Supplement:

A Link between the Ice Nucleation Activity of Sea Spray Aerosol and the Biogeochemistry of Seawater.

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Figure S1





Figure S1. Regional chlorophyll a concentrations during seawater sampling, measured by MODIS-Aqua satellite. Maps illustrate the average of 8-day readings centered on sampling periods. (A) Concentrations during Florida Straits sampling, March 2017. (B) Concentrations during Eastern Tropical North Pacific Sampling, June – July 2018. White indicate the sampled regions.

Sample ID	Latitude (°N)	Longitude (°W)	Date
Florida Straits 1	24.33	81.92	03/28/2017
Florida Straits 2	24.42	82.23	03/29/2017
Florida Straits 3	24.36	82.23	03/29/2017
Florida Straits 4	24.29	82.23	03/29/2017
Florida Straits 5	24.22	82.23	03/29/2017
Florida Straits 6	24.16	82.23	03/30/2017
Florida Straits 7	24.11	82.23	03/30/2017
Florida Straits 8	24.03	82.23	03/30/2017
Florida Straits 9	23.96	82.23	03/30/2017
Florida Straits 10	23.87	82.19	03/30/2017
Florida Straits 11	23.96	81.72	03/31/2017
ETNP 1	14.01	102.0	06/30/2018
ETNP 2	14.01	103.0	06/30/2018
ETNP 3	14.01	104.0	07/01/2018
ETNP 4	14.00	107.0	07/03/2018
ETNP 5	14.01	108.0	07/04/2018
ETNP 6	14.01	109.0	07/05/2018
ETNP 7	14.00	110.0	07/05/2018
ETNP 8	14.01	111.0	07/06/2018
ETNP 9	14.01	112.0	07/07/2018
ETNP 10	14.00	113.0	07/07/2018
ETNP 11	14.01	114.0	07/10/2018

Table S1 – Field Sample Locations and Dates

Table S2 – Station	n Variables	and INP	Activity	Correlation
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Variable	Wind Speed	[NO ₃ -]	[PO4 ³⁻]	pН	Surface [Chlorophyll-a]	Max Deep [Chlorophyll-a]
Atlantic Immersion Subsurface	0.19	0.38	0.33	0.19	0.49	0.23
R^2 (p value) with n_s	(0.58)	(0.41)	(0.60)	(0.54)	(0.17)	(0.47)
Atlantic Immersion Microlayer	0.00	0.19	0.17	0.09	0.18	0.14
R^2 (p value) with n_s	(0.89)	(0.36)	(0.27)	(0.44)	(0.40)	(0.45)
Pacific Immersion Subsurface	0.13	0.14	0.13	0.18	0.02	0.08
R^2 (p value) with n_s	(0.57)	(0.30)	(0.49)	(0.56)	(0.76)	(0.42)
Pacific Immersion Microlayer	0.12	0.05	0.13	0.28	0.06	0.05
R^2 (p value) with n_s	(0.42)	(0.59)	(0.63)	(0.31)	(0.56)	(0.67)
Atlantic Deposition Subsurface	0.17	0.26	0.15	0.33	0.25	0.20
R^2 (p value) with Crit. S _{ice}	(0.24)	(0.38)	(0.63)	(0.92)	(0.51)	(0.21)
Atlantic Deposition Microlayer	0.03	0.00	0.04	0.02	0.13	0.16
R^2 (p value) with Crit. Sice	(0.70)	(0.86)	(0.56)	(0.77)	(0.60)	(0.23)
Pacific Deposition Subsurface	0.02	0.22	0.01	0.20	0.02	0.08
R^2 (p value) with Crit. S _{ice}	(0.69)	(0.14)	(0.83)	(0.28)	(0.75)	(0.49)
Pacific Deposition Microlayer	0.02	0.05	0.02	0.13	0.02	0.17
R^2 (p value) with Crit. Sice	(0.75)	(0.61)	(0.72)	(0.40)	(0.76)	(0.24)