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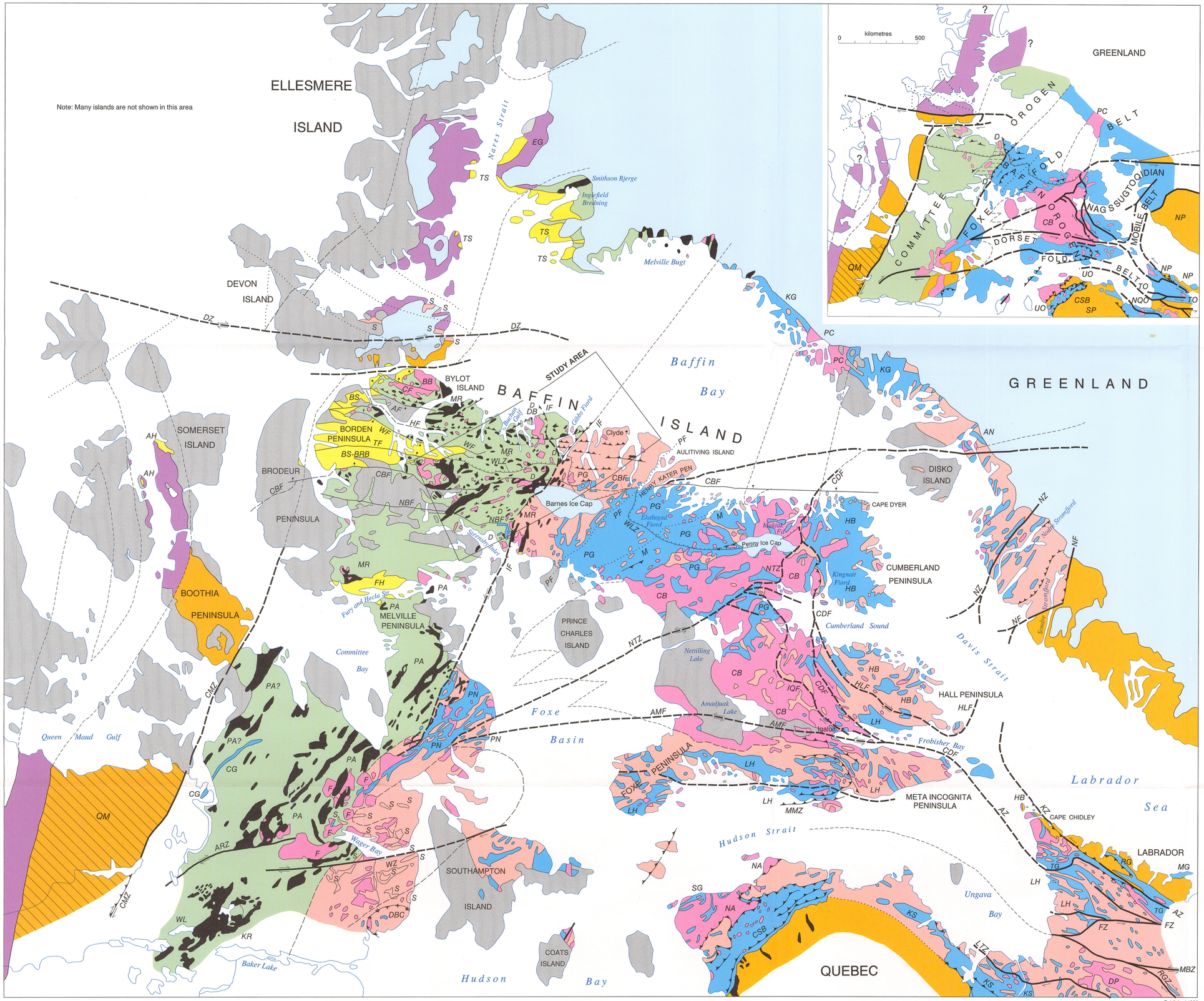
Note: Many islands are not shown in this area



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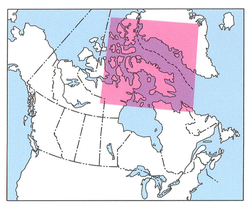

LOCATION MAP

Figure 114. Relationships of major lithological and tectonic terranes and fault and shear zones, vicinity of Baffin Island. The positions of Greenland, Ellesmere and Devon islands relative to the rest of Canada are modified largely from Le Pichon et al. (1977)

LEGEND

PHANEROZOIC

Mostly Early Paleozoic sedimentary rocks; Cretaceous-Eocene sedimentary rocks on Bylot Island, with Paleocene tholeiitic basalt in Cape Dyer area

NEOHELIKIAN

Mostly rift-related sedimentary rocks, minor tholeiitic basalt (ca. 1.27 Ga)

MIDDLE TO LATE APHEBIAN

Dexterity Granulite Belt (D; 1.825 Ga) (shown by hatching on inset only): Reworked Archean rocks; minor middle Aphebian metamorphosed supracrustals e.g. (Piling Group), middle-late Aphebian granitic intrusions

Granite-tonalite, charnockite-enderbite plutons (most 1.9-1.82 Ga)

Thelon Tectonic Zone: Reworked Archean rocks, metamorphosed supracrustal rocks of uncertain age but likely Aphebian, 2.0-1.9 Ga granitic and charnockitic plutons

Metamorphosed supracrustal sequences (mostly 2.16-1.8 Ga), derived gneisses and related fold and thrust belts: commonly a basal quartzite-marble platform sequence is overlain by thick sandstone-shale basinal turbidites and mafic-ultramafic flows and intrusions in varying proportions; local iron-formation; minor undivided Archean rocks, Aphebian intrusions

ARCHEAN AND APHEBIAN

Undivided: mostly Archean, some mostly Aphebian; varied Aphebian reworking; S= metasedimentary rocks

ARCHEAN

Late Archean metamorphosed greenstone sequences (mostly 2.76-2.72 Ga): mafic to ultramafic volcanics and intrusions including komatiite, felsic volcanics, greywacke-pelite (includes turbidite); fuchsitic quartzite, iron-formation; minor anorthosite, conglomerate

Committee Orogen (2.9-2.7 Ga): Granite-greenstone terrane, includes greenstone sequences of above unit and minor sequences as old as 2.9 Ga, granite-tonalite plutons and gneisses of similar ages; some rocks with a crustal component at least as old as 3.7 Ga; minor Aphebian granitic intrusions and metasediments; variably reworked in the Aphebian

Undivided (3.8-2.5 Ga): Similar to Archean rocks in above two units, rocks as old as 3.8 Ga in Nain Province (NP), local components as old as 3.5 Ga in northeast Superior Province (SP), crustal components at least as old as 3.6 Ga in Queen Maud Block (QM); limited Aphebian reworking, mostly marginal to Aphebian orogens (see inset figure)

Ice

Geological boundary (defined-approximate, assumed).

Helikian-Cenozoic fault zone (observed, inferred); dot indicates down dropped side

MIDDLE TO LATE APHEBIAN MAJOR STRUCTURES

Middle to Late Aphebian fault or shear zone (observed, inferred); arrows indicate relative movement.

Thrust fault (observed, inferred); teeth in direction of dip

Western limit of Northeast Baffin Thrust Belt (1.81? Ga)

Tectonic boundary, nature uncertain.

FAULT AND SHEAR ZONES

AF Aktineq Fault Zone
AMF Amadjuak Fault Zone
ARZ Amer Shear Zone
AZ Ablociak Shear Zone
CBF Central Borden Fault Zone
CDF Cumberland Fault Zone
CF Cape Hay Fault Zone
CMZ Chantrey Mylonite Zone
DZ Devon Shear Zone
FZ Falcoz Shear Zone
HF Hartz Mountain Fault Zone
HLF Hall Fault Zone
IF Isortoq Fault Zone
IQF Iqaluit Fault Zone
KZ Kormaktovik Shear Zone
LTZ Lac Tudor Shear Zone
MBZ Moonbase Shear Zone
MMZ Mina Mylonite Zone
NF Nagssugtoqidian Front (thrust)
NBF Nina Bang Fault Zone
NTZ Nettilling Shear Zone
NZ Nordre Stromfjord Shear Zone
PF Piling Fault Zone
RGZ Rivière George Shear Zone
TF Tikerakdjuak Fault Zone
WBF White Bay Fault Zone
WLZ Western limit, Northeast Baffin Thrust Belt
WZ Wager Bay Shear Zone

ROCK ASSEMBLAGES

AH Aston and Hunting formations
AN Anáp Nuna Group
BB Bylot Batholith
BS-BRB Bylot Supergroup-in Borden Rift Basin
CB Cumberland Batholith
CG Chantrey Group
CSB Cape Smith Belt
D Dexterity Granulite Belt
DB Dexterity Batholith
DBC Daly Bay Complex
DP De Pas Batholith
EG Etah Group
F Ford Lake plutons
FH Fury and Hecla Group
HB Hoare Bay Group
KG Karrat Group
KR Ketyet River Group
KS Kaniapiskau Supergroup
LHG Lake Harbour Group
MG Mugford Group
MR Mary River Group
NA Narsajuaq Arc
NP* Nain Province
NQO* New Quebec Orogen
PA Prince Albert Group
PC Proven Charnockite
PG Piling Group
PN Penrhyn Group
QM Queen Maud Block
RG Ramah Group
SG Sugluk Group
SP* Superior Province
TG Tasiuak Gneiss
TO* Torngat Orogen
TS Thule Supergroup
UO* Ungava Orogen Group
WLG Woodburn Lake Group

* Shown only on inset

Geological and geochronological data are derived chiefly from: Heywood (1961, 1967, 1974), Jackson (1966b, 1978a, b), Blackadar (1967b, 1970), Escher (1971, 1985c), Jackson and Taylor (1972), Jackson and Davidson (1975), Jackson et al. (1975, 1978b, c, d, 1990a, b), Heywood and Sandford (1976), Jackson and Morgan (1978a, b), Schau (1978, 1982), Korstgaard (1979), Dawes and Frisch (1981), Jackson and Iannelli (1981), Frisch (1982, 1988), Frisch and Dawes (1982), Morgan (1982,1983), Ciesielski (1983), Henderson (1983, 1985a, b), Schau and Heywood (1984), Henderson et al. (1986), Kalsbeek (1986), Schau and Beckett (1986), Taylor (1986), Jackson and Sangster (1987), Kalsbeek et al. (1987), Korstgaard et al. (1987), LeCheminant et al. (1987), Ashton (1988), Chandler (1988), Frisch and Hunt (1988, 1993), Gordon (1988), Annesley (1989), Ermanovics et al. (1989), Parrish (1989), Schau and Digel (1989), St-Onge and Lucas (1990, 1992), Wardle et al. (1990), Bridgewater and Schiotte (1991), Dudas et al. (1991), Frisch and Sandeman (1991), LeCheminant and Roddick (1991), Lucas and St-Onge (1991), J.R. Henderson and R.R. Parrish (abstract presented at GSC Current Activities Forum, Ottawa, Ont., Jan. 1992), Frisch and Parrish (1992), Henderson and Parrish (1992), Roddick et al. (1992), Van Kranendonk et al. (1993, 1994), Henderson and Henderson (1994), Scott and Machado (1994), Bethune and Scammell (1995), Scammell and Bethune (1995a, b), Scott (1995, 1996), Scott and Godin (1995), Hanmer et al. (1996), James et al. (1996), Kalsabeek and Nutman (1996), St-Onge et al. (1996a, b), Ermanovics and Van Kranendonk (1998).

Geology compilation by G.D. Jackson 1995, Geological Survey of Canada

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Base map digitized and modified by the Geoscience Information Division

Any revisions or additional geological information known to the user would be welcomed by the Geological Survey of Canada