Package: ALUES (via r-universe)

September 8, 2024

Type Package

Title Agricultural Land Use Evaluation System

Version 0.2.1

Date 2022-01-10

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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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LazyData true

LinkingTo Rcpp

Encoding UTF-8

Depends R (>= 3.5.0), Rcpp (>= 0.10.6)

Suggests testthat, markdown, knitr, microbenchmark, ggmap, raster, reshape2

RoxygenNote 7.1.2

VignetteBuilder knitr

URL https://github.com/alstat/ALUES/

BugReports https://github.com/alstat/ALUES/issues/

Repository https://alstat.r-universe.dev

RemoteUrl https://github.com/alstat/alues

RemoteRef HEAD

RemoteSha 0a506e4a7f4f066eb9a1a9c109daf7c09d841690

Contents

`ALUES-package` *Agricultural Land Use Evaluation System*

Description

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)

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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

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

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

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 managemnet with full mechanization.)
- Slope3 - Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood - Flooding (1- No Flood, 2 - short time, 3 - Long time)
- Drainage4 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Medium and fine textured soils)
- Drainage5 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (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

The following are the factors for evaluation:

- CropLen - Length of growing period (days)
- 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.

`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

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

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 managemnet with full mechanization.)
- Slope3 - Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood - Flooding (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage 1-good, 2-moderate, 3-imperfect, 4-poor - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor

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.

`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.

`BAMBOOSoil` *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

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

`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.

`BAMBOOTerrain` *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 (1: 0-3, 2: 3-8, 3: 8-15, 4: 15-20, 5: 20-25, 6: >25) (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.

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

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.

`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

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

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 managemnet with full mechanization.)
- Slope3 - Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood - Flooding (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage 1-good, 2-moderate, 3-imperfect, 4-poor - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor
- SlopeD - Slope (1: 0-3, 2: 3-8, 3: 8-15, 4: 15-20, 5: 20-25, 6: >25) (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

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.

`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

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

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

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 (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage4 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Medium and fine textured soils)
- Drainage5 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (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.

`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

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

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

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:

- 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 (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage4 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Medium and fine textured soils)
- Drainage5 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (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

The following are the factors for evaluation:

- WgAv - Precipitation of growing cycle (mm)
- 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.

`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

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

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

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 (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage4 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Medium and fine textured soils)
- Drainage5 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Coarse textured soils - Sandy families)
- SlopeD - Slope (1: 0-3, 2: 3-8, 3: 8-15, 4: 15-20, 5: 20-25, 6: >25) (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.

`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

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

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

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 managemnet with full mechanization.)
- Slope3 - Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood - Flooding (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage4 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Medium and fine textured soils)
- Drainage5 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Coarse textured soils - Sandy families)
- SlopeD - Slope (1: 0-3, 2: 3-8, 3: 8-15, 4: 15-20, 5: 20-25, 6: >25) (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

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.

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

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

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

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 (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage4 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Medium and fine textured soils)
- Drainage5 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (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.

`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

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

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

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 managemnet with full mechanization.)
- Slope3 - Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood - Flooding (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage4 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Medium and fine textured soils)
- Drainage5 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Coarse textured soils - Sandy families)
- SlopeD - Slope (1: 0-3, 2: 3-8, 3: 8-15, 4: 15-20, 5: 20-25, 6: >25) (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

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.

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

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

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

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 (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage 1-good, 2-moderate, 3-imperfect, 4-poor - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor
- SlopeD - Slope (1: 0-3, 2: 3-8, 3: 8-15, 4: 15-20, 5: 20-25, 6: >25) (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.

`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

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

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

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 managemnet with full mechanization.)
- Slope3 - Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood - Flooding (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage4 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Medium and fine textured soils)
- Drainage5 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Coarse textured soils - Sandy families)
- SlopeD - Slope (1: 0-3, 2: 3-8, 3: 8-15, 4: 15-20, 5: 20-25, 6: >25) (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

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

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

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 (1: 0-3, 2: 3-8, 3: 8-15, 4: 15-20, 5: 20-25, 6: >25) (degree, 6 classes)
- Flood - Flooding (1 - No Flood, 2 - short time, 3 - Long time)

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.

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

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.

`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)
- TyMinAb - Absolute minimum temperature (°C)
- TyMinAb - Absolute minimum temperature (°C)
- TyMinAb - Absolute minimum temperature (°C)
- TmAv3 - Mean temp. of the 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.

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 managemnet with full mechanization.)
- Slope3 - Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood - Flooding (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage 1-good, 2-moderate, 3-imperfect, 4-poor - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor
- SlopeD - Slope (1: 0-3, 2: 3-8, 3: 8-15, 4: 15-20, 5: 20-25, 6: >25) (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

The following are the factors for evaluation:

- 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 (%)

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

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

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

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 (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage 1-good, 2-moderate, 3-imperfect, 4-poor - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor

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

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

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

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 managemnet with full mechanization.)
- Slope3 - Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood - Flooding (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage 1-good, 2-moderate, 3-imperfect, 4-poor - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor

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

The following are the factors for evaluation:

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

`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

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

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

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 (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage 1-good, 2-moderate, 3-imperfect, 4-poor - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor
- SlopeD - Slope (1: 0-3, 2: 3-8, 3: 8-15, 4: 15-20, 5: 20-25, 6: >25) (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.

`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

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

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

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 managemnet with full mechanization.)
- Slope3 - Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood - Flooding (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage 1-good, 2-moderate, 3-imperfect, 4-poor - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor

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

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.

`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

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

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

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 (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage4 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Medium and fine textured soils)
- Drainage5 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (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

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

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

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 managemnet with full mechanization.)
- Slope3 - Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood - Flooding (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage4 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Medium and fine textured soils)
- Drainage5 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Coarse textured soils - Sandy families)
- SlopeD - Slope (1: 0-3, 2: 3-8, 3: 8-15, 4: 15-20, 5: 20-25, 6: >25) (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.

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

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.

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

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

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 (1: 0-3, 2: 3-8, 3: 8-15, 4: 15-20, 5: 20-25, 6: >25) (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 (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage4 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Medium and fine textured soils)
- Drainage5 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (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

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.

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

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

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

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 (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage4 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Medium and fine textured soils)

- Drainage5 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Coarse textured soils - Sandy families)
- SlopeD - Slope (1: 0-3, 2: 3-8, 3: 8-15, 4: 15-20, 5: 20-25, 6: >25) (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.

`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

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

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

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 (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage 1-good, 2-moderate, 3-imperfect, 4-poor - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor

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

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

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 (1: 0-3, 2: 3-8, 3: 8-15, 4: 15-20, 5: 20-25, 6: >25) (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

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` *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

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

`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

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 (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage 1-good, 2-moderate, 3-imperfect, 4-poor - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor
- SlopeD - Slope (1: 0-3, 2: 3-8, 3: 8-15, 4: 15-20, 5: 20-25, 6: >25) (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.

`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

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

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

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 (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage4 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Medium and fine textured soils)
- Drainage5 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Coarse textured soils - Sandy families)
- SlopeD - Slope (1: 0-3, 2: 3-8, 3: 8-15, 4: 15-20, 5: 20-25, 6: >25) (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

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

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 (%)
- 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)

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

The following are the factors for evaluation:

- Slope1 - Slope (%) (1) Basin furrow irrigation
- Slope2 - Slope (%) (2) Mechanized, high management level
- Slope3 - Slope (%) (3) Manual, low management level
- Flood - Flooding (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage 1-good, 2-moderate, 3-imperfect, 4-poor - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor
- SlopeD - 6 classes of slope (Degree)

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

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;

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

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

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

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 managemnet with full mechanization.)
- Slope3 - Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood - Flooding (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage4 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Medium and fine textured soils)
- Drainage5 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (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

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)
- 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.

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

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

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 (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage4 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (4) Medium & fine textured soils
- Drainage5 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (5) Coarse textured soils

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.

`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

The following are the factors for evaluation:

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

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

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

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 managemnet animal traction or handwork.)
- Flood - Flooding (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage 1-good, 2-moderate, 3-imperfect, 4-poor - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor
- SlopeD - Slope (1: 0-3, 2: 3-8, 3: 8-15, 4: 15-20, 5: 20-25, 6: >25) (degree, 6 classes) (1: 0-3, 2: 3-8, 3: 8-15, 4: 15-20, 5: 20-25, 6: >25)

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

The following are the factors for evaluation:

- 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.)

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

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

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

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 (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage4 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Medium and fine textured soils)
- Drainage5 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (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.

`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)
```

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

https://alstat.github.io/ALUES/; suit

Examples

```
# The overall suitability can be computed using the `overall_suit`
# function, which takes an object of class suitability. For example,
library(ALUES)
banana_suit <- suit("banana", terrain=MarinduqueLT)
class(banana_suit[["terrain"]])
class(banana_suit[["soil"]])

# If we take a look at the output of both terrain and soil
# characteristics, we have:

# lapply is used to show the head of each item in the list
lapply(banana_suit[["terrain"]], function(x) head(x))
lapply(banana_suit[["soil"]], function(x) head(x))

# There are no factors targetted for the terrain
# characteristics, that is why the returned value is a
# string error. Thus, only the soil characteristics can
# have an overall suitability, and is computed as follows:
ovsuit <- overall_suit(banana_suit[["soil"]])
head(ovsuit)

# By default, the `overall_suit` function uses minimum
# as a summary statistics, hence the 0 scores and N
# classes across land units. To adjust this to average
# aggregation, use the `method` argument to specify.
```

```
ovsuit <- overall_suit(banana_suit[["soil"]], method="average")
head(ovsuit)

## Intervals
# By default, the `overall_suit` uses an equally spaced
# interval for the suitability classes, that is,
# N [0, 0.25), S3 [0.25, 0.50), S2 [0.50, 0.75),
# and S1 [0.75, 1]. This can be changed using the
# `interval` argument, for example
ovsuit <- overall_suit(banana_suit[["soil"]], method="average",
interval=c(0, 0.6, 0.7, 0.9, 1))
head(ovsuit)

# The above code sets the suitability class intervals
# into: N [0, 0.60), S3 [0.60, 0.70), S2 [0.70, 0.90),
# and S1 [0.90, 1]. It should be emphasized that the
# `interval` argument cannot be set to `unbias` as in
# the case of the `interval` argument of the `suit`
# function. This follows from the fact that the
# `overall_suit` function does not use a membership
# function for computing the score, but an aggregation function.

# Other examples
library(ALUES)
out <- suit("ricebr", terrain=MarinduqueLT,
water=MarinduqueWater, temp=MarinduqueTemp, sow_month=1)
lapply(out[["terrain"]], function(x) head(x))
lapply(out[["water"]], function(x) head(x))

# 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)))
```

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

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

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

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

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 managemnet with full mechanization.)
- Slope3 - Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood - Flooding (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage 1-good, 2-moderate, 3-imperfect, 4-poor - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor
- SlopeD - Slope (1: 0-3, 2: 3-8, 3: 8-15, 4: 15-20, 5: 20-25, 6: >25) (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.

`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

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.

`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

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 (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage 1-good, 2-moderate, 3-imperfect, 4-poor - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor
- SlopeD - Slope (1: 0-3, 2: 3-8, 3: 8-15, 4: 15-20, 5: 20-25, 6: >25) (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

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

`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

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 managemnet with full mechanization.)
- Slope3 - Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood - Flooding (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage4 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Medium and fine textured soils)
- Drainage5 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Coarse textured soils - Sandy families)
- SlopeD - Slope (1: 0-3, 2: 3-8, 3: 8-15, 4: 15-20, 5: 20-25, 6: >25) (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.

`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

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.

`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

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 (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage4 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Medium and fine textured soils)
- Drainage5 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (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

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

`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

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

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 managemnet with full mechanization.)
- Slope3 - Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood - Flooding (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage 1-good, 2-moderate, 3-imperfect, 4-poor - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor
- SlopeD - Slope (1: 0-3, 2: 3-8, 3: 8-15, 4: 15-20, 5: 20-25, 6: >25) (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.

`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

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.

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

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 (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage4 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Medium and fine textured soils)
- Drainage5 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Coarse textured soils - Sandy families)
- SlopeD - Slope (1: 0-3, 2: 3-8, 3: 8-15, 4: 15-20, 5: 20-25, 6: >25) (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

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

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

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

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 managemnet with full mechanization.)
- Slope3 - Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood - Flooding (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage 1-good, 2-moderate, 3-imperfect, 4-poor - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor
- SlopeD - Slope (1: 0-3, 2: 3-8, 3: 8-15, 4: 15-20, 5: 20-25, 6: >25) (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.

`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

The following are the factors for evaluation:

- 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)
- 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

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

`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

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 (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage4 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Medium and fine textured soils)
- Drainage5 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Coarse textured soils - Sandy families)
- SlopeD - Slope (1: 0-3, 2: 3-8, 3: 8-15, 4: 15-20, 5: 20-25, 6: >25) (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.

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

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 managemnet with full mechanization.)
- Slope3 - Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood - Flooding (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage4 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Medium and fine textured soils)
- Drainage5 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Coarse textured soils - Sandy families)
- SlopeD - Slope (1: 0-3, 2: 3-8, 3: 8-15, 4: 15-20, 5: 20-25, 6: >25) (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.

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

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

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

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 (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage 1-good, 2-moderate, 3-imperfect, 4-poor - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor

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

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.

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

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

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

The following are the factors for evaluation:

- Slope1 - Slope (%) (1. Irrigrated agriculture, basin furrow irrigation)
- Flood - Flooding (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage 1-good, 2-moderate, 3-imperfect, 4-poor - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor
- SlopeD - Slope (1: 0-3, 2: 3-8, 3: 8-15, 4: 15-20, 5: 20-25, 6: >25) (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.

`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

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

RICENFSoil *Rice Cultivation under Natural Floods soil requirement for land evaluation*

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

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

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

The following are the factors for evaluation:

- Flood - Flooding (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage 1-good, 2-moderate, 3-imperfect, 4-poor - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor

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

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

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

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 managemnet with full mechanization.)
- Flood - Flooding (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage4 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Medium and fine textured soils)
- Drainage5 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Coarse textured soils - Sandy families)
- SlopeD - Slope (1: 0-3, 2: 3-8, 3: 8-15, 4: 15-20, 5: 20-25, 6: >25) (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.

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

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.

`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

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

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 (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage 1-good, 2-moderate, 3-imperfect, 4-poor - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor
- 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

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

`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

The following are the factors for evaluation:

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

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 managemnet with full mechanization.)
- Slope3 - Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood - Flooding (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage4 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Medium and fine textured soils)
- Drainage5 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (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

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

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

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

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 (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage4 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Medium and fine textured soils)
- Drainage5 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (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.

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

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

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

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 managemnet with full mechanization.)
- Slope3 - Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood - Flooding (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage4 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Medium and fine textured soils)
- Drainage5 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (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

The following are the factors for evaluation:

- WgAv - Precipitation of growing cycle (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.

`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

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

`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

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 (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage4 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Medium and fine textured soils)
- Drainage5 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Coarse textured soils - Sandy families)
- SlopeD - Slope (1: 0-3, 2: 3-8, 3: 8-15, 4: 15-20, 5: 20-25, 6: >25) (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.

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

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

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

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

`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

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 (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage4 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Medium and fine textured soils)
- Drainage5 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Coarse textured soils - Sandy families)
- SlopeD - Slope (1: 0-3, 2: 3-8, 3: 8-15, 4: 15-20, 5: 20-25, 6: >25) (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.

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.

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` 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.

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/; overall_suit

Examples

```
library(ALUES)
banana_suit <- suit("banana", terrain=MarinduqueLT)
names(banana_suit)

# The warning above simply tells the user that one of the factor,
# CECc, in the target crop requirement, has parameter intervals for
# all suitability classes equal to 16, and the package used this value
# as the maximum constant for computing the suitability scores. For more,
# please refer to the **Article 2: Methodology used in ALUES** of the documentation.
# The `suit` function returns a list of output of target
# characteristics, in this case `"terrain"` and `"soil"`. To access
# the output, simply run the following:

# lapply is used to display the head of each items in the list
lapply(banana_suit[["terrain"]], function(x) head(x))
lapply(banana_suit[["soil"]], function(x) head(x))

# Each of these are lists, with the following names:
names(banana_suit[["soil"]])

# So that, to access the factors evaluated, simply run the following:
banana_suit[["soil"]][["Factors Evaluated"]]

## Targetting Crop
# There are 56 crops available in ALUES, and what we've illustrated
# above is for banana only. Other crops are listed below:
d <- utils::data(package = "ALUES")
alues_data <- d$results[, "Item"]
crop_data <- regmatches(alues_data, gregexpr(paste0("^[A-Z]{2,}",
collapse = "|"), alues_data))
crop_data <- unique(unlist(lapply(crop_data,
function(x) substr(x, 1, nchar(x)-1))))
crop_data

# These are the names for the input string for the
# `suit` function. For example, to target sweet potato the
# input string is not `"sweet potato"` but rather `potatosw`. That is,
# potato_suit1 <- suit("sweet potato", terrain=MarinduqueLT)
potato_suit2 <- suit("potatosw", terrain=MarinduqueLT)
```

```
## Targetting Crop Factors
# The idea of evaluating a land unit is to match the
# quality of the land against the standard value of the
# target factor. Therefore, if the crop does not include
# the factor you are targeting, then there won't be any
# matching to be done. For example, the land units evaluated
# above are those in Marindque, which has the following soil
# and terrain characteristics:
head(MarinduqueLT)
# The crop that we are trying to target is banana. The `suit`
# function simply require the user to input a string name for
# the target crop, and the function will look for the corresponding
# crop datasets. For example, for banana these are the crop
# requirements datasets for the four characteristics:
BANANATerrain
BANANASoil
BANANAWater
BANANATemp
# These datasets are used by the `suit` function depending
# on the targetted characteristics of the input land units
# (specified by the user) on the said function. So for
# `banana_suit` object above, the target crop datasets were
# `BANANATerrain` and `BANANASoil` since the input land unit
# specified is `terrain=MarinduqueLT`. Further, the input land
# unit only targetted the soil factors and not the terrain factors,
# since none of the factors in `MarinduqueLT` matched with the
# factors in `BANANATerrain`. That is why, accessing the output
# for the terrain characteristics for the `banana_suit` object
# will return the following:
banana_suit[["terrain"]]

## Targetting Multiple Characteristics
# The example above only targetted the terrain and soil
# characteristics, but the `suit` function allows user to
# also target water and temp simultaneously. For examples,
# we can evaluate the land units of Lao Cai, Vietnam for all
# three characteristics as follows for irrigated rice (`riceiw``):
riceiw_multi <- suit("riceiw", terrain=LaoCaiLT, water=LaoCaiWater,
temp=LaoCaiTemp, sow_month=10)
names(riceiw_multi)

# It is necessary to specify the sowing month when specifying
# the water and temperature characteristics of the input land
# units. In this case, we are saying that the first sowing
# month for both water and temperature characteristics
# correspond to October (*See* Article 6 for more on this).
# No factors were targetted by input land unit for banana for
# terrain, water and temperature characteristics.
lapply(riceiw_multi[["terrain"]], function(x) head(x))
lapply(riceiw_multi[["soil"]], function(x) head(x))
lapply(riceiw_multi[["water"]], function(x) head(x))
lapply(riceiw_multi[["temp"]], function(x) head(x))
```

```
# Only the head (first six) of the output of the items are shown.

## Membership Function
# There are three membership functions (MFs) available in
# the `suit` function, namely *triangular*, *trapezoidal*
# and *Gaussian*. For example, the following computes the
# suitability scores and classes using trapezoidal MF.
banana_suit <- suit("banana", terrain=MarinduqueLT, mf="trapezoidal")
head(banana_suit[["soil"]][["Suitability Score"]])
head(banana_suit[["soil"]][["Suitability Class"]])

## Intervals
# Another option available in the `suit` function is the
# `interval`. By default, ALUES uses an equally spaced
# suitability class intervals for deriving the suitability
# class. That is, for N [0, 0.25), S3 [0.25, 0.50),
# S2 [0.50, 0.75), and S1 [0.75, 1].

### Custom Intervals
# Users can modify the default equally spaced intervals, for example:
banana_suit <- suit("banana", terrain=MarinduqueLT,
mf="trapezoidal", interval=c(0, 0.3, 0.6, 0.9, 1))
head(banana_suit[["soil"]][["Suitability Score"]])
head(banana_suit[["soil"]][["Suitability Class"]])
# The above code sets the new suitability class intervals
# into: N [0, 0.3), S3 [0.3, 0.6), S2 [0.6, 0.9), and S1 [0.9, 1].

### Unbias Intervals
# The problem with the fixed interval is that the said
# intervals does not take into account the shape of the
# membership function and the spacing of the parameter
# interval limits (*See* Article 2 for parameter intervals).
# Custom intervals might be able to capture this if the user
# computed the interval limits manually, but ALUES provides
# an option just for this, by setting `interval="unbias"`.
# That is,
banana_suit <- suit("banana", terrain=MarinduqueLT,
mf="trapezoidal", interval="unbias")
head(banana_suit[["soil"]][["Suitability Score"]])
head(banana_suit[["soil"]][["Suitability Class"]])
# By setting the `interval="unbias"`, the `suit`
# function will generate a different likely unequally
# spaced suitability class intervals, but the interval
# limits are mathematically correct, in terms of the mapping
# of the parameter interval limits to suitability class limits
# via the membership function.

## Maximum and Minimum
# Another parameter that can be set for `suit` are the
# `minimum` and `maximum`. These are the constants used
# by the membership function for computing the suitability
# score.
banana_suit <- suit("banana", terrain=MarinduqueLT,
```

```
mf="trapezoidal", interval="unbias")
banana_suit[["soil"]][["Factors Evaluated"]]

# From the above result, there are four factors targetted
# by the input land unit, these are CFragm, CECc, pHH2O and
# SoilTe. Suppose we know the maximum value that these factors
# can take, say 60 for CFragm, 20 for CECc, 9 for pHH2O, and 10
# for SoilTe. We can specify these as follows:
banana_suit <- suit("banana", terrain=MarinduqueLT, mf="trapezoidal",
interval="unbias", maximum=c(60, 20, 9, 10))
banana_suit
# The result gave us an error. We understand the error
# for terrain characteristics, but for soil it says that
# the argument `maximum` must be equal in length with the
# target factors specified in the input land unit datasets.
# We know that there should be 4 factors, but upon checking,
# we see that the `MarinduqueLT` also have Lon and Lat columns,
# which ALUES assumes to be a target factor as well. Indeed, we
# need to exclude these columns (those that are not the target
# factors, rather spatial variables) when specifying `minimum`
# or `maximum` constants. Thus, it should be:
MarinduqueLT2 <- MarinduqueLT[, 3:ncol(MarinduqueLT)]
banana_suit <- suit("banana", terrain=MarinduqueLT2,
mf="trapezoidal", interval="unbias", maximum=c(60, 20, 9, 10))
head(banana_suit[["soil"]][["Suitability Score"]])
head(banana_suit[["soil"]][["Suitability Class"]])

## Sigma of Gaussian
# The `sigma` argument is used to specify the scale of the
# Gaussian membership function. That is, it is only
# applicable for `mf="gaussian"`.

# Other 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))
```

`suitability` *Suitability Scores/Class of the Land Units*

Description

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

Usage

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

Arguments

x	a data frame consisting the properties of the land units;
y	a data frame consisting the requirements of a given characteristics (terrain, soil, 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	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.

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

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.

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

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

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 managemnet with full mechanization.)
- Slope3 - Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood - Flooding (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage4 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Medium and fine textured soils)
- Drainage5 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (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

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

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.

`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

Details

The following are the factors for evaluation:

- Slope2 - Slope (%) (2. High level of managemnet with full mechanization.)
- Flood - Flooding (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage 1-good, 2-moderate, 3-imperfect, 4-poor - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor
- SlopeD - Slope (1: 0-3, 2: 3-8, 3: 8-15, 4: 15-20, 5: 20-25, 6: >25) (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

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

`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

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

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

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 (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage4 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Medium and fine textured soils)
- Drainage5 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Coarse textured soils - Sandy families)
- SlopeD - Slope (1: 0-3, 2: 3-8, 3: 8-15, 4: 15-20, 5: 20-25, 6: >25) (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.

`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

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

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

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 managemnet with full mechanization.)
- Slope3 - Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood - Flooding (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage4 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Medium and fine textured soils)
- Drainage5 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Coarse textured soils - Sandy families)
- SlopeD - Slope (1: 0-3, 2: 3-8, 3: 8-15, 4: 15-20, 5: 20-25, 6: >25) (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

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.

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

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

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

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 (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage4 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Medium and fine textured soils)
- Drainage5 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (Coarse textured soils - Sandy families)
- SlopeD - Slope (1: 0-3, 2: 3-8, 3: 8-15, 4: 15-20, 5: 20-25, 6: >25) (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.

`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

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

The following are the factors for evaluation:

- 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)

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 managemnet with full mechanization.)
- Slope3 - Slope (%) (3. Low level of managemnet animal traction or handwork.)
- Flood - Flooding (1 - No Flood, 2 - short time, 3 - Long time)
- Drainage4 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (1-good, 2-moderate, 3-imperfect, 4-poor)(Medium and fine textured soils)
- Drainage5 - Drainage 1-good, 2-moderate, 3-imperfect, 4-poor (1-good, 2-moderate, 3-imperfect, 4-poor)(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

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

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