UNCLOS AND BATHYMETRY IN THE ARCTIC OCEAN

GEORGE B. NEWTON

10 JULY 2007
HOW WELL ARE THE OCEANS CHARTED

• 70% of the earth’s surface is ocean
• 10% of the world’s oceans are < 500 meters deep
• Thus, > 60% of the earth’s surface is DEEP ocean
• Estimates are that between 1% and 10% of the world ocean’s bottom have ever been directly measured (for public release)*

*Monahan (GEBCO) 2007
ARCTIC BATHYMETRY

• Primarily submarine data
  – 1957-1997 (so far)
  – Approximately 300,000 (track) miles
  – Some multi-beam (1998 & 1999) ~21,000 nm
• Less quantity and quality of data in the Arctic Ocean than in temperate waters
• GEBCO Chart of the Arctic is pretty and appears convincing but……
THE ARCTIC OCEAN


THE ARCTIC OCEAN WITHOUT ANY LINES DRAWN ON IT
UNCLOS IMPACT

• Article 76 interest
  – Estimated ~25% of the world’s undiscovered fossil fuel reserves are in the Arctic

• Lots of bathymetry (and seismic) data required
  – One may find an Arctic ridge belongs to their continent, but…
  – The devil is in the (data) details
  – 10-year window for claim submission

• Access to the ocean bottom is vital
• UNCLOS may inhibit international ocean research
  – Total water column, bottom and sub-bottom (EEZ)
  – Bottom & sub-bottom (ECS)
THE ARCTIC OCEAN
AFTER ALL THE CLAIMS ARE IN:
(ESTIMATED)

R MacNab, 2004
ARCTIC ACCESS ALSO MEANS OTHER IMPACTS EMERGE FROM & THROUGH UNCLOS

- More maritime hazards
  - Research moorings
  - Other unknowns (e.g., oil drilling, AUVs, seamounts)
- Notices to mariners
- Ice forecasting critical
  - Needs will grow with activity
  - Near real time information will be critical
- Safety and Casualty response
  - Emergency liaison centralized
- National rules for (mainly) ice covered areas (Article 234)
- There is a lot to do!