

JRC Dataset

Suitability maps of *Fagus sylvatica* (ForestFocus)

Description:

Suitability maps (raster format: geotiff) of *Fagus sylvatica*, computed using the ForestFocus European dataset of species presence/absence. The adopted suitability model estimates the optimal environmental conditions for European tree species under present and future climates. Available years: 2000, 2020, 2050, 2080. For year 2000 the observed (WorldClim) climate conditions have been used. For years 2020, 2050, 2080 the climate conditions simulated for the climate change scenarios A2 and B2 have been used (by means of the climate models CCCMA, CSIRO, HANDCM3 and of an ensemble model of them).

Keywords:

CHM, Europe, RDSI, Species distribution, climatic change, deciduous forest, forest, forest resource, mathematical analysis, modelling, natural resource, scientific research, spatial distribution

Related resources:

Data access

[Download]

Download

<http://forest.jrc.ec.europa.eu/efdac/applications/species-distribution/>

[Output data] Compressed archive of geotiff maps

Compressed archive of geotiff maps of *Fagus sylvatica* suitability for the current situation (year 2000; climate data: WorldClim) and for climate change scenarios A2 and B2 (years: 2020, 2050, 2080; climate models: CCCMA, CSIRO, HANDCM3, ensemble)

http://ies-ows.jrc.ec.europa.eu/efdac/download/ClimateChange/suitability/sp20_suit_all.tar.gz

Other resources

[Input data] Forest Focus dataset

Regulation (EC) No 2152/2003 of the European Parliament and of the Council of 17 November 2003 concerning monitoring of forests and environmental interactions in the Community (Forest Focus), repealed by Regulation (EC) No 614/2007 of the European Parliament and of the Council concerning the Financial Instrument for the Environment. Commission Regulation (EC) No 1737/2006 of 7 November 2006 laying down detailed rules for the implementation of Regulation (EC) No 2152/2003 of the European Parliament and of the Council concerning monitoring of forests and environmental interactions in the Community

<http://ec.europa.eu/environment/archives/forests/ffocus.htm>

[Input data] SRTM digital elevation model

The Shuttle Radar Topography Mission, which produced a high-resolution digital elevation model of the Earth.

<https://doi.org/10.1029/2005RG000183>

[Input data] European Soil Database

From European Soil Database information on soil parent material has been derived. European Soil Data Centre (ESDAC) Metadata Catalogue contains metadata information on the dataset.

<http://esdac-catalog.jrc.ec.europa.eu/>

[Input data] WORLDCLIM dataset

WorldClim is a set of global climate layers (climate grids) with a spatial resolution of about 1 square kilometer (30 arc s). Layers are interpolated climate surfaces for global land areas, excluding Antarctica.

<http://www.worldclim.org>

Additional information:

Last Modified: 2009-09-18

Issue date: 2009-09-18

Landing page: <http://forest.jrc.ec.europa.eu/activities/climate-change/species-suitability>

Temporal coverage: From: 2020-01-01 – To: 2020-12-31From: 2020-01-01 – To: 2050-12-31From: 2050-01-01 – To: 2050-12-31From: 2000-01-01 – To: 2000-12-31

Language: English

Data theme(s): Environment

EuroVoc domain(s): 52 ENVIRONMENT; 56 AGRICULTURE, FORESTRY AND FISHERIES; 64 PRODUCTION, TECHNOLOGY AND RESEARCH

EuroVoc concept(s): biodiversity; climate change; deciduous tree; forest; scientific research

Identifier: <http://data.europa.eu/89h/cf0d4d2a-381f-4bba-b893-972acb9fbe36>

Geographic information:

Lineage: The suitability model for estimating the optimal environmental conditions for European tree species under present and future climates is described in Casalegno et al. 2010 (where the methodology is exemplified by considering *Pinus cembra* L. in the Alps and the Carpathian mountains). Forest tree species presence/absence information has been used from the European forest ecosystems monitoring program "Forest Focus" (EC, 2003). Bioclimatic and environmental data have also been used to describe current conditions and four global climate models to represent future scenarios. From the European Soil Database (Heineke et al., 1998) information on soil parent material has been derived. From the SRTM digital elevation model (Farr et al., 2007) slope and altitude standard have been computed. From the WORLDCLIM database (Hijmans et al., 2005) 24 bioclimatic factors and indices have been obtained as a function of minimum and maximum monthly averaged temperatures and monthly precipitations. References Casalegno, S., Amatulli, G., Camia, A., Nelson, A., Pekkarinen, A. (2010) Vulnerability of *Pinus cembra* L. in the Alps and the Carpathian mountains under present and future climates, *Forest Ecology and Management*, Volume 259, Issue 4, 5 February 2010, Pages 750-761, ISSN: 0378-1127, DOI: 10.1016/j.foreco.2009.10.001. EC, 2003. Regulation (ec) no. 2152/2003. Forest Focus: Monitoring of Forests and Environmental Interactions in the Community. Heineke, H., Eckelmann, W., Thomasson, A., Jones, R., Montanarella, L., Buckley, B., 1998. Land Information Systems Developments for planning the sustainable use of land resources. Research Report. European Soil Boureau, Luxembourg. Farr, T.G., Rosen, P., Caro, E., Crippen, R., Duren, R., Hensley, S., Kobrick, M., Paller, M., Rodriguez, E., Roth, L., Seal, D., Shaffer, S., Shimada, J., Umland, J., Werner, M., Oskin, M., Burbank, D., Alsdorf, D. (2007). The shuttle radar topography mission. *Review of Geophysics*, Vol. 45, RG200. DOI:10.1029/2005RG000183 Hijmans, R.J., Cameron, S.E., Parra, J.L., Jones, P.G., Jarvis, A. (2005). Very high resolution interpolated climate surfaces for global land areas. *International Journal of Climatology*, 25 (15), pp. 1965-1978. DOI: 10.1002/joc.1276

Geographic bounding box: 70.09° N, 34.59° E, 34.56° S, -10.58° W

Coordinate Reference System: ETRS89 / LAEA Europe