

PREPARED IN COLLABORATION WITH  
RUSSIAN ACADEMY OF SCIENCES  
MONGOLIAN ACADEMY OF SCIENCES  
JILIN UNIVERSITY  
KOREAN INSTITUTE OF GEOSCIENCE AND MINERALS  
GEOLOGICAL SURVEY OF JAPAN/AIST

**CONTACTS, FAULTS, AND SYMBOLS**

Sedimentary contact bordering  
metamorphic terranes, fault contact  
between terranes

Active subduction zone

Post-Acretion Faults

Thrust

Normal fault

RB

Symbols

Asterisk

Major caudal

Lake

Metamorphic belt

REFER TO EXPLANATORY PAMPHLETS FOR  
SUMMARY TABLES OF LOOSE DEPOSITS, PLACER  
DISTRICTS, AND METALLOGENIC BELTS.  
REFER TO SHEET 1 FOR LIST OF MAP UNITS.

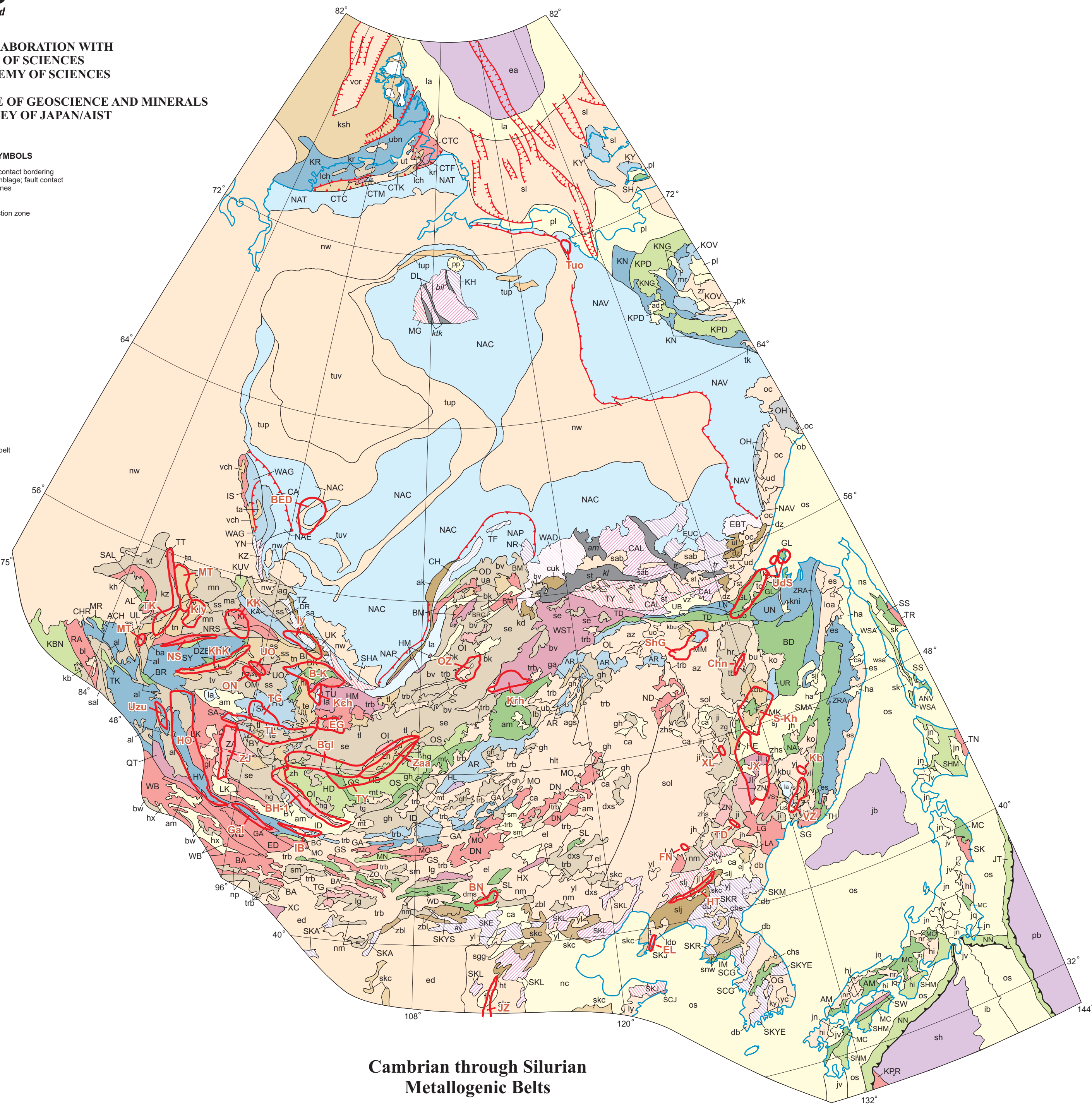
**EXPLANATION**

**TERRANES IN LATE PRECAMBRIAN AND  
PHANEROZOIC OROGENIC BELTS**

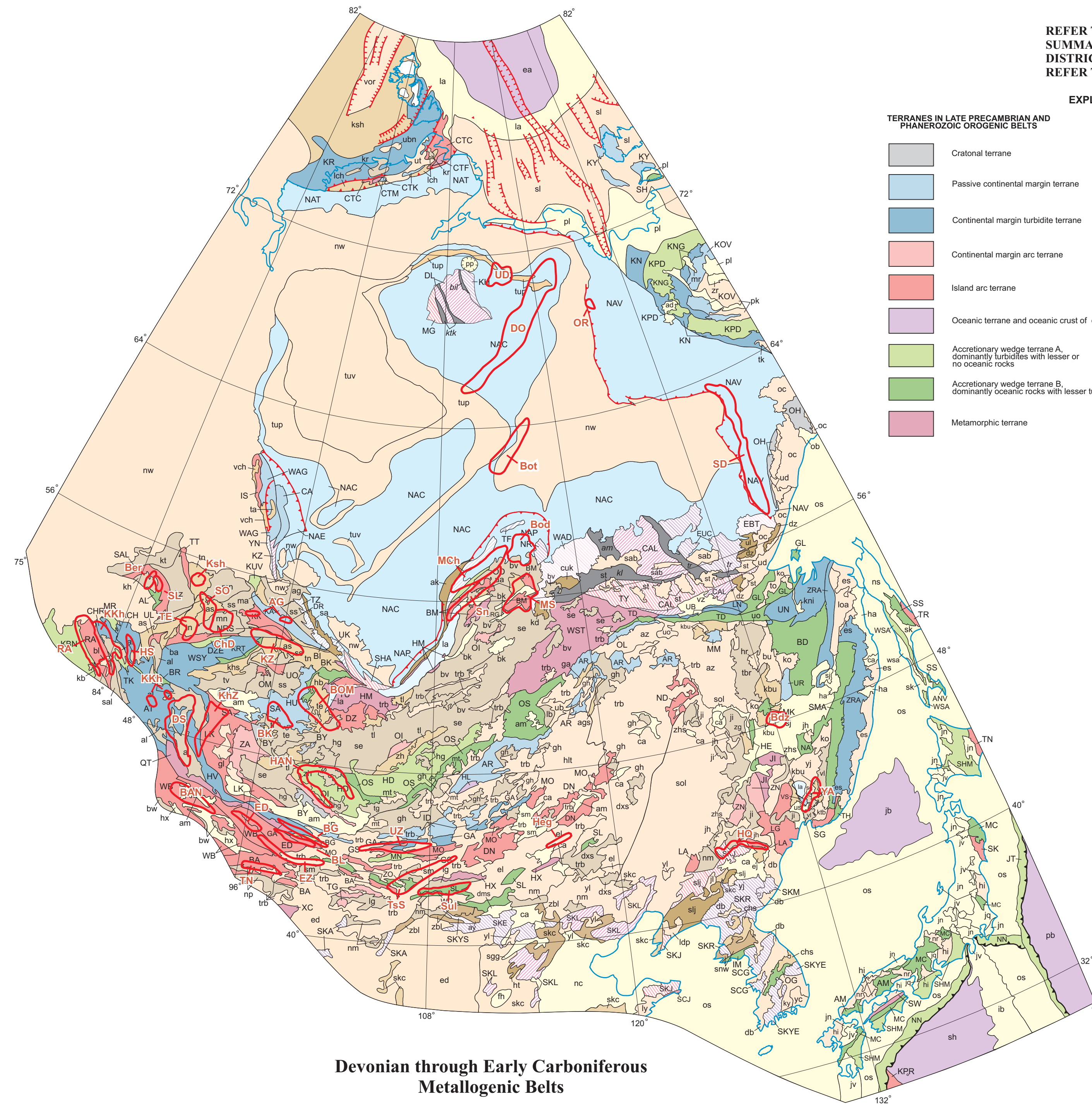
- Continental terrane
- Passive continental margin terrane
- Continental margin turbidite terrane
- Continental margin arc terrane
- Island arc terrane
- Oceanic terrane and oceanic crust of oceans
- Accretionary wedge terrane A,  
dominantly turbidites with lesser or  
no volcanic rocks
- Accretionary wedge terrane B,  
dominantly basaltic rocks with lesser  
turbidites
- Metamorphic terrane

**TERRANES IN EARLY PRECAMBRIAN  
CRATONIC BASINS OF CRATONS AND  
CRATONS WITH MEGACLASTIC OVERLAP**

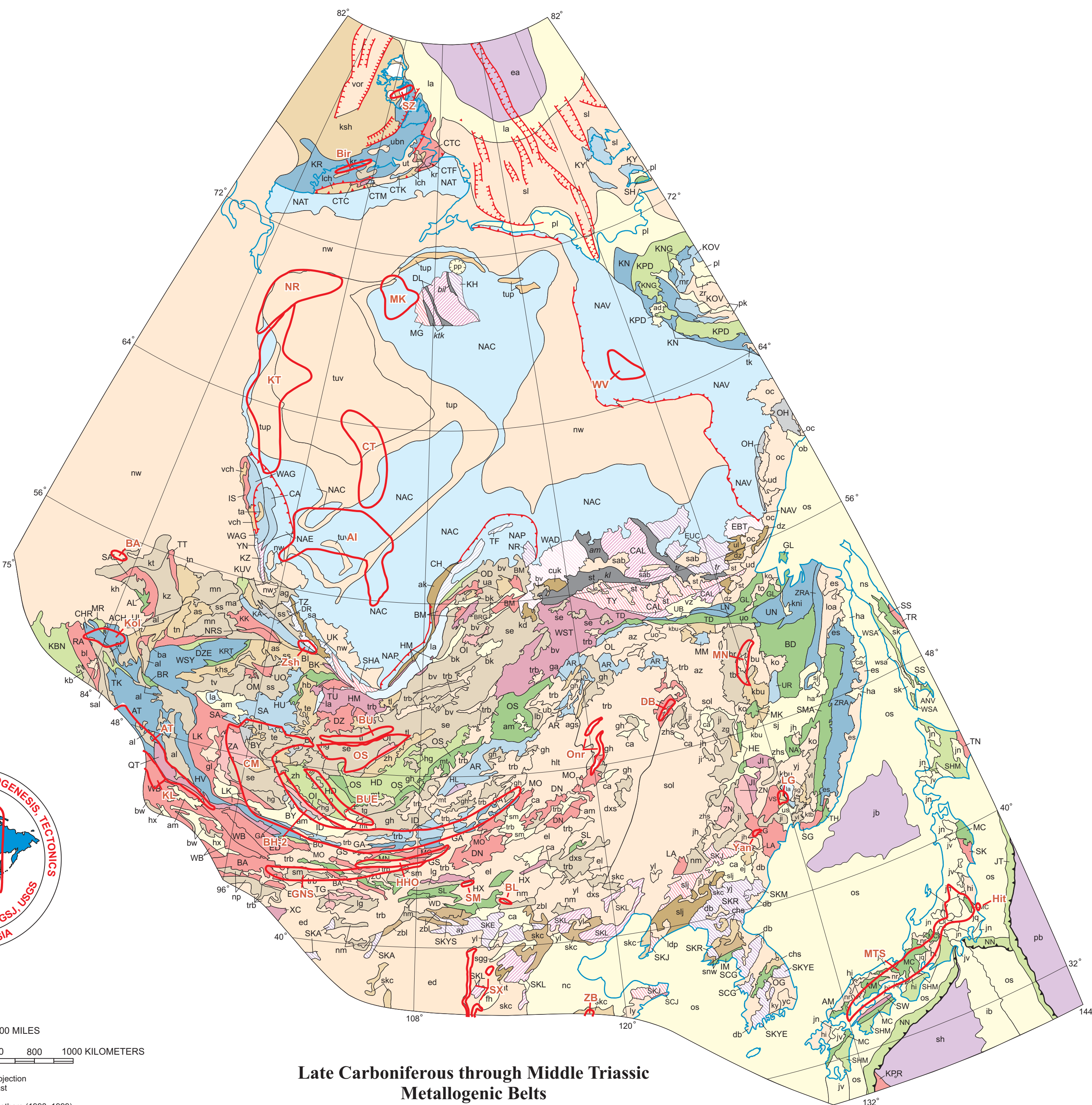
- Granite-greenstone terrane
- Tonalite-trondhjemite-gneiss terrane
- Granulite-orthogneiss terrane
- Granulite-paragneiss terrane
- Paragneiss terrane
- Greenschist terrane
- Craton with megaclastic overlap  
and craton margin
- Major melange zone



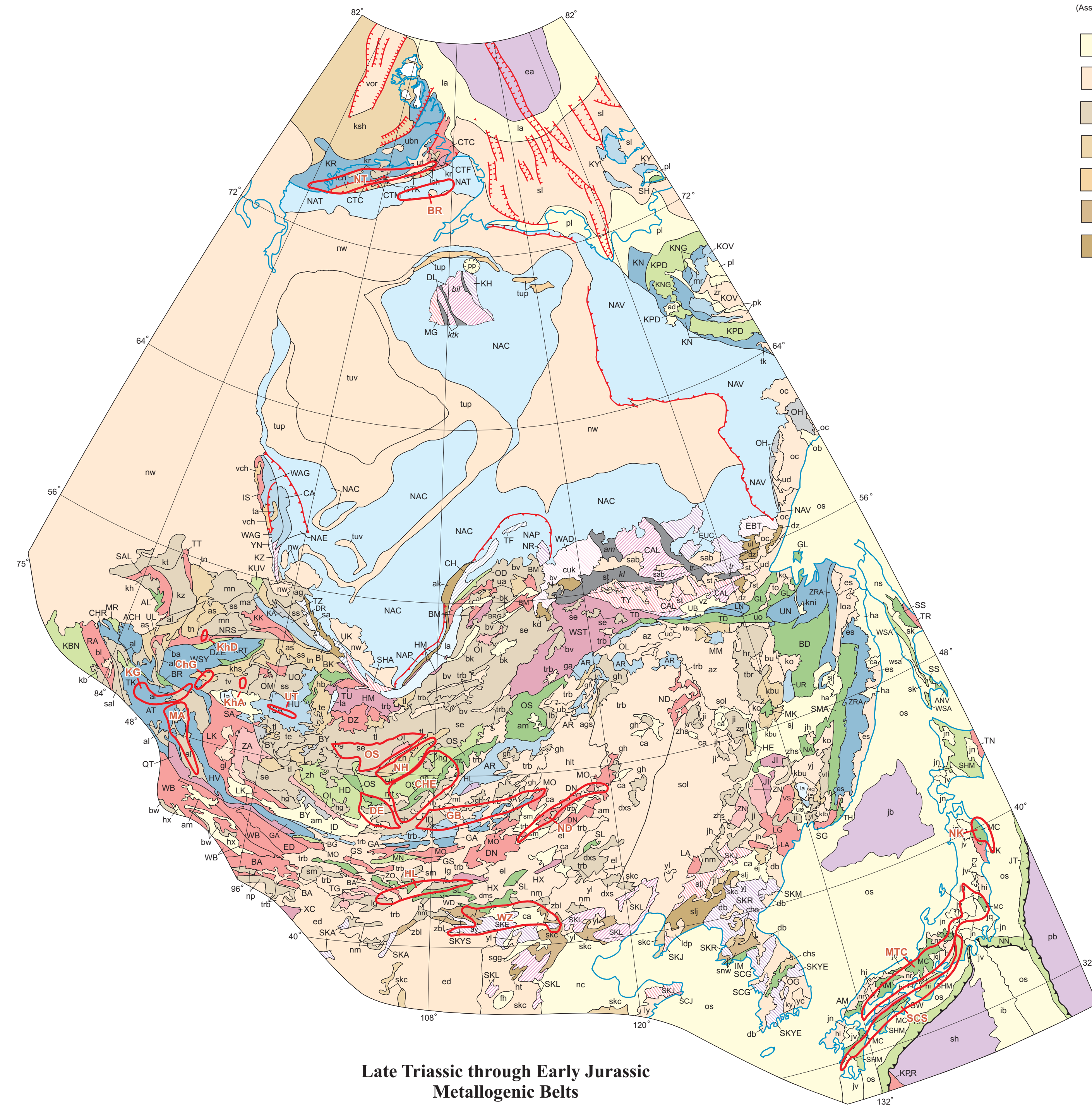
Cambrian through Silurian  
Metallogenic Belts



Devonian through Early Carboniferous  
Metallogenic Belts



Late Carboniferous through Middle Triassic  
Metallogenic Belts



Late Triassic through Early Jurassic  
Metallogenic Belts

**OVERLAP AND STITCH ASSEMBLAGES**  
(Assemblages shown by light lines according to age  
for overlap assemblages with long age span,  
the color of the oldest major unit is shown.)

Cenozoic

Mesozoic (Triassic, Jurassic, and Cretaceous)

Middle and Late Paleozoic (Devonian through Permian)

Early Paleozoic and Early Paleozoic  
(Ordovician through Silurian)

Neoproterozoic through Riphean

Mesoproterozoic

Paleoproterozoic



SCALE: 1:115,000,000

0 500 1000 MILES

0 200 400 600 800 1000 KILOMETERS

Lambert Azimuthal equal-area projection  
Central longitude: 110 degrees East  
Central latitude: 60 degrees North  
Geographic base from Miller and others (1998, 1999)

## METALLOGENIC BELT AND MINERAL DEPOSIT MAPS FOR NORTHEAST ASIA: SHEET 3 - CAMBRIAN THROUGH EARLY JURASSIC METALLOGENIC BELTS

Compiled by Alexander A. Obolenskiy<sup>2</sup>, Sergey M. Rodionov<sup>1</sup>, Gunchin Dejiddmaa<sup>4</sup>, Ochir Gerel<sup>13</sup>, Duk Hwan Hwang<sup>5</sup>, Robert J. Miller<sup>6</sup>,  
Warren J. Nokleberg<sup>7</sup>, Masatsugu Ogasawara<sup>8</sup>, Alexander P. Smelov<sup>9</sup>, Hongquan Yan<sup>10</sup>, and Zhan V. Seminskiy<sup>11</sup>

With compilations on specific regions by Sodov Ariunbileg<sup>1</sup>, Gennadiy V. Biryul'kin<sup>2</sup>, Jamba Byamba<sup>3</sup>, Yury V. Davydov<sup>4</sup>, Elimir G. Distanov<sup>5</sup>,  
Dangindorjin Dorjgotov<sup>6</sup>, Gennadiy N. Gamyaniy<sup>7</sup>, Valeriy Yu. Fridovskiy<sup>8</sup>, Nikolai A. Goryachev<sup>9</sup>, Ayurzana Gotovsuren<sup>10</sup>, Alexander I. Khanchuk<sup>11</sup>,  
Anatoliy P. Kochnev<sup>12</sup>, Alexei V. Kostin<sup>13</sup>, Mikhail I. Kuzmin<sup>14</sup>, Sergey P. Letunov<sup>15</sup>, Xujun Li<sup>16</sup>, Galina D. Malceva<sup>17</sup>, V.D. Melnikov<sup>18</sup>,  
Leonid M. Parfenov<sup>19</sup>, Nikolay V. Popov<sup>20</sup>, Andrei V. Prokopyev<sup>21</sup>, Vladimir Ratkin<sup>22</sup>, Vladimir I. Shpikerman<sup>23</sup>, Vitaliy I. Sotnikov<sup>24</sup>,  
Alexander M. Spiridonov<sup>25</sup>, Valeriy V. Stogniy<sup>26</sup>, Sadahisa Sudo<sup>27</sup>, Fengyue Sun<sup>28</sup>, Jiapeng Sun<sup>29</sup>, Weizhi Sun<sup>30</sup>, Valeriy M. Supletsov<sup>31</sup>, Vladimir F. Timofeev<sup>32</sup>,  
Oleg A. Tyan<sup>33</sup>, Valeriy G. Vetzluzhskikh<sup>34</sup>, Koji Wakita<sup>35</sup>, Aihua Xi<sup>36</sup>, Yakov V. Yakovlev<sup>37</sup>, Vladimir I. Zhizhin<sup>38</sup>, Nikolay N. Zinchuk<sup>39</sup>, and Lydia D. Zorina<sup>40</sup>

Geologic base map is generalized version of Northeast Asia Geodynamics  
Map (Parfenov, and others, 2003).

Specific regions for these maps were compiled by the following persons.

Region or Country	Contributors
Eastern Siberia	Elimir G. Distanov, Alexander A. Obolenskiy, Nikolay V. Popov, Vitaliy I. Sotnikov
Transbaikalia	Anatoliy P. Kochnev, Mikhail I. Kuzmin, Sergey A. Letunov, Galina D. Malceva, Zhan V. Seminskiy, Alexander V. Spiridonov, Lydia M. Zorina
Yakutia	Gennadiy V. Biryul'kin, Yury V. Davydov, Valeriy Yu. Fridovskiy, Gennadiy N. Gamyaniy, Alexei V. Kostin, Valeriy M. Nikitin, Leonid M. Parfenov, Andrei V. Prokopyev, Alexander P. Smelov, Valeriy V. Stogniy, Valeriy M. Supletsov, Vladimir F. Timofeev, Oleg A. Tyan, Valeriy G. Vetzluzhskikh, Yakov V. Yakovlev, Vladimir I. Zhizhin, Nikolay N. Zinchuk
Russia Far East	Alexander I. Khanchuk, Nikolai A. Goryachev, V.D. Melnikov, Vladimir Ratkin, Sergey M. Rodionov, Vladimir I. Shpikerman
Mongolia	Sodov Ariunbileg, Jamba Byamba, Gunchin Dejiddmaa, Dangindorjin Dorjgotov, Ochir Gerel, Ayurzana Gotovsuren
China	Jiang Li, Xujun Li, Fengyue Sun, Aihua Xi, Qianzheng Zhang, Hongquan Yan
South Korea	Duk Hwan Hwang
Japan	Masatsugu Ogasawara, Sadahisa Sudo, Koji Wakita

<sup>1</sup>Russian Academy of Sciences, Khabarovsk  
<sup>2</sup>Russian Academy of Sciences, Novosibirsk  
<sup>3</sup>Mongolian Academy of Sciences, Ulaanbaatar  
<sup>4</sup>Mineral Resources Authority of Mongolia, Ulaanbaatar  
<sup>5</sup>Korean Institute of Geoscience and Mineral Resources, Taejeon  
<sup>6</sup>Russian Academy of Sciences, Vladivostok  
<sup>7</sup>Geological Survey of Japan/AIST, Tsukuba  
<sup>8</sup>U.S. Geological Survey, Menlo Park  
<sup>9</sup>Russian Academy of Sciences, Yakutsk  
<sup>10</sup>Irkutsk State Technical University, Irkutsk  
<sup>11</sup>Jilin University, Changchun  
<sup>12</sup>Yakutian State University, Yakutsk  
<sup>13</sup>Mongolian University of Science and Technology, Ulaanbaatar  
<sup>14</sup>Russian Academy of Sciences, Irkutsk  
<sup>15</sup>Russian Academy of Sciences, Blagoveshchensk  
<sup>16</sup>Ministry of Industry and Commerce, Mongolia  
<sup>17</sup>Russian Academy of Sciences, Magadan  
<sup>18</sup>Mongolian National University, Ulaanbaatar  
<sup>19</sup>ARORSA Joint Company, Mymyi