

LIST OF MAP UNITS

UNDIFFERENTIATED CENOZOIC SEDIMENTARY ROCKS

Czs Sedimentary rocks
Czv Volcanics

OVERLAP SEDIMENTARY, VOLCANIC ASSEMBLAGES, AND STITCHING IGNEOUS ROCKS

ab Verkhoyansk collisional Allakh-Yun' granitic belt (K) (central part of Russain Northeast)
al Aldan magmatic belt (mMZ) (southern part of Russian East)
bt Balagan-Tas volcano (Pleistocene)
cb Taimyr collisional Chelyuskin granitic belt (IPZ) (Taimyr Peninsula)
it Ilin-Tas backarc basin (Jr-K) (central part of Russain Northeast)
ln Leningrad basin (Jr-IK) (Taimyr Peninsula)
mb Verkhoyansk collisional Main granitic belt (Jr-eK) (central part of Russain Northeast)
nb Verkhoyansk collisional North granitic belt (Jr-eK) (central part of Russain Northeast)
ni Nizhne Indigirka volcanic belt (K) (northern part of Russian Northeast)
nz Novaya Zemlya basin (emPZ) (Novaya Zemlya Islands)
oc Okhotsk-Chukotka volcanic-plutonic belt (K-Pal) (southeastern part of Russian Northeast) (internal contacts denote large plutons)
oi Oloy volcanic belt (Jr-eK) (northern part of Russian Northeast)
pa Lena-Anabar foreland basin (Jr-eK) (northern part of Russian East)
pp Popigal astrobleme (eCZ) (northern part of Russian East)
pr Priverkhoyansk foreland basin (Jr-IK) (central part of Russain Northeast)
sb Verkhoyansk collisional Sarychev granitic belt (Jr-eK) (central part of Russain Northeast)
sm Selenga magmatic belt (IPZ) (southern part of Russian East)
sv Svyatoi Nos volcanic belt (Jr) (northern part of Russian Northeast)
sy South Yakutia basin (mMZ) (southern part of Russian East)
tb Verkhoyansk collisional Transversal granitic belt (K) (central part of Russain Northeast)
tr Trabsbaikal rift-related basins (mMZ) (southern part of Russian East)
ud Uda volcanic-plutonic belt (Jr-eK) (southeastern part of Russian Northeast) (internal contacts denote large plutons)
uu Ulkan-Ugui-Udokan basin (ePR-IE PR) (southern part of Russian East) (internal contacts denote large plutons)
uy Uyandina-Yasachnaya volcanic belt (Jr) (central part of Russain Northeast)
yb Verkhoyansk collisional Yana granitic belt (IK) (central part of Russain Northeast)
zr Zyryanka basin (IK-Mio) (central part of Russain Northeast)

TECTONOSTRATIGRAPHIC TERRANES

TERRANES IN LOWER PRECAMBRIAN CRYSTALLINE BASEMENT OF CRATONS

**Aldan-Stanovoi shield
(southern part of Russian East)**

CG Chogar amphibolite-diorite-granodiorite-gneiss terrane (southern part of Russian Far East)
MG Mogochoa metamorphic terrane (southern part of Russian Far East)
TN Tynda tonalite-trondhjemitic-gneiss terrane (southern part of Russian Far East)
WA Western Aldan composite granite-greenstone terrane (southern part of Russian Far East)

Central Aldan superterrane (southern part of Russian East)

ANM Nimnyr carbonate-quartzite-charnockite-granite-gneiss terrane
AST Sutam quartzite-paragneiss terrane

Eastern Aldan superterrane (southern part of Russian East)

EBT Batomga granite-greenstone terrane
EUC Uchur quartzite-carbonate-paragneiss terrane

**Anabar shield
(northern part of Russian East)**

DL Daldyn enderbite-gneiss terrane (northern part of Russian Far East)
KH Khapchan quartzite-carbonate-paragneiss terrane (northern part of Russia Far East)
MG Magan tonalite-trondhjemitic-gneiss terrane (northern part of Russian Far East)

TERRANES IN LATE PRECAMBRIAN AND PHANEROZOIC OROGENIC BELTS

AY Ayansk miogeoclinal terrane (northern part of Russian Southeast)
CH Chukotka miogeoclinal terrane (northern part of Russian Northeast)
KN Kular-Nera continental margin terrane (central part of Russain Northeast)
KT Kotelnii miogeoclinal terrane (New Siberian Islands)
KR Karsk continental margin terrane (Taimyr Peninsula and Novaya Zemlya Islands)
OH Okhotsk cratonic terrane (southeastern part of Russian Northeast)
SA South-Anyui accretionary wedge terrane B (northern part of Russian Northeast)

Central Taimyr superterrane (Taimyr Peninsula)

CFD Faddeev cratonic terrane
CKS Kossovsk miogeoclinal terrane
CMN Mamont cratonic terrane
CSH Shrenk island arc terrane

Kolyma-Omolon superterrane (central part of Russain Northeast)

KAG Arga-Tas continental margin terrane
KAZ Alazeya island arc terrane
KBR Beryozovka flisch terrane
KNG Nagondzha continental margin terrane
KKD Kenkelda accretionary wedge terrane B
KKT Khetachan island arc terrane
KMN Munilkan oceanic terrane
KOL Oloy island arc terrane
KOM Omolon cratonic terrane
KOV Omulevka miogeoclinal terrane
KPD Polousnyi-Debin accretionary wedge terrane A
KPR Prikolyma rift terrane

CRATON AND CRATON MARGIN UNITS

NSC North Asian craton (eastern and southern Siberia) (Isopach contours within NSC denote thickness of overlap assemblages)
NSB Byrranga fold-and-thrust belt (Taimyr Peninsula)
NSV Verkhoyansk fold-and-thrust belt (central part of Russian Northeast) (internal contacts denote various facies)







MAJOR FAULTS

AD Adycha-Taryn fault (Russain Northeast)
BL Bilyakchan fault (Russain Northeast)
BR Beryozovka thrust (Russain Northeast)
KY Kyllakh thrust (Russain Northeast)
LA Lower Aldan thrust fault and strike-slip zone (Russian Northeast)
LE Lena thrust (Russain Northeast)
MT Myatis thrust (Russain Northeast)
PY Pyasina thrust (Taimyr Peninsula)
PO Pogranichnyi thrust (Taimyr Peninsula)
TT Taimyr thrust (Taimyr Peninsula)
YI Yana-Indigirka fault (Russian Northeast)








MELANGE ZONES

am Amga melange zone (ePr) (southern part of Russian Far East)
bl Bilyakh melange zone (ePr) (northern part of Russian Far East)
kt Kotuikan melange zone (ePr) (northern part of Russian Far East)
kl Kalar melange zone (ePr) (southern part of Russian Far East)
mg Magan melange zone (ePr) (northern part of Russian Far East)
td Tyrkanda-Dzhugdzhur melange zone (ePr) (southern part of Russian Far East)

TERRANES IN LATE PRECAMBRIAN AND PHANEROZOIC OROGENIC BELTS

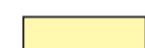







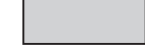
 Cratonic terrane
 Miogeoclinal terrane (passive continental)
 Continental margin turbidite terrane
 Continental margin arc terrane
 Island arc terrane
 Oceanic or ophiolite terrane
 Accretionary wedge terrane A, dominantly turbidites with lesser or no oceanic rocks
 Accretionary wedge terrane B, dominantly oceanic rocks with lesser turbidites
 Flysch (turbidite basin) terrane
 Rift terrane
 Metamorphic terrane (highly-metamorphosed units of uncertain origin)

TERRANES IN LOWER PRECAMBRIAN CRYSTALLINE BASEMENT OF CRATONS

 Granite-greenstone terrane
 Tonalite-trondhjemitic-gneiss terrane
 Enderbite-gneiss terrane
 Carbonate-quartzite-charnockite-granite-gneiss terrane
 Amphibolite-diorite-granodiorite-gneiss terrane
 Quartzite-paragneiss terrane
 Quartzite-carbonate-paragneiss terrane









OVERLAP AND STITCHING ASSEMBLAGES

(Assemblages are shown by hues of yellow and brown according to age; tectonic environments shown by various black symbols. For overlap assemblages with a long age span, the age (color) of the oldest major unit is shown.)



 Cenozoic
 Cretaceous
 Middle and Upper Jurassic, and Neocomian
 Triassic, Early and Middle Jurassic
 Devonian through Permian
 Vendian through Silurian
 Riphean through Permian
 Middle Proterozoic
 Late Archean and Early Proterozoic

FAULTS, CONTACTS, AND OTHER SYMBOLS





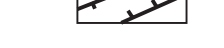
Terrane-Bounding Faults (black)

 Thrust
 Strike-slip fault
 Normal fault
 Fault with unknown sense of displacement
Major Postaccretionary Faults (red)
 Thrust
 Strike-slip fault
 Normal fault
 Fault with unknown sense of displacement




Contacts and Other Symbols

 Stratigraphic or intrusive contact
 Boundary of major sedimentary basin

Other Symbols

 Astrobleme
 Mafic dike
 Kimberlite
 Melange
 Buried rift (aulacogen) and rift units

Magmatic Units

 Ultramafic alkaline rocks and carbonatite
 Alkaline gabbro and syenite
 Volcano, active or recently-extinct

REFERENCES

This map is compiled from the following references.

Nokleberg, W.J., Parfenov, L.M., and Monger, J.W.H., and Baranov, B.V., Byalobzhesky, S.G., Bundtzen, T.K., Feeney, T.D., Fujita, Kazuya, Gordey, S.P., Grantz, Arthur, Khanchuk, A.I., Natal'in, B.A., Natapov, L.M., Norton, I.O., Patton, W.W., Jr., Plafker, George, Scholl, D.W., Sokolov, S.D., Sosunov, G.M., Stone, D.B., Tabor, R.W., Tsukanov, N.V., and Vallier, T.L., 1997, Summary Circum-North Pacific tectono-stratigraphic terrane map: Geological Survey of Canada Open-File 3428, scale 1:10,000,0
Parfenov, L.M., 1984, Continental margins and island arcs of mesozooids in northeast Asia: Nauka, Novosibirsk, 192 p. (in Russian).
Parfenov, L.M., 1991, Tectonics of the Verkhoyansk-Kolyma mesozooids in the context of plate tectonics: Tectonophysics, v. 139, p. 319-342.
Parfenov, L.M. (Editor), 1994, Geodynamic map of Yakutia and adjacent areas, Yakutsk, Geological Department, Committee on Geology, 12 sheets, scale 1:11,500,000.
Parfenov, L.M., Natapov, L.M., Sokolov, S.D., and Tsukanov, N.V., 1993, Terrane analysis and accretion in North-East Asia: The Island arc, v. 2, p. 35-54.

EXPLANATION

PRELIMINARY GEODYNAMICS MAP OF YUKUTIA REGION, EASTERN SIBERIA, RUSSIA

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