



Projection - Stereographic
Longitude of central meridian - 0 0 0
Latitude of projection center - 90 0 0
View - NORTHPOLE
Latitude of standard parallel - 75 0 0

ABOUT THIS MAP

This digital compilation is an interim product of the U.S. Geological Survey's World Energy Project (WEP) and part of a series published on CD-ROM. The goal of the WEP is to assess the undiscovered, technically recoverable oil and gas resources of the world. Results of this assessment were reported in 2000 (see USGS DDS-60).

This map has been compiled from the Circumpolar Geological Map of the Arctic, by Chouhach A.V., Lopatin B.G., and Jackson H.R., published by the Geological Survey of Canada in 1989, scale 1:5,000,000.

- Data processing steps:
1. The original map was scanned on a large format Ideal scanner in gray-scale mode with a resolution of 200 dpi and transformed to ArcInfo Grid.
 2. The grid from step 1 was transformed to Polar Stereographic projection using a second order polynomial transformation (ArcInfo GRIDWARP utility).
 3. Reference points for transformation were a combination of latitude-longitude intersections taken from the paper map and the same points projected to Polar Stereographic in ArcInfo using the PROJCT utility.
 4. A number of piecewise rubber sheeting transformations were applied to the grid from step 3 using ArcInfo CONTROLPOINTS and ADJUST utilities.
 5. Reference points for transformations were taken from ESRI's shoreline-data layer projected to Polar Stereographic projection.
 6. On-screen digitization was performed using the rectified grid from step 5 as a backdrop in ArcInfo ARCEDIT.
 7. In the geology coverage, geologic attributes were assigned to the AGLI and AGLI GEN items of the Polygon Attribute Table (PAT). Onshore and offshore polygons were attributed separately.
 8. Geologic age attributes of the Canadian portion of this map were compared with those from the Geological Map of Canada CD-ROM (Map D1860A, 1997). As the first step more than 600 unique values from Map D1860A were transformed to the corresponding ages of this map legend and used as a reference in assigning final age values. The geology beneath some ice fields was adopted from the Map D1860A.
 9. The International Bathymetric Chart of the Arctic Ocean (IBCAO) was downloaded from NOAA web site in ArcView shape file format, converted to ArcInfo coverage, and clipped with the geology coverage.
 10. The USGS Geologic Provinces from the USGS DDS-60 publication were projected to Polar Stereographic projection and clipped with the geology coverage.

Shoreline and country boundary coverages used on the map are the property of Environmental System Research Institute, Inc. (ESRI) and are used here with their permission.

EXPLANATION

Sedimentary and Volcanic Rock Age

<p>USGS Geologic Province (DDS-60)</p> <p>Latitude-Longitude Grid</p> <p>Geologic Line Feature (onshore)</p> <p>Detachment Fault</p> <p>Facies Contact</p> <p>Normal Fault</p> <p>Shoreline (source geologic map)</p> <p>Spreading Center</p> <p>Strike-slip fault</p> <p>Thrust Fault</p> <p>Oil and Gas Field Centerpoint (IHS-2001)</p> <p>Gas and condensate</p> <p>Gas and oil</p> <p>Gas, condensate and oil</p> <p>Oil</p> <p>Oil and gas</p> <p>Oil, gas and condensate</p> <p>Bathymetric Contours (IBCAO-201)</p> <p>-5400 - -4000</p> <p>-2999 - -2000</p> <p>-1999 - -1000</p> <p>-999 - -500</p> <p>-499 - -200</p> <p>-199 - 0</p> <p>Shoreline (ESRI's ArcWorld)</p> <p>Ice</p>	<p>Cenozoic</p> <p>Q Quaternary</p> <p>N-Q Neogene and Quaternary</p> <p>N2-Q Neogene to Quaternary</p> <p>N2-Q1 Pliocene to lower Quaternary</p> <p>N1 Pliocene</p> <p>N2 Miocene</p> <p>Pg-N Paleogene and Neogene</p> <p>Pg3-Q Oligocene to Quaternary</p> <p>Pg2-N Oligocene to Miocene</p> <p>Pg1-N Eocene to Neogene</p> <p>Pg2-N Eocene to Miocene</p> <p>Pg Paleogene</p> <p>Pg3 Oligocene</p> <p>Pg23 Eocene and Oligocene</p> <p>Pg2 Eocene</p> <p>Pg12 Paleocene and Eocene</p> <p>Pg1 Paleocene</p>	<p>Mesozoic</p> <p>M Mesozoic</p> <p>K2-Pg Upper Cretaceous and Paleogene</p> <p>K1-Pg Lower Cretaceous to Paleogene</p> <p>K2-Pg1 Upper Cretaceous to Paleocene</p> <p>K1-Pg2 Lower Cretaceous to Paleocene</p> <p>K Cretaceous</p> <p>K2 Upper Cretaceous</p> <p>K1 Lower Cretaceous</p> <p>J-K Jurassic and Cretaceous</p> <p>J-K1 Jurassic to Lower Cretaceous</p> <p>J3-K1 Upper Jurassic to Lower Cretaceous</p> <p>J Jurassic</p> <p>J3 Upper Jurassic</p> <p>J23 Middle and Upper Jurassic</p> <p>J2 Middle Jurassic</p> <p>J12 Lower and Middle Jurassic</p> <p>J1 Lower Jurassic</p> <p>T3-T1 Triassic and Jurassic</p> <p>T3-T1 Triassic to Lower Jurassic</p> <p>T3 Triassic</p> <p>T3 Upper Triassic</p> <p>T23 Middle and Upper Triassic</p> <p>T2 Middle Triassic</p> <p>T12 Lower and Middle Triassic</p> <p>T1 Lower Triassic</p>	<p>Paleozoic</p> <p>Pz-M Paleozoic and Mesozoic</p> <p>Pz-T Triassic to Permian</p> <p>Pz Paleozoic</p> <p>Pz1 Permian to Jurassic</p> <p>Pz-T Permian to Triassic</p> <p>Pz-T1 Upper Permian to Triassic</p> <p>P Permian</p> <p>P2 Upper Permian</p> <p>P1 Lower Permian</p> <p>C-P Carboniferous and Permian</p> <p>Cm2-P1 Upper Carboniferous to Lower Permian</p> <p>Cm1 Carboniferous to Lower Permian</p> <p>C1 Carboniferous to Jurassic</p> <p>Cm1 Carboniferous to Triassic</p> <p>C Carboniferous</p> <p>C2 Upper Carboniferous</p> <p>C1 Lower Carboniferous</p> <p>D-C Devonian and Carboniferous</p> <p>D3-C1 Upper Devonian to Carboniferous</p> <p>D2-C1 Devonian to Lower Carboniferous</p> <p>D Devonian</p> <p>D3 Upper Devonian</p> <p>D23 Middle and Upper Devonian</p> <p>D2 Middle Devonian</p> <p>D12 Lower and Middle Devonian</p> <p>D1 Lower Devonian</p>	<p>Lower Paleozoic - Precambrian</p> <p>Pz-P1 Lower Paleozoic</p> <p>S-D Silurian and Devonian</p> <p>S Silurian</p> <p>S2 Upper Silurian</p> <p>S1 Lower Silurian</p> <p>O-D Ordovician to Devonian</p> <p>O-S Ordovician and Silurian</p> <p>O Ordovician</p> <p>O23 Middle and Upper Ordovician</p> <p>O1 Lower Ordovician</p> <p>Cm-D Cambrian to Devonian</p> <p>Cm-S Cambrian to Silurian</p> <p>Cm-C Cambrian and Ordovician</p> <p>Cm Cambrian</p> <p>Cm3 Upper Cambrian</p> <p>Cm23 Middle and Upper Cambrian</p> <p>Cm2 Middle Cambrian</p> <p>Cm12 Lower and Middle Cambrian</p> <p>Cm1 Lower Cambrian</p> <p>Pz-Pz1 Proterozoic to lower Paleozoic</p> <p>Pz3-Pz1 Upper Proterozoic to lower Paleozoic</p> <p>Pz3-S Proterozoic to Silurian</p> <p>Pz-Cm Proterozoic to Cambrian</p> <p>Pz3-Cm1 Upper Proterozoic to Cambrian</p> <p>Pz3-Cm2 Middle and Upper Proterozoic to Cambrian</p> <p>Pz Proterozoic</p> <p>Pz3 Upper Proterozoic</p> <p>Pz23 Middle and Upper Proterozoic</p> <p>Pz2 Middle Proterozoic</p> <p>Pz12 Lower and Middle Proterozoic</p> <p>Pz11 Lower Proterozoic</p> <p>Ar-Pz Archaean and Proterozoic</p> <p>Ar-Pz1 Archaean and Lower Proterozoic</p> <p>Ar Archaean</p>	<p>Intrusive Rock Age</p> <p>Cz Cenozoic</p> <p>Mz Mesozoic</p> <p>Pz Paleozoic</p> <p>Ar Archaean</p> <p>Intrusive Rock Composition</p> <p>alkaline</p> <p>basic</p> <p>diorite</p> <p>granite</p> <p>granodiorite</p> <p>syensogranite</p> <p>ultramafic</p> <p>Volcanic Rock</p>
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Circumpolar Geologic Map of the Arctic (onshore)