EEA geospatial data catalogue

EUNIS habitat type F6.1b, predicted habitat suitability - version 1, June 2016

The modelled suitability for the EUNIS habitat type is an indication of where conditions are favourable for the habitat type based on sample plot data (Braun-Blanquet database) and the Maxent software package. The modelled suitability map may be used as a proxy for the geographical distribution of the habitat type. Note however that it is not representing the actual distribution of the habitat type.

Also note that predictions are less reliable due to data deficiency in the eastern part of Europe, and to a lesser extent to the Scandinavian countries.

Geographic restriction for plot observations: n/a

Remarks: Predictions in the east Mediterranean area should be ignored.

Simple

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Point of contact

No information provided.

Maintenance and update frequency	Unknown
EEA topics	• Biodiversity
GEMET - INSPIRE themes, version 1.0	• Habitats and biotopes
GEMET	• natural area • tundra • terrestrial ecosystem • heathland
Keywords	
Keywords	
Place	• Europe
Use limitation	EEA standard re-use policy: unless otherwise indicated, re-use of content on the EEA website for commercial or non-commercial purposes is permitted free of charge, provided that the source is acknowledged (http://www.eea.europa.eu/legal/copyright). Copyright holder: European Environment Agency (EEA).

Access constraints	Other restrictions
Other constraints	no limitations to public access
Spatial representation type	Grid
Distance	1 1 km
Language of dataset	English
Character set	UTF8
Topic category	• Biota

71.00	N	34.50	S	46.00	E	-24.50	W

Begin date	1940-01-01
End date	2011-12-31
Coordinate reference system identifier	EPSG:3035
Distribution format	• GeoTIFF ( )

OnLine resource

Protocol	Linkage	Name
EEA:FILEPATH	https://sdi.eea.europa.eu/webdav/datastore/public/eea_r_3035_1_km_eunis-hab-f6-1b_p_1940-2011_v01_r00/F6-1b_ed1.tif	
WWW:URL	https://sdi.eea.europa.eu/data/2c8227af-07fb-472f-ab49-593c611727be	Direct download

Hierarchy level	Dataset

Conformance result

Date (Publication)	2010-12-08
Explanation	See the referenced specification

Statement

The database compiled for the Braun-Blanquet project is a compilation of various national and regional vegetation databases. The maintenance of these databases is in principle in the hands of the custodians. However, before uploading the databases into Braun-Blanquet database a quality check is performed by Alterra and Masaryk University. If possible, detected errors are corrected and reported back to the data provider. For the modelling of the habitat suitability map the Maxent software is used (http://www.cs.princeton.edu/~schapire/maxent/). The grid values in the map represent the probability (ranging from 0-1) that the cell is suitable for the habitat.

The grid file represents the habitat suitability of the EUNIS type. For the modelling the widely used software Maxent for maximum entropy modelling of species' geographic distributions was used. Maxent is a general-purpose machine-learning method with a simple and precise mathematical formulation, and has a number of aspects that make it well-suited for species distribution modelling when only presence (occurrence) data but not absence data are available (Philips et al. 2006). Because EUNIS habitats have a particular species composition, they are assumed to respond to specific ecological requirements, allowing us to generate correlative estimates of geographic distributions. Modelling habitats that have been floristically defined is a well-known procedure for ecological modelling at local scales, and a promising technique to be applied also at the continental level.

The Maxent method considers presence data (known observations of a given entity) and the so-called background data. Background data comprise a set of points used to describe the environmental variation of the study area according to the available environmental layers. It is assumed that these layers represent well the most important ecological gradients on a European scale. As layers the following environmental parameters have been used: Potential Evapotranspiration, Topsoil pH, Solar radiation, Temperature Seasonality (standard deviation *100), Mean Temperature of Wettest Quarter, Annual Precipitation, Precipitation Seasonality (Coefficient of Variation), Precipitation of Warmest Quarter & Distance to water (rivers, lakes, sea).

Statistical output of the model:

#Training samples: 65

Regularized training gain: 2.5296

Unregularized training gain: 2.8127

Iterations: 500

Training AUC: 0.9756

#Test samples: 7

Test gain: 1.6606

Test AUC: 0.9415

AUC Standard Deviation: 0.0193

#Background points: 5047

bio_12_etrs2_ras contribution: 0.8398

bio_15_etrs2_ras contribution: 13.5536

bio_18_etrs2_ras contribution: 49.1645

bio_4_etrs2_ras contribution: 2.1301

bio_8_etrs2_ras contribution: 2.3443

bld_m_sd1_1km_eu_ll contribution: 5.8124

cecsum_m_sd1_1km_eu_ll contribution: 0.14

clyppt_m_sd1_1km_eu_ll contribution: 6.2395

crfvol_m_sd1_1km_eu_ll contribution: 1.9674

dist2water1km contribution: 0.0443

orcdrc_m_sd1_1km_eu_ll contribution: 0.076

pet_he_yr contribution: 16.0585

sltppt_m_sd1_1km_eu_ll contribution: 0.3234

sndppt_m_sd1_1km_eu_ll contribution: 0.4292

solar_1km contribution: 0.8768

bio_12_etrs2_ras permutation importance: 3.5449

bio_15_etrs2_ras permutation importance: 5.8264

bio_18_etrs2_ras permutation importance: 75.1605

bio_4_etrs2_ras permutation importance: 3.813

bio_8_etrs2_ras permutation importance: 0.5864

bld_m_sd1_1km_eu_ll permutation importance: 4.6429

cecsum_m_sd1_1km_eu_ll permutation importance: 0.1711

clyppt_m_sd1_1km_eu_ll permutation importance: 2.6928

crfvol_m_sd1_1km_eu_ll permutation importance: 1.5463

dist2water1km permutation importance: 0.0366

orcdrc_m_sd1_1km_eu_ll permutation importance: 0.0151

pet_he_yr permutation importance: 0.4666

sltppt_m_sd1_1km_eu_ll permutation importance: 0

sndppt_m_sd1_1km_eu_ll permutation importance: 0.5836

solar_1km permutation importance: 0.9138

Training gain without bio_12_etrs2_ras: 2.4758

Training gain without bio_15_etrs2_ras: 2.3924

Training gain without bio_18_etrs2_ras: 2.4288

Training gain without bio_4_etrs2_ras: 2.4848

Training gain without bio_8_etrs2_ras: 2.5206

Training gain without bld_m_sd1_1km_eu_ll: 2.4941

Training gain without cecsum_m_sd1_1km_eu_ll: 2.5224

Training gain without clyppt_m_sd1_1km_eu_ll: 2.4834

Training gain without crfvol_m_sd1_1km_eu_ll: 2.491

Training gain without dist2water1km: 2.5283

Training gain without orcdrc_m_sd1_1km_eu_ll: 2.5274

Training gain without pet_he_yr: 2.521

Training gain without sltppt_m_sd1_1km_eu_ll: 2.529

Training gain without sndppt_m_sd1_1km_eu_ll: 2.5081

Training gain without solar_1km: 2.5181

Training gain with only bio_12_etrs2_ras: 0.5483

Training gain with only bio_15_etrs2_ras: 0.8073

Training gain with only bio_18_etrs2_ras: 1.7667

Training gain with only bio_4_etrs2_ras: 0.1536

Training gain with only bio_8_etrs2_ras: 0.283

Training gain with only bld_m_sd1_1km_eu_ll: 1.2828

Training gain with only cecsum_m_sd1_1km_eu_ll: 0.4173

Training gain with only clyppt_m_sd1_1km_eu_ll: 0.3192

Training gain with only crfvol_m_sd1_1km_eu_ll: 0.2936

Training gain with only dist2water1km: 0.0018

Training gain with only orcdrc_m_sd1_1km_eu_ll: 0.4465

Training gain with only pet_he_yr: 1.5753

Training gain with only sltppt_m_sd1_1km_eu_ll: 0.2119

Training gain with only sndppt_m_sd1_1km_eu_ll: 0.2175

Training gain with only solar_1km: 0.1541

Test gain without bio_12_etrs2_ras: 1.9191

Test gain without bio_15_etrs2_ras: 1.5168

Test gain without bio_18_etrs2_ras: 1.8359

Test gain without bio_4_etrs2_ras: 1.6436

Test gain without bio_8_etrs2_ras: 1.6716

Test gain without bld_m_sd1_1km_eu_ll: 1.8202

Test gain without cecsum_m_sd1_1km_eu_ll: 1.6544

Test gain without clyppt_m_sd1_1km_eu_ll: 1.7754

Test gain without crfvol_m_sd1_1km_eu_ll: 1.6975

Test gain without dist2water1km: 1.7033

Test gain without orcdrc_m_sd1_1km_eu_ll: 1.7371

Test gain without pet_he_yr: 1.6996

Test gain without sltppt_m_sd1_1km_eu_ll: 1.6819

Test gain without sndppt_m_sd1_1km_eu_ll: 1.7197

Test gain without solar_1km: 1.6934

Test gain with only bio_12_etrs2_ras: 1.003

Test gain with only bio_15_etrs2_ras: 0.7312

Test gain with only bio_18_etrs2_ras: 1.585

Test gain with only bio_4_etrs2_ras: 0.2388

Test gain with only bio_8_etrs2_ras: 0.4073

Test gain with only bld_m_sd1_1km_eu_ll: 1.4061

Test gain with only cecsum_m_sd1_1km_eu_ll: 0.5818

Test gain with only clyppt_m_sd1_1km_eu_ll: 0.1176

Test gain with only crfvol_m_sd1_1km_eu_ll: 0.0725

Test gain with only dist2water1km: -0.0004

Test gain with only orcdrc_m_sd1_1km_eu_ll: 0.5066

Test gain with only pet_he_yr: 1.3987

Test gain with only sltppt_m_sd1_1km_eu_ll: 0.0995

Test gain with only sndppt_m_sd1_1km_eu_ll: 0.0082

Test gain with only solar_1km: 0.0367

AUC without bio_12_etrs2_ras: 0.951

AUC without bio_15_etrs2_ras: 0.9281

AUC without bio_18_etrs2_ras: 0.9508

AUC without bio_4_etrs2_ras: 0.9412

AUC without bio_8_etrs2_ras: 0.9432

AUC without bld_m_sd1_1km_eu_ll: 0.9478

AUC without cecsum_m_sd1_1km_eu_ll: 0.9422

AUC without clyppt_m_sd1_1km_eu_ll: 0.9461

AUC without crfvol_m_sd1_1km_eu_ll: 0.9411

AUC without dist2water1km: 0.9441

AUC without orcdrc_m_sd1_1km_eu_ll: 0.9439

AUC without pet_he_yr: 0.944

AUC without sltppt_m_sd1_1km_eu_ll: 0.9424

AUC without sndppt_m_sd1_1km_eu_ll: 0.9422

AUC without solar_1km: 0.9422

AUC with only bio_12_etrs2_ras: 0.8955

AUC with only bio_15_etrs2_ras: 0.832

AUC with only bio_18_etrs2_ras: 0.9267

AUC with only bio_4_etrs2_ras: 0.6579

AUC with only bio_8_etrs2_ras: 0.8095

AUC with only bld_m_sd1_1km_eu_ll: 0.9176

AUC with only cecsum_m_sd1_1km_eu_ll: 0.7989

AUC with only clyppt_m_sd1_1km_eu_ll: 0.5891

AUC with only crfvol_m_sd1_1km_eu_ll: 0.6288

AUC with only dist2water1km: 0.4837

AUC with only orcdrc_m_sd1_1km_eu_ll: 0.7726

AUC with only pet_he_yr: 0.9075

AUC with only sltppt_m_sd1_1km_eu_ll: 0.557

AUC with only sndppt_m_sd1_1km_eu_ll: 0.5491

AUC with only solar_1km: 0.5493

Entropy: 6.0094

Prevalence (average of logistic output over background sites): 0.0386

Fixed cumulative value 1 cumulative threshold: 1

Fixed cumulative value 1 logistic threshold: 0.012

Fixed cumulative value 1 area: 0.2407

Fixed cumulative value 1 training omission: 0

Fixed cumulative value 1 test omission: 0

Fixed cumulative value 1 binomial probability: 4.69E-05

Fixed cumulative value 5 cumulative threshold: 5

Fixed cumulative value 5 logistic threshold: 0.0647

Fixed cumulative value 5 area: 0.1328

Fixed cumulative value 5 training omission: 0.0308

Fixed cumulative value 5 test omission: 0.1429

Fixed cumulative value 5 binomial probability: 3.39E-05

Fixed cumulative value 10 cumulative threshold: 10

Fixed cumulative value 10 logistic threshold: 0.1269

Fixed cumulative value 10 area: 0.0933

Fixed cumulative value 10 training omission: 0.0615

Fixed cumulative value 10 test omission: 0.2857

Fixed cumulative value 10 binomial probability: 1.27E-04

Minimum training presence cumulative threshold: 1.7247

Minimum training presence logistic threshold: 0.0194

Minimum training presence area: 0.2033

Minimum training presence training omission: 0

Minimum training presence test omission: 0

Minimum training presence binomial probability: 1.43E-05

10 percentile training presence cumulative threshold: 15.3937

10 percentile training presence logistic threshold: 0.1798

10 percentile training presence area: 0.0684

10 percentile training presence training omission: 0.0923

10 percentile training presence test omission: 0.2857

10 percentile training presence binomial probability: 2.79E-05

Equal training sensitivity and specificity cumulative threshold: 13.2309

Equal training sensitivity and specificity logistic threshold: 0.1564

Equal training sensitivity and specificity area: 0.0771

Equal training sensitivity and specificity training omission: 0.0769

Equal training sensitivity and specificity test omission: 0.2857

Equal training sensitivity and specificity binomial probability: 5.00E-05

Maximum training sensitivity plus specificity cumulative threshold: 11.6114

Maximum training sensitivity plus specificity logistic threshold: 0.1352

Maximum training sensitivity plus specificity area: 0.0846

Maximum training sensitivity plus specificity training omission: 0.0615

	Maximum training sensitivity plus specificity test omission: 0.2857 Maximum training sensitivity plus specificity binomial probability: 7.87E-05 Equal test sensitivity and specificity cumulative threshold: 4.2418 Equal test sensitivity and specificity logistic threshold: 0.052 Equal test sensitivity and specificity area: 0.1429 Equal test sensitivity and specificity training omission: 0.0308 Equal test sensitivity and specificity test omission: 0.1429 Equal test sensitivity and specificity binomial probability: 5.22E-05 Maximum test sensitivity plus specificity cumulative threshold: 4.0498 Maximum test sensitivity plus specificity logistic threshold: 0.0507 Maximum test sensitivity plus specificity area: 0.1456 Maximum test sensitivity plus specificity training omission: 0.0308 Maximum test sensitivity plus specificity test omission: 0 Maximum test sensitivity plus specificity binomial probability: 1.39E-06 Balance training omission, predicted area and threshold value cumulative threshold: 1.7247 Balance training omission, predicted area and threshold value logistic threshold: 0.0194 Balance training omission, predicted area and threshold value area: 0.2033 Balance training omission, predicted area and threshold value training omission: 0 Balance training omission, predicted area and threshold value test omission: 0 Balance training omission, predicted area and threshold value binomial probability: 1.43E-05 Equate entropy of thresholded and original distributions cumulative threshold: 12.4495 Equate entropy of thresholded and original distributions logistic threshold: 0.1453 Equate entropy of thresholded and original distributions area: 0.0806 Equate entropy of thresholded and original distributions training omission: 0.0769 Equate entropy of thresholded and original distributions test omission: 0.2857 Equate entropy of thresholded and original distributions binomial probability: 6.23E-05
Source	•

Metadata

File identifier	2c8227af-07fb-472f-ab49-593c611727be XML
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Hierarchy level	Dataset
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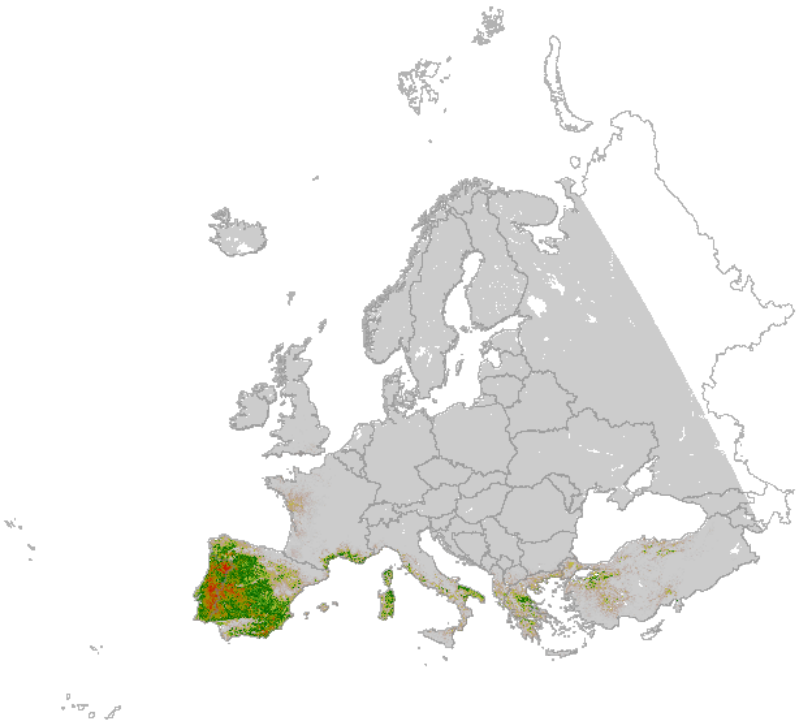
Overviews



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