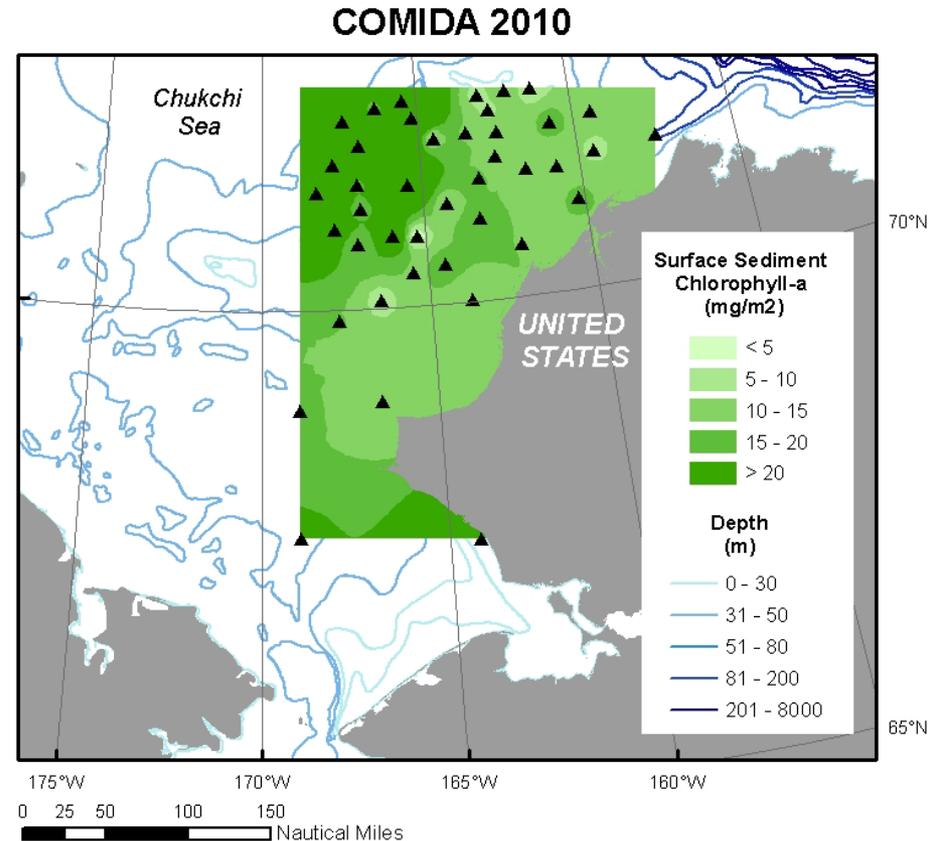
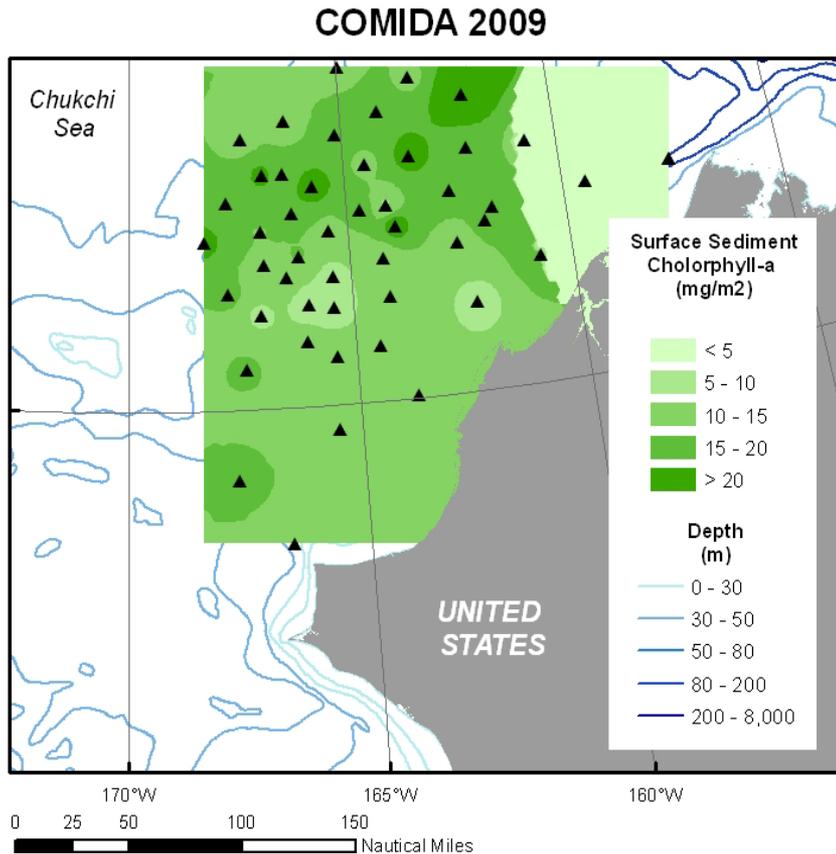


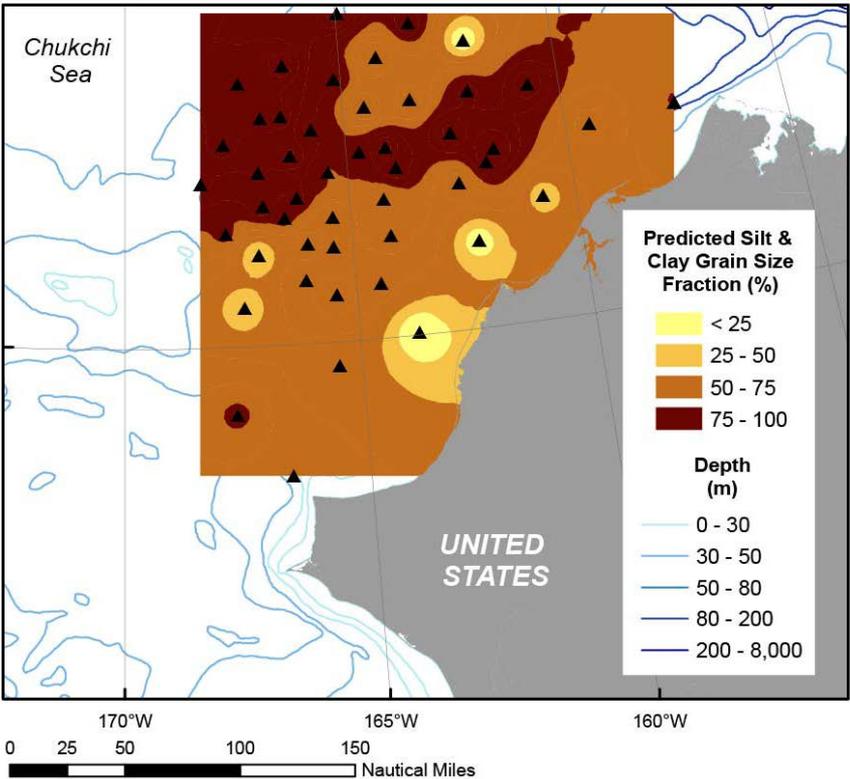
Sediments of the Chukchi Sea are good indicators of export production of phytoplankton to the underlying sediments



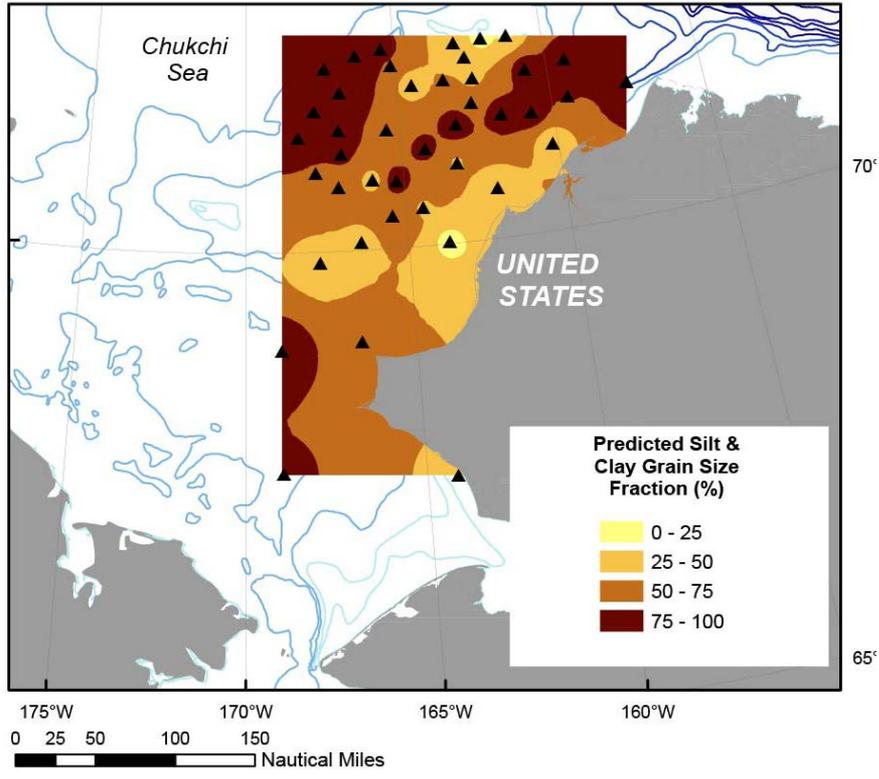
- Spatial distribution of surface sediment chlorophyll a (chl a) during COMIDA09 and COMIDA10

Regions of high silt and clay content in sediments of the Chukchi Sea indicate regions of low current speed and higher potential for carbon deposition to benthos

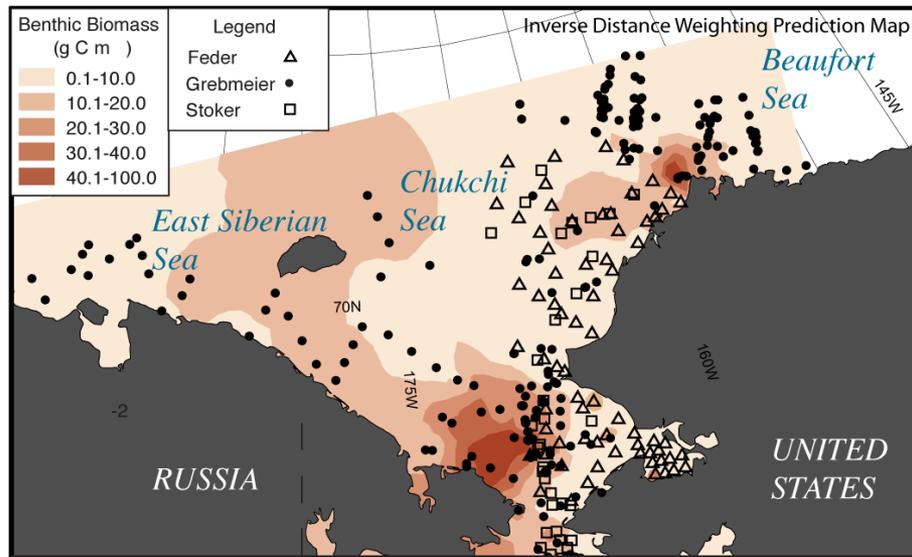
COMIDA 2009



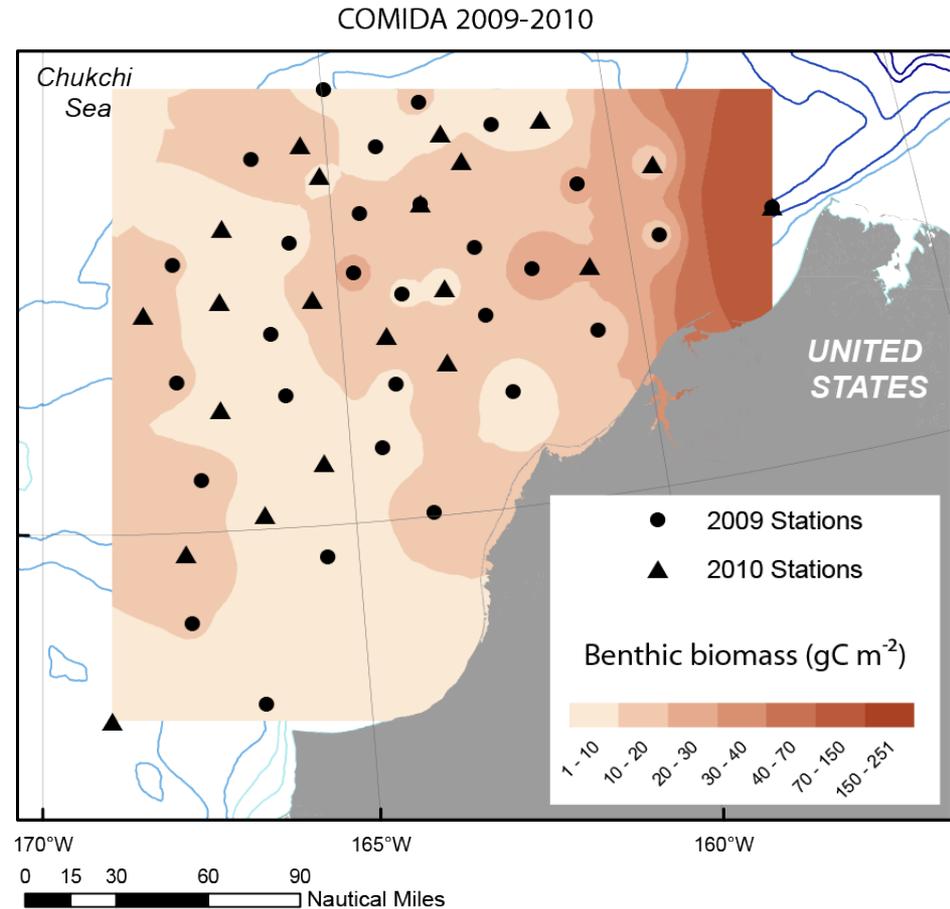
COMIDA 2010



Benthic infaunal biomass in the Chukchi Sea

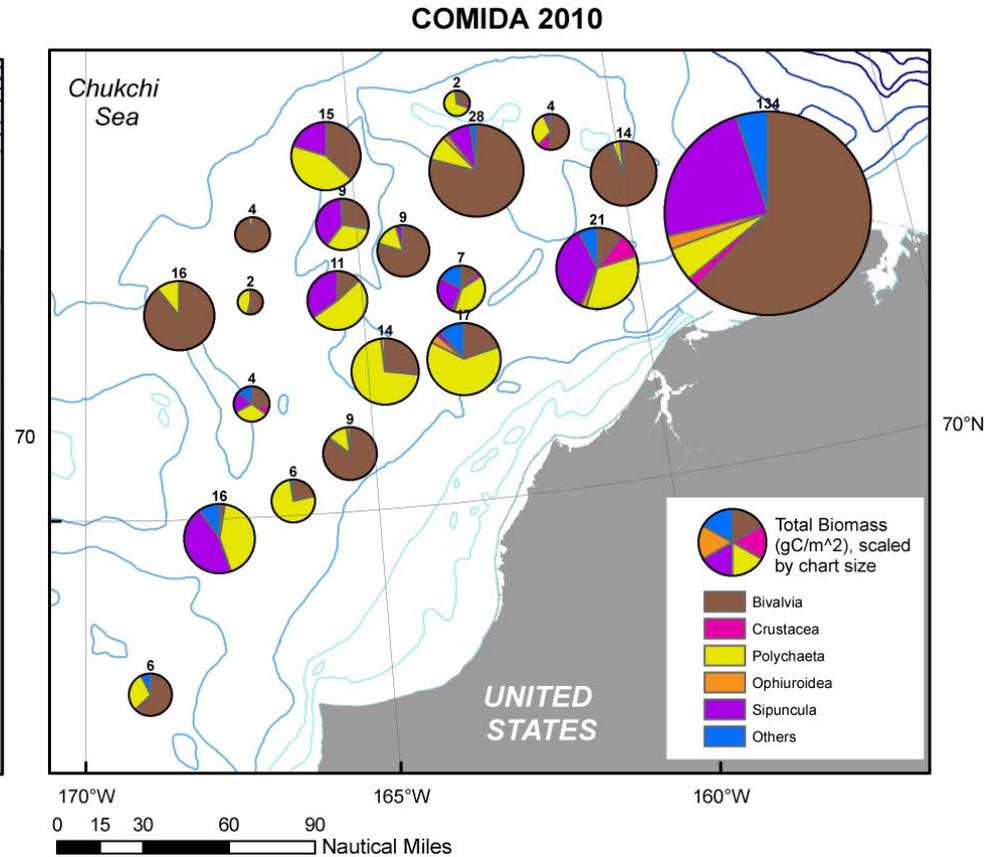
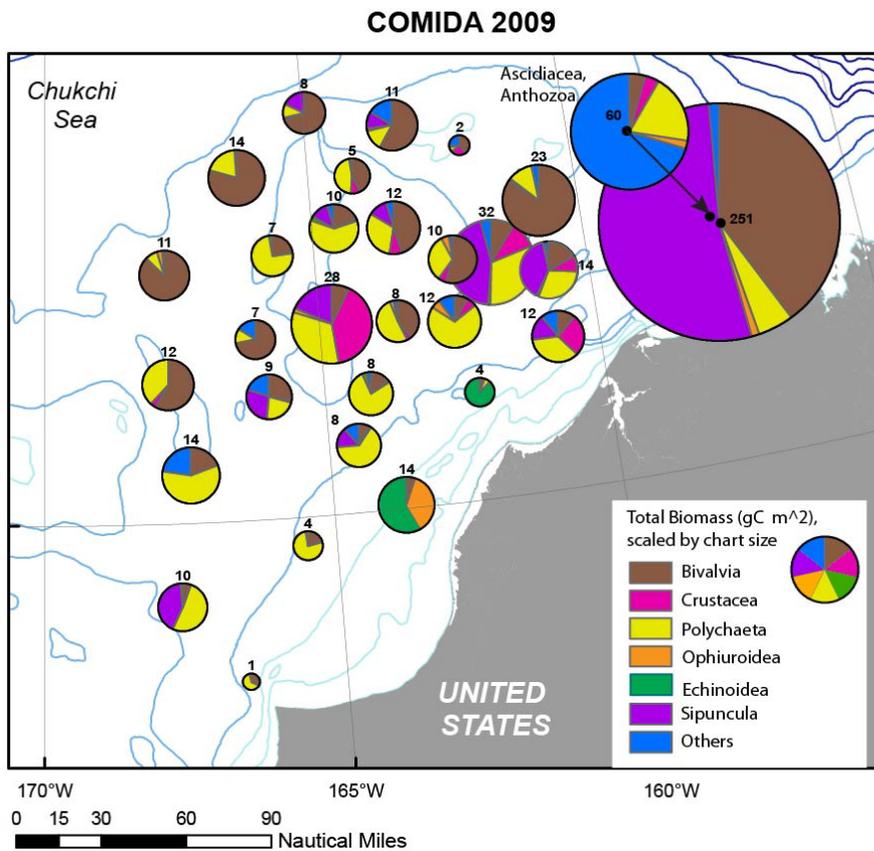


[updated from Grebmeier et al. 2006]



- High export flux in the northeastern Chukchi Sea related to input of carbon-rich waters originating in high water column productivity regions in the SE Chukchi Sea and carried northward via Anadyr water
- Also seasonal high productivity zone at head of Barrow Canyon

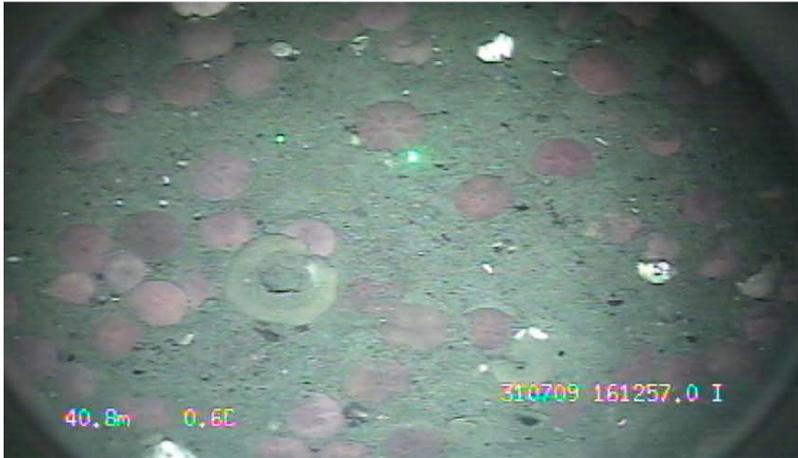
Benthic macroinfaunal biomass (gC m⁻²) dominated by bivalves, polychaetes and sipunculids



- Benthic macroinfaunal biomass highest in northern Chukchi Sea
- Largest bivalve biomass at the head of Barrow Canyon and near Hanna Shoal

Bottom camera images in the Chukchi Sea study 2009-2010

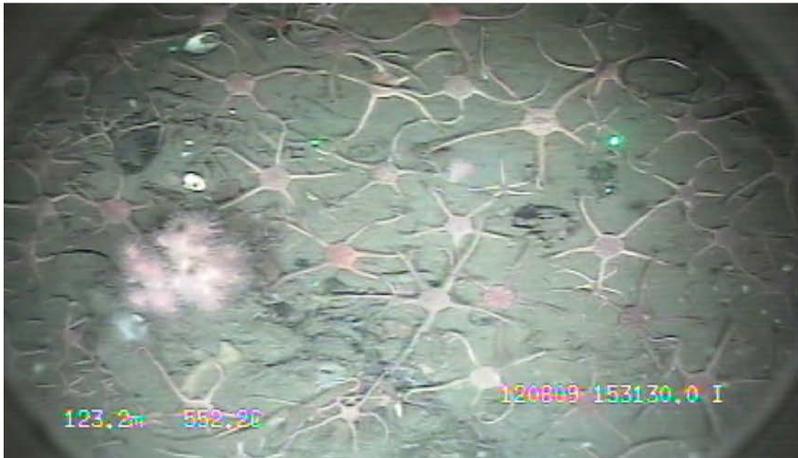
a.



b.



c.

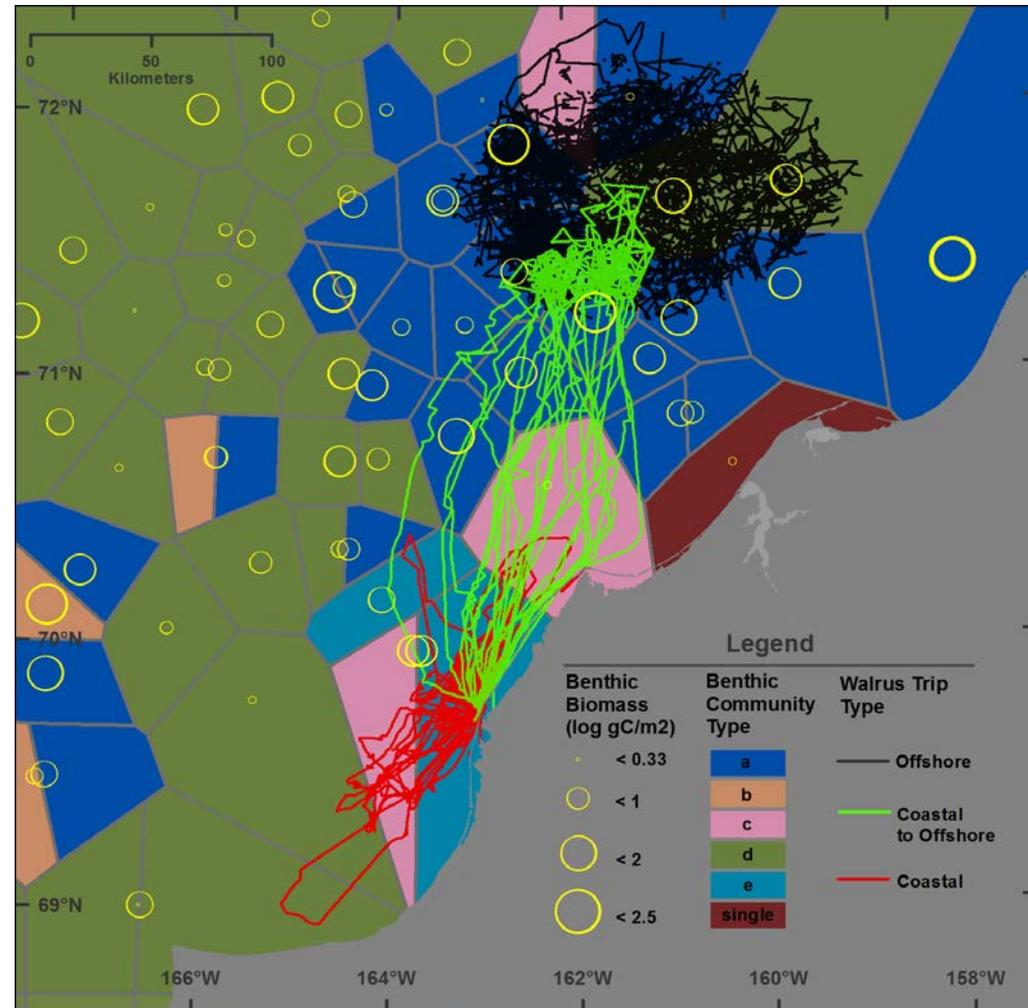


Faunal type:

- sand dollars (*Echinarachnius parma*) nearshore in Alaska Coastal water
- brittle stars (*Ophiura sarsi* and *Ophiura* sp.) in offshore waters
- brittle stars (*Ophiura sarsi*) and soft corals (*Gersemia rubiformis*) in Barrow Canyon

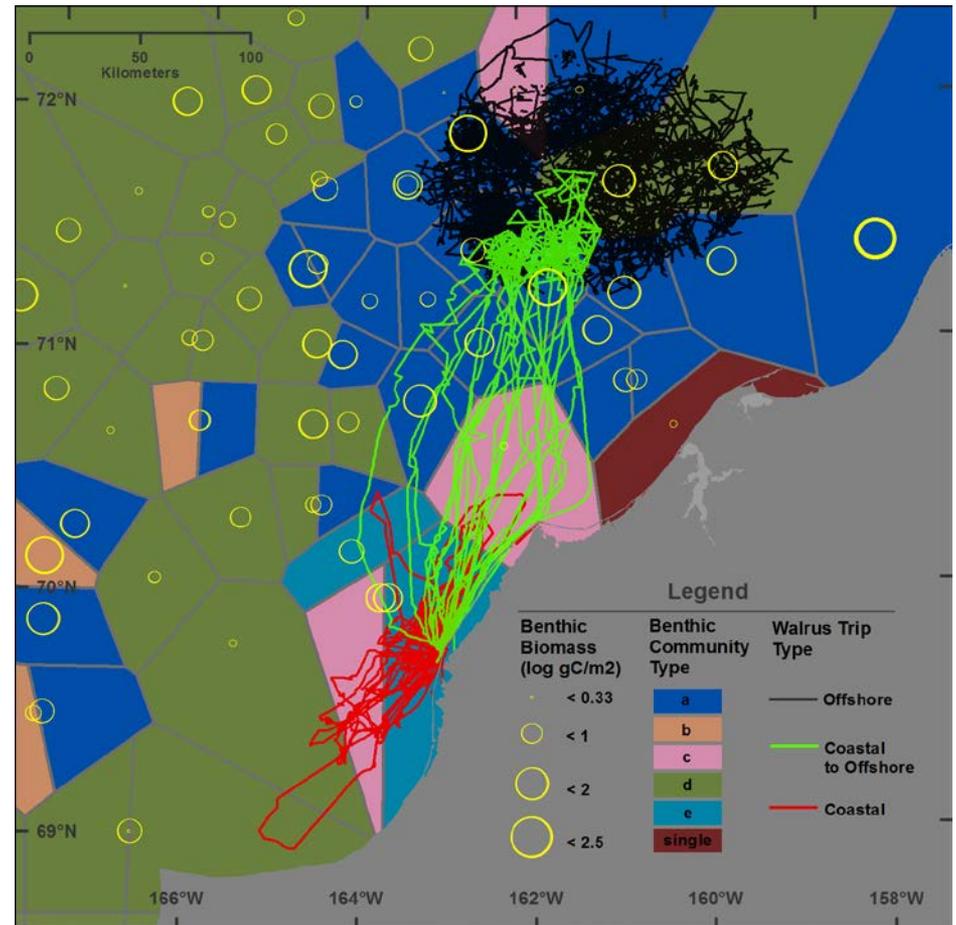
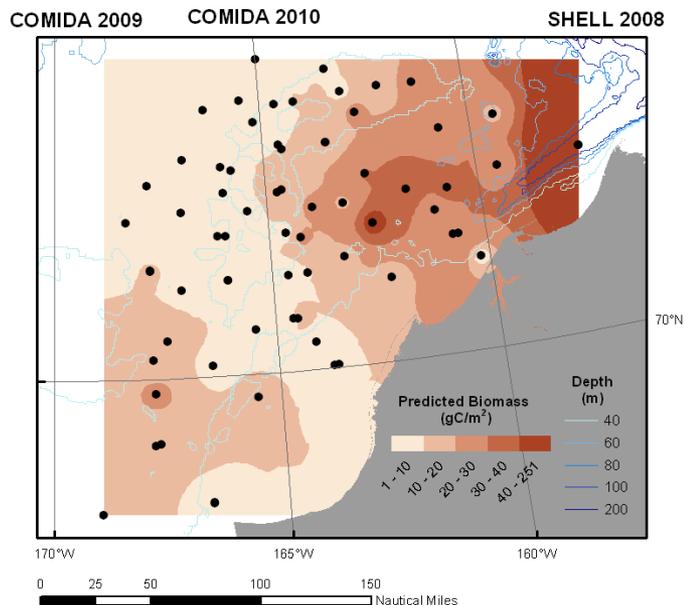
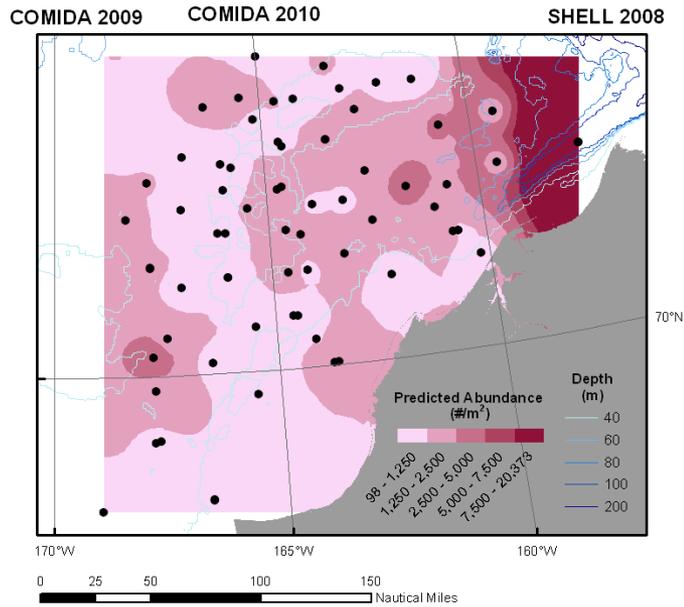
Benthic community type and dominant Infauna by abundance (no/m²)

- a. nuculid bivalves, maldanid, capitellid and cirratulid polychaetes, and phoxocephalid amphipods
- b. maldanid and cirratulid polychaetes, and sipunculid worms
- c. cardiid, nuculid and venerid bivalves, oedicerotid and isaeid amphipods
- d. nuculid, nuculanid and tellinid bivalves, cirratulid and nephtyid polychaetes
- e. echinarachniid sand dollars, nuculid and lucinid bivalve, bryozoans and cirratulid polychaetes



Example: interannual comparison benthic prey base and walrus movement via tracking (Jay, Fischbach and Grebmeier)

Three Chukchi Sea cruises: 2008-2010



Example: interannual comparison benthic prey base and walrus movement via tracking (Jay, Fischbach and Grebmeier)