EEA geospatial data catalogue

EUNIS habitat type F3.1f, 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: Prediction in eastern part of Europe uncertain due to lack of data for that area.

Simple

Date (Publication)	2016-07-01
Date (Creation)	2016-07-06
Edition	01
Citation identifier	eea_r_3035_1_km_eunis-hab-f3-1f_p_1940-2011_v01_r00
Status	Obsolete

Point of contact

Organisation name	Individual name	Electronic mail address	Website	Role
European Environment Agency		sdi@eea.europa.eu	http://www.eea.europa.eu	Point of contact
European Environment Agency		sdi@eea.europa.eu		Custodian

Point of contact

No information provided.

Maintenance and update frequency	Unknown
GEMET - INSPIRE themes, version 1.0	• Habitats and biotopes
GEMET	• natural area • tundra • terrestrial ecosystem • heathland
Keywords	
Keywords	
Place	• Europe
EEA topics	• Biodiversity
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-f3-1f_p_1940-2011_v01_r00/F3-1f_ed1.tif	
WWW:URL	https://sdi.eea.europa.eu/data/8674d6a8-6ee8-48ae-8ec4-fe283dbd8f61	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: 109

Regularized training gain: 2.7594

Unregularized training gain: 3.0464

Iterations: 500

Training AUC: 0.9839

#Test samples: 12

Test gain: 2.9232

Test AUC: 0.9817

AUC Standard Deviation: 0.0052

#Background points: 5076

bio_12_etrs2_ras contribution: 6.7421

bio_15_etrs2_ras contribution: 0.3781

bio_18_etrs2_ras contribution: 0.4852

bio_4_etrs2_ras contribution: 70.2836

bio_8_etrs2_ras contribution: 5.0984

bld_m_sd1_1km_eu_ll contribution: 0.2286

cecsum_m_sd1_1km_eu_ll contribution: 0.1622

clyppt_m_sd1_1km_eu_ll contribution: 1.4129

crfvol_m_sd1_1km_eu_ll contribution: 0.8514

dist2water1km contribution: 0.3029

orcdrc_m_sd1_1km_eu_ll contribution: 0.297

pet_he_yr contribution: 2.3728

sltppt_m_sd1_1km_eu_ll contribution: 4.5709

sndppt_m_sd1_1km_eu_ll contribution: 6.1524

solar_1km contribution: 0.6615

bio_12_etrs2_ras permutation importance: 11.889

bio_15_etrs2_ras permutation importance: 0.0496

bio_18_etrs2_ras permutation importance: 0.5891

bio_4_etrs2_ras permutation importance: 66.2322

bio_8_etrs2_ras permutation importance: 4.3399

bld_m_sd1_1km_eu_ll permutation importance: 0.6349

cecsum_m_sd1_1km_eu_ll permutation importance: 0.3995

clyppt_m_sd1_1km_eu_ll permutation importance: 1.8469

crfvol_m_sd1_1km_eu_ll permutation importance: 1.6238

dist2water1km permutation importance: 1.1414

orcdrc_m_sd1_1km_eu_ll permutation importance: 0.4085

pet_he_yr permutation importance: 1.4892

sltppt_m_sd1_1km_eu_ll permutation importance: 1.3239

sndppt_m_sd1_1km_eu_ll permutation importance: 6.1719

solar_1km permutation importance: 1.8601

Training gain without bio_12_etrs2_ras: 2.7327

Training gain without bio_15_etrs2_ras: 2.7518

Training gain without bio_18_etrs2_ras: 2.7524

Training gain without bio_4_etrs2_ras: 2.5621

Training gain without bio_8_etrs2_ras: 2.7439

Training gain without bld_m_sd1_1km_eu_ll: 2.7514

Training gain without cecsum_m_sd1_1km_eu_ll: 2.7578

Training gain without clyppt_m_sd1_1km_eu_ll: 2.7225

Training gain without crfvol_m_sd1_1km_eu_ll: 2.7189

Training gain without dist2water1km: 2.7497

Training gain without orcdrc_m_sd1_1km_eu_ll: 2.7517

Training gain without pet_he_yr: 2.7448

Training gain without sltppt_m_sd1_1km_eu_ll: 2.7389

Training gain without sndppt_m_sd1_1km_eu_ll: 2.7425

Training gain without solar_1km: 2.7436

Training gain with only bio_12_etrs2_ras: 0.9786

Training gain with only bio_15_etrs2_ras: 0.9218

Training gain with only bio_18_etrs2_ras: 0.3283

Training gain with only bio_4_etrs2_ras: 2.054

Training gain with only bio_8_etrs2_ras: 1.3045

Training gain with only bld_m_sd1_1km_eu_ll: 0.4504

Training gain with only cecsum_m_sd1_1km_eu_ll: 0.1028

Training gain with only clyppt_m_sd1_1km_eu_ll: 0.2114

Training gain with only crfvol_m_sd1_1km_eu_ll: 0.1734

Training gain with only dist2water1km: 0.1066

Training gain with only orcdrc_m_sd1_1km_eu_ll: 0.2888

Training gain with only pet_he_yr: 0.7941

Training gain with only sltppt_m_sd1_1km_eu_ll: 0.649

Training gain with only sndppt_m_sd1_1km_eu_ll: 0.4522

Training gain with only solar_1km: 0.5151

Test gain without bio_12_etrs2_ras: 2.8909

Test gain without bio_15_etrs2_ras: 2.9212

Test gain without bio_18_etrs2_ras: 2.895

Test gain without bio_4_etrs2_ras: 2.6118

Test gain without bio_8_etrs2_ras: 2.9407

Test gain without bld_m_sd1_1km_eu_ll: 2.9381

Test gain without cecsum_m_sd1_1km_eu_ll: 2.9394

Test gain without clyppt_m_sd1_1km_eu_ll: 2.8703

Test gain without crfvol_m_sd1_1km_eu_ll: 2.8898

Test gain without dist2water1km: 2.9381

Test gain without orcdrc_m_sd1_1km_eu_ll: 2.891

Test gain without pet_he_yr: 2.9474

Test gain without sltppt_m_sd1_1km_eu_ll: 2.8952

Test gain without sndppt_m_sd1_1km_eu_ll: 2.9728

Test gain without solar_1km: 2.8867

Test gain with only bio_12_etrs2_ras: 1.0421

Test gain with only bio_15_etrs2_ras: 1.3433

Test gain with only bio_18_etrs2_ras: 0.4686

Test gain with only bio_4_etrs2_ras: 2.105

Test gain with only bio_8_etrs2_ras: 1.2175

Test gain with only bld_m_sd1_1km_eu_ll: 0.6922

Test gain with only cecsum_m_sd1_1km_eu_ll: 0.2415

Test gain with only clyppt_m_sd1_1km_eu_ll: 0.1875

Test gain with only crfvol_m_sd1_1km_eu_ll: 0.2069

Test gain with only dist2water1km: 0.1381

Test gain with only orcdrc_m_sd1_1km_eu_ll: 0.3656

Test gain with only pet_he_yr: 0.9902

Test gain with only sltppt_m_sd1_1km_eu_ll: 0.6021

Test gain with only sndppt_m_sd1_1km_eu_ll: 0.209

Test gain with only solar_1km: 0.6165

AUC without bio_12_etrs2_ras: 0.9815

AUC without bio_15_etrs2_ras: 0.9818

AUC without bio_18_etrs2_ras: 0.9816

AUC without bio_4_etrs2_ras: 0.9758

AUC without bio_8_etrs2_ras: 0.9823

AUC without bld_m_sd1_1km_eu_ll: 0.9819

AUC without cecsum_m_sd1_1km_eu_ll: 0.9824

AUC without clyppt_m_sd1_1km_eu_ll: 0.9813

AUC without crfvol_m_sd1_1km_eu_ll: 0.9813

AUC without dist2water1km: 0.9821

AUC without orcdrc_m_sd1_1km_eu_ll: 0.9815

AUC without pet_he_yr: 0.9828

AUC without sltppt_m_sd1_1km_eu_ll: 0.9811

AUC without sndppt_m_sd1_1km_eu_ll: 0.9829

AUC without solar_1km: 0.9816

AUC with only bio_12_etrs2_ras: 0.8792

AUC with only bio_15_etrs2_ras: 0.9137

AUC with only bio_18_etrs2_ras: 0.746

AUC with only bio_4_etrs2_ras: 0.9536

AUC with only bio_8_etrs2_ras: 0.8891

AUC with only bld_m_sd1_1km_eu_ll: 0.7961

AUC with only cecsum_m_sd1_1km_eu_ll: 0.7165

AUC with only clyppt_m_sd1_1km_eu_ll: 0.6746

AUC with only crfvol_m_sd1_1km_eu_ll: 0.6783

AUC with only dist2water1km: 0.6257

AUC with only orcdrc_m_sd1_1km_eu_ll: 0.7066

AUC with only pet_he_yr: 0.8761

AUC with only sltppt_m_sd1_1km_eu_ll: 0.7972

AUC with only sndppt_m_sd1_1km_eu_ll: 0.7012

AUC with only solar_1km: 0.7798

Entropy: 5.8029

Prevalence (average of logistic output over background sites): 0.0312

Fixed cumulative value 1 cumulative threshold: 1

Fixed cumulative value 1 logistic threshold: 0.0073

Fixed cumulative value 1 area: 0.1582

Fixed cumulative value 1 training omission: 0

Fixed cumulative value 1 test omission: 0

Fixed cumulative value 1 binomial probability: 2.46E-10

Fixed cumulative value 5 cumulative threshold: 5

Fixed cumulative value 5 logistic threshold: 0.0922

Fixed cumulative value 5 area: 0.0845

Fixed cumulative value 5 training omission: 0.0183

Fixed cumulative value 5 test omission: 0

Fixed cumulative value 5 binomial probability: 1.33E-13

Fixed cumulative value 10 cumulative threshold: 10

Fixed cumulative value 10 logistic threshold: 0.1683

Fixed cumulative value 10 area: 0.0621

Fixed cumulative value 10 training omission: 0.0275

Fixed cumulative value 10 test omission: 0.0833

Fixed cumulative value 10 binomial probability: 5.95E-13

Minimum training presence cumulative threshold: 2.0814

Minimum training presence logistic threshold: 0.0284

Minimum training presence area: 0.1145

Minimum training presence training omission: 0

Minimum training presence test omission: 0

Minimum training presence binomial probability: 5.06E-12

10 percentile training presence cumulative threshold: 22.8167

10 percentile training presence logistic threshold: 0.3253

10 percentile training presence area: 0.0357

10 percentile training presence training omission: 0.0917

10 percentile training presence test omission: 0.0833

10 percentile training presence binomial probability: 1.38E-15

Equal training sensitivity and specificity cumulative threshold: 16.7177

Equal training sensitivity and specificity logistic threshold: 0.2551

Equal training sensitivity and specificity area: 0.0457

Equal training sensitivity and specificity training omission: 0.0459

Equal training sensitivity and specificity test omission: 0.0833

Equal training sensitivity and specificity binomial probability: 2.09E-14

Maximum training sensitivity plus specificity cumulative threshold: 13.9822

Maximum training sensitivity plus specificity logistic threshold: 0.2194

Maximum training sensitivity plus specificity area: 0.0514

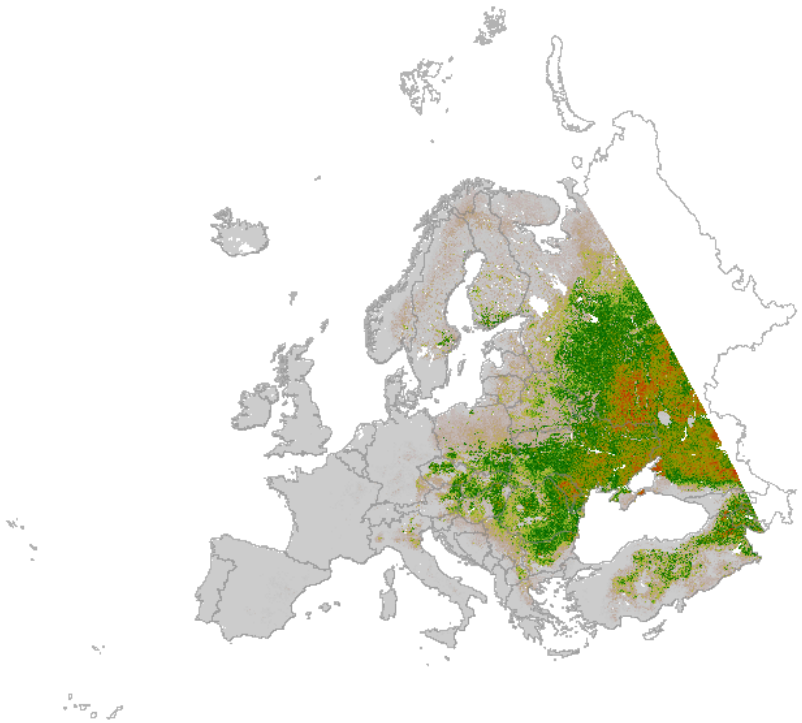
Maximum training sensitivity plus specificity training omission: 0.0275

	Maximum training sensitivity plus specificity test omission: 0.0833 Maximum training sensitivity plus specificity binomial probability: 7.59E-14 Equal test sensitivity and specificity cumulative threshold: 8.3494 Equal test sensitivity and specificity logistic threshold: 0.1498 Equal test sensitivity and specificity area: 0.0678 Equal test sensitivity and specificity training omission: 0.0183 Equal test sensitivity and specificity test omission: 0.0833 Equal test sensitivity and specificity binomial probability: 1.56E-12 Maximum test sensitivity plus specificity cumulative threshold: 8.2962 Maximum test sensitivity plus specificity logistic threshold: 0.1498 Maximum test sensitivity plus specificity area: 0.0678 Maximum test sensitivity plus specificity training omission: 0.0183 Maximum test sensitivity plus specificity test omission: 0 Maximum test sensitivity plus specificity binomial probability: 9.38E-15 Balance training omission, predicted area and threshold value cumulative threshold: 1.9629 Balance training omission, predicted area and threshold value logistic threshold: 0.0255 Balance training omission, predicted area and threshold value area: 0.1172 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: 6.73E-12 Equate entropy of thresholded and original distributions cumulative threshold: 9.0677 Equate entropy of thresholded and original distributions logistic threshold: 0.1566 Equate entropy of thresholded and original distributions area: 0.0652 Equate entropy of thresholded and original distributions training omission: 0.0275 Equate entropy of thresholded and original distributions test omission: 0.0833 Equate entropy of thresholded and original distributions binomial probability: 1.02E-12
Source	•

Metadata

File identifier	8674d6a8-6ee8-48ae-8ec4-fe283dbd8f61 XML
Metadata language	English
Character set	UTF8
Hierarchy level	Dataset
Date stamp	2022-02-01T08:15:07.453Z
Metadata standard name	ISO 19115/19139
Metadata standard version	1.0
Metadata author	**Organisation name** / **Individual name** / **Electronic mail address** / **Website** / **Role** European Environment Agency / / sdi@eea.europa.eu / / Point of contact

Overviews



Provided by