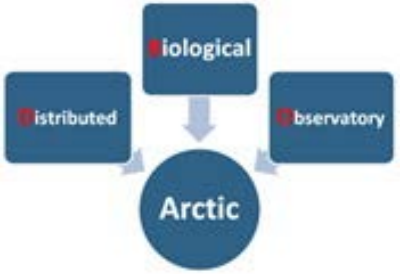


Benthic biodiversity and trophic relations along DBO lines

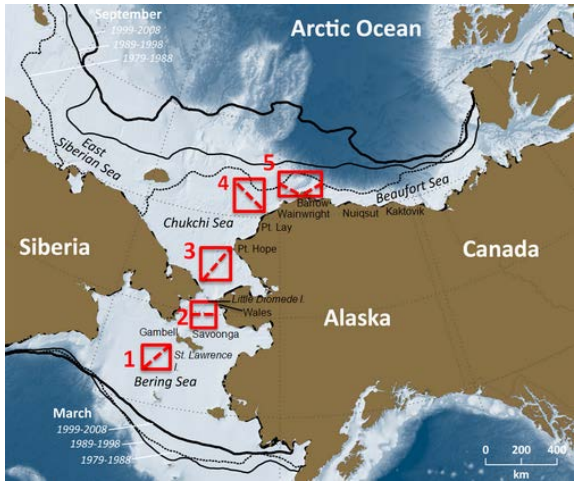
Monika Kędra, Jackie Grebmeier, Lee Cooper
Mengjie Zhang, Dana Biasatti, Barbara Oleszczuk

NATIONAL SCIENCE CENTRE POLAND

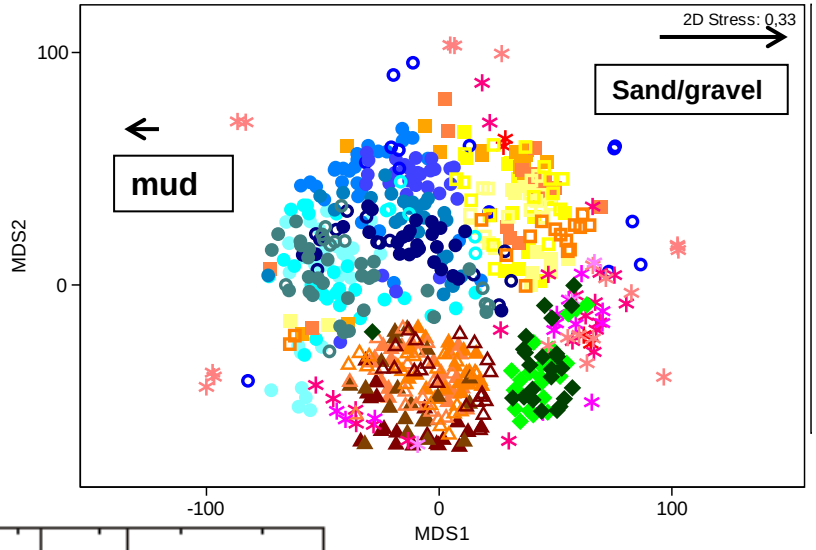
Grant nr: DEC-2013/08/M/NZ8/00592

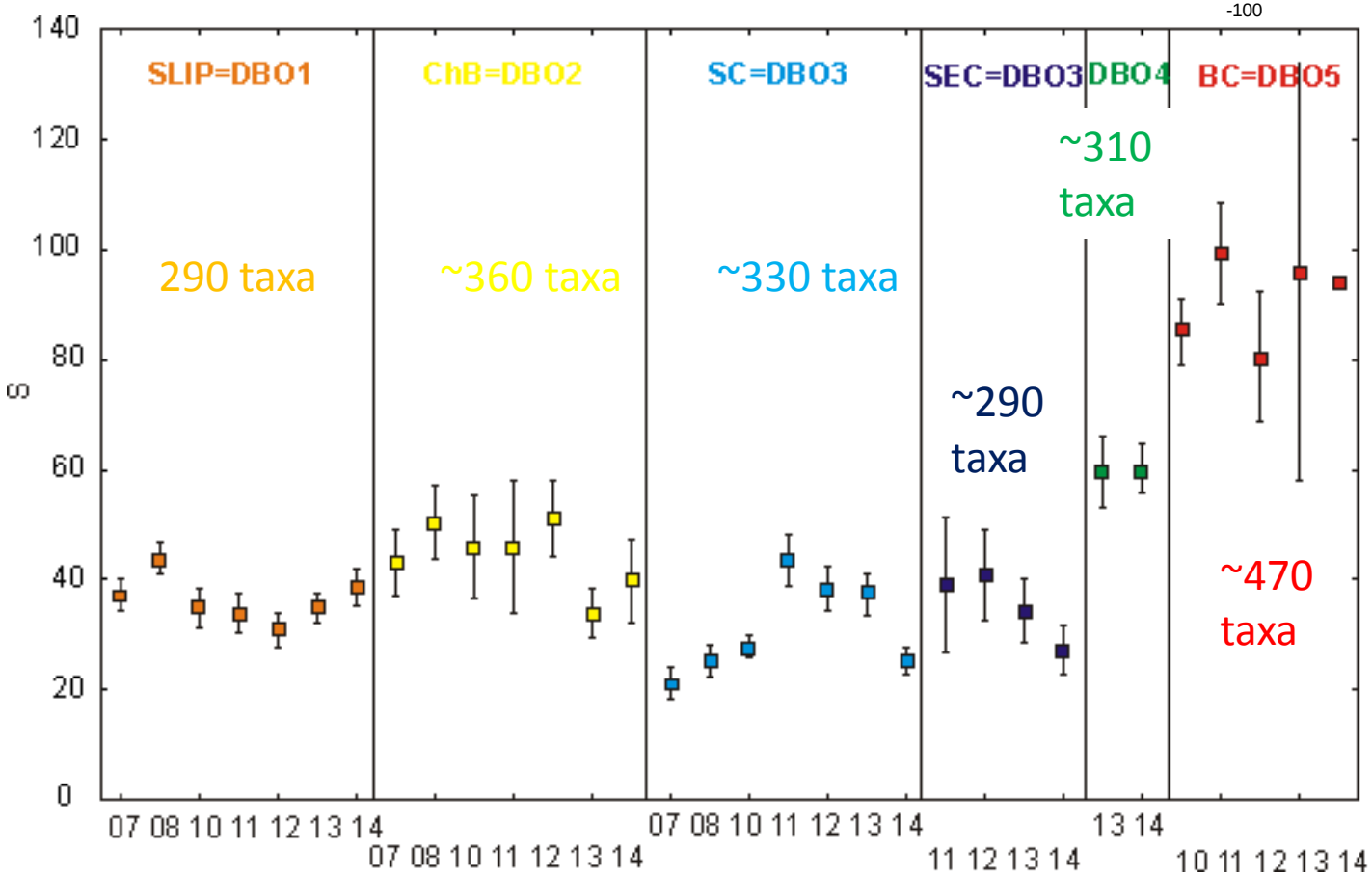
PAN

University of Maryland
CENTER FOR ENVIRONMENTAL SCIENCE
CHESAPEAKE BIOLOGICAL LABORATORY



Benthic biodiversity changes along DBO lines - 9 years

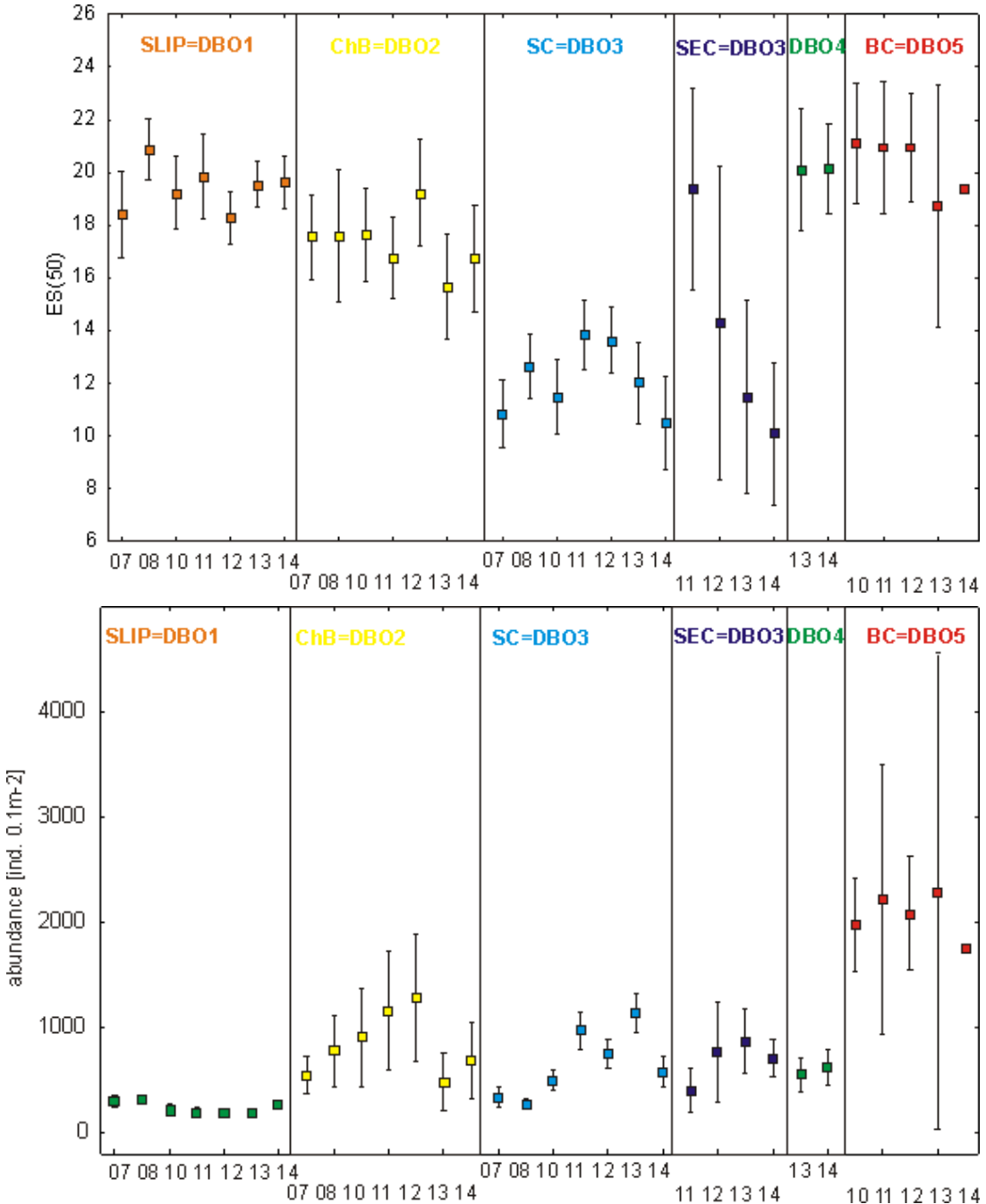




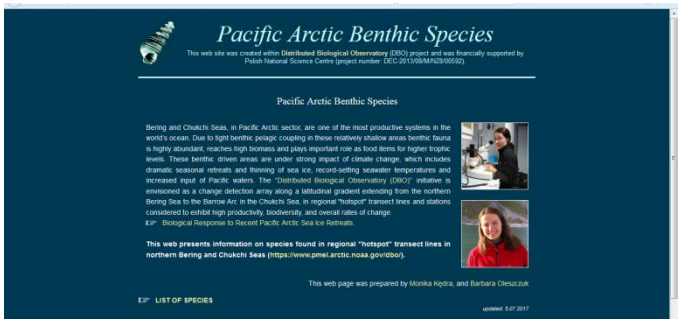
ANOSIM - differences among
Areas R: 0.73*
Years: R: 0.4*

Kędra, Grebmeier, Cooper – to be submitted to SI DSR

Benthic biodiversity

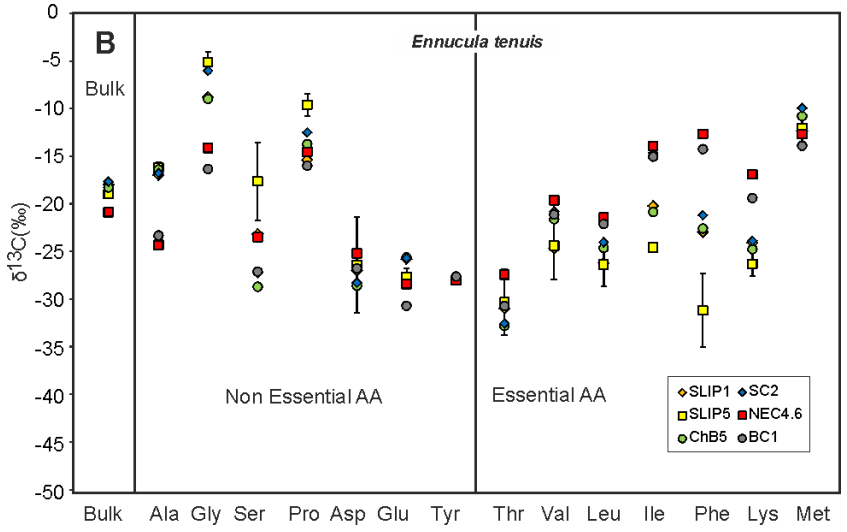


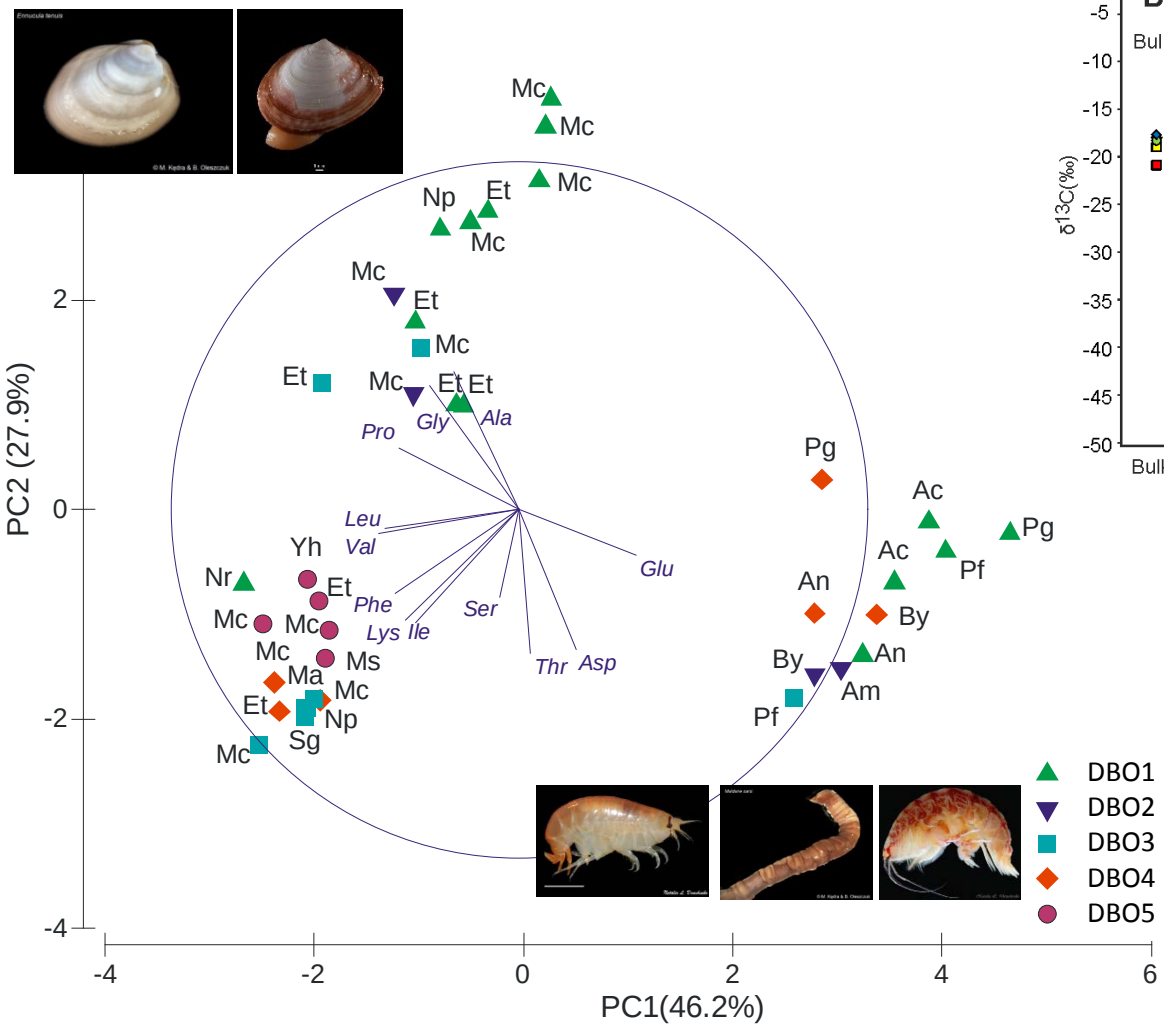
- The lowest biodiversity in SC/SEC – DBO3
- The highest biodiversity in BC-DBO5
- Changes in species composition – more smaller, opportunistic species
- http://www.iopan.gda.pl/projects/DBO/index.html



Kędra, Grebmeier, Cooper – to be submitted to SI DSR

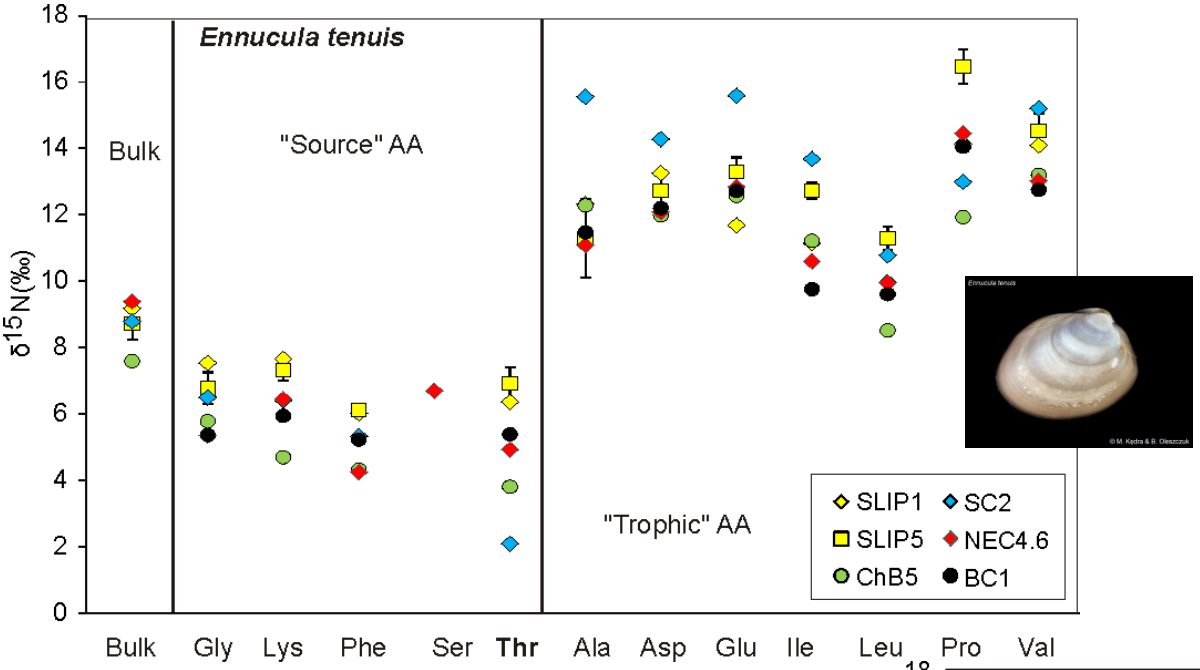
Variation in utilized food sources (2015) – stable isotope ($\delta^{13}C$) specific compound analysis of aminoacids

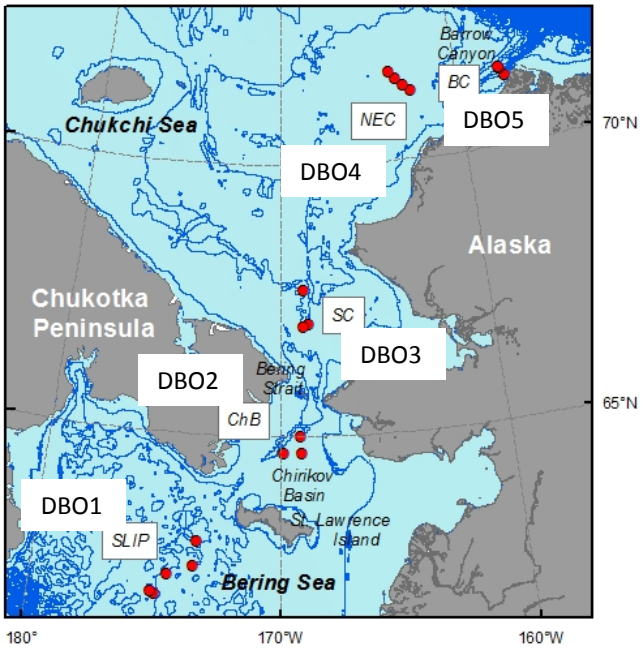


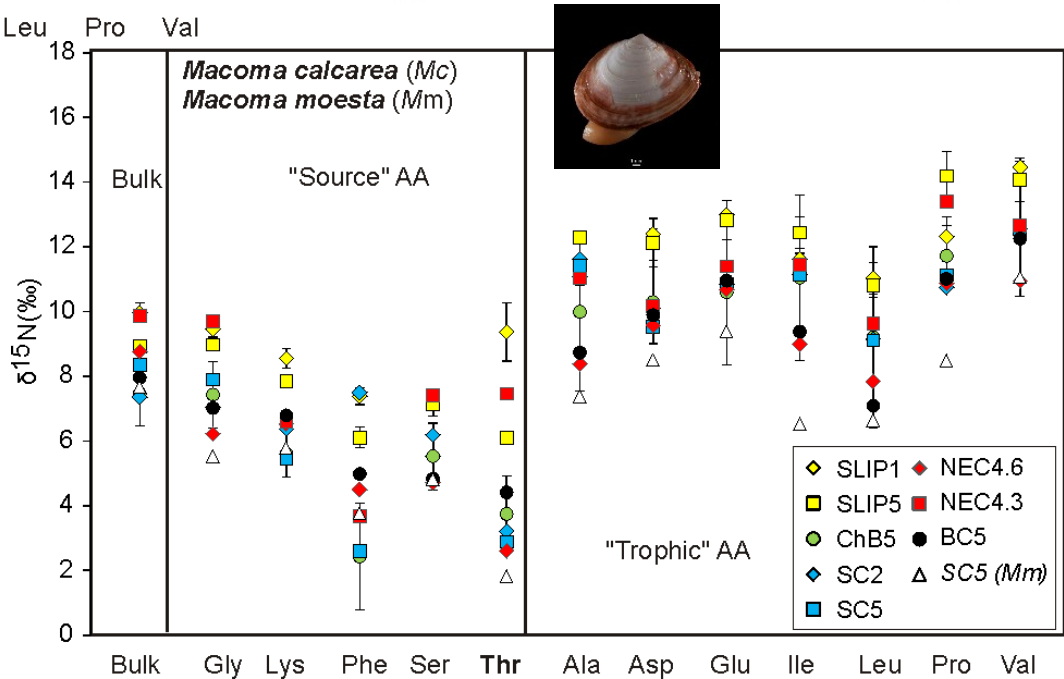


Mc – *Macoma calcarea*, Et – *Ennucula tenuis*, Yh – *Yoldia hyperborea*, Nr – *Nuculana radiata*, Np – *Nuculana pernula*, Ma – *Mya arenaria*, Sg – *Serripes groenlandicus*, Ms – *Maldane sarsi*, Pg – *Pectinaria granulata*, Ac – *Axiothella catenat*a, An – *Anonyx* sp., By – *Byblis* sp., Am – *Ampelisca macrocephala*, Pf – *Pontoporeia femorata* - based on $\delta^{13}C_{AA}$ values

Kędra, Zhang, Biasetti, Grebmeier, Cooper – to be submitted to SI DSR

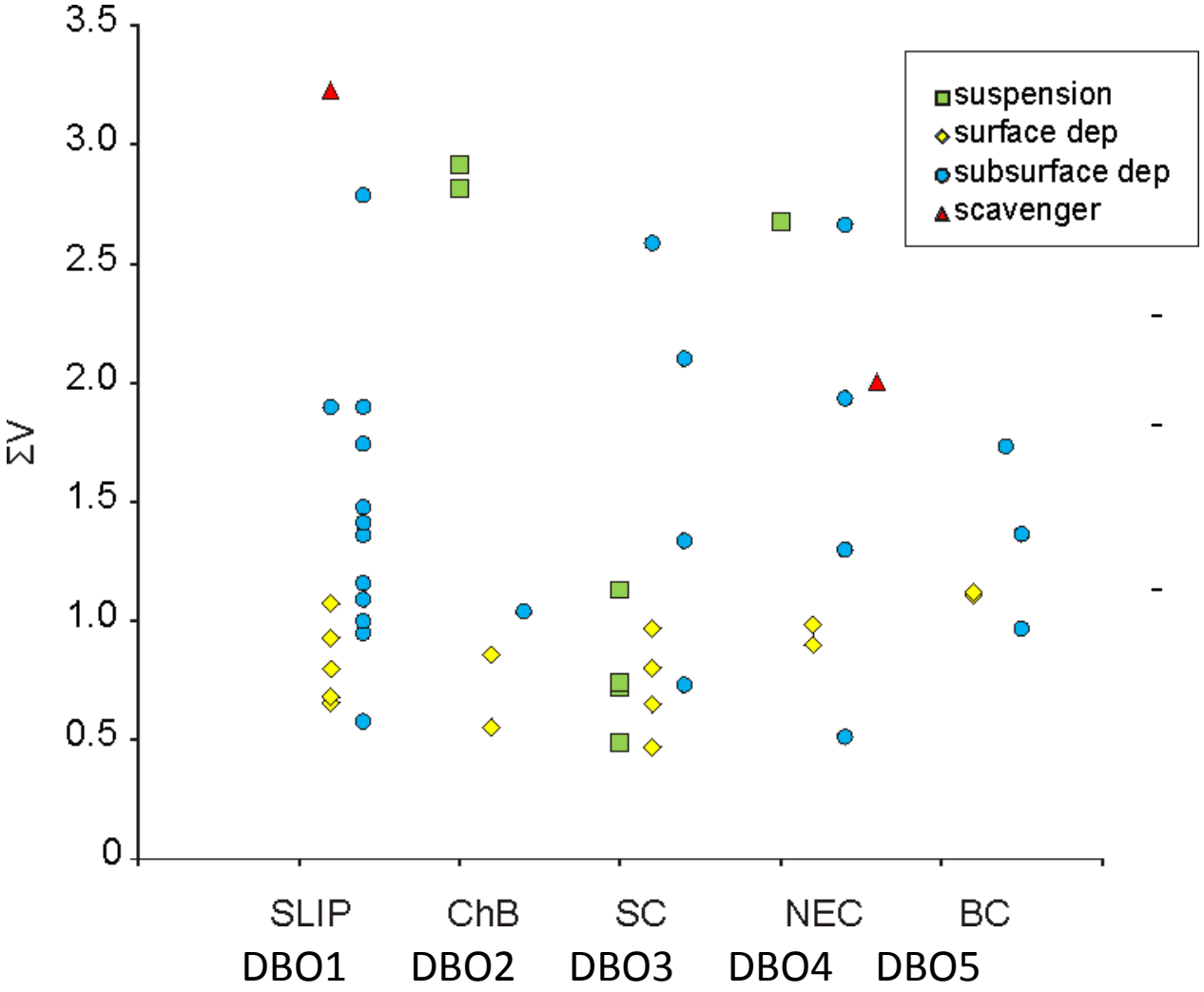






Trophic relations and trophic level estimations – stable isotope ($\delta^{15}N$) specific compound analysis of aminoacids

Kędra, Zhang, Biasetti, Grebmeier, Cooper
– to be submitted to SI DSR



- Better trophic level estimations
- Changes in species TL and feeding behaviour depending on the area samples
- DBO1 and DBO3 (and some DBO4 stations) – AA of organisms were more enriched in ^{15}N and utilized more reworked material

Degradation index ΣV (McCarthy et al., 2007) - measure of the relative re-synthesis of the original autotrophic AA pool in different organisms as the mean deviation of $\delta^{15}N$ of individual trophic AAs

Kędra, Zhang, Biasetti, Grebmeier, Cooper – to be submitted to SI DSR

Special thanks to:
CCGS *Sir Wilfrid Laurier's* crew

Benthic sorting lab (CBL):
Linton Beaven
Christian Johnson
Arvind Shantharam
Stephanie Soques
Mike Studivan
Lisa Wilt

Chirk Chu (data processing)