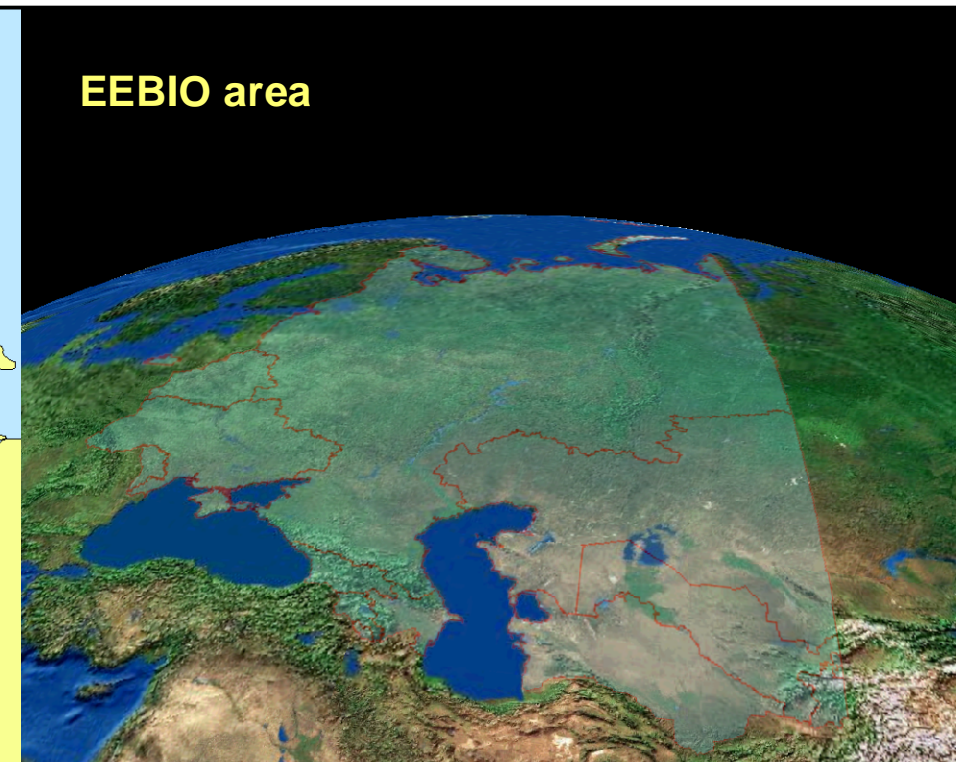


# Quercus robur (Fagaceae)

4

EEBIO area



## The map description

The integrated map shows the distribution and changes in the areal's boundaries of pedunculate oak (*Quercus robur*). *Q. robur* is the dominant forest-formative species in the belt of broadleaf and mixed needleleaf-broadleaf forests in the plains of the European part of the former USSR (Sokolov et al. 1977). In the northern part of its areal *Q. robur* grows in river valleys. In the central part, it forms mixed forests with *Picea abies*; closer to the south – a belt of broadleaf forests where *Q. robur* dominates. At the areal's south boundary it forms small (marginal) forests in ravines and flood-plains (Atlas of Areal and Resources..., 1976).

*Q. robur* belongs to the thermophilic species. The low temperature bound of possible occurrence of oak forests is marked by an average annual of 2°C (<http://www.forest.ru> – in Russian). Therefore, hypothetically, oak areal boundaries will shift along with the changes in the average annual temperature. For Yearly map of averaged mean annual air temperature (Afonin A., Lipiyaynen K., Tsepelev V., 2005) see <http://www.agroatlas.spb.ru> Climate.

Oak forests are of great importance for the water regime and soil structure, especially on the steep slopes of river valleys and in forest-poor areas.

## Key data sources

1. Map of the *Q. robur* areal (1:17 000 000) Atlas of Areal and Resources of the Medical Plants of the USSR (in Russian), 1976. Moscow: The Main Department of Geodesy and Cartography at the Cabinet of Ministries of the USSR.
2. Atlas Florae Europaea Database, 1999. <http://www.fmnh.helsinki.fi/english/botany/afe/>
3. *Quercus robur* – the distribution map. Compiled by members of the EUFORGEN Temperate Oaks and Beech and published in: Ducousso, A and S. Bordacs. 2004. EUFORGEN Technical Guidelines for genetic conservation and use for pedunculate and sessile oaks (*Quercus robur* and *Q. petrae*). International Plant Genetic Resources Institute, Rome, Italy. 6 pages <http://www.ipgri.cgiar.org/networks/euforgen/species>
4. S. Bartalev, D. Ershov, A. Isaev, P. Potapov, S. Turubanova, A. Yaroshenko, 2004. Russia's Forests. TerraNorte Information System. RAS Space Research Institute. <http://terranorte.iki.rssi.ru>
5. Processed image MODIS (2000)

- Q. robur 1970s. The areal's boundary (Atlas of Areal..., 1976)
- Q. robur 1980s-90s (Atlas Florae Europaea, 1999)
- Q. robur fragmented 2004 (Atlas Florae Europaea, 1999)
- Q. robur 2004 (EUFORGEN, 2004)
- Broadleaf / Needleleaf Forest Russia 2000 (Bartalev et al., 2004)
- crown density 10 - 40%
- crown density >40%
- Broadleaf Deciduous Forest Ukr., Mol., Bel. (MODIS 2000)
- Water surface (MODIS 2000)
- EEBIO area

0 250 500 1 000 Kilometers