Drainage5 Drainage (Coarse textured soils Sandy families)

SORGHUMSoil

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

SESAMEWater

Sesame water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Sesame.

Format

A data frame with 4 rows and 8 columns

Details

The following are the factors for evaluation:

- WmAv1 Mean precipitation of first month (mm)
- WmAv2 Mean precipitation of second month (mm)
- WmAv3 Mean precipitation of third month (mm)
- WghAv Relative humidity growing cycle (%)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

SORGHUMSoil

Sorghum soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Sorghum.

Format

A data frame with 12 rows and 8 columns

SORGHUMTemp 131

Details

The following are the factors for evaluation:

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- Gyps Gypsum (%)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC6 Organic carbon (%) Kaolinitic materials
- OC7 Organic carbon (%) Non Kaolinitic, Non calcareous materials
- ECedS ECe (dS/m)
- ESP ESP (%)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

SORGHUMTemp

Sorghum temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Sorghum.

Format

A data frame with 3 rows and 8 columns

Details

The following are the factors for evaluation:

- TgAv Mean temperature of the growing cycle (°C)
- TgMaxAv Mean max temp. of growing cycle (°C)
- TgMinAv Mean min. temp. of growing cycle (°C)

See Also

132 SORGHUMWater

SORGHUMTerrain

Sorghum terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Sorghum.

Format

A data frame with 6 rows and 8 columns

Details

The following are the factors for evaluation:

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of management with full mechanization.)
- Slope3 Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood Flooding
- Drainage4 Drainage (Medium and fine textured soils)
- Drainage5 Drainage (Coarse textured soils Sandy families)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

SORGHUMWater

Sorghum water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Sorghum.

Format

A data frame with 3 rows and 8 columns

Details

- WgAv Precipitation of growing cycle (mm)
- WmAv4 Mean precipitation of fourth month (mm)
- WghAv Relative humidity growing cycle (%)

SOYASoil 133

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

SOYASoil

Soya soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Soya.

Format

A data frame with 11 rows and 8 columns

Details

The following are the factors for evaluation:

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- Gyps Gypsum (%)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- OC Organic carbon (%)
- ECedS ECe (dS/m)
- ESP ESP (%)
- SoilTe 12 classes of soil texture (Soil Taxonomy)

See Also

SOYATerrain

SOYATemp

Soya temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Soya.

Format

A data frame with 2 rows and 8 columns

Details

The following are the factors for evaluation:

- TgAv Mean temperature of the growing cycle (°C)
- TgMinAv Mean min. temp. of growing cycle (°C)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

SOYATerrain

Soya terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Soya.

Format

A data frame with 7 rows and 8 columns

Details

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of management with full mechanization.)
- Slope3 Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood Flooding
- Drainage4 Drainage (Medium and fine textured soils)
- Drainage5 Drainage (Coarse textured soils Sandy families)
- SlopeD Slope (degree, 6 classes)

SOYAWater 135

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

SOYAWater

Soya water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Soya.

Format

A data frame with 9 rows and 8 columns

Details

The following are the factors for evaluation:

- WgAv Precipitation of growing cycle (mm)
- WmAv1 Mean precipitation of first month (mm)
- WmAv2 Mean precipitation of second month (mm)
- WmAv3 Mean precipitation of third month (mm)
- WmAv4 Mean precipitation of fourth month (mm)
- WmhAv2 Relative humidity of devel. Stage (%)
- WmhAv3 Relative humidity of maturation Stage (%)
- WmnN2 n/N develop. Stage (2nd month)
- WmnN4 n/N maturation stage (4th month)

See Also

136 SUGARCANESoil

SUGARCANESoil

Sugar Cane soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Sugar Cane.

Format

A data frame with 15 rows and 8 columns

Details

The following are the factors for evaluation:

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- Gyps Gypsum (%)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC6 Organic carbon (%) Kaolinitic materials
- OC7 Organic carbon (%) Non Kaolinitic, Non calcareous materials
- OC8 Organic carbon (%) Calcareous materials
- ECedS ECe (dS/m)
- ESP ESP (%)
- OC Organic carbon (%)
- SoilTe 12 classes of soil texture (Soil Taxonomy)

See Also

SUGARCANETemp 137

SUGARCANETemp

Sugar Cane temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Sugar Cane.

Format

A data frame with 4 rows and 8 columns

Details

The following are the factors for evaluation:

- TdAvg0 Mean day temperature at germination stage(°C)
- TdAvg1 Mean day temperature for tillage stage (°C)
- TdAvg2 Mean day temperature for vegetative stage (°C)
- Tcoef (Tmax-Tmin)/Tmean maturation stage

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

SUGARCANETerrain

Sugar Cane terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Sugar Cane.

Format

A data frame with 7 rows and 8 columns

Details

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of management with full mechanization.)
- Slope3 Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood Flooding
- Drainage4 Drainage (Medium and fine textured soils)
- Drainage5 Drainage (Coarse textured soils Sandy families)
- SlopeD Slope (degree, 6 classes)

138 suit

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

SUGARCANEWater

Sugar Cane water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Sugar Cane.

Format

A data frame with 4 rows and 8 columns

Details

The following are the factors for evaluation:

- Wd10 10 days of rainfall (mm)
- SunH Sunshine : hours/year
- WynN Mean annual n/N
- WmhAv3 Relative humidity of maturation Stage (%)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

suit

Suitability Scores/Class of the Land Units

Description

This function calculates the suitability scores and class of the land units.

suit 139

Usage

```
suit(
  crop,
  terrain = NULL,
  water = NULL,
  temp = NULL,
  mf = "triangular",
  sow_month = NULL,
  minimum = NULL,
  maximum = "average",
  interval = NULL,
  sigma = NULL
```

Arguments

crop a string for the name of the crop;

terrain a data frame for the terrain characteristics of the input land units; water a data frame for the water characteristics of the input land units;

temp a data frame for the temperature characteristics of the input land units;

mf membership function with default assigned to "triangular" fuzzy model. Other

fuzzy models included are "trapezoidal" and "gaussian".

sow_month sowing month of the crop. Takes integers from 1 to 12 (inclusive), representing

the twelve months of the year. So if sets to 1, the function assumes sowing

month to be January.

minimum factor's minimum value. If NULL (default), minimum is set to 0. But if numeric

of length one, say 0.5, then minimum is set to 0.5, for all factors. To set multiple minimums for multiple factors, simply concatenate these into a numeric vector, the length of this vector should be equal to the number of factors in input land units parameters. However, it can also be set to "average", please refer to the

online documentation for more, link in the "See Also" section below.

maximum value for factors. To set multiple maximums for multiple factors,

simply concatenate these into a numeric vector, the length of this vector should be equal to the number of factors in input land units parameters. However, it can also be set to "average", please refer to the online documentation for more,

link in the "See Also" section below.

interval domains for every suitability class (S1, S2, S3). If fixed (NULL), the interval

would be 0 to 25% for N (Not Suitable), 25% to 50% for S3 (Marginally Suitable), 50% to 75% for S2 (Moderately Suitable), and 75% to 100% for (Highly Suitable). If "unbias", the package will take into account the shape of the membership function, and provide the appropriate suitability class intervals. However, it can also be customized by specifying the limits of the suitability classes. Please refer to the online documentation for more, link in the "See Also" section

below.

sigma If mf = "gaussian", then sigma represents the constant sigma in the Gaussian

formula.

140 suit

Value

A list of outputs of target characteristics, with the following components:

- "terrain" a list of outputs for terrain characteristics
- "soil" a list of outputs for soil characteristics
- "water" a list of outputs for water characteristics
- "temp" a list of outputs for temperature characteristics

These components are only available when specified as the target characteristics in either of the arguments above, that is, if terrain argument is specified above, then the "terrain" and "soil" components will be available in the output list. This is also true if water and temp are specified in the arguments above.

Each of the components returned above contains a list of outputs as well with the following components:

- "Factors Evaluated" a character of factors that matched between the input land units factor and the targetted crop requirement factor
- "Suitability Score" a data frame of suitability scores for each of the matched factors
- "Suitability Class" a data frame of suitability classes for each of the matched factors
- "Factors' Minimum Values" a numeric of minimum values used in the membership function for computing the suitability scores
- "Factors' Minimum Values" a numeric of maximum values used in the membership function for computing the suitability scores
- "Factors' Weights" a numeric of weights of the factors specified in the input crop requirements
- "Crop Evaluated" a character of the name of the targetted crop requirement dataset

See Also

```
https://alstat.github.io/ALUES/
```

Examples

```
library(ALUES)

rice_suit <- suit("ricebr", water=MarinduqueWater, temp=MarinduqueTemp, sow_month = 1)
lapply(rice_suit[["water"]], function(x) head(x)) # access results for water suitability
lapply(rice_suit[["temp"]], function(x) head(x)) # access results for temperature suitability
rice_suit <- suit("ricebr", terrain=MarinduqueLT)
lapply(rice_suit[["terrain"]], function(x) head(x))
lapply(rice_suit[["soil"]], function(x) head(x))</pre>
```

141 suitability

suitability

Suitability Scores/Class of the Land Units

Description

This function calculates the suitability scores and class of the land units.

Usage

```
suitability(
 Х,
 у,
 mf = "triangular",
  sow_month = NULL,
 minimum = NULL,
 maximum = "average",
  interval = NULL,
  sigma = NULL
)
```

Arguments

a data frame consisting the properties of the land units; Х

a data frame consisting the requirements of a given characteristics (terrain, soil, У

water and temperature) for a given crop (e.g. coconut, cassava, etc.);

mf membership function with default assigned to "triangular" fuzzy model. Other

fuzzy models included are "trapezoidal" and "gaussian".

sow_month sowing month of the crop. Takes integers from 1 to 12 (inclusive), representing

the twelve months of the year. So if sets to 1, the function assumes sowing

month to be January.

minimum factor's minimum value. If NULL (default), minimum is set to 0. But if numeric

> of length one, say 0.5, then minimum is set to 0.5, for all factors. To set multiple minimums for multiple factors, simply concatenate these into a numeric vector, the length of this vector should be equal to the number of factors in input land units parameters. However, it can also be set to "average", please refer to the

online documentation for more, link in the "See Also" section below.

maximum value for factors. To set multiple maximums for multiple factors, maximum

> simply concatenate these into a numeric vector, the length of this vector should be equal to the number of factors in input land units parameters. However, it can also be set to "average", please refer to the online documentation for more,

link in the "See Also" section below.

interval domains for every suitability class (S1, S2, S3). If fixed (NULL), the interval

would be 0 to 25% for N (Not Suitable), 25% to 50% for S3 (Marginally Suit-

able), 50% to 75% for S2 (Moderately Suitable), and 75% to 100% for (Highly

142 SUNFLOWERSoil

Suitable). If "unbias", the package will take into account the shape of the membership function, and provide the appropriate suitability class intervals. However, it can also be customized by specifying the limits of the suitability classes. Please refer to the online documentation for more, link in the "See Also" section below.

sigma

If mf = "gaussian", then sigma represents the constant sigma in the Gaussian formula.

Value

A list with the following components:

- "Factors Evaluated" a character of factors that matched between the input land units factor and the targetted crop requirement factor
- "Suitability Score" a data frame of suitability scores for each of the matched factors
- "Suitability Class" a data frame of suitability classes for each of the matched factors
- "Factors' Minimum Values" a numeric of minimum values used in the membership function for computing the suitability scores
- "Factors' Minimum Values" a numeric of maximum values used in the membership function for computing the suitability scores
- "Factors' Weights" a numeric of weights of the factors specified in the input crop requirements
- "Crop Evaluated" a character of the name of the targetted crop requirement dataset

#' @seealso https://alstat.github.io/ALUES/

SUNFLOWERSoil

Sunflower soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Sunflower.

Format

A data frame with 11 rows and 8 columns

Details

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- Gyps Gypsum (%)

SUNFLOWERTemp 143

- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC Organic carbon (%)
- ECedS ECe (dS/m)
- ESP ESP (%)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

SUNFLOWERTemp

Sunflower temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Sunflower.

Format

A data frame with 1 rows and 8 columns

Details

The following are the factors for evaluation:

• TgAv - Mean temperature of the growing cycle (°C)

See Also

144 SUNFLOWERWater

SUNFLOWERTerrain

Sunflower terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Sunflower.

Format

A data frame with 6 rows and 8 columns

Details

The following are the factors for evaluation:

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of management with full mechanization.)
- Slope3 Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood Flooding
- Drainage4 Drainage (Medium and fine textured soils)
- Drainage5 Drainage (Coarse textured soils Sandy families)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

SUNFLOWERWater

Sunflower water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Sunflower.

Format

A data frame with 6 rows and 8 columns

TEASoil 145

Details

The following are the factors for evaluation:

- WgAv Precipitation of growing cycle (mm)
- WmAv1 Mean precipitation of first month (mm)
- WmAv2 Mean precipitation of second month (mm)
- WmAv4 Mean precipitation of fourth month (mm)
- WmAv5 Mean precipitation of fifth month (mm)
- WghAv Relative humidity growing cycle (%)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

TEASoil

Tea soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Tea.

Format

A data frame with 12 rows and 8 columns

Details

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- Gyps Gypsum (%)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC Organic carbon (%)
- ECedS ECe (dS/m)
- ESP ESP (%)
- SoilTe 12 classes of soil texture (Soil Taxonomy)

146 TEATerrain

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

TEATemp

Tea temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Tea.

Format

A data frame with 5 rows and 8 columns

Details

The following are the factors for evaluation:

- TyAv Mean annual temperature (°C)
- TmMinAv Mean min. temp. of warmest month (°C)
- TmMinXm Avarage minimum temperature of coldest month (C)
- TmMaxXm Average max. temp. warmest month (°C)
- TmAv4Xm Mean temp. of 4 warmest month (°C)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

TEATerrain

Tea terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Tea.

Format

A data frame with 4 rows and 8 columns

TEAWater 147

Details

The following are the factors for evaluation:

- Slope2 Slope (%) (2. High level of managemnet with full mechanization.)
- Flood Flooding
- Drainage Drainage
- SlopeD Slope (degree, 6 classes)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

TEAWater

Tea water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Tea.

Format

A data frame with 4 rows and 8 columns

Details

The following are the factors for evaluation:

- WyAv Annual precipitation (mm)
- WmDryLen Length dry season (months : P < 1/2 PET)
- WmDryLen Length dry season (months : P < 1/2 PET)
- WyhAv Mean annual rel. humidity (%)

See Also

148 TOBACCOSoil

TOBACCOSoil

Tobacco soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Tobacco.

Format

A data frame with 12 rows and 8 columns

Details

The following are the factors for evaluation:

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- Gyps Gypsum (%)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC Organic carbon (%)
- ECedS ECe (dS/m)
- ESP ESP (%)
- SoilTe 12 classes of soil texture (Soil Taxonomy)

See Also

TOBACCOTemp 149

TOBACCOTemp

Tobacco temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Tobacco.

Format

A data frame with 1 rows and 8 columns

Details

The following are the factors for evaluation:

• TgAv - Mean temperature of the growing cycle (°C)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

TOBACCOTerrain

Tobacco terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Tobacco.

Format

A data frame with 7 rows and 8 columns

Details

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of management with full mechanization.)
- Slope3 Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood Flooding
- Drainage4 Drainage (Medium and fine textured soils)
- Drainage5 Drainage (Coarse textured soils Sandy families)
- SlopeD Slope (degree, 6 classes)

150 TOMATOSoil

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

TOBACCOWater

Tobacco water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Tobacco.

Format

A data frame with 3 rows and 8 columns

Details

The following are the factors for evaluation:

- WgAv Precipitation of growing cycle (mm)
- WynN Mean annual n/N
- WghAv Relative humidity growing cycle (%)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

TOMATOSoil

Tomato soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Tomato.

Format

A data frame with 12 rows and 8 columns

TOMATOTemp 151

Details

The following are the factors for evaluation:

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- Gyps Gypsum (%)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC Organic carbon (%)
- ECedS ECe (dS/m)
- ESP ESP (%)
- SoilTe 12 classes of soil texture (Soil Taxonomy)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

TOMATOTemp

Tomato temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Tomato.

Format

A data frame with 4 rows and 8 columns

Details

The following are the factors for evaluation:

- TgAv Mean temperature of the growing cycle (°C)
- TmAv0 Mean temp. at germination (°C) (1st month)
- TmAv3 Mean temp. of the flowering stage (°C)
- TdDiff3 Temp. diff day/night flowering stage (°C)

See Also

TOMATOWater

TOMATOTerrain

Tomato terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Tomato.

Format

A data frame with 7 rows and 8 columns

Details

The following are the factors for evaluation:

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of management with full mechanization.)
- Slope3 Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood Flooding
- Drainage4 Drainage (Medium and fine textured soils)
- Drainage5 Drainage (Coarse textured soils Sandy families)
- SlopeD Slope (degree, 6 classes)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

TOMATOWater

Tomato water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Tomato.

Format

A data frame with 2 rows and 8 columns

Details

- WgAv Precipitation of growing cycle (mm)
- WghAv Relative humidity growing cycle (%)

WATERMELONSoil 153

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

WATERMELONSoil

Watermelon soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Watermelon.

Format

A data frame with 10 rows and 8 columns

Details

The following are the factors for evaluation:

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC Organic carbon (%)
- ECedS ECe (dS/m)
- ESP ESP (%)
- SoilTe nan

See Also

154 WATERMELONTerrain

WATERMELONTemp

Watermelon temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Watermelon.

Format

A data frame with 1 rows and 8 columns

Details

The following are the factors for evaluation:

• TgAv - Mean temperature of the growing cycle (°C)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

WATERMELONTerrain

Watermelon terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Watermelon.

Format

A data frame with 7 rows and 8 columns

Details

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of management with full mechanization.)
- Slope3 Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood Flooding
- Drainage4 Drainage (Medium and fine textured soils)
- Drainage5 Drainage (Coarse textured soils Sandy families)
- SlopeD Slope (degree, 6 classes)

WATERMELONWater 155

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

WATERMELONWater

Watermelon water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Watermelon.

Format

A data frame with 2 rows and 8 columns

Details

The following are the factors for evaluation:

- WgAv Precipitation of growing cycle (mm)
- WghAv Relative humidity growing cycle (%)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

WHEATSoil

Wheat soil requirement for land evaluation

Description

A dataset containing the soil characteristics of the crop requirements for farming Wheat.

Format

A data frame with 14 rows and 8 columns

156 WHEATTemp

Details

The following are the factors for evaluation:

- CFragm Coarse fragment (Vol.%)
- SoilDpt Soil depth (cm)
- CaCO3 CaCO3 (%)
- Gyps Gypsum (%)
- CECc Apparent CEC Clay (cmol (+)/kg clay)
- BS Base Saturation (%)
- SumBCs Sum of basic caions (cmol (+)/kg soil)
- pHH2O pH H2O
- OC Organic carbon (%)
- OC6 Organic carbon (%) Kaolinitic materials
- OC7 Organic carbon (%) Non Kaolinitic, Non calcareous materials
- OC8 Organic carbon (%) Calcareous materials
- ECedS ECe (dS/m)
- ESP ESP (%)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

WHEATTemp

Wheat temp requirement for land evaluation

Description

A dataset containing the temp characteristics of the crop requirements for farming Wheat.

Format

A data frame with 4 rows and 8 columns

Details

- TgAv Mean temperature of the growing cycle (°C)
- TmAv2 Mean temp. crop development stage (2nd month) (°C)
- TmAv3 Mean temp. of the flowering stage (°C)
- TmAv4 Mean temp. of the ripening stage (°C)

WHEATTerrain 157

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

WHEATTerrain

Wheat terrain requirement for land evaluation

Description

A dataset containing the terrain characteristics of the crop requirements for farming Wheat.

Format

A data frame with 6 rows and 8 columns

Details

The following are the factors for evaluation:

- Slope1 Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Slope2 Slope (%) (2. High level of management with full mechanization.)
- Slope3 Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood Flooding
- Drainage4 Drainage (Medium and fine textured soils)
- Drainage5 Drainage (Coarse textured soils Sandy families)

See Also

• Yen, B. T., Pheng, K. S., and Hoanh, C. T. (2006). *LUSET: Land Use Suitability Evaluation Tool User's Guide*. International Rice Research Institute.

WHEATWater

Wheat water requirement for land evaluation

Description

A dataset containing the water characteristics of the crop requirements for farming Wheat.

Format

A data frame with 4 rows and 8 columns

Details

The following are the factors for evaluation:

- WgAv Precipitation of growing cycle (mm)
- WmAv2 Mean precipitation of second month (mm)
- WmAv3 Mean precipitation of third month (mm)
- WmAv4 Mean precipitation of fourth month (mm)

See Also

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