

# Modeled Active-Layer Depth in Russia, Version 1

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## USER GUIDE

### How to Cite These Data

As a condition of using these data, you must include a citation:

Nadyozhina, E.D. 2003. *Modeled Active-Layer Depth in Russia, Version 1*. [indicate subset used].  
Boulder, Colorado USA. NSIDC: National Snow Ice Data Center: <https://doi.org/10.7265/pc6m-hs47>  
[Date Accessed].

FOR QUESTIONS ABOUT THESE DATA, CONTACT [NSIDC@NSIDC.ORG](mailto:NSIDC@NSIDC.ORG)

FOR CURRENT INFORMATION, VISIT <https://nsidc.org/data/GGD606>



National Snow and Ice Data Center

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# 1 DATA DESCRIPTION

This data set contains modeled active-layer depth (cm) from 50 deg N to 80 deg N, and 60 deg E to 160 deg E, Russia. Depth values are calculated from a model of current climate that assumes a complex surface with inhomogeneous vegetation and soil texture, and from a model of projected climate for the year 2050 that assumes uniform vegetation and soil. Tab-delimited ASCII text files contain active-layer depth values (cm) with corresponding latitudes and longitudes in decimal degrees. Maps of active-layer depth (cm) are in GIF image format. Data are available via FTP.

## 1.1 Parameters

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Nadyozhina calculated active-layer depth (cm) for both a current climate that assumes a complex surface with inhomogeneous vegetation and soil texture, and for a projected climate for the year 2050 that assumes uniform vegetation and soil. She constructed the current climate from a ground heat transfer model derived from National Center for Environmental Prediction/National Center for Atmospheric Research (NCEP/NCAR) reanalyses. She constructed a projected climate for the year 2050 from the Main Geophysical Observatory (MGO) Global Climate Model (GCM).

## 1.2 File Information

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### 1.2.1 Format

Tab-delimited ASCII text files contain active-layer depth values (cm) with corresponding latitudes and longitudes in decimal degrees. Maps of active-layer depth (cm) are in GIF image format.

### 1.2.2 File Contents

File sizes range from 2 KB to 94 KB. Following is a sample of the first several lines of "table1.txt:"

Lat(N)	Long(E)	active- layer depth (cm) current climate	active- layer depth (cm) projected values
72,5	69,5	0,21	0,91
72,5	70,5	0,25	0,9
72,5	71,5	0,12	0,56
72,5	72,5	0,19	0,39
72,5	75,5	0,17	0,32
71,5	68,5	0,21	0,98
71,5	69,5	0,18	0,51

## 1.2.3 Naming Convention

**ggd606\_fig1.gif:** Active-layer depth map for Obskaya Guba (northwest Siberia) for a current climate that assumes a complex surface with inhomogeneous vegetation and soil texture.

**ggd606\_fig2.gif:** Active-layer depth map for Obskaya Guba (northwest Siberia) for a projected climate in the year 2050 that assumes a complex surface with inhomogeneous vegetation and soil texture.

**ggd606\_table1.txt** Textual summary of current and projected active-layer depth values from "ggd606\_fig1.gif" and "ggd606\_fig2.gif," respectively, in one-degree increments of latitude and longitude.

**ggd606\_fig3.gif:** Active-layer depth map for areas of loam covered by lichen for a current climate that assumes uniform vegetation and soil.

**ggd606\_fig4.gif:** Active-layer depth map for areas of loam covered by lichen for a projected climate in the year 2050 that assumes uniform vegetation and soil.

**ggd606\_table2.gif:** Textual summary of current and projected active-layer depth values from "ggd606\_fig3.gif" and "ggd606\_fig4.gif," respectively, in one-degree increments of latitude and longitude.

**ggd606\_fig5.gif:** Active-layer depth map for areas of peat covered by moss for a projected climate in the year 2050 that assumes uniform vegetation and soil.

**ggd606\_fig6.gif:** Active-layer depth map for sandy areas for a projected climate in the year 2050 that assumes uniform vegetation and soil.

**ggd606\_table3.txt:** Textual summary of projected active-layer depth values for peat and sand from "ggd606\_fig5.gif" and "ggd606\_fig6.gif," respectively, in one-degree increments of latitude and longitude.

**ggd606\_fig7.gif:** Active-layer depth map for areas of peat covered by moss for a current climate that assumes uniform vegetation and soil.

**ggd606\_fig8.gif:** Active-layer depth map for sandy areas for a current climate that assumes uniform vegetation and soil.

**ggd606\_table4.txt:** Textual summary of current active-layer depth values for peat and sand from "ggd606\_fig7.gif" and "ggd606\_fig8.gif," respectively, in one-degree increments of latitude and longitude.

## 1.3 Spatial Information

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### 1.3.1 Coverage

Northwest latitude: 80 N

Northwest longitude: 60 E

Southeast latitude: 50 N

Southeast longitude: 160 E

## 1.4 Temporal Information

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### 1.4.1 Coverage

Active-layer depth values are calculated from models constructed from a current climate and a projected climate for the year 2050.

## 2 CONTACTS AND ACKNOWLEDGMENTS

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## 3 REFERENCES

Malevsky-Malevich, S.P., E.K. Molkentin, E.D. Nadyozhina, and O.B. Shklyarevich. 2001. Numerical simulation of permafrost parameters distribution in Russia. *Cold Regions Science and Technology* 32:1-11.

Malevsky-Malevich, S.P., E.K. Molkentin, E.D. Nadyozhina, V.V. Simonov, and O.B. Shklyarevich. 2000. Model calculations of permafrost development and silt season thawing layer distribution for the current climate in the North regions of West Siberia. *Earth Cryosphere* 4(4).

## 4 DOCUMENT INFORMATION

### 4.1 Publication Date

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March 2003

### 4.2 Date Last Updated

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