

# Lower Trophic Breakout Group

## Additional Data Sets and Syntheses

Not much more than what we are doing. More on the quality of the data and access to the data. This is particularly true for new data since we need to avoid compromising graduate students' work and the ability of collectors to publish

Critical to characterize the data sets even if we don't have the full content

Data sets to which we link should be in permanent archives

Other syntheses: RUSALCA, CESP

Access to International data is unclear.

# Questions

1) How will organisms adapt to changing environmental condition? (e.g., rates, survivability, temperature changes)

Approaches:

Rate measurements of organisms/communities/assemblages

Determination of adaptability of organisms to changing temperatures

Molecular, experimental, chemical, modeling approaches

2) How will the input of organisms/carbon into the Chukchi, and ultimately Beaufort, Sea change in the future through changes in transport, changes in the timing of peak transport relative to organism/carbon concentration, or total abundance/concentration of organisms/carbon?

3) Related to 2), will expatriate organisms have the ability to adapt, survive, and persist in the Chukchi/Beaufort as environmental conditions (e.g., temperature, timing) changes?

## Things for which we lack data:

Rate measurements (growth rates, respiration, feeding, reproduction)

Physiology

Adaptability of organisms to new environmental conditions

Seasonality

Transferability of rates to modeling efforts (are the measurements the same as what is being modeled?)

## **Logistic Considerations**

Logistic requirements to adequately gather data to resolve seasonality and to measure rates in this low temperature environment: e.g., platforms deployed to a small area for an extended period of time

Possibility of using infrastructure of oil exploitation for a platform