

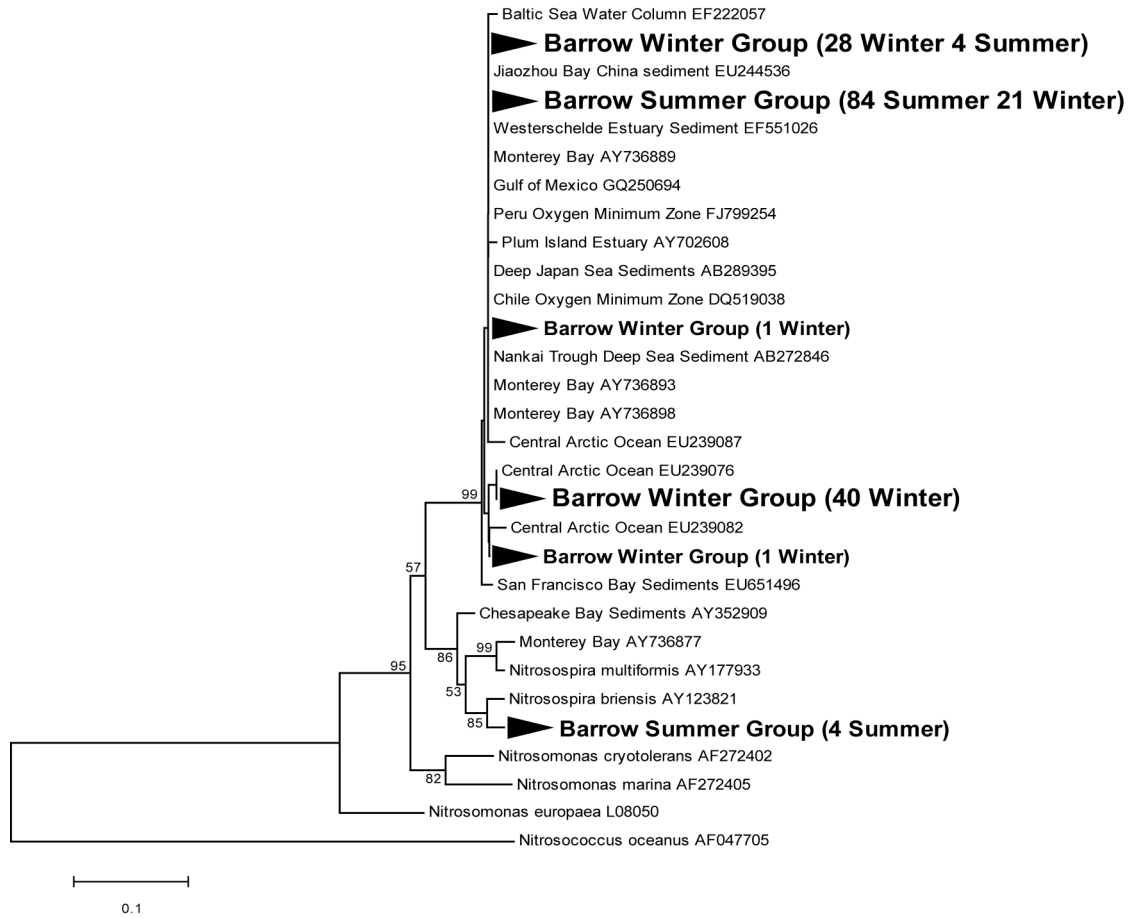
**Abundance, Diversity, and Activity of Ammonia-Oxidizing Prokaryotes in the Coastal  
Arctic Ocean in Summer and Winter**

**Supplementary Material**

Supplementary Figure 1. Neighbor joining phylogenetic tree of betaproteobacterial *amoA* for amino acid sequences.

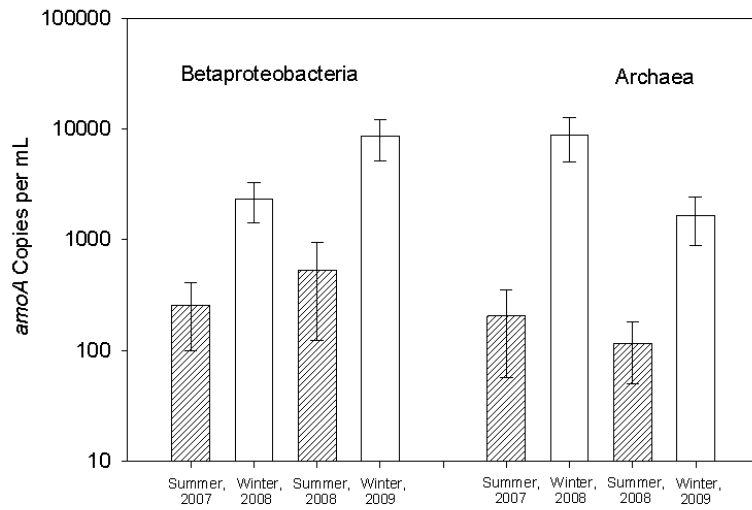
Supplementary Figure 2. Gene copies of *amoA* per ml of seawater for betaproteobacteria and archaea.

Supplementary Table 1. Sample locations, dates, and times



Supplementary Figure 1. Neighbor joining phylogenetic tree of betaproteobacterial *amoA*. The phylogeny is based on amino acid sequences. Bootstrap values lower than 50% are omitted. Genbank accession numbers are shown for sequences from other studies.

Supplementary Figure 2



Supplementary Figure 2. Gene copies of *amoA* per ml of seawater for betaproteobacteria and archaea. Error bars are standard deviations of replicate qPCR measurements for each season.

## SUPPLEMENTARY MATERIAL

Supplementary Table 1. Sample locations, dates, and times. Locations refer to coastal Arctic Ocean sites on the Chukchi (Chuk) or Beaufort Sea (Beau) side of Barrow Point.

| <u>Expedition</u> | <u>Site</u> | <u>Location</u> | <u>Latitude (N)</u> | <u>Longitude (W)</u> | <u>Date</u> | <u>Local Time</u> |
|-------------------|-------------|-----------------|---------------------|----------------------|-------------|-------------------|
| Summer, 2007      | Chuk 1      | Chukchi         | 71°25.360'          | 156°51.648'          | 7/11/07     | 8:12              |
|                   | Chuk 2      | Chukchi         | 71°23.080'          | 156°48.718'          | 7/11/07     | 9:06              |
|                   | Beau 1      | Beaufort        | 71°26.870'          | 156° 3.380'          | 7/13/07     | 8:48              |
|                   | Beau 2      | Beaufort        | 71°23.450'          | 156° 9.054'          | 7/13/07     | 9:22              |
| Winter, 2008      | Chuk 3      | Chukchi         | 71°21.165'          | 156°40.992'          | 1/26/08     | 13:30             |
|                   | Chuk 4      | Chukchi         | 71°21.165'          | 156°40.992'          | 1/28/08     | 14:46             |
|                   | Chuk 5      | Chukchi         | 71°21.165'          | 156°40.992'          | 1/30/08     | 15:14             |
| Summer, 2008      | Beau 3      | Beaufort        | 71° 24.338'         | 156° 8.026'          | 8/2/08      | 15:01             |
|                   | Beau 4      | Beaufort        | 71° 23.491'         | 156° 9.010'          | 8/2/08      | 15:47             |
|                   | Chuk 6      | Chukchi         | 71° 22.447'         | 156° 45.306'         | 8/4/08      | 13:44             |
|                   | Chuk 7      | Chukchi         | 71° 21.158'         | 156° 40.962'         | 8/4/08      | 16:23             |
|                   | Beau 5      | Beaufort        | 71° 26.900'         | 156° 3.300'          | 8/8/08      | 11:23             |
|                   | Beau 6      | Beaufort        | 71° 23.500'         | 156° 9.050'          | 8/8/08      | 11:55             |
| Winter, 2009      | Chuk 8      | Chukchi         | 71° 21.693'         | 156° 38.125'         | 1/9/09      | 11:50             |
|                   | Beau 7      | Beaufort        | 71° 21.831'         | 156° 15.396'         | 1/12/09     | 12:25             |
|                   | Beau 8      | Beaufort        | 71° 21.827'         | 156° 15.389'         | 1/13/09     | 12:56             |
|                   | Beau 9      | Beaufort        | 71° 21.827'         | 156° 15.389'         | 1/14/09     | 12:00             |