

Translation of the Legend of the 1990 Map "Forests of the USSR"

by

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I. INTRODUCTION

On the following pages are translations of portions of the 1:2,500,000 scale map Forests of the USSR completed in 1990 (Garcia 1990). There are 16 maps sheets, each measuring 92 by 64 cm. Hence the entire map is more than 9 m². Map Sheet 1 (upper left) contains the title information, Map Sheet 13 (lower left) contains the legend for the 1:2,500,000 forest map, Map Sheet 15 contains a 1:16,000,000 inset map by Kurnaev of forest-vegetation subdivisions and a list of uncommon trees species for the region, Map Sheet 16 contains some simple forest statistics for the region of the former Soviet Union. The source of the translated information is identified by map sheet. In some case we have provided the Cyrillic versions of various words. As the Russian alphabet contains 33 letters to our 26, direct trans-literations are not always possible and it is common to see Russian words spelled in English in several different forms.

This map should not be viewed as a forest cover map but rather as an economic forestry map. The most important tree species of a region are highlighted rather than the dominant trees species or tree cover. Very few tree species are defined. Generally, each polygon and color has one tree species assigned to it. In many cases, of course, the dominant and the most important trees species are the same. In addition, the map bears a very strong resemblance to the 1973 Forest Atlas (Anon. 1973) so there is real concern that this map is based on a 1973 Atlas which was likely based on forestry data from the 1940s, 1950s and 1960s. The 1990 map appears more simplified than the Forest Atlas of 1973. There are no indications of land covers other than forests and there are no indications of forestry or logging activity. Some larger burn areas are noted. Hence, like all maps of this scale, the map is generalized.

As in other maps, the polygons are discreet entities, tree

species categories do not blend into one another. In nature, vegetation types and forms tend to go through gradual transitions from one group of plant species to another. This gradual transition is lost in cartographic products when a line is drawn that separates two units of land cover. Maps that are produced from satellite data are generally raster products that do not define well-bounded polygons and, in a sense, may be more representative of nature.

II. MAP TRANSLATIONS

(Map Sheet 1)

"FORESTS OF THE USSR"
by team of scientists of Forest Cartography Department
of All-Union State Planning - Research Institute
"Sojuzgiprolezhov".

Editor-in-Chief: M. G. Garsia

Scale 1: 2,500,000

1990
GUGK, MOSCOW USSR

(Map Sheet 13)

LEGEND

INHABITED LOCALITIES (ÍÀÑÄËÁÍÛÅ ĨÓÍËÒÛ)

ÌÎÑËÂÀ (Moscow) - Capital of the USSR, capitals of the Soviet republics, and foreign states.

ÃÎÐÛËËË (Gorkij) - Capitals of the autonomous Soviet Socialist Republics, Krai (regions), Oblast (regions), autonomous Oblast (regions), and Okrug (districts).

ÐÐÃÀ (Urga) - Cities and towns.

×ÀÍÛ (Chuny) - Urban Settlements

ËÛÐÀ (Kyra) - Rural Settlements

BORDERS (ÃÐÀÍËÛ)

- USSR state borders
- USSR arctic borders

- borders of soviet republics
- borders of autonomous soviet republics, krai (regions), and oblast (regions)
- borders of autonomous oblast (regions)
- borders of autonomous okrug (districts)
- borders of foreign states

COMMUNICATIONS
(İÖÖÈ ÑÎÎÁÛÁÍÈÈ)

- railways
- sea railway ferries
- car roads
- shipping canals
- fresh, salt lakes
- temporary lakes
- water level marks
- elevation below sea level
- intermittent streams
- irrigation or drainage canals
- bogs (or swamps), salt-marshes
- sands
- glaciers, glacier snow fields
- continental ice sheets
- volcanoes
- orographical and landscape regions

DOMINANT WOOD SPECIES
(İĐÁÎÁÈÄÄÄÏÛÈÄ İİĐÎÄÛ ÈÄÑÀ)

Pine (Scotch) ÑÎÎÁ; Lime (Tillia sp.) ÈÈİÄ;
 Spruce ÄËÛ; Other woods, which include:
 Ñ İĐÁÎÁÈÄÄÄÍÈÄİ
 Fir İÈÖÖÄ; with maple ÈÈÁÍÄ predominant,
 Spruce & fir ÄËÛ È İÈÖÖÄ; with walnut İĐÁÖÄ predominant
 Larch ÈÈÑÖÄÄÍÍÈÖÄ; with pistachio ÖÈÑÖÄØÈÈ
 Pine ÈÄÄĐ (Pinus sibirica); Yernik ÄĐÍÈÈÈ (birch shrub);
 Juniper ÄĐxÄ; Dwarf-pine ÈÄÄĐÎÄÛÈ ÑÖÈÄÍÍÈÈ (Pinus
 pumila)
 Oak ÄÓÁ; or elfin ÈÄĐÈÈÈÎÄÛÈ wood;
 Beech ÁÓÈ; Sparse trees, plots of larch, out
 of map scale;
 Hornbeam ÄĐÄÄ; İÈİÛÄÄÈ, ÇÁİΒÖÛÄ İÖÄÄËÛİÛÈÈ
 ÄÄĐÄÛÛİÈ È ÓxÄÑÖÈÄİÈ ÈÈÑÖÄÄÍÍÈxÍİÄİ
 ÈÄÑÀ, İÄ ÄÛĐÄÆÄÏÛÈÄÑÈ Ä İÄÑØÖÄÄÄ
 ÈÄĐÖÛ
 Birch ÄÄĐÄÇÄ ÈÄİÄÍÍÄÈ
 (Betula ermanii);
 Saxaul ÑÄÈÑÄÓÈ (Haloxylon); Sparse trees, open woodland ĐÄÄÈİÛ

ÏÏ ïïÐÏÄÄÏ;
Birch ÄÄÐÄÇÄ;
Aspen ÎÑËÏÄ;

Burn ÄÄÐË
Cuttings, gaps ÄÛÐÓÄËË;
Tundra ÒÓÏÄÐÛ;
Rocks, stones, outcrops;
State shelter forest lines.

ZONES

ÇÏÏÛ

- Shelter lines of pre-tundra forests;
- Southern boundary of larch open woodlands;
- Development zone of the Baikal - Amur railway (BAM);
- Water-protected zone of the lake Baikal;
- Permafrost limit;
- Borders of forest reserves and hunting parks.

RARE AND RELICT WOODY SPECIES, AND THEIR LOCATION

CARPATHIANS AND TRANS-CARPATHIANS

Fagus sylvatica
Acer pseudoplatanus. Chestnut-tree
Oak. *Platanus occidentalis*
Taxus baccata
Apple-tree. Pear-tree
Plum-tree. Cherry-tree (*Cerasus avium*)

CRIMEA

Acacia dealbata (mimosa)
Thuja orientalis
Quercus castaneifolia
Quercus suber
Fagus taurica
Pinus pallasiana
Pinus brutia stankewiczii
Plum-tree

TRANS-CAUCASUS

Acacia dealbata (mimosa)
Albizia julibrissin
Thuja orientalis
Quercus castaneifolia
Quercus suber
Fagus orientalis
Betula medwedewii
Parrotia persica

Zelkova carpinifolia. Eucalyptus
Pinus brutia pityusa
Box-tree
Castanea sativa. Acer pseudoplatanus
Taxus baccata
Platanus orientalis. P.occidentalis
Plum-tree
Armeniaca vulgaris
Berberis vulgaris
Juglans regia

MIDDLE ASIA

Acacia dealbata
Thuja orientalis
Acer turkestanicum
Platanus orientalis
Pistacia veru
Armeniaca vulgaris
Apple-tree. Pear-tree. Cherry-plum (Prunus divaricata)
Berberis vulgaris
Juglans regia
Amygdalus bucharica

PRIMORSKI TERRITORY (RUSSIAN FAR EAST)

Acacia amurense?
Phellodendron amurense
Betula schmidtii
Betula ermanii
Betula dahurica
Pinus koraiensis
Picea koraiensis?
Kalopanax septemlobus
Taxus cuspidata
Quercus mongolica
Acer mandshuricum
Armeniaca mandshurica
Vitis amurensis (liana)
Berberis amurensis?
Schisandra chinensis (liana)

SAKHALIN ISLAND

Phellodendron amurensis
Kalopanax septemlobus
Quercus mongolica
Betula ermanii
Abies sachalinensis
Cerasus sachalinensis?
Vitis amurensis (liana)

Birch (B. ermanii)	1.1%
Saxaul (Haloxylon sp.)	1.2%
Birch	11.8%
Aspen	2.4%
Lime-tree	0.4%
Other woody species	1.2%
Yerniks (Dwarf birch thickets)	2.2%
Dwarf pine (P. pumila) elfin wood	5.1%
Other shrublands	1.1%

BY AGE GROUPS (%)
(ÏÏ ÆÐÓÏÏÀÏ ÂÎÇÐÎÑÒÀ)

-- SPECIES SUM INCLUDING FORESTS	
young middle age ripining mature and	
overmature	
Pine	
Spruce	
Fir	
Larch	
Pine (Pinus sibirica)	
Oak	
Beech, hornbeam	<u>see attached table for</u>
<u>values</u>	
Birch (Betula ermanii)	
Saxaul (Haloxylon sp.)	
Birch	
Aspen	
Lime-tree	
Other woody species	
Yerniks (Dwarf birch thickets)	
Dwarf pine (Pinus pumila) elfin wood	
Other shrublands	
Total ÈÒÎÃÎ	

Note: Forest resources data from 1.1.1988

(Map Sheet 15)

"Forest-vegetation subdivisions of the USSR"

by S. F. KURNAEV

Scale 1:16,000,000

- Arctic desert zone
- Tundra zone
 - a) plain;
 - b) mountain;
- Forest-tundra (or Woody tundra) zone
- Meadows and Meadow open woodlands zone
- Coniferous forests zone
 - open taiga subzone;
 - northern taiga subzone;
 - main taiga subzone;
 - southern taiga subzone;
- Mixed forests zone
 - northern subzone with domination of coniferous;
 - southern subzone with equal participation of coniferous and broad-leaved;
- Foliage forests zone
 - northern subzone of mono-dominant forests;
 - southern subzone of poly-dominant-thermophilous forests;
 - forest-steppe zone;
- Steppe zone
 - northern steppes subzone;
 - southern steppes subzone;
- Semi-desert zone
 - northern semi-desert subzone;
 - southern semi-desert subzone;
- Desert zone
 - northern desert subzone;
 - southern desert subzone;
- - - Boundaries of the provinces
- (with Abbreviations of the provinces)

PROVINCES OF EURASIAN TUNDRA REGION

ÍÊ - of Norway coast and Kola peninsula. *Betula tortuosa* (in places with *Pinus laplandica* and *Picea fennica*) is dominant in open woodlands.

ÁÍÇ - of the White sea coast, Cheshska bay and Novaja Zemlia. *Betula tortuosa* and *Picea obovata* are dominant in open woodlands.

ÁÇ - of Bolshezemelskaja Tundra. *Picea obovata* with participation of *Betula tortuosa* and *Larix sukaczewii* is dominant in open woodlands.

ÛÃ - of Jamal-Gydan Tundra. *Larix sibirica* (with *Picea sibirica*) is dominant in open woodlands.

ÒÌ - of Tajmyr Tundra. *Larix dahurica* is dominant in open woodlands.

ÂÑx - of Laptev, East Siberian, and Chukchi sea coasts. *Larix cajanderi* is dominant in open woodlands.

ÁÃ - of Bering sea tundra. *Larix cajanderi* is dominant in open woodlands with widespread *Pinus pumila* (siberian dwarf-pine, elfin wood).

PROVINCES OF PACIFIC-OCEAN MEADOW AND MEADOW OPEN WOODLAND REGION

ÊÊ - of Kuril - Kamchatka. Meadow open woodlands of *Betula ermanii* with widespread *Pinus pumila* and alder thicket.

PROVINCES OF EURASIAN FOREST REGION OF TEMPERATE BELT

ÑÃ - Middle European. Coniferous forests zone of *Picea abies* (western form) and *Abies alba*; Mixed forests zone of *Picea abies*, *Abies alba* and *Fagus sylvatica*; Foliage forests zone - *Fagus sylvatica* is dominant in mono-dominant subzone, - mixed of *Fagus sylvatica*, *Carpinus* (*betulus?*), *Quercus petraea*, *Q. robur*, *Fraxinus* (*excelsior?*), *Acer pseudoplatanus* (*only?*), *Tilia* (*cordata?*), etc. Forest-steppe (zone) of *Quercus petraea*, *Q. robur*, and *Q. pubescens*.

ÑÊÐ - Scandinavian - Russian. Coniferous forests zone of *Picea abies* (typical form); Mixed forest zone of *Picea abies* and *Tilia cordata*; Foliage mono-dominant forests zone with domination of *Tilia* (*cordata?*) and participation of *Fraxinus* (*excelsior?*), on the west - with *Carpinus* (*betulus?*).

ÂÑÐ - of the East of Russian Plain. Coniferous forests zone: the northern subzone of *Picea obovata*; the middle and southern subzone of *Picea obovata*, *P. abies*, and *Abies sibirica*; Mixed forests zone of *Picea sibirica*, *P. abies*, *Abies sibirica*, and *Tilia cordata*.; Foliage forests zone with domination of *Tilia (cordata?)*, without *Fraxinus (excelsior?)*.

Ó - of Ural. Coniferous forests zone of *Picea obovata* and *Abies sibirica*, in places with participation of *Pinus sibirica* and *Larix sukaczewii*; Foliage zone with domination of birch, participation of aspen, and, in places, with lime-tree.

ÇÑÁ - West Siberian. Coniferous forests zone: the northern subzone with domination of *Larix sibirica* and participation of *Picea obovata*; the middle and southern subzone with domination of dark coniferous - *Picea obovata*, *Abies sibirica* and *Pinus sibirica*, and in places with domination of *Larix sibirica*. Foliage forests zone with domination of birch.

ÑÐÑÁ - Middle Siberian. *Larix dahurica* is dominant in all zones, in the west and south parts - with participation of *Picea obovata*, *Abies sibirica*, and *Pinus sibirica*.

ÂÑÁ - East Siberian. *Larix cajanderi* is always dominant in all zones, in southern part - with *Picea ajanensis* and ? *Betula continentalis?*, in mountain tundra - with *Pinus pumila*.

ÒÁÌ - Tuva-Buryat-Mongolian. *Larix sibirica* is dominant, in alpine areas - with participation of *Pinus sibirica*, in steppe basins - with birch and aspen.

ÎÕÌ - Okhotsk-Manchurian. Coniferous forests zone of *Picea ? ajanensis* and *Larix amurensis?*, Mixed forests zone of *Pinus koraiensis*, *Picea ajanensis*, *Tilia amurensis*, and *T. taguetii*; Broad-leaved forests zone with domination of *Tilia amurensis* and *T. taguetii*. Mountain tundra with *Pinus pumila*.

ÑÕÊ - of Sakhalin-Kuril. Coniferous forests zone: the northern and middle subzone of *Larix kurilensis*; the southern subzone of *Picea ajanensis*, *Picea glehnii*, and *Abies sachalinensis*; mixed forests zone of dark coniferous (*Larix kurilensis*, *Picea ajanensis*, *P. glehnii*, *Abies sachalinensis*) and a number of broad-leaved tree species.

x - of Black-sea. Alpine meadow zone with open woodlands of ? *Betula litwinowii*, with participation of *Acer ??*. Coniferous forests zone of *Picea orientalis* and *Abies normanniana*; Mixed forests zone of *Picea orientalis*, *Abies normanniana*, and *Fagus orientalis*; Foliage forests zone: the mono-dominant subzone with predomination of *Fagus orientalis*, the polydominant subzone of

Quercus hartwissiana and other oaks, *Carpinus caucasica*, *Tilia platyphylla*, ash-tree, maple, chestnut and others; Forest- steppe with *Quercus petraea* and *Q. robur*.

Ã - of Hyrcan?. Broad-leaved forests zone: *Fagus orientalis* is dominant in the mono-dominant forests subzone with participation of *Quercus castaneifolia*; polydominant ? forests subzone of *Quercus castaneifolia*, *Fraxinus* ??, *Buxus hyrcana* and others.

PROVINCES OF EURASIAN STEPPE REGION

ÐÐ - of the southern Russian plain. Forest islands with domination of *Quercus robur*, usually with participation of *Fraxinus* (*ornus*?), and in the west with participation of *Carpinus betulus*.

ÇÊ - of Trans-Volga, Southern Ural, and West Kazakhstan. Forest islands with domination of *Quercus robur* and widespread birch without ash-trees.

ÂÊ - of East Kazakhstan. Forest islands with domination of birch, in places - aspen, without participation of broad-leaved trees.

ÀÏ - Daurian - Mongolian. Forest islands of *Betula platyphylla*, *B. dahurica*, *Pinus sylvestris*, and *Larix sibirica*.

ÀÏ - Amur - Manchurian. Forest islands of *Quercus mongolica* and *Betula dahurica*, with participation of some other broad-leaved trees.

PROVINCES OF ASIATIC DESERT REGION

ÊÏ - of Caucasus - Asia Minor. Open forests with domination of ? *Quercus orientalis*? in the alpine meadows zone. Arid open ? woodlands of pistachio, almond-tree, *Celtis* (*caucasica*?), ?? *Frangula pallasiana*?, *Pyrus* ?, hawthorn and other xerophytes are in places in the steppe and desert zones.

Ò - Turanian. *Haloxylon aphyllum*, *H. persicum*, *Halimodendron halodendron*, *Ammodendron* sp. are spreading in deserts; *Populus* sp., *Elaeagnus* sp., *Tamarix* sp. are dominant in tugai.

ÏÒ - of Pamir - Tian Shan. The juniper stand thickets - in the alpine meadows zone. Fragments of the forest belt of *Picea schrenkiana* and *Abies semenovii*. Forest islands of ? *Acer turkestanicum*, *A.* ?, *Malus* ?, *Juglans regia* and brushwood of hawthorn, almond-tree, cherry-tree, dogrose and others are in the steppe zone. The pistachio woodlands are spread through the semi-desert zone.

ÖÀ - Central Asiatic. The poplar woods, osiers, and birch woods are spread in the tugai of the desert.

The subdivision of territory into zones and subzones is based on zonal primary vegetation of well drained plains with clayish soils. This principle is kept for azonal vegetation - because of domination of azonal habitat: West Siberian bogs, sands in the Polesie, granite outcrops in Karelia; or as a result of the destruction of zonal vegetation by man: lime-tree and spruce forests, steppes on the Russian plain.

The provinces are defined by changes of continentality in the climate, mainly from South-West to North-East; by change of the main forest species structure in zonal habitat conditions in the forest zone; by species composition of azonal woody vegetation (because it does not exist in zonal vegetation) in steppe and desert zones. The province boundaries are drawn between homogeneous vegetation zones.

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IV. REFERENCES

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