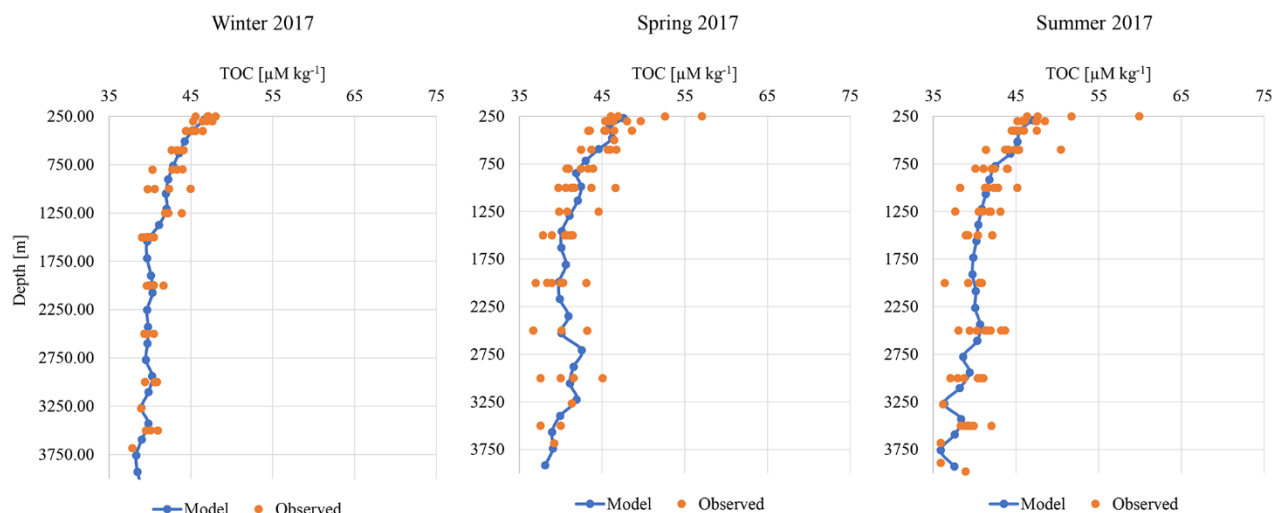
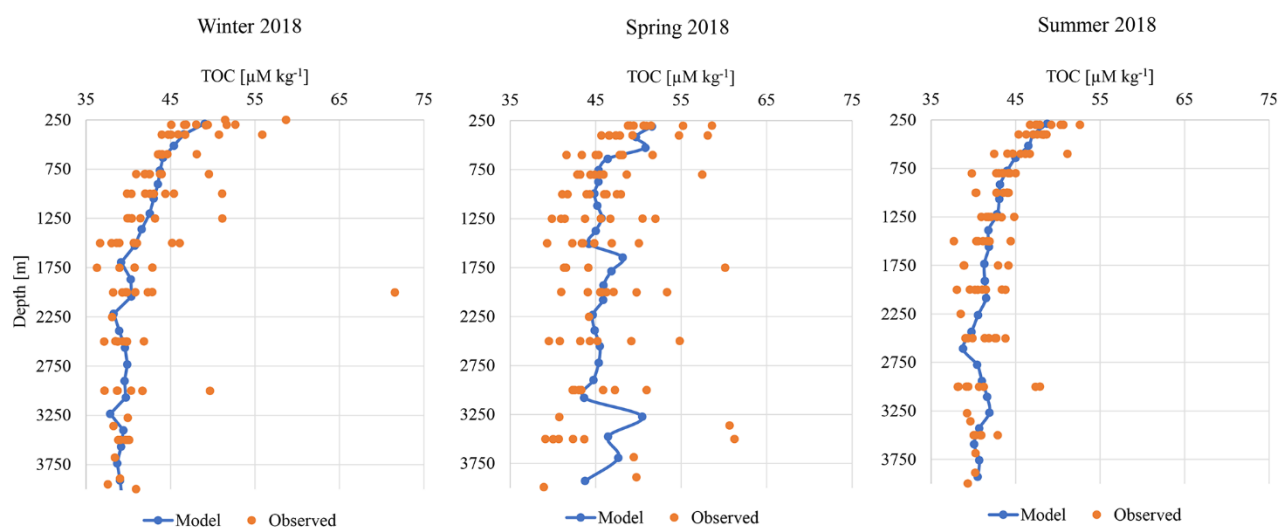


Supplementary Material



Supplementary Figure 1. Comparison of model outputs and observed data for TOC [μmol kg⁻¹] for winter, spring and summer of 2017.



Supplementary Figure 2. Comparison of model outputs and observed data for TOC [μmol kg⁻¹] for winter, spring and summer of 2018.

Supplementary Table 1. Abundances [individuals m⁻³] for three size classes of larvaceans, doliolids, and salps for winter 2017 and 2018. The size classes are as follows: size 1: < 5 mm, size 2: 5-10 mm, size 3: > 10 mm. *2018 abundances were not sorted into size classes. Samples that did not contain the specified organisms are labeled as “not present” (NP).

Winter 2017									
Station	Larvaceans			Doliolids			Salps		
	<i>Size 1</i>	<i>Size 2</i>	<i>Size 3</i>	<i>Size 1</i>	<i>Size 2</i>	<i>Size 3</i>	<i>Size 1</i>	<i>Size 2</i>	<i>Size 3</i>
P12	0.16	0.04	NP	NP	NP	NP	NP	NP	NP
P16	NP	NP	NP	NP	NP	NP	NP	NP	NP
P20	3.96	0.09	NP	NP	0.02	NP	NP	NP	NP
P26	0.42	NP	NP	NP	NP	NP	NP	NP	NP

Winter 2018*									
P12	2.42			0.05			NP		
P16	1.45			0.31			NP		
P20	4.59			NP			NP		
P26	3.10			0.06			NP		

Supplementary Table 2. Abundances [individuals m⁻³] for three size classes of larvaceans, doliolids, and salps for spring 2017 and 2018. The size classes are as follows: size 1: < 5 mm, size 2: 5-10 mm, size 3: > 10 mm. Samples that did not contain the specified organisms are labeled as “not present” (NP).

Spring 2017									
Station	Larvaceans			Doliolids			Salps		
	<i>Size 1</i>	<i>Size 2</i>	<i>Size 3</i>	<i>Size 1</i>	<i>Size 2</i>	<i>Size 3</i>	<i>Size 1</i>	<i>Size 2</i>	<i>Size 3</i>
P12	0.91	NP	NP	0.10	0.06	0.01	0.01	NP	0.01
P16	NP	0.05	NP	0.11	0.11	NP	NP	0.04	0.03
P20	1.33	NP	NP	0.31	0.20	0.10	NP	0.01	0.03
P26	NP	0.04	0.04	NP	0.04	NP	NP	NP	NP

Spring 2018									
P12	NP	0.11	NP	38.24	3.26	0.34	NP	0.34	0.34
P16	186.92	0.13	0.13	81.27	13.33	0.51	NP	NP	NP
P20	13.16	NP	NP	4.93	0.27	0.27	NP	NP	NP
P26	0.90	0.11	NP	NP	0.45	NP	NP	1.58	4.50

Supplementary Table 3. Abundances [individuals m⁻³] for three size classes of larvaceans, doliolids, and salps for summer 2017 and 2018. The size classes are as follows: size 1: < 5 mm, size 2: 5-10 mm, size 3: > 10 mm. Samples that did not contain the specified organisms are labeled as “not present” (NP).

Station	Summer 2017								
	Larvaceans			Doliolids			Salps		
	<i>Size 1</i>	<i>Size 2</i>	<i>Size 3</i>	<i>Size 1</i>	<i>Size 2</i>	<i>Size 3</i>	<i>Size 1</i>	<i>Size 2</i>	<i>Size 3</i>
P12	6.37	NP	NP	26.19	7.43	2.74	NP	NP	NP
P16	1.60	0.10	NP	15.95	0.70	0.10	NP	NP	NP
P20	0.21	0.21	NP	NP	0.31	0.21	NP	NP	NP
P26	0.45	NP	NP	0.35	0.15	0.05	NP	NP	NP
	Summer 2018								
P12	0.91	NP	NP	NP	NP	NP	NP	NP	NP
P16	6.42	NP	NP	20.42	17.94	1.46	NP	NP	NP
P20	22.36	NP	NP	111.79	2.65	3.68	NP	NP	NP
P26	0.41	NP	NP	NP	NP	NP	NP	NP	NP