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## Emerging Patterns in Arctic Ship Traffic

In terms of weight, marine commerce accounts for roughly 80% of the total US international trade. Marine commerce is expanding and evolving, and my proposed research may offer insight, useful for the maritime community, amongst others, into new and different ways in which they can evolve.

The Northwest Passage has always been a much sought after route by explorers, and with the recent opening of the Northwest Passage, and the opening of the Northern Sea Route in 2005, eyes have begun to look north once again for potential shipping routes to reduce voyage duration. Using the Ship Traffic Energy and Environment Model and GIS, I am proposing to produce a geo-spatial representation of potential ship routes between various ports. Within the scope of my research I hope to take into consideration bathymetric concerns as well as ice thickness issues. Secondary considerations to be addressed are the relationship of bathymetry to vessel architecture, economic impacts to ports, environmental issues, and legal issues regarding the status of the Northwest Passage as either Canadian Internal Waters or an international strait. The work to develop the potential vessel routes between ports will have many future applications.