EEA geospatial data catalogue

EUNIS habitat type F9.2, 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

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Edition	01
Citation identifier	eea_r_3035_1_km_eunis-hab-f9-2_p_1940-2011_v01_r00
Status	Obsolete

Point of contact

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No information provided.

Maintenance and update frequency	Unknown
GEMET - INSPIRE themes, version 1.0	• Habitats and biotopes
GEMET	• natural area • heathland • terrestrial ecosystem • tundra
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-f9-2_p_1940-2011_v01_r00/F9-2_ed1.tif	
WWW:URL	https://sdi.eea.europa.eu/data/ee301df0-509d-482a-a733-aeb5fa9b2807	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: 1234

Regularized training gain: 0.472

Unregularized training gain: 0.5897

Iterations: 500

Training AUC: 0.7945

#Test samples: 137

Test gain: 0.4925

Test AUC: 0.7679

AUC Standard Deviation: 0.0168

#Background points: 5798

bio_12_etrs2_ras contribution: 2.8352

bio_15_etrs2_ras contribution: 3.6013

bio_18_etrs2_ras contribution: 11.8177

bio_4_etrs2_ras contribution: 1.0261

bio_8_etrs2_ras contribution: 1.021

bld_m_sd1_1km_eu_ll contribution: 1.6898

cecsum_m_sd1_1km_eu_ll contribution: 0.2901

clyppt_m_sd1_1km_eu_ll contribution: 1.8138

crfvol_m_sd1_1km_eu_ll contribution: 31.0597

dist2water1km contribution: 1.0777

orcdrc_m_sd1_1km_eu_ll contribution: 1.153

pet_he_yr contribution: 5.1577

sltppt_m_sd1_1km_eu_ll contribution: 2.4878

sndppt_m_sd1_1km_eu_ll contribution: 2.8443

solar_1km contribution: 32.1247

bio_12_etrs2_ras permutation importance: 4.558

bio_15_etrs2_ras permutation importance: 5.6519

bio_18_etrs2_ras permutation importance: 11.506

bio_4_etrs2_ras permutation importance: 3.1255

bio_8_etrs2_ras permutation importance: 2.0508

bld_m_sd1_1km_eu_ll permutation importance: 5.028

cecsum_m_sd1_1km_eu_ll permutation importance: 0.8506

clyppt_m_sd1_1km_eu_ll permutation importance: 5.5312

crfvol_m_sd1_1km_eu_ll permutation importance: 23.9301

dist2water1km permutation importance: 1.1233

orcdrc_m_sd1_1km_eu_ll permutation importance: 1.8734

pet_he_yr permutation importance: 7.7424

sltppt_m_sd1_1km_eu_ll permutation importance: 2.8432

sndppt_m_sd1_1km_eu_ll permutation importance: 3.1127

solar_1km permutation importance: 21.0731

Training gain without bio_12_etrs2_ras: 0.466

Training gain without bio_15_etrs2_ras: 0.4594

Training gain without bio_18_etrs2_ras: 0.4605

Training gain without bio_4_etrs2_ras: 0.468

Training gain without bio_8_etrs2_ras: 0.4678

Training gain without bld_m_sd1_1km_eu_ll: 0.4665

Training gain without cecsum_m_sd1_1km_eu_ll: 0.4705

Training gain without clyppt_m_sd1_1km_eu_ll: 0.4667

Training gain without crfvol_m_sd1_1km_eu_ll: 0.4411

Training gain without dist2water1km: 0.4678

Training gain without orcdrc_m_sd1_1km_eu_ll: 0.4681

Training gain without pet_he_yr: 0.4585

Training gain without sltppt_m_sd1_1km_eu_ll: 0.4694

Training gain without sndppt_m_sd1_1km_eu_ll: 0.4687

Training gain without solar_1km: 0.445

Training gain with only bio_12_etrs2_ras: 0.1094

Training gain with only bio_15_etrs2_ras: 0.033

Training gain with only bio_18_etrs2_ras: 0.1928

Training gain with only bio_4_etrs2_ras: 0.0593

Training gain with only bio_8_etrs2_ras: 0.0847

Training gain with only bld_m_sd1_1km_eu_ll: 0.0798

Training gain with only cecsum_m_sd1_1km_eu_ll: 0.1247

Training gain with only clyppt_m_sd1_1km_eu_ll: 0.0173

Training gain with only crfvol_m_sd1_1km_eu_ll: 0.2713

Training gain with only dist2water1km: 0.0341

Training gain with only orcdrc_m_sd1_1km_eu_ll: 0.0866

Training gain with only pet_he_yr: 0.1019

Training gain with only sltppt_m_sd1_1km_eu_ll: 0.1146

Training gain with only sndppt_m_sd1_1km_eu_ll: 0.0766

Training gain with only solar_1km: 0.2602

Test gain without bio_12_etrs2_ras: 0.4698

Test gain without bio_15_etrs2_ras: 0.4778

Test gain without bio_18_etrs2_ras: 0.4733

Test gain without bio_4_etrs2_ras: 0.4828

Test gain without bio_8_etrs2_ras: 0.482

Test gain without bld_m_sd1_1km_eu_ll: 0.511

Test gain without cecsum_m_sd1_1km_eu_ll: 0.495

Test gain without clyppt_m_sd1_1km_eu_ll: 0.4921

Test gain without crfvol_m_sd1_1km_eu_ll: 0.4835

Test gain without dist2water1km: 0.476

Test gain without orcdrc_m_sd1_1km_eu_ll: 0.4875

Test gain without pet_he_yr: 0.4828

Test gain without sltppt_m_sd1_1km_eu_ll: 0.485

Test gain without sndppt_m_sd1_1km_eu_ll: 0.4792

Test gain without solar_1km: 0.5002

Test gain with only bio_12_etrs2_ras: 0.1721

Test gain with only bio_15_etrs2_ras: 0.0342

Test gain with only bio_18_etrs2_ras: 0.229

Test gain with only bio_4_etrs2_ras: 0.0821

Test gain with only bio_8_etrs2_ras: 0.1543

Test gain with only bld_m_sd1_1km_eu_ll: 0.0971

Test gain with only cecsum_m_sd1_1km_eu_ll: 0.1399

Test gain with only clyppt_m_sd1_1km_eu_ll: 0.0329

Test gain with only crfvol_m_sd1_1km_eu_ll: 0.2595

Test gain with only dist2water1km: 0.0712

Test gain with only orcdrc_m_sd1_1km_eu_ll: 0.0989

Test gain with only pet_he_yr: 0.1181

Test gain with only sltppt_m_sd1_1km_eu_ll: 0.1319

Test gain with only sndppt_m_sd1_1km_eu_ll: 0.116

Test gain with only solar_1km: 0.2465

AUC without bio_12_etrs2_ras: 0.7616

AUC without bio_15_etrs2_ras: 0.7637

AUC without bio_18_etrs2_ras: 0.7635

AUC without bio_4_etrs2_ras: 0.7654

AUC without bio_8_etrs2_ras: 0.7633

AUC without bld_m_sd1_1km_eu_ll: 0.7743

AUC without cecsum_m_sd1_1km_eu_ll: 0.7686

AUC without clyppt_m_sd1_1km_eu_ll: 0.768

AUC without crfvol_m_sd1_1km_eu_ll: 0.7692

AUC without dist2water1km: 0.762

AUC without orcdrc_m_sd1_1km_eu_ll: 0.7658

AUC without pet_he_yr: 0.767

AUC without sltppt_m_sd1_1km_eu_ll: 0.7641

AUC without sndppt_m_sd1_1km_eu_ll: 0.7642

AUC without solar_1km: 0.7702

AUC with only bio_12_etrs2_ras: 0.6604

AUC with only bio_15_etrs2_ras: 0.5555

AUC with only bio_18_etrs2_ras: 0.6796

AUC with only bio_4_etrs2_ras: 0.6188

AUC with only bio_8_etrs2_ras: 0.6718

AUC with only bld_m_sd1_1km_eu_ll: 0.5966

AUC with only cecsum_m_sd1_1km_eu_ll: 0.6361

AUC with only clyppt_m_sd1_1km_eu_ll: 0.5725

AUC with only crfvol_m_sd1_1km_eu_ll: 0.6815

AUC with only dist2water1km: 0.6108

AUC with only orcdrc_m_sd1_1km_eu_ll: 0.6134

AUC with only pet_he_yr: 0.6106

AUC with only sltppt_m_sd1_1km_eu_ll: 0.6365

AUC with only sndppt_m_sd1_1km_eu_ll: 0.634

AUC with only solar_1km: 0.6787

Entropy: 8.1975

Prevalence (average of logistic output over background sites): 0.3091

Fixed cumulative value 1 cumulative threshold: 1

Fixed cumulative value 1 logistic threshold: 0.0747

Fixed cumulative value 1 area: 0.7585

Fixed cumulative value 1 training omission: 0.0049

Fixed cumulative value 1 test omission: 0.0146

Fixed cumulative value 1 binomial probability: 2.74E-10

Fixed cumulative value 5 cumulative threshold: 5

Fixed cumulative value 5 logistic threshold: 0.2263

Fixed cumulative value 5 area: 0.609

Fixed cumulative value 5 training omission: 0.0284

Fixed cumulative value 5 test omission: 0.073

Fixed cumulative value 5 binomial probability: 1.19E-14

Fixed cumulative value 10 cumulative threshold: 10

Fixed cumulative value 10 logistic threshold: 0.3038

Fixed cumulative value 10 area: 0.5233

Fixed cumulative value 10 training omission: 0.0583

Fixed cumulative value 10 test omission: 0.0949

Fixed cumulative value 10 binomial probability: 1.81E-19

Minimum training presence cumulative threshold: 0.0973

Minimum training presence logistic threshold: 0.0137

Minimum training presence area: 0.8974

Minimum training presence training omission: 0

Minimum training presence test omission: 0

Minimum training presence binomial probability: 3.78E-05

10 percentile training presence cumulative threshold: 15.8761

10 percentile training presence logistic threshold: 0.3701

10 percentile training presence area: 0.4514

10 percentile training presence training omission: 0.0997

10 percentile training presence test omission: 0.146

10 percentile training presence binomial probability: 1.39E-21

Equal training sensitivity and specificity cumulative threshold: 36.1342

Equal training sensitivity and specificity logistic threshold: 0.481

Equal training sensitivity and specificity area: 0.2832

Equal training sensitivity and specificity training omission: 0.2828

Equal training sensitivity and specificity test omission: 0.2847

Equal training sensitivity and specificity binomial probability: 1.52E-29

Maximum training sensitivity plus specificity cumulative threshold: 26.821

Maximum training sensitivity plus specificity logistic threshold: 0.4385

Maximum training sensitivity plus specificity area: 0.3513

Maximum training sensitivity plus specificity training omission: 0.1904

	Maximum training sensitivity plus specificity test omission: 0.2482 Maximum training sensitivity plus specificity binomial probability: 4.64E-23 Equal test sensitivity and specificity cumulative threshold: 35.9049 Equal test sensitivity and specificity logistic threshold: 0.48 Equal test sensitivity and specificity area: 0.2848 Equal test sensitivity and specificity training omission: 0.2796 Equal test sensitivity and specificity test omission: 0.2847 Equal test sensitivity and specificity binomial probability: 2.95E-29 Maximum test sensitivity plus specificity cumulative threshold: 36.7815 Maximum test sensitivity plus specificity logistic threshold: 0.4832 Maximum test sensitivity plus specificity area: 0.2787 Maximum test sensitivity plus specificity training omission: 0.2869 Maximum test sensitivity plus specificity test omission: 0.2847 Maximum test sensitivity plus specificity binomial probability: 2.14E-30 Balance training omission, predicted area and threshold value cumulative threshold: 2.47 Balance training omission, predicted area and threshold value logistic threshold: 0.1364 Balance training omission, predicted area and threshold value area: 0.6787 Balance training omission, predicted area and threshold value training omission: 0.0089 Balance training omission, predicted area and threshold value test omission: 0.0219 Balance training omission, predicted area and threshold value binomial probability: 3.08E-14 Equate entropy of thresholded and original distributions cumulative threshold: 4.2318 Equate entropy of thresholded and original distributions logistic threshold: 0.2101 Equate entropy of thresholded and original distributions area: 0.6263 Equate entropy of thresholded and original distributions training omission: 0.0243 Equate entropy of thresholded and original distributions test omission: 0.0584 Equate entropy of thresholded and original distributions binomial probability: 1.18E-14
Source	•

Metadata

File identifier	ee301df0-509d-482a-a733-aeb5fa9b2807 XML
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Character set	UTF8
Hierarchy level	Dataset
Date stamp	2022-02-01T08:14:51.45Z
Metadata standard name	ISO 19115/19139
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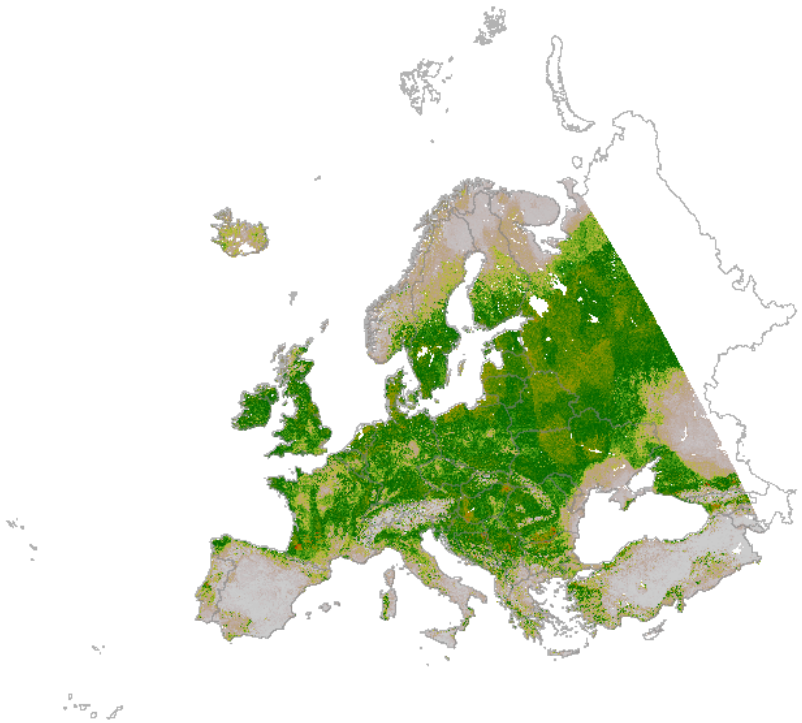
Metadata author	**Organisation name** / **Individual name** / **Electronic mail address** / **Website** / **Role** European Environment Agency / / sdi@eea.europa.eu / / Point of contact

Overviews



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