NORTH POLAR PROJECTION

PACIFIC PLATE

NORTH PACIFIC OCEAN

MARIANA PLATE

PHILIPPINE SEA PLATE

OKHOTSK PLATE

JUAN DE FUCA PLATE

RIVERA PLATE

AMUR PLATE

YANGTZE PLATE

SUNDA PLATE

ARCTIC OCEAN

NORTH AMERICA PLATE

EURASIA PLATE

INDIA PLATE

ARABIA PLATE

NORTH ATLANTIC OCEAN

Mexico
United States
Canada
Greenland
Russia
Mongolia
China
India
Finland
Sweden
Belarus
Poland
Germany
France
Spain
Portugal
Ukraine
Romania
Turkey
Iraq
Egypt
Libya
Algeria
Mali
Niger
Mauritania
Sudan
Central African Republic
Chad
Morocco

Labeled historic earthquakes:
- Northridge 1994 M 6.7
- San Francisco 1906 M ~ 7.9
- Alaska 1964 M 9.2
- Kuril Islands 2006 M 8.3
- Kuril Islands 1994 M 8.3
- Japan 2003 M 8.3
- Kamchatka 1997 M 7.8
- Kamchatka 1952 M 9.0
- Japan 1995 M 6.9
- Taiwan 1999 M 7.7
- Fort Tejon 1857 M ~ 7.9
- Nisqually 2001 M 6.7
- Cascadia 1700 M ~ 9
- Alaska 2002 M 7.9
- Tangshan 1976 M 7.5
- China 2008 M 7.9
- China 1996 M 6.6
- Sumatra 2004 M ~ 9.2
- Mexico 1995 M 8.1
- Guatemala 1976 M 7.5
- Missouri 1812 M ~ 7.3 - 7.7
- Arkansas 1811 M ~ 7.2 - 7.4
- Pakistan 2005 M 7.6
- Iran 1997 M 7.3
- Iran 2003 M 6.6
- Turkey 1999 M 7.6

SOUTH POLAR PROJECTION

NUBIA PLATE

SOUTH ATLANTIC OCEAN

SOUTH AMERICA PLATE

SOMALIA PLATE

SOUTHERN OCEAN

NAZCA PLATE

ANTARCTICA PLATE

AUSTRALIA PLATE

INDIAN OCEAN

SOUTH PACIFIC OCEAN

SANDWICH PLATE

SCOTIA PLATE

JUAN FERNANDEZ PLATE

EASTER PLATE

KERMADEC PLATE

NEW HEBRIDES PLATE

TONGA PLATE

Angola
Namibia
Botswana
Zimbabwe
Zambia
South Africa
Madagascar
Brazil
Paraguay
Argentina
Patagonia
Antarctica
Australia

Labeled historic earthquakes:
- Bolivia 1994 M 8.2
- Chile 1995 M 8.0
- Peru 2007 M 8.0
- Peru 2001 M 8.4
- Chile 1960 M 9.5

LEGEND

⇄ TRANSFORM

↕ PLATE DIVERGENCE

↓ PLATE CONVERGENCE

PLATE BOUNDARY
- Converging
- Diverging
- Transform

EARTHQUAKE MAGNITUDE
4.0 5.0 6.0 7.0 8.0

● Earthquakes magnitude 8.0 - 8.9 from 1900 to 2009
● Historical earthquakes 9.0 and greater from 1700 to 2004

EARTHQUAKE DEPTH
0 KM — -735 KM

GLOBAL BACKGROUND SEISMICITY 1998 - 2009:
POLAR PROJECTION VIEW

NOTABLE HISTORIC EARTHQUAKES

This map shows global earthquakes of magnitude 4.0 and above for the 10-year period of 1998 – 2009. Selected important and interesting historical earthquakes dating back to 1700 are also shown. These events are notable for their magnitude, their societal impact, or their scientific interest. Because earthquake catalogs are generally incomplete below magnitude 5.5 before 2000, it is not possible to show all the earthquakes below this magnitude. Areas with better seismic monitoring instrumentation have more complete catalogs for the magnitude range of 4.0 to 5.5. As a result, there are some areas in which more magnitude 4.0 to 5.5 earthquakes occurred than are seen on this map. For all the earthquakes below magnitude 8, the color of the earthquake indicates the depth of its hypocenter – where the earthquake rupture started. Earthquakes of magnitude 8.0 - 8.9 are shown as purple circles and earthquake of magnitude 9.0 and greater are shown in pink.

Most maps display the Earth in a Mercator or similar projection centered on the Equator. However, these maps display the Earth in a polar projection view. Rotating the view to the poles gives the viewer a non-traditional perspective on the world. In this projection, the ice caps of the Arctic Ocean and the continent of Antarctica are displayed in their true size relative to a regular map projection. It is easier to see how large and unbroken the Antarctica Plate is, and how little seismicity occurs within this large plate. Compare this map with a regular map view to see what other features are more pronounced. For example, in a regular map view the east-west motions of the tectonic plates are highlighted. In this polar projection view, the north-south motions of the tectonic plates are highlighted. In this projection, it is easy to see how the spreading ridge system surrounding the Antarctica Plate is driving convergence to the north, most notably in the Himalayas where the India Plate is colliding with the Eurasia Plate.

Note that the northern boundary of the Eurasia Plate goes through the oceanic crust under the ice cap which covers the North Pole, not through the ice cap itself.