
Martha Andrews

March 1977

CORPS OF ENGINEERS, U.S. ARMY
COLD REGIONS RESEARCH AND ENGINEERING LABORATORY
HANOVER, NEW HAMPSHIRE

Approved for public release; distribution unlimited.
This compilation of literature published in Russian since 1970 comprises 898 bibliographic citations relating to disturbance and restoration of soils and vegetation. Seventy-five per cent of these were found by a manual search of CRREL Bibliography vols. 25-30; the others were obtained through off-line searches from the relevant computerized data bases and personal files. Only one of these data bases, that of the National Agricultural Library, is shown to be of significance in providing a valuable checking source. The literature is discussed in chronological fashion, with general statements followed by highlights of each year's contributions (with three tables and two appendices for amplification). The years 1972 and 1973 produced the most publications, and by 1975 there was...
20. Abstract (cont'd)

A noticeable lag in pickup of publications by the indexing services. A trend is apparent from a reconnaissance and description approach in earlier papers toward an integrated ecosystem approach in more recent publications. Certainly, increased consciousness of the effects of disturbance on the permafrost environment, and the importance of restoration and preservation of these environments, are reflected in the recent literature, particularly in symposium proceedings.
PREFACE

This bibliography was prepared by Martha Andrews, Research Bibliographer, Institute of Arctic and Alpine Research, University of Colorado. The work was funded by DA Project 4A161102AT24, Research in Snow, Ice and Frozen Ground, Scientific Area 02, Cold Regions Environmental Interactions, Work Unit 002, Cold Regions Environmental Factors; and by DA Project 1Z865803M761, Technical Information Analysis Centers (Cold Regions Information Analysis Centers).

The project was under the direction of Dr. Jerry Brown, who offered much advice and many materials. Library facilities at INSTAAR, the University of Colorado, and the U.S. Army Cold Regions Research and Engineering Laboratory were used. Eunice Salisbury, CRREL librarian, provided much assistance with CRREL Bibliography materials, and Nancy Dumont, assistant librarian at CRREL, spent many hours developing search strategies and aiding with computer searches. The Institute of Quaternary Studies and the Dept. of Geological Sciences, University of Maine at Orono, kindly furnished space and equipment during the final preparation of the bibliography.
SELECTED BIBLIOGRAPHY OF DISTURBANCE AND RESTORATION
OF SOILS AND VEGETATION IN PERMAFROST

by

Martha Andrews

Introduction

Soils and vegetation may be disturbed naturally or through human contact. Natural disturbance includes damage by fire, insects and erosion, with thermal erosion of permafrost a significant factor. Human disturbance is varied, road building, fire control, mining, oil spills, off road vehicles, logging and air pollution being the major culprits. Disturbance from any source causes existing vegetation to be damaged, killed and/or removed, and soils to change in moisture content, density, nutrient status, aeration and thaw depth.

Restoration or recovery of the damaged or disturbed ecosystem can also be either natural or man-induced. Revegetation and restoration of the disturbed site to its natural state may be partially or entirely successful, depending on many factors. Protection of sites in danger of disturbance may prevent both the disturbance and the need for restoration.

This bibliography of Russian literature covers the years from 1970 through the first half of 1976. Since the concepts of disturbance and restoration are relatively new as subjects of intensive study, the boundaries of the literature search in the earlier years were expanded to include selected literature concerning soils and plant ecology in both arctic and alpine areas which might relate to the desired subjects. In addition to the scarcity of disturbance and restoration studies in the earlier literature, there is a time lag among subject headings used in bibliographic indexing, i.e. the indexers tend to fit anomalous items into the existing subject thesaurus until it becomes evident that a new area of research has become established and is producing enough items to be indexed by new terms. Therefore, some earlier works may be lost temporarily in this manner to the person searching the standard bibliographies.

This Special Report is to be followed in 1977 by a complementary bibliography and report covering literature on the disturbance and restoration of soils and vegetation in permafrost regions of North America. The Russian literature will be updated at that time also.

CRREL Bibliography Search

The major body of this bibliography has been culled from volumes 25-30 of the CRREL Bibliography on Cold Regions Science and Technology, CRREL Report 12. The CRREL bibliography naturally provides the best reference in English to the Russian literature in fields appropriate to the CRREL mission. Only items published during or after 1970 have been included. The language used in these publications is restricted to Russian with the exception of some English translations and some English language summaries of recent symposia including Russian
materials. One or two items in Japanese about Yakutia have also been included.
The area within the Soviet Union dealt with is wherever permafrost exists, either
in a continuous or discontinuous condition. This large area includes zones
variously defined as arctic, subarctic, tundra, taiga, alpine and subalpine.

In searching the CRREL bibliographies, I began by devising a list of
subject headings used in them which I thought appeared relevant (Table I)
and from which I started to trace references. It quickly became apparent
that to search the volume of material involved, it would be much faster to
scan each citation in its entirety. This of course meant scanning approx­
imately 4000 citations for each volume of the CRREL bibliography, which was
done at a rate of some 600 items per hour. Each item was marked, and appro­
priate subject headings were selected from those already selected by the
original indexer of the publication. This aspect of selectivity in bibli­
ographic work is important to emphasize. The experience and judgment of the
bibliographers must be trusted as there is no quantitative or objective
approach possible in indexing.

Main entry cards and subject-headed copies were made of the 678 items
chosen. The subject index to this bibliography was not continued after vol.
28. This was due to the growing size of the bibliography which made me
question whether a user would approach his own search through a regular sub­
ject index, or whether another kind of breakdown would be more useful. For
the purposes of this report, it has been decided to discuss the references in
a chronological fashion. Appendix I lists the authors publishing in each
year to show the scope of each year's contributions and the development of
key researchers in the field. The reader is referred to Appendix II for full

In the subject indexes to volumes 25 and 26 of the CRREL bibliography
very few terms were used to denote natural disturbance (thermokarst being one)
and probably the only one denoting human disturbance was "environmental impact."
By volume 27 "damage" was being used; volume 29 introduced "protection" (of
natural environments) and included "human factors," "forest fires," and "revege­
tation." Reforestation had been used earlier. "Disturbance" has not been used
and probably should be used in addition to "damage," which also includes damage
to structures. "Restoration" or "recovery" should be used in addition to
" revegetation," as for soil recovery, etc.

Material Not Yet Entered in the CRREL Bibliography

A certain number of items added to the bibliography came from personal mate­
rials in the office of Dr. Jerry Brown of CRREL. The bulk of these consisted of
items for future addition or expansion (i.e. content analysis) in the CRREL
bibliography.

Computerized Data Base Searches

Computerized searches were carried out on all relevant data bases available.
The only one which appeared to produce anything significant that may have been
overlooked by CRREL, or by me in searching the CRREL bibliography, was that of the
<table>
<thead>
<tr>
<th>Subject Headings</th>
<th>Permafrost transformation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active layer</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Active layer thickness</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Agriculture</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Alpine soils</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Alpine vegetation</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Arctic soils</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Arctic terrain</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Arctic vegetation</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Bibliographies</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Biomass</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Clay soils</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Clays</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Cryogenic processes</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Cryogenic soils</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Damage</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Desert soils</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Deserts</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Ecology</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Ecosystems</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Environmental impact</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Environments</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Forest ecosystems</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Forest fires</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Forest soils</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Forest tundra</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Frozen ground</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Fungi</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Geobotanical interpretation</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Grasses</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Ground ice</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Human factors</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Hummocks</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Lichens</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Loess</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Meadow soils</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Mosses</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Mottled tundra</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Mountain soils</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Organic soils</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Paleooecology</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Palsas</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Patterned ground</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Peat</td>
<td>Permafrost transformation</td>
</tr>
<tr>
<td>Permafrost heat balance</td>
<td>Permafrost transformation</td>
</tr>
</tbody>
</table>
National Agricultural Library (NAL). Of the 122 additions I have made from it to this bibliography, the bulk of the material is on soils and forestry and may appear in NAL for its agricultural relevance. CRREL may have chosen not to include these items because of their agricultural bias or because NAL already had covered them. It is also certain that some of the 122 items had been referenced by CRREL and missed by me, an indication of the value of a good cross-checking source.

The computer searches have been broken down and analyzed as follows (see Table II).

A. Those generated from CRREL by Dr. Brown and Nancy Dumont

   The search strategy was not available to me. Of the 35 items produced none was used.

2. 6 July 1976. SSIE, ORBIT III.
   The printout was entitled Arctic Soils, although no search statement was included. SSIE indexes research projects underway rather than publications, so no citations were provided here.

3. 7 July 1976. GEOREF, ORBIT III.
   The topic was Permafrost Regions, again without a search strategy included. Some interesting pre-1970 items were noticed, as were four items already included from CRREL. Four additions to the bibliography were made.

   Searched by C.N. Bebee for Nancy Dumont. The search strategy and list of descriptors are included. 312 items were printed, of which 14 were additions to the bibliography. The problem with the rest was that not all appropriate descriptors had been used, and the Russian emphasis was inadequate.

B. Those generated from Boulder, Colorado, searched by V. Schneller at NOAA with input from Martha Andrews and John Emerick from INSTAAR.

5. 10 May 1976. DIALOG and ORBIT Files. A similar search strategy (available) was used on four different data bases:
   a. NAL/CAIN. 67 items printed. When I first scanned this list many items were marked for inclusion in the bibliography but cards were not made at that time. When I rechecked after using further sources for the bibliography, I was still able to add 12 items from this list. The authors found on this list were used in the later author search of NAL.
   b. (1) BIOL. ABST. Inc. Eleven items printed. Seven were useful but I already had five of them, so one was added.

*DIALOG is the access program for the Lockheed system of computerized bibliographical data bases; ORBIT is the same for the SDC system. Some data bases (such as NAL/CAIN are searchable on both systems.
**TABLE II**

A tabulation of the numbers of citations obtained from the computerized data bases, by year.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOREF (A.3.)*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>NAL/CAIN (Lockheed) (A.4, B.5.a.)</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>8</td>
<td>9</td>
<td>3</td>
<td></td>
<td>26</td>
</tr>
<tr>
<td>Biol. Abst. Inc. (B.5.b.1, B.5.b.2)</td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>NAL/CAIN (C.)</td>
<td>20</td>
<td>16</td>
<td>18</td>
<td>25</td>
<td>26</td>
<td>22</td>
<td>1</td>
<td>128</td>
</tr>
<tr>
<td>Total</td>
<td>21</td>
<td>17</td>
<td>26</td>
<td>34</td>
<td>37</td>
<td>25</td>
<td>1</td>
<td>161</td>
</tr>
</tbody>
</table>

*The letters and numbers following the data base names refer to their place of discussion in the text, pages ---.
b. (2) BIOL. ABST. Inc. Nine items printed; since five had already been included, only one more was added to the bibliography.

c. NTIS. Seven items printed. None was added.

d. GEOREF. Twenty-eight items printed. Most relevant ones of these had been included on the earlier GEOREF search and nothing was added.

C. A search generated from CRREL by Nancy Dumont with input from Dr. Jerry Brown and Martha Andrews. Searched on NAL/CAIN 23 September 1976 - ORBIT III. This was a search by author for every item published by that author and indexed at NAL. Our author list included all authors used from CRREL vol. 25-28, and the authors found from the earlier subject search of the NAL File (B.5.a.). The printout consisted of 1482 items listed on 27 different batch printouts arranged in no particular order other than a loose grouping according to letters of the alphabet. There were innumerable repetitions among the 1482 items. One hundred and four items were identified as already having been included from the CRREL bibliography. However, this identification was provided from quite a casual check; if a systematic check had been made no doubt the number would have been much higher. In the end, after over 20 hours of work, 128 items were added to the bibliography from this list. Although it is probable that only a few of these items could be considered absolutely crucial to the completeness of the bibliography, many, many items chosen serve to round out or enhance the bibliography and it is felt that this was a worthwhile check.

The idea of a search by author seems valid also, given the selective nature of subject indexing by possibly inexperienced indexers for the data bases, and also the fact that searching for subject within a particular geographic or physiographic area on the computerized data bases is still a primitive art. Experienced scientists often use authors in searching the literature as they know who is prominent in their own fields. However, it did become evident that a certain number of prolific authors had really only contributed in a small way to the subject of the bibliography.

Analysis of the Bibliography

This analysis traces developments (as reflected in the published results) in research relating to disturbance and restoration of soils and vegetation in Soviet permafrost regions. As was mentioned above, many of the earlier papers chosen for inclusion may be only of peripheral interest by comparison to those available later. The method of subdivision chosen to facilitate this type of discussion was to divide the 898 bibliographic citations into year of publication, and further to divide each year according to source of the citation (see Table III). Virtually none of the original papers have been seen by me; the discussion is based purely on information given in the titles and in the subject indexing provided at the source.
TABLE III

A tabulation of the numbers of citations from each source, by year.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CRREL</td>
<td>85</td>
<td>125</td>
<td>179</td>
<td>161</td>
<td>87</td>
<td>36</td>
<td>5</td>
<td>678</td>
<td>75</td>
</tr>
<tr>
<td>Computer Searches</td>
<td>21</td>
<td>17</td>
<td>26</td>
<td>34</td>
<td>37</td>
<td>25</td>
<td>1</td>
<td>161</td>
<td>18</td>
</tr>
<tr>
<td>J. Brown</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>4</td>
<td>5</td>
<td>24</td>
<td>20</td>
<td>59</td>
<td>7</td>
</tr>
<tr>
<td>Totals</td>
<td>106</td>
<td>148</td>
<td>205</td>
<td>199</td>
<td>129</td>
<td>85</td>
<td>26</td>
<td>898</td>
<td></td>
</tr>
<tr>
<td>Per cent</td>
<td>12</td>
<td>16</td>
<td>23</td>
<td>22</td>
<td>14</td>
<td>9</td>
<td>3</td>
<td>~100</td>
<td></td>
</tr>
</tbody>
</table>
A. 85 items chosen from the CRREL bibliography. About half of these titles are of a descriptive nature, concerned with the characteristics and distribution of plants and soil. The others are more process-oriented, examining interrelationships in plant communities, biological productivity, experiments in alteration of plant growth, and other topics noted below.

Papers of special interest include:

1. A collection entitled Biological basis for the utilization of natural resources in the north with notable papers by V.N. Andreev, I.I. Shamanova, and V.F. Shamurin. The last of these is the earliest study of tundra disturbance picked up for the bibliography.

2. Another volume of collected papers is entitled Productivity of subarctic biogeocenoses, proceedings of a symposium on exploration, rational exploitation, and preservation of natural resources in the far northern USSR. Papers by V.V. Kriuchkov and M.S. Zuznetsova study the components of tundra ecosystems.

3. B.F. Kosov treats soil erosion and thermokarst in a paper on ravine development in tundra.

4. M.S. Boch's paper is a quantitative evaluation of the relationship between soil and vegetation on the tundra.

B. 21 items chosen from the computerized data bases. The trends shown in these titles are similar to the above. Noteworthy papers include:

1. V.N. Drachkov on the effect of mice and birds on spruce reforestation.

2. B.P. Kolesnikov on studies of phytoreclamation of industrial dumps.

3. R.V. Kovalev on replanting.

1971

A. 125 items chosen from the CRREL bibliography. Descriptive literature ranges from discussion of vegetation types and geographical distribution of flora to research reviews and studies of vegetative resources. The more analytical papers discuss biomass, correlation of soils and phytocoenoses (M.L. Ramenskaia), boundaries within the tundra (V.D. Aleksandrova), and modeling in biogeocenology (I.IA. Liepa). Papers on biological productivity are frequent and include three (K.N. Manakov, N.L. Chepurko and A.D. Egorov) from a work Biological productivity and mineral cycling in terrestrial plant communities. Natural regeneration of taiga and alpine forests is a frequent subject of papers, but it is not clear whether the regeneration discussed is normal or because of damage. Protective vegetation has also been researched. Soils papers include discussions of thermal characteristics, the effect of ice formation on vegetation, and agricultural utilization of soils. The general trend noticed for 1970 continues, with several symposium type volumes reflecting interest in revegetation and conservation:
1. Biogeocenoses of Taymyr tundra and their productivity (vol. 1) has interesting titles by I.V. Ignatenko, IU.I. Chernov and N.V. Matveeva.

2. Biological problems of the north.


In addition to these collections, two papers by V.V. Kriuchkov on the causes of tundra treelessness are of interest for revegetation.

B. 17 items chosen from computerized data bases. This material concentrated mainly on soils, with the paper by I.V. Vereshchagina being of particular interest.

C. 6 items from the office of Dr. Jerry Brown. IBP Tundra Biome Translations 1, 4, 5 and 6 are here, with 2 and 3 already included from the CRREL bibliography.

1972

A. 179 items from the CRREL bibliography. There was a sharp jump in the number of relevant items this year. The quality and quantity of symposium volumes highlights increasing interest in the subjects of damage and restoration, as do several publications in primary journals. In general, isolated publications seem to have declined in favor of collected works with a central theme:

1. Study of tundra and forest-tundra biocoenoses includes several good titles: one by B.P. Kolesnikov on revegetation on developed lands, one by IU.I. Chernov on soil invertebrates, and one by V.N. Andreev on the effect of human activities on vegetation.

2. IBP Tundra Biome: Proceedings, IV International meeting on the biological productivity of tundra (Leningrad). All titles promise substantial background information, and the paper by E.V. Dorogostaitskaia on the influence of man on vegetation and ecosystem development seems particularly useful.


5. Soils and vegetation of the east European forest tundra, ed. by B.A. Tikhomirov.

6. Productivity and biological turnover in the biogeocenoses of the Kola Peninsula, by K.N. Manakov.

7. Murmansk region vegetation.
Notable individual papers include:

1. V.F. Tsvetkov on forest fires and young growth in lichen taiga.

2. S.M. Sannikov and M.V. Pridnia, separately, on natural forest regeneration after logging.

3. A.A. Shuzmov on taiga restoration.

4. V.S. Smirnov on forests suffering damage by humans.

B. 26 items from computerized data bases. Several of these are on forestry, including reforestation (L.A. Lamin), and on biological activity in soils. Notable are:

1. B.N. Likhonov on environmental conditions of development of oil and gas areas.

2. L.G. Grishina on soil mites.

3. V.V. Kriuchkov on problems of the reclamation of the Far North.

1973

A. 161 items chosen from the CRREL bibliography. In spite of a decline in the number of items, 1973 shares with 1972 the high point of publication in the fields of disturbance and restoration. Symposia continue to be prominent:

1. International Conference on Permafrost, 2nd, Yakutsk. Most papers are on soil, with items by A.P. Tyrtikov on permafrost and soil cover, and V.V. Kriuchkov on permafrost effects on the tree line.


3. Problems of the north, vol. 18. Several papers here have good titles, including one by V.V. Kriuchkov on the subarctic landscapes and ways in which they are affected by industrialization, and another by him on possibilities of transforming natural environments in the northern part of western Siberia. S.A. Strelkov discusses problems in natural preservation in the northern Kola Peninsula. Other titles indicate research on preservation of natural environments.

4. Natural characteristics of swamps in the Amur River area.

5. Productivity and structure of the vegetation in young pine forests includes a title by M.A. Boch on swamp preservation.

6. Natural conditions in West Siberia, vol. 4, shows a good title by B.F. Kosov on the development of gullies, including human factors involved.
Individual contributions in this year appear of very high quality:

1. L.S. Kozlovskaya on the role of invertebrates in swamp biogeoecenoses.
2. A.D. Vakurov on revegetation after fire.
3. B.N. Golovkin on transplanting herbaceous perennials to the polar north.
4. S.S. Fedotov on natural revegetation of drained bogs.
5. V.I. Vasilevich on the effects of environmental factors on subalpine meadow vegetation.
7. V. Ksenofontov on growing grain crops on permafrost.
8. V.V. Kriuchkov on the rational utilization of natural resources of the Far North.

B. 34 items chosen from the computerized data bases. A few notable titles turned up here:

1. D.I. Berman on soil invertebrates in winter in the taiga.
2. V.N. D'iskov on erosion after logging.
3. N.K. Talantsev on natural forest reseeding (regeneration).
4. D. Ch. Tsydypov on changes in vegetation due to grazing.

C. 4 items from the office of J. Brown. IBP Tundra Biome Translation 8 is included here as are two papers by Iu.I. Chernov from Biogeoecenoses of Taymyr tundra and their productivity, vol. 2, not itemized in the CRREL bibliography.

1974

A. 87 items chosen from the CRREL bibliography. A sharp decline in the number of publications takes place here; however, the quality remains good. A substantial addition to alpine studies is noted, with one symposium, 6th All-union conference on the study and development of alpine flora and vegetation, and a review article Ecology of alpine vegetation. State of the art.

Individual papers on alpine subjects include:

1. V.V. Smirnov on soil disturbance by engineering activities in the eastern Polar Urals.
2. I.K. Bulatova on successions in tundras.
Research on taiga areas shows many publications dealing with natural or artificial regeneration of vegetation. Symposia on taiga include:

1. Study and reclamation of swamps in the northwest European USSR with papers on soil invertebrates and reforestation.


5. Two volumes of the 10th International Congress on Soil Science: Soil studies in Karelia and Soil cryogenesis.


Individual papers of note include:

1. B.A. Iurtsev on steppe communities.

2. G.S. Konstantinova on thermal erosion.

3. B.N. Norin on ecosystems.

4. A.P. Tyrtikov on vegetational cover dynamics and permafrost development.

Two books also seem relevant:

1. Biogeocoenoses of taiga forests (Perm Region) by G.N. Simkin.

2. Swamps of the plains near the lower Amur River, by IU.S. Prozorov.

B. 37 items chosen from the computerized data bases. Most of these items relate to soil formation and composition. A.A. Bogushevskii's book on soil reclamation in permafrost zones appears worthwhile. Two additional items from the 10th International Congress on Soil Science, vol. 8, turned up here: I.P. Gerasimov's New soil map of the USSR and E.N. Ivanova's Soil map of the arctic. Individual papers of note are A. Sakai on the characteristics of forests on permafrost, and V.F. Shamurin on insects.
C. 5 items from the office of J. Brown. Included here are Frozen ground and soil II and Permafrost and soil III as well as a volume by E.M. Naumov on taiga soil formation and IBP Tundra Biome Translation 10.

1975

A. 36 items chosen from the CRREL bibliography. This drastic decline in number of items must indicate an inevitable time lag in CRREL pickup of items. Again, the quality is good and many useful items are noted. Symposia still predominate:

1. IBP Tundra Biome: Proceedings V. Abisko. International meeting on biological productivity. Structure and function of tundra ecosystems. Included here are papers on the Russian IBP sites.

2. Botanical studies in Yakutia contains papers on vegetation classification and dynamics.

3. Flora, vegetation and vegetational resources of Transbaikal and adjacent areas, vol. 5.

Notable individual papers include:

1. V.V. Kriuchkov on new approaches to the problem of tundra treelessness.
2. S.V. Tomirdiaro on thermokarst-lake landscapes.
3. P.I. Mel'nikov on research in preservation of northern environments.

Research in alpine areas includes vegetation analysis, and a paper by IU.N. Krasnoshchekov on the influence of vegetation on soil thawing.

Several papers on taiga areas are relevant to disturbance and restoration:

1. A.D. Vakurov on forest fires.
2. T.N. Vstovskaia on plant introduction.
3. V.N. Khlebodarov on natural regeneration after logging.
4. N.G. Moskalenko on revegetation (also in translation).

B. 22 items chosen from the computerized printouts. Bogushevskii has written on soil reclamation again; B.P. Kolesnikov on problems of land recultivation, and G.S. Konstantinova more on thermal erosion of landscapes.

C. 24 items from the office of J. Brown. IBP Tundra Biome Translations 12 and 13 are here, as is CRREL Draft Translation 477 of Golovkin's 1973 paper on transplanting herbaceous perennials to the north. Also in connection with the IBP, Resources of the Biosphere (synthesis of the Soviet studies for the International Biological Programme), vol. 1, has appeared, with particularly
interesting titles by Ghilarov, Malinowsky, Shamurin and Pozdnyakov. A preprint of summaries of papers for the Symposium on Geography of Polar Countries for the XXIII International Geographical Congress appeared with many papers on the effects of development on the northern environment.

What appears to be a landmark development in research on disturbances and restoration took place in the form of a conference—Environment Protection in Relation to Economic Development of Permafrost Regions. The conference publication consisted of abstracts, of which four, that were not later translated, are noted under this year. The section on 1976, following, details the English translation of a major part of these abstracts.

1976

A. 5 items from the CRREL bibliography. The time lag in bibliographic work becomes even more evident here, with only five relevant works having appeared through the September 1976 CRREL monthly listing. Of these, the most notable is the CRREL translation of Moskalenko's 1975 paper noted above.

B. 1 item from the computerized printouts. No comment.

C. 20 items from the office of J. Brown. Nearly all of these are from the English translation of abstracts of the "Conference ..." discussed under 1975. If the titles and abstracts of these papers are indicative, their complete publication and translation will be of immeasurable significance in further studies of disturbance and restoration.
APPENDIX I: AUTHOR INDEX
(Number in parentheses indicates number of publications authored during the year)
1970

Akademiia Nauk SSSR
Aleksandrova, N.M., et al.
Aleksandrova, V.D. (3)
Andreev, V.N. (2)
Andreev, G.N.
Archegova, I.B. (2)
Boch, M.S., et al. (3)
Boch, M.S.,
Chizhikov, P.N.
Der'viz-Sokolova, T.G. (2)
D'vakonova, AA (2)
Kolukhanov, A.G.
Drachkov, V.N.
Eucks, I.I.
Filippova, L.N.
Firsova, V.P., et al. (3)
Firsova, V.P.
Gauert, V.I.
Gertsen, M.V.
Golovko, E.A.
Gorchakovskii, P.L.
Grishina, L.A.
Ignatenko, I.V.
Ignatenko, I.V., et al. (2)
IUr'tsev, B.A. (2)
Ivanov, V.V. (2)
Ivanova, E.N., et al.
Ivanova, T.F. (2)
Karol', B.P.
Katanskaia, V.M. (2)
Khantimer, I.S.
Khismatullin, Sh.D. (2)
Khrenova, G.S.
Kolesnikov, B.P.
Komnin, G.E. (2)
Kosov, B.F., et al.
Kotelina, N.S.
Kovalev, R.V.
Kriuchkov, V.V. (2)
Krylov, G.V. (2)
Kukk, E.K.
Kulai, G.A.
Kuminova, A.V. (2)
Kuz'min, V.A. (2)

Kuznetsova, M.S.
Larina, T.G.
Lavrenchenko, N.N.
Liverovskaya, I.T.
Manakov, K.N.
Manakov, K.N. (2)
Martin, IU.I.
Milhailova, R.P.
Moriakina, V.A. (2)
Pak, K.P.
Pavlova, T.S. (2)
Pereverzev, V.N. (2)
P' Lavchenko, N.I. (2)
Popov, V.M.
Rebristaia, O.V.
Roichenko, G.I., et al.
Roizin, M.B. (2)
Rudneva, E.N.
Sannikov, S.N.
Shamanova, I.I. (2)
Shamurin, V.F.
Shiitov, S.G.
Sisko, R.K.
Sobolevskaya, K.A., et al. (2)
Sochava, V.B., et al.
Stanislovich, K.V.
Stenina, T.A.
Storozheva, M.M.
Tikhomirov, B.A. (4)
Tolmachev, A.I.
Tonkonogov, V.D.
Tsypanova, A.N. (2)
Tyrtikov, A.P. (3)
Urushadze, T.F.
Vasil'evskaya, V.D.
Vereshchagina, I.V.
Zhivilko, Z.N.
Zvereva, O.S.
Panfilov, V. P.
Parinkina, O. M.
Pavlova, N. N.
Pavlova, E. B.
Petrovskai-Baranova, T. P.
Petrovskii, V. V.
Pustovoitov, N. D.
Proizhnikov, A. N.
Pospelova, E. B.
Pospelova, E. B., et al.
Polozova, T. G.
Rabotnov, T. A.
Ramoskaia, M. L.
Rasskazov, N. M., et al. (2)
Sergeev, G. M.
Serova, N. V.
Shavrov, L. A. (2)
Shcherbakov, I. P.
Shikhimirov, M. G.
Shvetsova, V. M., et al.
Stepanova, I. V.
Sumochkina, T. E. (2)
Sumochkina, T. E., et al.
Talantsev, N. K.
Taran, I. V.
Targul'ian, V. O.
Tatarchenkov, M. I.
Tikhomirov, B. A. (2)
Titov, E. V.
Tolmachev, A. I. (2)
Tomilin, B. A.
Vasil'evskaia, V. D.
Vereshchagina, I. V.
Afanas'ev, V.A.
Aleksandrova, V.D., et al.
Alekseev, R.N.
Andreev, V.N. (2)
Andreev, V.N., et al. (2)
Andreashkina, N.I., et al. (2)
Aparin, B.F.
Archegova, I.B.
Aref'eva, Z.M.
Aristovskaiia, R.V., et al.
Babanin, V.F., et al.
Belousova, N.A.
Bogachova, I.A.
Bogatyrev, L.G.
Bozhnova, T.A.
Bulatskii, I.K.
Bul'chev, V.G., et al.
Chaika, V.E.
Chal'ia, I.P.
Chepurko, N.L. (3)
Chernov, IU.I. (2)
D'ivakov, V.N.
Dolushin, I.IU.
Dorogostaiskaiia, E.V. (4)
Drachkov, V.N.
Egorov, O.V.
Elovskaiia, L.G.
Ermolaev, V.I.
Evdokimova, T.I.
Fadin, I.A., et al.
Fedina, A.E. (2)
Fedorov, K.N., et al.
Fedorova, N.M.
Filippova, L.N.
Firsova, V.P.
Gavva, O.I.
Gerash'ev, I.P., et al.
Glazovskaiia, M.A. (2)
Golovkin, B.N.
Gorchakovskii, P.L., et al. (3)
Gorodkov, K.B.
Govorenkov, B.F.
Grishina, L.A.
Grishina, L.G.
Gudyna, A.N.
Gvozdetskii, N.A.
Ignatenko, I.V. (4)
Ignatenko, I.V., et al.
IUr'tsev, B.A., et al.
Ivanov, V.V.
Ivlev, A.M.
Kazanskiia, V.D.
Kazantseva, L.K.
Khantulev, A.A., et al.
Khmelev, V.A.
Khokhriakov, A.P. (2)
Khrenova, G.S.
Kolesnikov, B.P. (3)
Kondrat'eva, E.V.
Kondratova, IU.I.
Korobkov, A.A.
Korotkevich, E.S.
Kovalev, R.V. (2)
Kovalev, R.V., et al.
Krasavtsev, O.A. (2)
Kriuchkov, V.V. (3)
Krylov, G.V. (2)
Kulai, G.A.
Kurmangaliev, A.B.
Lamin, L.A.
Lapazina, T.M.
Liakhova, I.G.
Likhanov, B.N.
Liverovskaiia, I.T.
Loveliuss, N.V. (3)
Lukicheva, A.N. (2)
Makeev, O.V.
Makovskii, V.I., et al.
Makunina, A.A.
Manakov, K.N.
Matveeva, N.V.
Medvedeva, N.S.
Mezhennyi, A.A.
Mishukov, N.P.
Naumov, E.M. (2)
Neishtadt, M.I.
Nifontova, M.G. (2)
Norin, B.N. (2)
Novichkova-Ivanova, L.N. (2)
Pachevskii, T.M.
Pak, K.P.  
Parinkina, O.M.  
Parmuzin, IU.P. (2)  
Permiakova, A.A.  
Petrov, M.G.  
Petrovskii, V.V.  
Piastolova, O.A.  
P'iavchenko, N.I. (2)  
Pitkin, A.I.  
Pospelova, E.B. (3)  
Pridnia, M.V. (2)  
Proskuriakova, T.L., et al.  
Rameskaia, M.I.  
Roizin, M.B. (2)  
Romanova, E.N.  
Saburov, D.N.  
Salamov, G.A.  
Samoilova, G.S.  
Sannikov, S.M. (2)  
Scherbakov, I.P.  
Segal', A.N.  
Shamurin, V.F., et al. (2)  
Scherbakova, L.N.  
Shiatov, S.G.  
Shilova, N.V.  
Shlottgauer, S.D.  
Shuzhmov, A.A.  
Shvarts, S.S.  
Shvarts, S.S., et al.  
Sinel'shchikova, Z.I.  
Smirnov, A.V.  
Smirnov, M.P.  
Smirnov, V.S., et al.  
Snytkin, G.V.  
Sobolev, L.N. (2)  
Sobolevskaja, K.A.  
Sochava, V.B., et al.  
Sokolov, I.A.  
Soldatenkova, Y.P.  
Stanikovich, K.V., et al.  
Stepanova, I.V., et al.  
Sushkina, N.N., et al.  
Tatarkina, A.A.  
Tikhomirov, B.A., et al. (2)  
Tikhomirov, B.A. (2)  
Tikhonova, T.S.  
Tomilin, B.A.  
Tomirdiaro, S.V.  
Trotsenko, G.V.  

Tsvetkov, V.F.  
Tyrtikov, A.P.  
Ukhacheva, V.N. (2)  
Urushadze, T.G.  
Urushadze, T.F.  
Uspenskii, S.M.  
Uvarov, L.A.  
Vasil'evskaia, V.D., et al. (5)  
Vasil'evskaia, V.D. (2)  
Vomperskaia, M.I.  
Wielgolaski, F.E. (2)  
Zalenskii, O.V., et al.  
Zhuchkova, V.K.  
Zhuikova, I.V.  
Zhukov, A.M.  
Zubareva, R.S.  
Zvereva, T.S. (3)
Afanas'eva, T.V., et al.
Afonina, O.M.
Aleksandrova, V.D.
Alekseeva, R.M.
Andreev, V.N.
Andreiashkina, N.I. (3)
Anisimova, K.A.
Archegeva, I.B. (2)
Aref'eva, Z.N.
Belousova, N.A.
Bobov, N.G.
Boch, M.S.
Bogatyrev, L.G. (2)
Bogushevskii, A.A. (2)
Broido, A.G.
Bulatova, I.K.
Buzunova, I.O.
Chertovskoi, V.G.
D'iakov, V.N.
Dorofeeva, N.A.
Dylis, N.V.
Dzhuraev, A.D.
Elovskaja, L.G. (2)
Fedorova, N.M.
Firsova, V.P.
Galkina, N.V.
Gar, K.A.
Gasheva, A.F.
Gerasimenko, T.V., et al.
Gerasimov, I.P.
Gorchakovskii, P.L. (2)
Gradusov, B.P.
Granina, G.T.
Ignat'eva, L.A. (2)
Iurtsch, B.A.
Grishina, L.A.
Iakovlev, A.S.
Ignatenko, I.V.
Ivanov, B.I.
Ivanova, E.N.
Izmailova, N.N.
Karavaeva, N.A. (2)
Katenin, A.E.
Kazantseva, L.K.
Khailov, S.Kh.
Khantimer, I.S. (2)
Khokhriakov, A.P.
Khramova, N.F.
Konorovskii, A.K.
Konstantinova, G.S., et al.
Koposov, G.F. (2)
Kornienko, V.A.
Kosmachev, K.P.
Kotelina, N.S.
Kovaleva, S.R.
Kovda, V.A. (2)
Kozhevennikov, IU.P. (3)
Kozlovskaja, L.S.
Kriuchkov, V.V.
Kulai, G.A.
Lashchinski, N.N. (2)
Listov, A.A.
Makaveev, N.I.
Malysheva, G.S.
Mamyrov, A.M.
Nakhutsrishvili, G.Sh.
Naumov, E.M. (2)
Netrebov, V.P.
Norin, B.N.
Nukhimovskaja, U.D.
Orlov, E.D.
Orlov, A.IA.
Pak, V.A.
P'iavchenko, N.I. (2)
Pospelova, E.B.
Prozorov, IU.S.
Rakhmanina, A.T.
Rusanova, G.V.
Sakai, A.
Savvinov, D.D.
Shamurin, V.F.
Shikhemirov, M.G.
Shvedchikov, G.V.
Shvirst, A.A.
Simkin, G.N.
Smirnov, V.V.
Sokolov, I.A. (2)
Sukhov, V.A.
Surovikina, V.I.
Surovikina, V.I.
Targul'ian, V.O.
Tikhomirov, B.A.
Tolmachev, A.I., et al.
Trotsenko, G.V. (2)
Turmanina, V.I.
Tyrtikov, A.P.
Urusevskaja, I.S.
1974

Vasil'ev, N.G.
Vasil'evskaja, V.D. (2)
Vodop'ianova, N.S.
Zaboeva, I.V.
Samolotchikova, S.A.
Zvereva, T.S.

1975

Alifanov, V.M.
Andreev, V.N.
Bogatyrev, L.G.
Bogushevskii, A.A.
Botman, K.S.
Buks, I.I.
Chernov, IU.I.
Firsova, V.P.
Gorchakovskii, P.L. (2)
 Gorova, A.K.
Gorozhankina, S.M.
IUrtsev, B.A. (3)
Katrich, V.N.
Khlebodarov, V.N.
Kolesnikov, B.P.
Konstantinova, G.S.
Korovin, A.I.
Korzun, M.A.
Kovalev, R.V.
Krasnoshchekov, IU.N.
Kriuchkov, V.V. (2)
Kuz'min, V.A. (2)
Lashchinskii, N.N.
Mamytov, A.M.
Matveeva, N.V.
Mel'nikov, P.I.
Moskalenko, N.G.
Nesmelova, E.I.
Nikitin, E.D. (2)
Norin, B.N.
Panasenko, I.N.
Perfil'eva, V.I.
Petrovskii, V.V.
Rubtsov, N.I.
Rusanova, G.V.
Savich, M.A.
Scherbakov, I.P.

1975

Shikhemirov, M.G. (2)
Siplivinskii, V.N.
Tomilin, B.A.
Tomirdiaro, S.V.
Tonkonogov, V.D.
Trofimov, N.N.
Vakurov, A.D.
Vasil'evskaja, V.D.
Vstovskaja, T.N.
Zvereva, T.S.

1976

Budaeva, S.E.
Chernov, IU.I.
D'iachenko, A.P.
El'chaninov, E.A.
Galaktionov, B.V.
Gol'dtman, V.G.
Grigor'ev, N.F.
Kaganovskaja, S.E.
Kriuchkov, V.V.
Krylov, V.F.
Kulagin, IU.Z.
Liverovskaja, I.T.
Mart'ianova, G.N.
Mihailov, N.A.
Mikhailovskii, V.V.
Moskalenko, N.G. (2)
Popov, E.I.
Sever'ianov, A.N.
Smirnov, V.V.
Sukhodol'skii, S.E.
Tikhmenev, E.A.
Tomirdiaro, S.V.
Tyrtikov, A.P.
Vital', A.D.
Zhigarev, L.A.
APPENDIX II: ALPHABETICAL LISTING OF
CITATIONS (1970-1976)
Abrazhko, V.I., 1973:

NAL/CAIN*

Abstracts of the sixth all-union conference on the study and development of alpine flora and vegetation, 1974:

Afanas'ev, V.A., 1972:

Afanas'ev, V.A., 1972:

Taiga soils
Taiga vegetation
Soil formation

Afanas'eva, T.V. et al., 1974:
Analysis of vegetative cover at the boundary of spot-medallion and hummocky tundra in west Taimyr (Opyt analiza strukturnykh rastitel'nogo pokrova na granitne fitotsenozov platinistoi i bugorkovoi tundra v Zapadnom Taimyre) Biogeocenoses of Taimyr tundra and their productivity (Biogeocenoses of Tyumyr tundra and their productivity) Leningrad, Nauka, p. 185-197. In Russian with English summary. Refs.

Aleksandrova, V.D., 1971:
Plant ecology
Mosses
Arctic vegetation
USSR-Chukchi Peninsula

Agranat, G.A. et al., 1973:
Aleksandrova, N.M. et al. 1970:
Alpine soils.
Alpine vegetation.
Acclimatization.
26-634

Aleksandrova, V.D. et al., 1972:
Tundra vegetation.
Biomas.
28-1256

Aleksandrova, V.D., 1970:

Aleksandrova, V.D., 1970:
Tundra vegetation.
Vegetation patterns.
Plant productivity.
27-570

Aleksandrova, V.D., 1974:

Aleksandrova, V.D., 1974:

Aleksandrova, V.D., 1974:

Aleksandrova, V.D., 1972:
Tundra vegetation.
Biomas.
28-1256

Aleksandrova, V.D., 1970:

Aleksandrova, V.D., 1970:
Deserts.
Arctic vegetation.
Ecology.
26-1692

Aleksandrova, V.D., 1974:
Moses.
Taiga vegetation.
Peat.

Aliev, D.A., 1973:

Biol. Abst. Inc.

Alifanov, V.M., 1975:

30-4238

26
Al'ter, S. P., 1971:

Geo-botanical interpretation
Vegetation
Taiga terrain
28-3025

An, P. A., 1971:

Alpine vegetation.
Biomass.
27-2631


Arctic soils.
Arctic vegetation.
Plant ecology.
27-20

Andreev, G.N., 1970:

Arctic vegetation.
Tundra vegetation.
Forest tundra.
26-1691

Andreev, V.N., 1970:
Geographic regularities governing the distribution of surface phytomass in the tundra zone, in relation to the movement of tree and shrub vegetation to the north (Nekotorye geograficheskie zakonomernosti v raspredelenii nadzemnoi fitomassy v tundra voj zone v sviazi s prodvizheniem na sever dreves nost' rash tet'nost'), Akadamiia nauk SSSR. Komi filial. Institut biologii. Biologicheskie osnovy ispol'zovaniia prirody Severa (Biological basis for the utilization of natural resources in the North) Syktyvkar, Komi knizhnoe izd-vo, 1970 p. 6-13. In Russian. 22 refs.

Arctic vegetation.
Tundra vegetation.
Forest tundra.
26-1703

Andreev, V.N., 1972:

Tundra soils.
Tundra vegetation Biomass.
USSR-Kolyma River.
27-2347
Andreev, V.N., 1974:  

Andreev, V.N., 1975:  
Seasonal dynamics of some plants in subarctic tundra (Sezonnaia dinamika nadzemnykh fitomass nekotorykh rasteni s subarkticheskoi tundry) Botanicheskie issledovaniia v I Ekutii Yakursk, Iakutskii filial SO AN SSSR, p. 72-76. In Russian.

Andreev, V.N., 1972:  
Studying the effect of human activities on Arctic and Subarctic vegetation (Izuchenie antropogennykh vozdeistvii na rastitel'nost' Arktiki i Subartktiki). Izuchenie biogeotsenozov tundry i lesotundry (Study of tundra and forest-tundra biocenoses) Leningrad, Nauka, 1972, p. 43-49. In Russian. 9 refs.

Andreev, G.N., 1971:  

Andreiashkina, N.I., 1974:  

Andreiashkina, N.I., et al., 1972:  

Andreiashkina, N.I., 1974:  
Relationship between the weight of green and fallen leaves in some hypotharctic bushes and shrubs (O sootnosheniia vse zelenykh i opavshikh liist'ev pri opredelenii opada u nekotorykh gipoarkticheskikh kustarnikov i kustarnichkov) Akademiia nauk SSSR, Ural'skii filial. Institut ekologii rastenii i zhivotnykh. Trudy 1974 Vol. 88 p. 120-134. In Russian. 24 refs.

Andreiashkina, N.I., et al., 1972:  

Andreiashkina, N.I., 1974:  

Andreiashkina, N.I., 1971:  
Procedure for determining the overground part of phytomass of shrubs and dwarf shrubs in forest tundra (K metodike opredeleniia nadzemnoi massy kustarnikov i kustarnichkov lesotundry). Ekologiia 1971 No. 2. p. 82-84. In Russian. 4 refs.

Andreiashkina, N.I., et al., 1972:  

Andreiashkina, N.I., 1974:  
Accumulation and decomposition of vegetational remains in forest tundra east of the Urals (Kablozhenie i nakoplenie rastitel'nykh ostatkov v lesotunure Zaural'ia). Akademiia nauk SSSR, Ural'skii filial. Institu ekologii rastenii i zhivotnykh. Trudy 1974 Vol. 88 p. 120-134. In Russian. 24 refs.

Andreiashkina, N.I., 1974:  
Accumulation and decomposition of vegetational remains in forest tundra east of the Urals (Kablozhenie i nakoplenie rastitel'nykh ostatkov v lesotunure Zaural'ia). Akademiia nauk SSSR, Ural'skii filial. Institu ekologii rastenii i zhivotnykh. Trudy 1974 Vol. 88 p. 120-134. In Russian. 24 refs.

Tundra vegetation.

26-1455


Peat

28-3485


Active layer

Soil temperature

28-3489


29-3670


Taiga soils.

Soil formation.

Podsol.

27-1720


Tundra soils.

Soil formation.

Tundra vegetation.

27-2352


NAL/CAIN


NAL/CAIN


Tundra soils.

Soil composition.

Tundra vegetation.

27-2352

NAL/CAIN (Lockheed)


Soil formation
Taiga vegetation
Soil composition
USSR-Tavda
28-2665


Taiga soils.
Taiga vegetation.
27-2346


Vegetation.
Plant ecology.
27-1696


Alpine soils.
Alpine vegetation.
Ecology.
26-462


Arctic soils.
Arctic vegetation.

28-3751


Taiga soils.
Taiga vegetation.

27-2346


Arctic soils.
Arctic vegetation.

28-3753


Lichens.
Tundra vegetation.

BROWN


Soil formation
Forest soils
Meadow soils
USSR--Khabarovsk
26-3818


Alpine soils.
Alpine vegetation.
Ecology.
26-462


Arctic soils.
Arctic vegetation.

28-3753


Taiga soils.
Taiga vegetation.

27-2346


Lichens.
Tundra vegetation.
Beloussova, N.A., 1974:
Stratigraphy of peat deposits in swamps of the southern part of Onega-White Sea divide (Stratigrapfiia torfianykh zalezhei bolot iuzhnci chastii Onegi-Belomorskoogo vodorazdel') Biological problems Severa, VI symposium; Vypusk 6: Pochvovedenie i zemel'nye resursy (Tezisy dokladov) (Biologicheskie problemy Severa, VI simposium; Vypusk 6: Soil science and earth resources (Summaries of the papers) Yakutsk, Akademiia nauk SSSR, p. 129-134. In Russian.

Bolov, A.V., 1973:

Vegetation
Plant ecology
USSR-East Siberia

Berezin, A.M. et al., 1971:

Berezin, A.N. et al., 1971:
Subarctic soils.
Subarctic vegetation.

Berezin, N.A. et al., 1973:

Taiga terrain.
Taiga vegetation.
Thermokrat.

Berman, D.I., 1973:

Deskin, I.A., 1973:
Preservation of natural environments and planning the transportation net of the north (Sokhranenie prirodnoi sredy i formirovaniia transportnoi seti Severa) Problemy severa 1973 vol. 18 p. 228-232. In Russian. 5 refs.

Bialowieza, B. et al., 1974:
Biogeocenoses of Taymyr tundra and their productivity (Vol. 1) (Biogeotsenozy Taymyrskoi tundry i ikh produktivnost') Leningrad, Nauka. In Russian with English summaries. (Main entry not included in CRREL Bibliography; papers only included through p. 197)

BROWN


Tundra soils
Tundra vegetation
Soil formation
USSR--Taymyr Peninsula

Tundra soils
Tundra vegetation
Plant ecology


Tundra soils
Tundra vegetation

Berezin, N.A., 1974:
Stratigraphy of peat deposits in swamps of the southern part of Onega-White Sea divide (Stratigrapfiia torfianykh zalezhei bolot iuzhnci chastii Onegi-Belomorskoogo vodorazdel') Biological problems Severa, VI symposium; Vypusk 6: Pochvovedenie i zemel'nye resursy (Tezisy dokladov) (Biologicheskie problemy Severa, VI simposium; Vypusk 6: Soil science and earth resources (Summaries of the papers) Yakutsk, Akademiia nauk SSSR, p. 129-134. In Russian.

29-1073

28-3528

28-1464

28-1964

28-268
Boch, M.S., et al., 1970:
Quantitative evaluation of the association between vegetation and soil in the tundra zone. (Kolichestvennaya otsenka sviazii rastitel'nosti i pochv v tundrovoi zone) Ekologiya 1970 No. 5 p. 25-34. In Russian. 9 refs. Vasilevich, V.I.; Ignatenko, I.V.
Tundra soils.
Tundra vegetation.
Ecosystems.
26-1058

Boch, M.S. et al., 1971:
List of mires of the European part of the USSR, requiring preservation (Spisok volot europetskoi chasti SSSR, trebutushchikh okhranu). Botanicheskii zhurnal, 1971, 38(8), p. 1184-1196. In Russian. 10 refs. Mazing, V.V.
Plant ecology
Peat
28-1676

Boch, M.S., 1970:
Tundra
Plant ecology
Soil formation
USSR--Yamal Peninsula
26-2617

Boch, M.S., 1974:
Tundra vegetation in the lower reaches of the Indigirka River (K flore nizov ev r. Indigirki (v predelakh tundrovoi zony)) Botanicheskii zhurnal June 1974 59(6) p. 839-849. In Russian. 3 refs. Tsareva, V.V.
Salmon
29-1202

Bogachova, I.A., 1972:
Tundra vegetation.
27-2668

Bogatyrev, L.G., 1974:
Biological cycle of ash elements in the Agapa station tundras (Biologicheskii krugovorot zol'nykh elementov v tundrakh stastionara 'Agapa') Biologicheskie problemy Severa, VI simpozium; Vypusk 6: Pochvoi vedenie i zemel'nye resumy (Tezisy dokladov) (Biological Problems of the North, 6th symposium' Vol. 6: Soil science and earth resources (Summaries of the papers)) Yakutsk, Akademiia nauk SSSR, p. 49-54. In Russian.
29-1068

Bogatyrev, L.G., 1974:
29-3326
Bogatyrev, L.G., 1972:
Rate and depth of thaw in tundra soils.

Tundra soils.
Thaw depth.
27-2685

Bogatyrev, L.G. et al., 1971:
In Russian. 11 refs. Vasil'evskaiia, V.D., Ivanov, V.V.
Tundra soils
Soil temperature
USSR--Taymyr
26-3227

Bogatyrev, L.G. et al., 1973:

30-329

Bogushevskii, A.A., 1974:
Soil improvement in the permafrost zone (Melioratsii v zone mnogoletnei mera­loty) Moscow, Kolos, 254 p. In Russian with English table of contents enclosed. Refs. p. 244-250.

30-169

Bogushevskii, A.A., 1974:

NAL/CAIN  (Lockheed)

Borzhonov, H.H., 1975:

BROWN

Botanical studies in Yakutia, 1975:

30-3273

Botman, K.S., 1975:

NAL/CAIN  (Lockheed)

Bozhnova, T.A., 1972:

Soil profiles.
Taiga soils.
Taiga vegetation.
28-364
Bratsev, A.P. et al., 1973:

Subarctic soils
Plant ecology
28-3749

Broido, A.G., 1974:

Buks, I.I., 1972:
Principles of composing legends for small-scale review maps of tundra vegetation in the Asiatic part of Russia (Print-sipy sostableniia legendy melkomashtabnoi obzornoi karty rastitel'nosti Aziatkoi Rossii (na primere tundrovoi rastitel'nosti)). Vsesoiuznyi simpozium po biologicheskim problemam Severa, 5th, Magadan, Apr. 18-22, 1972. Pochvy i rastitel'nost' merzlotnykh raionov SSSR (Soil and vegetation of permafrost regions in the USSR) p. 110-114. In RUSSIAN with ENGLISH summary. 30-689

Buks, I.I., 1975:

Budaeva, S.E., 1976:
Regularity of lichen distribution in Barguzin reservation (Buriat ASSR) (Zakonomernosti raspredeleniia лишайников Barguzinskogo zapovednika (Buriatskai ASSR)). Botanicheskii zhurnal Mar. 1976 61(3) p. 395-406 In Russian. 12 refs.

Bulatova, I.K., 1974:

Bulatova, I.K., 1972:

30-705

Bulyakov, V.A. et al., 1971:

Vegetation
Patterned ground
Geobotanical interpretation
28-3409

Bulvchev, V.G. et al., 1972:

Peat.
Soil moisture migration.
27-2283

Burygin, V.A. et al., 1971:
Winter hardiness of vegetation in central Asian deserts. 0 stoikosti rastitel'nosti pustyn' Srednet Azii k mizkim temperaturem vo vremia zimovki. Problemy osvoenienia pustyn', 1971 No. 6, p. 3-12. In Russian with English and Turkmenian summaries, 7 refs. Markova, L.E.

Desert soils.
Vegetation.
Alpine vegetation.
27-36
Buzunova, I.O., 1974:

Chaika, V.B., 1972:

Chalaia, I.P., 1972:
Landscape map of Tien Shan (Landshaftnaia kurta Tien'-Shania). Landshaftnoe kartografirovanie i fiziko-geograficheskoe raionirovanie gornykh oblastei (Landscape mapping and physiographic zoning of mountain regions), N.A. Grozdetskii, ed. MGU, 1972, p. 208-219. In Russian. 13 refs.

Charushnikova, V.V., 1971:

Chashchina, N.I., 1971:

Chaikova, V.V., 1971:
Biological productivity and chemical element cycle in forest and tundras of the Khibiny Mountains (Biologicheskaya produktivnost' i crugovorot khimicheskikh elementov v lesnykh i tundrovych sobshchestvakh Khibinskikh gor). Biologicheskaya produktivnost' i krugovorot khimicheskikh elementov v rastitel'nykh sobshchestvakh (Biological productivity and mineral cycling in terrestrial plant communities). Leningrad, Nauka, 1971, p. 213-219. In Russian. 1 refs. 01841.3.R56

Chepurko, N.L., 1972:

Chepurko, N.L., 1972:
Mountain soils
Taiga soils
Tundra soils
Biomass

28-2757

Chepurko, N.L., 1972:
Taiga vegetation.

27-2687


Chugunova, R.V., 1971: 
Okhrane prirody IAkutii (Conservation in Yakutia) Irkutsk, Vostochno-Sibirskoe knizhnoe izd-vo, p. 82-85. 5 refs. In Russian.

Chukanov, V.I., 1971: 

Conservation in Yakutia, 1971: 

Danilov, I.D., 1973: 

Dashkevich, Z.V., 1971: 


Demidenko, V.P., 1971: 

Taiga vegetation. Taiga soils.

28-116

Derviz-Sokolova, T.G., 1970: 
Vegetation and its peculiarities in the area of the 'Ust-bel'aia Village (Middle course of the Anadyr' River). (Rastitel'nyi pokrov i osobennosti flory v raione poselka Ust' Belaiia (srednee techenie r. Anadyr') Akademia nauk Sibirskoe otdelenie. Biologicheskii institut. Biologicheskie osnovy ispol'zovaniia prirody Severa (Biological basis for the utilization of natural resources in the North) Syktyvkar, Komi knizhnoe izd-vo, 1970 p. 60-64.


28-1700
D’iachenko, A.P., 1976:
Photosynthesis of arctic mosses under natural conditions (Fotosinteza arkticheskikh mkhov v estestvennykh usloviiakh)

D’inkonova, A.A., 1970:
Soils of some plant associations in the southeastern Altay (Pochvy nekotorykh rastitel’nykh asotsiatsii sostoiaushchikh v vostokochnom Altaia). Ekologo-morfologicheskie i biokhimicheskie osobennosti poleznih rastenii dlkorostushchel flory Sibiri (Ecologic-morphological and biochemical properties of useful plants of the Siberian wild flora).

D’iakov, V.N., 1972:
On erosion processes in relation to lumbering operations in the Carpathians.

D’iakov, V.N., 1973:
Erosion processes in felling areas of the Carpathian Mountain forests.

D’iakov, V.N., 1974:
Erosion processes in felled areas in the mountain forests of the Carpathians.

Dimo, V.N., 1971:
Basic characteristics of the heat regime of soil with underlying thawed and frozen rocks.

Soil temperature.
27-1030

Dimo, V.N., 1973:

Cryogenic soils.
Soil formation.
28-1016


Forest soils.
Forest ecosystems.
Forest tundra.
28-128
Dmitrieva, E.V., 1973:
Taiga vegetation.
Plant ecology.
Taiga soils.

28-1301

Dobrovol'skii, G.V. et al., 1971:
Podsol

26-3226

Dolgushin, I.IU., 1972:
Peat.
Taiga soils.
Taiga vegetation.

27-1774

Doluhkhanov, A.G., 1970:
Mountain soils.
Forest soils.
Forest ecosystems.

27-305

Dorofeeva, N.A., 1974:

NAL/CAIN (Lockheed)

Dorogostaiskaia, E.V., 1972:
Tundra vegetation.

27-2678

Dorogostaiskaia, E.V. et al., 1973:

Tundra soils.

27-1361

Dorogostaiskaia, E.V., 1972:

Dorogostaiskaia, E.V.

Man's influence on the distribution of plants and adaptations to new ecosystems of newly introduced plants are discussed. A comparison of Arctic and Antarctic flora (p. 30-33) shows that Arctic plants had favorable conditions to spread freely to the North during a long period of time and became hardy to the severe environment, resisting attempts of new species to survive, unless ecological conditions change. Plant species brought to Subantarctic islands and adapting not to environment, but to survival conditions have propagated widely, almost completely replacing native plants. Anthropochorous cosmopolitan plants of the Far South are listed.

Dorogostaiskaia, E.V.

28-1316

Dorogostaiskaia, E.V.

during a long travel over the ocean have propagated widely, almost completely replacing native plants. Antropochorous cosmopolitan plants of the Far South are listed.
Drachkov, V.N., 1970:

NAL/CAIN

Drachkov, V.N., 1972:

Taiga soils.
Taiga vegetation.
Fungi.

28-503

Dubovets, A.G., 1971:

9 refs.

Peat
Vegetation
Plant ecology

26-2500

Dylys, N.V., 1974:

Egorov, A.V., 1971:
Trace element migration and accumulation in the vegetation of Yakutia (Prikasirnii i akkumulatsiia mikroelementov v rasteniiakh Yakutii). Biologicheskaia produktivnost' i krugovorot khimicheskih elementov v rastitel'nykh sobshchestvakh (Biological productivity and mineral cycling in terrestrial plant communities). Leningrad, Nauka, 1971, p. 273-277. In Russian. 8 refs. ON541.3.B56

Subarctic soils
Tundra vegetation
Taiga vegetation

28-2758

Egorov, O.V., 1972:

Tundra vegetation.
Plant ecology.
Ecosystems.

28-1266

El'chaninov, E.A., 1976:
Environmental protection during the construction and operation of mines in permafrost regions. Symposium on Environmental Protection in Relation to Economic Development of Permafrost Regions. CHLL TL 518, p. 31-33.

Brown

El'chaninov, E.A., 1972:

30-679

El'chaninov, E.A., 1974:
Melioratsiia merzlotnykh pochv IAkutii) Biologicheskie problemy Severa, VI simpozium; Uspusk 6: Pochvozvedenie i zemel'nye resursy (Tezisy dokladov) (Biological Problems of the North, 6th symposium; Vol.6: Soil science and earth resources (Summaries of the papers)) Yakutsk, Akademiia nauk SSSR, p. 57-63. In Russian. Konofovskii, A.K.

29-1069

El'chaninov, E.A., 1975:
Soil formation conditions and peculiar tundra soils in northeastern USSR (Usloviia pochvoobrazovaniia i osobennosti tundrovych pochiv severo-vostoka SSSR) Vsesoiuznaia konferentsiia Pochvovennyi kriogenez i melioratsii merzlotnykh i kholodnykh pochv. Pushchino, Oct., 1975, Materialy Moscow, Nauka, p. 29-32. In Russian. 4 refs.

30-4226

41

30-2381


28-1261


Fedina, A.E., 1972: Physiographic subdivision of the eastern part of the northern slope of the Caucasus (Fiziko-geograficheskoe raionirovanie vostochnoi chasti severnogo sklona Bol'shogo Kavkaza). Landshaftnoe kartografirovanie i fizioko-geograficheskoe raionirovanie gornikh oblastei (Landscape mapping and physiographic zoning of mountain regions). N.A. Gvozdetskii, ed. MGU, 1972, p. 5-96. In Russian. 811 refs.

Alpine soils.


Taiga soils
Soil formation
Soil profiles

28-2714


30-683
Fedorova, N.M., 1974:

NAL/CAIN (Lockheed)

Fedorovskii, V.D., 1973:

Taiga vegetation
Tundra vegetation
28-2705

Fedotov, S.S., 1973:

29-1028

Filippova, L.N., 1972:
Dynamics of seasonal growth of certain perennial grasses in the tundra and forest belts of the Khibiny Mountains (Dinamika sezonnogo razvitia nekotorykh vidov travianistykh mnogoletnikov v tundrovoi i lesnom poiasakh Khibinskikh gor) Flora i rastitel'nost' Murmanskoi oblasti (Mur-mansk Region vegetation) Leningrad, Nauka, p. 53-61. In Russian. 7 refs.

29-1406

Filippova, L.N., 1970:

Tundra soils.
Tundra vegetation.
Mosses.
26-1696

Firsova, V.P., 1975:

30-1264

Firsova, V.P. et al., 1971:
Contents of gross and mobile forms of NPK in the overgrown vegetation, litter and soil of northern Taiga in the Ural (Soderzhanie valovykh i podloznykh form NPK v napochvennom rastitel'nom pokrove, podstli i v posile severotaezhykh lesov Urala) Ekologiya 1971 No. 1 p. 12-21. In Russian. 18 refs. Pavlova, T.S.

Taiga soils.
Taiga vegetation.
Ecology.
26-1050

Firsova, V.P. et al., 1970:

Mountain soils
Forest soils
Alpine vegetation
USSR--Ural Mountains
26-1866

Firsova, V.P. et al., 1970:

Taiga vegetation
Taiga soils
Soil formation
26-1870

Firsova, V.P., 1970:

Taiga soils
Taiga vegetation
Plant ecology
USSR--Ural mountains
26-1865
Firsova, V.P. et al., 1970:
Pavlov, B.I.

Soil formation
Soil moisture
Taiga soils

26-1871

Firsova, V.P., 1974:

29-1228

Flora, vegetation and vegetational resources of Transbaikal and adjacent areas.
Vol.5, 1975:
(Flora, rastitel'nost' i rastitel'nye resury zaibal'ai i sopredel'nykh oblastei. Vyp. 5) Chita, 179 p. In Russian with ebridged English table of contents enclosed.

30-2289

Forminykh, L.A., 1973:

Cryogenic soils
Soil profiles
Taiga soils

28-2715

Firsova, V.P., 1972:
Soils of the southern taiga and of the pine-broad leaved forests of Ural and the Transural region (Pochvy iuzhnoi taigi i khvoinoshirolokistvennykh lesov Urala i Zaural'ia) Akademii nauk SSSR. Ural'skii filial. Institut eko­logii rastenii i zhivotnykh. Trudy 1972 vol. 85 p. 3-87. In Russian. 18 refs.

30-2289

Galaktionov, K.V., 1976:
Basic environmental protection measures practiced during the development of gas-bearing regions in northern West Siberia. Symposium on Environmental Protection in Relation to Economic Development of Permafrost Regions. Chukot TL 518, p. 29-30.

Brown

Galkina, N.V., 1974:
Biomass of basic plant communities growing in the Selenga River Delta (Fitomassa osnovnykh rastitel'nykh soobshchestv v del'te reki Selengi) Biologicheskie issledovaniia ozer Vostochnoi Sibiri (Biological studies of East Siberian lakes) Listvenichnoe na Baikale, p. 5-10. In Russian.

30-2298

Gar, K.A., 1975:

30-1595

Garmonov, I.V., 1973:

30-2279

30-449


NAL/CAIN (Lockheed)


Meadow soils.
Soil moisture.

28-1198


BROWN


30-687


Geobotanical interpretation.
Taiga vegetation.
Taiga soils.

27-130


Plant ecology
Arctic vegetation
Arctic soils
USSR--Wrangel Island

28-4227


Tundra vegetation.
Photosynthesis.
USSR--Wrangel Island.

28-37


Arctic vegetation
Arctic soils
USSR--Wrangel Island

28-1979


Tundra.
Taiga terrain.
Ecology.

27-1773
Gerasimov, I.P., 1974:
New soil map of the USSR. Trans Int Congr Soil Sci, 10th (v. 8): 36-43. In Russian. English summary. Egorov, V.V.; Karavaeva, N.A.; Rudneva, E.N.; Sokolov, I.A.; Tarful'ian, V.O.; Fridland, V.M.

NAL/CAIN

Gersen, N.V., 1970:

Plant ecology
Tundra soils
Tundra vegetation

Ghilarov, M.S., 1975:

BROWN

Glazovskaia, M.A., 1972:

Tundra soils.
Tundra vegetation.
Taiga soils.
Taiga vegetation.

Glazovskaia, M.A.
"Technobiogem" is a term offered for use in predicting the effect of human activity on natural surroundings; it includes a group of landscape systems and is a subdivision unit of total landscape-geochemical conditions studied.

28-75

Gold'tman, V.G., 1976:
Possibilities of increasing subsurface drainage during economic development and restoration of lands in North-Eastern territories. Symposium on Environmental Protection in Relation to Economic Development of Permafrost Regions. CRREL TL 518, p. 13-14.

BROWN

Gol'dman, V.G., 1976:
Possibilities of increasing subsurface drainage during economic development and restoration of lands in North-Eastern territories. Symposium on Environmental Protection in Relation to Economic Development of Permafrost Regions. CRREL TL 518, p. 13-14.

BROWN

Golov, G.V., 1971

Soil formation
Alpine soils
Alpine vegetation

USSR--Amur River

26-3819

Golov, V.I., 1971:

Soil formation

USSR--Far East

26-3820

Golovkin, B.N., 1972:

Tundra soils.
Tundra vegetation.
Plant ecology.

28-1254
Golovkin, R. N., 1973:


Subarctic vegetation
Plant ecology

28-3188

Golovkin, R. N., 1975:

Transplanting herbaceous perennials to the arctic north. 267 p. 288.RL TL 477. For Russian original see 28-3188.

BROWN

Golovkina, G.W., 1971:


Golovkina, G.W., 1971:

Arctic vegetation.
Arctic soils.
Tundra soils.

27-2586

Golovko, E.A., 1970:


PEAT.
Soil formation.
Soil composition.
USSR-Kola Peninsula.

26-1717

Gorchakovskii, P.L., 1974:

Biomass and the dynamics of vegetational cover and animal population in forest tundra (Biomassa i dinamika ras­

30-439

Gorchakovskii, P.L., 1970:

Early stages of vegetational suc­

NAL/CAIN

Gorchakovskii, P.L., 1975:

Initial productivity of certain meadow (plant) associations in the southern Ural. Ekologiiia (Sverklovsk), 3: 5-17. In Rus­
sian. Korobeinikova, V.P.

NAL/CAIN

Gorchakovskii, P.L. et al., 1973:

Phytoindication of climatic conditions at the tree line. Fitoindikatsiya klimaticeskikh usloviy na verkhem predele lesa. Ekologiiia 1973 No. 1 p. 50-65. In Russian. 58 refs. Shiratov, S. G.

Subarctic vegetation.
Alpine vegetation.

27-2608

Gorchakovskii, P.L. et al., 1972:

Gorchakovskii, P.L. et al., 1972:
Tundra vegetation.
Forest tundra.
Plants (Botany).

27-2664

Gorchakovskii, P.L. et al., 1972:
Studying dynamic tendencies of basic botanical-geographic boundaries in the Arctic and Subarctic (Izuchenie dinamicheskikh tendentsii osnovnykh botaniko-geograficheskikh rubezhv v Arktike i Subarktike). Izuchenie biogeotsenozov tundry i lesotundry (Study of tundra and forest-tundra biocenoses).

Shilatov, S.G.

Deserts.
Tundra vegetation.
Forest tundra.

28-1262

Gorchakovskii, P.L., 1974:
Vegetation of Kharp Research Station (Rastitel'nost' jstionara "Kharp"). Akademiia nauk SSSR. Ural'skii filial.
Institut ekologii rastenii i zhivotnykh.

Gorova, A.K., 1975:

Aseeva, I.V.; Vasil'evskaia, V.D.; Lysak, L.V.

30-328

Gorozhankina, S.M., 1973:

In Russian. 15 refs.

Plant ecology
Taiga vegetation
Taiga soils

28-1671

Gorozhankina, S.M., 1975:

Konstantinov, V.D.

NAL/CAIN

Govorenkov, B.F., 1972:

Taiga vegetation.
Plant ecology
Taiga soils.

28-366

Gradusov, B.P., 1974:

NAL/CAIN
Granik, G.I. et al., 1973:  

Subarctic soils  
Subarctic vegetation

Granik, G.I. et al., 1973:  

Granina, G.T., 1974:  
Geobotanical characteristics of the Selenga River delta (K geobotanicheskoi kharakteristike del'ty reki Selengi) Biologicheskie issledovaniia ozer Vostochnoi Sibiri (Biological studies of East Siberian lakes) Listvenichnoe na Baikale, p. 1-5. In Russian.

Gribova, S.A. et al., 1970:  
Vegetation and soil cover of the Korotai kha River basin (Pochvenno-rastitel'nyi pokrov basseina r. Korotakhi) Akadamiia nauk SSSR. Komi filial. Institut biologii. Biologicheskie osnovy ispol'zovaniia prirody Severa (Biological basis for the utilization of natural resources in the North) Syktyvkar, Komi knizhnoe izd-vo, 1970, p. 119-124. In Russian. 5 refs. Ignatenko, I.V.

Grigor'ev, N.F., 1975:  
Basic trends in research and the development and restorative economically developed lands in the Far North. Symposium on Environmental Protection in Relation to Economic Development of Permafrost Regions. CRREL TL 518, p. 15-16.

Grishina, L.A., 1972:  

Grishina, L.G., 1972:  

Grishina, L.A., 1970:  
Composition and distribution of organic matter in soils of conjugate tundra landscapes (O sobennosti raspredeleniia i sostav organicheskogo veschestva pchv sopriazhennykh tundrykh landsheftov) Vsesoiuznyi simposium po biologicheskim problemam Severa, 5th, Magadan, Apr. 18-22, 1972. Pochvy i rastitel'nost' merzlotnykh raionov SSSR (Soil and vegetation of permafrost regions in the USSR) p. 75-78. In Russian with English summary. 5 refs. Virchenko, E.P.

Grishina, L.A. et al., 1972:  

Grishina, L.A., 1972:  
Biological cycle and its role in soil formation (Biologicheskii krugovorot i ego rol' v pochvooobrazovaniyi) MGU, 128 p. In Russian with English table of contents enclosed. 21 refs.

BROWN

Gritsun, A.T. et al., 1971:  

Grishina, L.A., 1972:  
Composition and distribution of organic matter in soils of conjugate tundra landscapes (O sobennosti raspredeleniia i sostav organicheskogo veschestva pchv sopriazhennykh tundrykh landsheftov) Vsesoiuznyi simposium po biologicheskim problemam Severa, 5th, Magadan, Apr. 18-22, 1972. Pochvy i rastitel'nost' merzlotnykh raionov SSSR (Soil and vegetation of permafrost regions in the USSR) p. 75-78. In Russian with English summary. 5 refs. Virchenko, E.P.

Grishina, L.A. et al., 1972:  

Tundra soils.  
Organic soils.

Gritsun, A.T. et al., 1971:  

Grishina, L.A., 1972:  
Composition and distribution of organic matter in soils of conjugate tundra landscapes (O sobennosti raspredeleniia i sostav organicheskogo veschestva pchv sopriazhennykh tundrykh landsheftov) Vsesoiuznyi simposium po biologicheskim problemam Severa, 5th, Magadan, Apr. 18-22, 1972. Pochvy i rastitel'nost' merzlotnykh raionov SSSR (Soil and vegetation of permafrost regions in the USSR) p. 75-78. In Russian with English summary. 5 refs. Virchenko, E.P.

Grishina, L.A. et al., 1972:  

Grishina, L.A., 1972:  
Composition and distribution of organic matter in soils of conjugate tundra landscapes (O sobennosti raspredeleniia i sostav organicheskogo veschestva pchv sopriazhennykh tundrykh landsheftov) Vsesoiuznyi simposium po biologicheskim problemam Severa, 5th, Magadan, Apr. 18-22, 1972. Pochvy i rastitel'nost' merzlotnykh raionov SSSR (Soil and vegetation of permafrost regions in the USSR) p. 75-78. In Russian with English summary. 5 refs. Virchenko, E.P.

Grishina, L.A. et al., 1972:  

Grishina, L.A., 1972:  
Composition and distribution of organic matter in soils of conjugate tundra landscapes (O sobennosti raspredeleniia i sostav organicheskogo veschestva pchv sopriazhennykh tundrykh landsheftov) Vsesoiuznyi simposium po biologicheskim problemam Severa, 5th, Magadan, Apr. 18-22, 1972. Pochvy i rastitel'nost' merzlotnykh raionov SSSR (Soil and vegetation of permafrost regions in the USSR) p. 75-78. In Russian with English summary. 5 refs. Virchenko, E.P.

Grishina, L.A. et al., 1972:  

Geoleif


Soil moisture migration
26-3849


Taiga soils

28-2507


Alpine soils.

Alpine vegetation.

Plant ecology.


29-3664


Meadow soils

Soil moisture

Soil composition

29-3474


Tundra soils

Cryogenic soils

28-4110


30-676


Taiga soils.

Taiga vegetation.

Biomass.

28-416
Ignatenko, I.V., 1974:
Regional peculiarities of typical tundra soils (O provintsial'nykh osobennostakh pochv tipichnoi tundry) Biologicheskie problemy Severa, VI simpozium; Vypusk 6 (Biological Problems of the North, 6th symposium, Vol.6) Yakutsk, Akademiia nauk SSSR, p. 13-21. In Russian.

29-1064

Ignatenko, I.V. et al., 1971:

Tundra soils
Tundra vegetation
Tundra terrain

26-1797

Ignatenko, I.V. et al., 1971:

Tundra soils.
Tundra vegetation.

28-346

Ignatenko, I.V., 1970:

Tundra soils.
Soil profiles.
Soil formation.

28-602

Ignatenko, I.V. et al., 1970:
Forest tundra.
Tundra soils.
Tundra vegetation.

26-1708

Ignatenko, I.V., 1972:

Tundra soils.
USSR--ARY-MAS.

27-2671

Ignatenko, I.V., 1971:
Soils of basic types of tundra biogeocenoses in the Botanical Institute Research Station, West Taymyr (Pochvy osnovnykh tipov tundrovikh biogeotsenozov Zapadnogo Taymyra (na primere stat- sionara Botanicheskogo instituta AN SSSR. Biogeotsenoz Taymyrskoi tundry i ikh produktivnost' (Biogeocenoses of Taymyr tundra and their productivity). Leningrad, Nauka, p. 57-107. In Russian with English summary. 27 refs.

27-1543

Ignatenko, I.V., 1972:

NAL/CAIN

Ignatenko, I.V., 1972:

Forest tundra.
Tundra soils.
Soil profiles.

28-1305

Ignatenko, I.V., 1973:

Soil patterns
Tundra soils
Patterned ground

28-2866

NAL/CAIN


Tundra vegetation. USSR-ARY-MAS. 27-2670


29-1611


28-323


BROWN


26-656


NAL/CAIN


Vegetation patterns Forest ecosystems

28-1933
IUrtsev, B.A., 1970:

Tundra soils.
Tundra vegetation.

IUrtsev, B.A., 1970:
Plant Ecology.
USSR-Chukotskiy Poluostrov.

IUrtsev, B.A. et al., 1971:

Mountain soils.
Alpine vegetation.
Plant ecology.
USSR--Verkhoyansk.
USSR--Kolyma

IUrtsev, B.A., 1973:
Floristic discoveries of the Chukchi tundra, I. Nov Sist Nizshikh Rast, 10: 283-324. In Russian. Galanin, A.V.; Petrovskii, V.V.; Plieva, T.V.; Razhivin, V.IU.

NAL/CAIN

IUrtsev, B.A. et al., 1972:

Arctic vegetation
Plant ecology
Arctic soils

IUrtsev, B.A., 1975:

Arctic vegetation
Plant ecology
Arctic soils

IUrtsev, B.A., 1975:

NAL/CAIN

IUrtsev, B.A., 1975:

BROWN
IUrtaev, B.A., 1974:
Steppe communities of Chukotka tundra
and the Pleistocene "tundra-steppe" (Step-
nye soobshchestva chukotskoi tundry i
pleistotsenovaiia "tundrostep")
Botanicheskii zhurnal 1974 59(4) p.484-
21 refs.

29-500

Ivanov, B.I., 1974:
Problems of introducing plants into
central Yakutia (Voprosy introduktsii ras-
tenii v tsentral'noi Iakutii) Biologiches-
kie problemy Severa, VI simpozium, Vypusk
7 (Biological problems of the North, 6th
symposium, Vol. 7) Yakutsk, Akademiia
nauk SSSR, p. 57-63. Dokhunaev, V.N.

29-3679

Ivanov, G.I., 1971:
Soils in the Amur region and maritime
territory (Pochvy Primor'ia i Primur'ia).
Agrokhimicheskaiia karakteristika pochv SSSR.
In Russian. 26 refs.

Soil formation
Podsol
Forest soils
Meadow soils
USSR-Amur River
USSR--Primorsky Kray
26-3816

Ivanov, V.V., 1970:
On the composition of soil solutions
in tundra soils of western Taimyr. Moscow
Univ Vestnik Ser 6 Biol Pochvoved, 6:
86-91. In Russian.
(Same as CRREL 25-1106)

NAL/CAIN

Ivanova, E.N. et al., 1970:
Basic sub-types of tundra gley soils in the
U.S.S.R. (Osnovnye podtypy tundrovykh gleevykh
pochv SSSR) Akademiia nauk SSSR. Komil filial.
Institut biologii. Biologicheskie osnovy ispol'
zovalii prirody Severa (Biological basis for the
utilization of natural resources in the North)
In Russian. 22 refs. Zaboeva, I.V. Karavaeva, N.A.
Targul'ian, V.O.
Cryogenic soils.
Arctic soils.
Tundra soils.

26-1706

Ivanova, E.N., 1974:
Soil map of the arctic. Trans Int
Congr Soil Sci, 10th (v. 8): 44-50.
In Russian. English summary. Vasil'evskaiia,
V.D.; Ignatenko, I.V.; Karavaeva, N.A.;
Liverovskaiia, I.T.; Mikhailov, I.S.;
Targul'ian, V.O.; Fridland, V.K.; Naumov,
E.M.

NAL/CAIN

Ivanova, E.N., 1971:
Soils of central Yakutia. Pochvovedenie,

NAL/CAIN

Ivanova, T.F., 1970:
Effect of frozen rocks on vegetation in
Bol'shezemel'skaya tundra (Vliianie merzlykh porod
na rantitel'nost' na primere Bol'shezemel'skoi
tundry). Akademiia nauk SSSR. Komil filial.
Institut biologii. Biologicheskie osnovy ispol'
zovalii prirody Severa (Biological basis for
the utilization of natural resources in the North).
In Russian. 10 refs.

NAL/CAIN

Ivanova, T.F., 1970
Tundra soils
Tundra vegetation
Active layer

26-1724
Ivashchenko, A.A., 1973:

Alpine soils
Alpine vegetation

28-3059

Ivlev, A.M., 1971:

Mountain soils
Forest soils
Podsol
USSR--Sakhalin Island
USSR--Kuril Islands

26-3823

Ivlev, A.M., 1972:  

30-675

Ivlev, A.M. et al., 1973:  

Ershov, I., et al., 1973

27-131

Izmailova, N.N., 1974:

Alpine vegetation
Mountain soils
Soil moisture migration

28-3800

Kagan, A.A. et al., 1971:
Morainal deposits of the northwestern USSR (engineering-geological characteristics) (Morennye otlozheniia Severo-Zapada SSSR (inzhenerno-geologicheskaiia kharakteristika)). Moscow, Nauka, 1971, 137 p. In Russian. 137 refs. Solodukhin, M.A.

Soil composition.

28-1279

Kaganovskaya, S.E., 1976:
Environmental protection problems related to the construction of embankments and porous fills on permafrost. Symposium on Environmental Protection in Relation to Economic Development of Permafrost Regions. CRREL TL 518, p. 47-49.

BROWN

Kalinin, A.M., 1973:

Biol. Abst. Inc.

Kalmykov, G.S., 1971:

Peat.
Soil composition.
Soil formation.

27-131

Vegetation factors
Taiga vegetation

28-2151

Kamenetskaia, I.V. et al., 1973: Produc-

Taiga vegetation
Vegetation patterns

28-2150

Kapranov, V.E. et al., 1973: Lateral heat diffusion in porous, water-satur-

Soil moisture migration.

28-1022


Active layer
Vegetation factors
Tundra soils

28-2848

Karavaev, N.N. et al., 1971: Aveneae Steppes of the far northeastern Siberia with Helicotrichon krylovii (Pavl.) Hemard (Otvetstoye stepe s Helicotrichon krylovii (Pavl.) Hemard na Kraioem severo-vostoke Sibiri). Botanicheskii zhurnal, Oct. 1971, 36(10), p. 1436-
1443. In Russian with English summary. 8 refs. Skriabin, S.Z.

Arctic soils
Arctic vegetation
Plant ecology

26-2533


NAL/CAIN


Cryogenic soils.
Soil moisture migration.

28-1937


NAL/CAIN


GeoRef

Soil composition
Soil formation

28-1707


Alpine soils.
Alpine Vegetation.
USSR-Pamirs.
USSR-Alayskiy Khrebet.

26-218
Katanskia, V.M., 1970:

Katanskia, V.M., 1970
Plant ecology
Tundra soils
Tundra vegetation
USSR—Bol’shaya Zemlya

Katenin, A.E., 1974:

Biol. Abst. Inc.

Katrich, V.N., 1975:
Soil formation in swampy peat and in cryogenic-gley soils of the Okhotsk zone of the Magadan area (Osobennosti pochvoobrazovaniia v torfiano-bolotnykh merzlotno-gleyevykh pochvakh priokhotskoi oblasti) Vsesoiuznaia konferentsiia Pochvennyi kriogenez i melioratsiia merzlotnykh i kholodnykh pochv Pushchino, Oct., 1975, Materialy Moscow, Nauka, p. 74-78. In Russian. 9 refs.

Kazakov, K.IA., 1973
Taiga terrain.
Geobotanical interpretation.

Kazanskii, V.D., 1972:
Protective vegetation.

Kazantseva, L.K., 1974:

Kazantseva, L.K., 1971:
The role of fungi in the decomposition of the wood of larix sibirica in the polar Urals. (USSR) Ekologiia, 2: 96-98. In Russian.

Kazantseva, L.K., 1971:

Kazantseva, L.K., 1972:

Khailov, S. Kh., 1974:

Kats, N.IA., 1971:

Tundra soils
Tundra vegetation
Soil moisture migration

Kazakov, K.IA., 1973

Khantimer, I.S., 1974:

Tundra soils
Tundra vegetation

Khantimer, I.S., 1970:
Producing forage crops by establishing grassland in tundra (Proizvodstvo korma v tundre putem ee zaluzhennia) Akadamiia nauk SSSR. Komil filial. Institut biologii. Biologicheskie osnovy ispol’zovaniia prirody Severa (Biological basis for the utilization of natural resources in the North) Syktyvkar, Komil knizhnoc izd-vo, 1970 p. 29-34. In Russian. 2 refs.

Tundra soils.
Tundra vegetation.
Meadow soils.

Khantimer, I.S., 1974:

Khantulev, A.A., 1971:

Khantulev, A.A., 1971:

Khismatullin, Sh.D., 1970:

Taiga.
Soil moisture.
Soil temperature.

Khismatullin, Sh.D., 1970:

Khlebodarov, V.N., 1975:

Khlonov, IU.P., 1973:

NAL/CAIN
Khlonov, I.P., 1971:


Tundra vegetation

Khokhriakov, A.P., 1974:


Urtsev, I.A. (Lockheed)

Khokhriakov, A.P., 1971:


Arctic vegetation

Khokhriakov, A.P., 1973:


Arctic vegetation

Bibliographies

Tundra vegetation

Plant ecology

USSR--Taimyr Peninsula

Khokhriakov, A.P., 1973:

Rare plant species from the southern part of the Magadan region (Rudkie vidi rastenii iz luchshoi chastii magadanskoi oblasti). Botanicheski zhurnal, Dec. 1973, 58(12). In Russian. 5 refs.

Arctic vegetation

Plant ecology

28-2236

59
Khokhriakov, A.I., 1971:

Alpine vegetation
Plant ecology
Alpine soils

26-1843

Khokhriakov, A.P., 1972:
Steppe flora in the upper Kolyma River basin (O stepnoi flore v basin ne ver­khnei Kolmy) Vsesoiuznyi simpozium po biologicheskim probleam Severa, 5th, Magadan, Apr. 18-22, 1972. Pochvy i rastitel'nost' merzlotnykh raionov SSSR (Soil and vegetation of permafrost regions in the USSR) p. 136-140. In Russian with English summary. 8 refs. Shatkauskas, A.V.

30-691

Khokhriakov, A.P., 1972:

30-698

Khokhriakov, A.P., 1973:

29-742

Khramova, N.F., 1974:
Seed productivity and phytomass of pinus sibirica. In Biologiia Semennogo Razmnozheniia Khvoinykh Zapadnoi Sibiri, p. 95-105. In Russian. Khramov, A.A.

NAL/CAIN

Khrenova, G.S., 1972:

Taiga vegetation
Peat
Taiga soils
USSR—Tavda
28-2669

Khrenova, G.S., 1971:
Microflora of soils of southern taiga spruce forests of the Tavda-Kuminskii interfluvial region. (USSR) Ekologia, 1: 36-44. In Russian.

NAL/CAIN

Khrenova, G.S., 1970:

Mountain soils
Forest soils
Soil formation
USSR—Ural Mountains
26-1868

Khristalev, L.N. et al., 1973:
Khrustalev, L.N. et al.

Active layer.
Soil temperature.
Tundra vegetation.

28-1028

Khudiakov, O.I., 1971:

Cryogenic soils.
USSR-Magadan.
26-134

Khutortsev, I.I., 1973:

Erosion control.
Arctic soils.
Forest ecosystems

28-1253

Khrustalev, I.N. et al., 1973:
Peat
Soil moisture migration

28-2616

Kolesnikov, B.P., 1972:
Biologic recultivation of economically developed lands in the Arctic and Subarctic regions (Biologicheskaiareikut'livatsii tekhnogennykh landschaftov Arktiki i Subarktiiki). Izuchenie biogeotsenozov tundry i lesotundry (Study of tundra and forest-tundra biocenoses). Leningrad, Nauka, 1972, p. 50-51. In Russian.

Arctic soils.
Arctic vegetation.
Ecosystems

28-2664

Kolesnikov, B.P., 1975:

NAL/CAIN

Kolesnikov, B.P., 1970:
Some results of studies of phyto-reclamation of industrial dumps (Laboratory of Industrial Botany of the Ural University). In Rekult'livatsii v Sibiri i na Urale, p. 89-98. In Russian. Pikalo, G.M.

NAL/CAIN

Kolesnikov, B.P., 1973:

Taiga vegetation
Forest ecosystems
USSR-Tavda

28-2664

NAL/CAIN

Kolesnikov, B.P., 1975:

NAL/CAIN

Kolesnikov, B.P., 1970:
Some results of studies of phyto-reclamation of industrial dumps (Laboratory of Industrial Botany of the Ural University). In Rekult'livatsii v Sibiri i na Urale, p. 89-98. In Russian. Plikalo, G.M.

NAL/CAIN

Kolesnikov, B.P., 1973:

Taiga vegetation
Forest ecosystems
USSR-Tavda

28-2664

NAL/CAIN

Kolesnikov, B.P., 1975:

NAL/CAIN

Kolesnikov, B.P., 1970:
Some results of studies of phyto-reclamation of industrial dumps (Laboratory of Industrial Botany of the Ural University). In Rekult'livatsii v Sibiri i na Urale, p. 89-98. In Russian. Plikalo, G.M.

NAL/CAIN

Kolesnikov, B.P., 1973:

Taiga vegetation
Forest ecosystems
USSR-Tavda

28-2664

NAL/CAIN

Kolesnikov, B.P., 1975:

NAL/CAIN

Kolesnikov, B.P., 1970:
Some results of studies of phyto-reclamation of industrial dumps (Laboratory of Industrial Botany of the Ural University). In Rekult'livatsii v Sibiri i na Urale, p. 89-98. In Russian. Plikalo, G.M.

NAL/CAIN

Kolesnikov, B.P., 1973:

Taiga vegetation
Forest ecosystems
USSR-Tavda

28-2664

NAL/CAIN

Kolesnikov, B.P., 1975:

NAL/CAIN

Kolesnikov, B.P., 1970:
Some results of studies of phyto-reclamation of industrial dumps (Laboratory of Industrial Botany of the Ural University). In Rekult'livatsii v Sibiri i na Urale, p. 89-98. In Russian. Plikalo, G.M.

NAL/CAIN

Kolesnikov, B.P., 1973:

Taiga vegetation
Forest ecosystems
USSR-Tavda

28-2664

NAL/CAIN

Kolesnikov, B.P., 1975:
Kolesnikov, R.P., 1972:

Komin, G.E., 1970:

Komin, G.E., 1973:

Komin, G.E., 1970:

Komin, G.E., 1972:

Korniakov, G.E., 1970:

Kondrat'eva, K.A. et al., 1973:

Kondrat'eva, E.V., 1972:

Kondratev, A.K., 1974:

Konoiko, M.A., 1971:

Konovalov, A.A. et al., 1977:

Konovalov, A.A. et al., 1977:
Konstantinova, G.S., 1973:  

NAL/CAIN

Konstantinova, G.S., 1975:  

NAL/CAIN

Konstantinova, G.S. et al., 1974:  
In Russian with English summary. 14 refs.

Tyrlikov, A.P.

Tundra terrain
Tundra soils

28-332

Koposov, G.F., 1974:  
Soil formation on fine parent material in taiga zone of the north-west of the European USSR. Pochvovedenie, 10: 8-18. In Russian.

NAL/CAIN

Koposov, G.F., 1974:  

NAL/CAIN

Kornienko, V.A., 1974:  
Selection of woody shrubs for planting in central Yakutia (Assortiment drevsesno-kustarnikovykh rastenii dla ozeleneniia v tsentral'noi Yakutii) Biologicheskie problemy Severa, VI simpozium, Vypusk, Akademiia nauk SSSR, p. 43-47.  
In Russian. Petrova, A.E.; Nazarova, E.I.

29-3661

Korobkov, A.A., 1972:  

Arctic soils.
Arctic vegetation.

27-2348

Korotkevich, E.S., 1972:  

Ecosystems.
Arctic soils.
Deserts.

27-2642

Korovin, A.I., 1975:  

30-4228

Korzun, M.A., 1975:  

30-4236

Kosmachev, K.P., 1974:  
Pioneer development of taiga (ekonomic and geographic problems) (Pioner noe osvoenie taigi (ekonomiko-geografi cheskie problemy)) Novosibirsk, Nauka, 144 p. In Russian with English table of contents enclosed.

29-1414


Patterned ground. Cryogenic processes.


Kotelina, N.S., 1974: Grass stand structure and biological productivity of meadows in the tundra and forest tundra (Struktura travostoa i biologicheskaia produktivnost' lugov v lesotundre i tundre) Biologicheskie problemy Severa, VI simpozium, Vypusk 5 (Biological problems of the North, 6th symposium, Vol. v) Yakutsk, Akademiia nauk SSSR, p. 82-87. In Russian.


Forest tundra. Tundra vegetation. Plant ecology USSR--Magadan

30-1577


Alpine soils. Tundra soils. Forest tundra

28-2936


NAL/CAIN
Kovalev, R.V., 1975:

NAL/CAIN

Kovalev, R.V., 1973:

29-2118

Kovalev, R.V., 1972:

NAL/CAIN

Kovaleva, S.R., 1974:

29-1859

Kovaleva, S.R., 1971:

Alpine vegetation

28-127

Kovaleva, S.R., 1974:

29-3323

Kovaleva, V.A., 1974:

29-3322

Kozheevnikov, Iu.P., 1974:

NAL/CAIN

Kozheevnikov, Iu.P., 1973:

Arctic vegetation
Plant ecology
Tundra vegetation

28-1679

Kozheevnikov, Iu.P., 1974:

NAL/CAIN

Kozheevnikov, Iu.P., 1974:

NAL/CAIN
Kozlovskaia, L.S., 1973:
Effect of plant residue breaking by invertebrates on the activity of soil microorganisms (Vliianie razmel’sheniia rastitel’nykh ostatkov bespozvonochnymi na deiatel’nost’ pochvennykh mikroorganizmov) Puti izucheniiia i osvoeniia bolot severo-zapada evropeiskoi chasti SSSR (Study and reclamation of swamps in the NW European USSR) Leningrad, Nauka, p. 93-98. In Russian. 9 refs. Germanova, N.I.; Laskova, L.M.

Kozlovskaia, L.S., 1974:
Invertebrates in various stages of swamp biogeocoenoses (Bespozvonochnye razlichnykh iarusov bolotnykh biogeotsenozov) Kompleksnaia otsenka bolot i zabo-lochnennykh lesov v sviazi s ikh melioratsii (Complex evaluation of swamps and swampy forests in relation to land reclamation) Novosibirsk, Nauka, p. 195-208. In Russian. 19 refs. Neuvodev, L.N.

Krasnoborov, I.M., 1971:

Krasnoborov, I.M., 1971:

Krasnoshchekov, I.U.N., 1975:

Krasnov, V.V., 1975:

2
Kriuchkov, V.V., 1975:


---

Kriuchkov, V.V., 1973:


Tundra soils
Soil profiles
Tundra vegetation
28-3180

Kriuchkov, V.V., 1973:


Tundra soils.
Tundra vegetation.
28-278

Kriuchkov, V.V., 1970:


Tundra soils.
Tundra vegetation.
Ecology.
26-1049

Kriuchkov, V.V., 1975:

Is it possible to put an end to the bogging up of the taiga? Priroda (Mosk), 2: 83-92. In Russian.

NAL/CAIN

---

Kriuchkov, V.V., 1974:

Landscape and biogeocenotic approach to the problem of woodlessness of tundra (O landshaftno-biogeotsenoticheskom podkhode pri reshenii problemy bezles'ia tundry) Botanicheskie issledovaniia v Yakutii. Yakutsk, IAkutskii filial SO AN SSSR, 1975. p. 79-89 In Russian. 20 refs.

30-3277

---

Kriuchkov, V.V., 1974:


29-1551

---

Kriuchkov, V.V., 1972:


Tundra terrain.
Forest tundra.
Tundra soils.
28-203

---

Kriuchkov, V.V., et al., 1973:

Peculiarities of subarctic landscapes and ways in which they are affected by industrialization processes (Osobennosti landshaftnoi oblochki Subarkтики i vozdeistvie na nee processsev industrializatsii). Proveli severa, 1973, Vol. 18, p. 50-63. In Russian. 21 refs. Shvetsov, P.F.

Subarctic soils
Subarctic vegetation
28-3743

---

Kriuchkov, V.V., 1973:


Tundra vegetation.
Plant ecology.
28-1051
Kriuchkov, V.V., 1973:

Tundra soils
28-3746

Kriuchkov, V.V., 1972:

NAL/CAIN

Kriuchkov, V.V., 1976:

BROWN

Kriuchkov, V.V., 1971:
Short historical and geographic review of literature dealing with the causes of tundra woodless­ness. Kratkaia istoriia i geografiia predstavlenii o prichinakh bezles'ia tundry. Zhizn' zemli; sbornik 1971 No. 7, p. 227-240. In Russian. 49 refs.

Tundra.
Bibliographies.
27-427

Kriuchkov, V.V., 1970:

Arctic soils
Subarctic soils
Patterned ground
26-2503

Krylov, G.V., 1972:

NAL/CAIN

Krylov, G.V., 1971:

SD95.A6
Taiga soils.
Taiga vegetation.
28-114


NAL/CAIN


Mountain soils
Forest soils
Soil formation
USSR--Ural Mountains

26-1867
Kulai, G.A., 1972:

29-1233

Kulai, G.A. et al., 1970:
Microbiological characteristics of soils along the Ob'-Ivdel' railroad line (Mikrobiologicheskaia karakteristika pochv zheleznodorozhnol trassy Obdel'-Ob'). Akademiia nauk SSSR. Ural'skii filial. Institut ekologii rastenii i zhivotnykh. Trudy, 1970, Vol. 76, p. 115-123. In Russian. 8 refs. Khrenova, G.S.

Taiga soils
Taiga vegetation
26-1872

Kulai, G.A., 1973:

NAL/CAIN (Lockheed)

Kulikova, G.G. et al., 1971:

NAL/CAIN
Kuminova, A.V., 1971:  
Vegetation on the right bank of the Yenisei: southern Krasnoyarsk region.  

NAL/CAIN

Kurmangaliev, A.B., 1972:  

NAL/CAIN (Lockheed)

Kuz'min, V.A., 1970:  

Alpine soils.
Alpine vegetation.
Plant ecology.
27-1786

Kuz'min, V.A., 1975:  

NAL/CAIN

Kuz'min, V.A., 1975:  

NAL/CAIN

Kuz'min, V.A., 1973:  

NAL/CAIN

Kuznetsov, IU.V., 1975:  

BROWN

Kuznetsova, M.S., 1970:  

Tundra soils.
Tundra vegetation.
Plant ecology.
USSR--Ural Mountains.
27-526

Lakyzhenskaia, K.I. et al., 1971:  

Ecology
26-1055

Lamin, L.A., 1972:  

NAL/CAIN
Lamin, L.A., 1971:

Protective vegetation.
Vegetation patterns.

28-121

Lapazina, T.M., 1971:

Forest soils.
Soil formation.

27-1772

Lapazina, T.M., 1971:
Forest vegetation.
USSR--Novosibirsk.

28-1772

Lapazina, T.M., 1972:
Composition and properties of humic substances of gray forest soils of the Cis-Salair forest-steppe region. In Geneticheskie Osobennosti i Voprosy Plodo­rodii Pochv Zapadnoi Sibiri, p. 77-85.

NAL/CAIN

Lapina, N.N., 1973:

Cryogenic processes.
Clays.
Sands.

28-1129

Lapshina, E.I., 1973:

Taiga vegetation
Geobotanical interpretation

28-3529

Lapshina, E.I., 1971:

NAL/CAIN

Larina, T.G., 1970:

Arctic soils
Subarctic soils
Soil moisture migration

26-2506

Lashchinskii, N.N., 1974:

30-147

Lashchinskii, N.N., 1974:
Experimental study of forest regeneration in the grass pine forests at the lower course of the Angara River (Eksperimental'noe izuchenie lesozobnoviteli' nogo protsesa v travyanikh borakh nizhnego Priangar'ia) Lesovedenie Sept.-Oct. 1974 No. 5 p. 31-39. In Russian with English summary. 23 refs.

29-17
Lashchinskii, N.N., 1975:
30-3121

Lawrenko, N.N., 1970:
Taiga.
USSR--OMSK.
27-1784

Leshchikov, F.N. et al., 1973:
Taiga.

Clay soils.
28-1071

Liverovskaya, I. T., 1970:
Arctic soils
Subarctic soils
Tundra soils

Liverovskaya, I.T., 1976:
Changes in the properties of soils developed on eastern foothills of the Polar Ural Mountains and the adjacent plain, caused by construction of linear structures (pipelines) and the recommendations concerning their restoration. Symposium on Environmental Protection in Relation to Economic Development of Permafrost Regions. CRREL TL 518, p. 17-18.

Liverovskaya, I.T., 1972:
Environmental conditions of the development of the Taz oil and gas area (Prirodnyye usloviya osvoenyi Tazovskogo neftegazonosnogo rayona) Moscow, Izd. Nauka, 231 p. In Russian.

Liverovskaya, I.T., 1972:
New data on the classification, origin and geography of soils in the West Siberia tundras (Novye materialy po geografii, genezisu i klassifikatsii pochv zapsadno-sibirskoi tundry). Zhizn' zemli; sbornik, 1972, No. 8, p. 31-39. In Russian. 18 refs.
Tundra soils
Soil formation
Soil profiles

Liverovskaya, I.T., 1971:
Plant ecology
Ecosystems

Liverovskaya, I.T., 1977:
Peat.
Vegetation.
Plant ecology.

Liverovskaya, I.T., 1977:
Hindered growth of pine regrowths in the northern taiga lichen pine forests (Ob ugnetennom roste podrostva sosny v severotaizhnym lišainikovym borakh) Lesovedenie 1974 No.2 p. 35-43 In Russian with English summary. 22 refs.

Listov, A.A., 1974:
Taiga.

Liverovskaya, I.T., 1972:
New data on the classification, origin and geography of soils in the West Siberia tundras (Novye materialy po geografii, genezisu i klassifikatsii pochv zapsadno-sibirskoi tundry). Zhizn' zemli; sbornik, 1972, No. 8, p. 31-39. In Russian. 18 refs.
Tundra soils
Soil formation
Soil profiles

Liverovskaya, I.T., 1971:
Plant ecology
Ecosystems

Liverovskaya, I.T., 1977:
Peat.
Vegetation.
Plant ecology.

Liverovskaya, I.T., 1977:
Hindered growth of pine regrowths in the northern taiga lichen pine forests (Ob ugnetennom roste podrostva sosny v severotaizhnym lišainikovym borakh) Lesovedenie 1974 No.2 p. 35-43 In Russian with English summary. 22 refs.

Listov, A.A., 1974:
Taiga.

Liverovskaya, I.T., 1972:
Environmental conditions of the development of the Taz oil and gas area (Prirodnyye usloviya osvoenyi Tazovskogo neftegazonosnogo rayona) Moscow, Izd. Nauka, 231 p. In Russian.

Liverovskaya, I.T., 1972:
New data on the classification, origin and geography of soils in the West Siberia tundras (Novye materialy po geografii, genezisu i klassifikatsii pochv zapsadno-sibirskoi tundry). Zhizn' zemli; sbornik, 1972, No. 8, p. 31-39. In Russian. 18 refs.
Tundra soils
Soil formation
Soil profiles

Liverovskaya, I.T., 1971:
Plant ecology
Ecosystems
Lorunenko, N. V. et al., 1971:

Logunenko, N. V. et al., 1973
Meadow soils
Vegetation
Soil moisture

Lokinskaia, M.A., 1971:

Lovelius, N.V., 1971:
The evaluation of the dynamics of seasonal increment of Larix dahurica in a forest tract Arny-Mas (Taimyr peninsula, 72 degrees 30' northern latitude) Bot Zh., 60(10): 1476-1479. In Russian.

Lovelius, N.V., 1972:

Lukashev, G.N., 1973:

Lukashev, G.N., 1973
Geobotanical interpretation.
Alpine vegetation.

NAL/CAIN

Lovalius, N.V., 1972:

Taiga soils.
Taiga vegetation.
Plant ecology.
USSR--Yakutia.

28-1258

Lukasenkov, V.I., 1971:

Alpine soils.
Alpine vegetation.
Plant ecology.
USSR--Pamirs

27-133

Lukashev, G.N., 1973:
Geobotanical interpretation.
Alpine vegetation.

28-1474
Lukicheva, A.N., 1972:

Alpine soils.
Alpine vegetation.
Tundra vegetation.
USSR-Baykal Lake.

Makeev, O.V., 1973:

Makeev, O.V., 1972:

Makeev, V.M., 1971:

Cryogenic soils
Soil formation
USSR--Taymyr

Makhatadze, L.B. et al., 1971:
Regularities governing spreading of subalpine forests in the Caucasus (Zakonomernosti rasprostraneniia subal'piiskh lesov Kavkaza) Akademii nauk SSSR. Izvestiia. Seriia geograficheskala March-April 1971 no. 2 p. 92-98. In Russian. 18 refs. Urushdze, T.F.
Alpine soils.
Alpine vegetation.
Forest ecosystems.

Makhatadze, L.B., 1973:

Makaveev, N.I., 1974:

Makovskii, V.I. et al., 1972:
Taiga vegetation
Forest ecosystems
Soil composition
USSR--Tavda

Maksimova, L.M. et al., 1973:
Soil moisture

28-2548
Malynshev, A. A., 1973:

Alpine soils
Alpine vegetation
Plant ecology

Malynsheva, T. V., 1971:

Forest ecosystems
Vegetation patterns
Lichens

Malysheva, G.S., 1974:

NAL/CAIN (Lockheed)

Mammedov, R.G., 1971:

NAL/CAIN

Mamytov, A.M., 1974:

NAL/CAIN

Mamytov, A. M. et al., 1971:

Deserts
Desert soils
Soil formation
USSR--Tien Shan

NAL/CAIN

Manakov, K.N., 1970:

NAL/CAIN

Malynsheva, T.V., 1971:

NAL/CAIN
Manakov, K.N., 1971: Elements of the biological cycle in forest-tundra landscapes of the Kola Peninsula (Elementy biologicheskogo krugovorota v lesotundrovlykh landschaftakh Kol'skogo poluostrova). Biologicheskaya produktivnost' i krugovorot khimicheskikh elementov v rastitel'nykh soobshchestvakh (Biological productivity and mineral cycling in terrestrial plant communities) Leningrad, Nauka, 1971, p. 207-212. In Russian. 12 refs. QH541.3.856

Manakov, K.N., 1971
Forest tundra
Plant ecology
Tundra vegetation


Brown


Alpine soils.
Alpine vegetation.
Vegetation patterns.


Brown


Arctic vegetation.
Lichens.
Biomass.

28-1704


Taiga soils
Taiga vegetation
Forest tundra

28-4252


Tundra vegetation
Plant ecology

BROWN
Matveeva, N.V., 1971:
Dynamics of thawing in west Taymyr tundra (Dinamika ottaiavaniia merzloty v tundrakh zapadnogo Taimyra). Biogeotsenozy Taimyrskoj tundry i ikh produktivnost'. (Biogeocenoses of Taymyr tundra and their productivity) Leningrad, Nauka, p. 45-56. In Russian with English summary.

Matveeva, N.V., 1972:
Tundra vegetation, ecosystems.

Matveeva, N.V., 1975:

Matveeva, N.V. et al., 1973:

Matveeva, N.V. et al., 1973:
Tundra vegetation
Plant ecology
Mosses

Medvedeva, N.S., 1972:

Mel'nikov, P.I., 1975:
Melnikov, P.I., 1975:

Messick, C., 1971:

Mishchenko, Z.A., 1971:

Mikhailovskii, V.V., 1976:
Environmental protection during gasline construction in the Far North. Symposium on Environmental Protection in Relation to Economic Development of Permafrost Regions. CRREL TL 518, p. 50-52.

Mikhailov, I.S., 1973:
Soil structure in the arctic zone (Struktura pochvennogo pokrova arkticheskoj zony). Moscow. Pochvennyi institut imeni V.V. Dokuchaeva. Struktura pochvennogo pokrova i metody ee izucheniiia (Soil structure and methods of studying it) Moscow, p. 119-125. In Russian. 6 refs.

Mikhailova, R.P., 1970:

Mikhailovskii, V.V., 1976:
Environmental protection during gasline construction in the Far North. Symposium on Environmental Protection in Relation to Economic Development of Permafrost Regions. CRREL TL 518, p. 50-52.

Taiga terrain.
Taiga vegetation.
Plant ecology.


Vegetation
Plant ecology


Vegetation
Plant ecology
USSR--Tomsk.


Vegetation
Plant ecology
USSR--Tomsk.

Moskalenko, N.G., 1976: Specific features in plant recovery along the routes of linear structures in northwestern Siberia. U.S. Army Cold Regions Research and Engineering Laboratory May 1976. 8 p. For Russian original see 29-3118. 6 refs.


BROWN


Mountain soils
Alpine vegetation
Plant ecology
Photosynthesis

26-2766
National Research Council, Canada, 1971:
Active layer.
27-2643


Peat
Soil formation
Vegetation
28-3480

Naumov, E.M., 1972:
Main types of genetic soil profiles and peculiarities of taiga soils in the far northeast (Glavnne tipy geneticheskikh pochvennykh profilei i osobennosti pochvennogo pokrova taezhnoi zony Krainego Severo-Vostoka) Vsesoiuznyi simpozium po biologicheskim problemam Severa, 5th, Magadan, Apr. 18-22, 1972. Pochev i rastitel'nost' merzlistnych raionov SSSR (Soil and vegetation of permafrost regions in the USSR) p. 48-55. In Russian with English summary. 8 refs.
30-678

Naumov, E.M., 1972:
30-681

Naumov, E.M., 1974:
Mountain-taiga differentiated soils of the continental regions in the far north east (Gorno-taevshie differentsirovannye pochvy continental'nykh raionov Krainego Severo-Vostoka) Biologicheskie Prolomy Severa, VI simpozium; Vypusk 6 (Biological Problems of the North, 6th symposium; Vol. 6) Yakutsk, Akademiia nauk SSSR, p. 21-26. In Russian
29-1065

Naumov, E.M., 1974:
BROWN

Naumov, E.M., 1973:

Plant ecology.
Subarctic soils.
Soil profiles.
28-1072

Naumov, E.M., 1971:

Arctic soils
Tundra soils
Tundra vegetation
USSR--Kolyma
26-3822

Nechaeva, E.G., 1973:

NAL/CAIN (Lockheed)

Neishtadt, M.I., 1971:

Taiga.
Forest tundra.
Tundra soils.
26-86


Nepomiluev, V.F. et al., 1971: Microflora of northern soils formed on 
carbonate and on carbonate-deficient deposits. (Mikroflora severnykh 
pochv na karbonatnykh i beskarbonatnykh otlozheniakh) 
Russia. Ministerstvo vysshego i srednego spetsial'nogo obrazovaniia. 
In Russian. 12 refs. Kozyrev, M.A. 
Taiga vegetation. 
Taiga soils. 

26-1460

Nepomiluev, N.F., 1972: Renewal of Siberian 
cedar in Komi ASSR (Vozobnovlenie kedra sibirskogo v Komi ASSR). 
Akademia nauk SSSR. Vsesoiuznoi botanicheskoe obshchestvo. Kedr sibirskii na 
evropeskom severe SSSR ego rasprostranenie, vozobnovlenie i kul'tura. 
refs. 
Taiga vegetation. 
Taiga soils. 
USSR--Komi ASSR 

28-130

Nesmelova, E.I., 1975: Thermal regime of soils in north 
Siberia (Teplovoi rezhim pochvogrunтов на 
severe Sibirii) Moscow. Universitet. 
No.6 p. 65-71. In Russian with English summary. 

30-3190

Notrebov, V.P., 1974: Cultivation of perennial 
grasses in the continental zone of the Magadan Region 
(Vozdel'vaniye mnogoletnikh trav v konti-

tental'noi zone Magadanskoi oblasti) 
Biologicheskie problemy Severa, VI sim-
pozium. Vypusk 4 (Biological problems of the North, 6th symposium, Vol. 4) 
Ya-
kutsk, Akademiia nauk SSSR, p. 96-100. 
In Russian. 

29-2667

Nifontova, M.G., 1972: Diurnal dynamics of carbon dioxide assimila-
tion in some lichens of the transural forest tundra. 
Jan. 1973) 3(2), p. 164-166. Translated from 
Ekologija. For Russian original see 27-1694. 16 refs. 
Tundra soils. 
Tundra vegetation. 
Forest tundra. 

28-349

Nifontova, M.G., 1971: Procedure for determining photosynthetic 
productivity of the leaves of arctous alpina and 
betual nana in forest tundra (K setodike opre-
deleniia fotosinteticheskoi mozhchnosti list'ev 
toloknianuki i arkticheskoi berezki v usloviih 
In Russian. 3 refs. 
Forest tundra. 
Tundra soils. 
Tundra vegetation. 

26-1052

Nikitin, E.D., 1971: Effect of bedrock on soil formation in the taiga 
forests on the right bank of the Ob' River. 0 
viilaniy materianskih porod na pochvoobrazovanie 
v taezhno-lesnom pravobrezhe Oki. Russia. Minister-

stvo vysshego i srednego spetsial'nogo obrazovaniia. 
Taiga soils. 
Soil formation. 
Taiga vegetation. 

27-554

Nikitin, E.D., 1975: Effect of topsoil moisture on forming 
of sandy soils of the Ket'kimskii area of the 
Ob' region. Nauch Dokl Vyssh Shk, 

NAL/CAIN
Nikitin, E.D., 1971:

Nikitin, E.D., 1975:

Nikitina, Z.I. et al., 1970:

Taiga.
27-1819

Nishchakov, A.F., 1973:

NAL/CAIN

Norin, B.N., 1975:

30-2203

Norin, B.N., 1972:
Light forest at the northern forest line and methods of its investigation (Redkoles'ia severnoi granitsy i metodika ikh izuchenii). Izuchenie biogeotsenozov tundry i lesotundy (Study of tundra and forest-tundra biocenoses). Leningrad, Nauka, 1972 p. 65-69. In Russian. 18 refs.

Tundra vegetation.
Forest tundra.
Plant ecology.
28-1257

Norin, E.N., 1972:

Tundra.
USSR-ARY-MAS.
27-2669

Norin, B.N. et al., 1971:
Vegetation and soils of the Ary-Mas forests (Taymyr) (Rastitel'nost' i pochy lomonogo massiva Ary-Mas (Tal'myr)). Botanicheskii zhurnal, Sept. 1971, 56(9), p. 1272-1283. In Russian with English summary. 2 refs. Ignatenko, I.V., Knorre, A.V., Lovelius, N.V.

Tundra
Plant ecology
Forest Tundra
26-2514

83
Novichkova-Ivanova, L.N., 1972:
Deserts.
27-2689

Novichkova-Ivanova, L.N. et al., 1972:

Sdobnikova, N.V. 
Tundra soils.
Soil moisture.
Photosynthesis.
28-1260

Novikov, F.IA., 1973:

Clay soils.
Soil moisture migration.
28-1027

Nukhimovskaya, IV.D., 1974:

Alpine vegetation
Plant ecology
Alpine soils
28-4307

Openlender, I.V., 1973:

NAL/CAIN (Lockheed)

Orlov, A.B., 1971:
Soils.
USSR-Novosibirsk.
27-2886

Orlov, A.IA., 1974:
29-1446

Orlov, E.U., 1974:
29-1888

Orlov, V.I., 1973:

Geobotanical Interpretation
Vegetation
Plant ecology
28-3744

Ovchinnikov, S.M., 1973:

NAL/CAIN (Lockheed)
Pachevskii, T.M., 1972:

Pak, K.P., 1970:

NAL/CAIN

Pak, K.P., 1972:

NAL/CAIN

Pak, V.A., 1974:
Accelerated development of tundra lands for forage crops (Uskorennoe osvo­enie tundrovykh zemel' pod kormovye kul'tury) Biologicheskie problemy Severa, VI simpozium; Vypusk 6 (Biological Problems of the North, 6th symposium; Vol. 6) Yakutsk, Akademia nauk SSSR, p. 147-152. In Russian. Denison, G.V.

29-1075

Panasenko, I.N., 1975:

30-4231

Panfilov, V.P., ed., 1971:

Soil profiles.

28-53

Panov, L.K., 1973:

Subarctic soils
Subarctic vegetation

28-3754

Parinkina, O.M., 1972:

Arctic soils.
Arctic vegetation.
Plant ecology.

28-368

Parinkina, O.M., 1973:

Tundra soils
Soil formation
Tundra vegetation

28-4111

Parinkina, O.M., 1971:
Microbiological characteristics of certain west Taimyr soils (K mikrobiologicheskoi kharakteristike nekotorykh pochv zapadnogo Taimyra) Biogeotsenozy Taimyrskoii tundry i ikh produktnost' (Biogeocenoses of Taimyr tundra and their productivity) Leningrad, Nauka, p. 108-115. In Russian with English summary. 26 refs.

Parinina, O.M., 1973 Tundra soils Soil formation Soil profiles

28-4112


Thermokarst. Active layer thickness. Vegetation factors.

28-1249


28-1275


30-673


Active layer.

28-1019


Active layer thickness.

28-1376


Mountain soils Forest soils Vegetation USSR--Ural Mountains

26-1869


28-506


26-658
Pen'kovskiaia, E. F., 1973:  
Photocenotic characteristics and seasonal change in certain floral associations in the Novosibirsk reservoir region (Fitotsenoticheskie osobennosti i sezonnaya izmenchivost' nekotorykh rastitel'nykh asseotatsii v raione Novosibirskogo vodokhranilischa Rastitelnost' Priob'ia i ee khoziaistvennoe ispol'zovanie lenostepnykh raiionov Priob'ia. Novosibirsk, Nauka, 1973, p. 98-147. In Russian. 2 refs.

Pen'kovskiaia, E. F., 1973:  
Vegetation patterns  
Forest ecosystems  
Forest soils  
28-1912

Pen'kovskiaia, E.F., 1973:  

Pereverzev, V.N., 1970:  

Pereverzev, V.N., 1970:  
Cryogenic soils.  
Soil Formation.  
26-1718

Perfil'eva, V.I., 1975:  
Arctic tundra in the Chukoch'ya estuary (Arkticheskaia tundra v ust'e reki Chukoch'iei'). Botanicheskie issledovaniiia v Iakutii Yakutsk, Iakutskii filial SO Akademiia nauk SSSR, 1975 p. 52-60 In Russian. 7 refs. Rykova, IU.V.

Perfil'eva, V.I., 1975:  
Arctic tundra in the Chukoch'ya estuary (Arkticheskaia tundra v ust'e reki Chukoch'iei'). Botanicheskie issledovaniiia v Iakutii Yakutsk, Iakutskii filial SO Akademiia nauk SSSR, 1975 p. 52-60 In Russian. 7 refs. Rykova, IU.V.


BROWN

Pervomakova, A.A., 1972:  

30-692

Petrov, E.S. et al., 1973:  

Active layer  
Soil temperature  
28-3488

Petrov, M.F., 1972:  

Forest soils.  
Plant ecology.  
28-131

Petrovskiaia-Baranova, T.P., 1971:  

Arctic soils  
Arctic vegetation  
Photosynthesis  
26-3697
Petrovskii, V.V., 1971:
In Russian. 15 refs.

Arctic soils.
Arctic vegetation.
USSR-Wrangel Island.
26-461

Petrovskii, V.V., 1975:
In Russian. Koroleva, T.M.

NAL/CAIN

Petrovskii, V.V., 1972:
In Russian. 7 refs.

Arctic vegetation.
Plant Ecology.
USSR-Wrangel Island.
27-2051

Plastolova, O.A., 1972:

Forest tundra.
Plants (Botany).
27-2667

P'Iavchenko, N.I., 1973:
Kozlova, R.P., Elina, G.A.
Picea.
USSR--Karelia
28-3747

P'Iavchenko, N.I., 1972:
The main principles of mire biogeocoenosis investigations (Osnovye printsipy izuchenii bolotnykh biogeotsenozov) Leningrad, "Nauka" Leningradskoe Otdelenie, 118 p. In Russian.

NAL/CAIN

P'Iavchenko, N.I., 1974:

NAL/CAIN

P'Iavchenko, N.I., 1970:

NAL/CAIN

P'Iavchenko, N.I., 1974:
Soil as a component of biogeocoenosis (ecosystem) (Pochva kak komponent biogeotsenoza (ekosystemy)) International Congress of Soil Sciences, 10th, Moscow. Pochvennyye issledovaniya v Karelii (Soil studies in Karelia) Petrozavodsk, p. 6-11. 6 refs. In Russian with English summary. Kozlovskaiia, L.S.
29-3762

P'Iavchenko, N.I., 1970:
Mitsenko, A.A.; Boch, M.S.

NAL/CAIN

P'Iavchenko, N.I., 1972:

NAL/CAIN

NAL/CAIN
Pivovarova, Zh.F. et al., 1971:  
Algae and protofauna of chestnut soils in the Issyk-Kul' and At-Bashl basins in Tien Shan  
(AI'goflora i protofauna kashtanovykh pochv Issyk-Kul'skoi i At-Bashinskoi kotlovin Tian'-Shan'a).  
Akademiia nauk SSSR. Sibirskoe otdelenie. Izvestiia  
 Platova, G.D.  
Alpine soils  
USSR--Tien Shan  
28-4212

Polozova, T.G., 1971:  
Vascular plants in the Taymyr Research Station area (along the right bank of the Pyasina River, mouth of Taraya, west Taymyr)  
Sosudistye rasteniia raiona Taymyrskogo Statstionara (pravoberezh'e Piasiny bliz ust'ya Tarei, zapadnyi Taimyr)  
Biogeotsenozy Taymyrskoi tundry i ikh produktivnost' (Biogeocenoses of Taymyr tundra and their productivity)  
27-1550

Popov, A.I., 1973:  
Natural conditions in West Siberia,  
29-1212

Popov, B.I., 1970:  
NAL/CAIN

Polozova, T.G., 1971:  
Vascular plants in the Taymyr Research Station area (along the right bank of the Pyasina River, mouth of Taraya, west Taymyr)  
Sosudistye rasteniia raiona Taymyrskogo Statstionara (pravoberezh'e Piasiny bliz ust'ya Tarei, zapadnyi Taimyr)  
Biogeotsenozy Taymyrskoi tundry i ikh produktivnost' (Biogeocenoses of Taymyr tundra and their productivity)  
27-1550

Popov, A.I., 1973:  
Natural conditions in West Siberia,  
29-1212

Popov, B.I., 1976:  
Some principles of environmental protection during road construction in Central Yakutia. Symposium on Environmental Protection in Relation to Economic Development of Permafrost Regions.  
CRREL TL 518, p. 76-77.  

BROWN

Popov, O. S., 1973:  
Filtration coefficients of peat in raised bog and transitional mire of the central Amur River plain in west Siberia (O koeffitsientakh filtratsii torfianoi zalezhii verkhovykh i perekhodnykh bolot Sredneamurskoi nizemnosti i Zapadnoi Sibiri).  
Prirodnye osobennosti bolot Priamur'ia (Natural characteristics of swamps in the Amur River area).  
28-3466

Popov, O. S., 1971:  
Runoff from the swamps located in the southern part of the central Amur River plain (Stok s bolot luchshoi chast'i Sredneamurskoi nizemnosti). Prirodnye osobennosti bolot Priamur'ia (Natural characteristics of swamps in the Amur River area).  
Peat  
28-3487

Popov, V. M., 1970:  

NAL/CAIN

Pospelova, E.B. et al., 1971:  
Zharkova, IU.G.  

Tundra vegetation.  
Tundra soils.  
Thermal regime.  
USSR-Taymyr  
26-133

Pospelova, E.B. et al., 1973:  
Effect of vegetation on thermal regime of tundra soils in West Taymyr.  
U.S. Army Cold Regions Research and Engineering Laboratory, Aug.  
1973, TL 378, 6 p. AD-766 593. For Russian text see 26-0133. 9 refs. Zharkova, IU.G.  

Soil temperature  
Tundra soils  
Vegetation factors  
28-1661

Pospelova, E.B. et al., 1972:  
Flora in the overgrowing damaged areas of the Berelekh River valley in the Magadan region (K voprosu o floore zarastaiushchikh narushennykh uchastkov doliny reki Berelekh (Magadanskaya oblast')).  
Pochvy i rastitel'nost' mezilotnykh raiionov SSR (Soil and vegetation of permafrost regions in the USSR)  
30-695
Pospelova, E.B., 1972:
Plant cover and phytomass of the basic plant communities at the "Agapa" station (Rastitel'nykh pokrov i firomasa oanov-
nykh rastitel'nykh soobshchestv statio-
In Russian. 17 refs. Zharkova, IU.G.

27-1228

Pospelova, E.B., 1974:
Structure and biomass distribution in main vegetation associations at Agapa station (Struktura i prostranstvennoe ras-

29-3325

Pospelova, E.B., 1972:

Tundra soils.
Tundra vegetation.
Biomass.

26-641

Pospelova, E.B., 1971:
Vegetation of the Agapa Station and produ-
ductivity of the main plant communities;

Tundra vegetation.
Plants (Botany).
Biological productivity.

27-2680

Pridnia, M.V., 1972:
Natural forest regeneration of spruce including
hylocomium, dianum, and rhytidiadelphus in areas
of concentrated logging in the Tavda-Konda interfuye
(Estestvennoe lesovozobnovlenie na kontsentriro-
vannykh vyrubakh el'nikov zelenomoshnikovykh Tavda-
Kondinskogo mezhdurech'ia). Akademiia nauk SSSR.
Ural'skii nauchnyi tsentr. Institut ekologii
rastenii i zhivotnykh. Truey, 1972, Vol. 8, p. 194-
216. In Russian. 41 refs.

Problems in geocryology (Problemy geokriologii).
Akademiia nauk SSSR. Sibirskoe otdelenie. Institut
In Russian. Numerous references. Individual papers
see 28-1370 through 28-1380.

Active layer.
Soil moisture migration.
Cryogenic processes.

28-1369

Problems of the North; a current bibliog-
raphy, 1972:
Akademiia nauk SSSR. Sibirskoe ot-
delenie. Gosudarstvennaya publichnaia
nauchnotekhicheskaia biblioteka. June-
Russian.

29-3225

Problems of the North; a current bibliog-
raphy, 1974:
(Problemy severa; tekushchii uka-
zatel' literatury) Akademiia nauk SSSR.
Sibirskoe otdelenie. Gosudarstvennaia
publichnaia nauchno-tekhnicheskaia bib-
lioteka 1974 Nos.1,2 110, 105 p. In
Russian.

29-3226
Productivity of Subarctic biogeocoenoses, 1970

Forest tundra
Tundra vegetation
Soil formation
Soil moisture migration

26-3076

Prokhorova, Z.A. et al., 1971:

Sokolov, I.A.

Soil formation
Soil composition
Podsol
USSR--Kamchatka peninsula

26-3821

Proskuriakova, T.L. et al., 1972:

Soil temperature.
Soil moisture migration.

28-744

Prozorov, Iu.S., 1974:

30-18

Prozorov, Iu.S., 1974:


Soil formation
Peat
Vegetation

28-3491

Pustovoitov, N.D., 1971:

Forest soils
Meadow soils
Soil moisture migration
USSR--Amur River

26-3875

Rabotnov, T.A., 1971:

Soil moisture.
Plants (Botany).
Soil temperature.

26-192

Rakhmanina, A.T., 1974:

29-1291
Ramenskaya, M.L., 1971:
Analysis and correlation of certain soils and phytocoenoses in the nonmarshy mountain tundras of the Murmansk region (Analiz naspriazhennosti

Tundra soils
Tundra vegetation
Mountain soils
26-3529

Ramenskaya, M.L., 1972:
Vegetation of the Pechenga tundra (Rastitel'nost' Pechenegskikh tundr)

29-1405

Rasskazov, N.M. et al., 1971:

26-2714

Rasskazov, N.M. et al., 1971
Nazarov, A.D., Shamolin, V.A.
Peat

Roichenko, G.L., 1973:

NAL/CAIN (Lockheed)

Roichenko, G.I. et al., 1970:
Alpine soils.
Alpine vegetation.
Ecology.
USSR-Tien Shan,
USSR-Pamirs.
26-600

Roizin, M.B., 1972:

NAL/CAIN

Roizin, M.B., 1972:

NAL/CAIN


BROWN
Rolzin, M.B., 1970:
Effect of soil cultivation methods and fertilizers on the microflora of sandy, illuvial-ferruginous podsol in the Murmansk region.
(Vliianie sposobov obrabotki i vneseniia udobreniia na mikrofloru peschnogo illuvial'no-zhelezistogo podzola Murmanskoii oblasti) Akademiia nauk SSSR. Komi filial. Institut biologii. Biologicheskie osnovy ispol'zovanii prirody Severa (Biological basis for the utilization of natural resources in the North) Syktyvkar, Komi knizhnoe izd-vo.

Rolzin, M.B., 1970:
Soil composition.
USSR-Murmansk.
26-1716

Romanova, E.N., 1972:

Tundra vegetation.

Romanova, E.N. et al., 1973:

Tundra soils.
Mottled tundra
Soil temperature

Roshchupkina, R.A. et al., 1970:

Tundra soils.
Tundra vegetation.
26-1705

Rusnova, G.V., 1974:

NAL/CAIN (Lockheed)

Rusnova, G.V., 1975:
Content and some properties of podzolic soil concretions in middle-taiga subzone of the Komi ASSR with respect to their genesis. Trans Int Congr Soil Sci 10th (v.7): 239-246. In Russian. English summary.

NAL/CAIN (Lockheed)

Sabo, E.D. et al., 1973:
It is necessary to drain forest swamps of the Baikal Lake region (Nuzhno l.ii osushat' lesnye bolota Pribaikal'ia). Lesnoe khozjalstvo, Jan. 1973, No. 1, p. 80-87. In Russian. Kuksov, I.U.V.

Tundra terrain.
Tundra vegetation.
Plant ecology.

28-501
Sakai, A., 1973:
Vegetation patterns
Taiga vegetation
Active layer
28-3509

Sakai, A., 1974:
NIAL/CAIN

Sakai, A., 1973:
Vegetation patterns
Taiga vegetation
Active layer
28-3509

Salamov, G.A., 1972:
NIAL/CAIN (Lockheed)

Salatova, N.G., 1973:
Development of a network of preserves and nature parks as a basis for conservation of the alpine resources of Siberia. In Okhrana Gornykh Landshaftov Sibiri, p. 196-209. In Russian.
NIAL/CAIN (Lockheed)
Savich, M.A., 1975: Main vegetation patterns of the Tsa­
gan-Shibetu ridge (Tuvin skaia ASSR) (Os­
nownye zakonomernosti raspredelenia ras­
titel'nogoko pokrova khr. Tsa gan-Shibetu
(Tuvin skaia ASSR)) Moscow. Universitet.
Vestnik. Seria 5 Geografiia Nov.-
Dec. 1975 No.6 p. 101-104. In Russian
with English summary. 3 refs.

30-3191

Savvinov, D.U., 1974: Division of
Yakutian plains into re­
gions according to hydrothermal conditions·
(Pochvennoc gidrotermicheskoe
raionirovanie ravinnoi territorii IAkutii)
Uiologicheskie problemy Severa,
VI sim­
pozium; Vypusk 6: (Iliological
Problems of the North, 6th sym­
pozium; Vol. 6:) Yakutsk,
Akadcmiia nauk
SSSR, p. 87-91.
In Russian.
29-1071

Scherbakov, I.P., 1972: Forests in northeast Asia (Lesnoi
pokrov severo-Vostoka Azii) Vsesoiuznyi
simpozium po biologicheskim problemam
Severa, 5th, Nagadan, Apr. 18-22, 1972.
Pochvy i rastitel'nost' merzlotnykh
raionov SSSR (Soil and vegetation of perma­
frost regions in the USSR) p. 183-193.
In Russian with English summary. 39
refs.
30-696

Scherbakov, I.P., 1975: Forests of the northeastern USSR
(Lesnoi pokrov Severo-Vostoka SSSR) Novo­
sibirsk, Nauka, 1975 344 p. In Russian
with abridge English table of contents
30-911

Scientific-Industrial conference on soil
erosion in the Lake Jaykal basin, Oct.
9-11, 1974: 
Abstracts (Nauchno-proizvodstvennaia
konferentsiia po erozii pochv bассейна
oz. Naikal, 9-11 ik. 1974 g. Tezisy dok­
ladov) Akademiia nauk SSSR. Sibirskoe
otdelenie. Buriatskiil filial Ulan-Ude,
107 p. In Russian.
30-1579

Sogat', A.N., 1972: Ecological-physiological basis for bioenerget­
ic of vertebrates in the North (problems, content
and methods of investigation)(Ekologo-fiziologich­
eskie osnovy bioenergetiki pozvonochnykh zhivotnykh
na Severa (zadachi, soderzhaniem metodika issledov­
anii). Issucheniie biogeotsenozov tundra i lemontundra
Tundra vegetation.
Ecosystems
28-1268

Semenov, I.V. et al., 1973: Complex physiographic boundary of the Arctic
(Kompleksnaia fiziko-geograficheskaja granitsa
Arktiki). Geograficheskое obozhe­vstvo SSSR.
Russian. 28 refs. Sisko, R. K.
Arctic regions
Arctic soils
Arctic vegetation
28-1667

Semenov, I.V. et al., 1971: Peculiarities of the Arctic
complex of natural
environments (Osobennosti arkticheskogo prirodnogo
kompleksa). Leningrad. Arkticheskii i Antark­
ticheskii nauchno-issledovatel'skii institut.
68 refs. Sisko, R.K.
Bibliographies
Arctic terrain
Arctic vegetation
28-3802

Semikhvatova, O.A. et al., 1973: Respiration intensity in several plant species
from Helen Island (Franz-Josef Land) (Intensivnost'
dykhani in neeskol 'kokh vi<lov rastenii
ostrova Khelsia (Zeml'ia Frants'-Iosifa). Botanicheskii zhurnal,
refs. Shukhtina, G. G.
Arctic vegetation
Plant ecology
Arctic terrain
29-2237

Sergeev, G.M., 1971: Microclimatic peculiarities of temperature re­
gime in the West Siberian taiga. Mikroklimaticheskie
osobennosti temperaturnogo rezhma taezhnoi zony
Zapadnoi Sibiri. Klimat pochvi. (Soil climate. Pro­
cedings of the Conference of the Scientific Council
on the study of Climatic and Agroclimatic Resources,
210-218. In Russian. 5 refs. S600.M55
Taiga soils,
Soil temperature.
27-1033

95

BROWN


Shamanova, I.I., 1970
Vegetation factors
Tundra soils

26-1723


Tundra soils.
Tundra vegetation.
Ecology.

26-1694


Polozova, T.G. Khodachev, E.A.

Shamurin, V. F. et al., 1972:

Tundra vegetation.
Plants (Botany).
Biomass.

27-2673


BROWN


Tikhmenev, E.A.

NAL/CAIN


Forest tundra.
Tundra vegetation.

2

Shavrov, L.A., 1971:

Tundra soils.
USSR-Kola Peninsula.

27-2584
Shchelkunova, R.P., 1975:

Shcherbakov, I.P., 1971:

Shchercbakova, L.N., 1972:
Black-and-white varieties of landscape maps of mountain regions (Cherno-belye varianty landshaftnykh kart gornnykh territorii). Landshaftnoe kartografirovanie i fiziko-geograficheskoie raionirovanie gornykh oblastei (Landscape mapping and physiographic zoning of mountain regions), N.A. Gvozdetski, ed. MGU, 1972, p. 233-234. In Russian.

Shiiatov, S.G., 1970:
Types of the upper forest lines in the polar Urala and its dynamics (Otipakh verkhnili granitsy lesa i ee dinamike na polarnom Urale) Akademija nauk SSSR. Komi filial. Institut biologii. Biologicheskie osnovy ispol'zovanija prirody Severa (Biological basis for the utilization of natural resources in the North) Syktyvkar, Komi knizhnoe izd-vo, 1970 p. 73-81. In Russian. 13 refs.

Shishkina, L. P., 1973:

Tundra soils
Soil profiles
Tundra vegetation
28-3181

Arctic soils
Tundra vegetation
Taiga soils

28-2231


30-690


Soil structure.
Taiga soils.
Soil formation.

28-142


Taiga soils.
Taiga vegetation.
Plant ecology.

27-2324


29-3329


Tundra vegetation.
Ecosystems.
Plant ecology.

28-1265


Tundra vegetation.
Ecosystems.

28-4228


Cryogenic processes.
Soil moisture migration.

28-1083


BROWN


Photosynthesis.
Plants (Botany).

26-657

29-3666


29-3799

Simkin, G.N., 1974: Biogeocoenoses of taiga forests (Perm' region) (Biogeotsenozy taezhnogo lesa (na primere Permskoi oblasti)) MGU, 175 p. In Russian with English table of contents enclosed. Refs. p. 169-174

29-1417


Taiga vegetation
Forest ecosystems
Taiga soils
USSR--Tavda

28-2667


Mountain soils
Taiga vegetation
Vegetation

28-1669


29-813


Active layer thickness
Soil moisture migration

USSR--Novosibirsk Archipelago

28-3807


29-813


Tundra vegetation

28-2700


BROWN
Smirnov, A.V., 1972:

Tundra vegetation.
Plant ecology.
Tundra soils.
Damage.
27-1693

Smirnov, M.P., 1972:

Tundra soils.
Tundra vegetation.
Soil moisture migration.
27-869

Smirnov, V.V. et al., 1972:

Tundra vegetation.
27-2666

Smirnov, V.V., 1974:
Soil disturbance by engineering activities and the first stages of vegetation reestablishment in biogeocoenoses of the eastern polar Urals (Kharakter naurshenii pochvenno-rastitel'nogo pokrova v biogeocoenozakh vostochnogo sklona Polarnogo Urala pri nekotorykh inzhenernykh vozdeistviakh) Biologicheskie problemy Severa, VI simposium; Vypusk 6 (Biological Problems of the North, 6th symposium; Vol.6) Yakutsk, Akademlia nauk SSSR, p. 157-161. In Russian.
29-1076

Snytkin, G.V., 1972:
30-706

Sobolev, L.N., 1972:

GeoRef

Sobolev, L.N., 1972:

Alpine soils.
Alpine vegetation.
Plant ecology
USSR-Issyk-Kul Lake.
USSR-Tien Shan.
27-2638

Sobolevskaia, K.A. et al., 1970:

Sobolevskaia, K.A., 1972:
Natural flora of Siberia used in landscaping (Rasteniiia prirodnoi flory Sibiri dlia zelenogo stroitel'nost'). Novosibirsk, Nauka, 1972, 256 p. In Russian. For selected articles see 28-3930 through 28-3937.

Arctic soils.
Arctic vegetation.
Plant ecology
28-3929

2

26-1921

100

Tundra.
Forest tundra.
Taiga.

28-1595


Taiga soils.
Soil moisture migration.

26-924


30-671


29-1987


29-3761


27-1226


NAL/CAIN (Lockheed)


NAL/CAIN (Lockheed)


30-677


Biol. Abst. Inc.


Mountain soils.
Taiga soils.
Vegetation.

27-877

101
Staniukovich, K.V., 1970:
Classification of plant associations of the earth on the Basis of their ecologic rhythms (Opyt klassifikatsii rastitel'nykh noobschestv zemnogo shara na osnove ikh ekologicheskoi ritmiki) Ekologlia 1970 No. 1 p. 18-26. In Russian. 18 refs.

Tundra soils.
Tundra vegetation.
Ecosystems.

26-1056

Stenina, T.A., 1970:
Biological activity of tundra soils (K voprosu o biologicheskoi aktivnosti tundrovikh pochv) Akademija nauk SSSR. Komi filial. Institut biologii. Biologicheskoe osnovy ispol'zovaniia prirody Severa (Biogoeial basis for the utilization of natural resources in the North) syktyvkar, Komi knizhnoe izd-vo, 1970 p. 147-152. In Russian. 3 refs.

Tundra soils.
Tundra vegetation.
Soil formation.

26-1715

Stepanova, I.V., 1971:
Micromycetes in the Taymyr Research station area (Bribi-mikromitsetsy Taymyrskogo Statsionara) Biogeotsenozy Taymyrskoi tundry i ikh produktivnost' (Biogeocenoses of Taymyr tundra and their productivity) Leningrad, Nauka, p. 130-144. In Russian with English summary. 7 refs. Tomilin, B.A.

27-1547

Stenina, T.A., 1973:
Biological and agrochemical properties and fertilization of ploughed humus peaty soils of middle taiga subzone in Komi ASSR. Pochvovedenie 12: 30-37. In Russian. English summary. Ievlev, N.I.; Rychkova, V.A.

NAL/CAIN

(LOCKHEED)

Stepanova, I.V., 1973:

NAL/CAIN

Stepanov, I.V. et al., 1972:

Tundra vegetation.
Fungi.

27-2677.

NAL/CAIN

Storozheva, M.M., 1970:

Soil formation.
Soil moisture migration.

27-1736

Strelkov, S.A. et al., 1973:

Tundra terrain
Tundra soils
USSR--Kola Peninsula

28-3748


Tundra soils.
Forest tundra.
Tundra vegetation.

28-1246

BROWN


29-3669


Alpine vegetation. Plant ecology.
27-2630

Symposium on Environmental Protection in Relation to Economic Development of Permafrost Regions, ed. by P.I. Melnikov. U.S. Army Cold Regions Research and Engineering Laboratory. TL 518, May 1976. Selected abstracts from Russian text, for which see 30-2381.

BROWN


Plant ecology. Peat.
28-70


29-3668


Subarctic soils
Alpine soils
Alpine vegetation
USSR--Pamirs
26-3695


Taiga soils. Taiga vegetation.
28-115


Targul'ian, V.O., 1971: Soil formation and weathering in cold humid regions (on massive-crystalline and sandy polymictic rocks) (Pochvoobrazovanie i vyvetrivanie v kholodnykh gumidnykh oblastakh (na massivo-kristallicheskih i pechanykh polimiktovych porodakh)). Moscow, Nauka, 1971, 268 p. In Russian with English summary. 311 refs. No microfiche available. S592.2.T37


Tikhomirov, B.A., 1973:

Tikhomirov, B.A., ed., 1970:

Tikhomirov, B.A., ed., 1970:

Tikhomirov, B.A., ed., 1970:

Tikhomirov, B.A., ed., 1970:

Subarctic vegetation
Forest ecosystems.
Taiga vegetation.

Tikhomirov, B.A., ed., 1972:

Forest tundra.
Tundra vegetation.
Plant ecology.

BROWN
Tikhomirov, B.A., 1972:  
Structure of the relationship among components in biogeocenoses of tundra zone.  
Tundra vegetation.  
Ecosystems.  
27-2661

Tikhomirov, B.A. et al., 1972:  
Vegetation as a component of biocenoses in the Far North (Izuchenie rastitel'nosti kak komponenta biogeotsenozov Krainego Severa). Izuchenie biogeotsenozov tundry i lesotundry (Study of tundra and forest-tundra biocenoses). Leningrad, Nauka, 1972, p. 53-60. In Russian. 22 refs. Norin, B.N.  
Arctic vegetation.  
Plant ecology.  
Arctic soils.  
22-1255

Tikhomirova, T.S., 1972:  
Alpine soils.  
Alpine vegetation.  
Plant ecology.  
28-734

Titov, E.V., 1971:  
Alpine soils.  
Vegetation patterns.  
Alpine vegetation.  
28-124

Titov, E.V., 1973:  

Tolmachev, A.I. ed., 1971:  

Tolmachev, A.I. et al., 1974:  

Tolmachev, A.I. et al., 1973:  
New species of Papaver from the far northeastern Asia (Novye vidy Papaver s krainego severo-vostoka Azii). Botanicheskiy zhurnal, 1973, 58(8), p. 1127-1130. In Russian. Petrovskii, V.V.  

Tomilin, B.A., 1975:  

NAL/CAIN
Tomilin, B.A., 1971:

27-1546.

Tomilin, B.A., 1972:

Fungi.
Plant ecology.
Arctic soils.

28-1259

Tomirdiaro, S.V., 1976:
Drainage of tundra lowlands for maximum development of meadows which form at the bottom of drained thermokarst lakes. Symposium on Environmental Protection in Relation to Economic Development of Permafrost Regions. CRREL TL 518, p. 23-24.

BROWN

Tomirdiaro, S.V., 1975:

30-964

Tomirdiaro, S.V., 1972:

Cryogenic processes.
Patterned ground.
Thermokarst.

28-924

Tomkonogov, V.D., 1975:

NAL/CAIN

Tomkonogov, V. D., 1970:

Forest tundra.
Soil formation.
Taiga soils.

26-1711

Trofimov, N.N., 1975:

30-3684

Trofimenko, G.V., 1973:

Forest tundra.
Tundra.
USSR-Far North.

27-2610

Trofimenko, G.V., 1974:

30-443

Trofimenko, G.V., 1972:
Phytomass reserves in some types of tundras near the northern Ob' River. Zapasy fitomass v nekotorykh tipakh tundr priobskogo Severa. Ekologiia. 1972 No. 5. p. 90-93. In Russian. 3 refs.

Tundra soils.
Tundra vegetation.
Biomass.

27-2353
Trofimenko, G.V., 1974:
Quantitative studies of dwarf shrub formation with betula nana at Kharp research station (Kolchestevennoe izuchenie ernikovych soobshchestv stationsary "Kharp") Akademia nauk SSSR. Ural'skii filial. Institut ekologii rastenii i zhivotnykh. Trudy 1974 Vol.88. p. 108-120. In Russian. 6 refs. Martin, IU.L.

30-450

Trush, N.I. et al., 1973:

Clay soils
Soil composition
Soil profiles
28-2542

Tsveletov, V.P., 1972:

Taiga soils.
Taiga vegetation.
27-2325

Tsdyypov, D. Ch., 1973:

NAL/CAIN

Tsypanova, A.N., 1970:

BROWN

Tyrtikov, A.P., 1973:

Tundra terrain.
Tundra soils.
Active layer.

28-271

Tyrtikov, A.P., 1973:

Tundra terrain.
Tundra soils.
Active layer.
Tyrtikov, A.P., 1972:

28-1250

Tyrtikov, A.P., 1973:
Vegetation as an indicator of the composition and properties of soils in the light forests of West Siberia (Rastitel'nyi pokrov--indikator sostava i svoistv grunтов v podzone redkostoinykh lesov Zapadnoi Sibiri) Prirodnye usloviya Zapadnoi Sibiri, Vyp. 4 (Natural conditions in West Siberia, Vol. 4) Edited by A.I. Popov Moscow, Universitet, p. 70-81. In Russian. 18 refs.

29-1216

Tyrtikov, A.P., 1970:

28-1286

Tyrtikov, A.P., 1970
Forest tundra
Tundra soils
Tundra vegetation

26-1722

Tyrtikov, A.P., 1974:

29-1415

Tyrtikov, A.P., 1972:
Flora of the Shadput region, Pamirs.

Alpine soils.
Alpine vegetation.
Plant ecology.

27-2196

Ukhacheva, V.N., 1972:
Targyl steppes of the east Pamirs.

NAL/CAIN

Ukhacheva, V.N., 1973:

Alpine vegetation.
Plant ecology.
Alpine soils.
USSR--Tien Shan.

28-1286

Urusevskaia, I.S., 1974:

NAL/CAIN

Urushadze, T.F., 1970:

NAL/CAIN

Urushadze, T.F., 1973:

NAL/CAIN
Urushadze, T.G., 1972:
Micromorphology of soils in subalpine forests
(K voprosu o mikromorfologii pochv sub'al'piiskikh
In Russian with English and Georgian summaries.
2 refs.
Alpine soils
Alpine vegetation

26-3398

Urushadze, T.F., 1972:
Subalpine forest soils of Georgia.
(USSR) Pochvovedenie, 6: 29-43. In
Russian.

NAL/CAIN

Uspenskii, S.M., 1972:
Birds in biocenoses of the Far North (Methods
and trends in the investigations) (Ptit'yi v biogeoe
etsenozakh Kraiit'ego Severa (osnovnye napravlenii i
metodika issledovanii). Izuchenie biogeotsenozov
tundry i lesotundry (Study of tundra and forest-
tundra biocenoses). Leningrad, Nauka, 1972, p. 117-
121. In Russian. 22 refs.
Arctic vegetation.
Plant ecology.
Ecosystems.

28-1267

Uspensky, S.M., 1975:
Protection of natural complexes of
the Arctic and sub-Arctic. XXIII Interna-
tional Geographical Congress. Symposium:
Geography of Polar Countries. Tour K-29.
Leningrad, Hidrometeorological Publishing

BROWN

Uvarov, L.A., 1972:
On the redistribution of moisture by
soil surface in the alpine meadow-forest
region of the Ukrainian Carpathians.
Lesovod Agrolesomelior 31: 60-65. In
Russian. D'Iakov, V.N.

NAL/CAIN

Vainshtein, E.A., 1973:
Some problems of lichen physiology. II. Photo-
synthesis (Nekotorye voprosy fiziologii lishainikov.
II. Fotosintez). Botanicheskii zhurnal, March 1973,
Lichens.
Photosynthesis.

28-39

Vakurov, A.D., 1975:
Forest fires in the north (Lesnye
In Russian with English table of contents

30-625

Vakurov, A. D., 1973:
Growth of pine forests after fires in the far
north (Rost poslepozharnykh sosniakov v ucelovyakh
Severa). Russia. Ministerstvo vysshego i srednego
spetsial'nogo obrazovaniia. Izvestiia vysshikh
uzhebnikh zavedenii. Lesnoi zhurnal, 1973, No. 4,
p. 157-158. In Russian. 8 refs.
Taiga soils
Taiga vegetation

28-2508

Vakurov, A.D., 1973:
Pine forest biomass in the northern
taiga subzone (Produktivnost' sosniakov v
podzone severnoi taigi) Produktivnost' or
ganicheskoi massy lesov v roznykh prirod-
nykh zonakh (Productivity of organic mass
of forests in different natural zones)
Moscow, Nauka, p. 7-27. In Russian.
4 refs.

30-2218

Vasil'ev, N.G., 1974:
Characteristics of the alpine plant
distribution on the Arsenyevo Mountain
ridge (central Sikhote-Alin Range).
Probl Bot (Leningr), 12: 111-117. In
Russian. Kolesnikov, B.P.

NAL/CAIN

Uvarov, L.A., 1972:
On the redistribution of moisture by
soil surface in the alpine meadow-forest
region of the Ukrainian Carpathians.
Lesovod Agrolesomelior 31: 60-65. In
Russian. D'Iakov, V.N.

NAL/CAIN

Vainshtein, E.A., 1973:
Some problems of lichen physiology. II. Photo-
synthesis (Nekotorye voprosy fiziologii lishainikov.
II. Fotosintez). Botanicheskii zhurnal, March 1973,
Lichens.
Photosynthesis.

28-39

Vakurov, A.D., 1975:
Forest fires in the north (Lesnye
In Russian with English table of contents

30-625

Vakurov, A. D., 1973:
Growth of pine forests after fires in the far
north (Rost poslepozharnykh sosniakov v ucelovyakh
Severa). Russia. Ministerstvo vysshego i srednego
spetsial'nogo obrazovaniia. Izvestiia vysshikh
uzhebnikh zavedenii. Lesnoi zhurnal, 1973, No. 4,
p. 157-158. In Russian. 8 refs.
Taiga soils
Taiga vegetation

28-2508

Vakurov, A.D., 1973:
Pine forest biomass in the northern
taiga subzone (Produktivnost' sosniakov v
podzone severnoi taigi) Produktivnost' or
ganicheskoi massy lesov v roznykh prirod-
nykh zonakh (Productivity of organic mass
of forests in different natural zones)
Moscow, Nauka, p. 7-27. In Russian.
4 refs.

30-2218

Vasil'ev, N.G., 1974:
Characteristics of the alpine plant
distribution on the Arsenyevo Mountain
ridge (central Sikhote-Alin Range).
Probl Bot (Leningr), 12: 111-117. In
Russian. Kolesnikov, B.P.

NAL/CAIN

Uvarov, L.A., 1972:
On the redistribution of moisture by
soil surface in the alpine meadow-forest
region of the Ukrainian Carpathians.
Lesovod Agrolesomelior 31: 60-65. In
Russian. D'Iakov, V.N.

NAL/CAIN

Taiga vegetation
28-3742


27-2343

Vasil'evskaia, V.D., 1975: Dynamics of some properties of the Tareya station soils (west Taimyr) (Dinamika nekotorykh svoistv pochv stationara "Tareia" (Zapadnyi Taimyr)) Biologicheskie problemy Severa, VI simposium; Vyпуск 6 (Biological Problems of the North, 6th symposium; Vol. 6) Yakutsk, Akademial nauk SSSR, p. 41-46. In Russian. Tables. Solodikhina, G.A.

30-2201


Tundra soils.
Tundra vegetation.
Soil composition.
USSR-Taymyr.

27-1227


27-1227

Vasil'evskaia, V.D., 1973: Natural conditions and soils of the "Agapa" station (western Taymyr). U.S. Army Cold Regions Research and Engineering Laboratory, July 1973, Tl. 381, 40 p. AD-764 804. For Russian original see 27-1227. 38 refs. Ivanov, V.V.; Bogatyrev, L.G.

Tundra soils.
Tundra vegetation.
Soil formation.

28-3473


(Same as CRREL 25-2781)

NAL/CAIN
Vasil'evskaiia, V.D. et al., 1972:
Tundra soils.
Organic soils.
Biological productivity.
27-2683

Vasil'evskaiia, V.D., 1972:
Programme and results of biocenological research at the Taimyr Station Agapa.

Tundra soils.
Tundra vegetation.
27-2679

Vasil'evskaiia, V.D. et al., 1972:

Tundra soils.
Soil temperature.
27-2684

Vasil'evskaiia, V.D., 1974:

Pospelova, E.B.; Bogatyrev, L.G.; Ivanov, V.V.
Tundra soils.
Soil temperature.
29-3324

Vasil'evskaiia, V.D. et al., 1972:
Studying tundra soils as components of tundra biocenoses (Izuchenie pochv tundr kak komponenta tundrovykh biogeotsenozov). Izuchenie biogeotsenozov tundry i lesotundry (Study of tundra and forest-tundra biocenoses). Leningrad, Nauka, 1972, p. 26-32, In Russian. 18 refs. Ignatenko, I.V.

Soil formation.
Tundra vegetation.
Soil moisture.
28-1248

Vodop'ianova, N.S., 1974:
Flora of alpine tundra in the neighborhood of the Bogatyur Lake (The Putorana Plateau, the northern part of lands east of the Yenisey River) (Gol'tsovaia flora okrestnostei ozero Bogatyur' (Plato Putorana, Zaeniseiskii Sever)) Botanicheskii zhurnal June 1974 59(6) p.883-894. In Russian. 17 refs. Krogulevich, K.E.
29-1294
Vomperskaia, M.I., 1972:

Taiga soils.
Taiga vegetation.
Soil profiles.

Wielgolaski, F.E., ed. & Rosswall, T. ed., 1972:

Tundra vegetation.
Biomass.

28-1299

Voroshilov, G.D., 1973:

Clay soils.
Soil moisture migration.

28-1084

Votיאakov, I.N., 1973:

Soil moisture migration.

28-1085

Wielgolaski, F.E., 1972:

Plant ecology.
Tundra vegetation.
Biomass.

28-324

Zaboeva, I.V., 1973:
Biological productivity of picea-hylocomium forests of the central and northern taiga region of the Komi ASSR. Rastitel Resursy, 9(1): 100-106. In Russian. Rusanova, G.V.; Sloboda, A.V.

NAL/CAIN

Zaboeva, I.V., et al., 1973:

Taiga vegetation
Plant ecology
Biomass

USSR--Komi ASSR

28-2614
Znikova, V.A., 1973: 

Meadow soils 
Vegetation 
USSR-Karelia

Zakharov, IU. T., 1975: 

BROWN

Zalenskii, O.V. et al., 1972: 

Tundra vegetation. 
Photosynthesis. 

27-2674

Zamolotchikova, S.A., 1974: 

29-2311

Zharkova, Yu. G., 1975: 

BROWN

Zhigarev, L.A., 1976: 
Disturbances in natural equilibrium due to mining in northern Siberia. Symposium on Environmental Protection in Relation to Economic Development of Permafrost Regions. CRREL TL 518, p. 34-35.

BROWN

Zhilviko, Z.M., 1970: 

Forest tundra. 
Tundra soils 
Tundra vegetation. 

26-1719

Zhuchkova, V.K., 1972: 
Landscape map of the Khibiny Mountains (Landshftnaia karta Khibinskogo gornogo massiva). Landshftnoe kartografirovanie i fiziko-geograficheske raionirovanie gornyh oblastei (Landscape mapping and physiographic zoning of mountain regions) N.A. Gvozdetskii, ed. MGU, 1972, p. 220-232. In Russian. 9 refs.

Tundra soils. 
Alpine vegetation. 
USSR-Khibiny Mountains

28-736

Zhukov, A. M., 1973: 

Fungi

28-2713

NAL/CAIN


NAL/CAIN


Tundra vegetation
Mosses
Tundra soils

28-4115


Mosses.
Arctic vegetation.
Vegetation patterns.
USSR-Franz Josef Land.

28-38


29-1229


Pent
Snail moisture migration

28-2621


NAL/CAIN

Zvereva, T.S., 1972: Clay minerals in some soils of the Taymyr peninsula (Glinistyr mineraly neko­torykh pochv poluostrova Taymyr) Biologi­cheskie problemy Severa, VI simpozium; Vypusk 6 (Biological Problems of the North, 6th symposium; Vol.6) Yakutsk, Akademiia nauk SSSR, p. 134-140. In Russian. Ignatenko, I.V.

29-1074

Zvereva, T.S., 1974: Clay minerals in some soils of the Taymyr peninsula (Glinistyr mineraly neko­torykh pochv poluostrova Taymyr) Biologi­cheskie problemy Severa, VI simpozium; Vypusk 6 (Biological Problems of the North, 6th symposium; Vol.6) Yakutsk, Akademiia nauk SSSR, p. 134-140. In Russian. Ignatenko, I.V.

29-1074

Zvereva, T.S., 1972: Conditions for weathering and transformation of clay minerals in various sub­zones of east European tundra soils (Us­loviia vyvetrivaniia i transformatsii glin­istikykh mineralov v pochvakh raslichnykh podzon vostochnoevropeiskoi tundry) Vse­soiuznii simpozium po biologicheskim proble­mam Severa, 5th, Magadan, Apr. 18-22, 1972. Pochvy i rastitelnost' merzlot­nykh raionov SSSR (Soil and vegetation of permafrost regions in the USSR) p. 82-91. In Russian with English summary. 13 refs.

30-684

30-685


Vegetation
Plant ecology
Tundra soils
28-1725


Forest ecosystems
Vegetation patterns
Soil composition
28-2152