

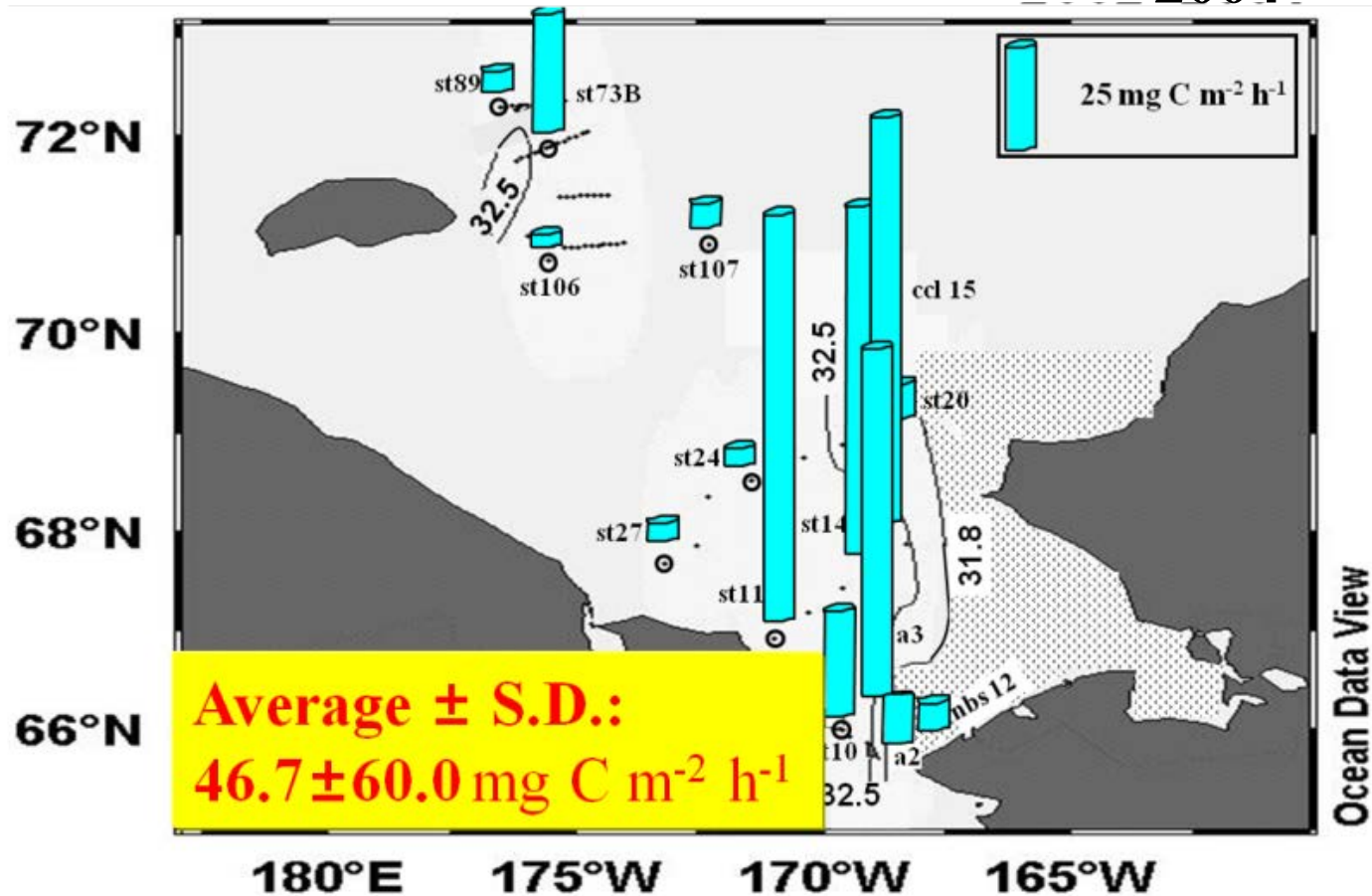
Field-measured Primary Productivity in the Chukchi Sea

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Seattle WS, 2013

Recent Measurement of Primary Productivity in the Chukchi Sea (1st RUSALCA cruise)

2004



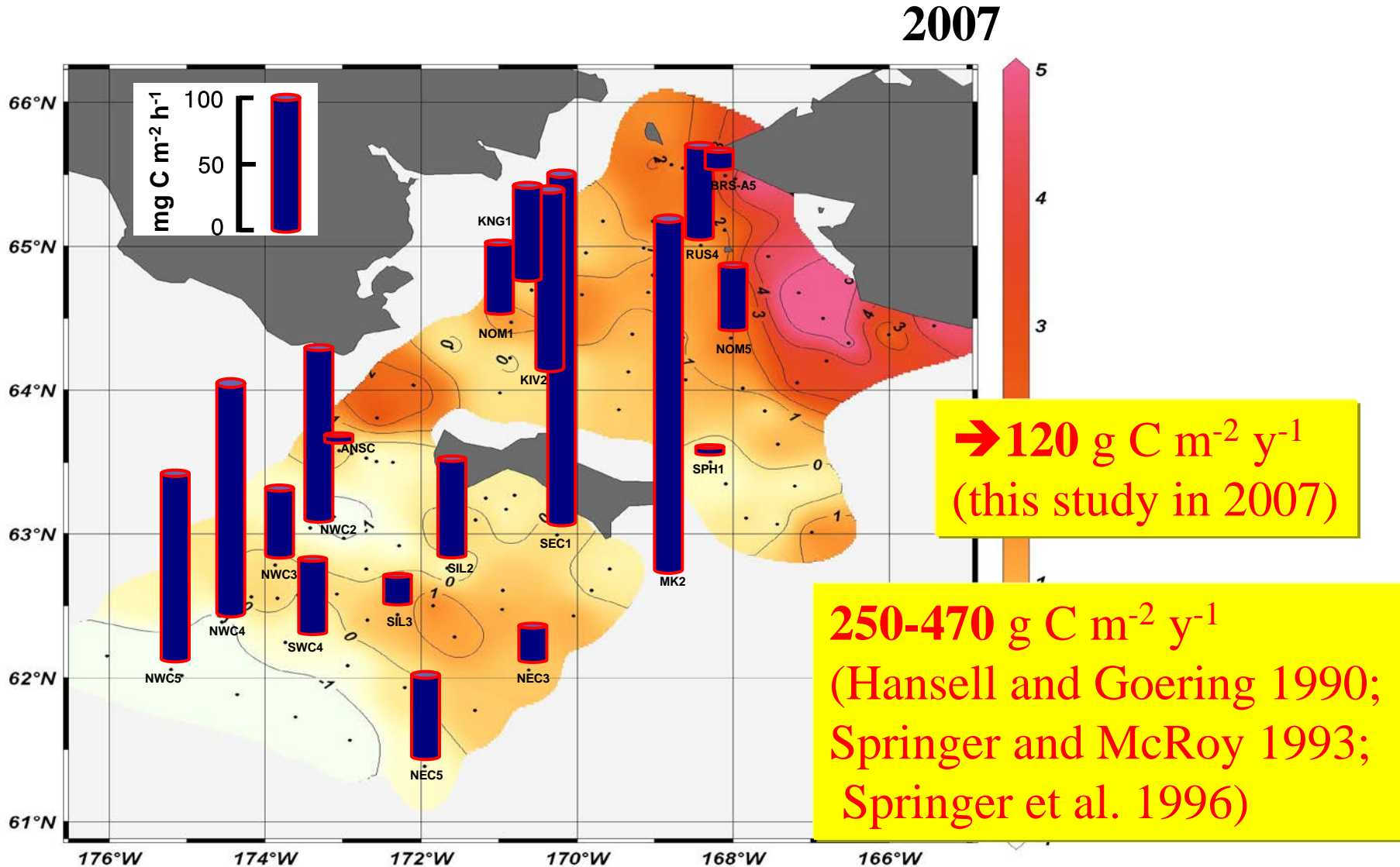
Lee et al. (2007)

Primary Productivity

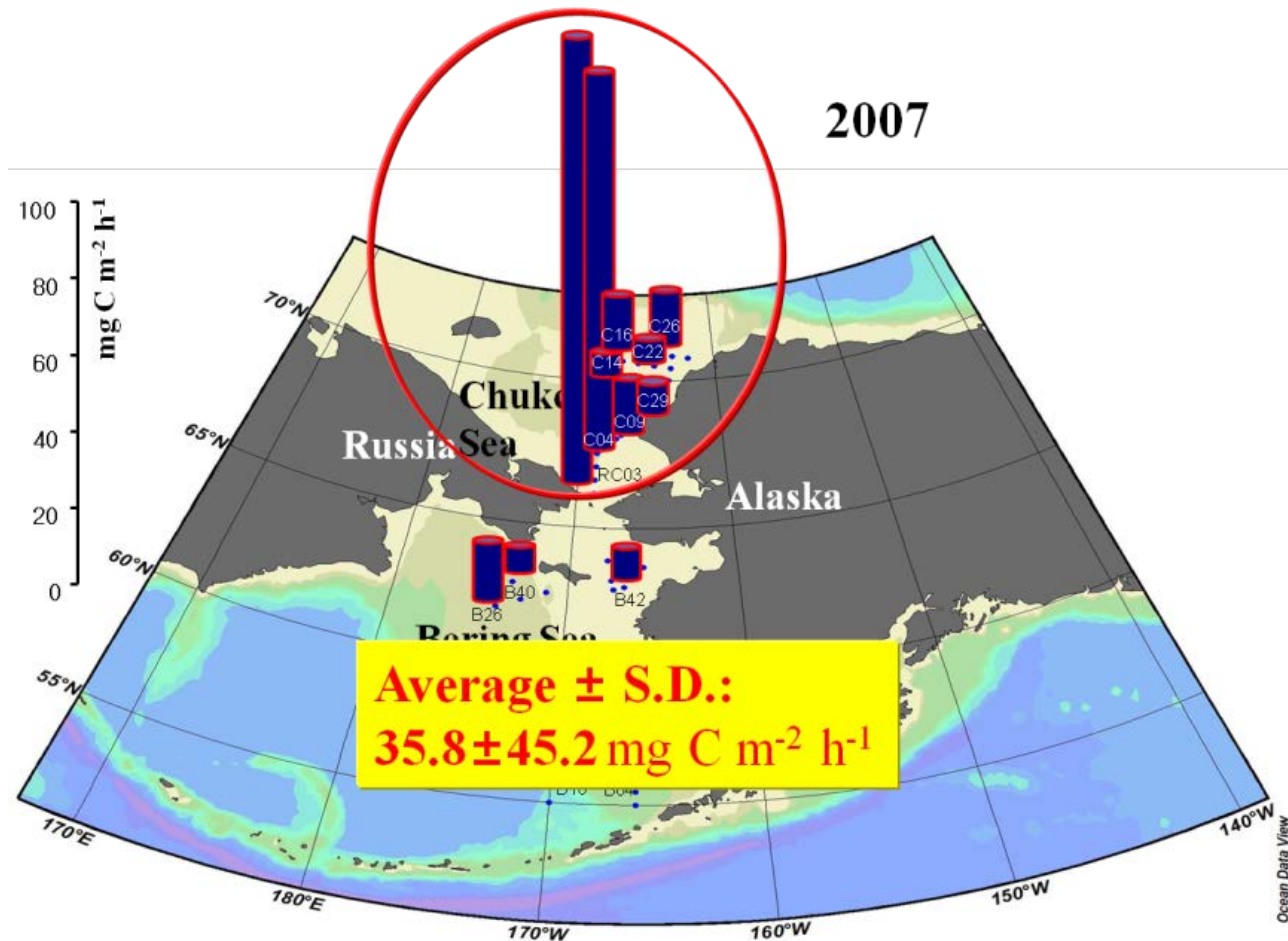
Source	Productivity (g C m ⁻² day ⁻¹)	Method	Place or Water mass	Season
McRoy et al. (1972)	4.1	¹⁴ C uptake	western Bering Strait	June
Hameedi (1978)	0.1–1.0 > 3.0	¹⁴ C uptake	Chukchi Sea central Chukchi Sea	July
Sambrotto et al. (1984)	2.7	NO ₃ ⁻ disappearance	western Bering Strait	
Springer (1988)	1.5–16	¹⁴ C uptake	central Chukchi Sea	11 July–2 August
Korsak (1992)	1.7	¹⁴ C uptake	Chukchi Sea	28 July–31 August
Zeeman (1992)	1.6 0.8	¹⁴ C uptake	Chukchi Sea Bering Strait	28 July–31 August
Hansell et al. (1993)	4.8– 6.0	NO ₃ ⁻ disappearance	Anadyr Water in the north of Bering Strait	
Springer and McRoy (1993)	4.7	¹⁴ C uptake and chl-a concentration	central Chukchi Sea	28 July–31 August
Hill and Cota (2005)	0.8	¹⁴ C uptake	northeastern Chukchi Sea	summer
Lee et al. (2007)	0.6 1.4	¹³ C uptake	Chukchi Sea central Chukchi Sea	10–22 August

→ Our Productivity was ~3 times lower than decade(s) ago in the Chukchi Sea!

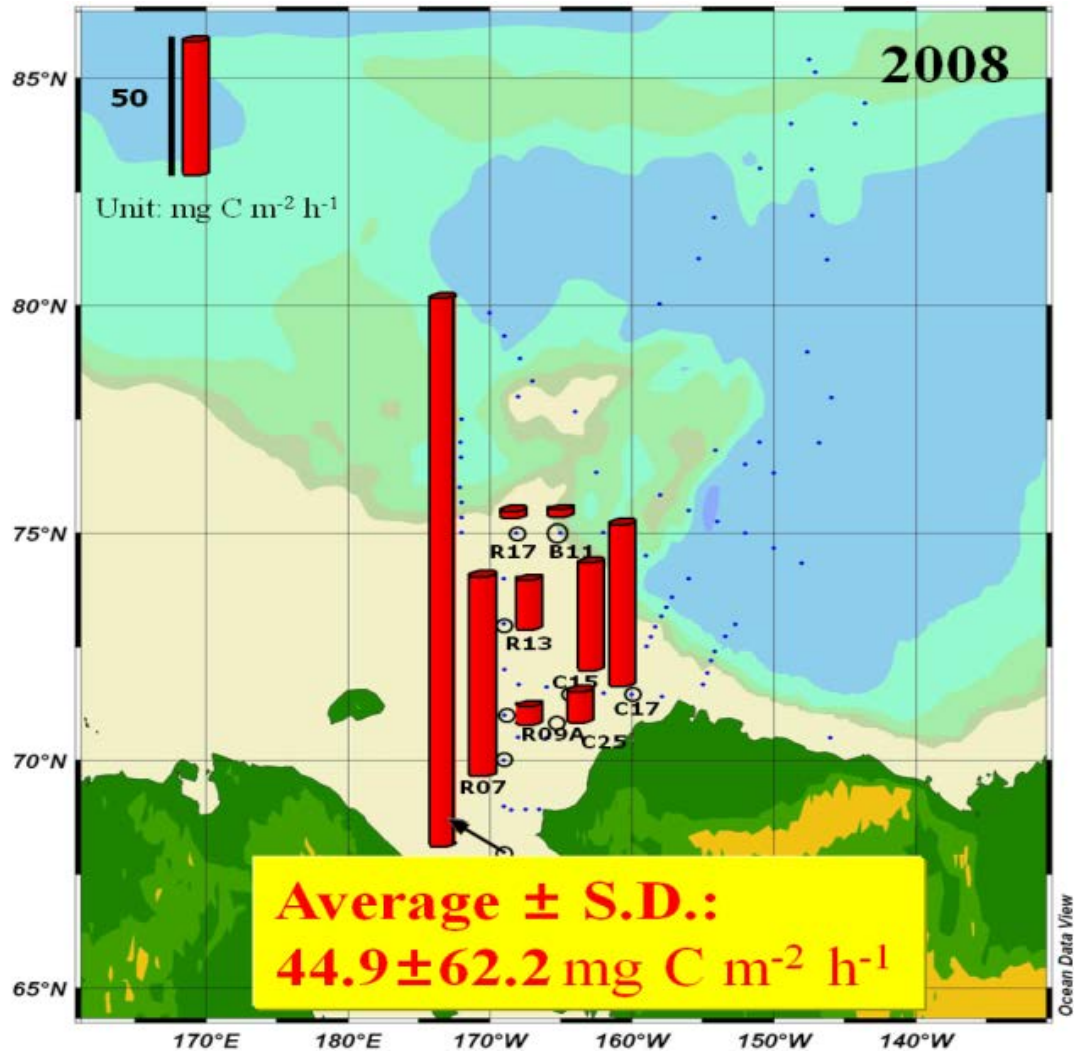
Recent PP in the N Bering Sea



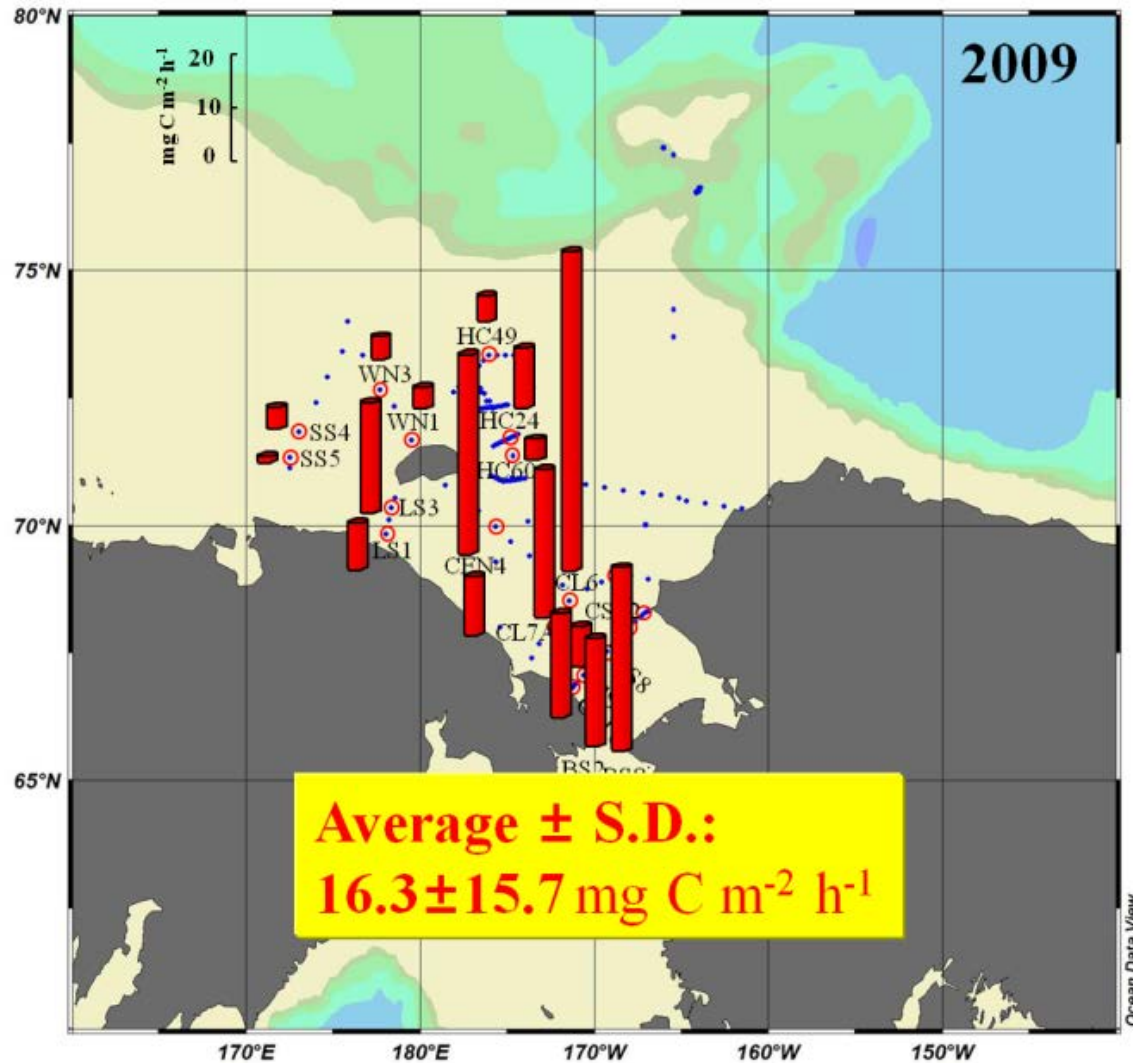
Continuing measurement for Primary Productivity in the Chukchi Sea (2007 Oshro Maru cruise)



Continuing measurement for Primary Productivity in the Chukchi Sea (3rd Xuelong Cruise)

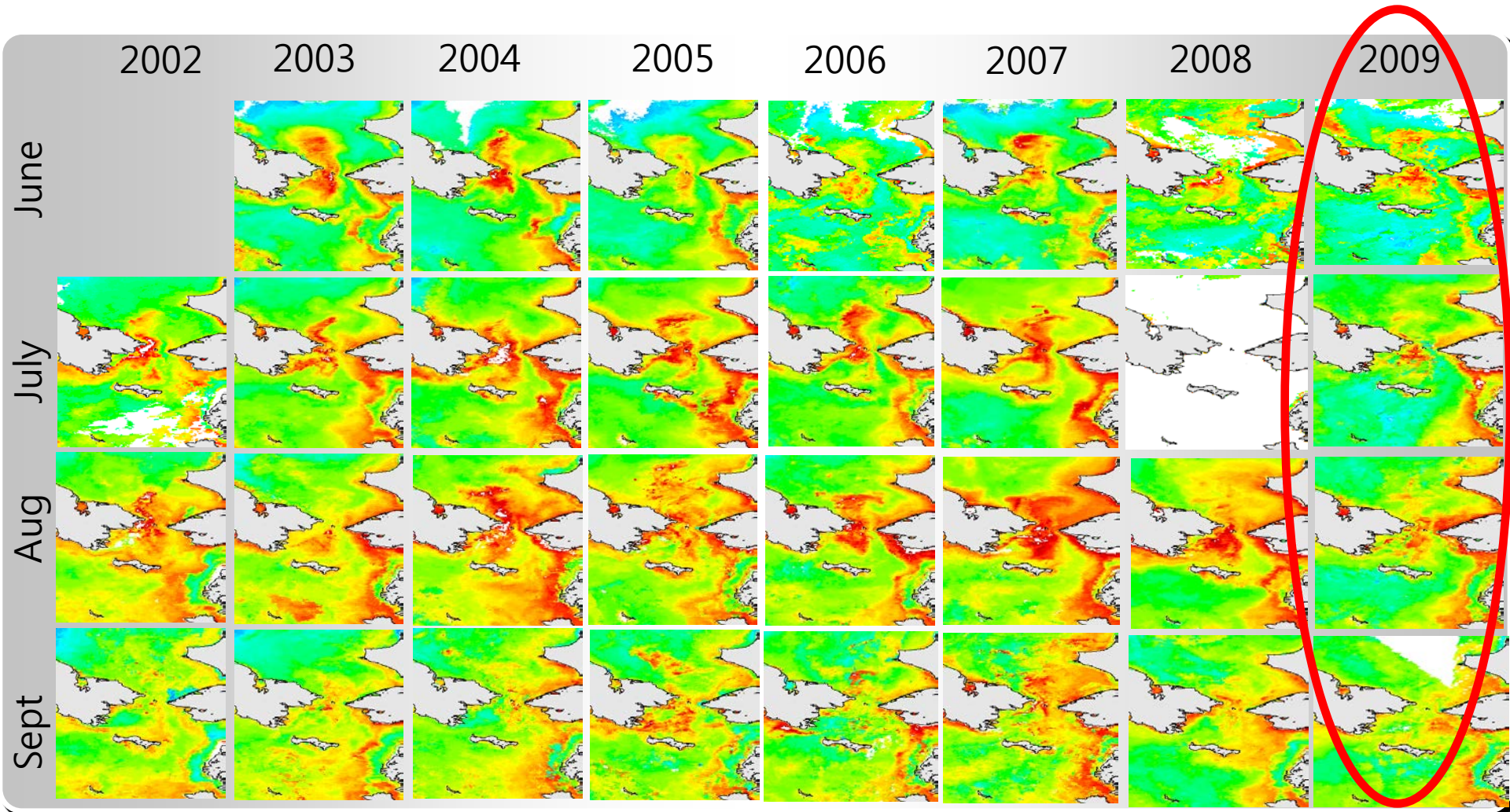


Continuing measurement for Primary Productivity in the Chukchi Sea (2nd RUSALCA cruise)

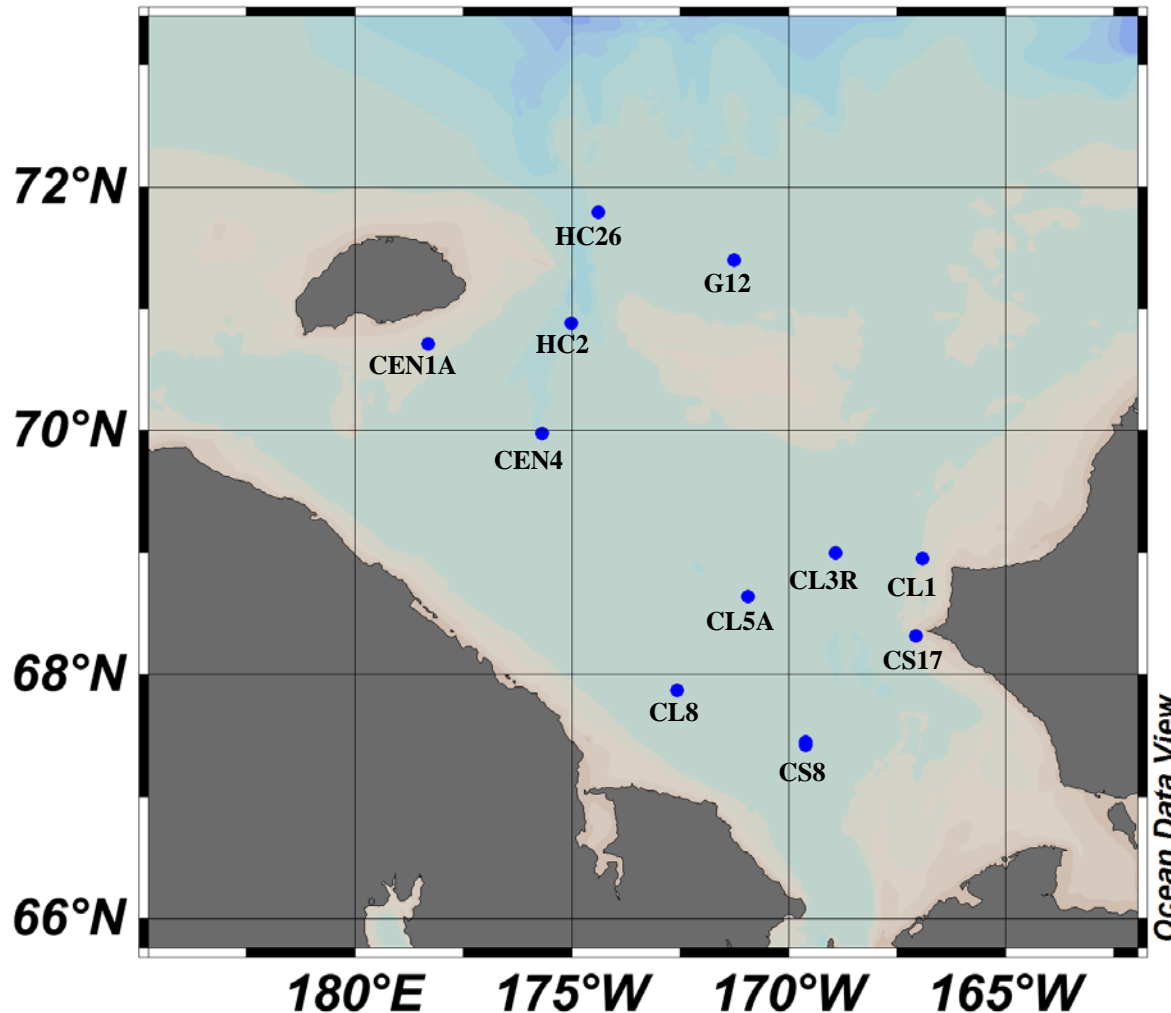


Yun et al (in preparation)

Seasonal/Interannual Variations of PP



2012 Productivity stations from 3rd Rusalca cruise (8.27~9.16, 2012)



Station	P.P	HPMA	TSS	Macro
CS8	○	○	○	○
CS17	○	○	○	○
CL1	○	○	○	○
CL5A	○	○	○	○
CEN4	○	○	○	○
CEN1A	○	○	○	○
HC2	○	○	○	○
HC26	○	○	○	○
G12	○	○	○	○
CL3R	○	○	○	○
CL8	○	○	○	○
CS8R	○	○	○	○

- Primary productivity
(Total and small)
- HPMA, TSS, Macro comp
at 3 light depth (%) : 100, 30, 1

➔ This data are processing now!