



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 Okulitch A.V., Logvin B.G., and Jackson H.R., published by the Geological Survey of Canada in 1989, scale 1:8,000,000.  
Data processing steps:  
1. The original map was scanned on a large format Ideal scanner in gray-scale mode with resolution of 200 dpi and transferred 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 PROJECT 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 transformation 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 ARCADE.  
7. In the geology coverage, the geologic attributes were assigned to the AGE and AGE\_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.  
9. The USGS Geologic Provinces from the USGS DDS-60 publication were projected to Polar Stereographic projection and clipped by the geology coverage.  
Shoreline and country boundary coverages used on the map are the property of Environmental Systems Research Institute, Inc. (ESRI) and are used here with their permission.

## EXPLANATION

### Sedimentary and Volcanic Rock Age

Cenozoic		Mesozoic		Paleozoic		Lower Paleozoic - Precambrian		Intrusive Rock Age		Intrusive Rock Composition		Volcanic Rock	
Q	Quaternary	M	Mesozoic	Pp	Paleozoic and Mesozoic	Pp1	Lower Paleozoic	Cz	Cenozoic	alkaline			
NQ	Neogene and Quaternary	K2-P	Upper Cretaceous and Paleogene	Pp2-P	Upper Paleozoic to Triassic	S-D	Silurian and Devonian	Mz	Mesozoic	basaltic			
N2-Q1	Pliocene to Quaternary	K1-P1	Lower Cretaceous to Paleogene	P2	Paleozoic	S	Silurian	Pz	Paleozoic	diorite			
N2-Q1	Pliocene to lower Quaternary	K2-P2	Upper Cretaceous to Paleogene	P3	Permian to Jurassic	S2	Upper Silurian	Pr	Proterozoic	granodiorite			
N	Neogene	K1-P1	Lower Cretaceous to Paleogene	P-T	Permian to Triassic	S1	Lower Silurian	Ar	Achean	granite			
N1	Neogene	K	Cretaceous	P2-T	Upper Permian to Triassic	Od	Ordovician to Devonian			syenogranite			
N1	Miocene	K2	Upper Cretaceous	P	Permian	Od-S	Ordovician and Silurian			ultramafic			
Pg-N	Paleogene and Neogene	K1	Lower Cretaceous	P1	Upper Permian	O	Ordovician						
Pg3-Q	Oligocene to Quaternary	J,K	Jurassic and Cretaceous	P1	Lower Permian	O23	Middle and Upper Ordovician						
Pg3-M	Oligocene to Miocene	J,K1	Jurassic to Lower Cretaceous	C-P	Carboniferous and Permian	O1	Lower Ordovician						
Pg2-N	Eocene to Neogene	J,K2	Upper Jurassic to Lower Cretaceous	C-P1	Upper Carboniferous to Lower Permian	Cm-D	Cambrian to Devonian						
Pg2-N	Eocene to Miocene	J	Jurassic	C-P1	Carboniferous to Lower Permian	Cm-S	Cambrian to Silurian						
Pg	Paleogene	J1	Upper Jurassic	C-P1	Carboniferous to Jurassic	Cm-O	Cambrian and Ordovician						
Pg3	Oligocene	J23	Middle and Upper Jurassic	C-T	Carboniferous to Triassic	Cm	Cambrian						
Pg23	Eocene and Oligocene	J2	Middle Jurassic	C	Carboniferous	Cm3	Upper Cambrian						
Pg2	Eocene	J12	Lower and Middle Jurassic	C2	Upper Carboniferous	Cm23	Middle and Upper Cambrian						
Pg12	Paleocene and Eocene	J1	Lower Jurassic	C1	Lower Carboniferous	Cm2	Middle Cambrian						
Pg1	Paleocene	J123	Triassic and Jurassic	D4	Devonian and Carboniferous	Cm1	Lower and Middle Cambrian						
		J234	Upper Jurassic to Lower Jurassic	D3C	Upper Devonian to Carboniferous	Cm1	Lower Cambrian						
		T	Triassic	D4C1	Devonian to Lower Carboniferous	Pp-P1	Proterozoic to lower Paleozoic						
		T3	Upper Triassic	D4	Devonian to Lower Carboniferous	P1-P2	Upper Proterozoic to lower Paleozoic						
		T23	Middle and Upper Triassic	D1	Upper Devonian	P1-S	Upper Proterozoic to Silurian						
		T2	Middle Triassic	D23	Middle and Upper Devonian	P1-Cm	Proterozoic to Cambrian						
		T12	Lower and Middle Triassic	D2	Middle Devonian	P1-Cm	Upper Proterozoic to Cambrian						
		T11	Lower Triassic	D12	Lower and Middle Devonian	P23-Cm	Middle and Upper Proterozoic to Cambrian						
				D1	Lower Devonian	P1	Proterozoic						
						P3	Upper Proterozoic						
						P23	Middle and Upper Proterozoic						
						P2	Middle Proterozoic						
						P12	Lower and Middle Proterozoic						
						P11	Lower Proterozoic						
						Ar-P	Archean and Proterozoic						
						Ar-P1	Archean and Lower Proterozoic						
						Ar	Archean						



# Circumpolar Geologic Map of the Arctic

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