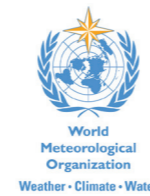


Hydrographic Atlas of the World Ocean Circulation Experiment (WOCE)

Volume 4: Indian Ocean

Lynne D. Talley

Series edited by Michael Sparrow, Piers Chapman and John Gould



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Volume 4: Indian Ocean

Lynne D. Talley
Scripps Institution of Oceanography, University of California, San Diego, La Jolla, California, USA.

Series edited by Michael Sparrow, Piers Chapman and John Gould.

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TABLE OF CONTENTS

Tables of Atlas Plates	v
Forewords	vii
Background	viii
WOCE and its Observations	viii
The WOCE Hydrographic Programme	viii
WHP Oversight	xi
Atlas Formats	xiv
Vertical Sections	xiv
Property-Property Plots	xvi
Horizontal Maps	xvi
Data quality control	xvi
Appendix – Parameter definitions	xvii
Acknowledgements	xviii
References	xix
Atlas Plates	1
Oceanographic Sections and Stations in Indian Atlas	1
Vertical Sections, Property-Property Plots and Basemaps	2
Horizontal Maps	156

TABLES OF ATLAS PLATES

Vertical Sections, Property-Property Plots and Basemaps

Zonal Sections

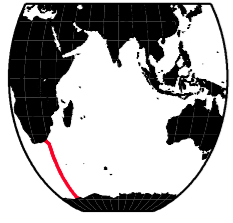
	θ (°C)	S (PSS78)	γ^n (kg/m ³)	$\sigma_{0,2,4}$ (kg/m ³)	O ₂ (μ mol/kg)	NO ₃ (μ mol/kg)	NO ₂ (μ mol/kg)	PO ₄ (μ mol/kg)	Si (μ mol/kg)	CFC-11 (pmol/kg)	TCO ₂ (μ mol/kg)	Alk (μ mol/kg)	$\delta^3\text{He}$ (%)	Tr (TU)	$\Delta^{14}\text{C}$ (‰)	$\delta^{13}\text{C}$ (‰)	PvP plot & Basemap
I1RS (17°N)	page 2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	7
I1 (9°N)	8	8	9	9	10	10	11	11	12	12	13	13	14	14	15	15	17
I2 (8°S)	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	35
I3 (20°S)	36	36	37	37	38	38	39	39	40	40	41	41	42	42	43	43	45
I4 (24°S)	46	46	46	46	47	47	47	47	48	48	48	48	49	49	49	49	51
I5P (33°S)	52	53	54	55	56	57	58	59	60	61	-	-	62	63	-	-	65
I5W (33°S)	66	66	66	66	67	67	67	67	68	68	68	68	69	69	69	69	71
I5E (30°S)	72	72	72	73	73	73	74	74	74	75	75	75	76	76	76	76	77
S4I (62°S)	78	78	79	79	80	80	81	81	82	82	83	83	84	-	84	85	87

Also available in the electronic version of the atlas: Additional parameter CFC-12.

Meridional Sections

	θ (°C)	S (PSS78)	γ^n (kg/m ³)	$\sigma_{0,2,4}$ (kg/m ³)	O ₂ (μ mol/kg)	NO ₃ (μ mol/kg)	NO ₂ (μ mol/kg)	PO ₄ (μ mol/kg)	Si (μ mol/kg)	CFC-11 (pmol/kg)	TCO ₂ (μ mol/kg)	Alk (μ mol/kg)	$\delta^3\text{He}$ (%)	Tr (TU)	$\Delta^{14}\text{C}$ (‰)	$\delta^{13}\text{C}$ (‰)	PvP plot & Basemap
I6 (30°E)	page 88	88	88	89	89	89	-	90	90	90	91	91	91	92	92	92	93
I7 (60°E)	94	94	95	95	96	96	97	97	98	98	99	99	100	100	101	101	103
I7PG (62°E)	104	104	104	104	105	105	105	105	106	106	106	106	107	107	107	107	109
I8N (80°E)	110	110	110	111	111	111	112	112	112	113	113	113	114	114	114	115	117
I8I9 (95°E)	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	135
I9S (115°E)	136	136	136	137	137	137	138	138	138	139	139	139	140	140	140	141	143
I10 (110°E)	144	144	144	144	145	145	145	145	146	146	146	146	147	147	147	147	149
IR6 (1989)(116°E)	150	150	150	151	151	151	-	152	152	152	153	153	153	154	154	-	155

Also available in the electronic version of the atlas: Additional parameter CFC-12.

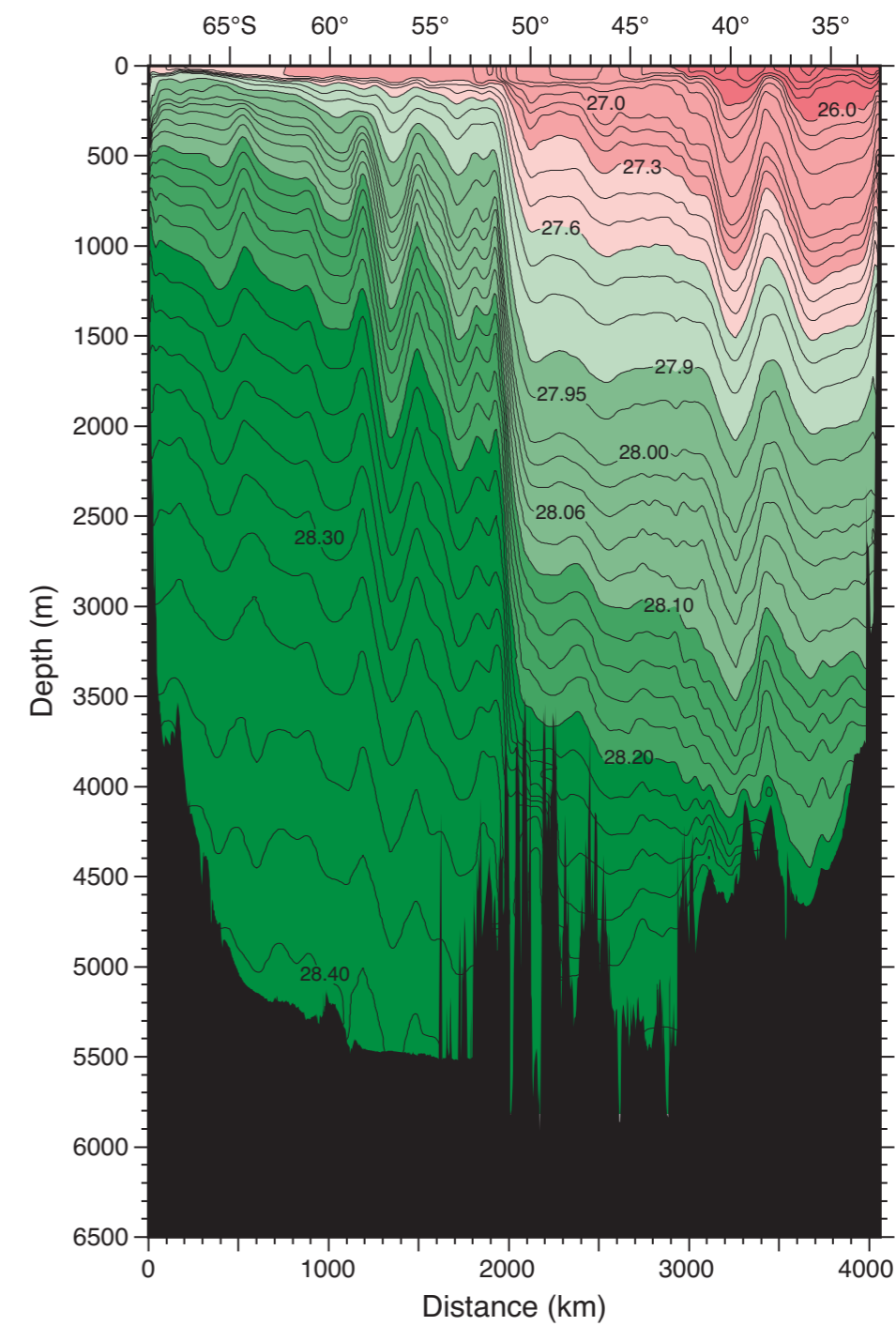
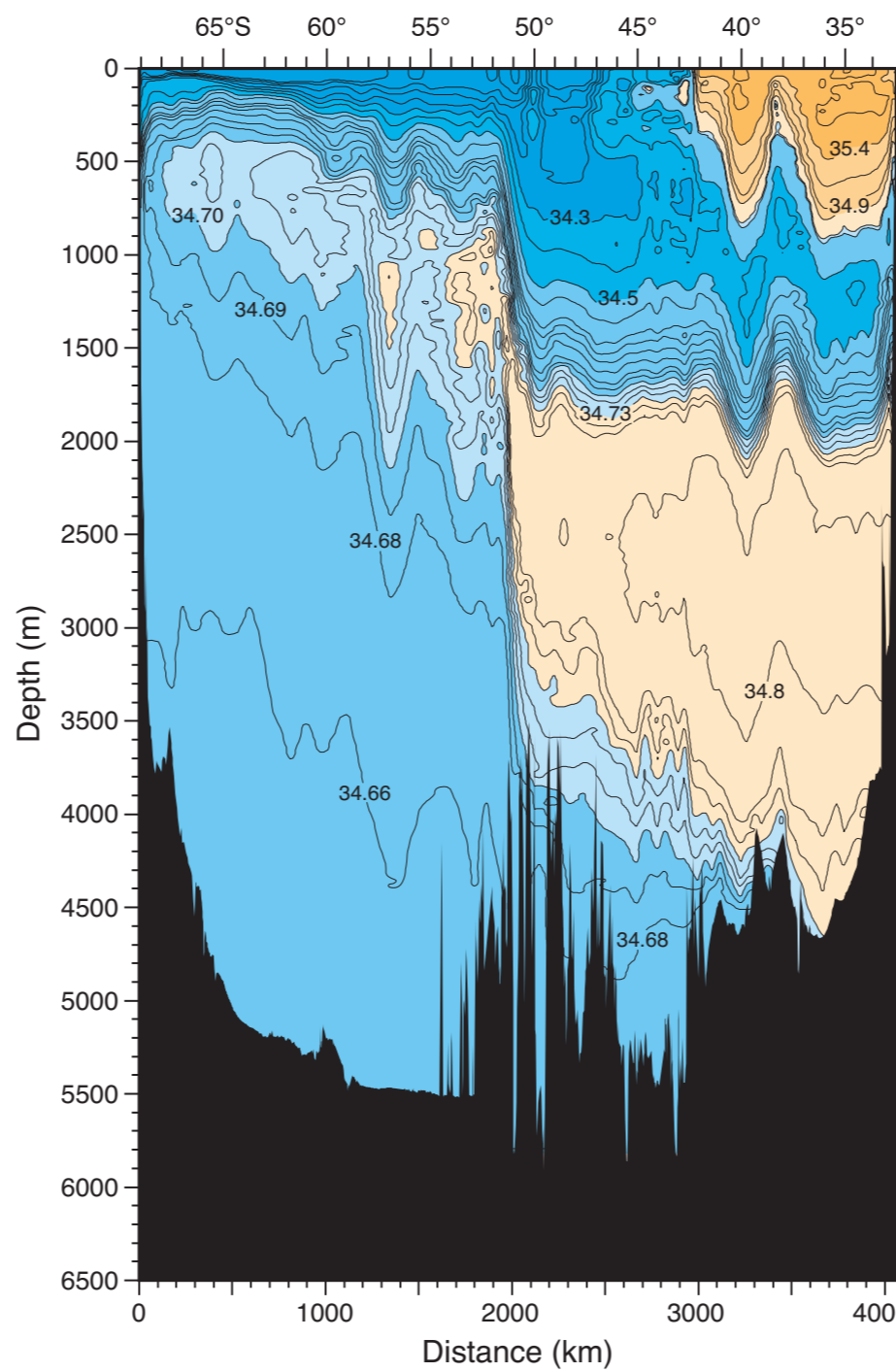
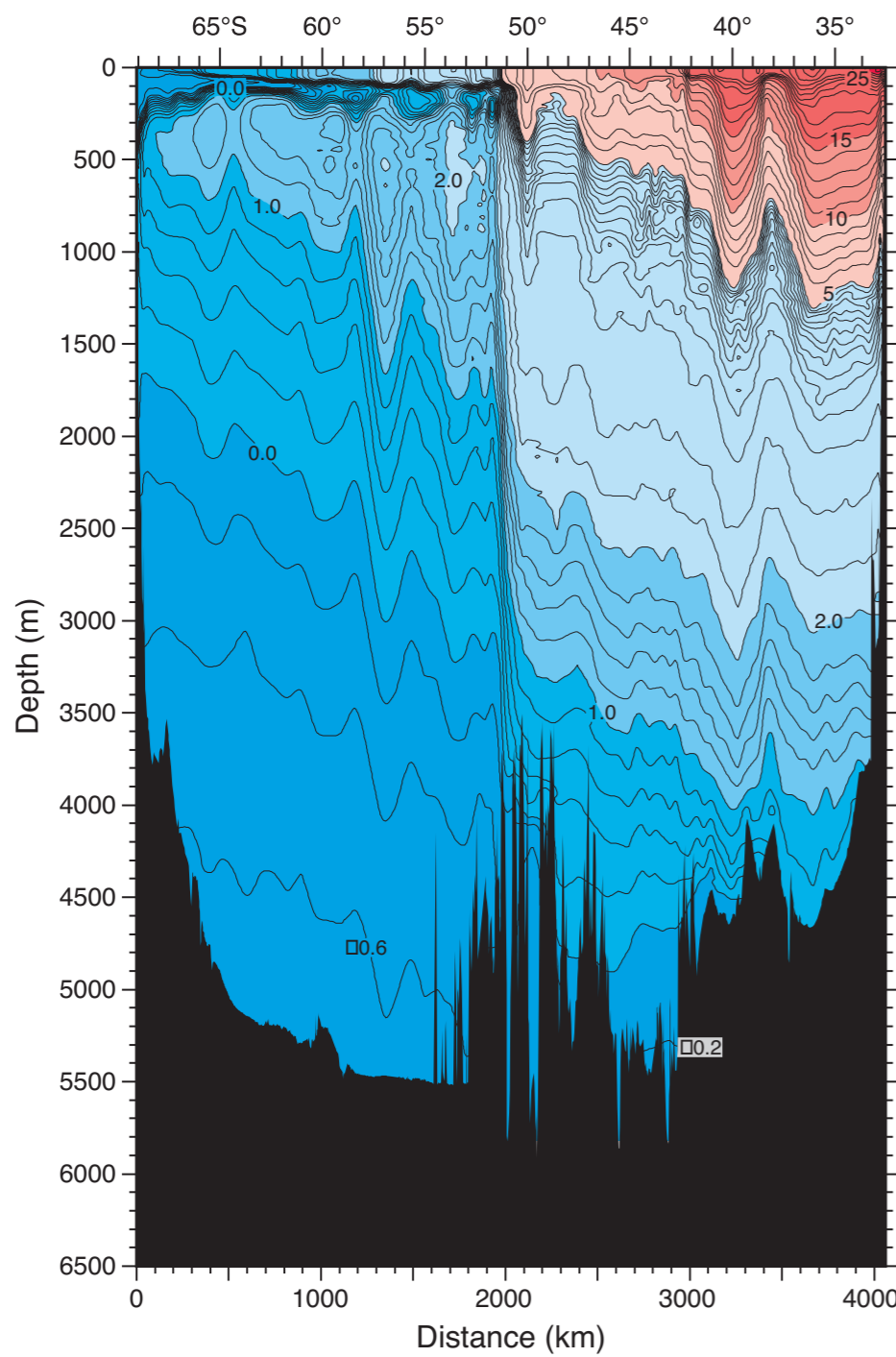
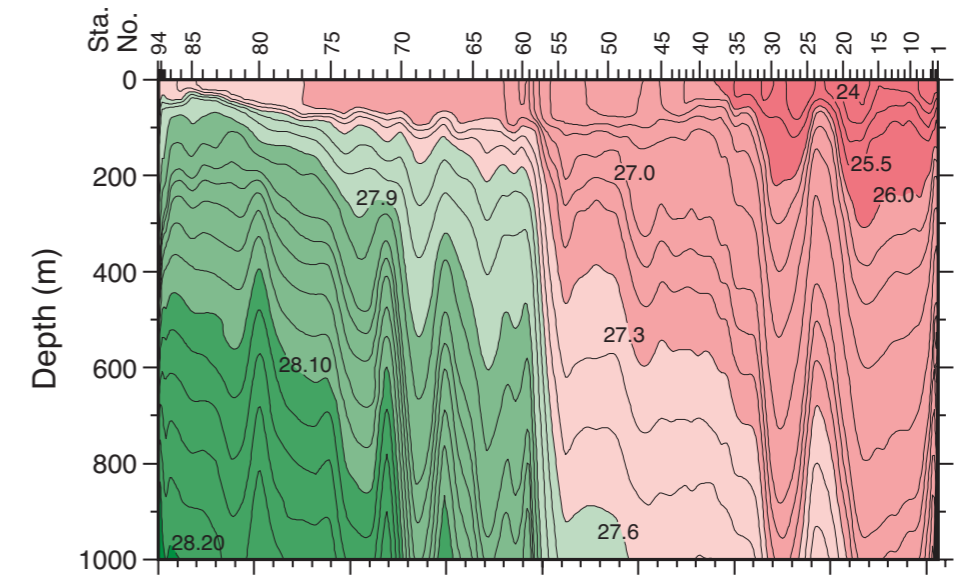
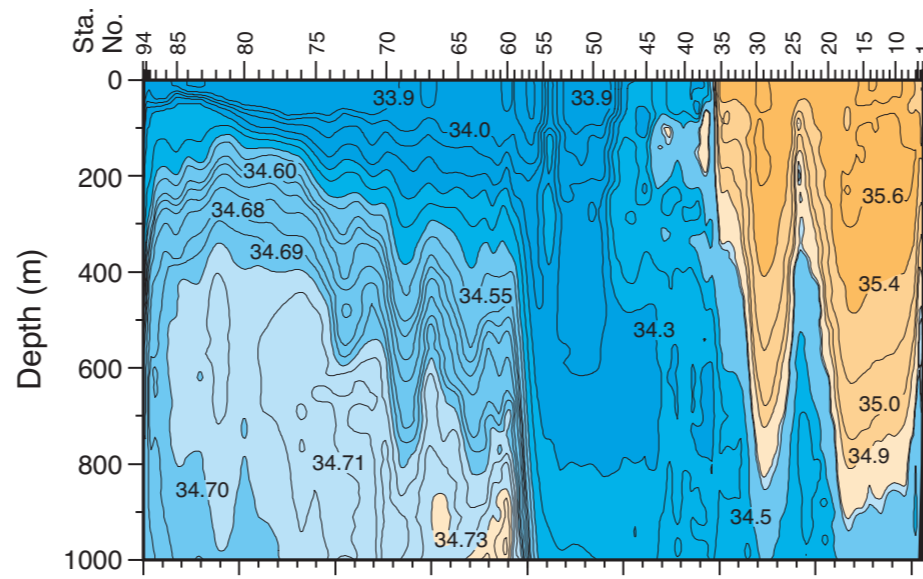
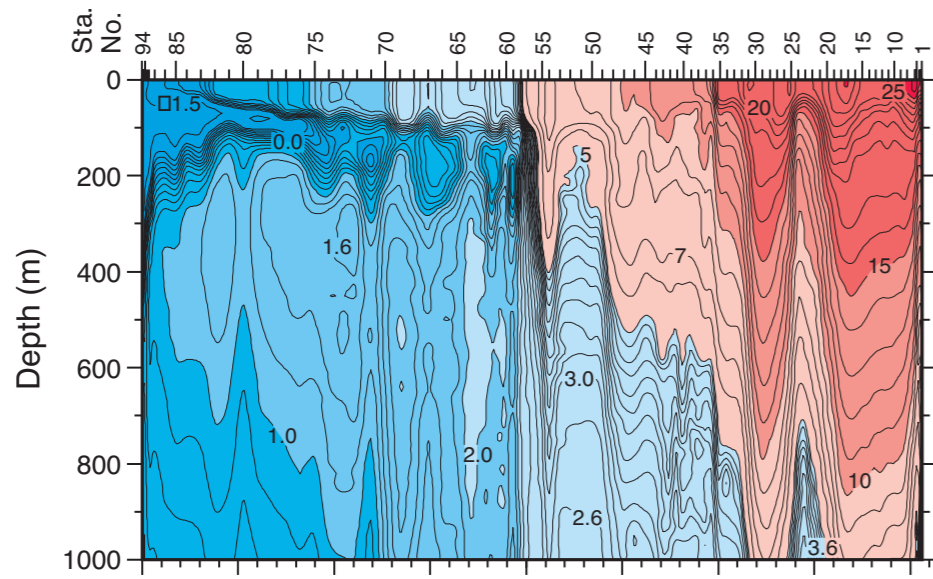


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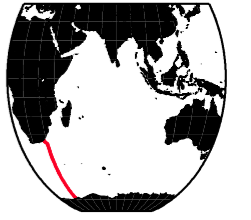
Potential Temperature (°C)

Salinity (PSS78)

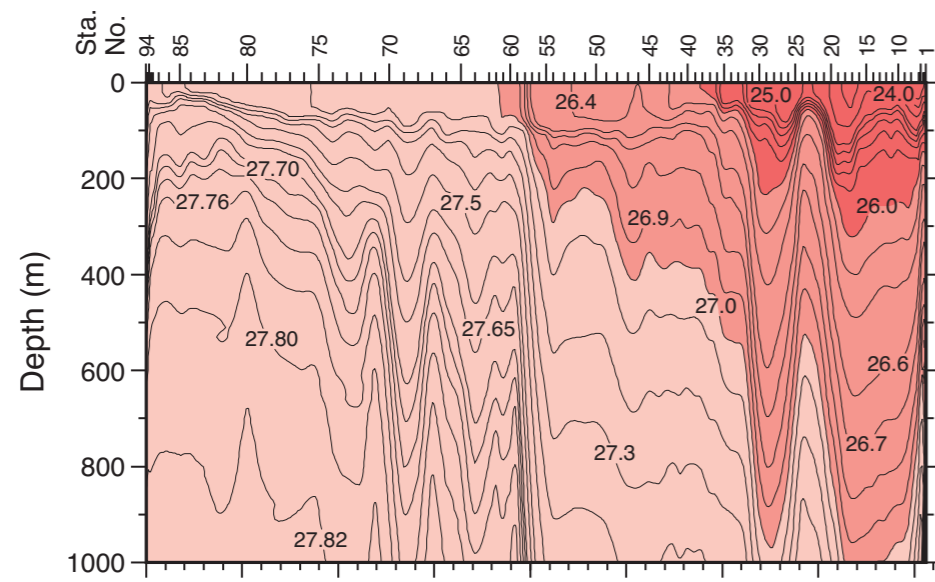
Neutral Density (kg/m³)



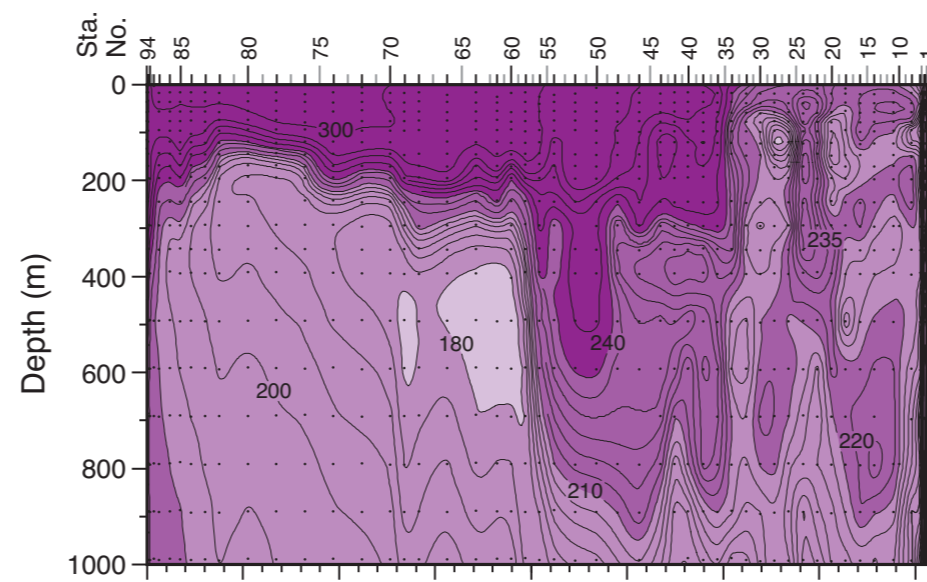
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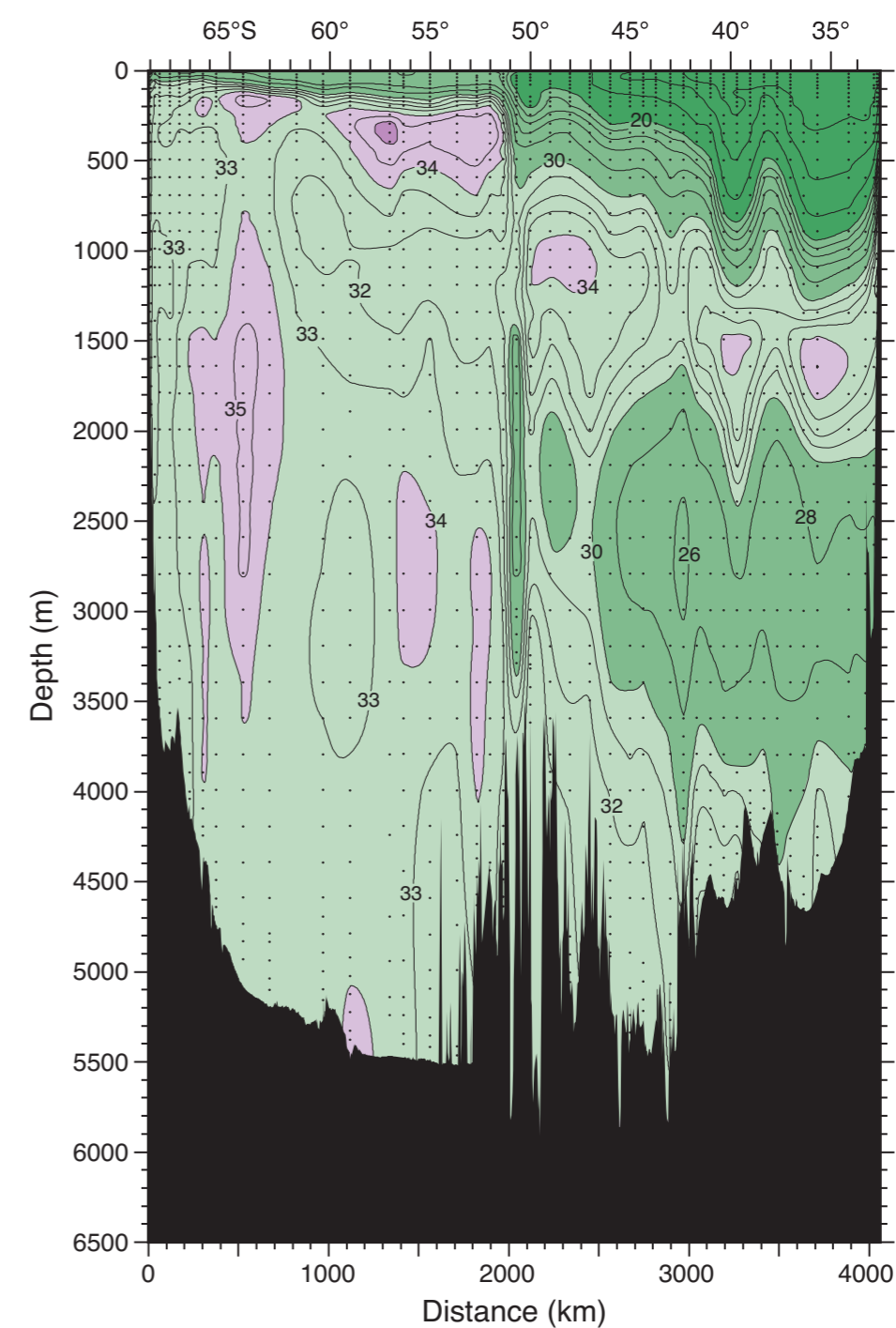
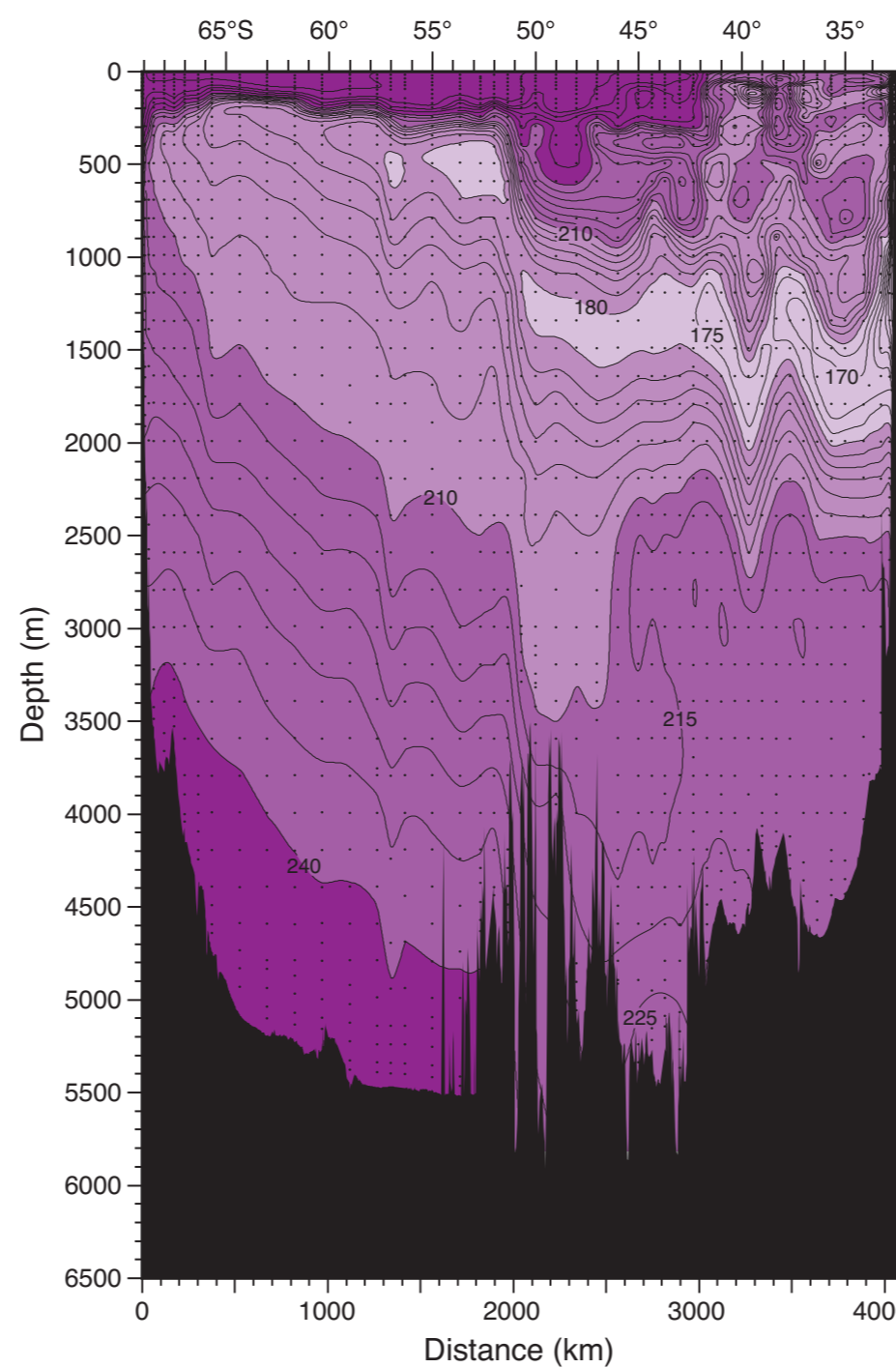
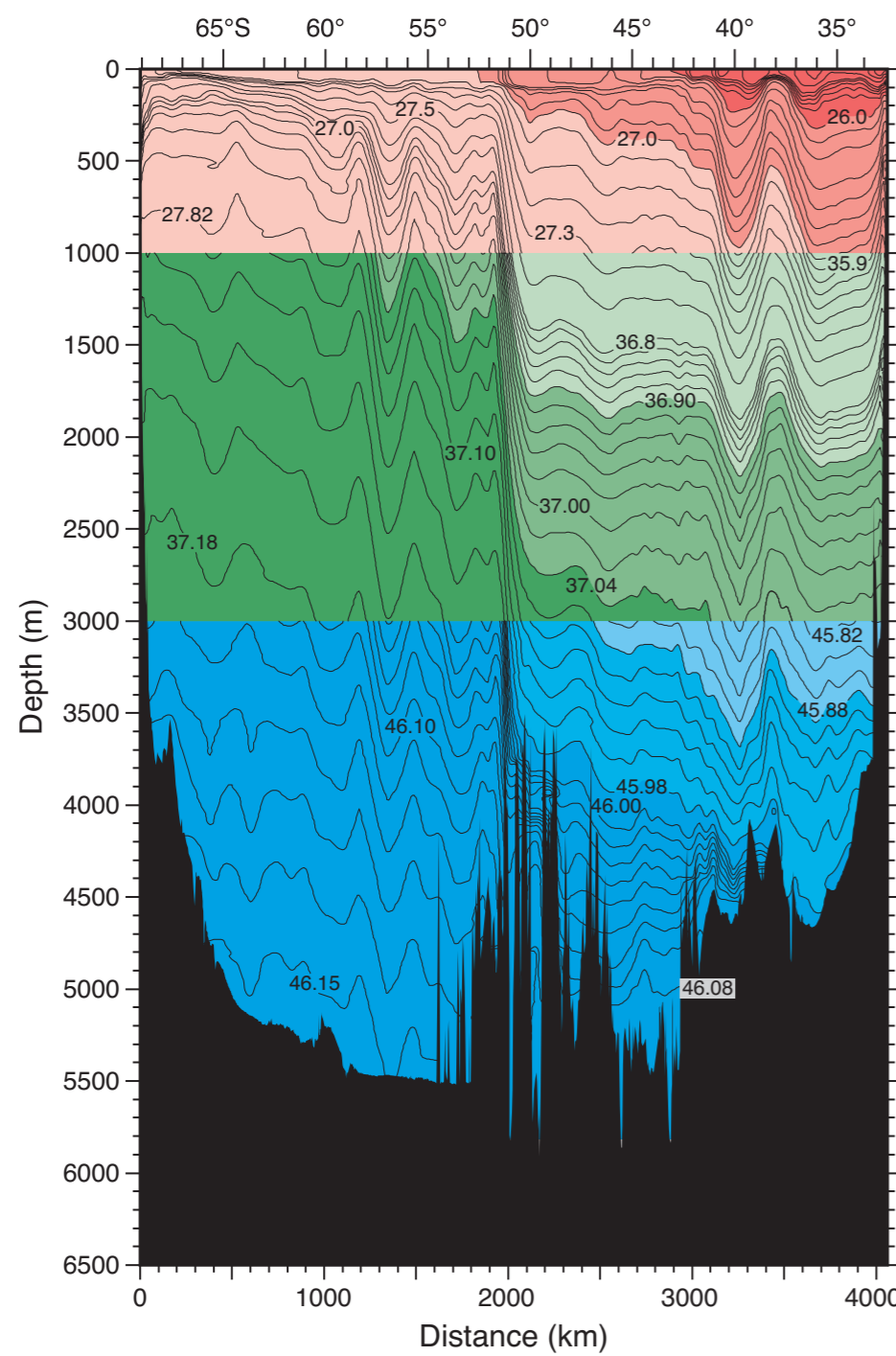
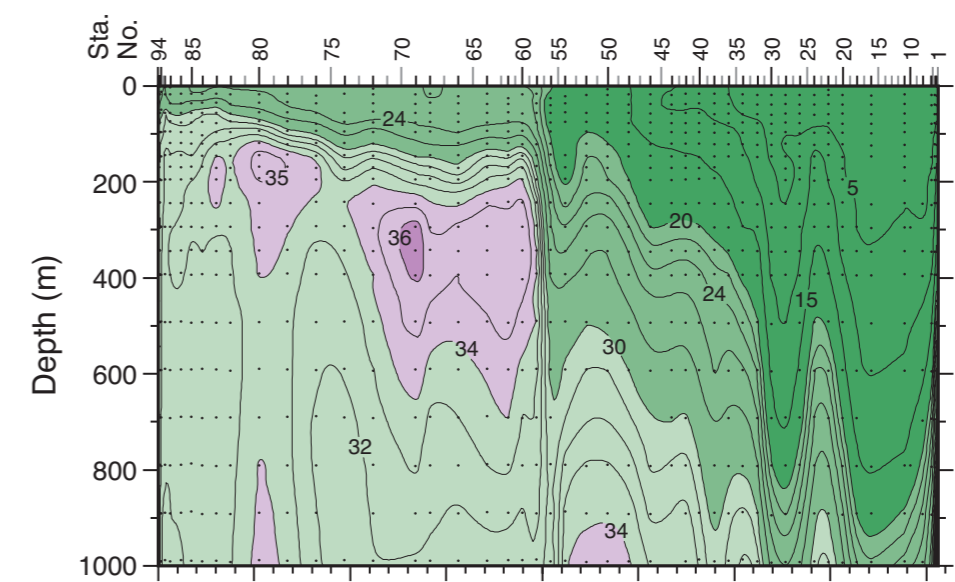
σ_0, σ_2 and σ_4 (kg/m³)

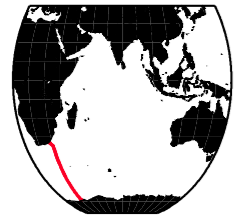


Oxygen ($\mu\text{mol/kg}$)



Nitrate ($\mu\text{mol/kg}$)



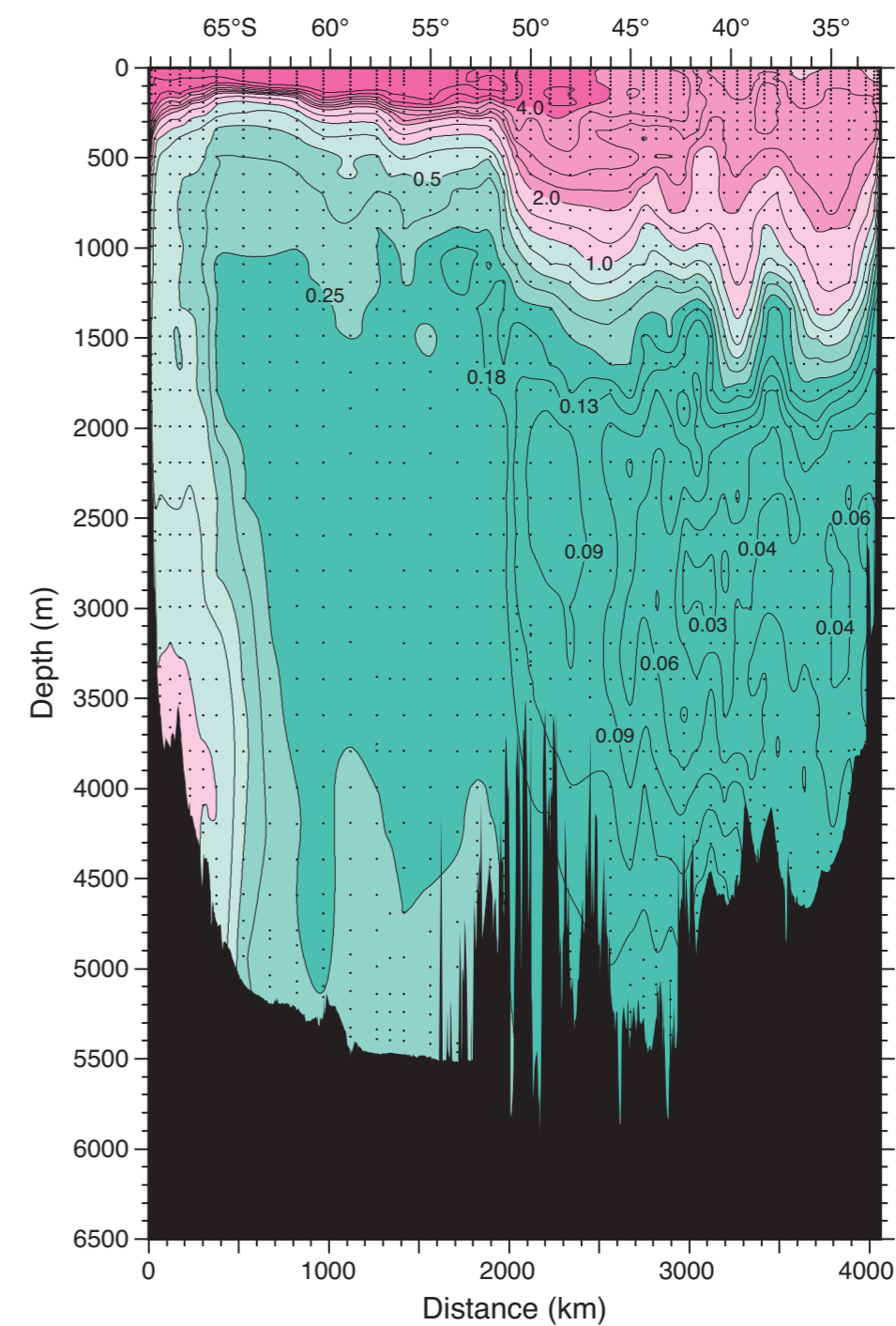
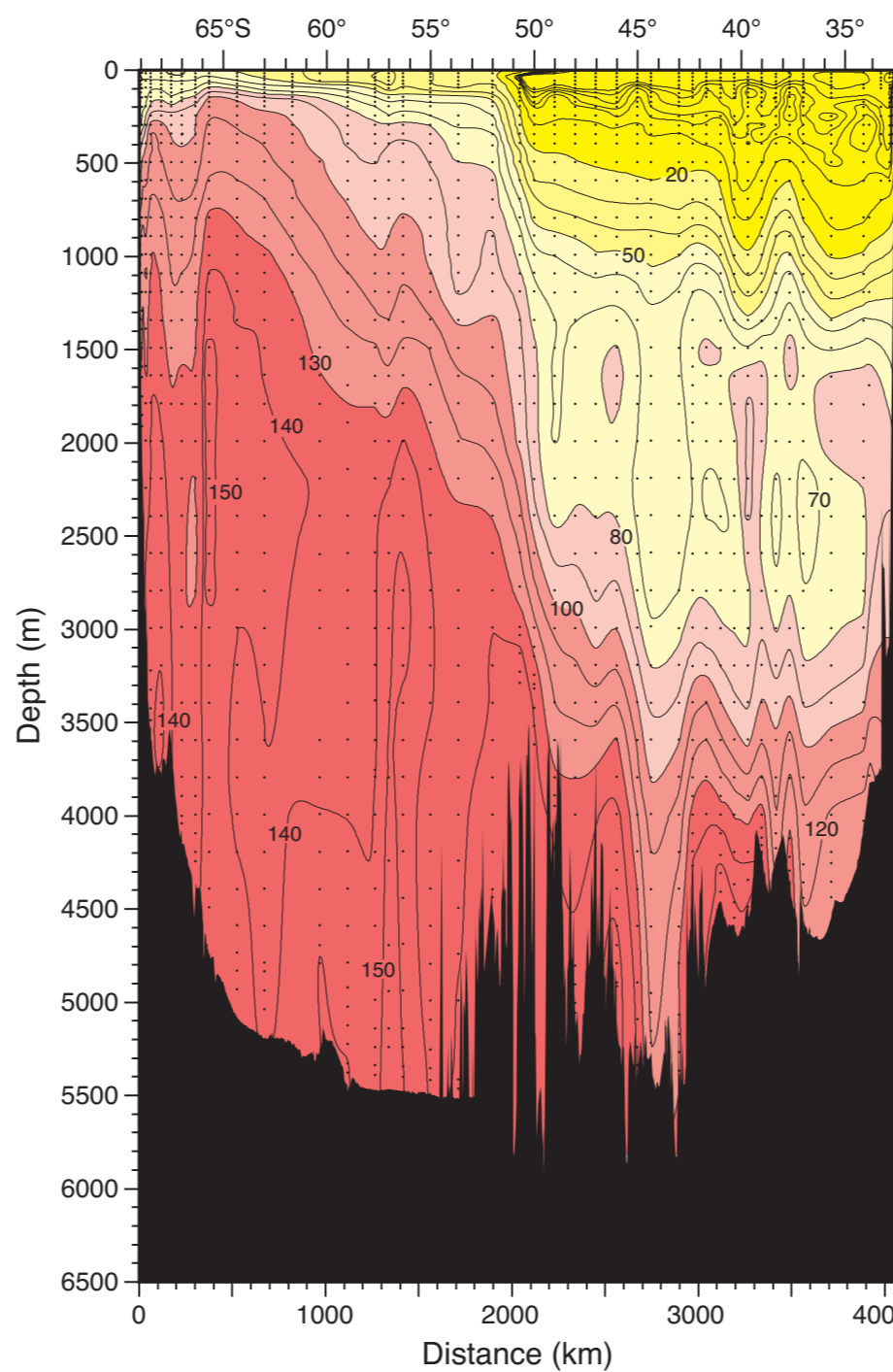
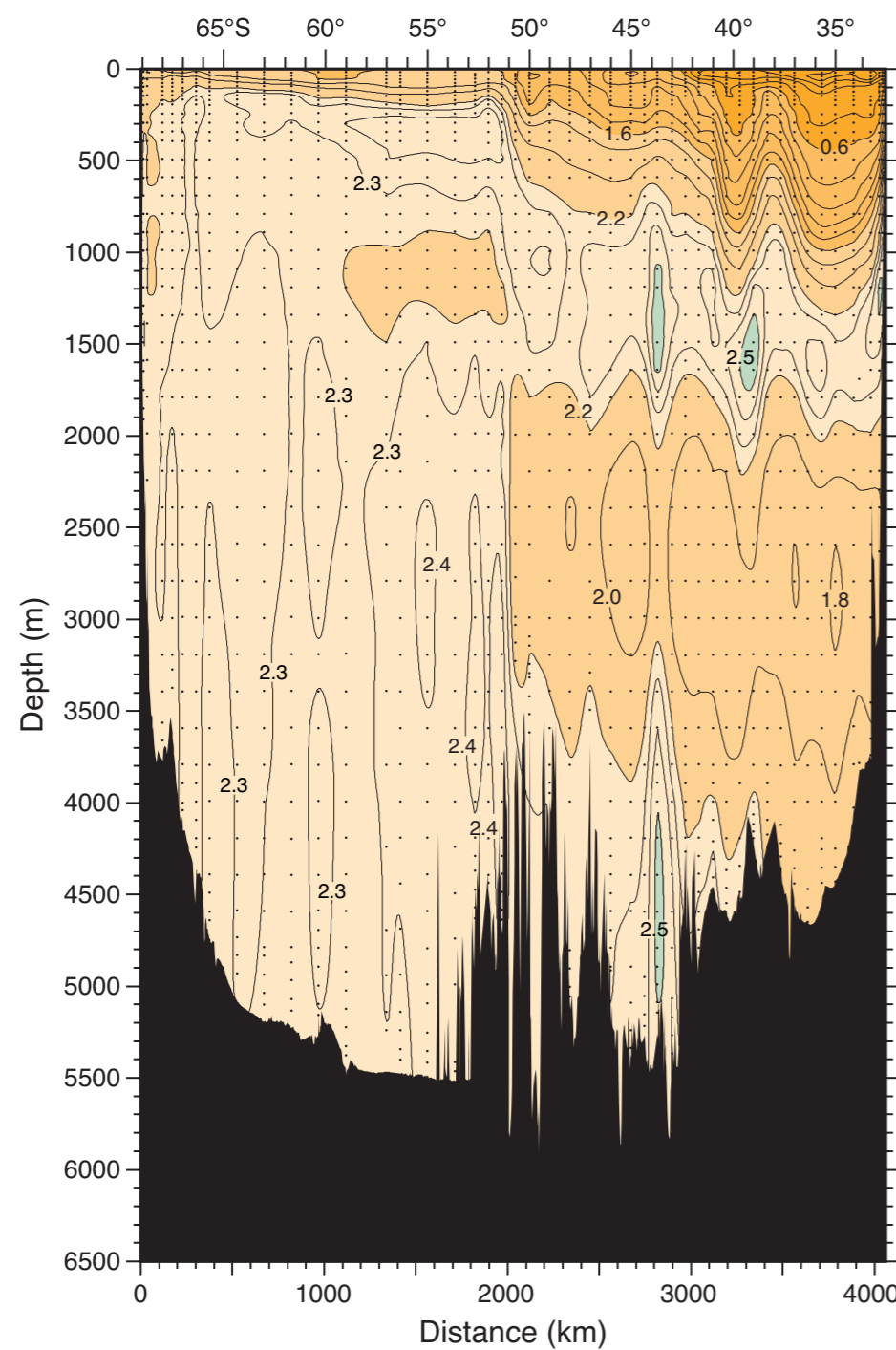
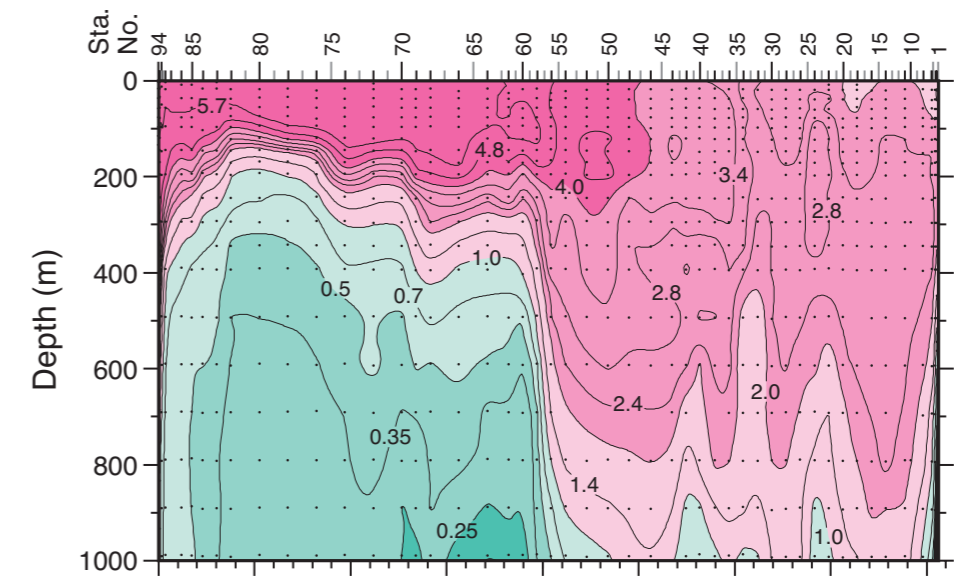
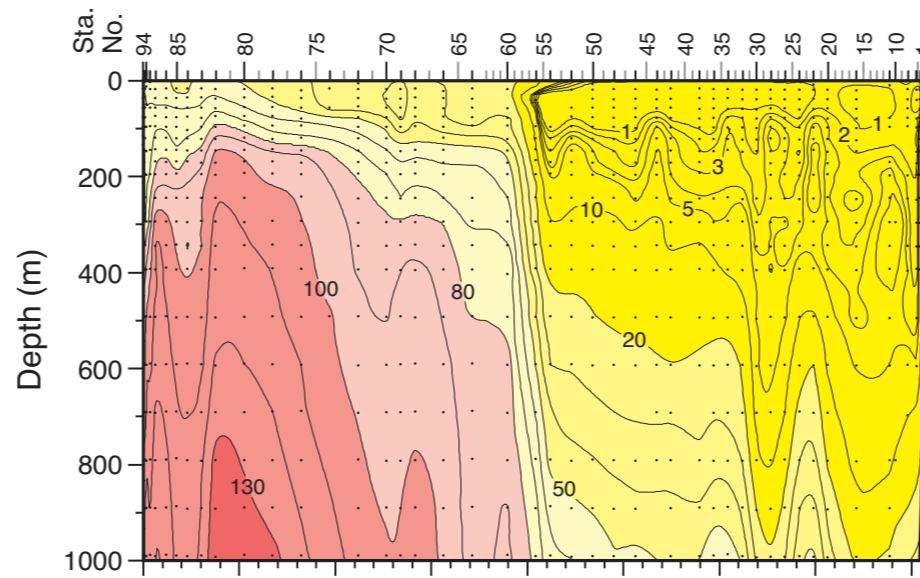
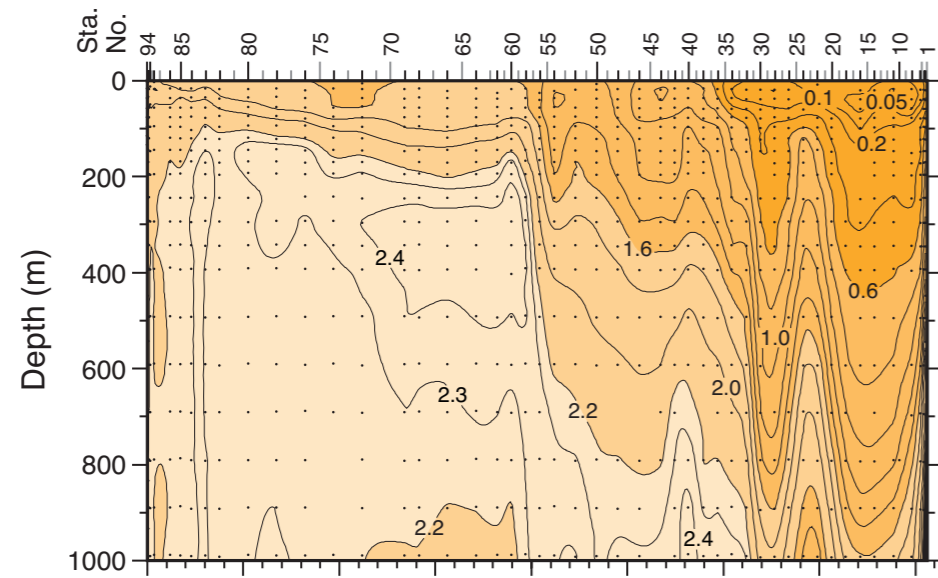


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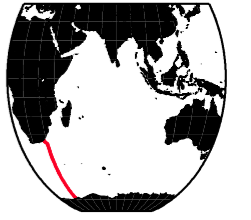
Phosphate ($\mu\text{mol/kg}$)

Dissolved Silica ($\mu\text{mol/kg}$)

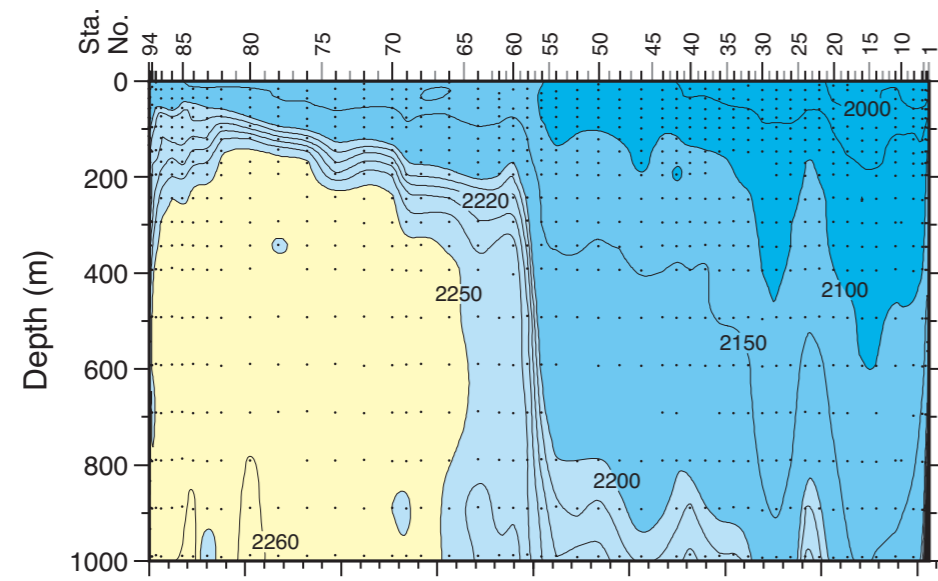
CFC-11 (pmol/kg)



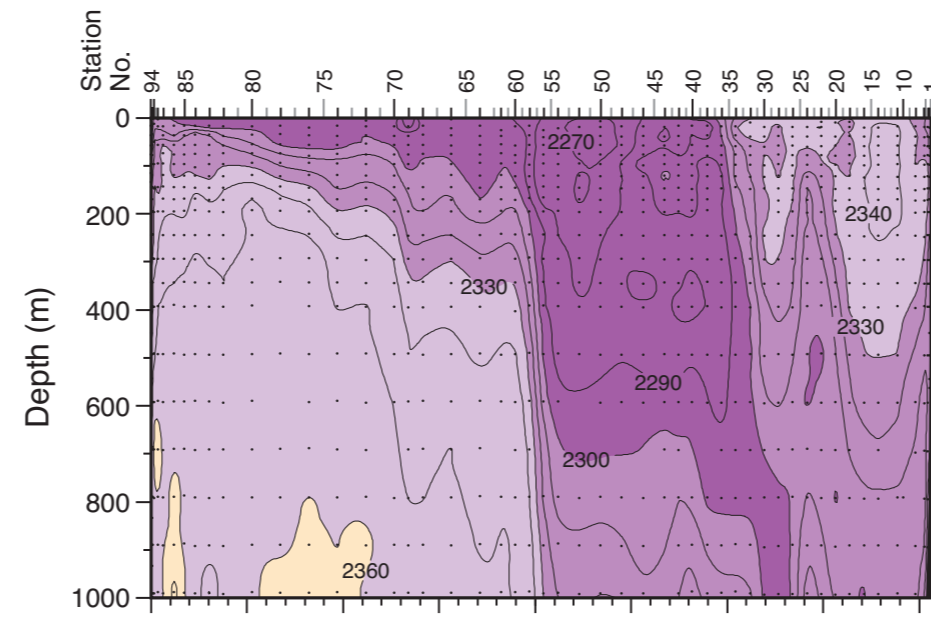
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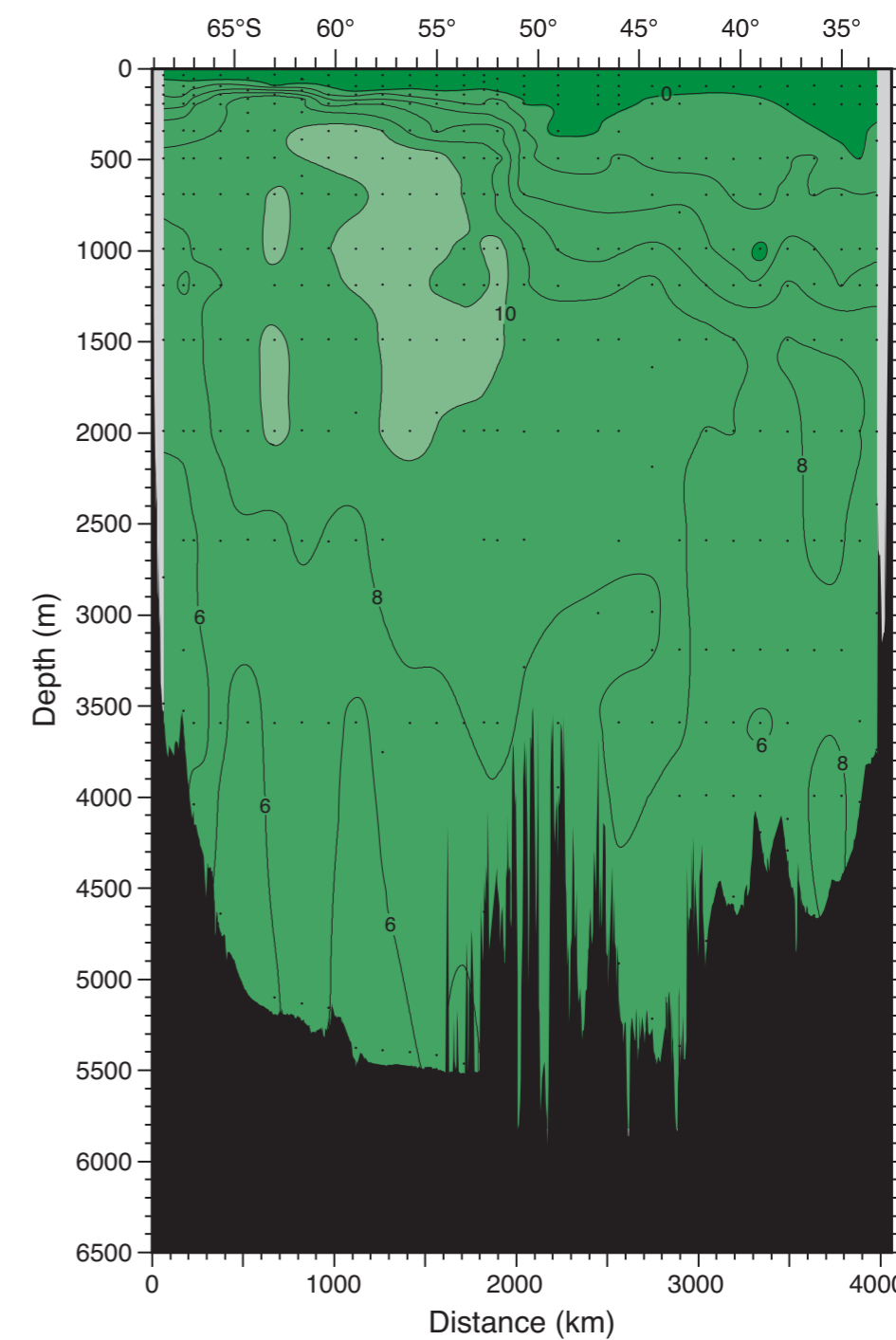
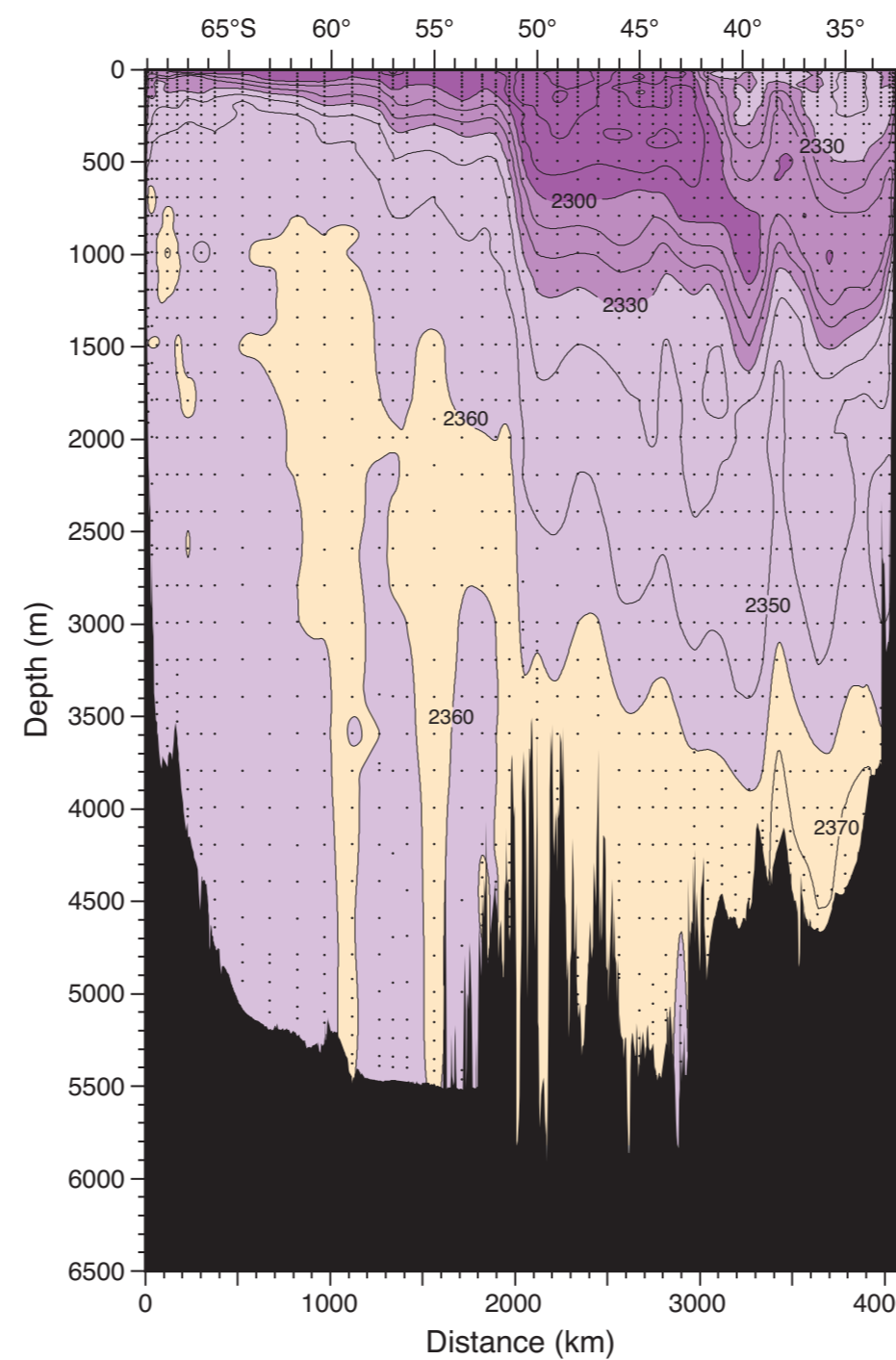
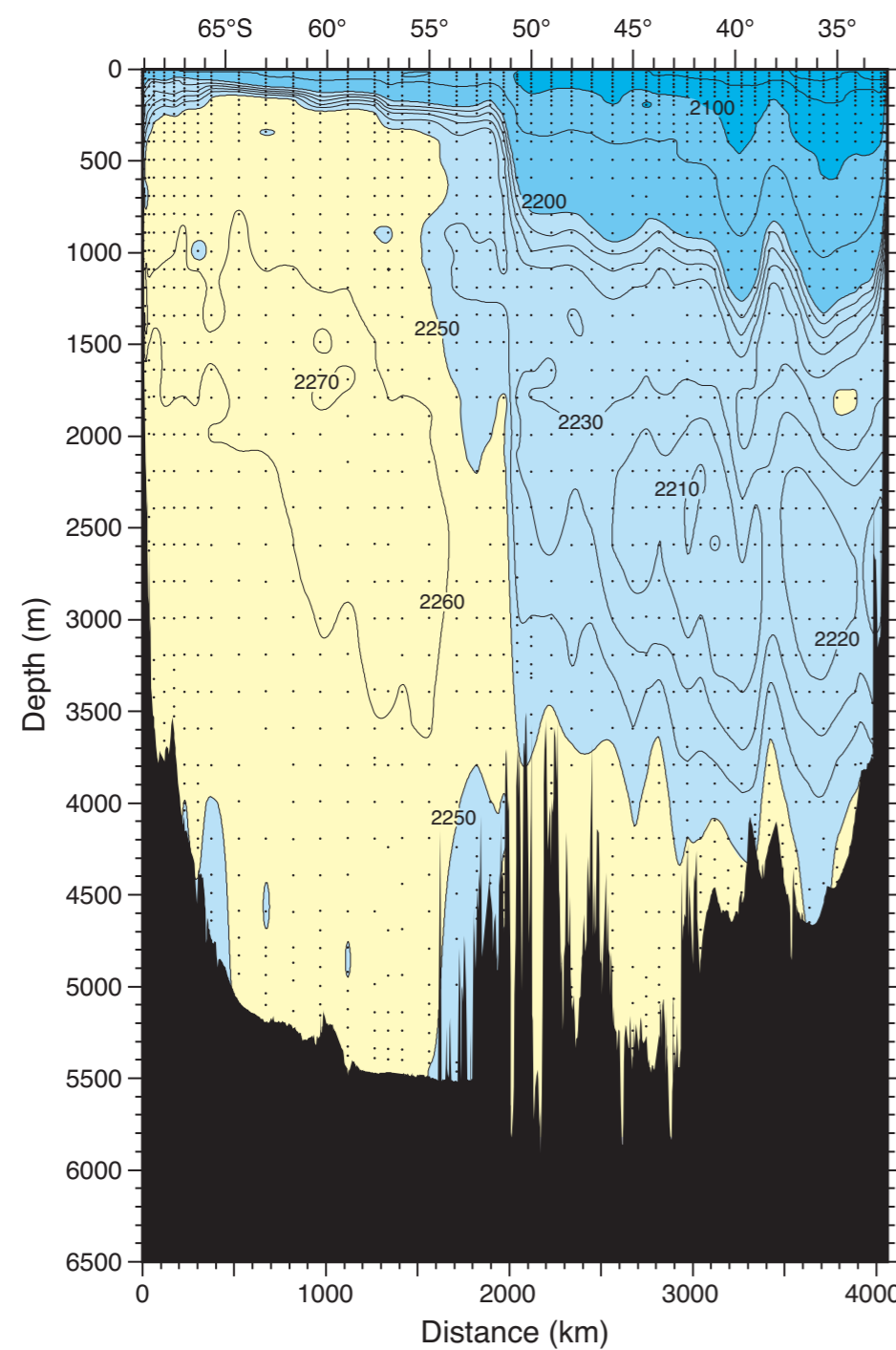
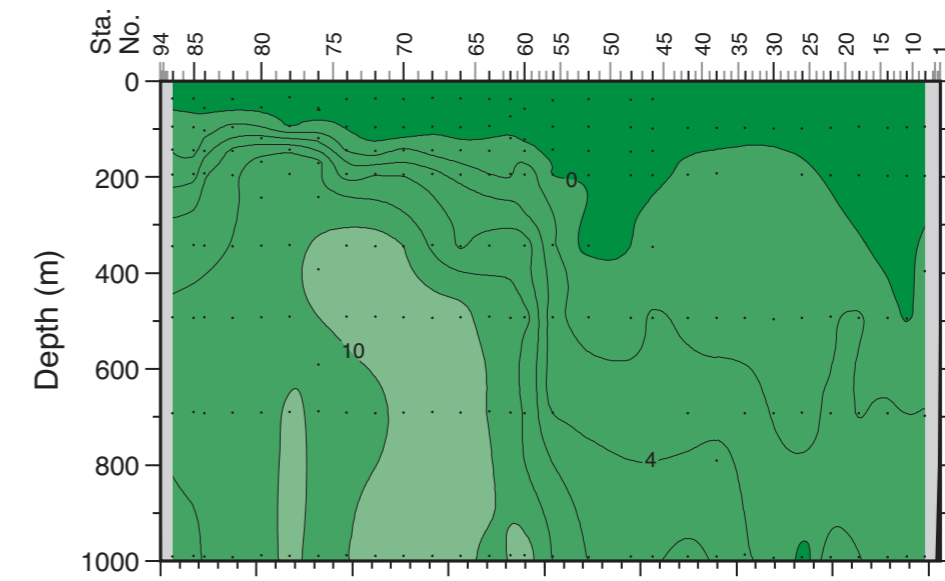
Total Carbon ($\mu\text{mol/kg}$)

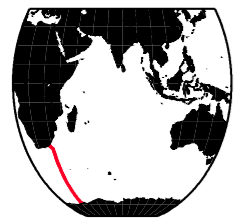


Alkalinity ($\mu\text{mol/kg}$)



$\delta^3\text{He}$ (%)



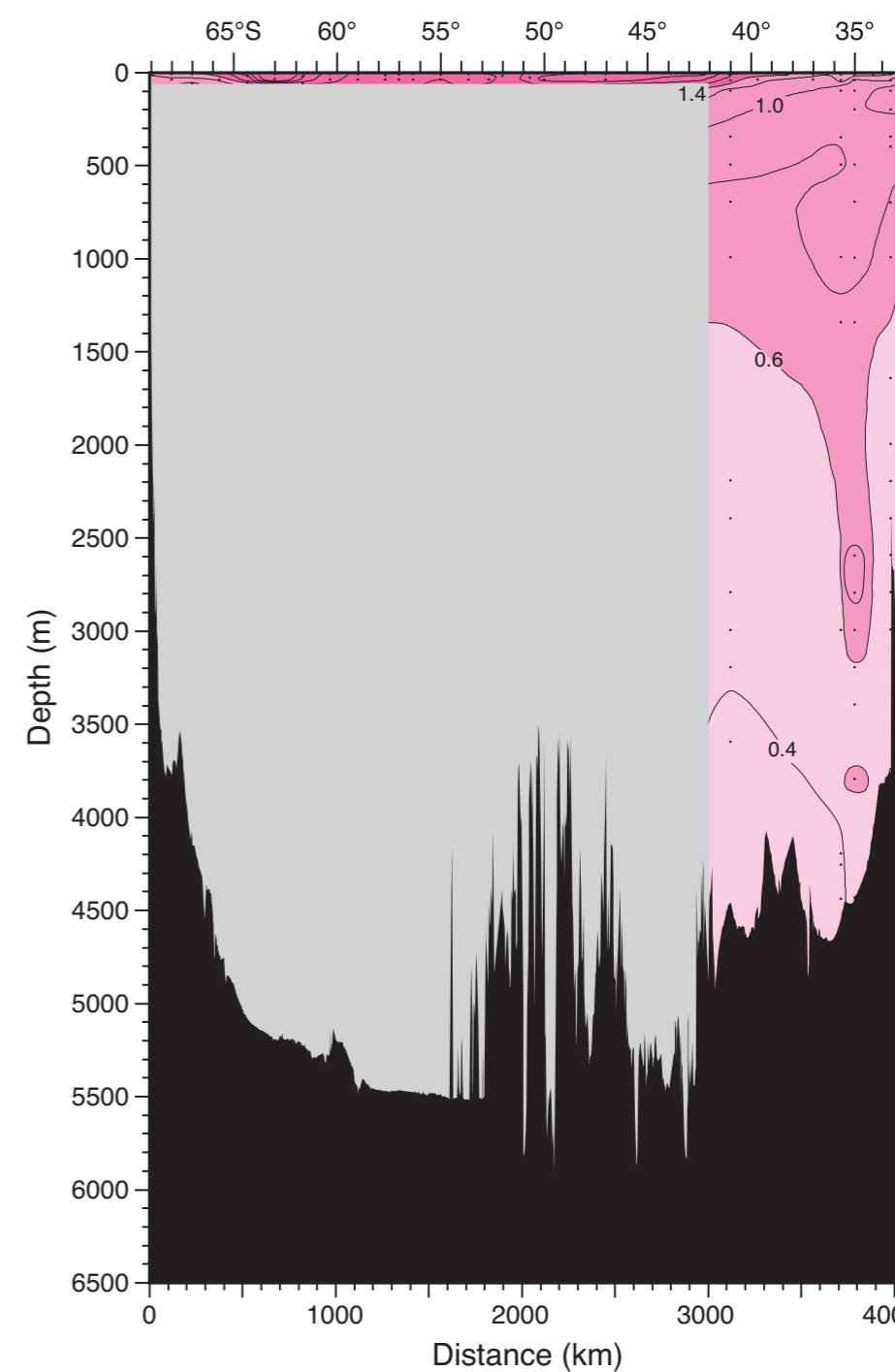
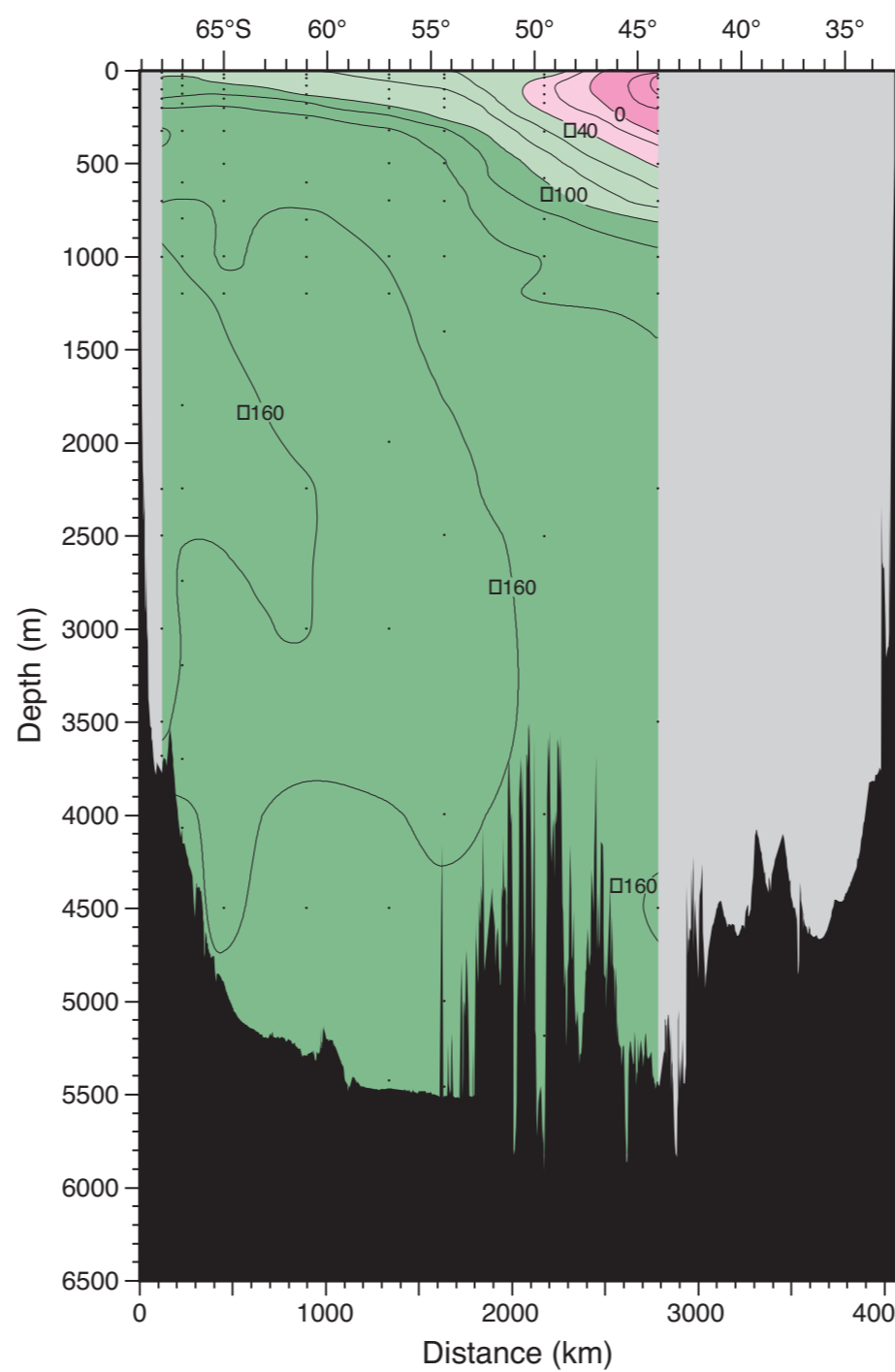
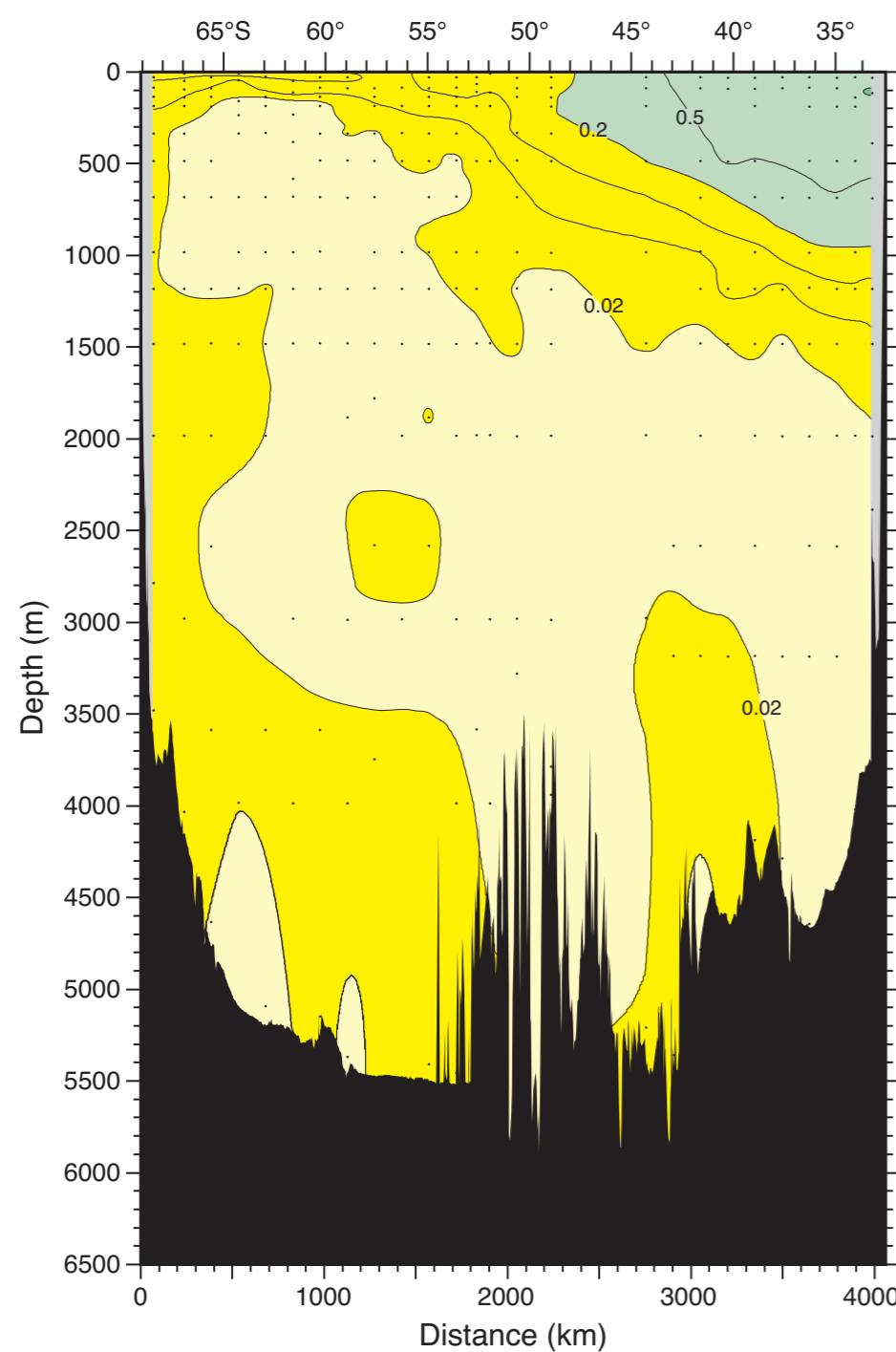
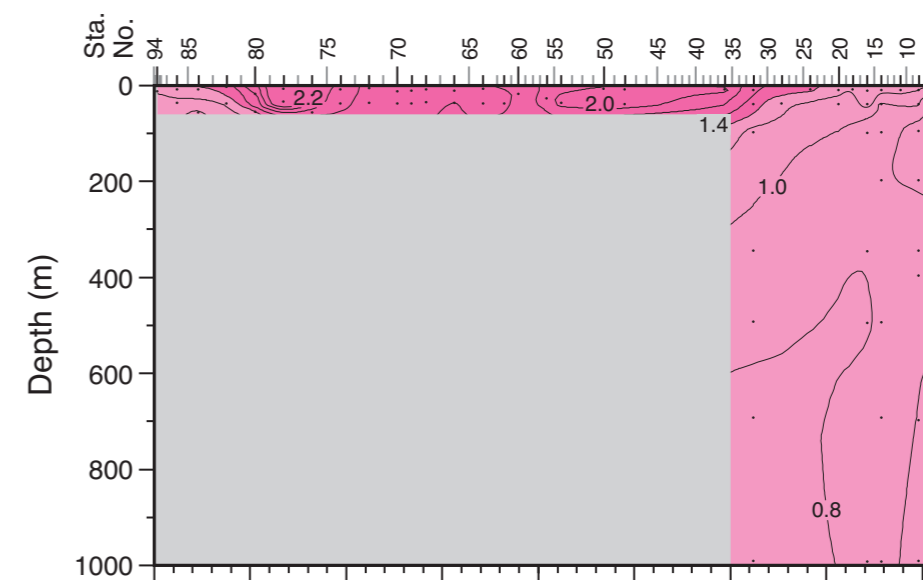
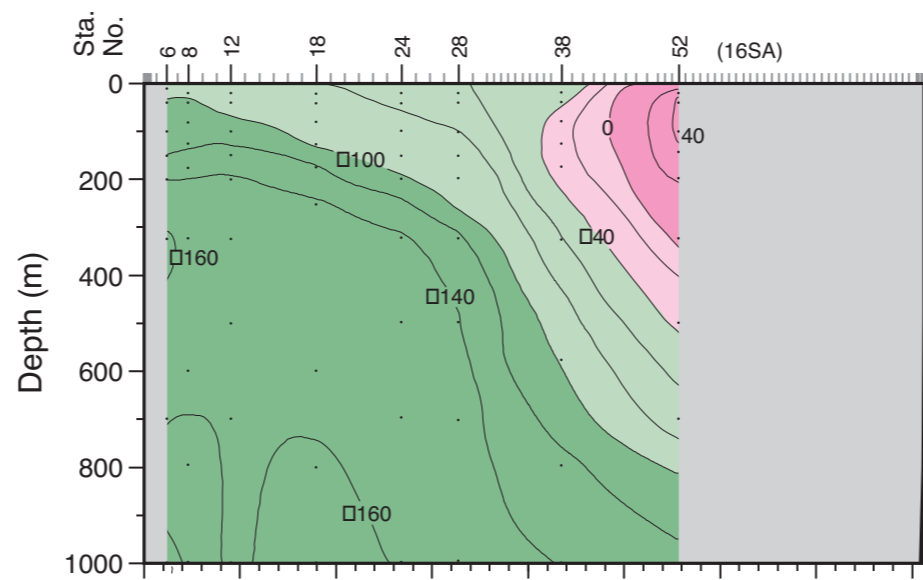
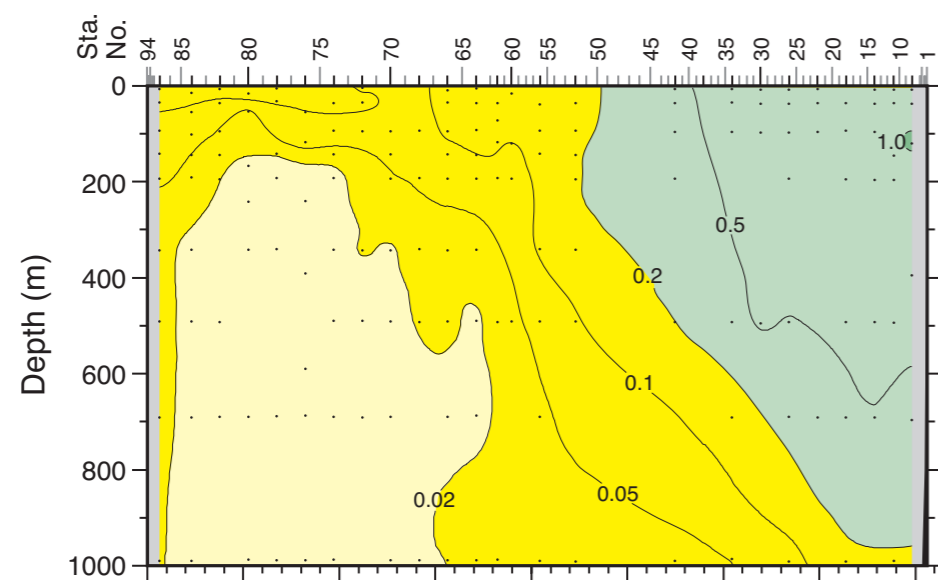


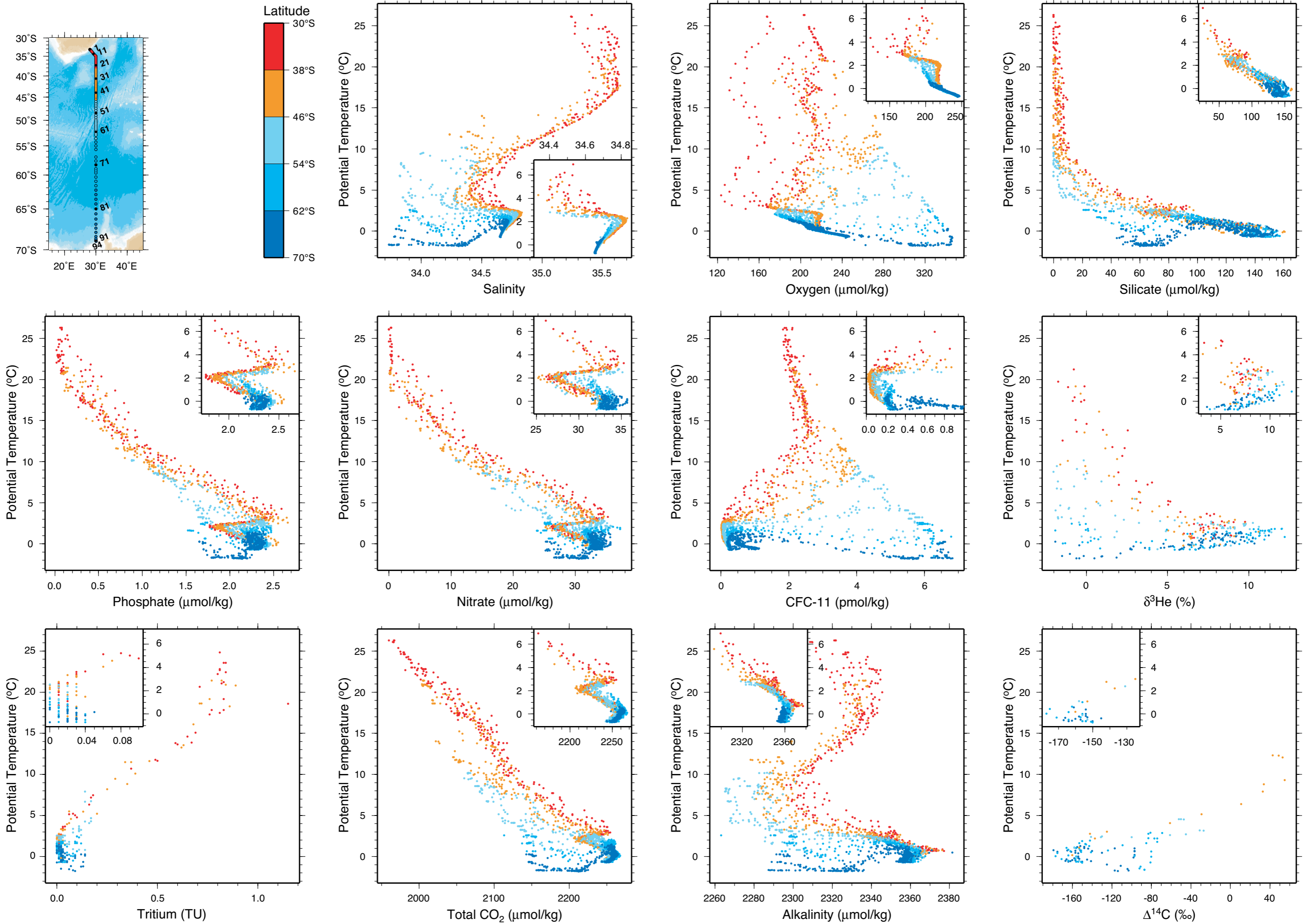
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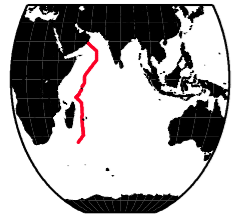
Tritium (TU)

$\Delta^{14}\text{C}$ (‰)

$\delta^{13}\text{C}$ (‰)

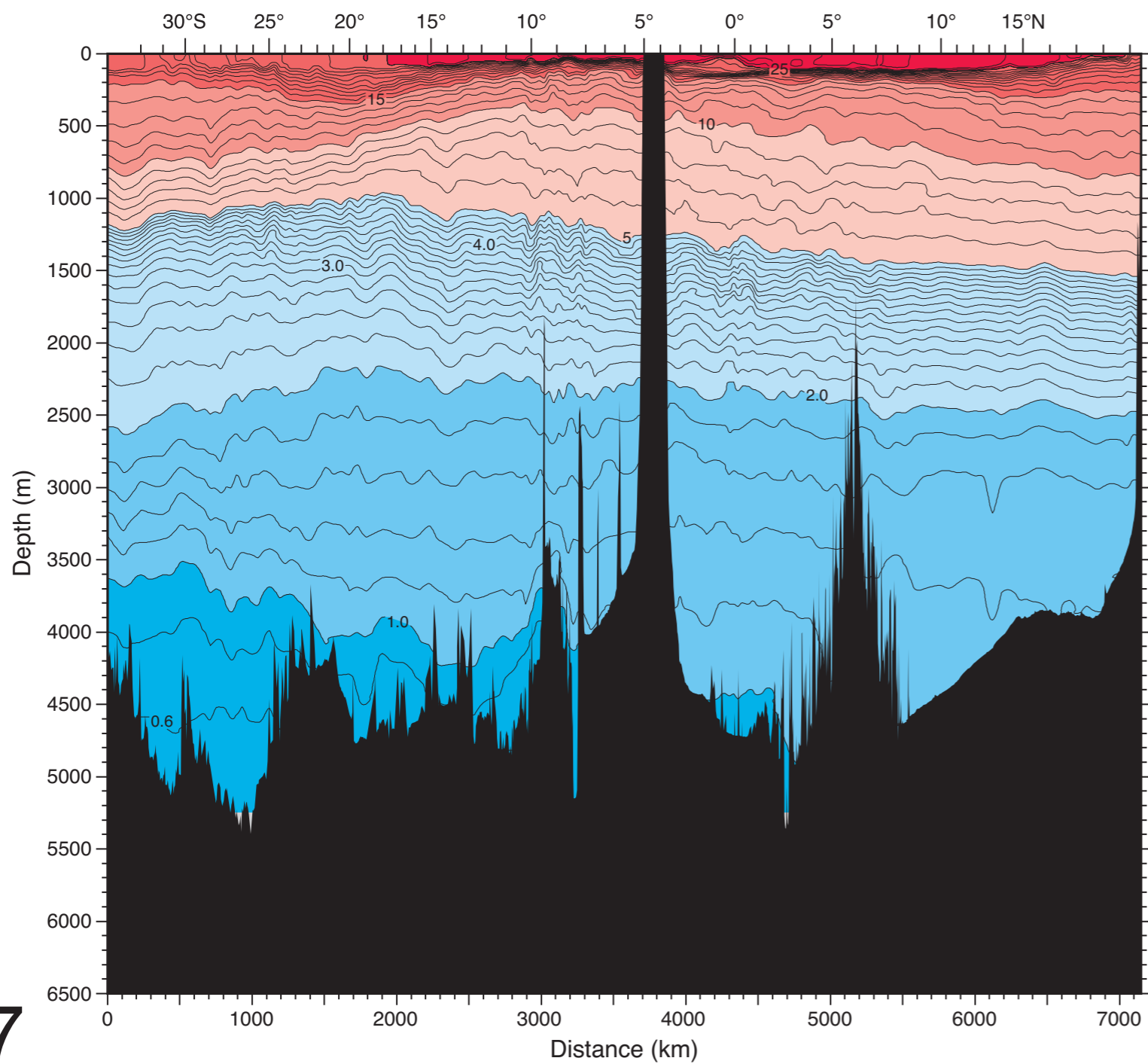
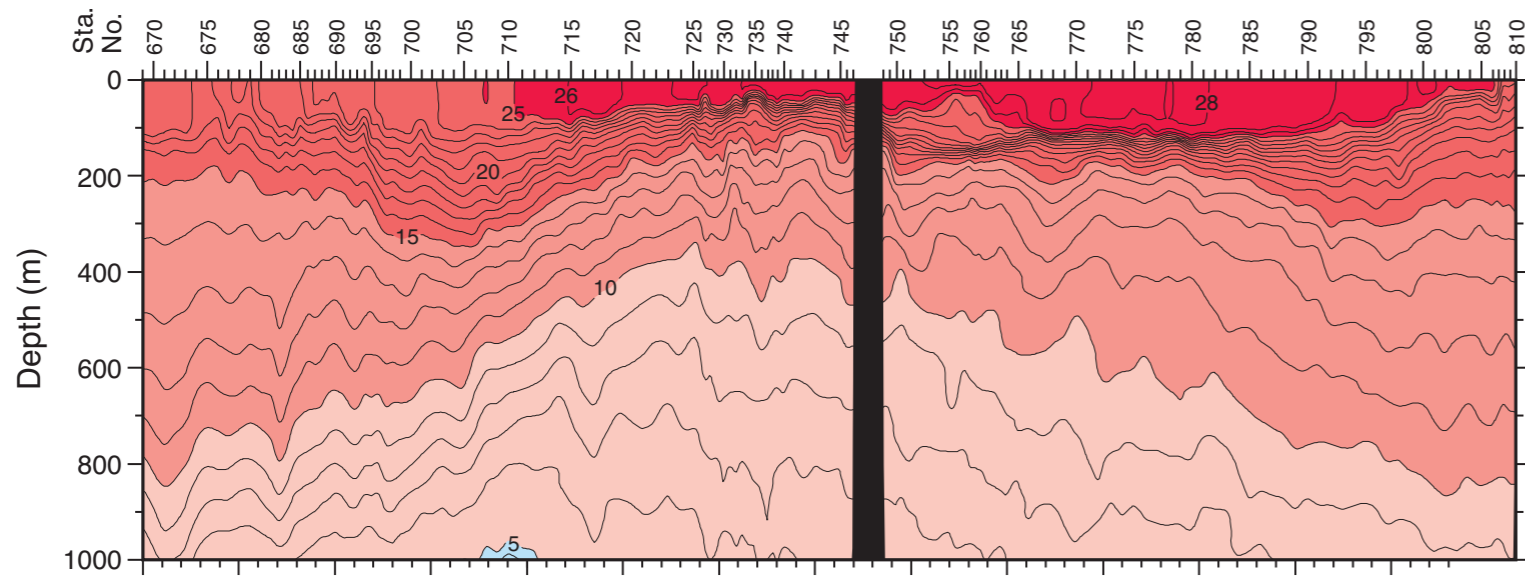




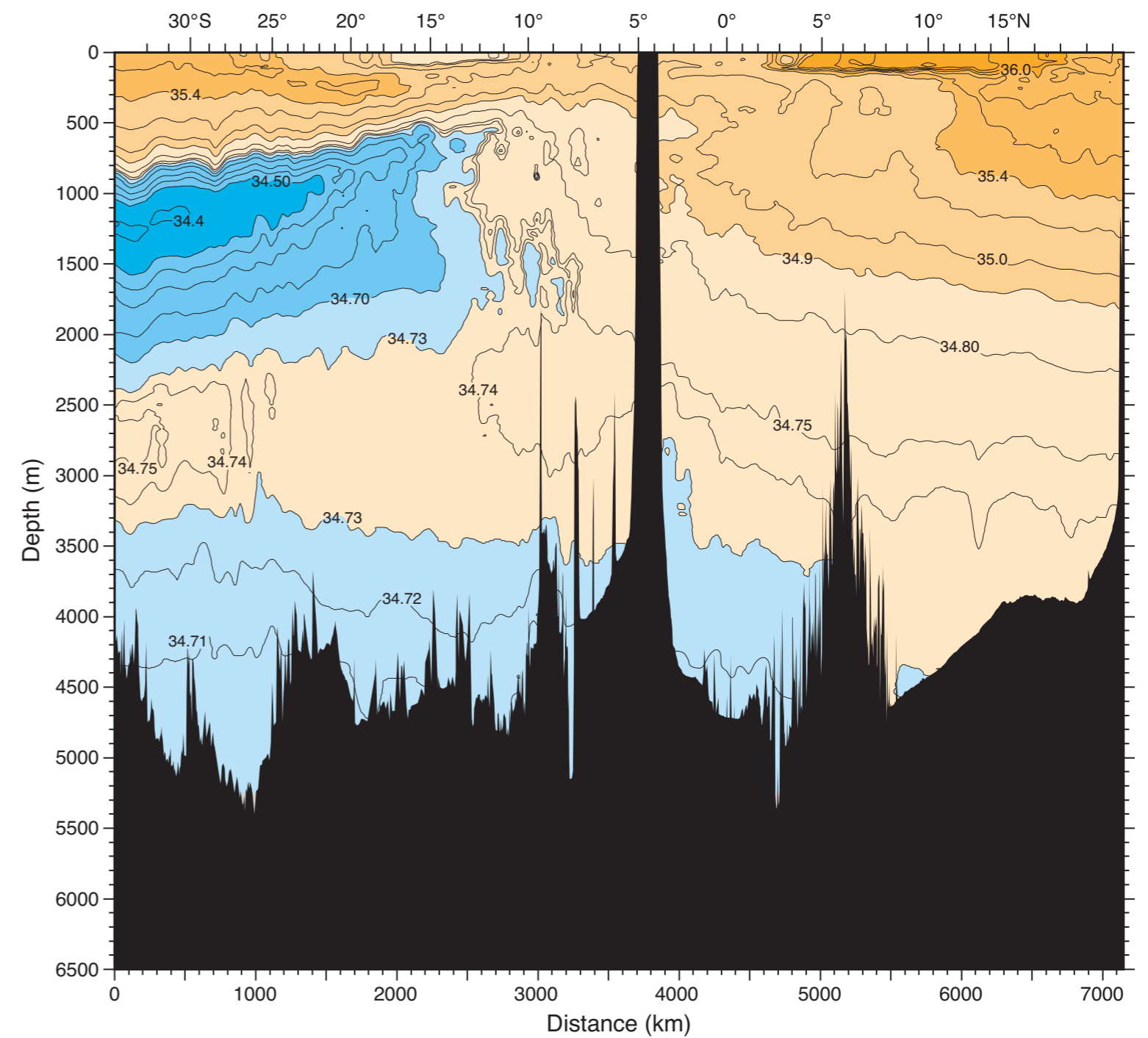
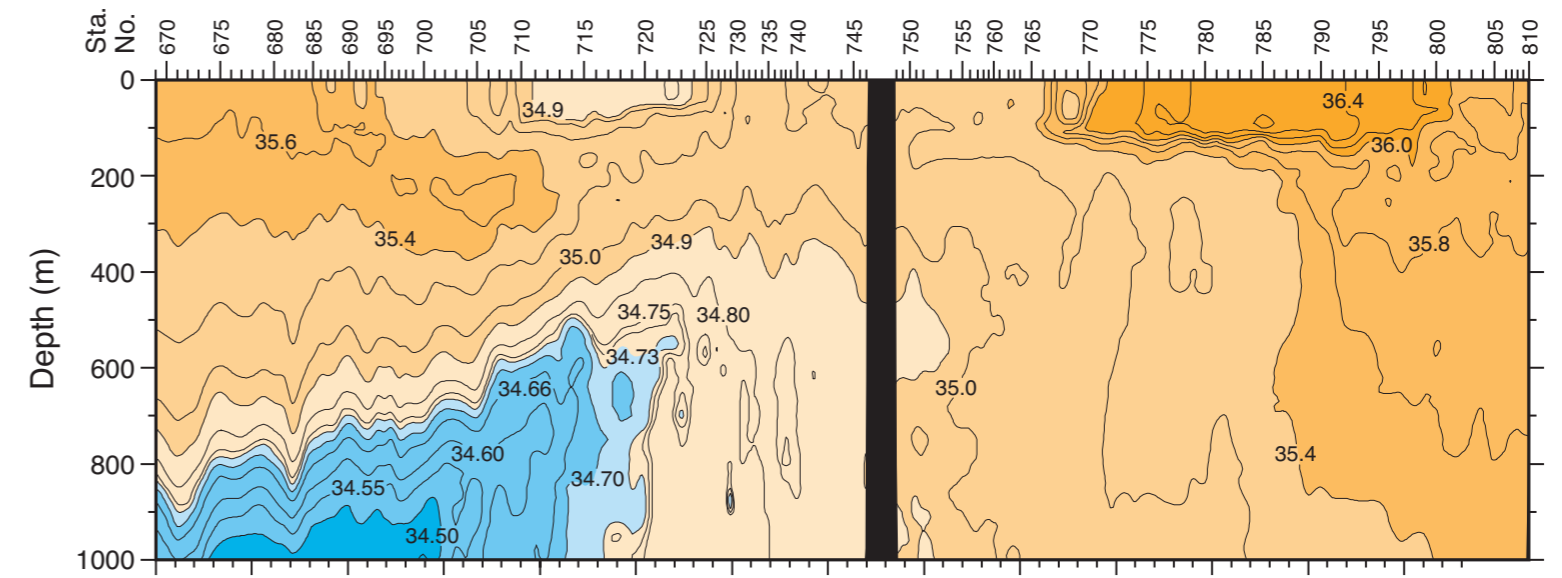


17 (60°E)

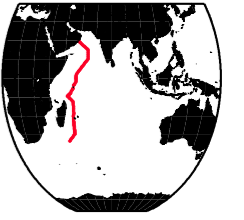
Potential Temperature (°C)



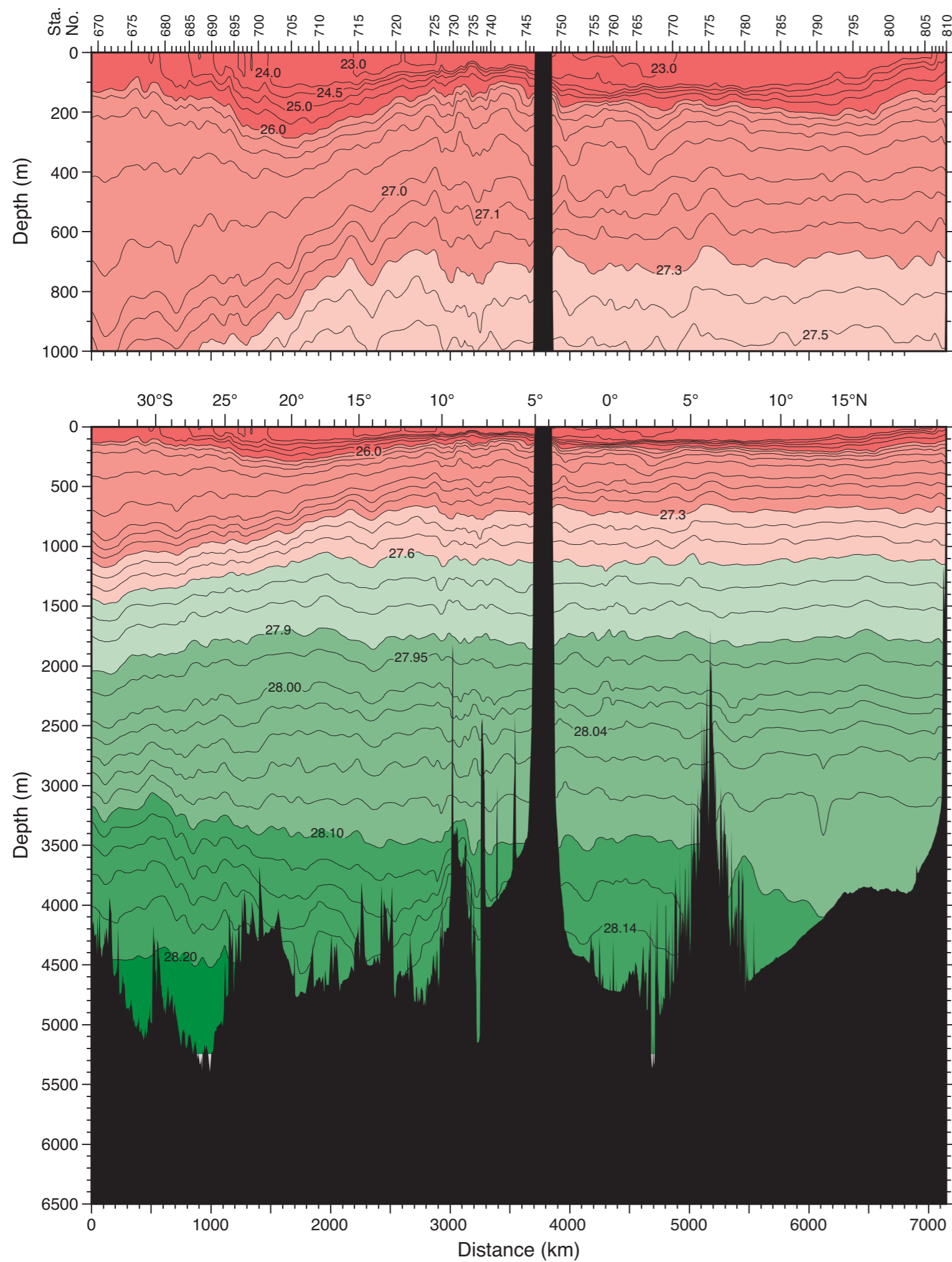
Salinity (PSS78)



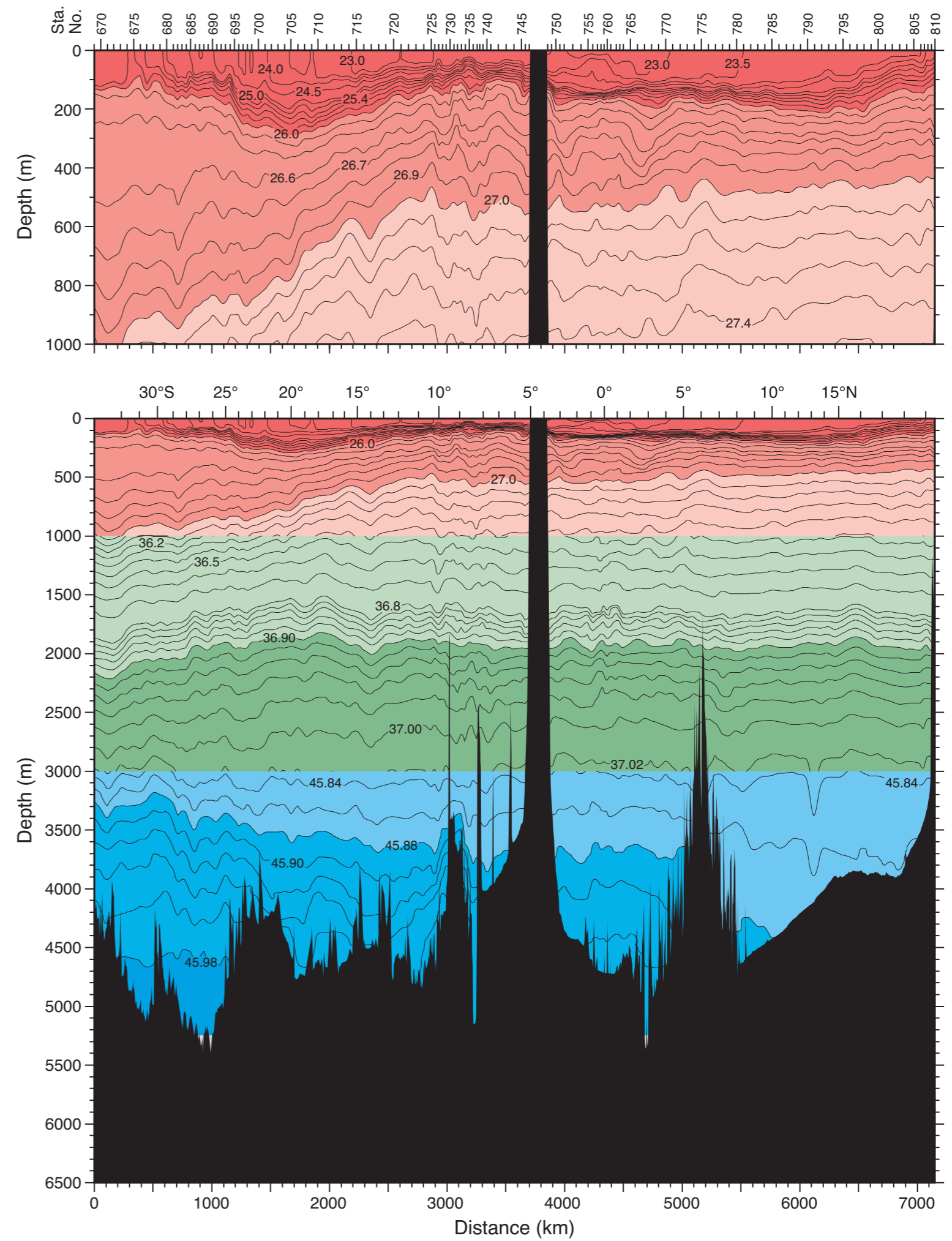
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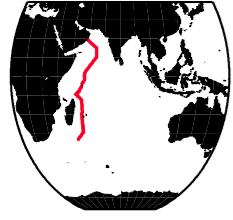


Neutral Density (kg/m^3)



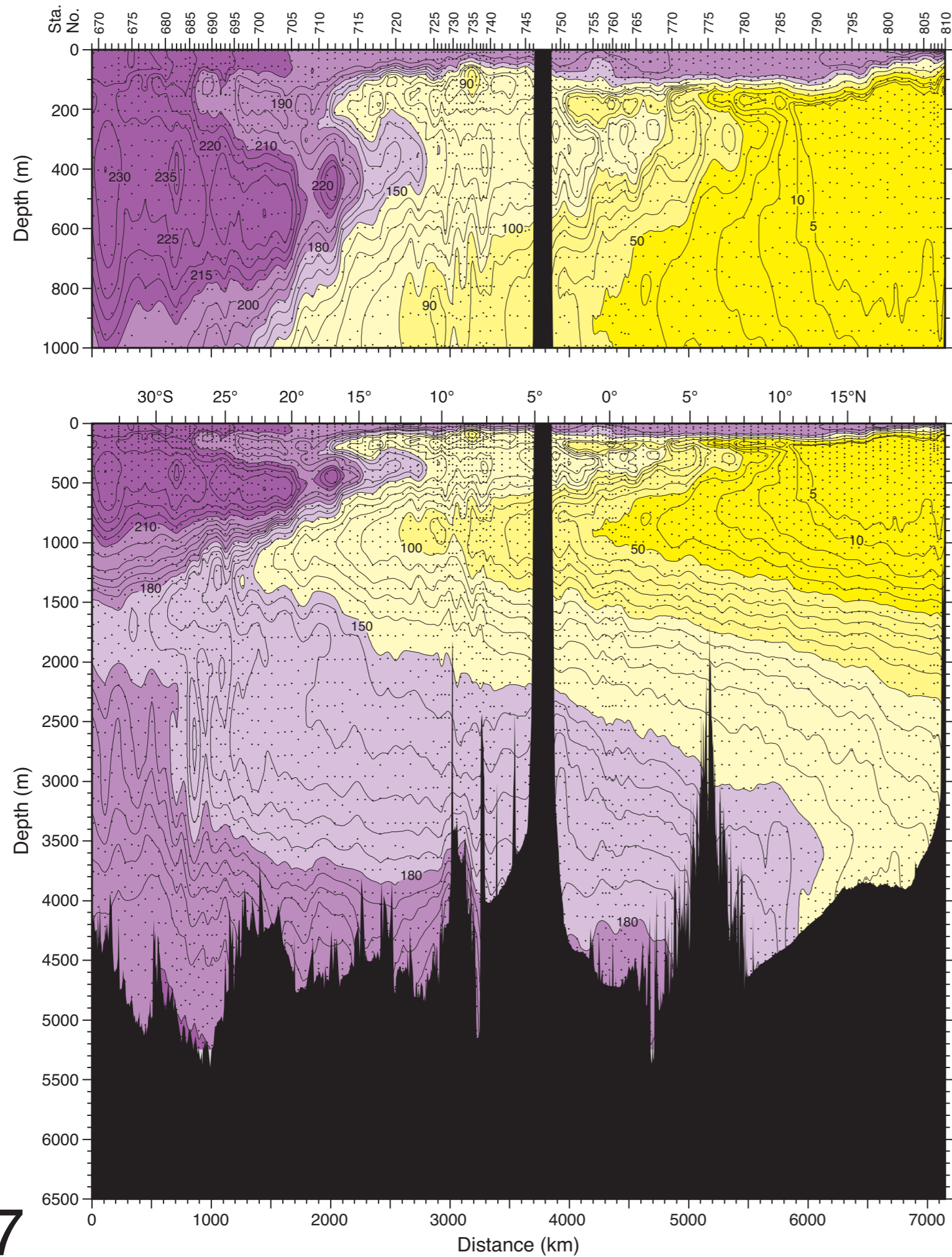
σ_0, σ_2 and σ_4 (kg/m^3)



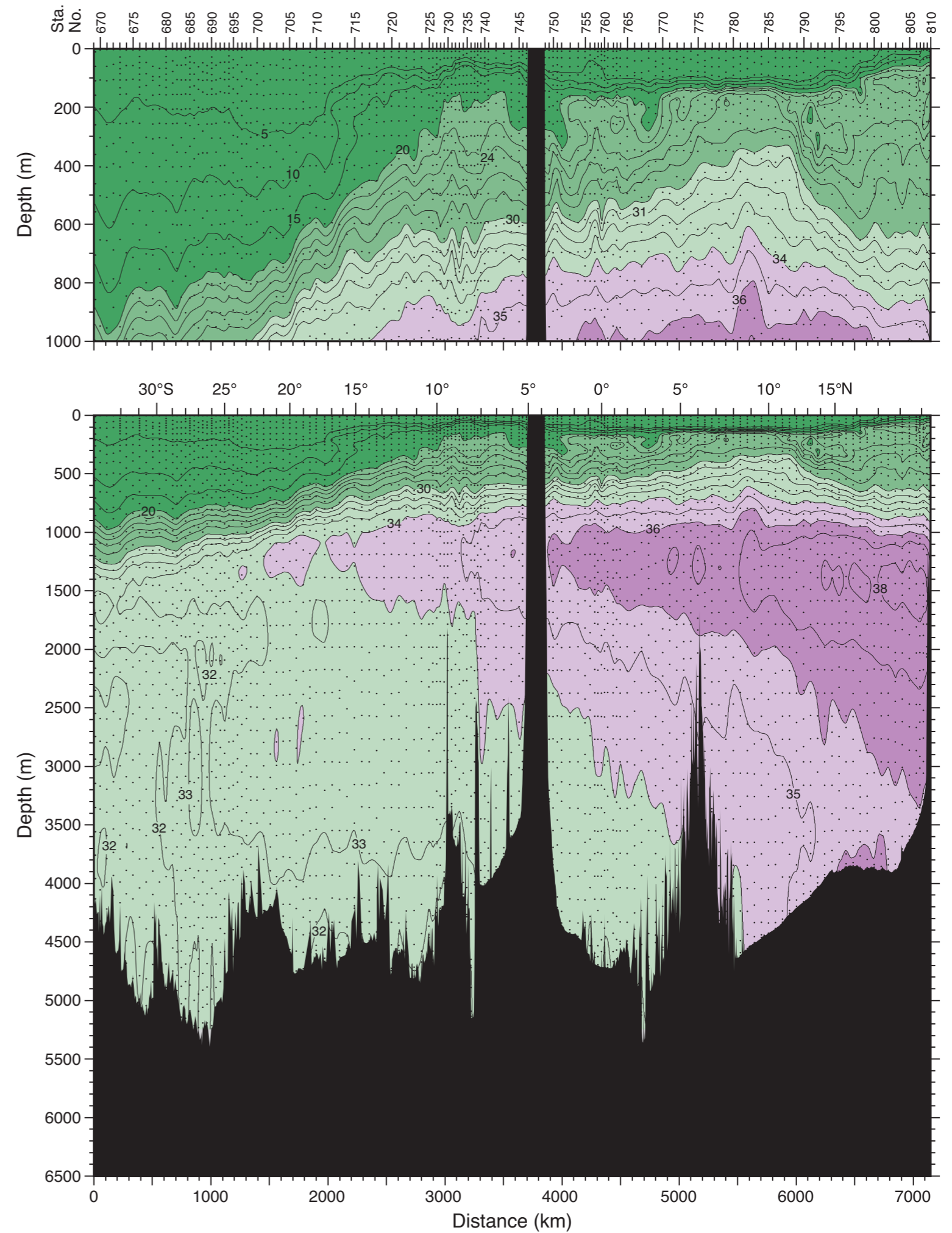


17 (60°E)

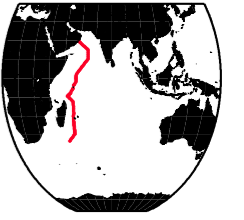
Oxygen ($\mu\text{mol/kg}$)



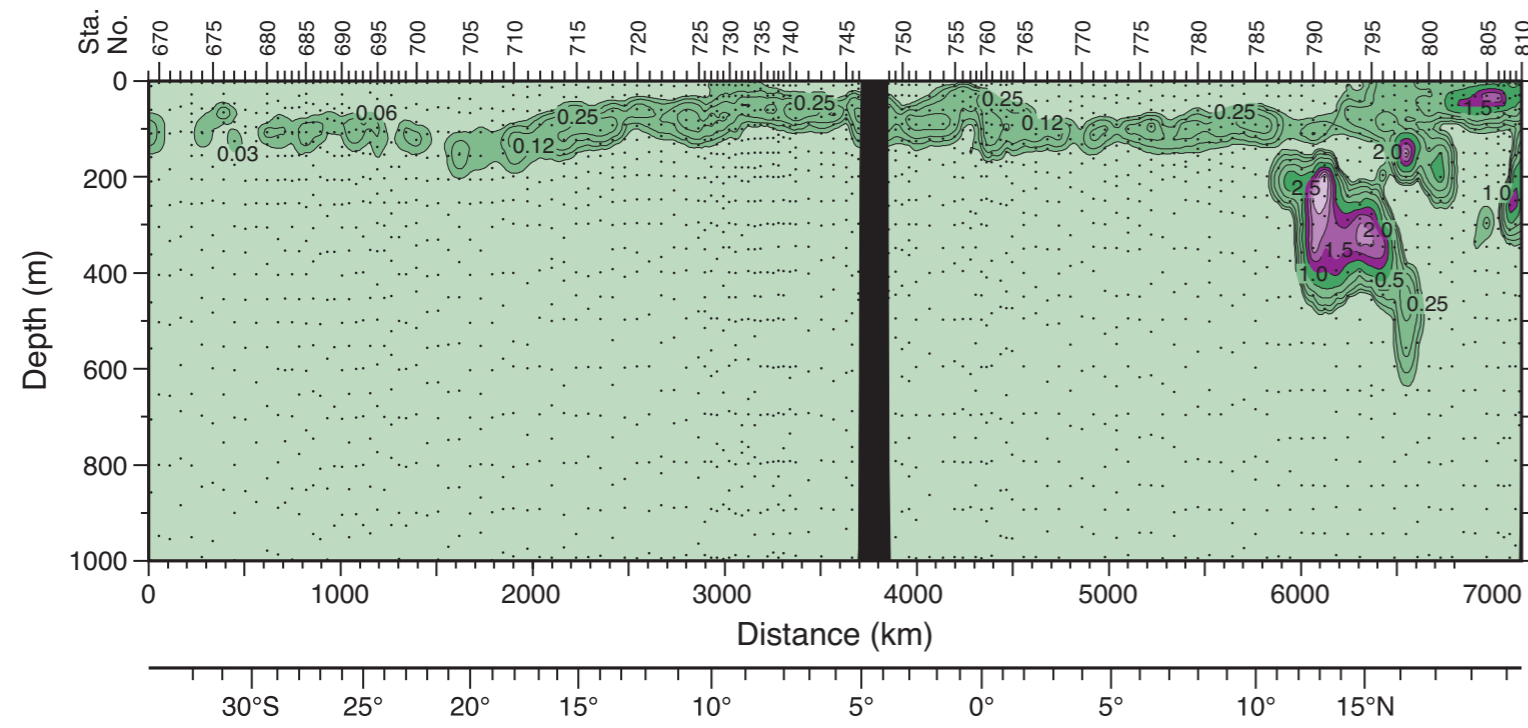
Nitrate ($\mu\text{mol/kg}$)



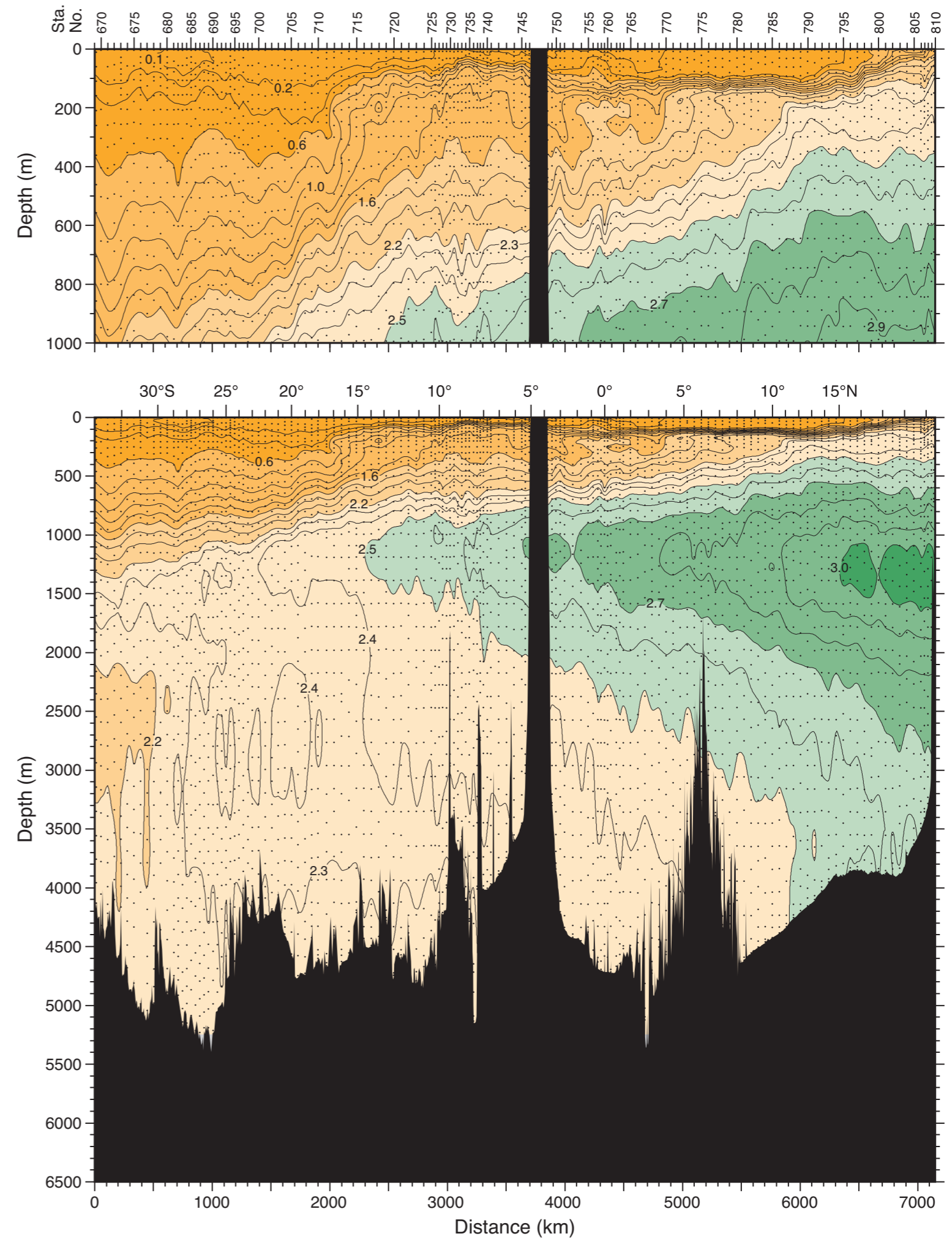
17 (60°E)

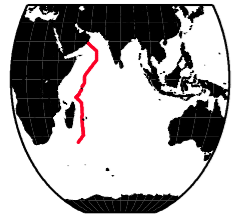


Nitrite ($\mu\text{mol/kg}$)



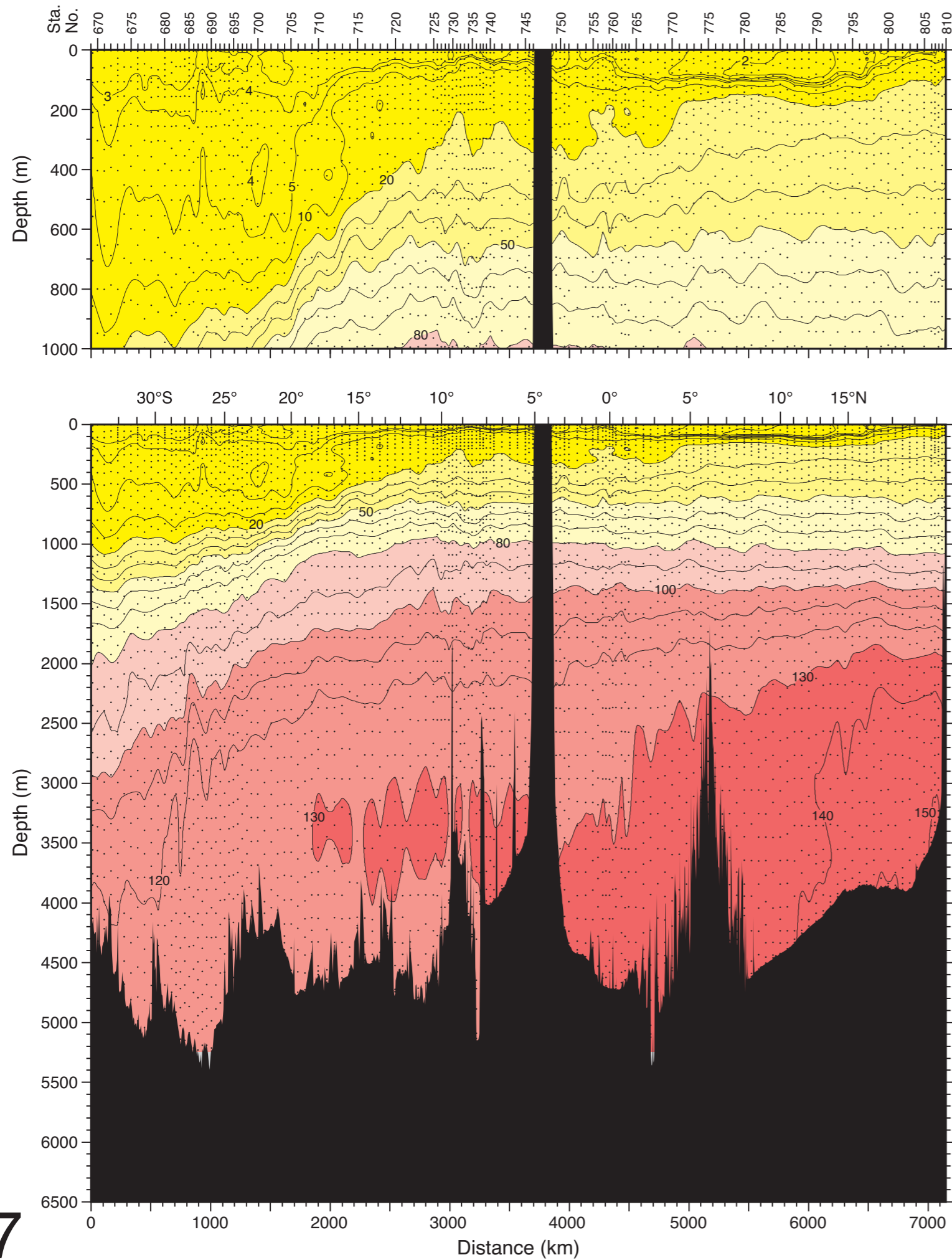
Phosphate ($\mu\text{mol/kg}$)



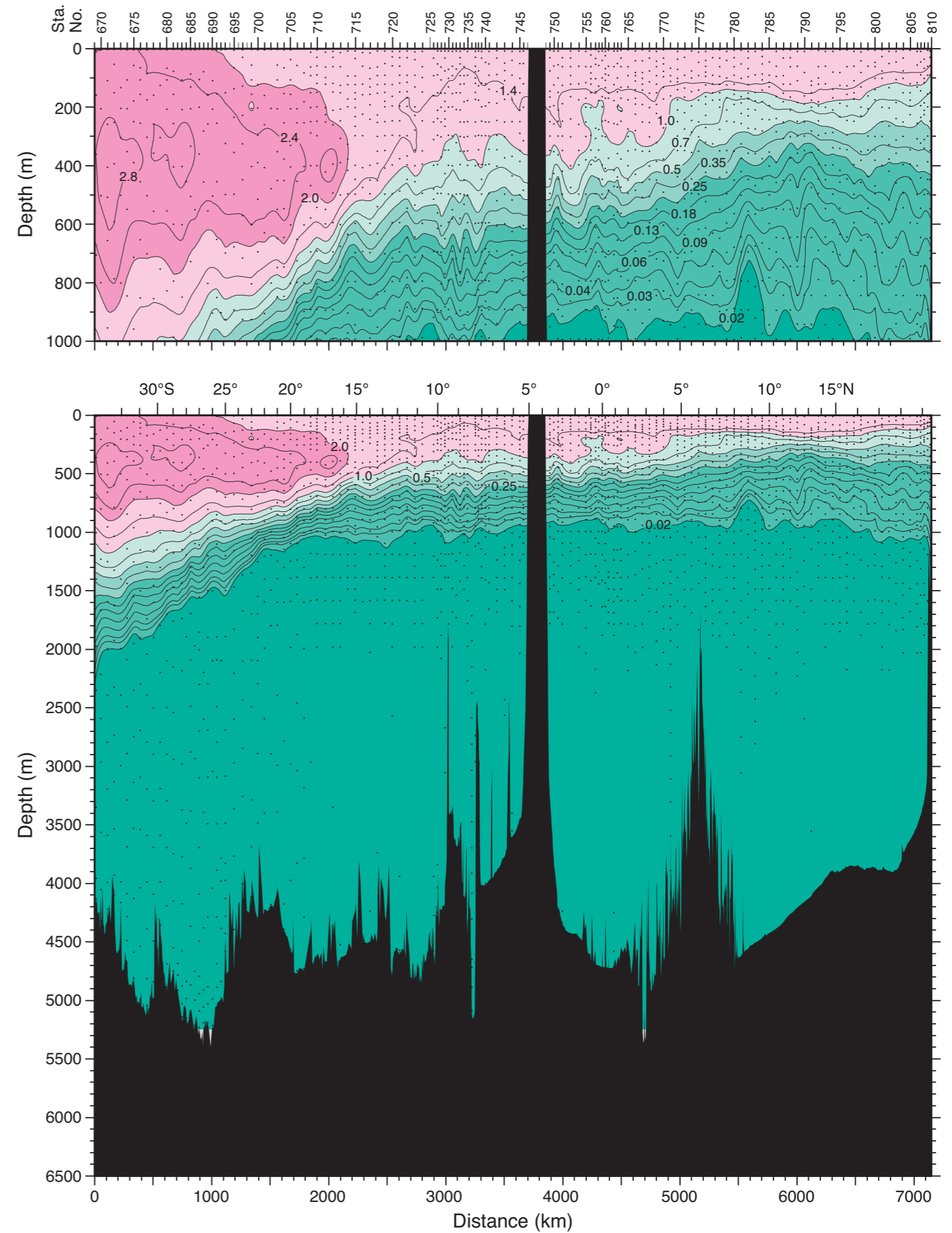


17 (60°E)

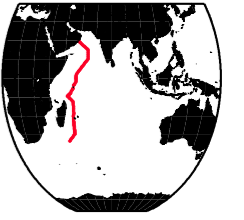
Dissolved Silica ($\mu\text{mol/kg}$)



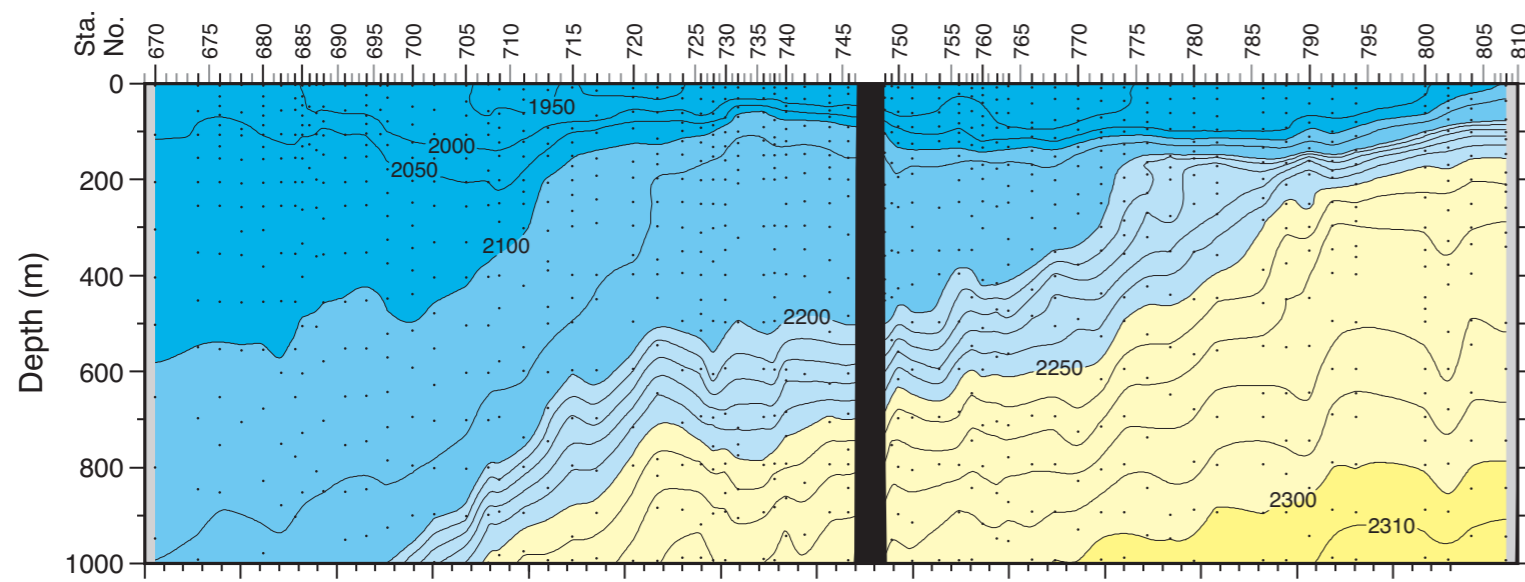
CFC-11 (pmol/kg)



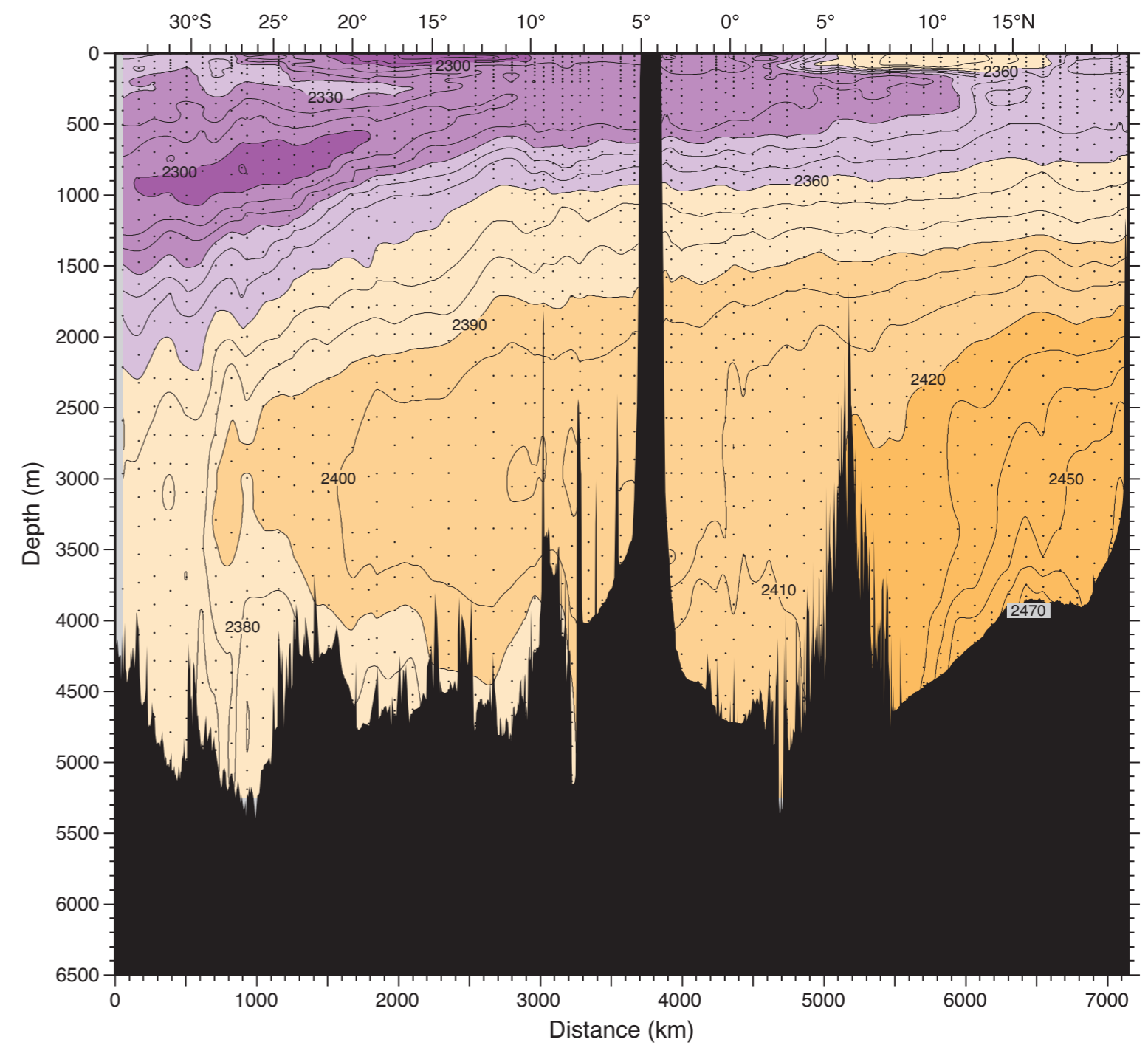
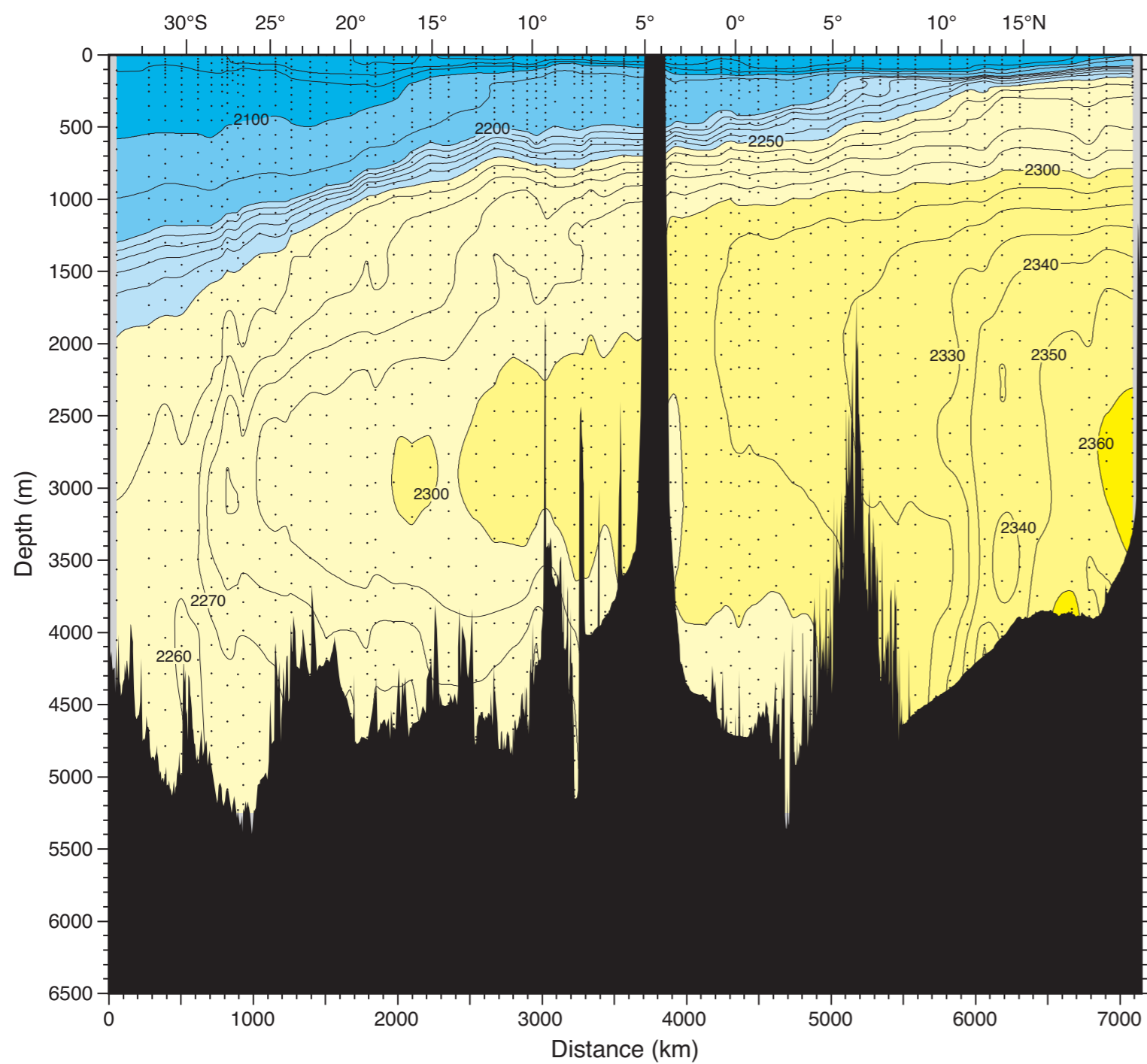
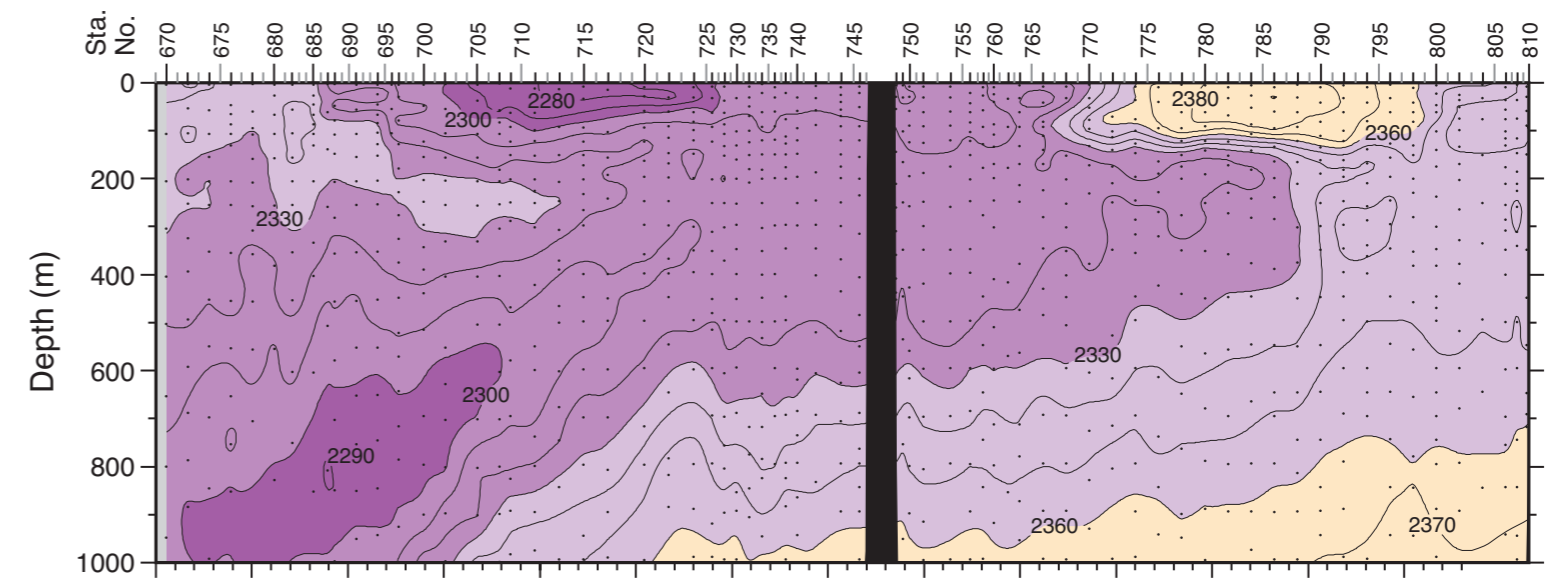
17 (60°E)

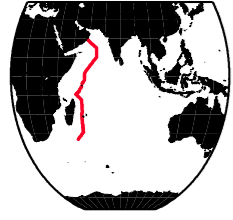


Total Carbon ($\mu\text{mol/kg}$)



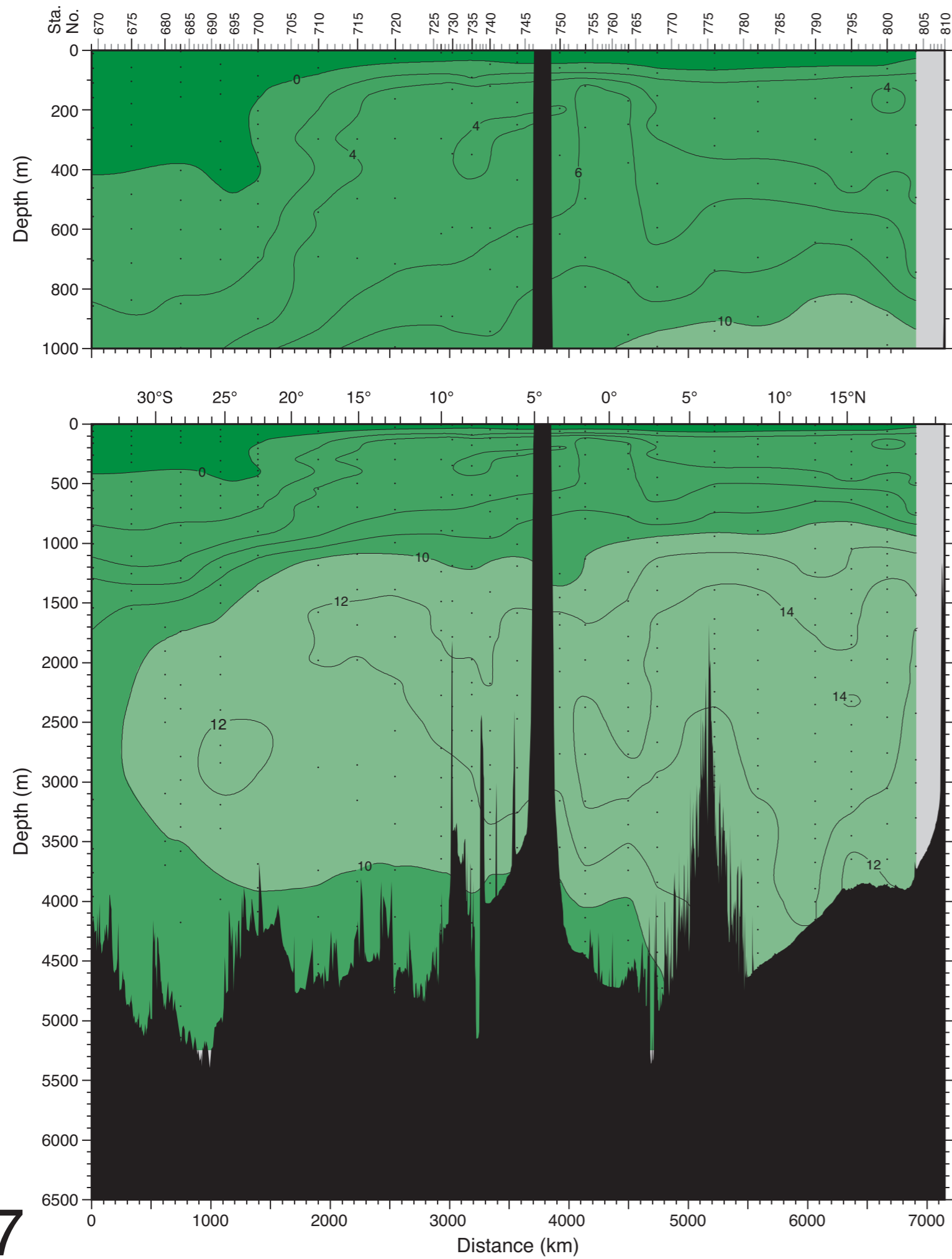
Alkalinity ($\mu\text{mol/kg}$)



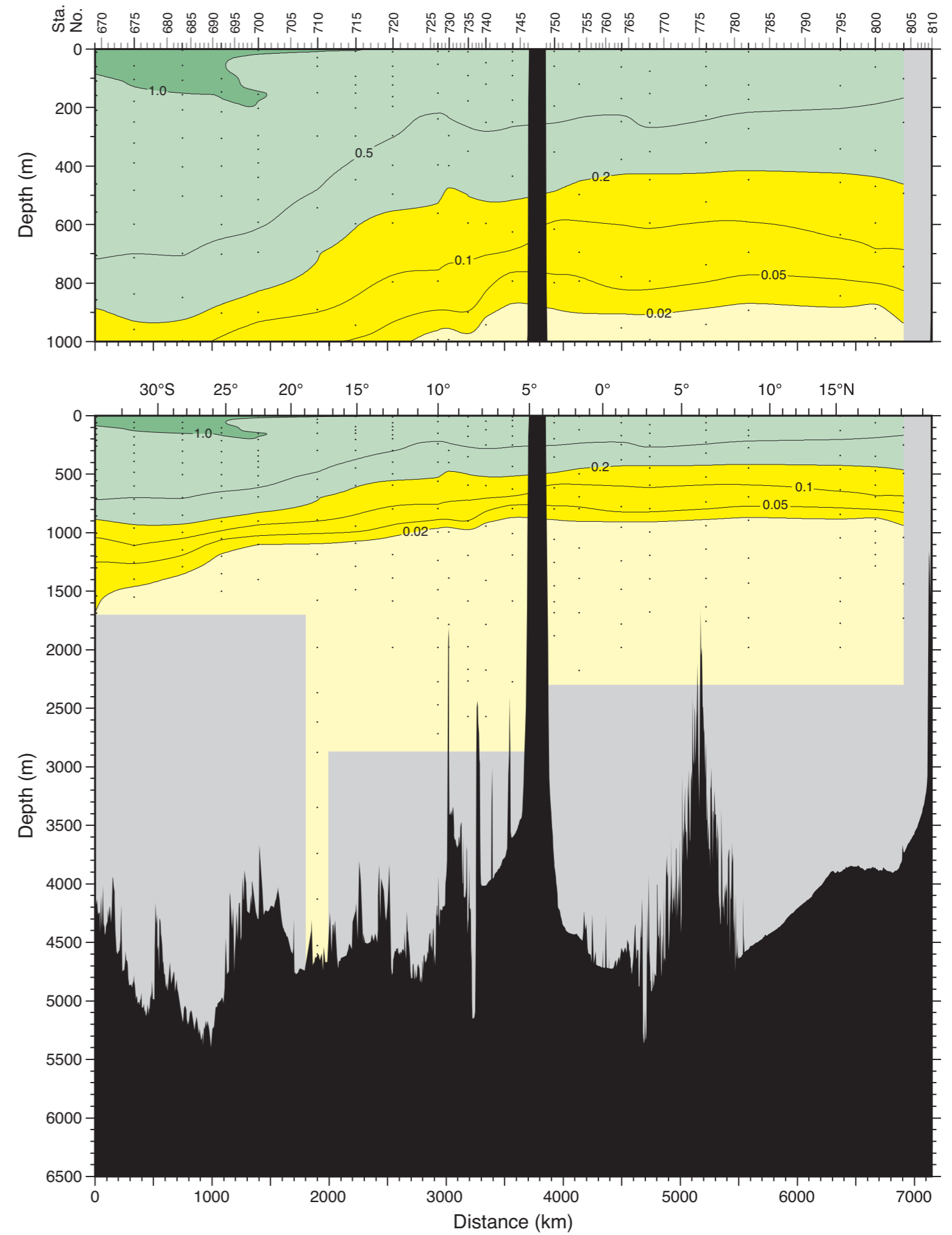


I7 (60°E)

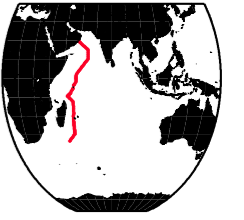
$\delta^3\text{He}$ (%)



Tritium (TU)

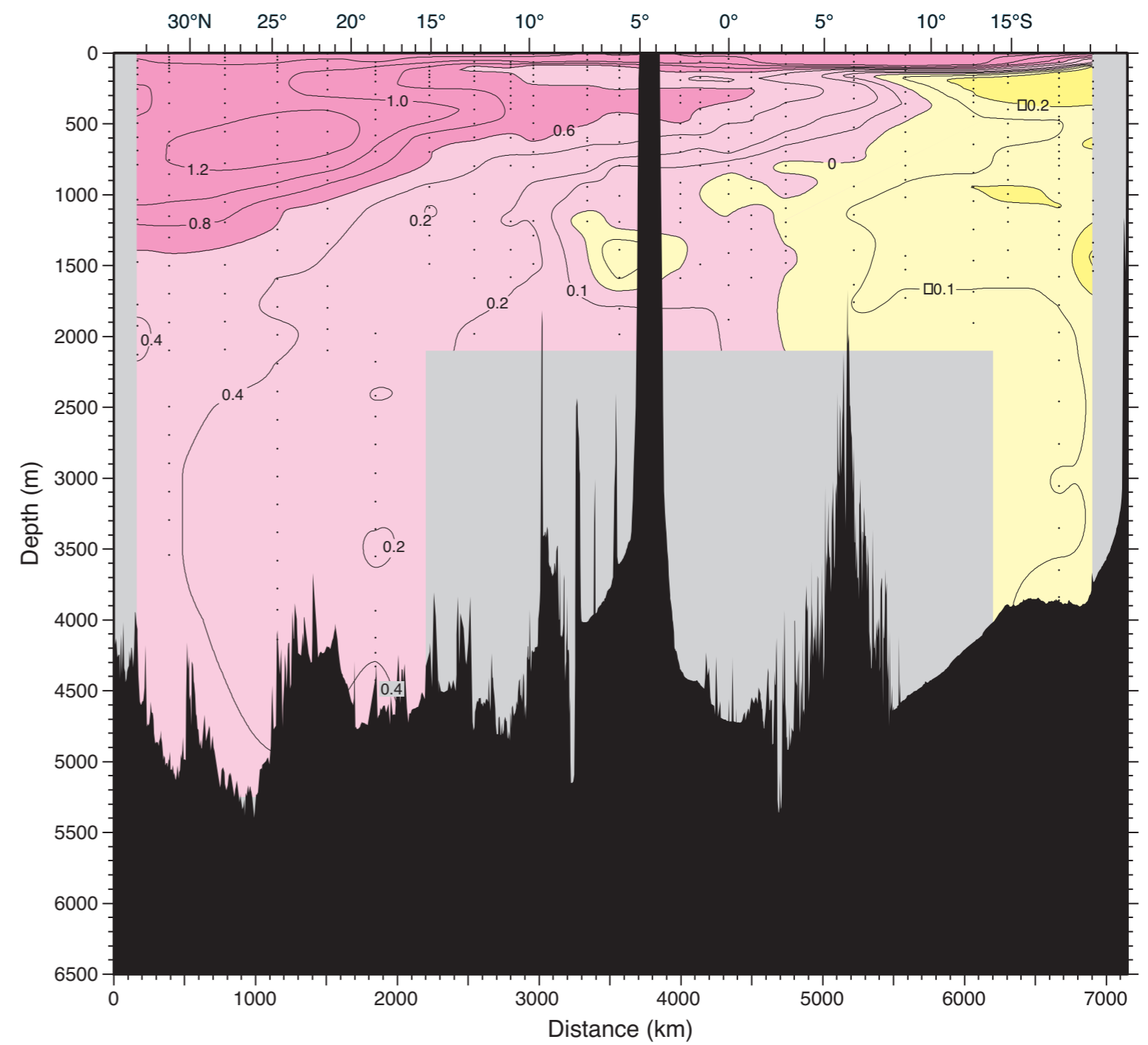
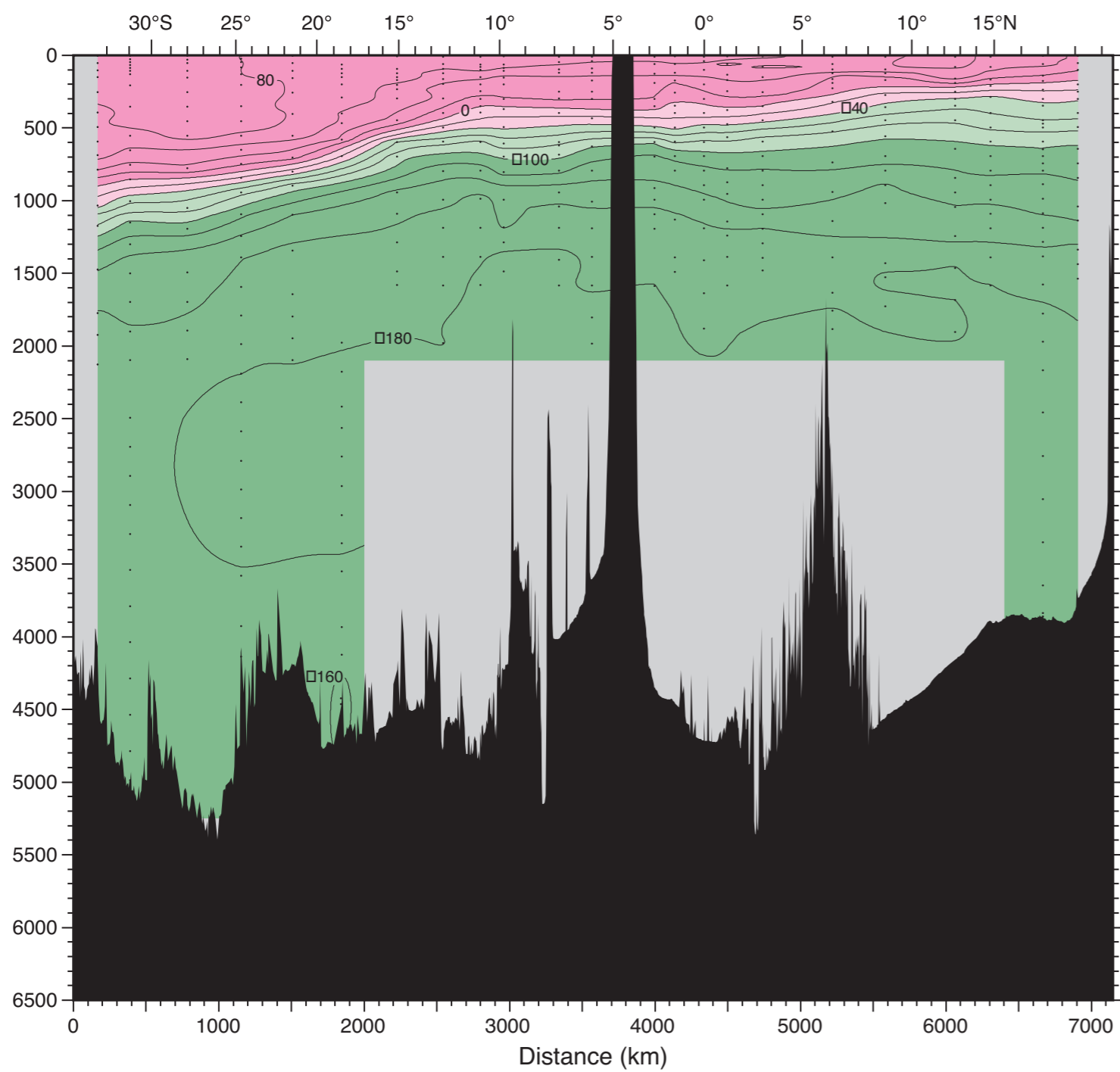
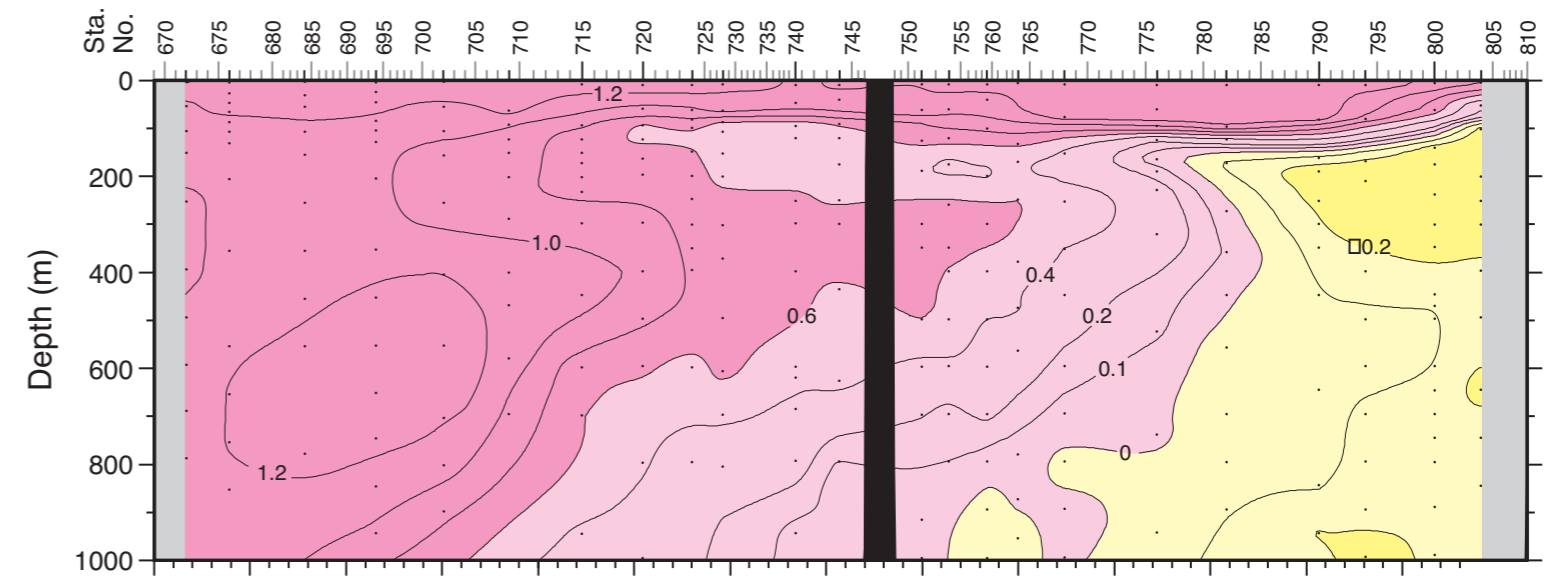
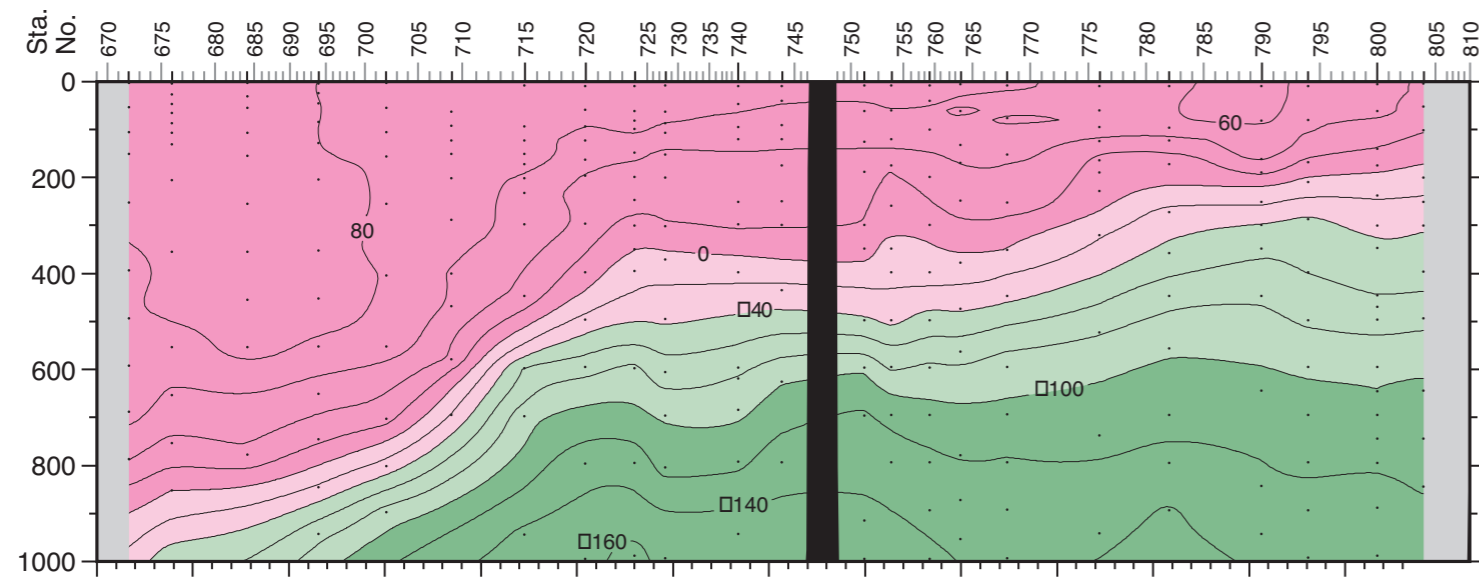


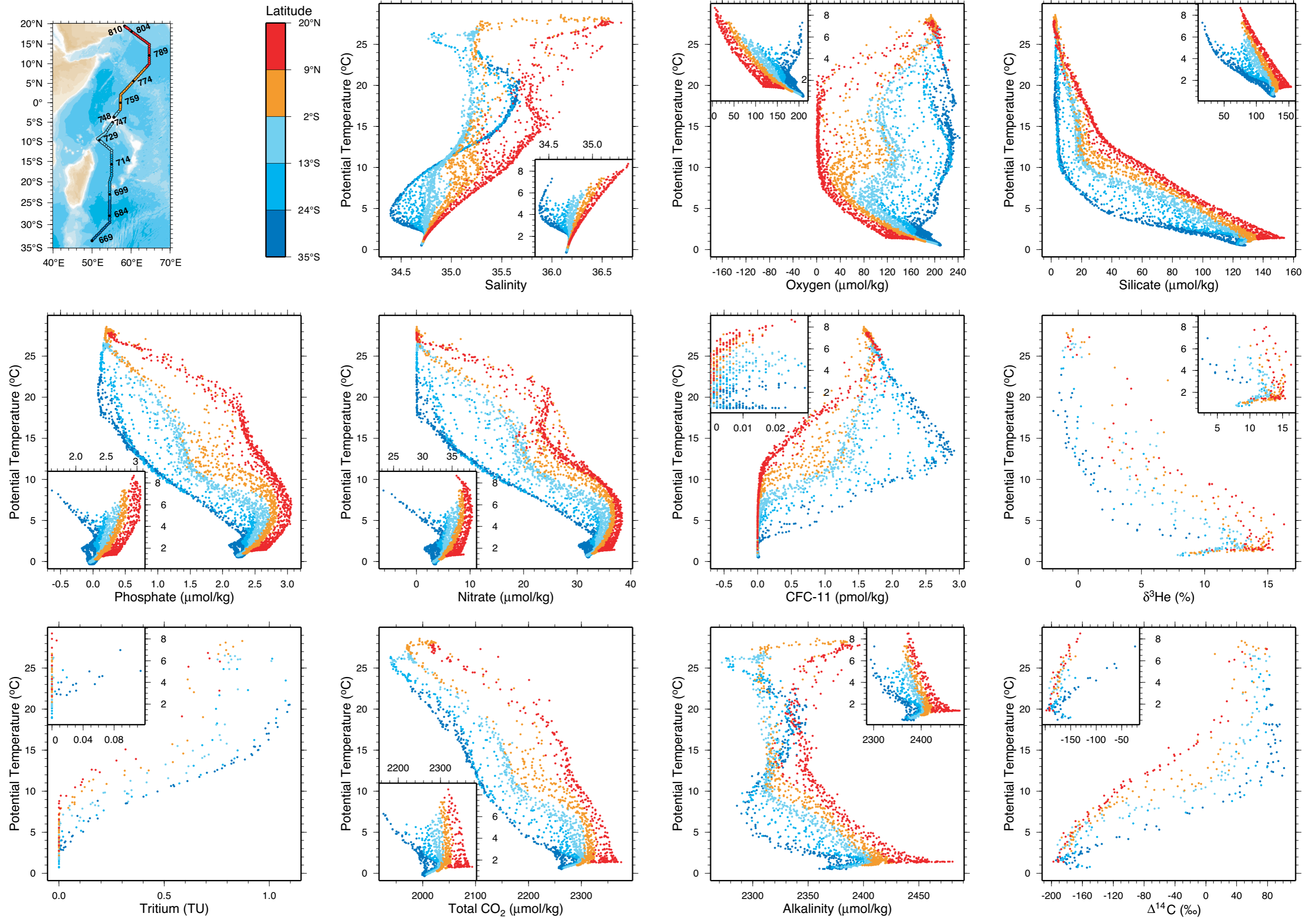
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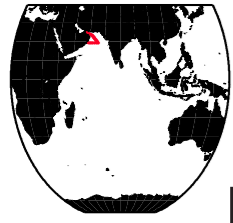


$\Delta^{14}\text{C}$ (‰)

$\delta^{13}\text{C}$ (‰)







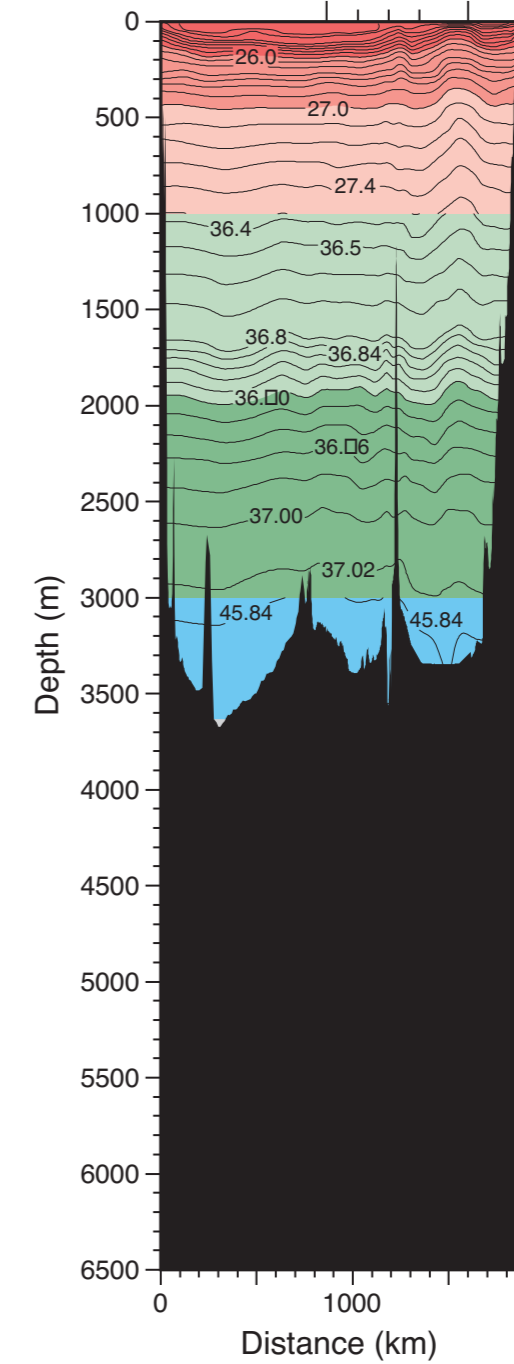
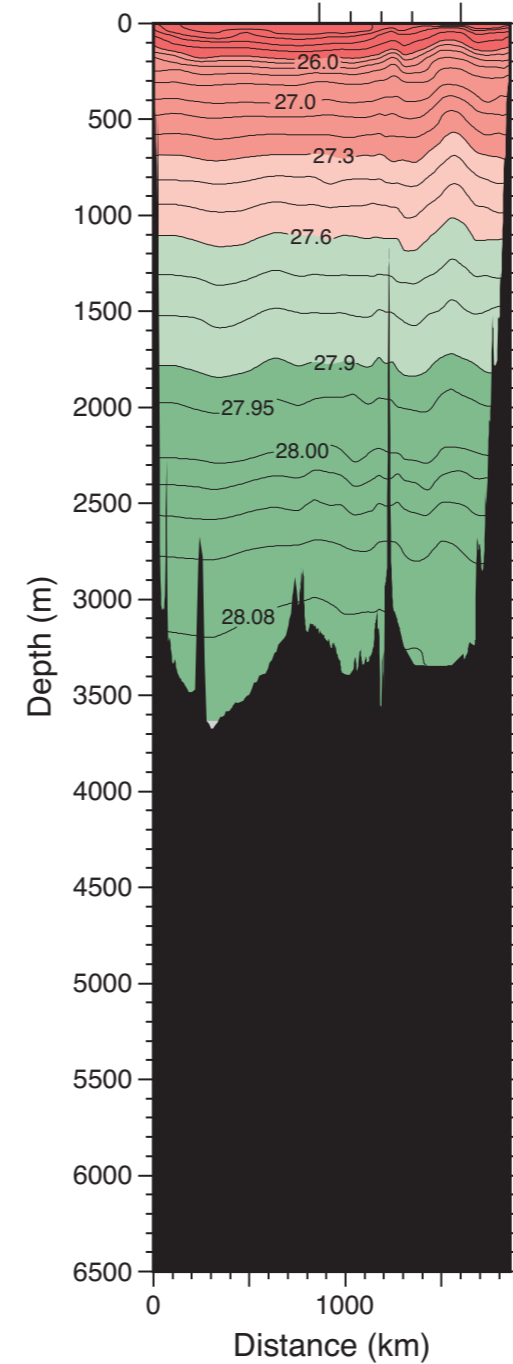
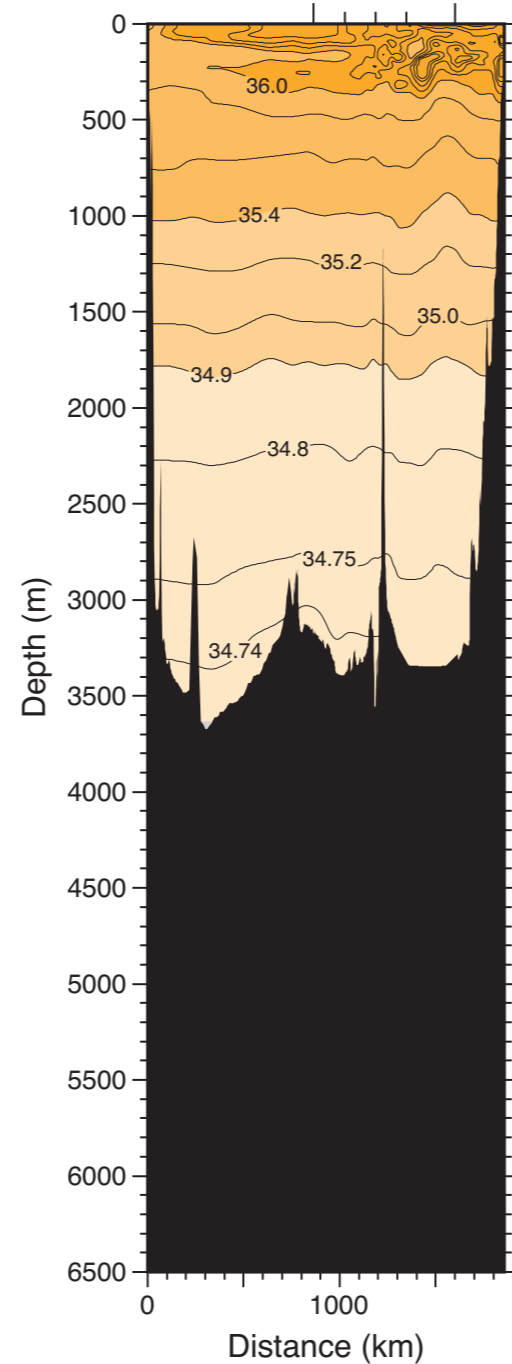
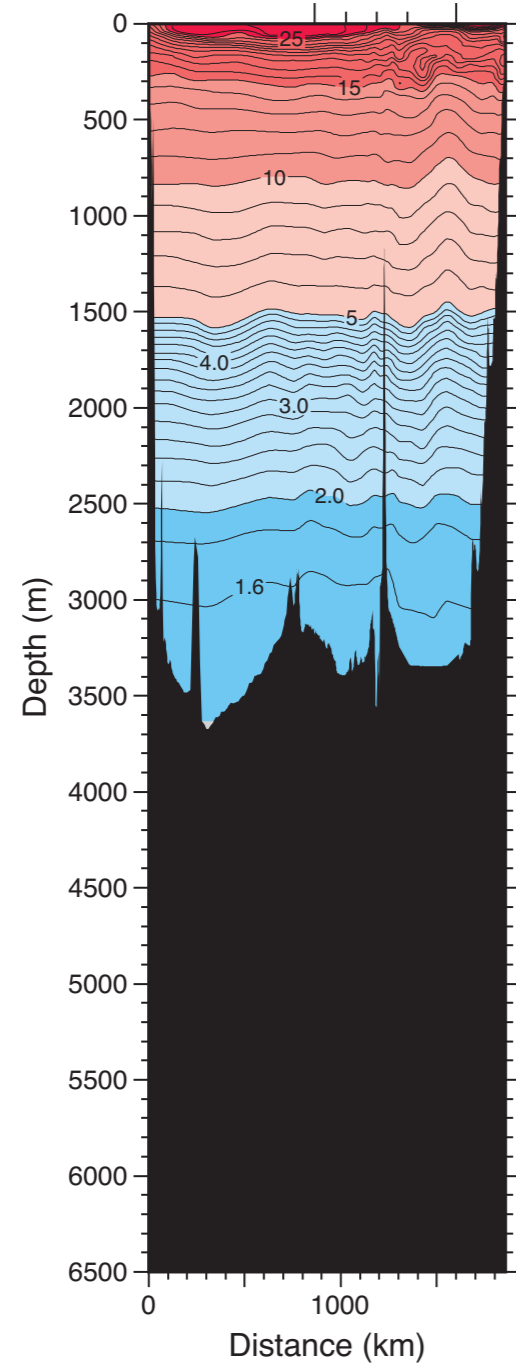
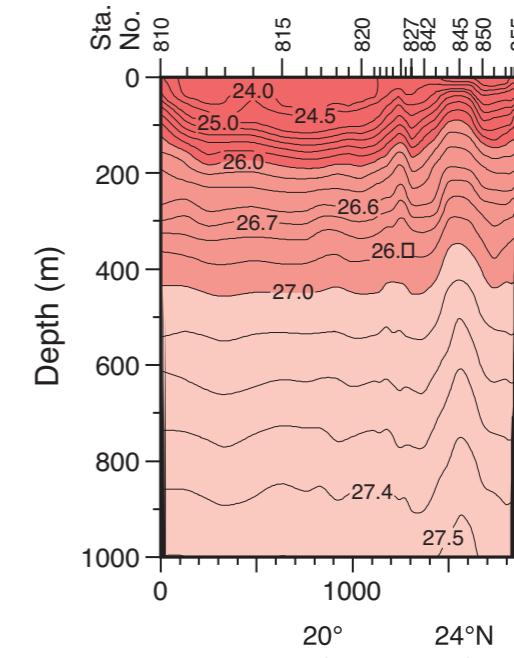
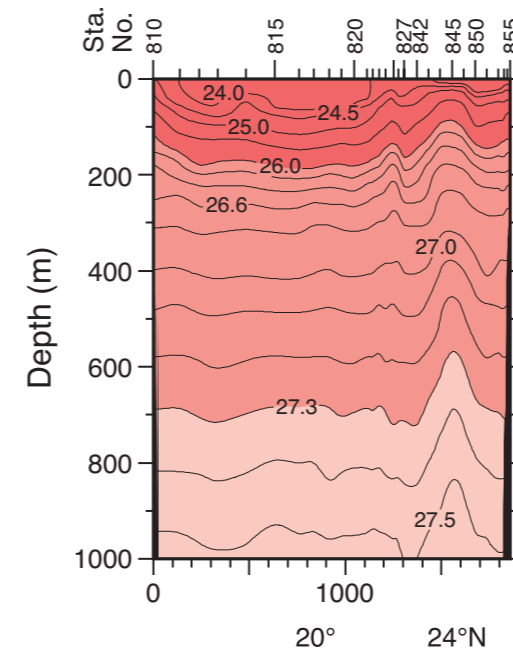
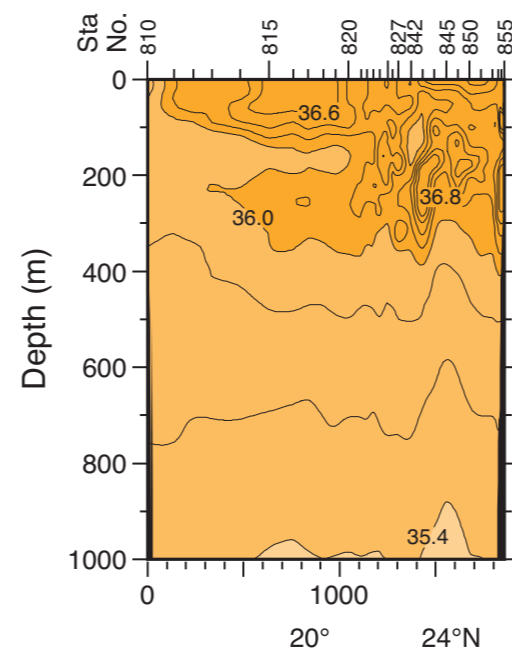
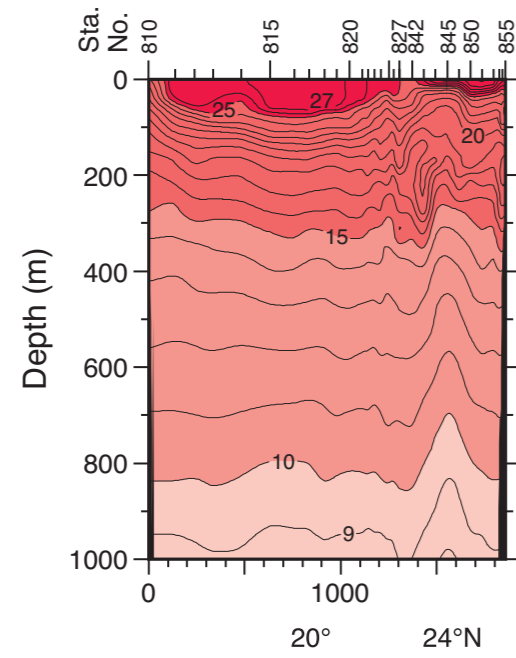
I7PG (62°E)

Potential Temperature (°C)

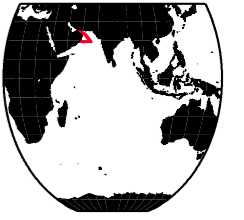
Salinity (PSS78)

Neutral Density (kg/m³)

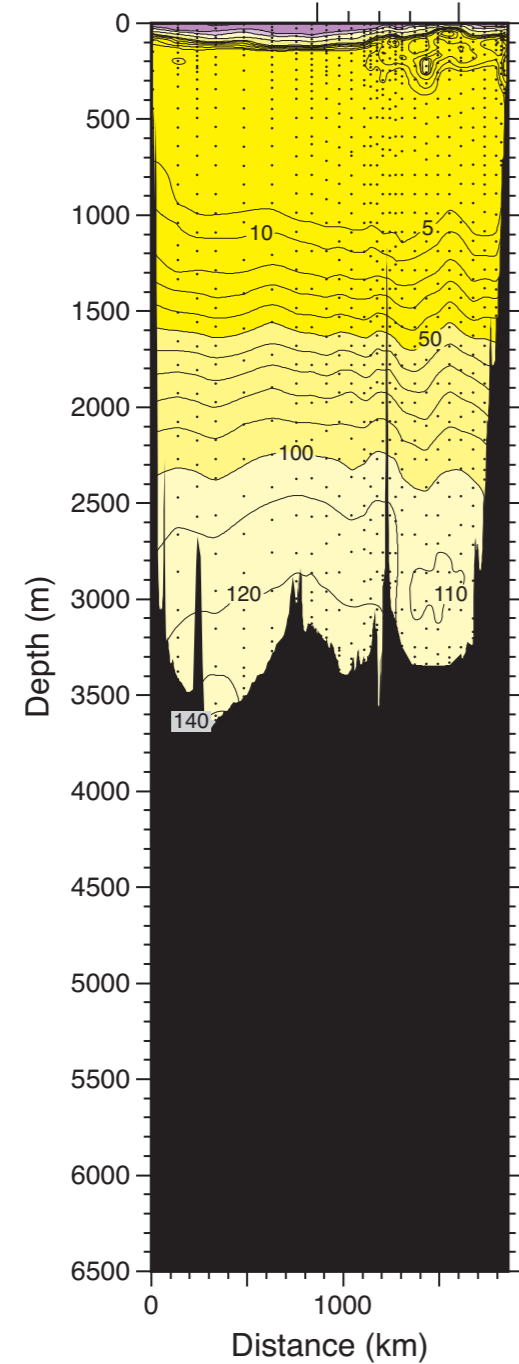
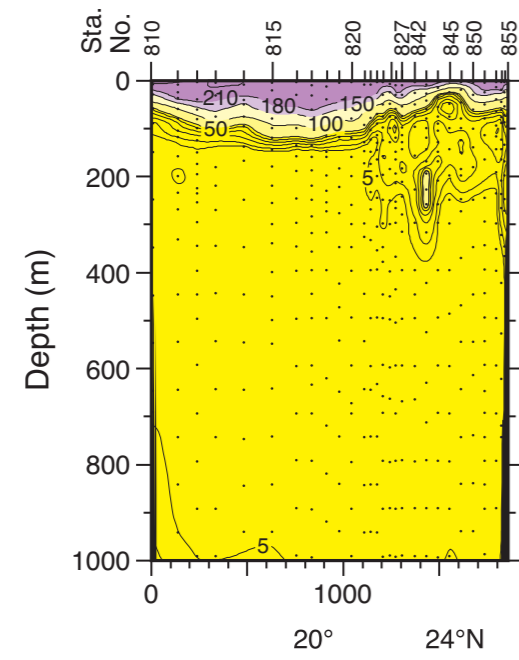
σ_0, σ_2 and σ_4 (kg/m³)



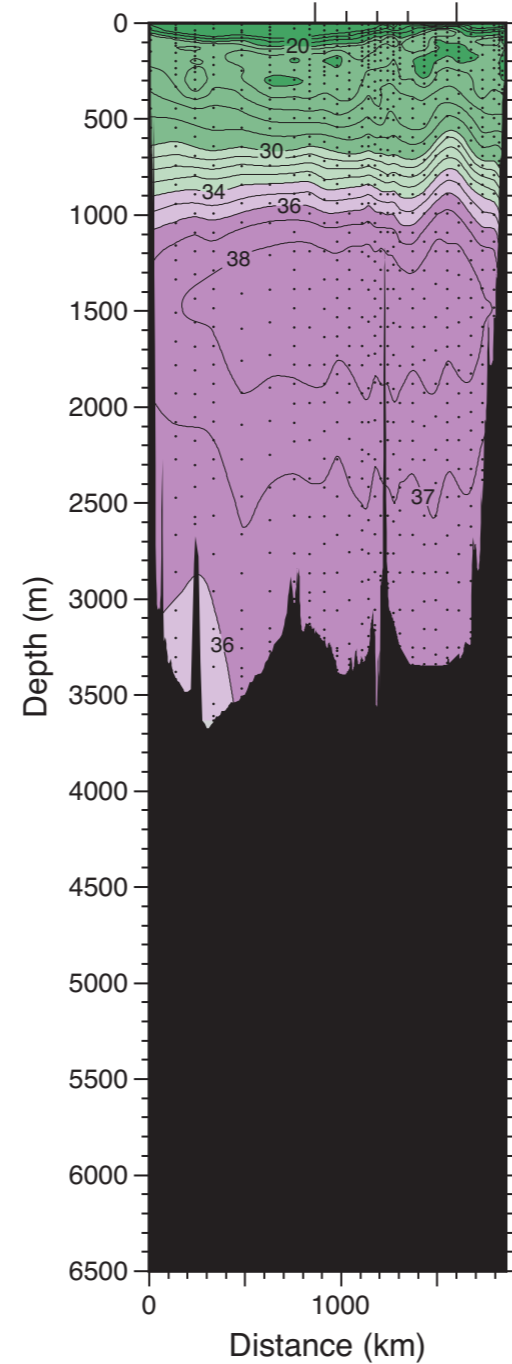
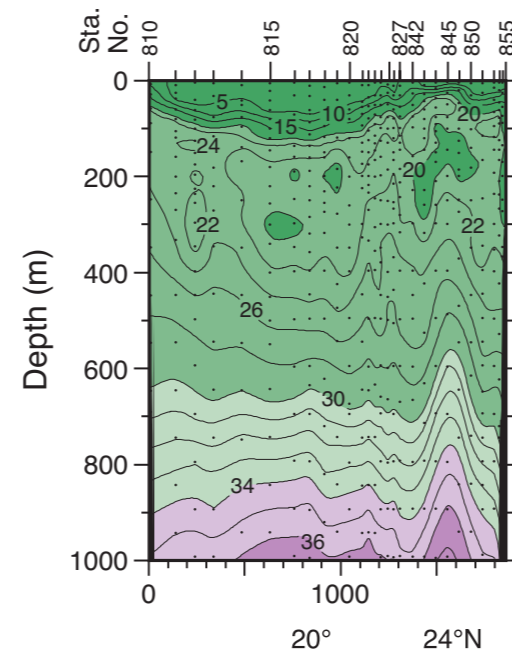
I7PG (62°E)



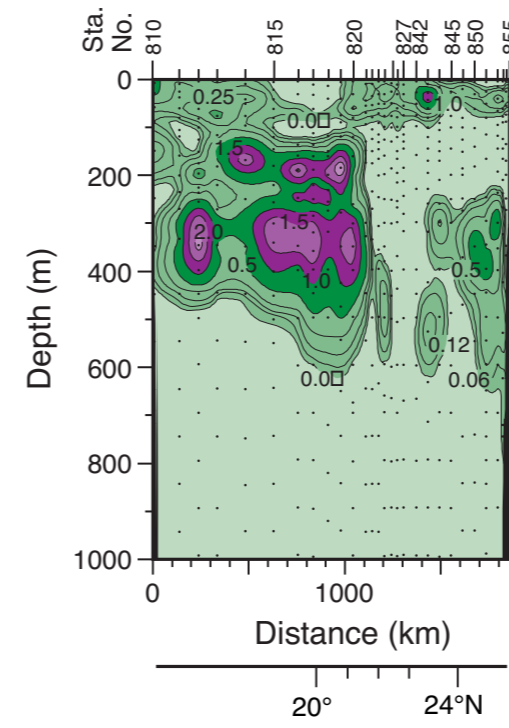
Oxygen ($\mu\text{mol/kg}$)



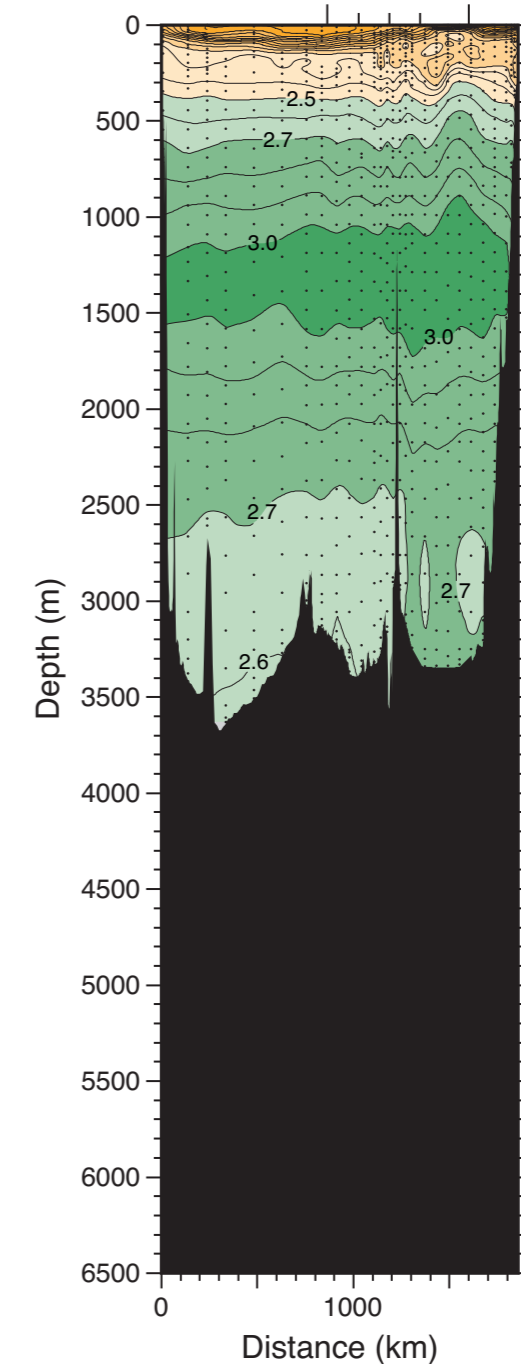
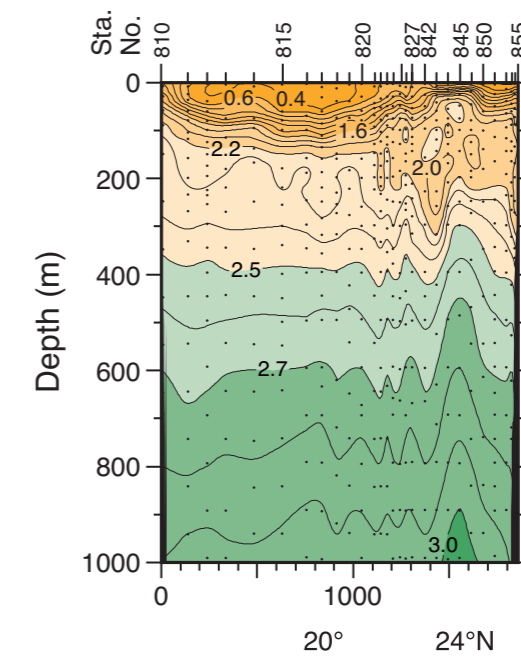
Nitrate ($\mu\text{mol/kg}$)

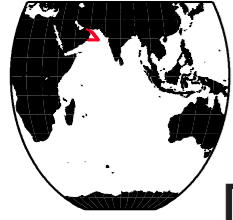


Nitrite ($\mu\text{mol/kg}$)



Phosphate ($\mu\text{mol/kg}$)





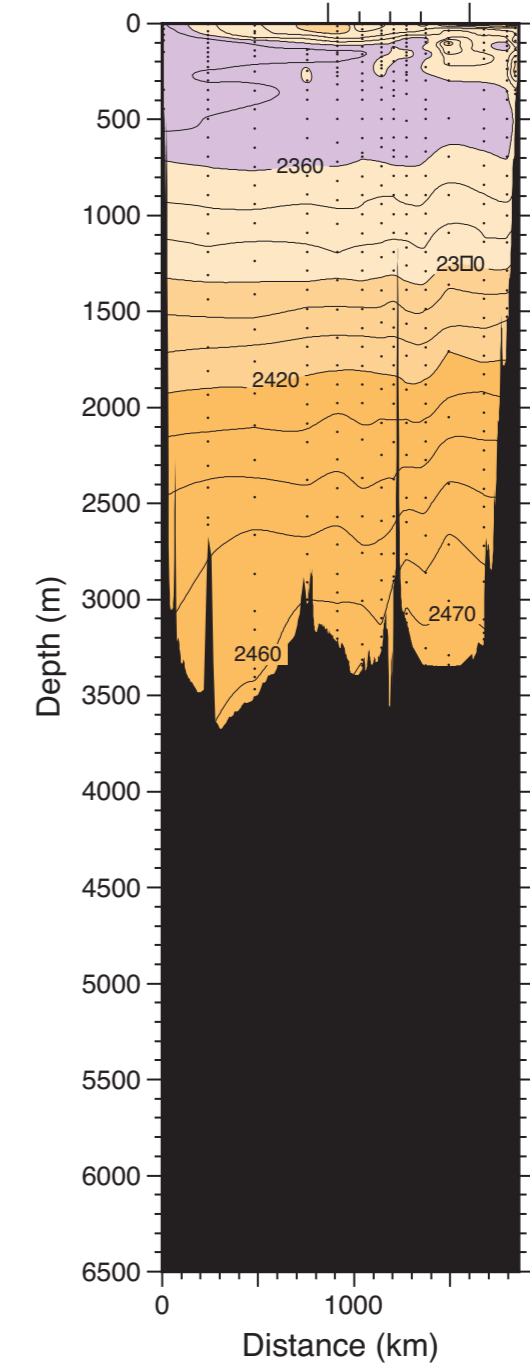
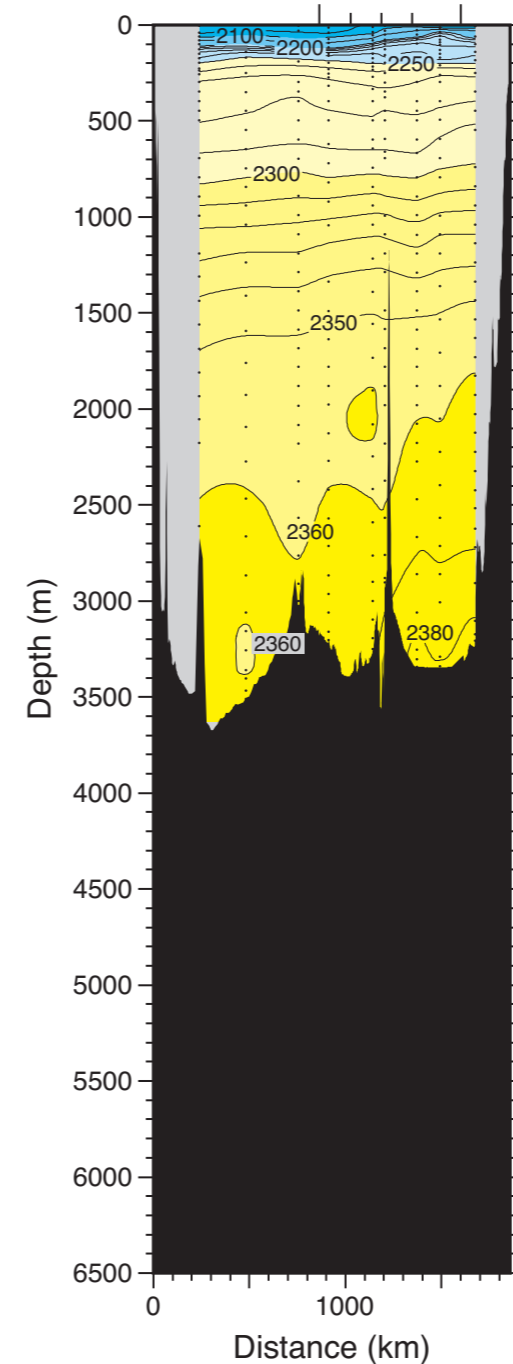
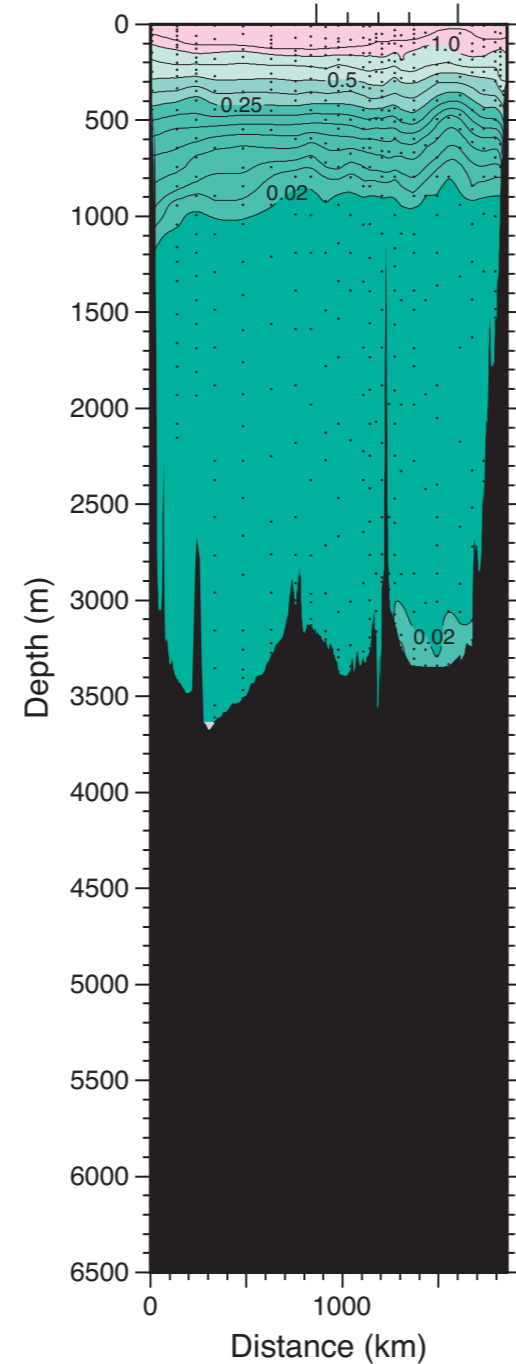
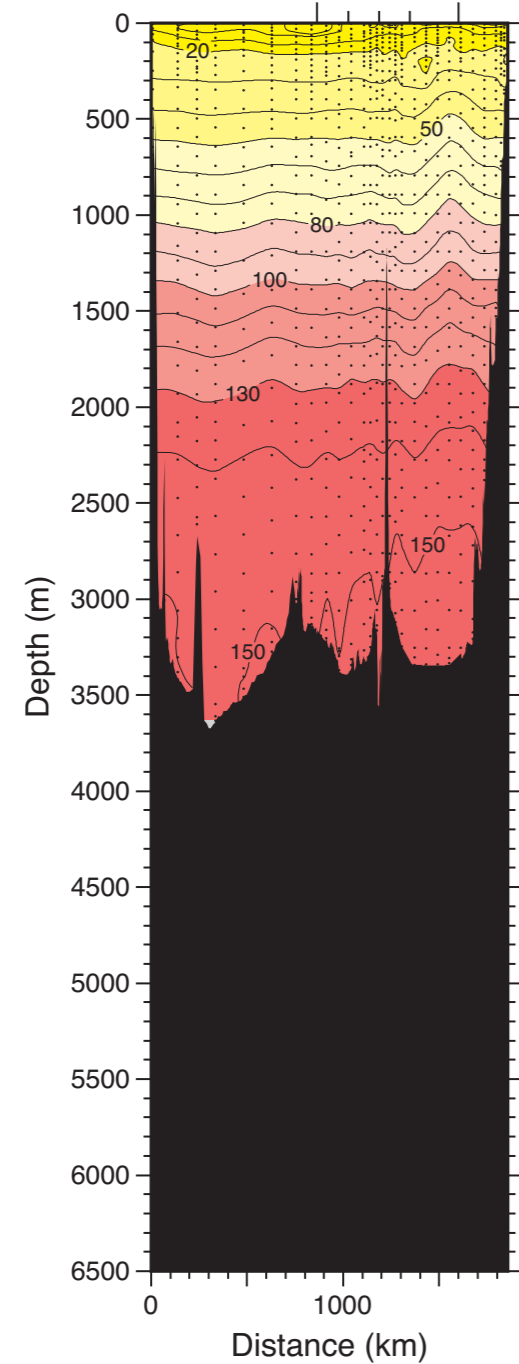
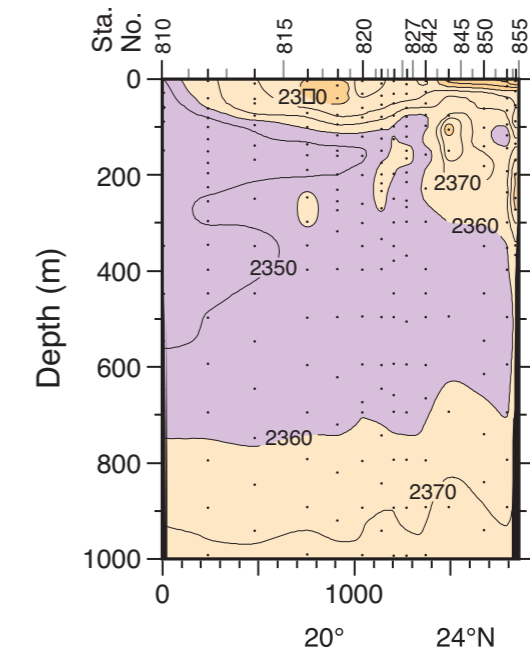
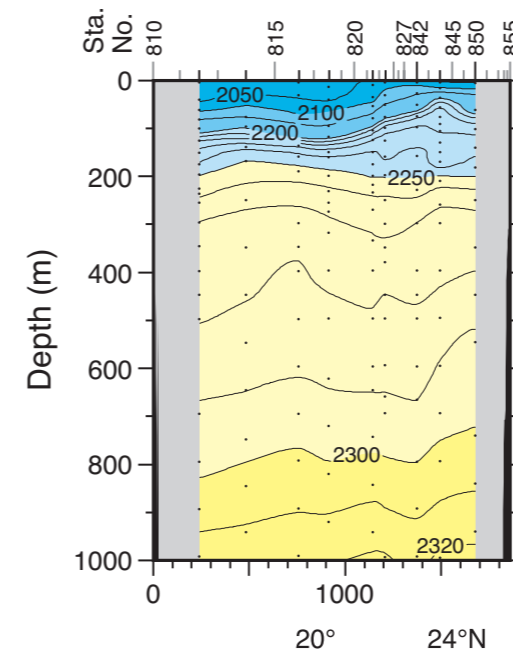
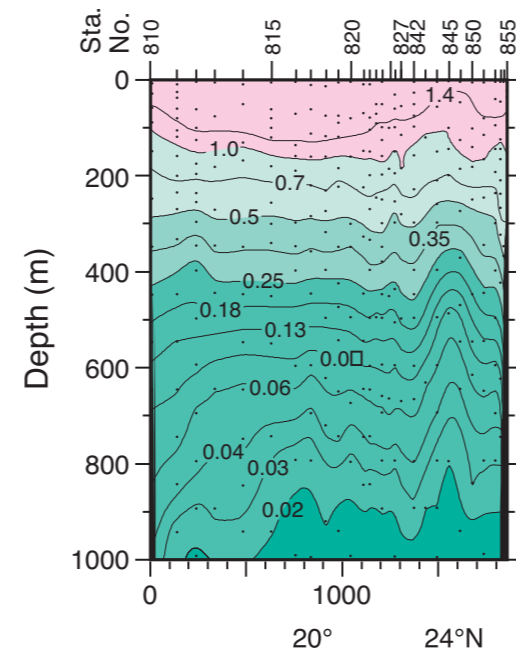
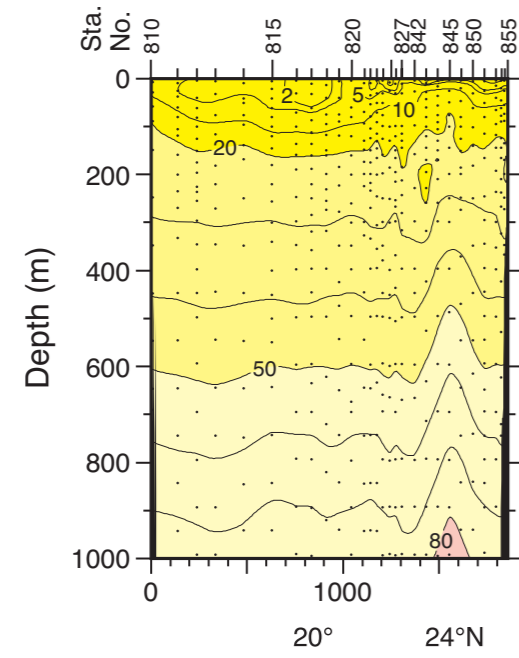
I7PG (62°E)

Dissolved Silica ($\mu\text{mol/kg}$)

CFC-11 (pmol/kg)

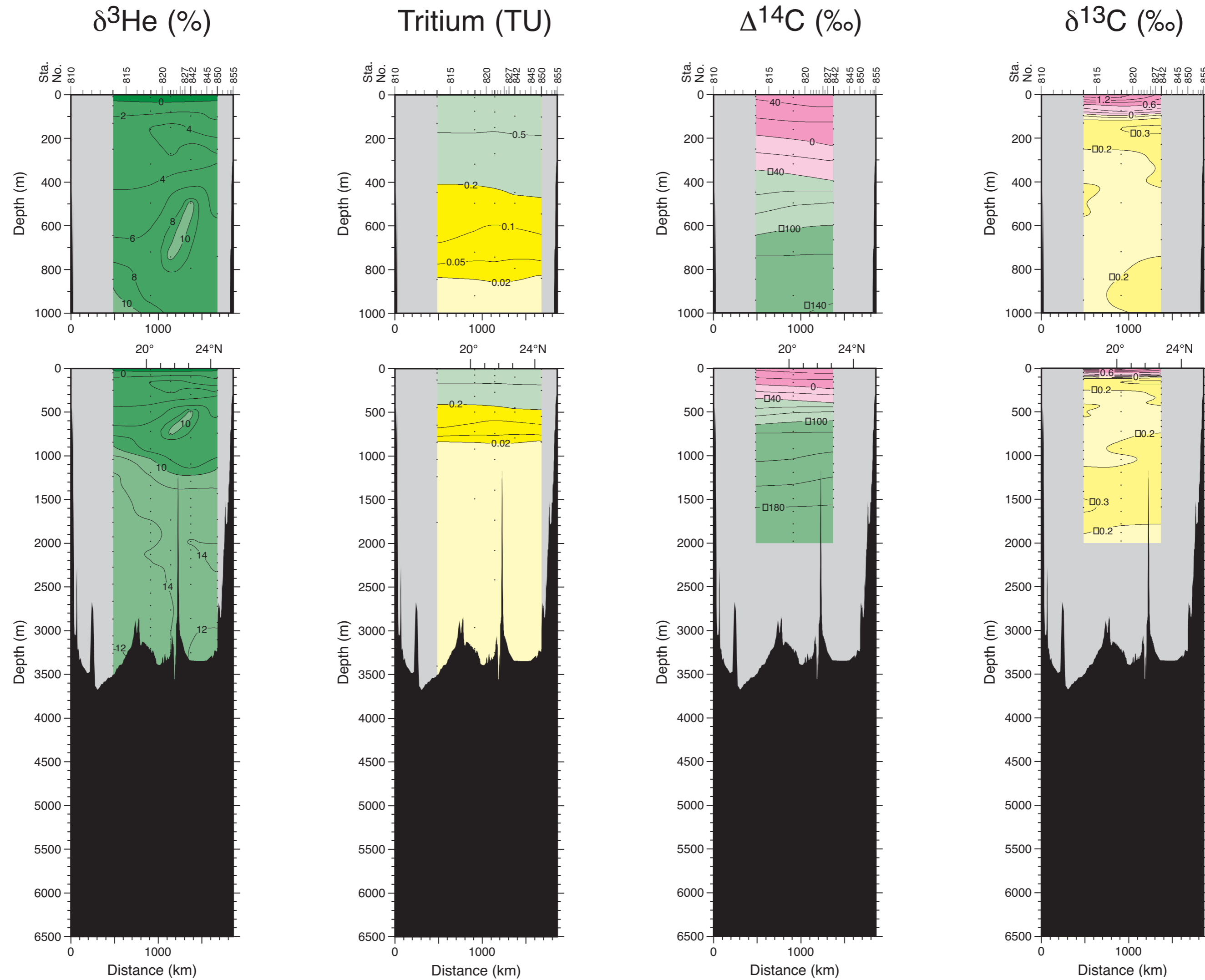
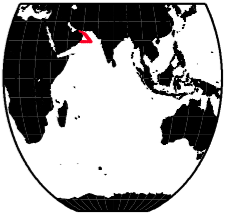
Total Carbon ($\mu\text{mol/kg}$)

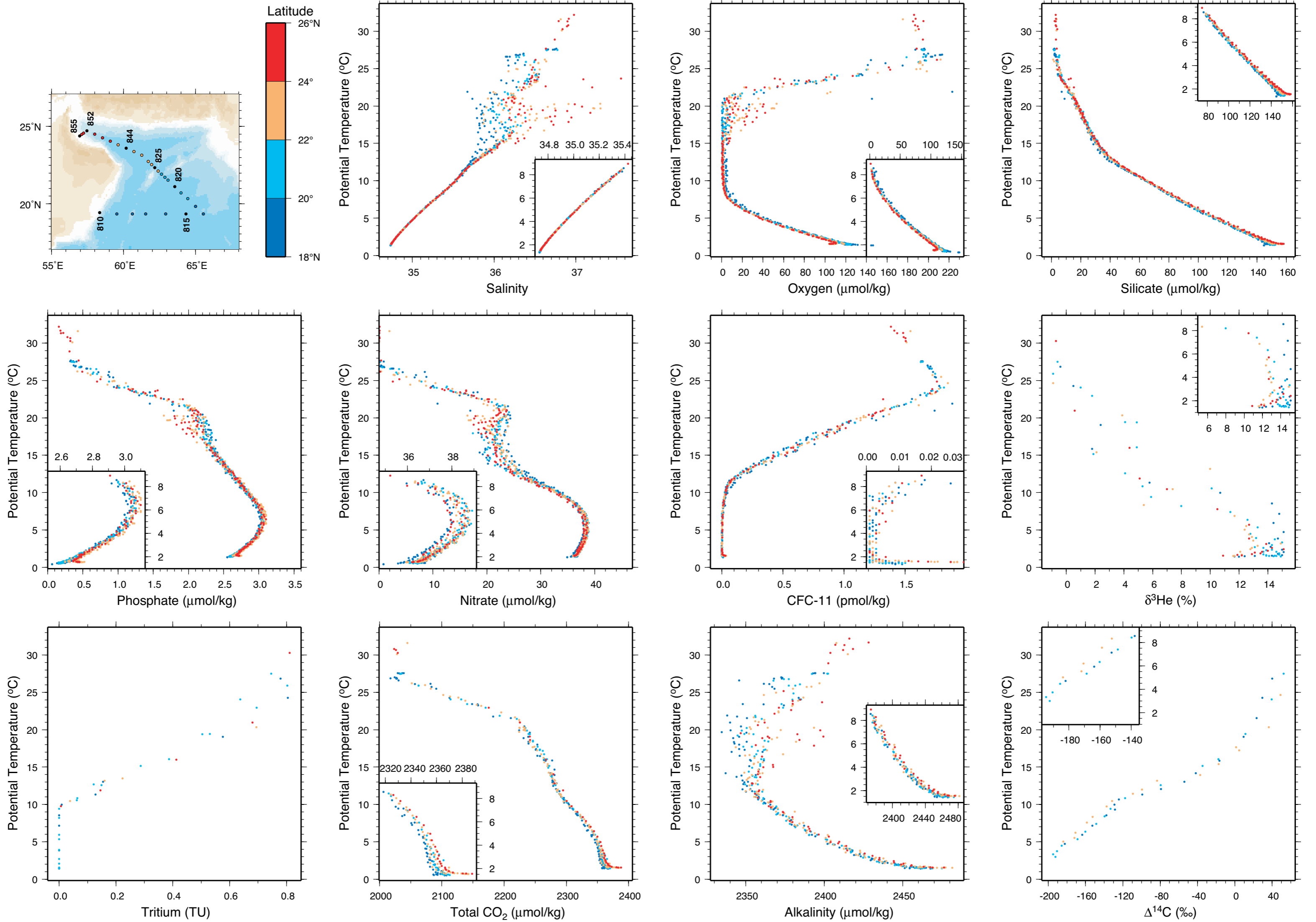
Alkalinity ($\mu\text{mol/kg}$)



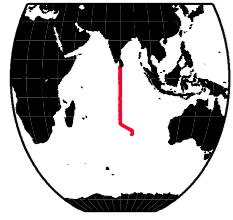
I7PG

I7PG (62°E)





I7PG

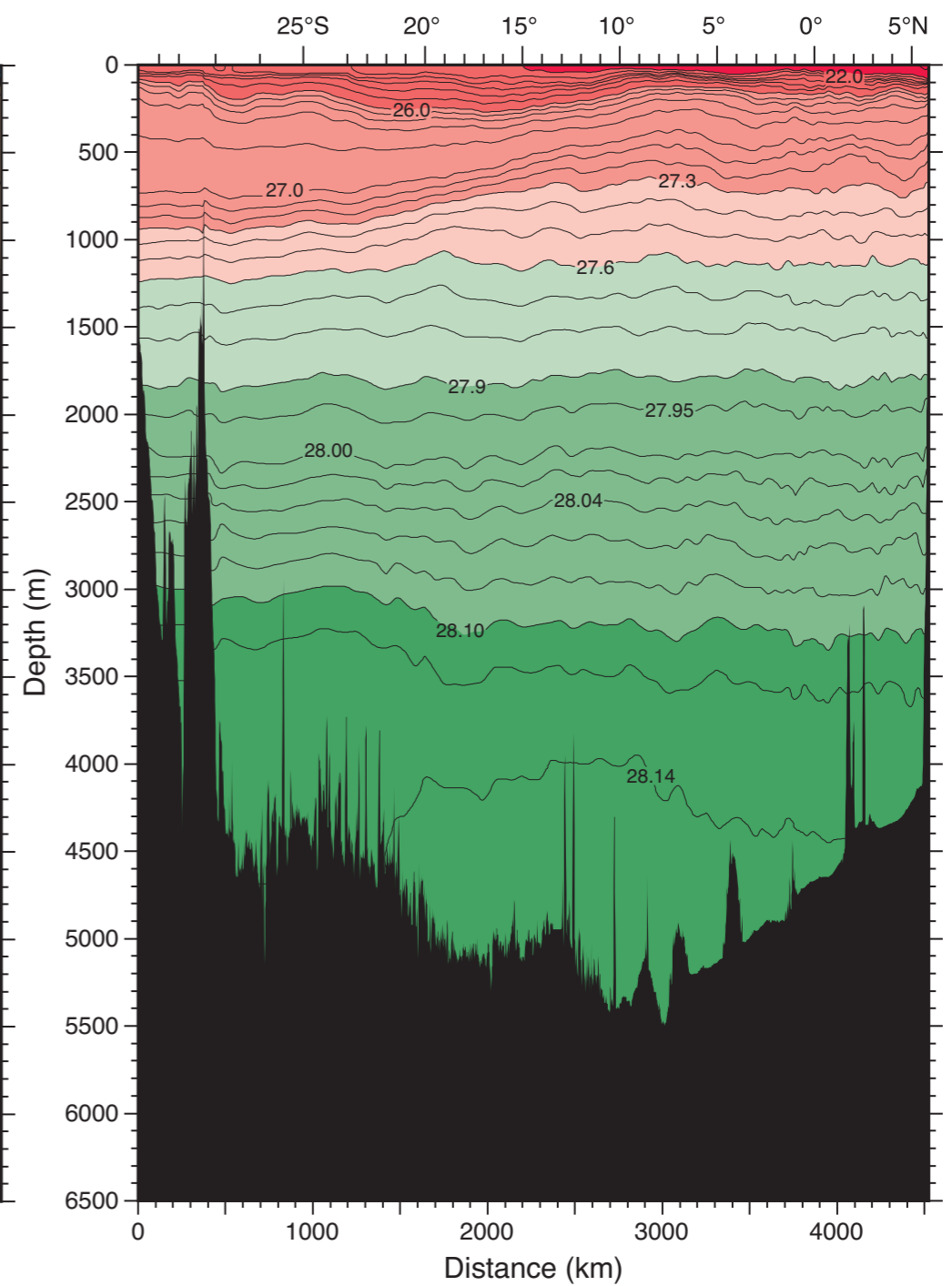
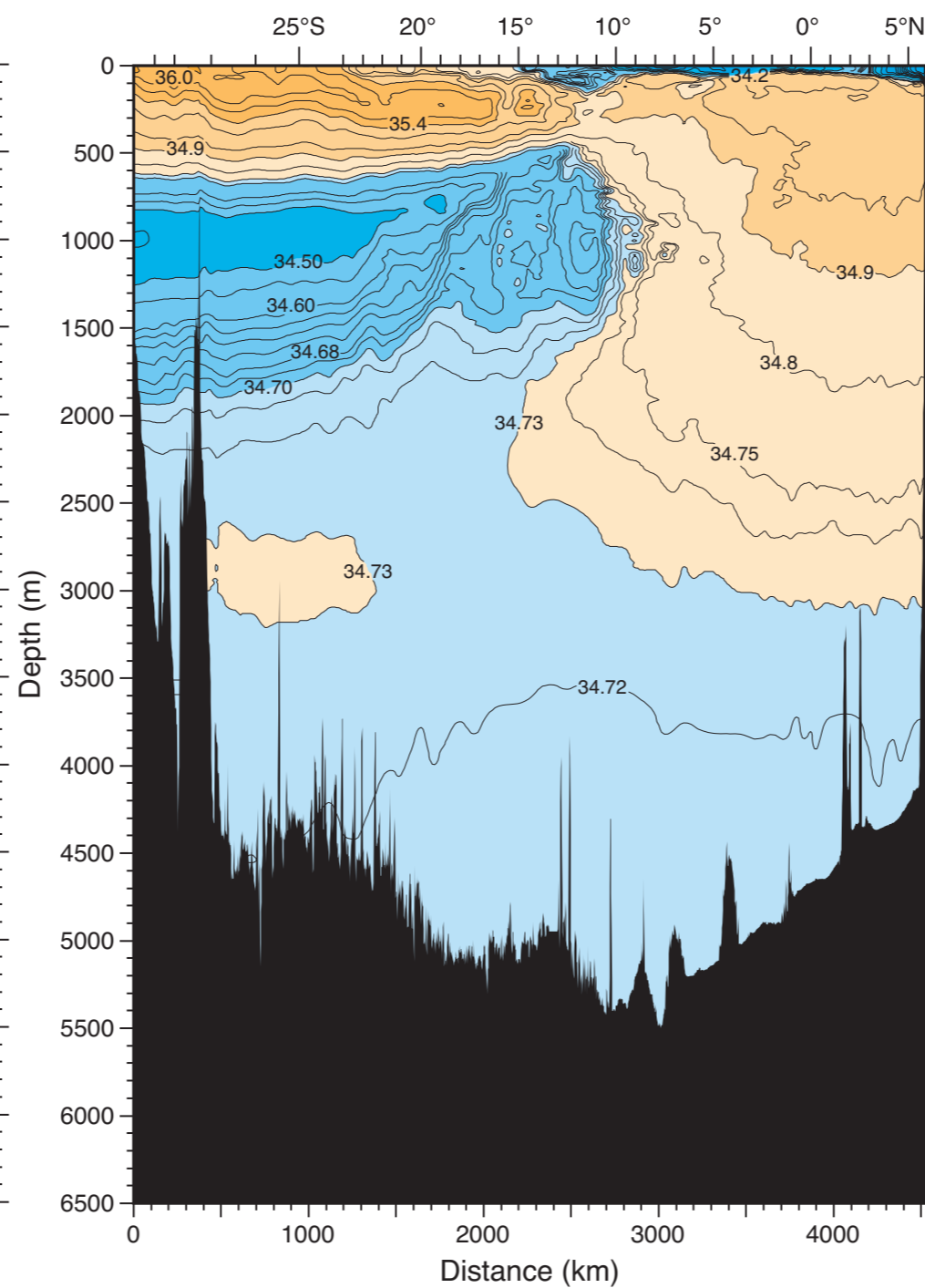
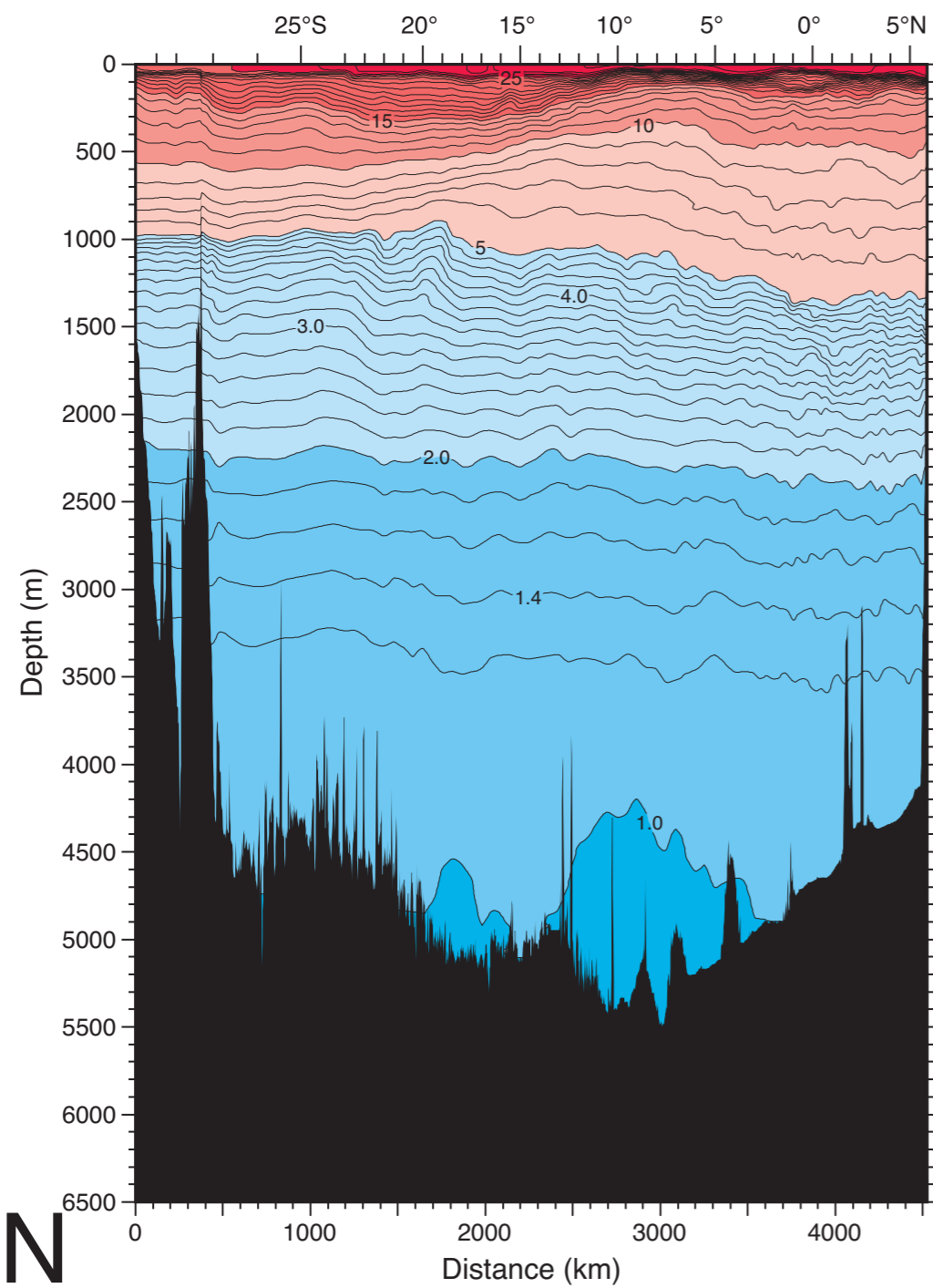
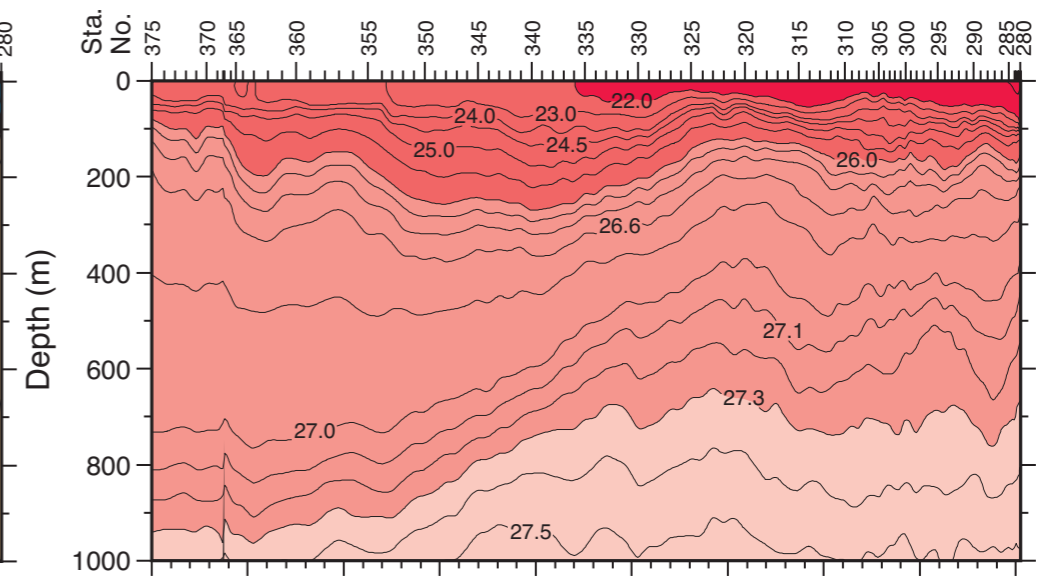
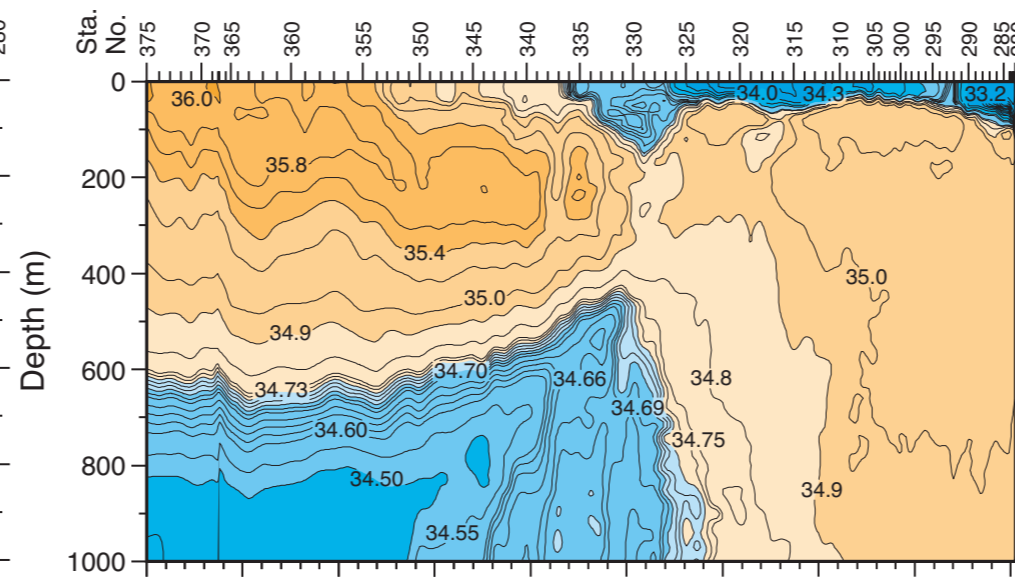
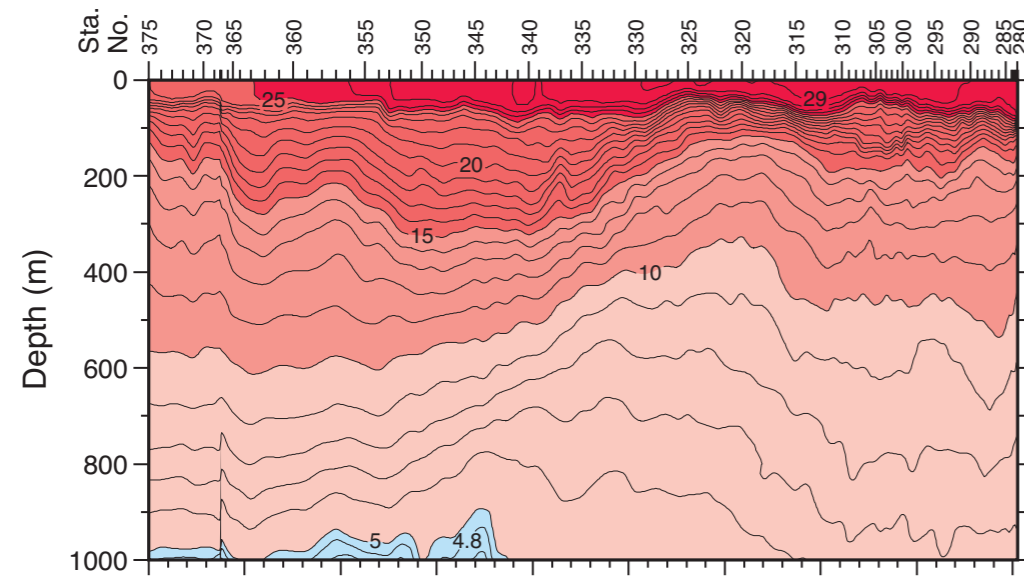


I8N (80°E)

Potential Temperature (°C)

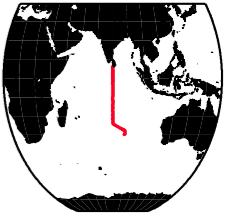
Salinity (PSS78)

Neutral Density (kg/m³)



I8N

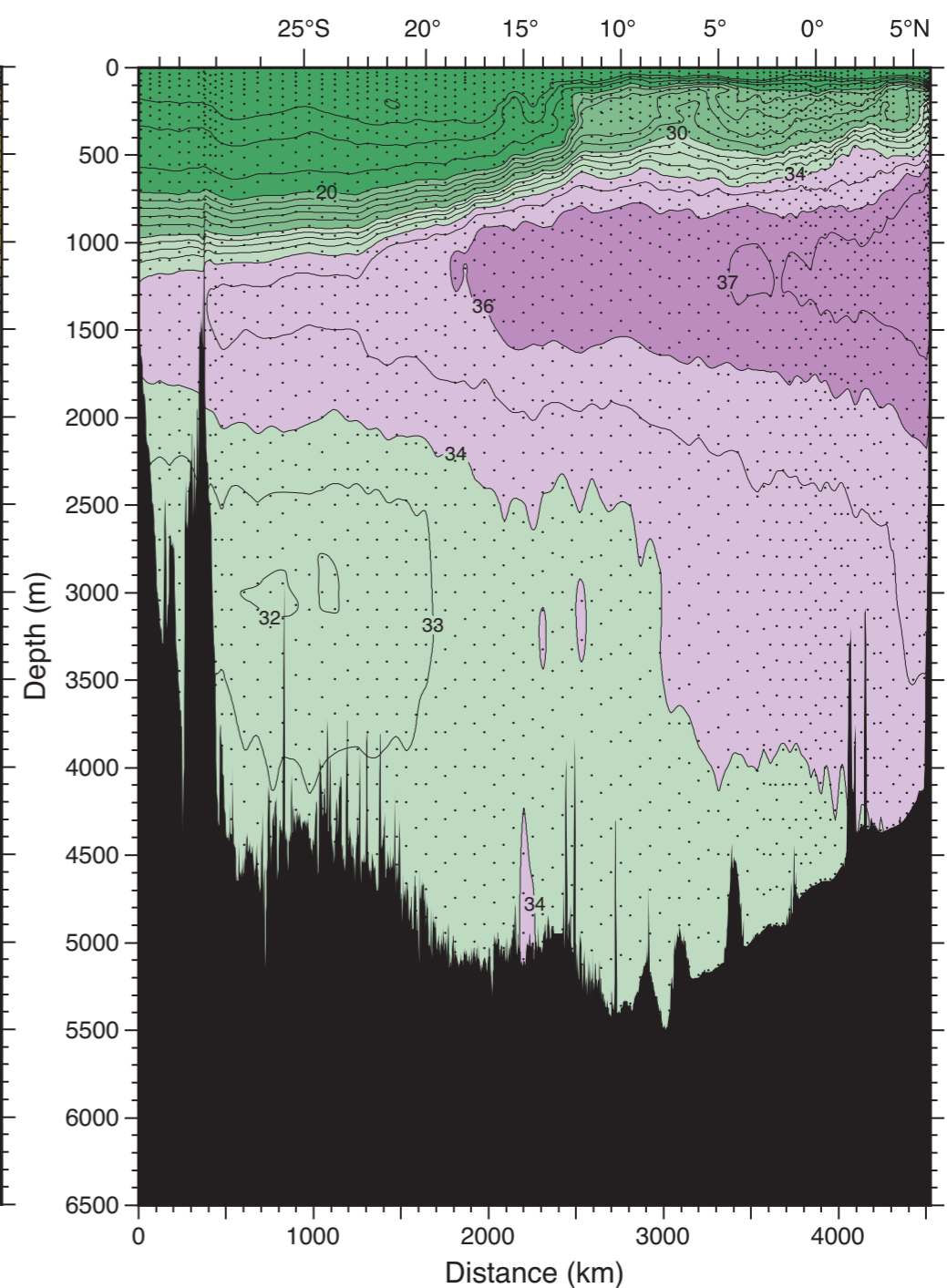
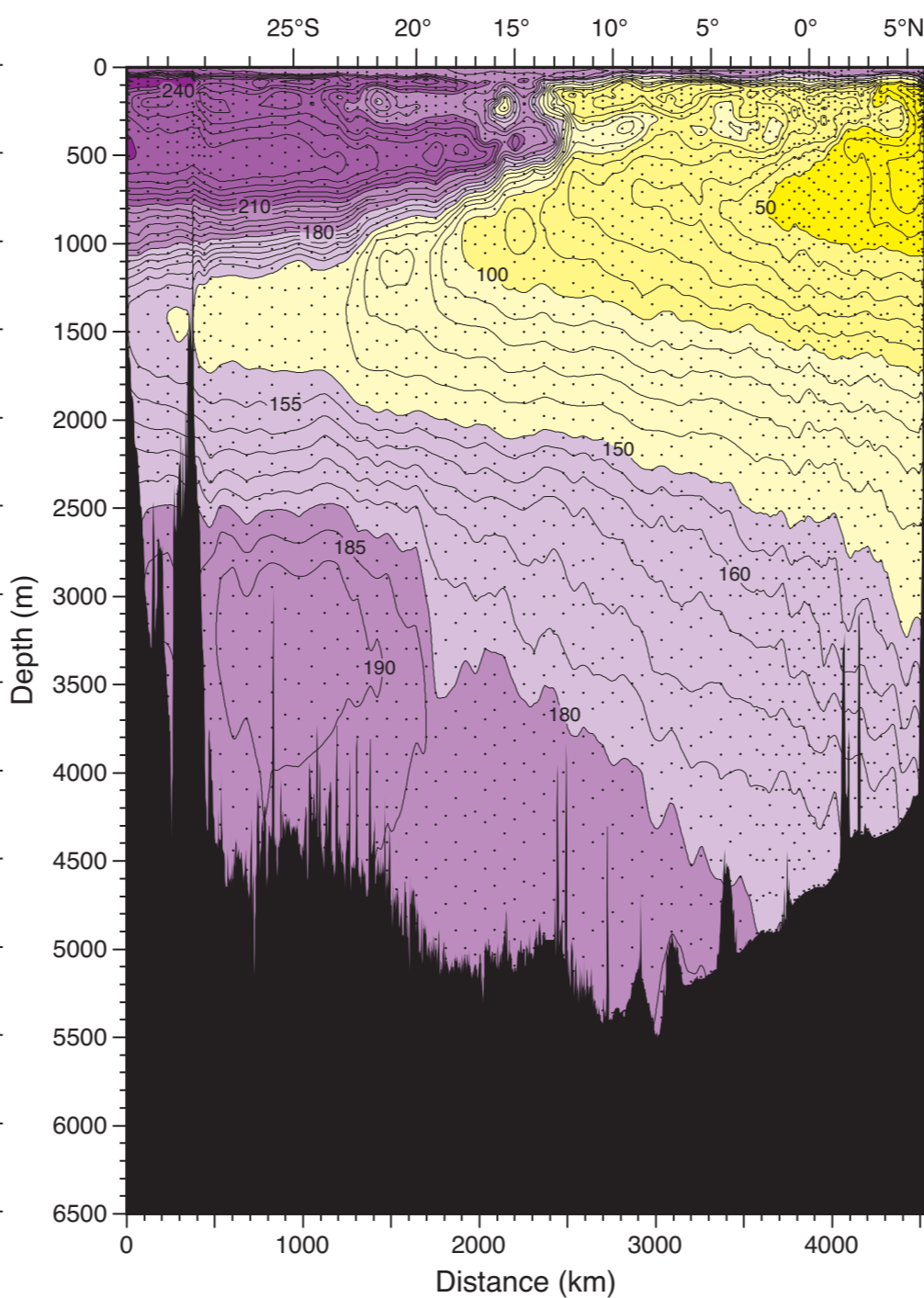
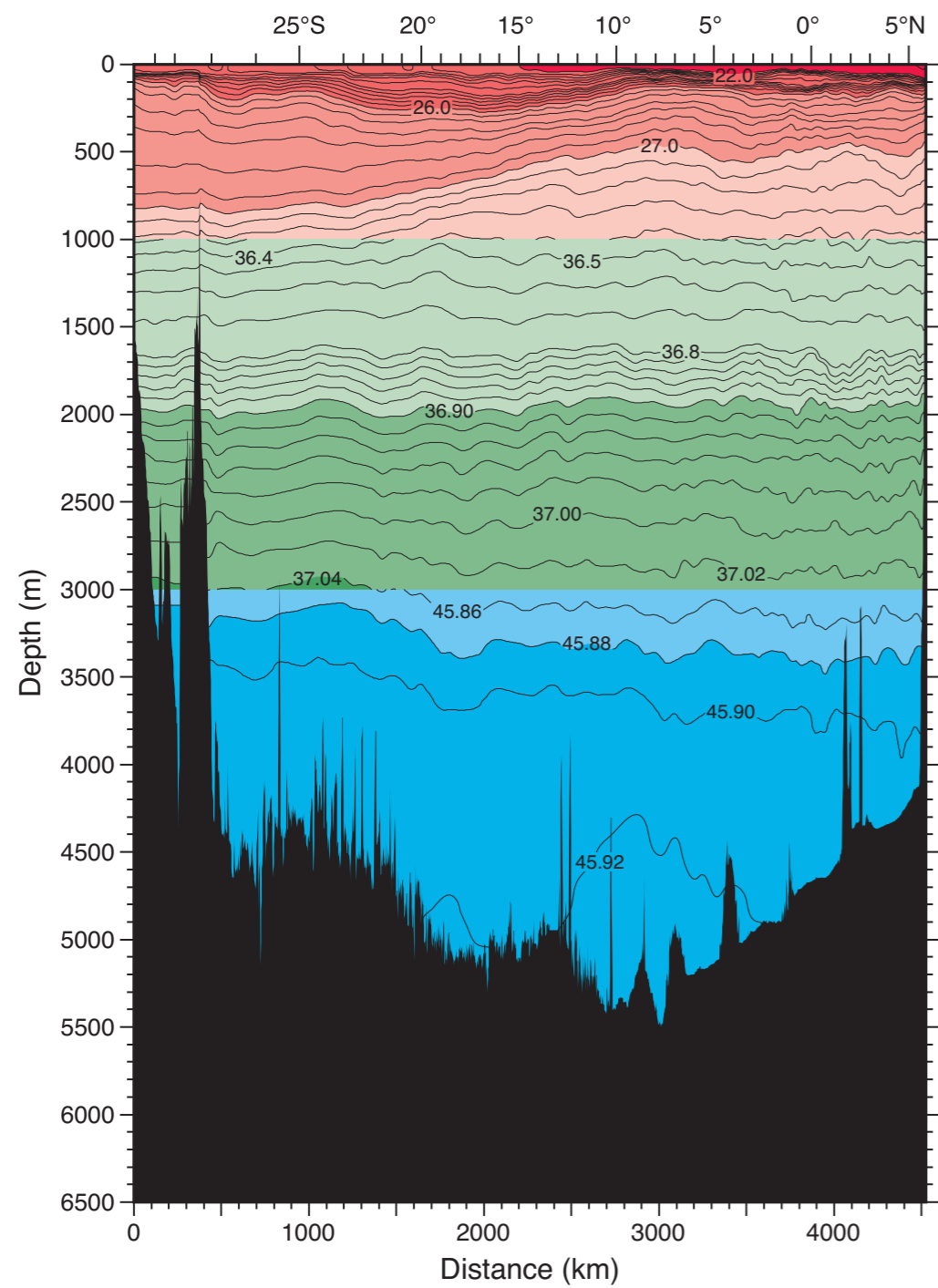
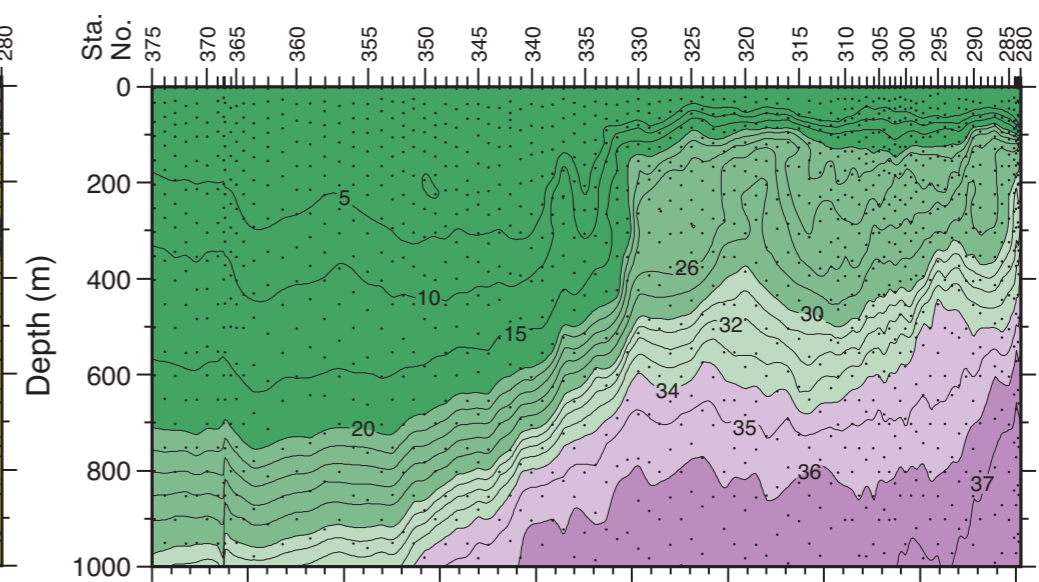
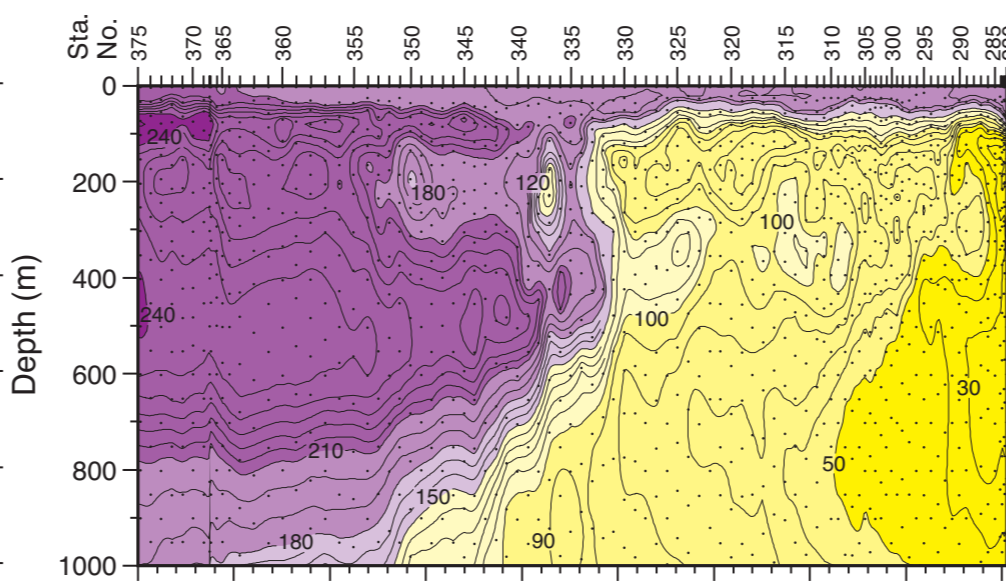
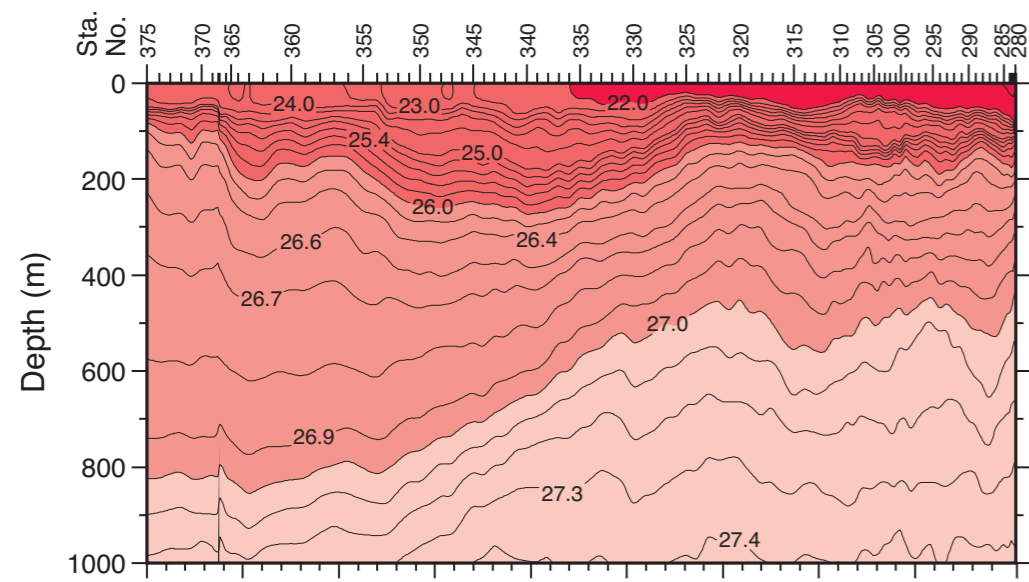
I8N (80°E)



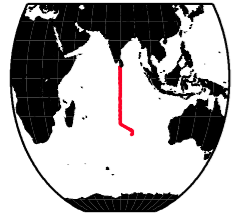
σ_0, σ_2 and σ_4 (kg/m^3)

Oxygen ($\mu\text{mol/kg}$)

Nitrate ($\mu\text{mol/kg}$)

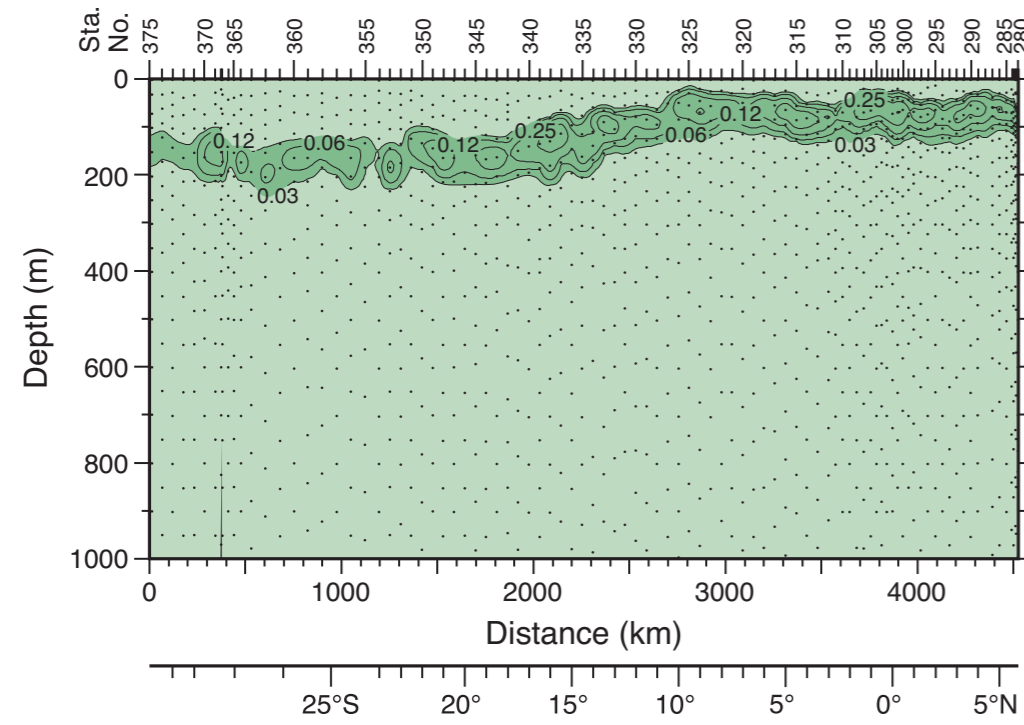


I8N

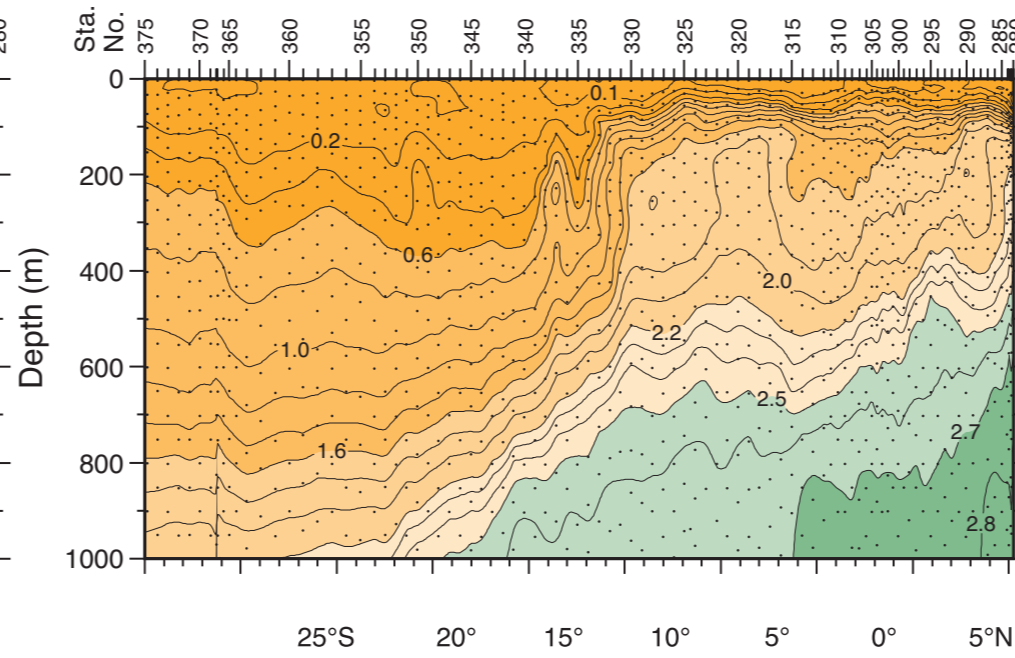


I8N (80°E)

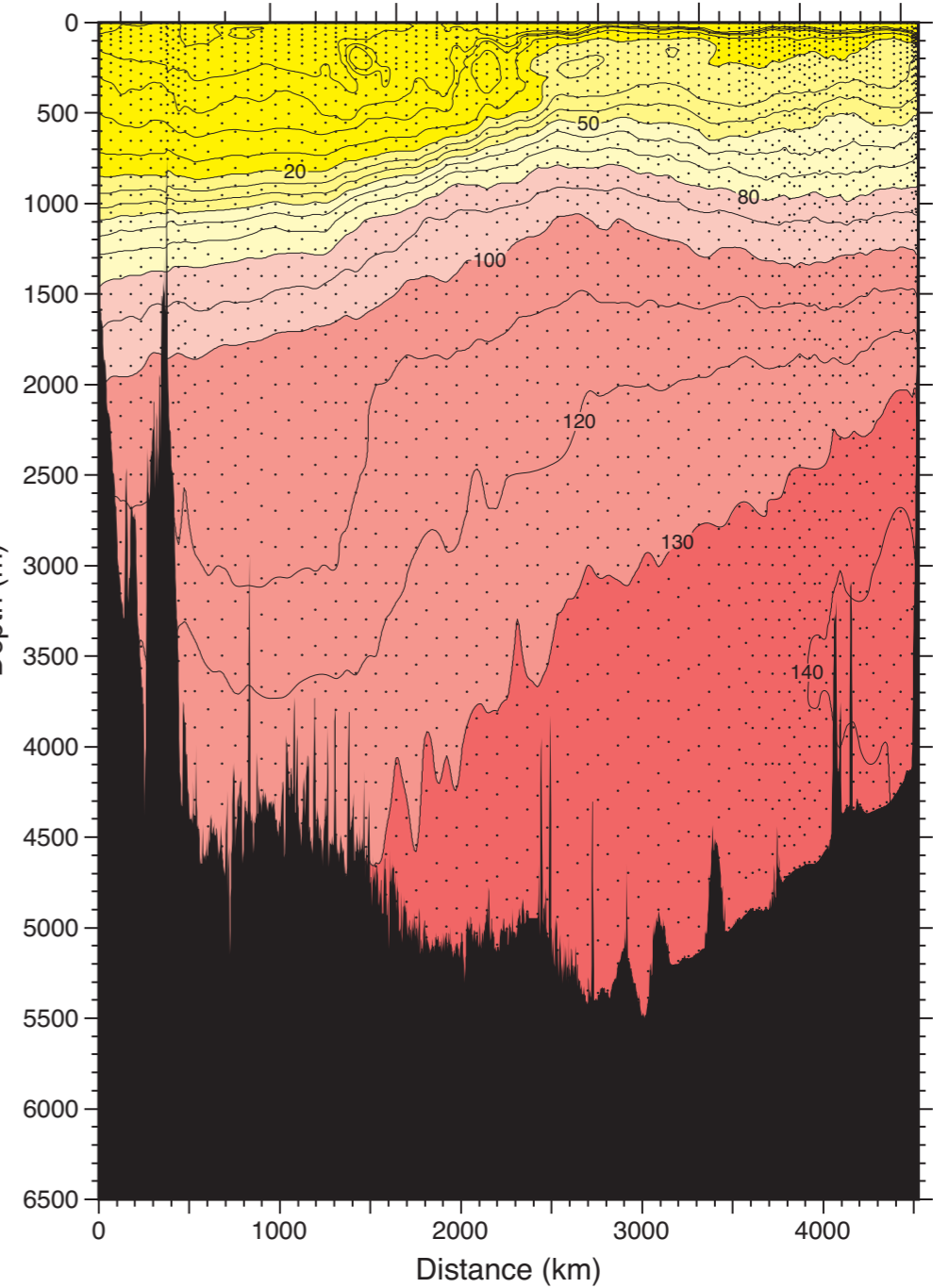
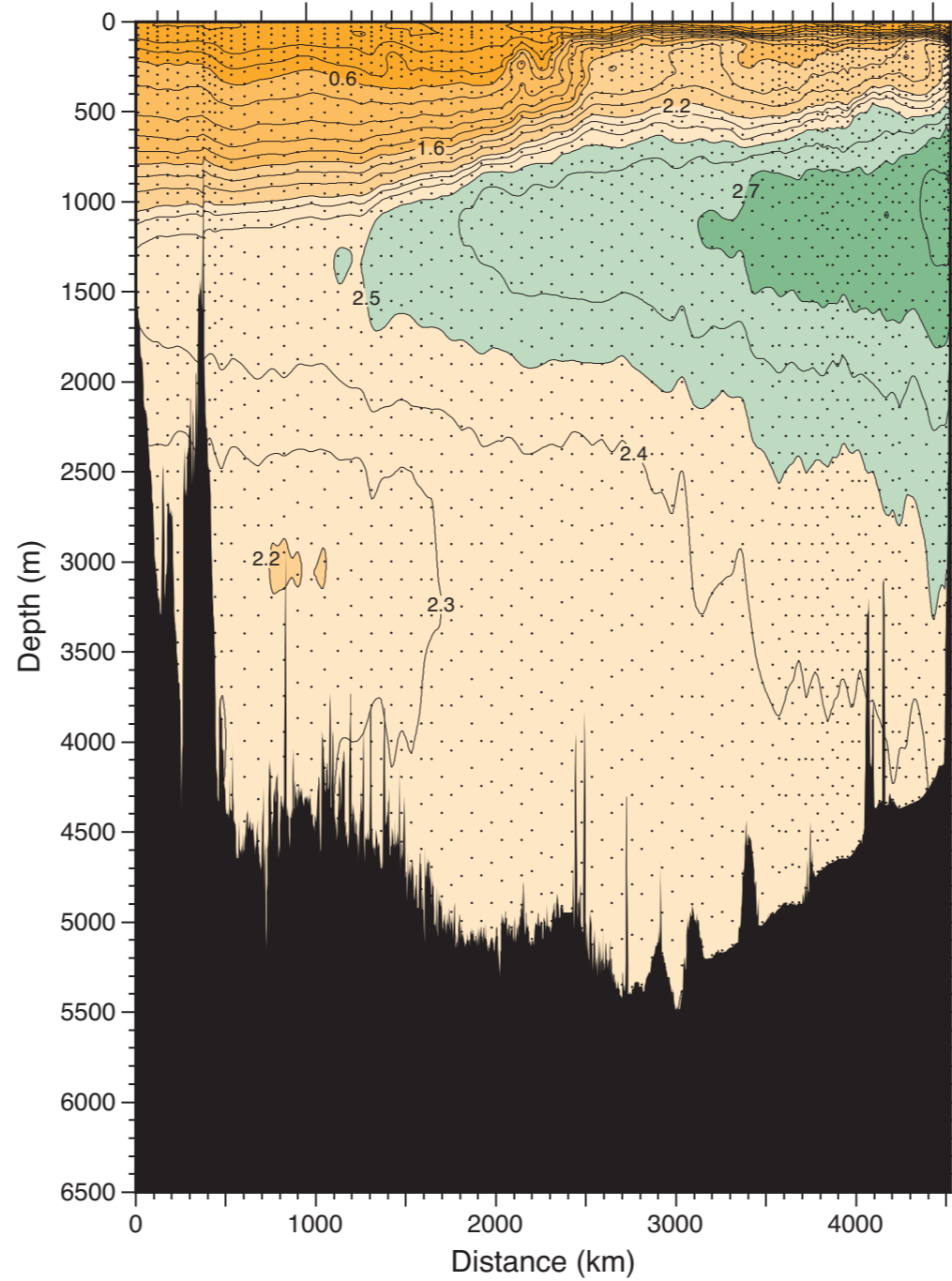
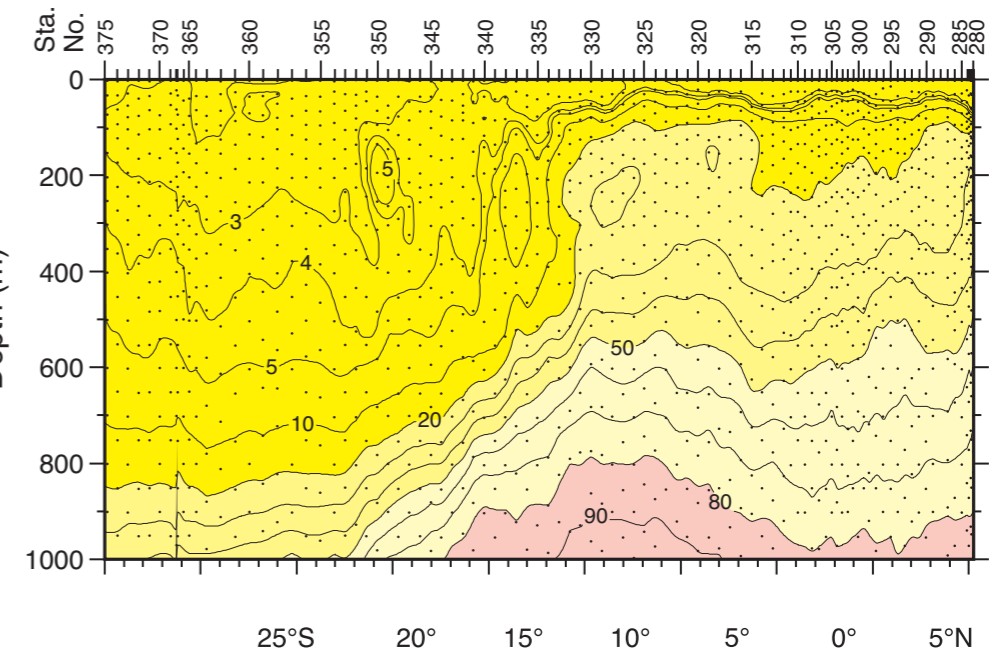
Nitrite ($\mu\text{mol/kg}$)



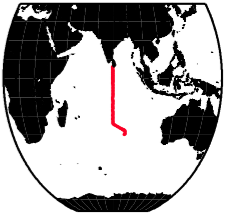
Phosphate ($\mu\text{mol/kg}$)



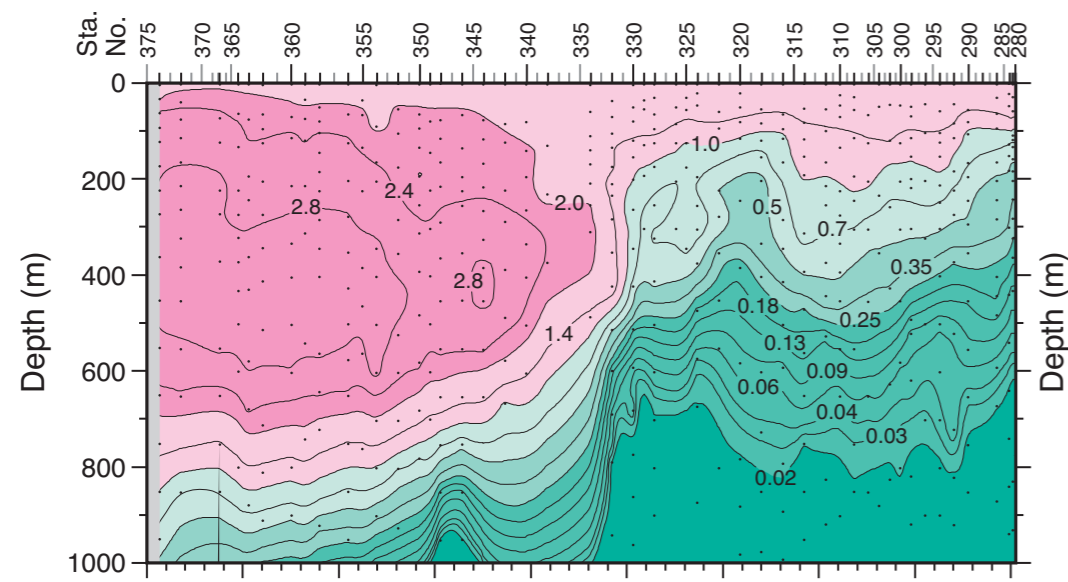
Dissolved Silica ($\mu\text{mol/kg}$)



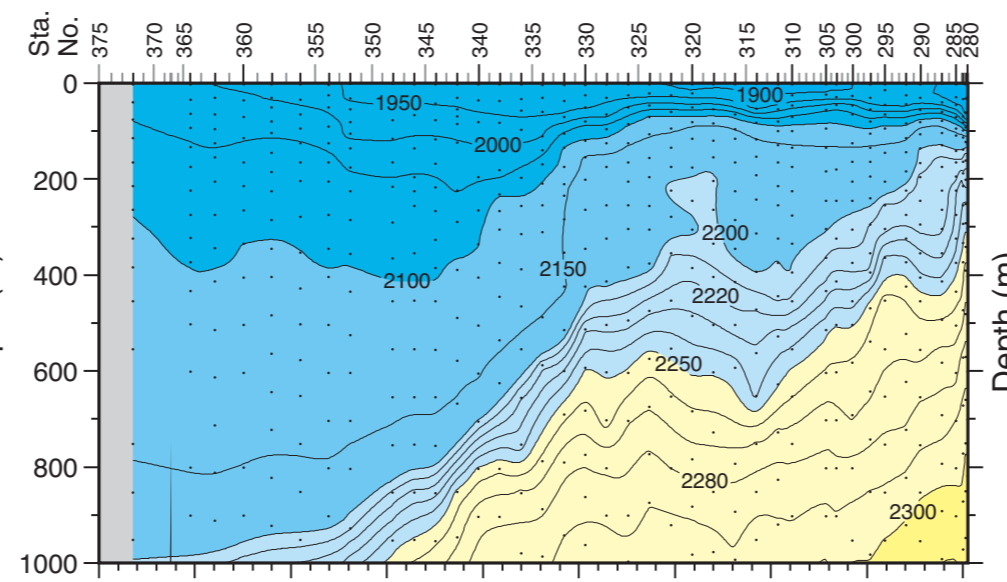
I8N (80°E)



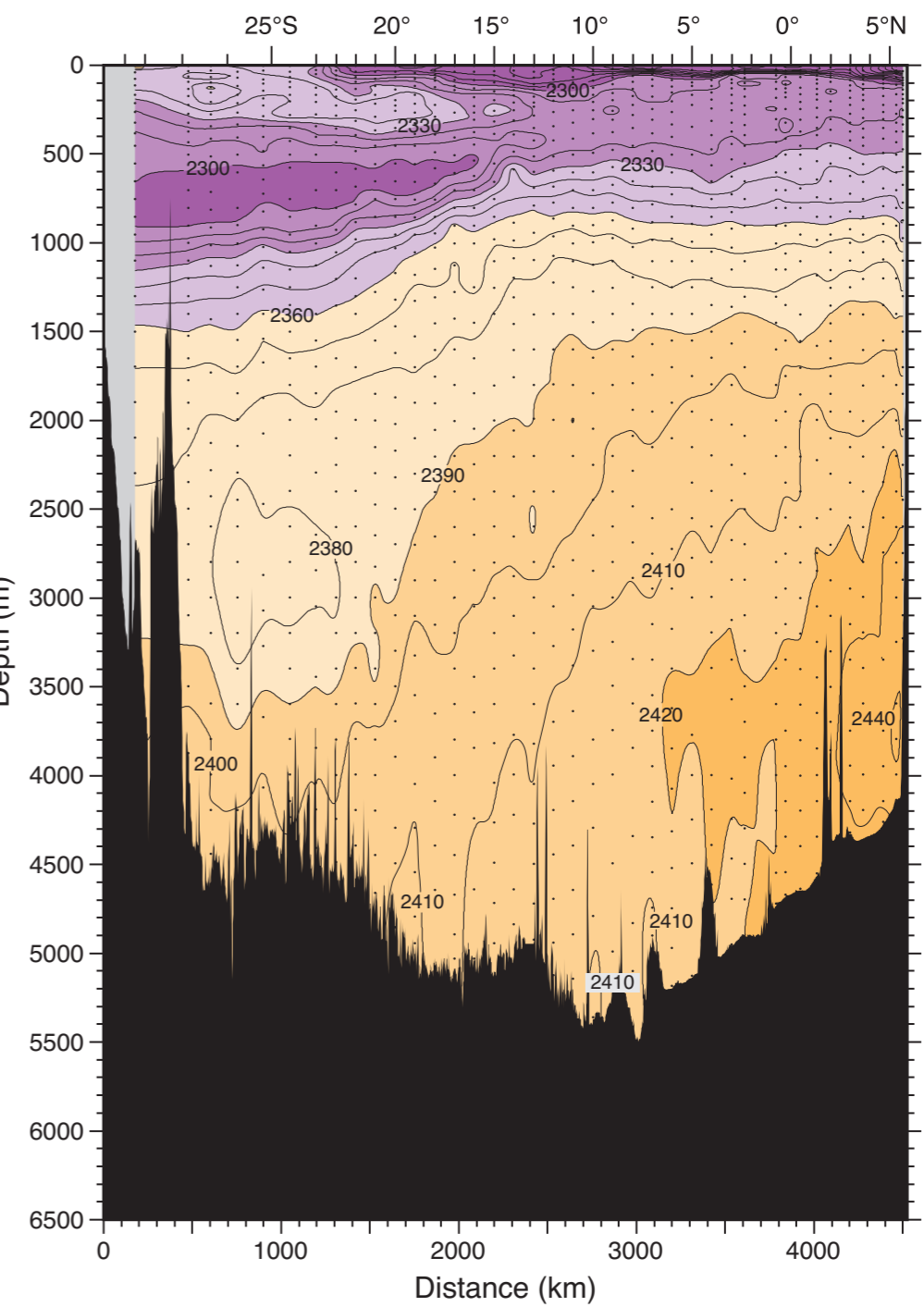
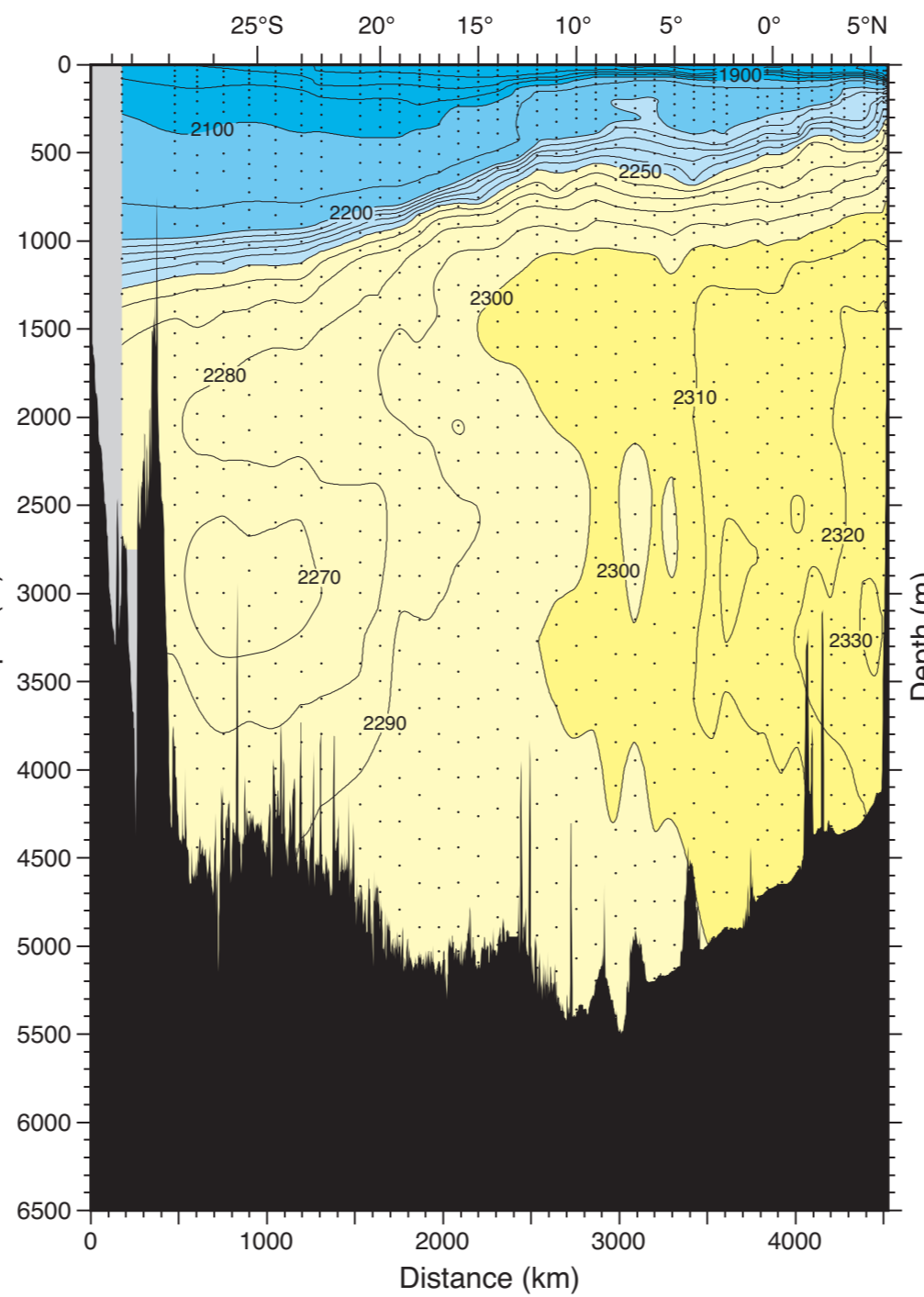
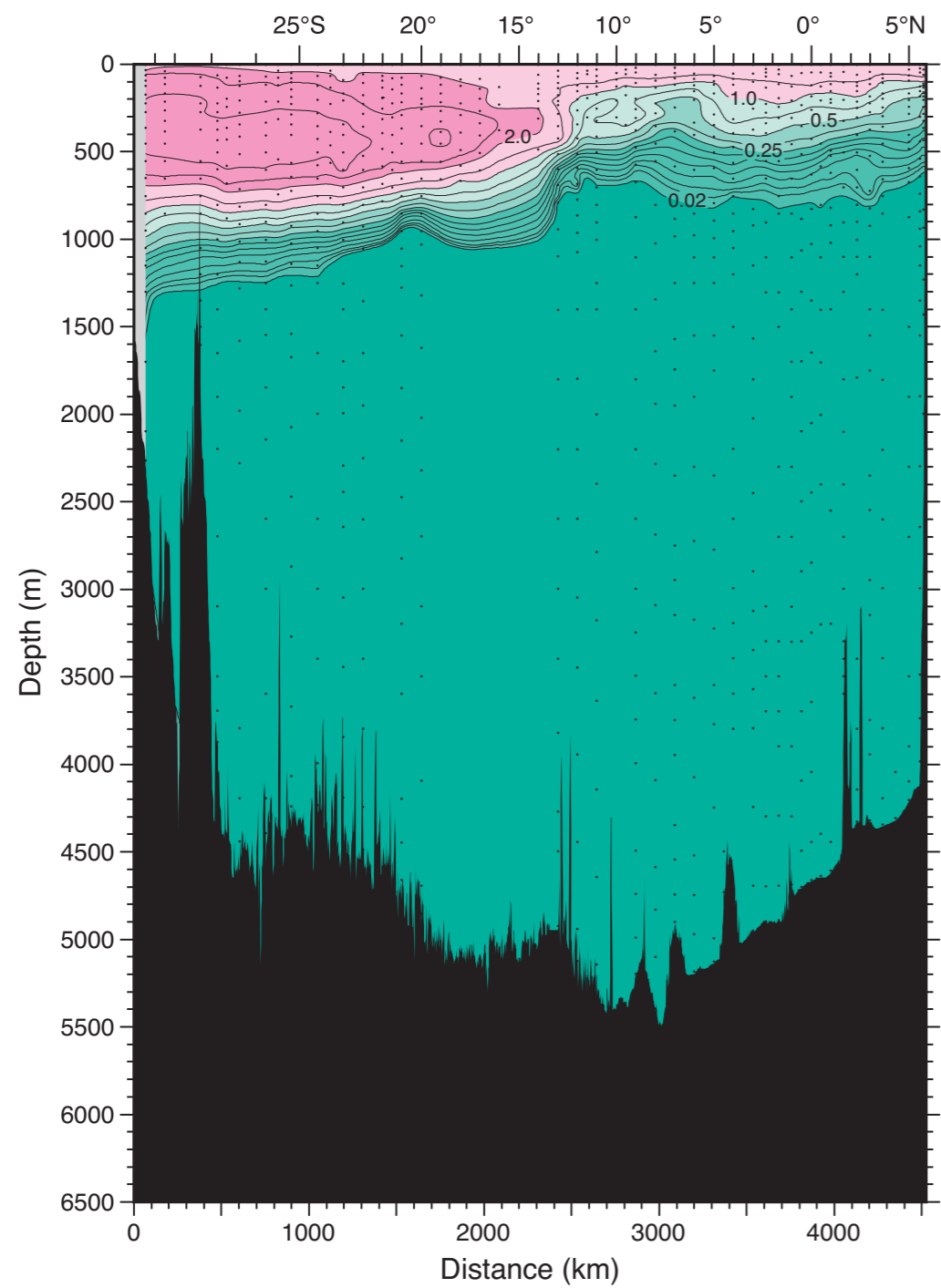
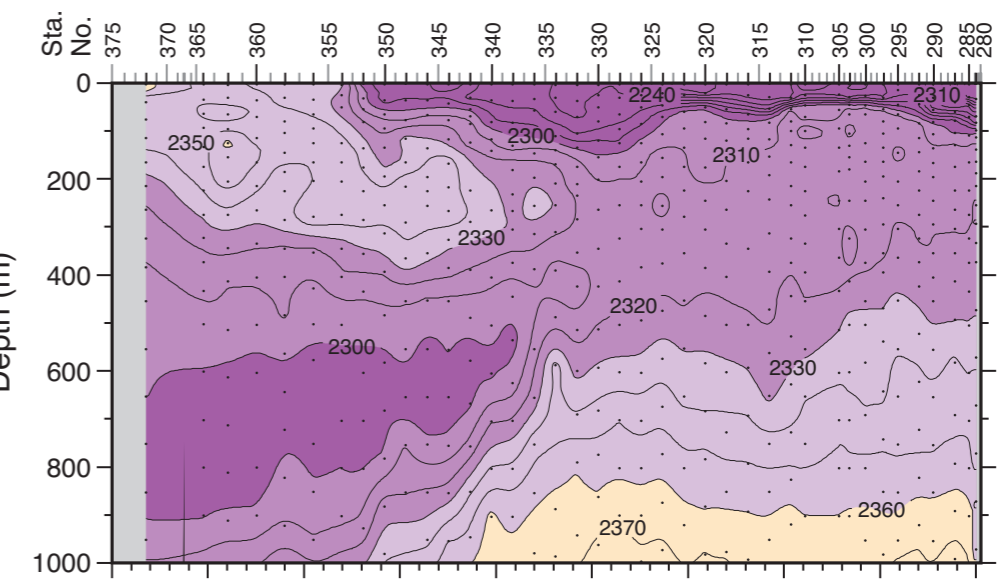
CFC-11 (pmol/kg)

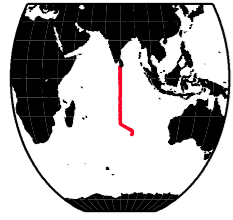


Total Carbon ($\mu\text{mol/kg}$)



Alkalinity ($\mu\text{mol/kg}$)



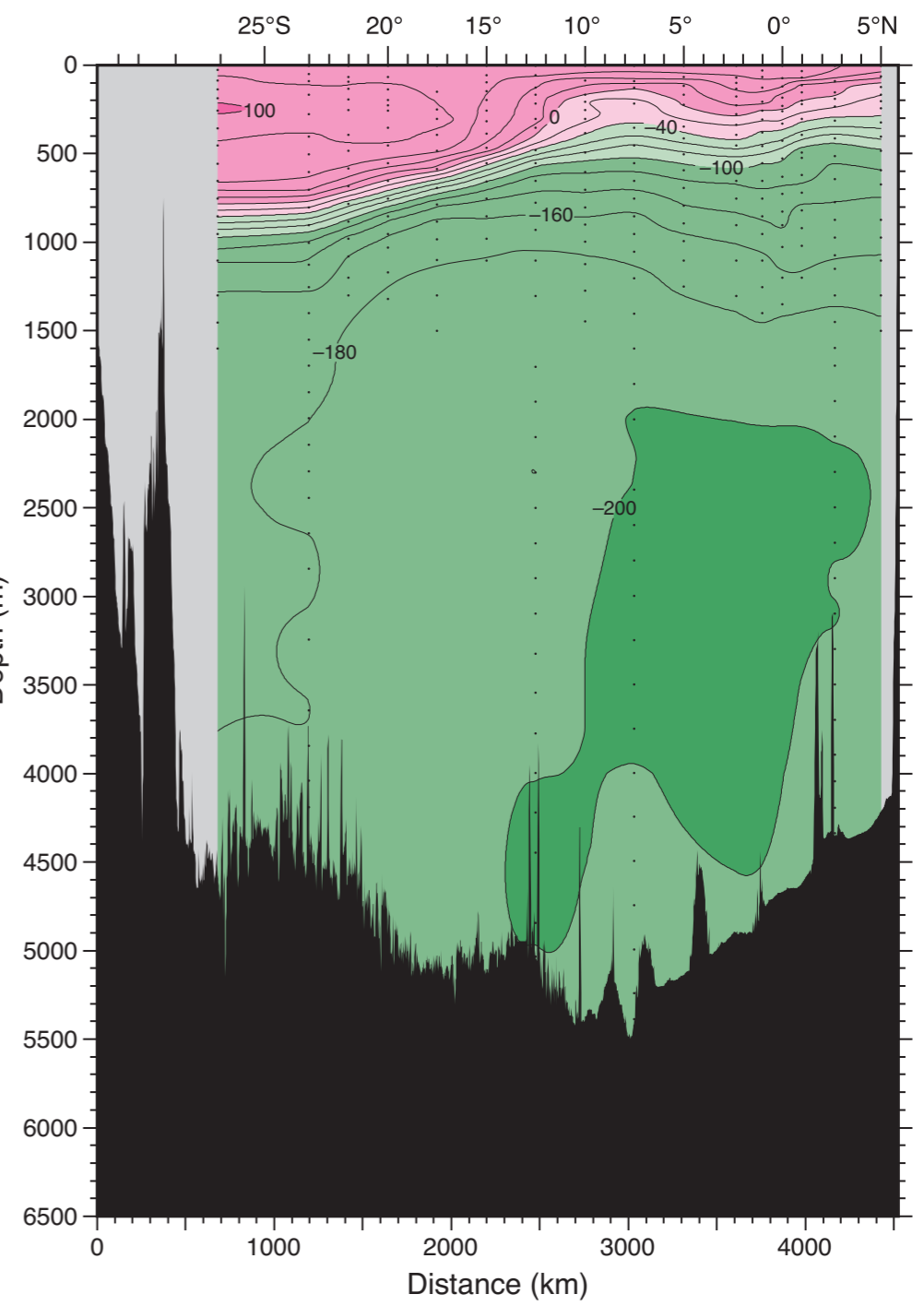
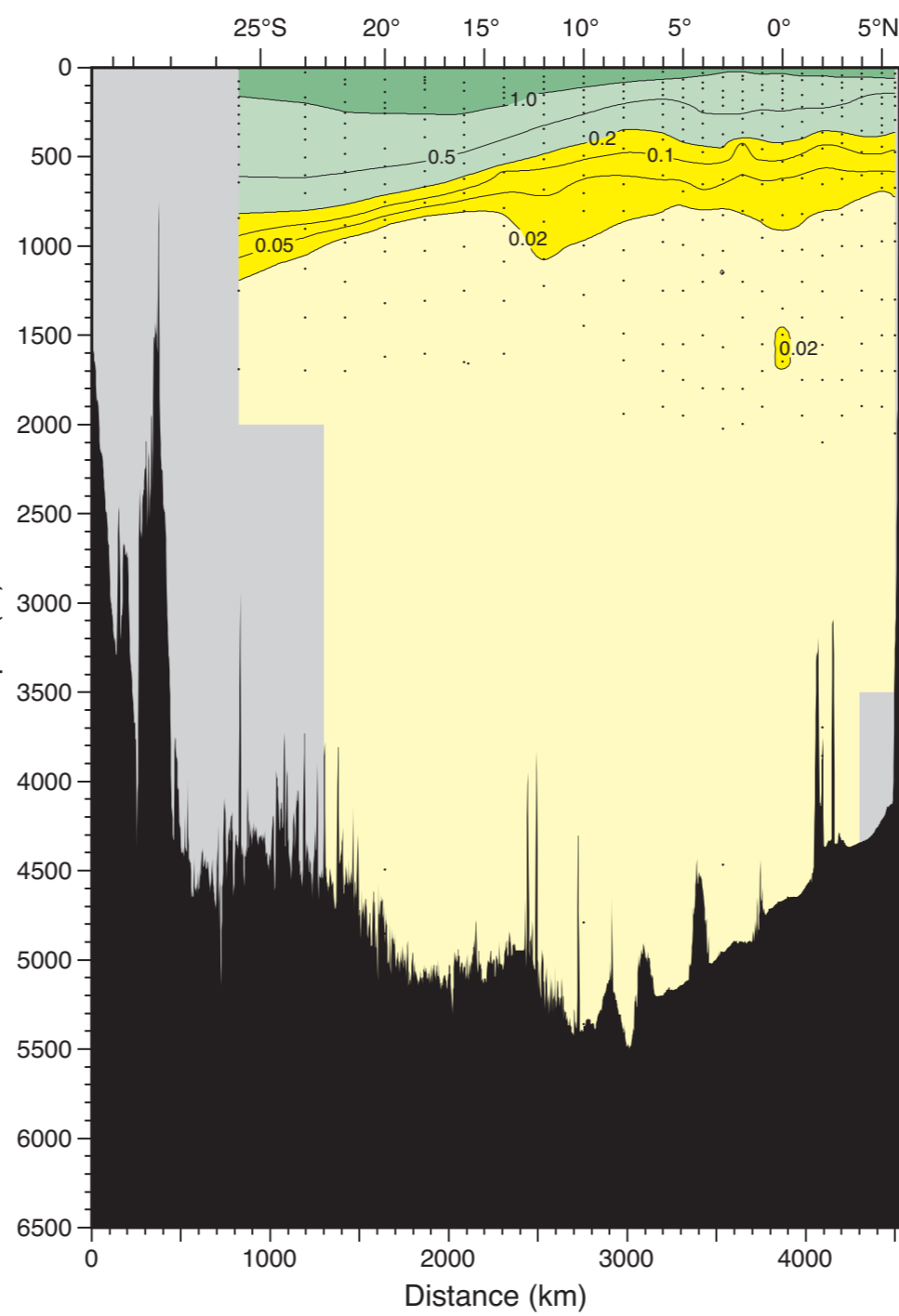
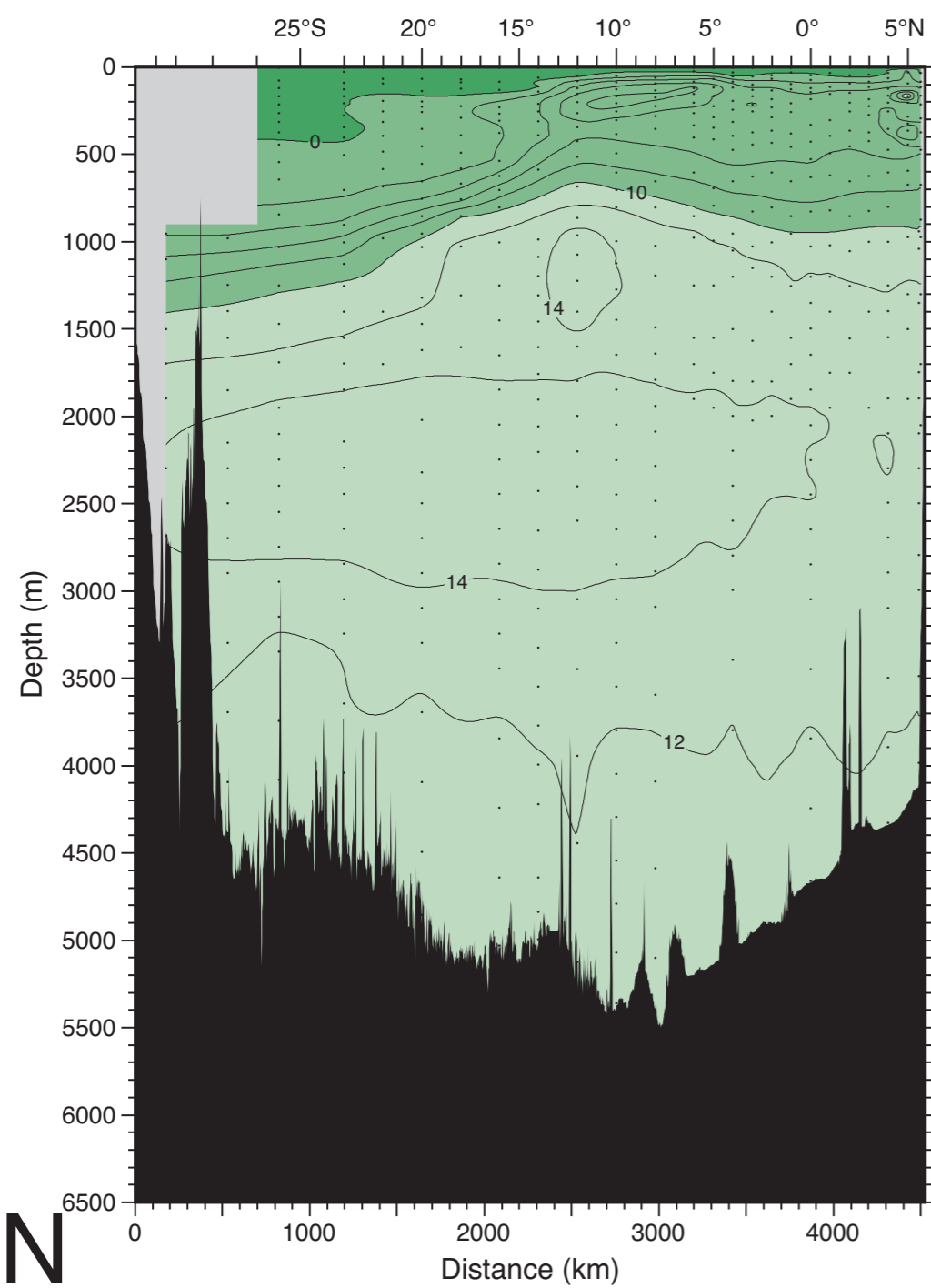
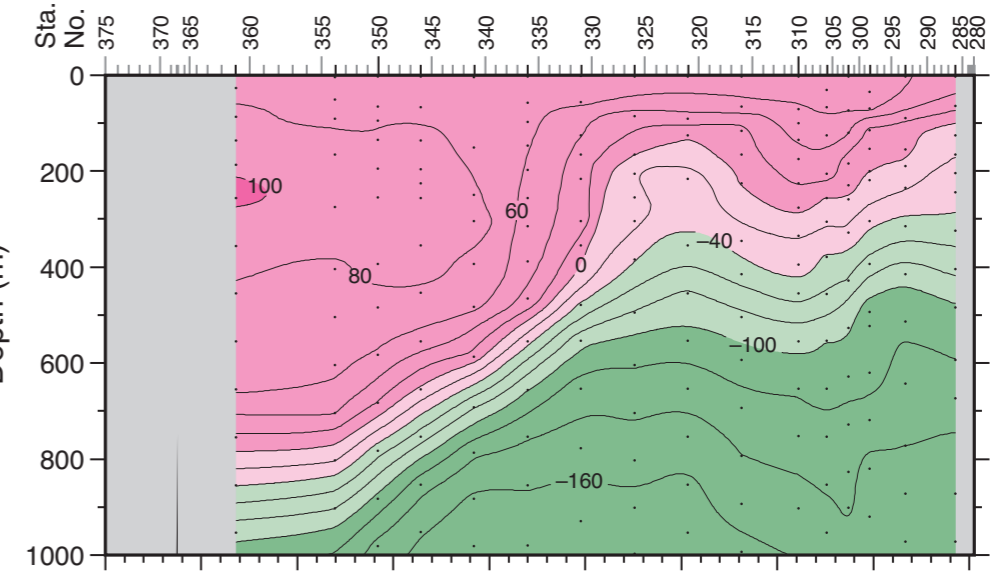
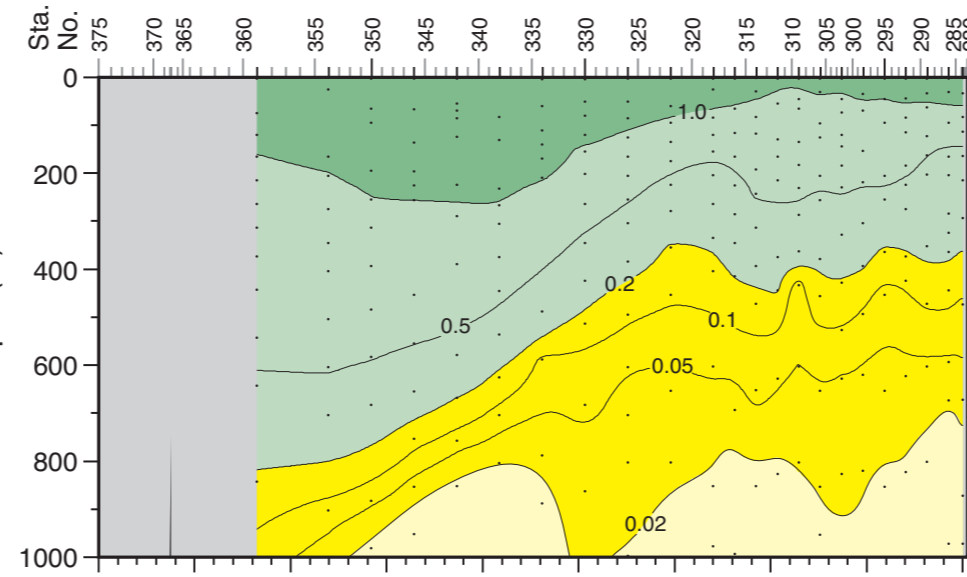
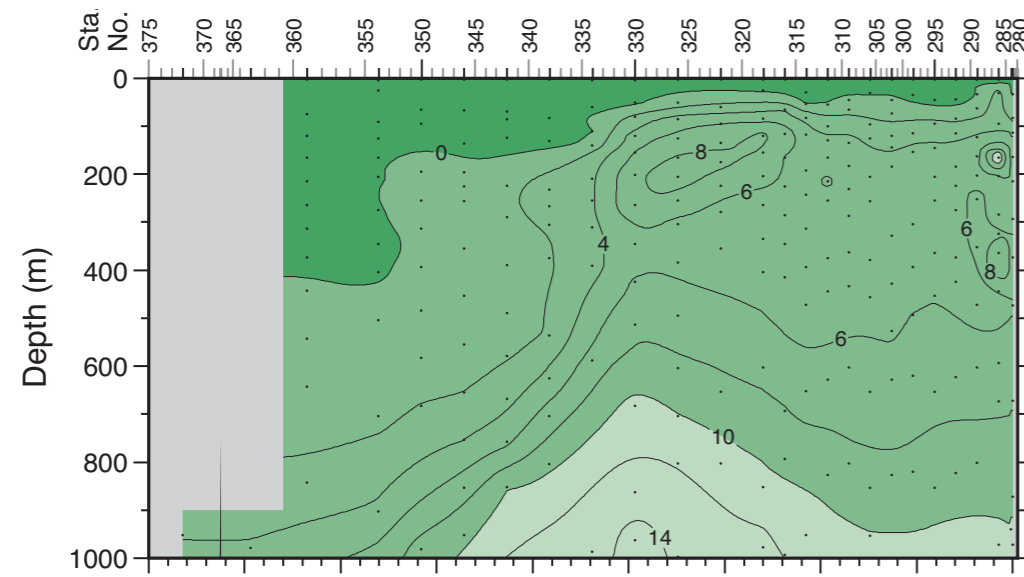


I8N (80°E)

$\delta^3\text{He}$ (‰)

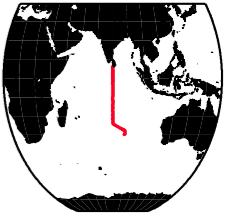
Tritium (TU)

$\Delta^{14}\text{C}$ (‰)

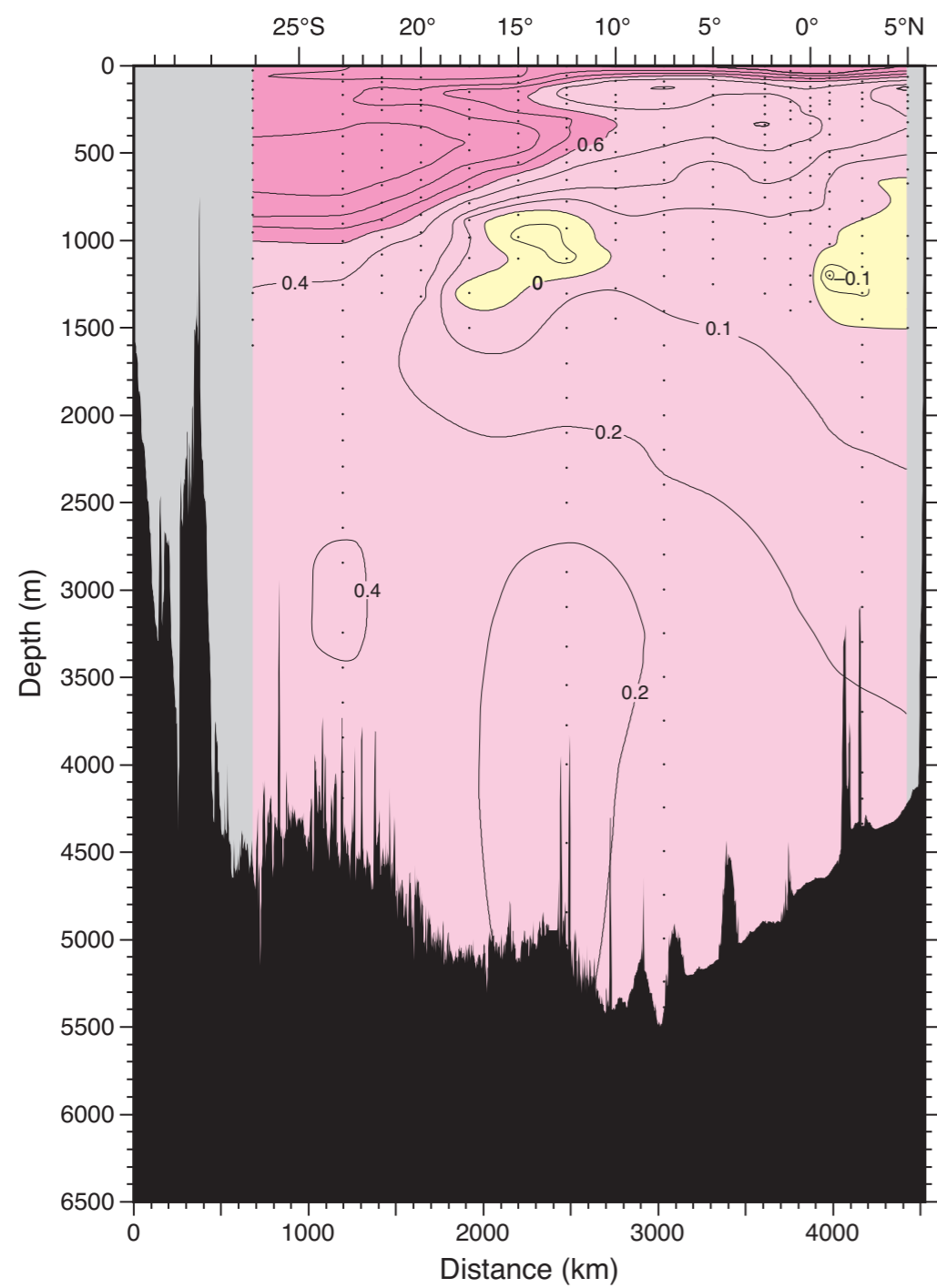
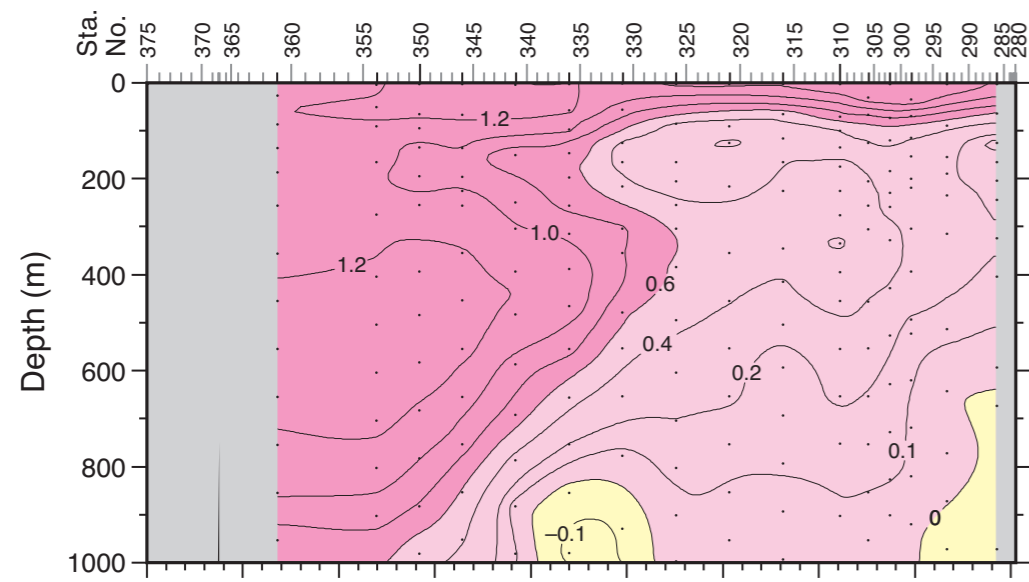


I8N

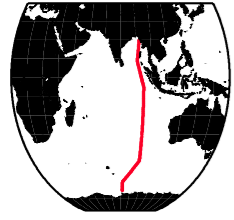
I8N (80°E)



$\delta^{13}\text{C}$ (‰)

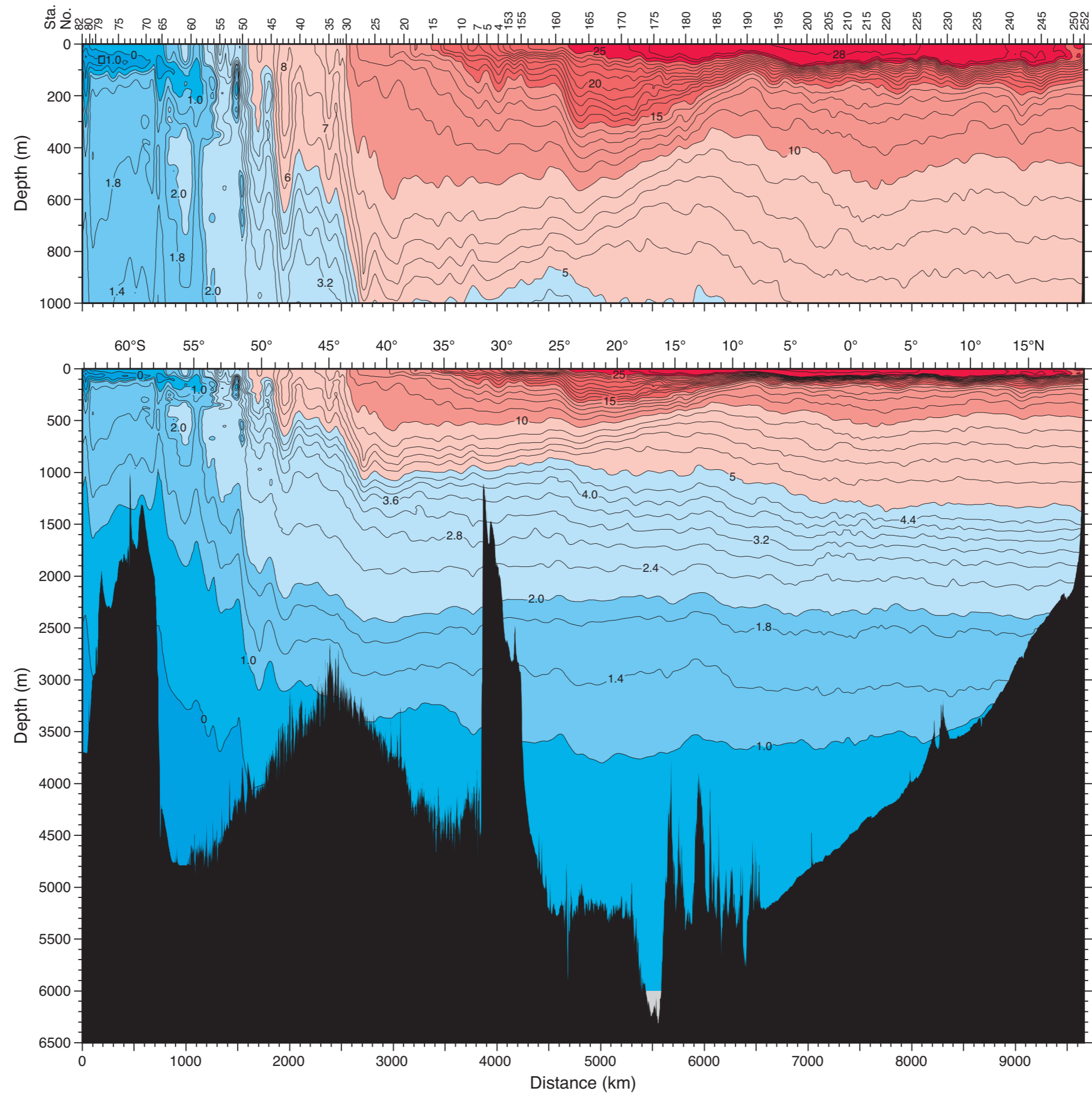


I8N



I819 (95°E)

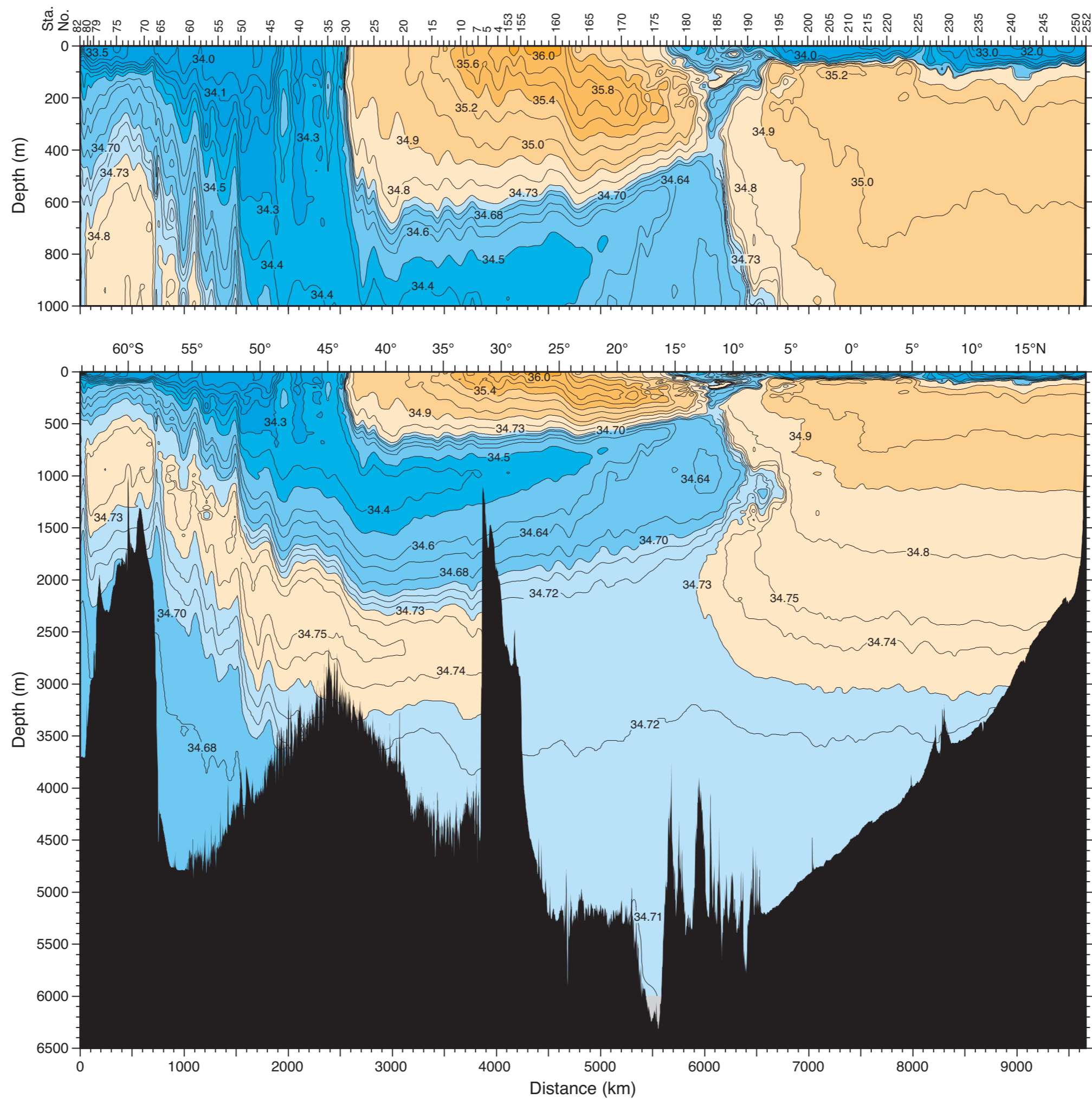
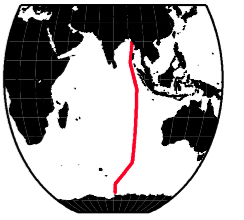
Potential Temperature (°C)

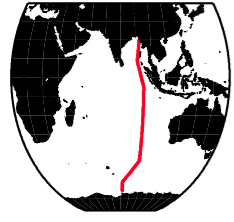


I819

1819 (95°E)

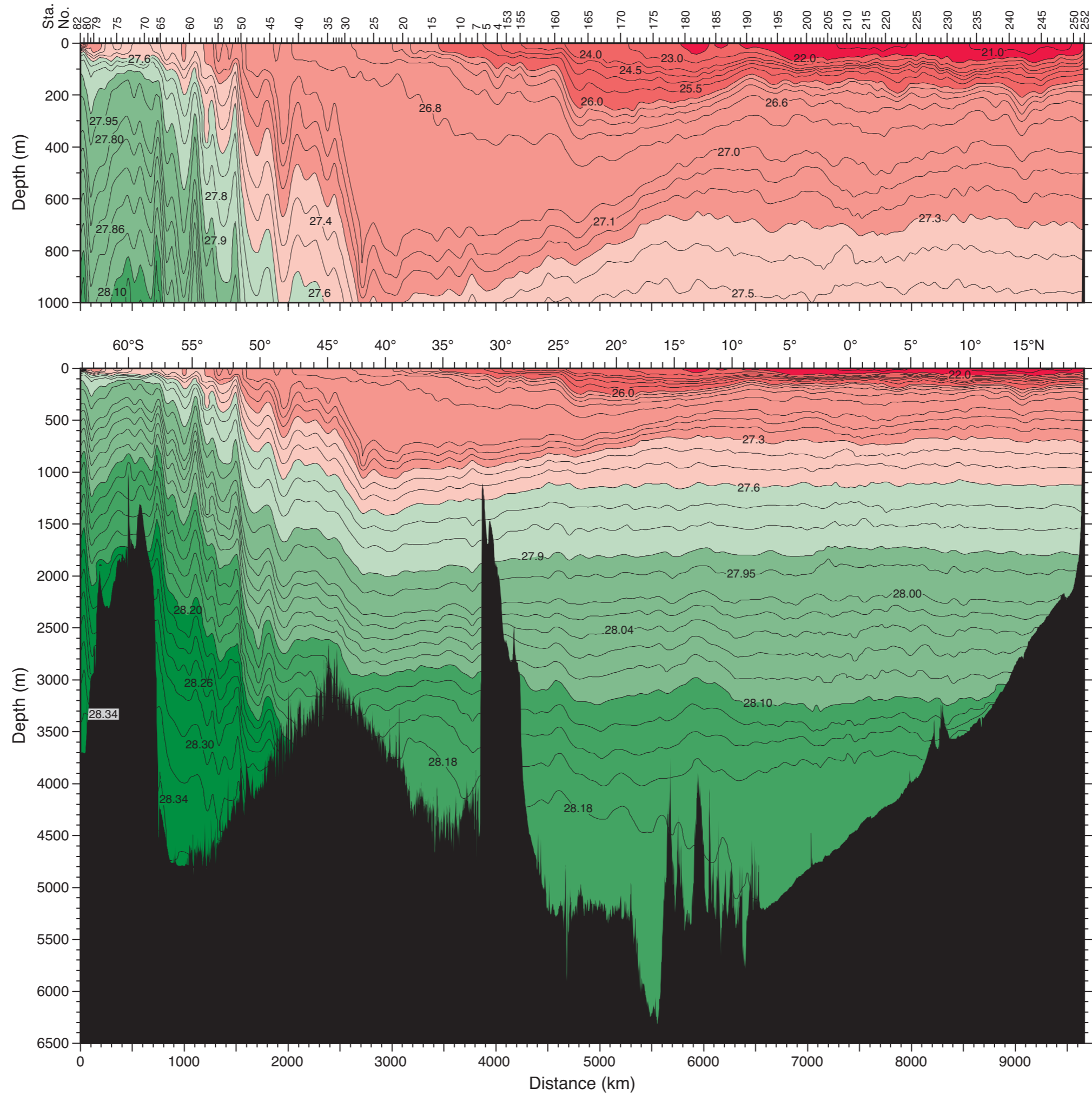
Salinity (PSS78)





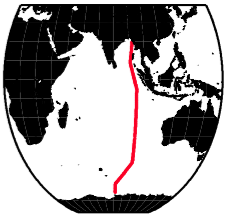
I819 (95°E)

Neutral Density (kg/m^3)

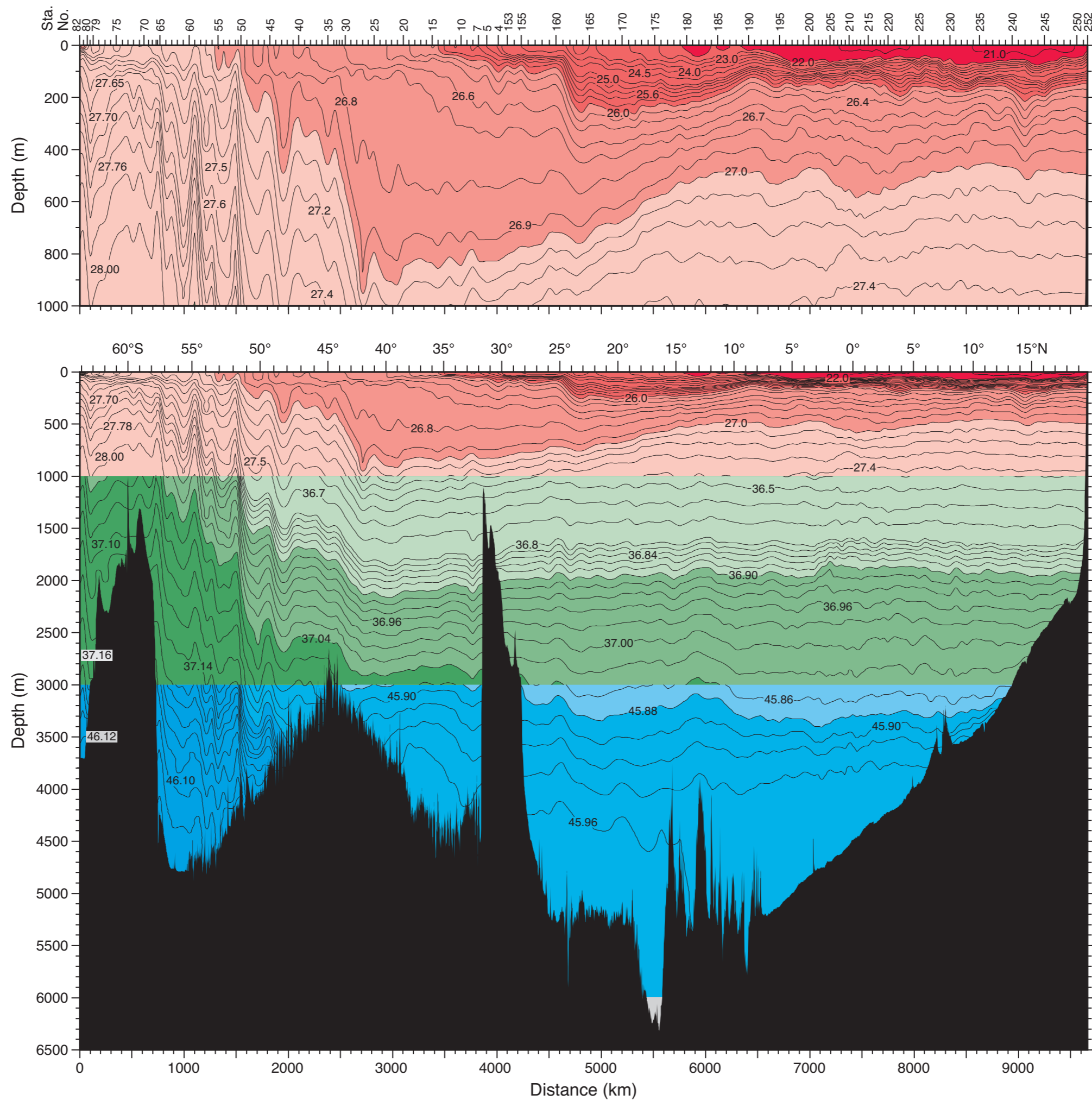


I819

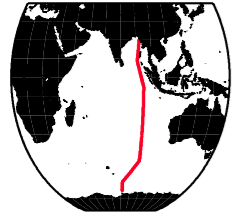
1819 (95°E)



σ_0, σ_2 and σ_4 (kg/m³)

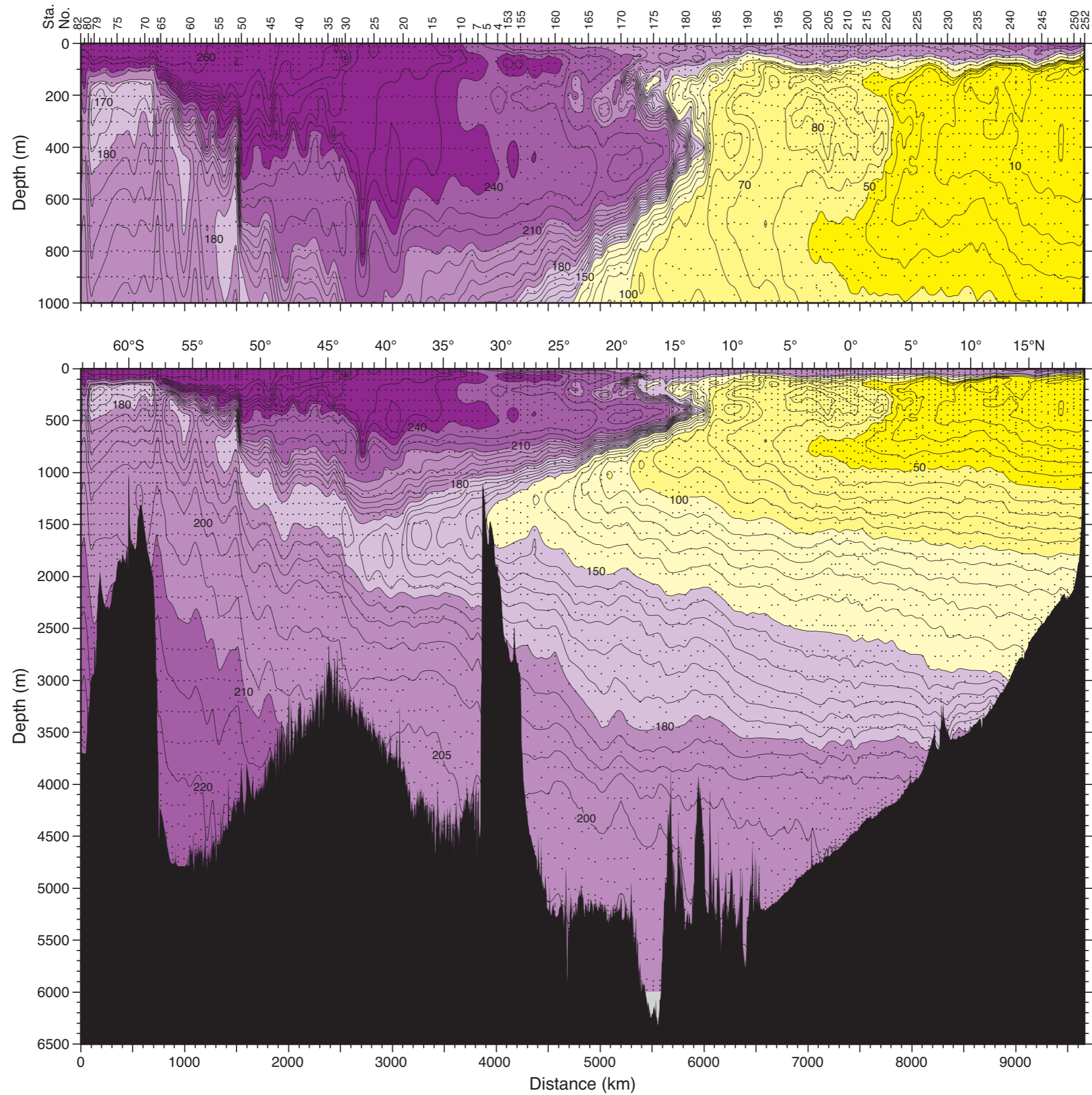


1819



I819 (95°E)

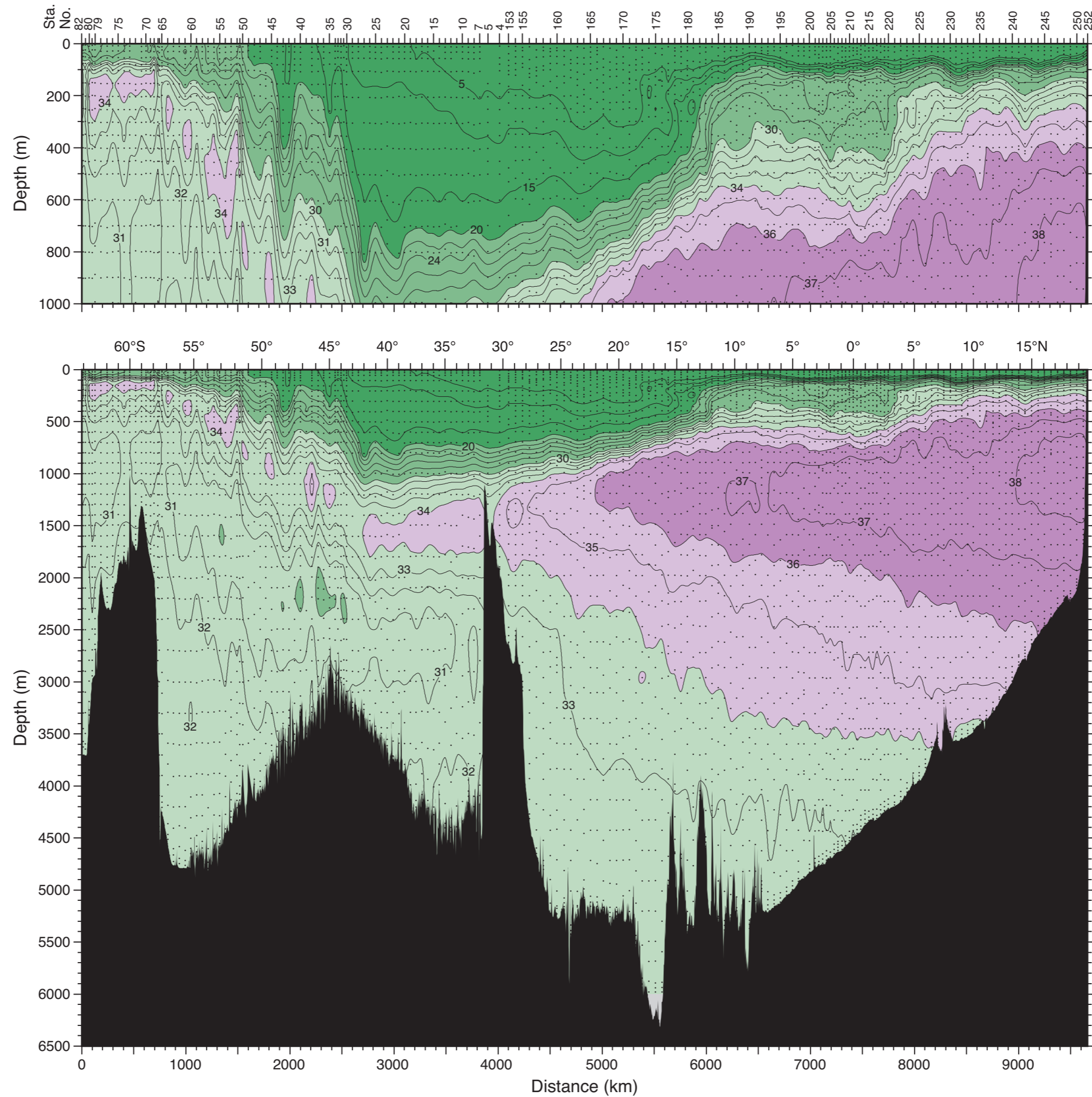
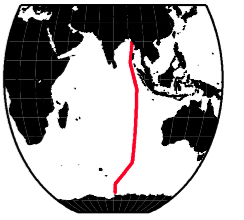
Oxygen ($\mu\text{mol/kg}$)

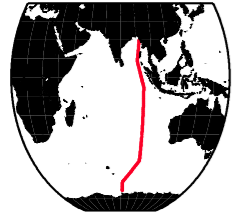


I819

I819 (95°E)

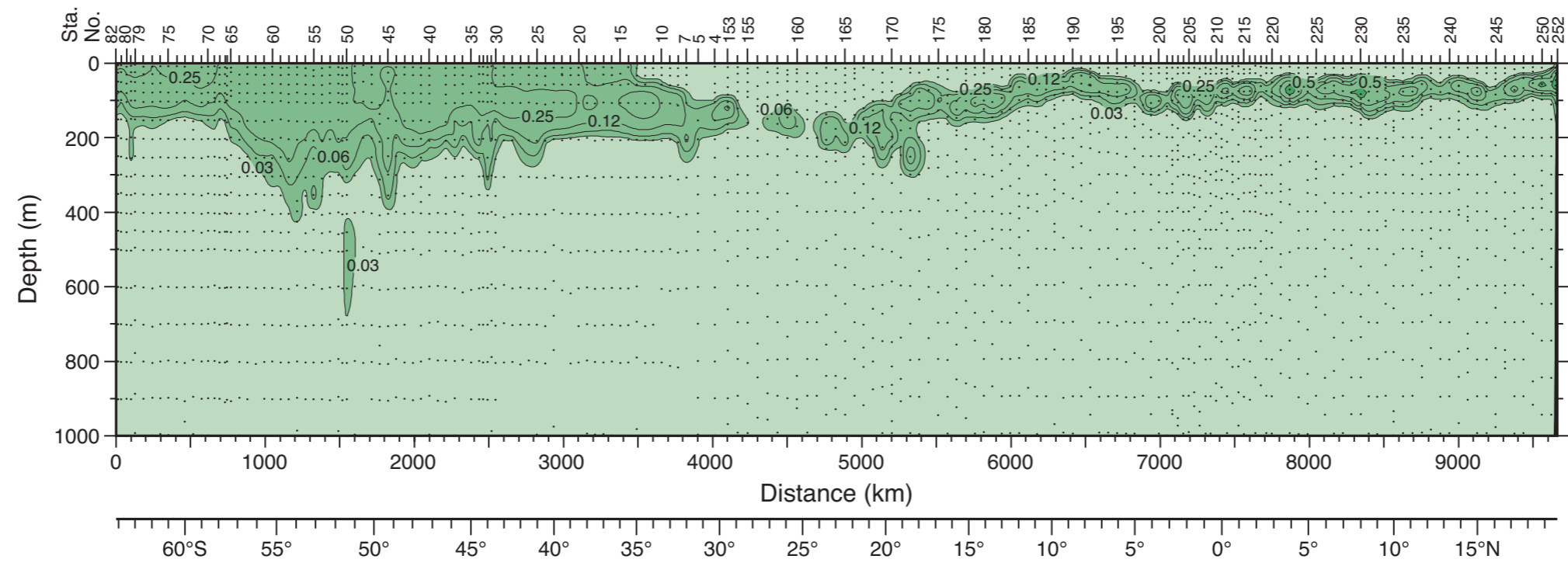
Nitrate ($\mu\text{mol/kg}$)





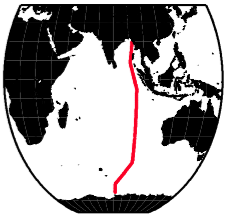
I819 (95°E)

Nitrite ($\mu\text{mol/kg}$)

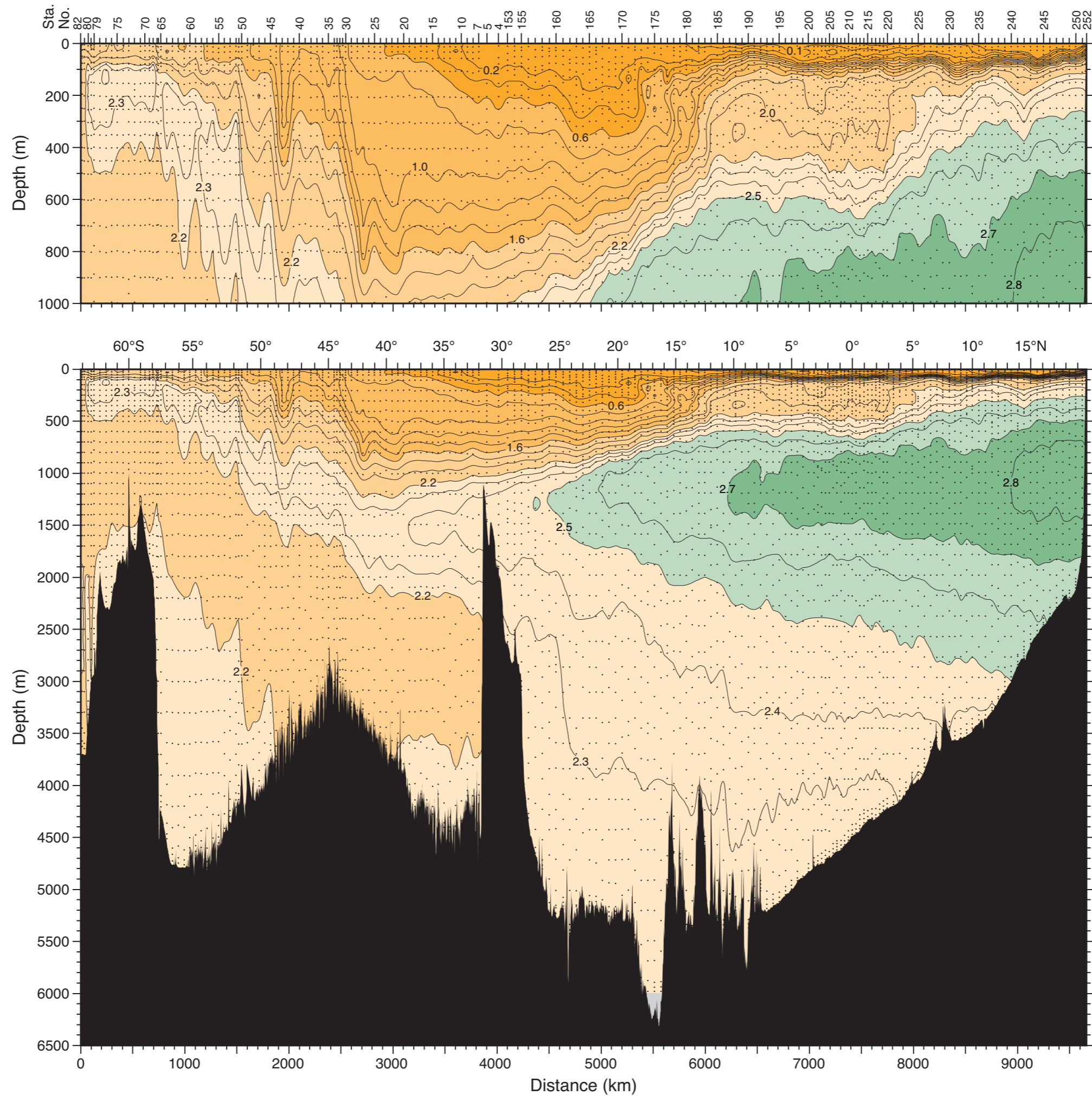


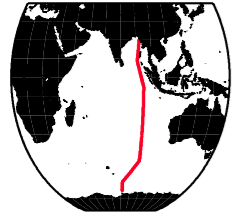
I819

1819 (95°E)



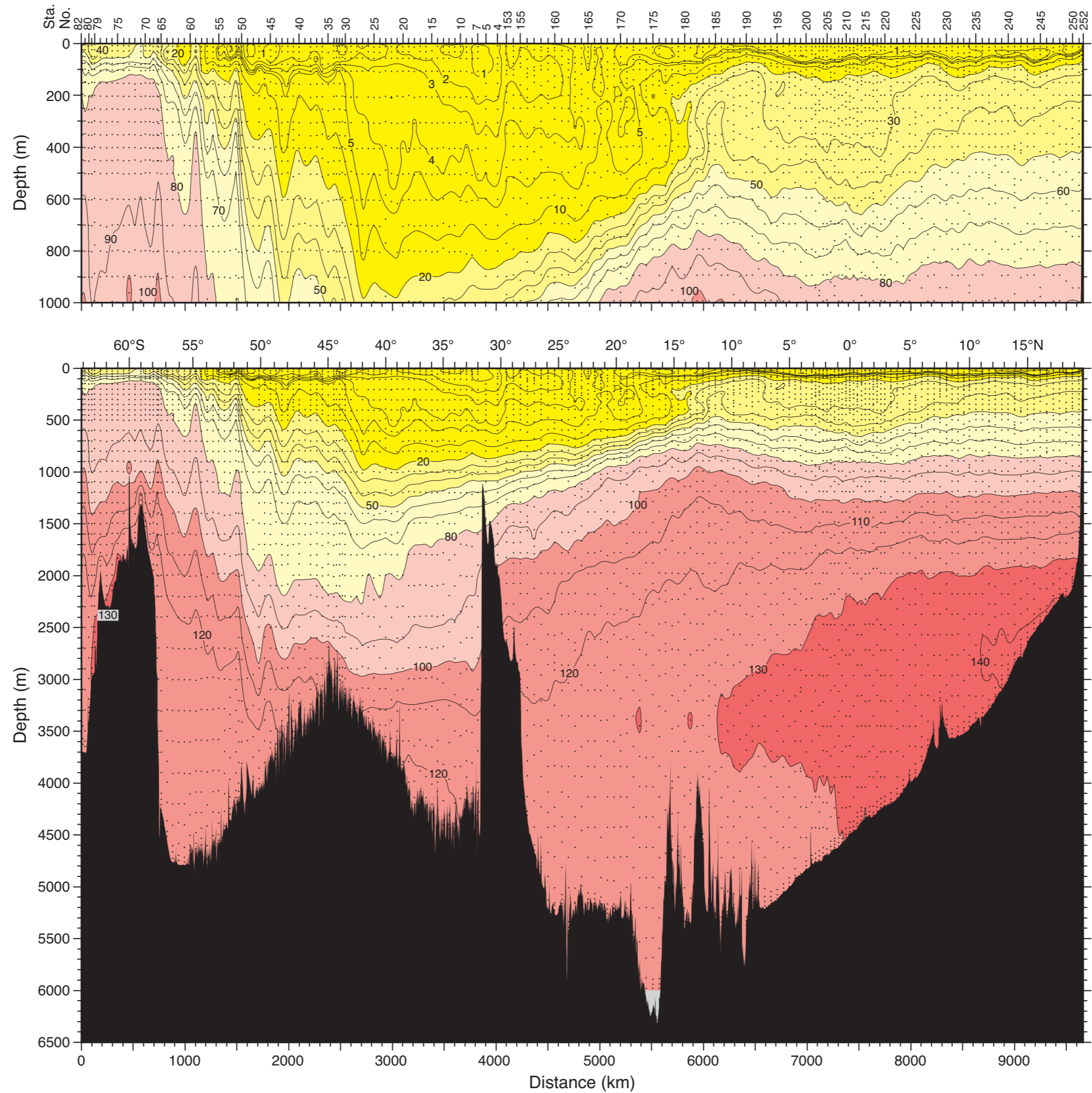
Phosphate ($\mu\text{mol/kg}$)





I819 (95°E)

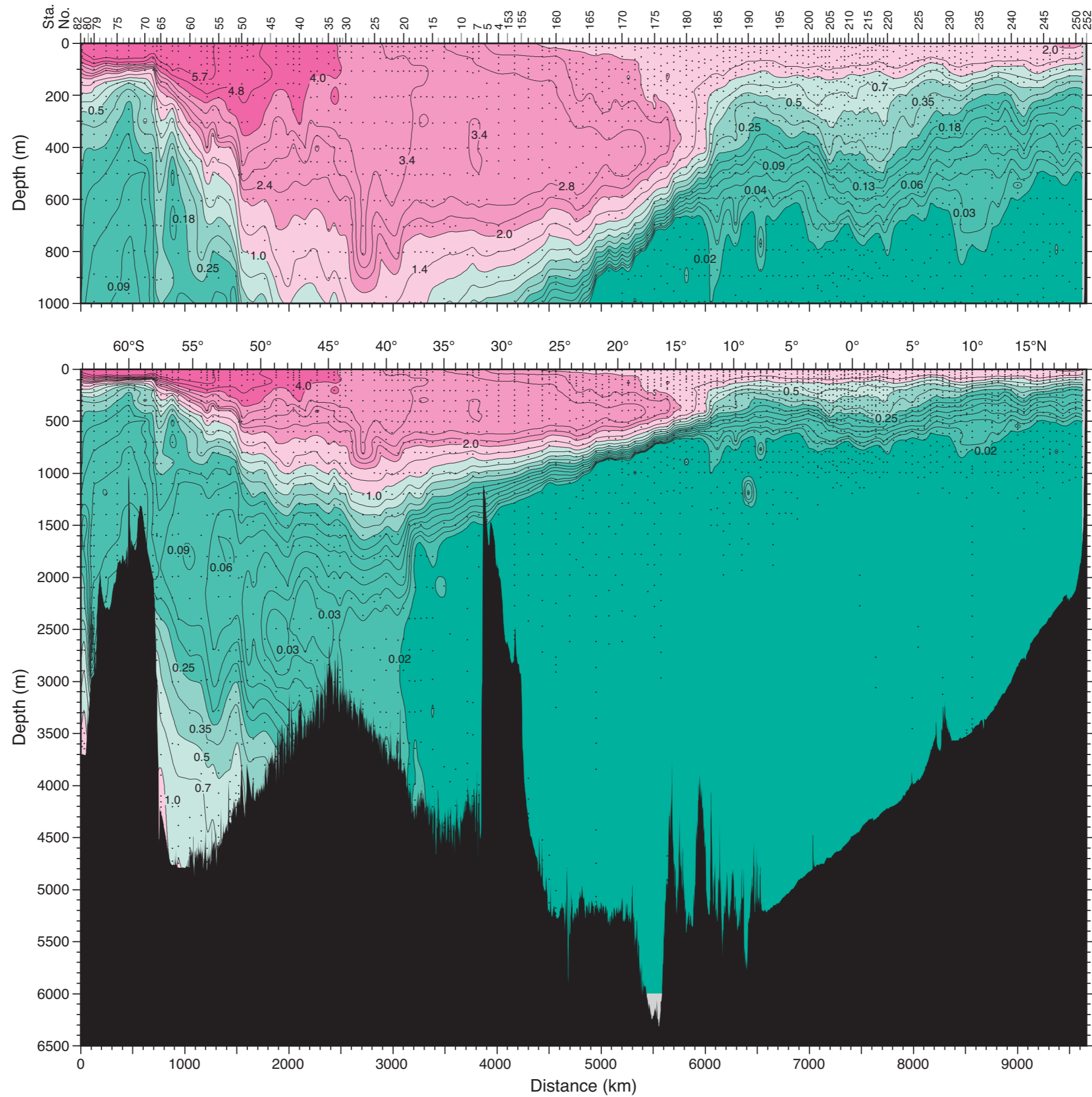
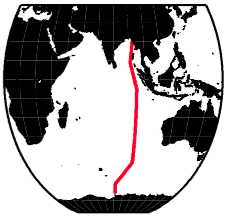
Dissolved Silica ($\mu\text{mol/kg}$)



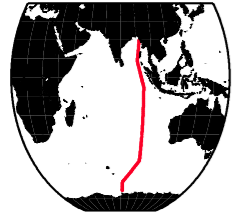
I819

I819 (95°E)

CFC-11 (pmol/kg)

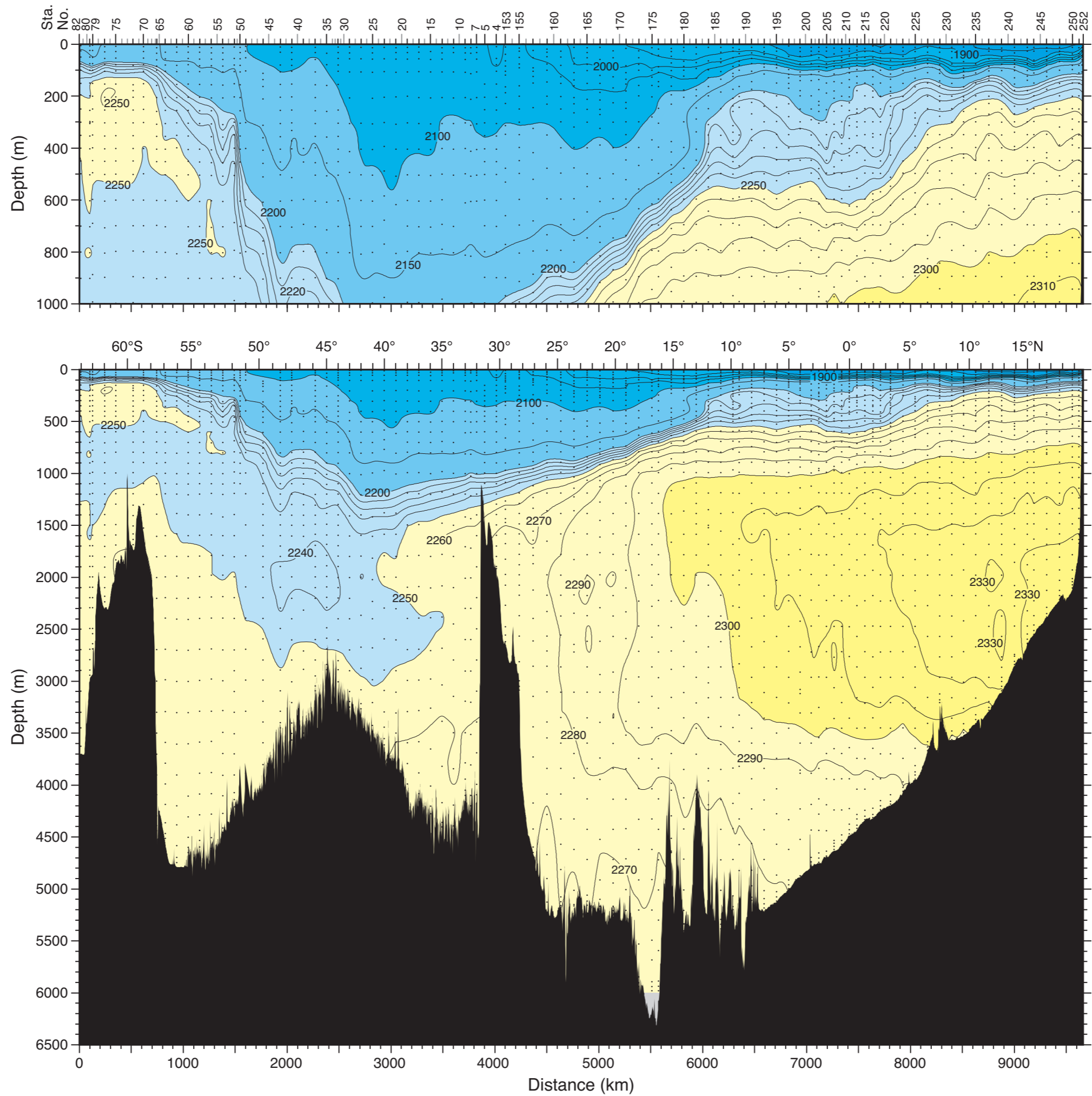


I819



I819 (95°E)

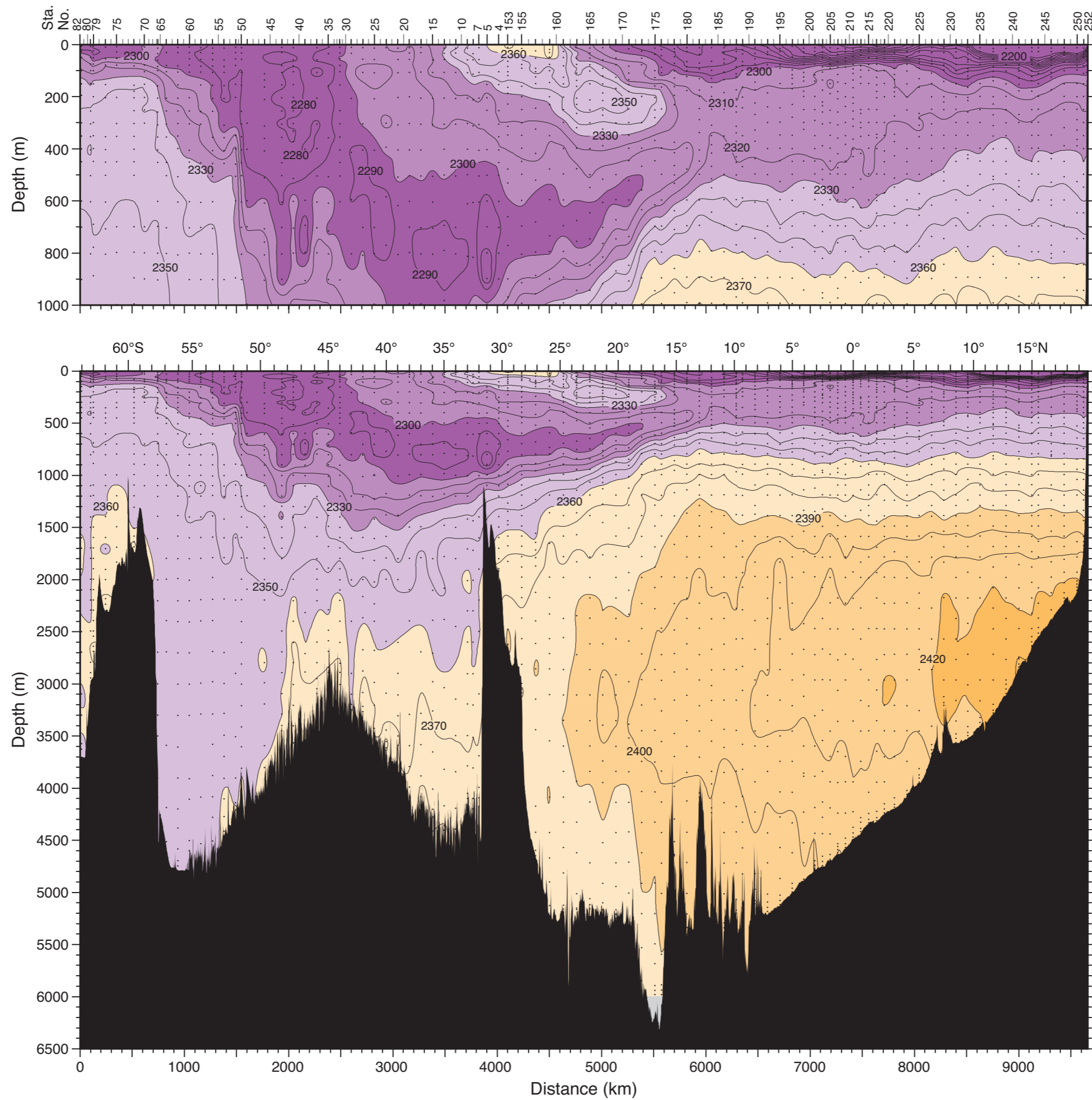
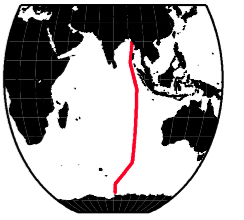
Total Carbon ($\mu\text{mol/kg}$)



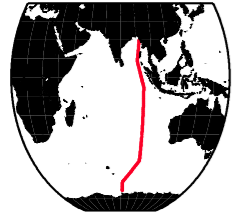
I819

1819 (95°E)

Alkalinity ($\mu\text{mol/kg}$)

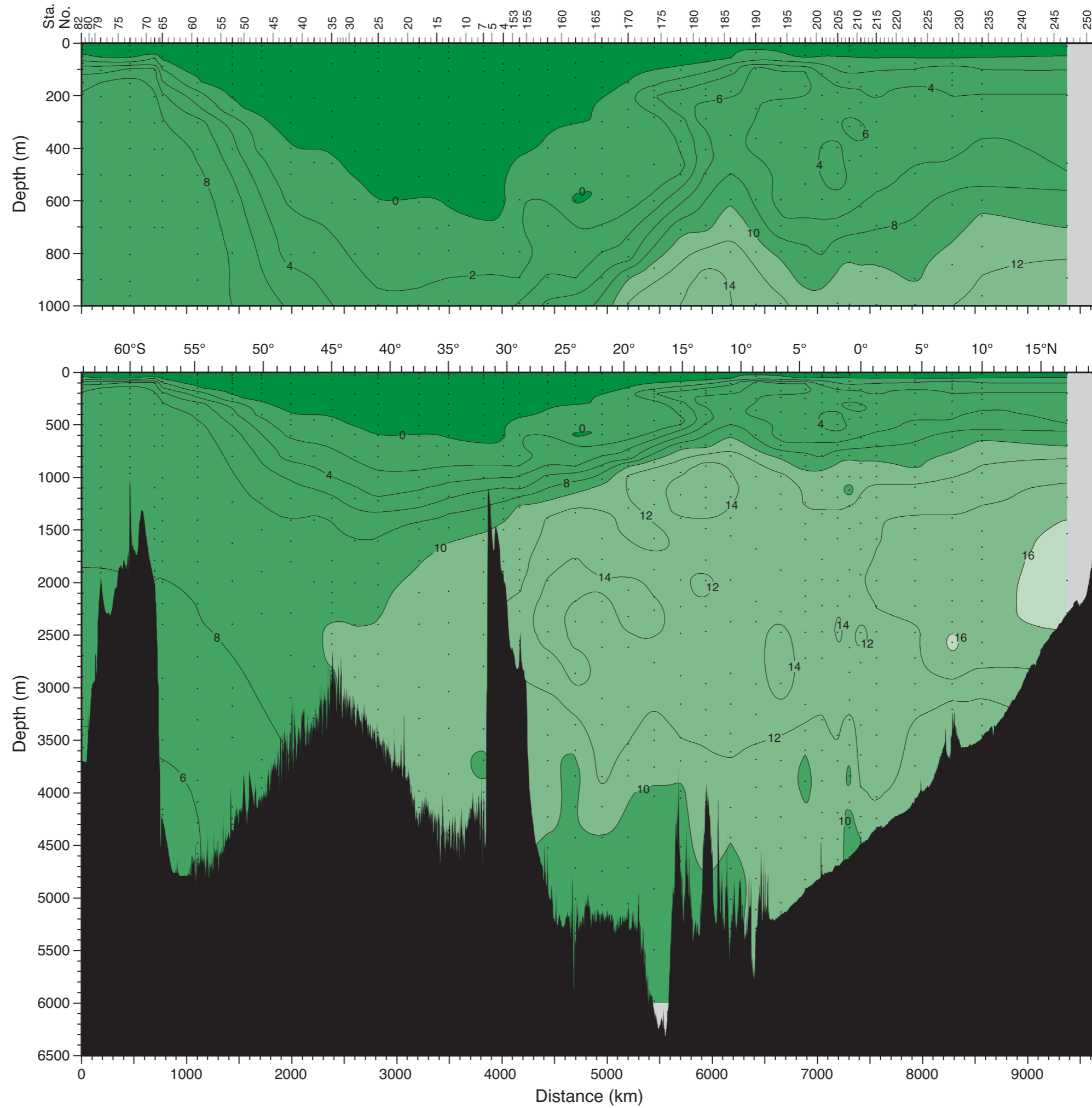


1819



I819 (95°E)

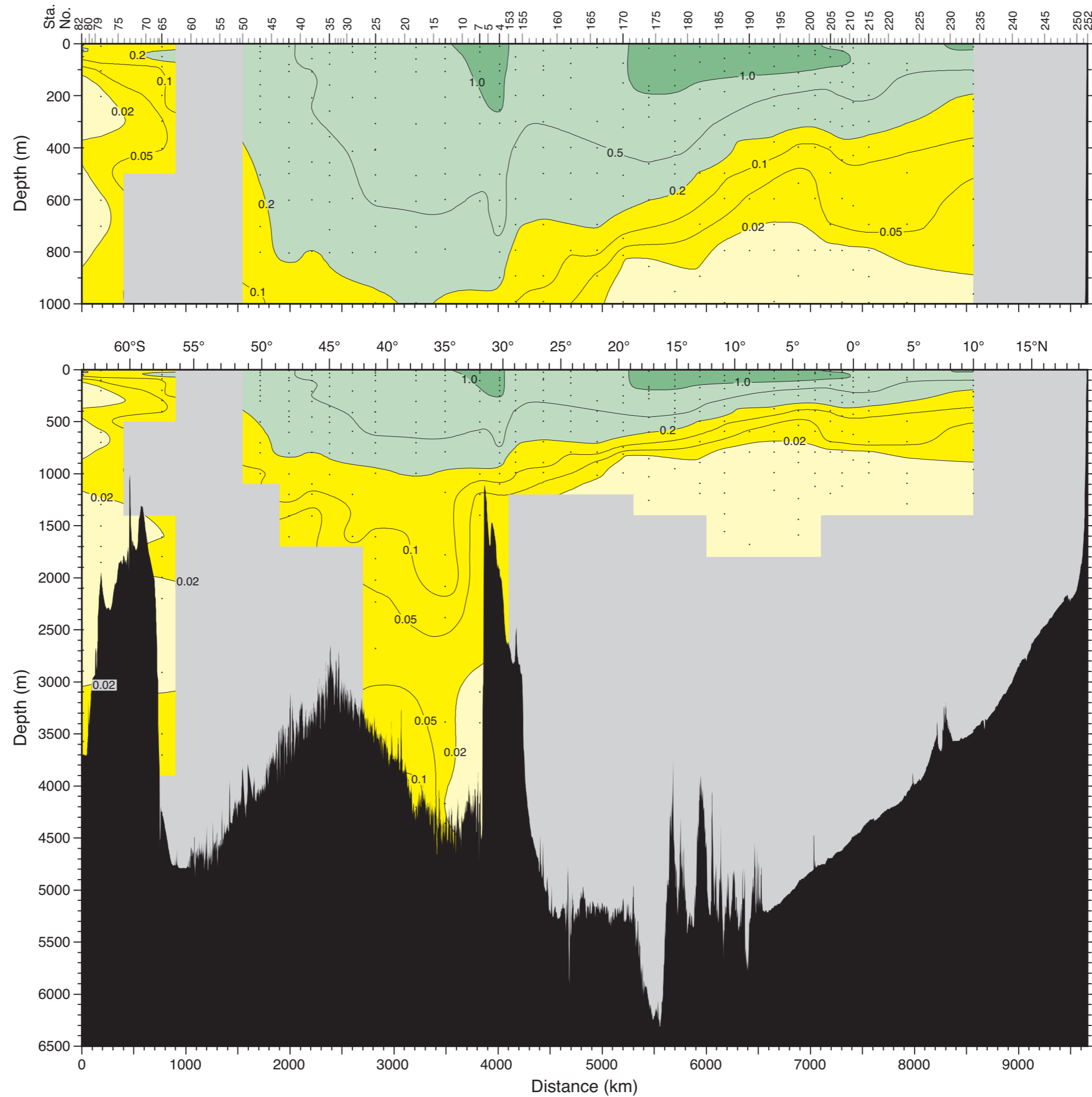
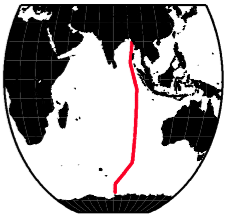
$\delta^3\text{He}$ (%)



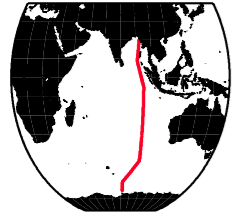
I819

1819 (95°E)

Tritium (TU)

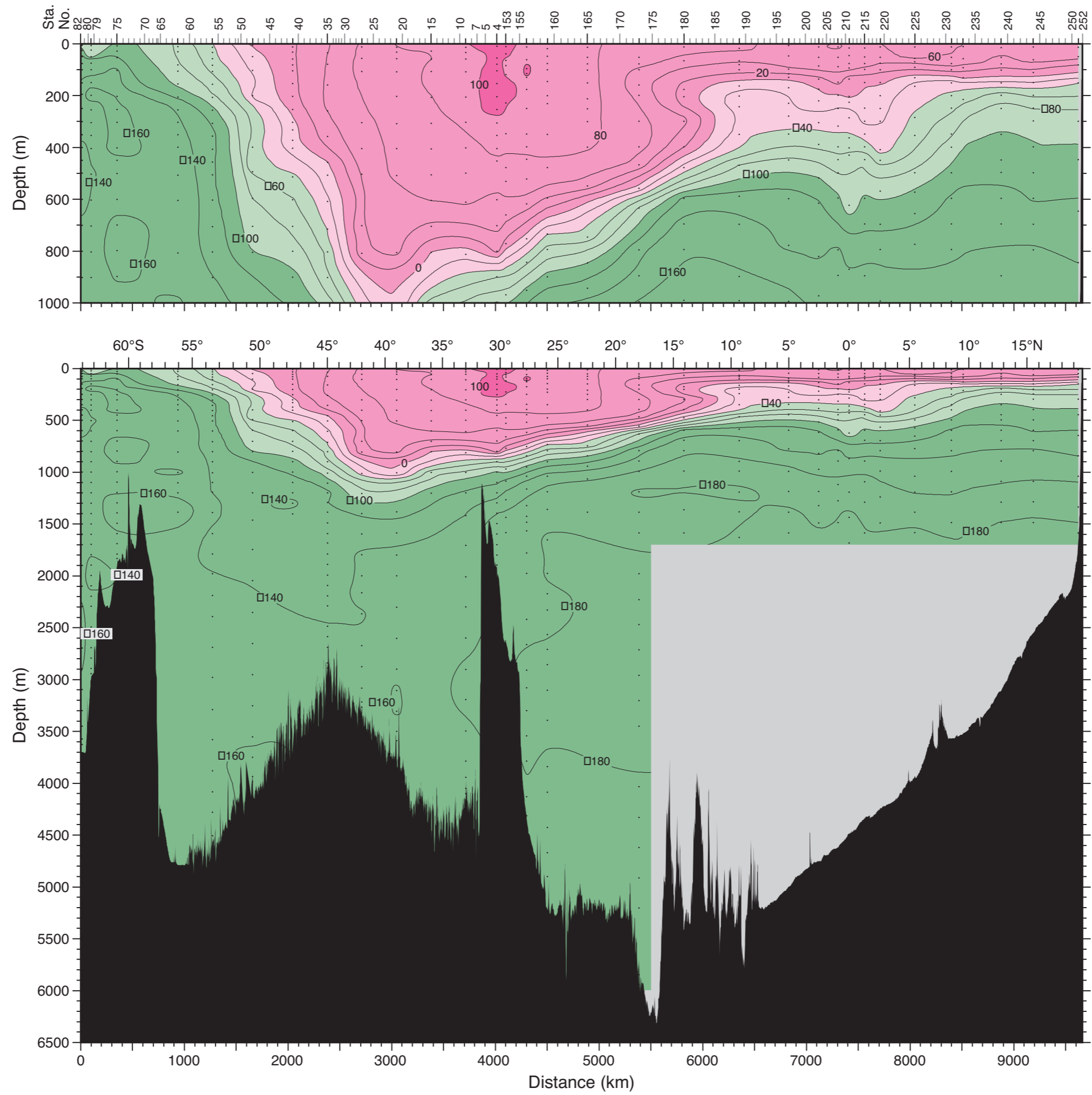


1819



I819 (95°E)

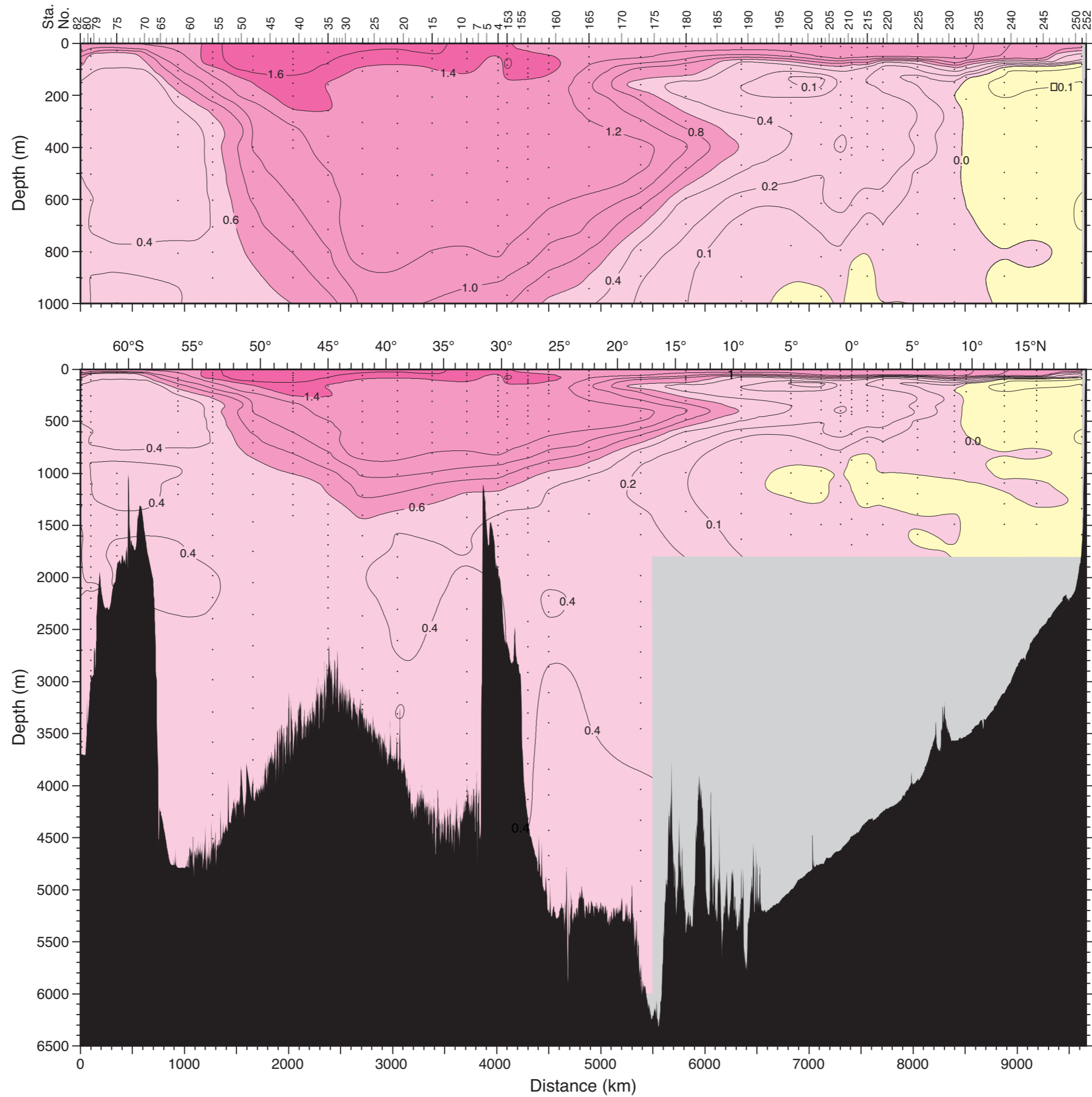
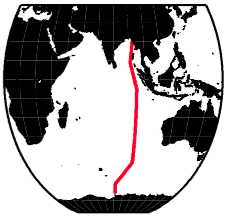
$\Delta^{14}\text{C}$ (‰)



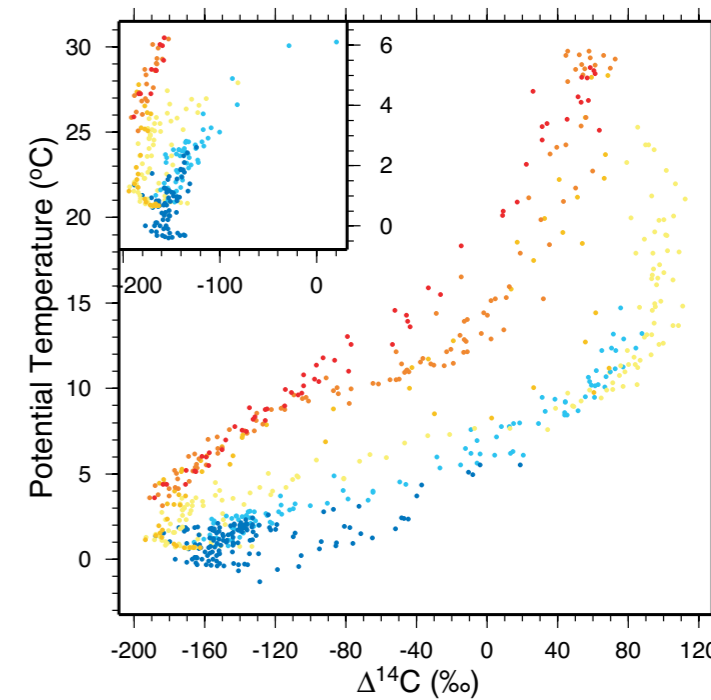
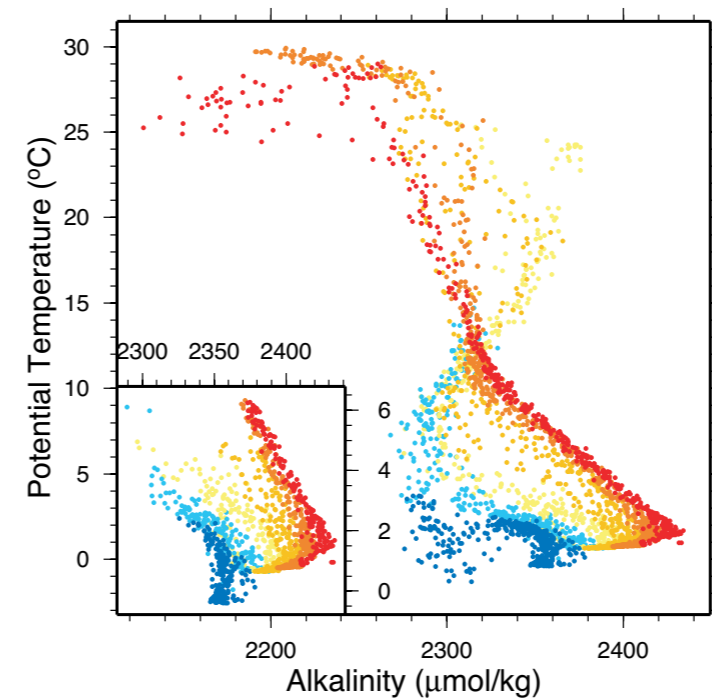
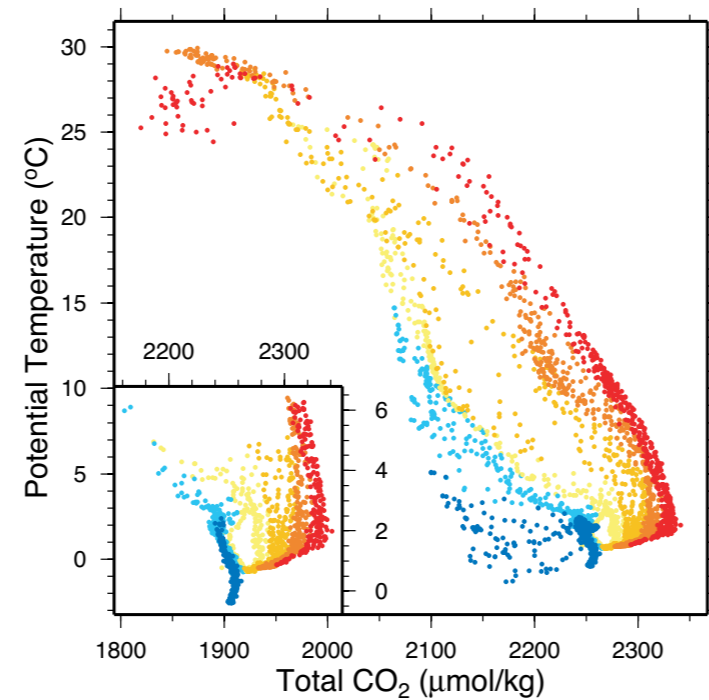
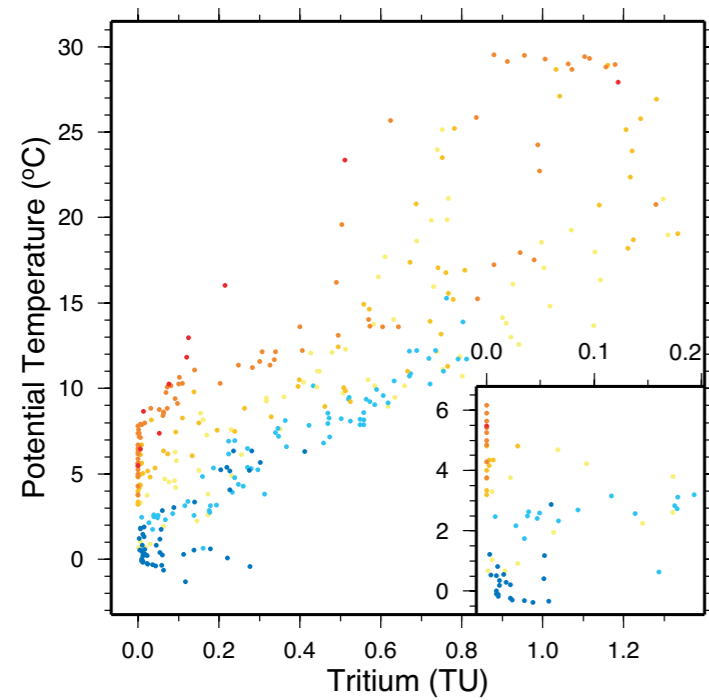
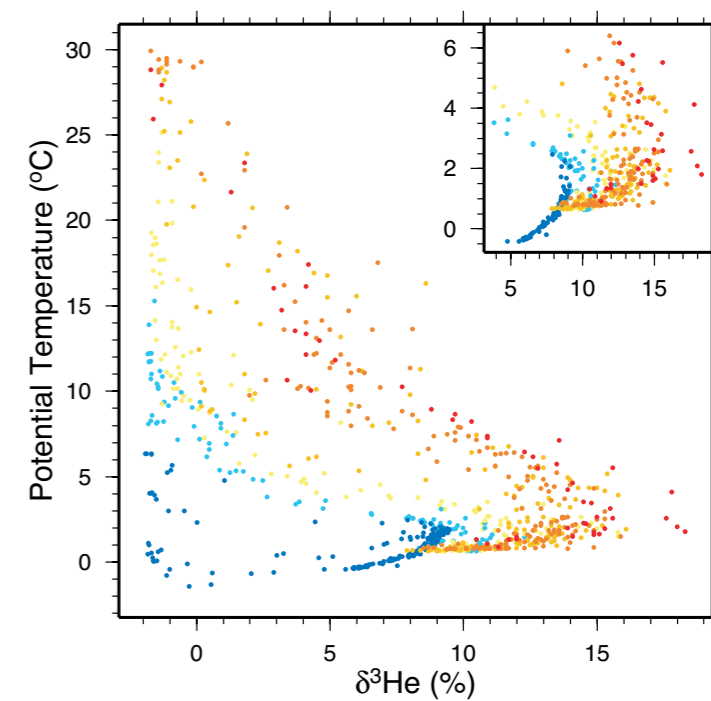
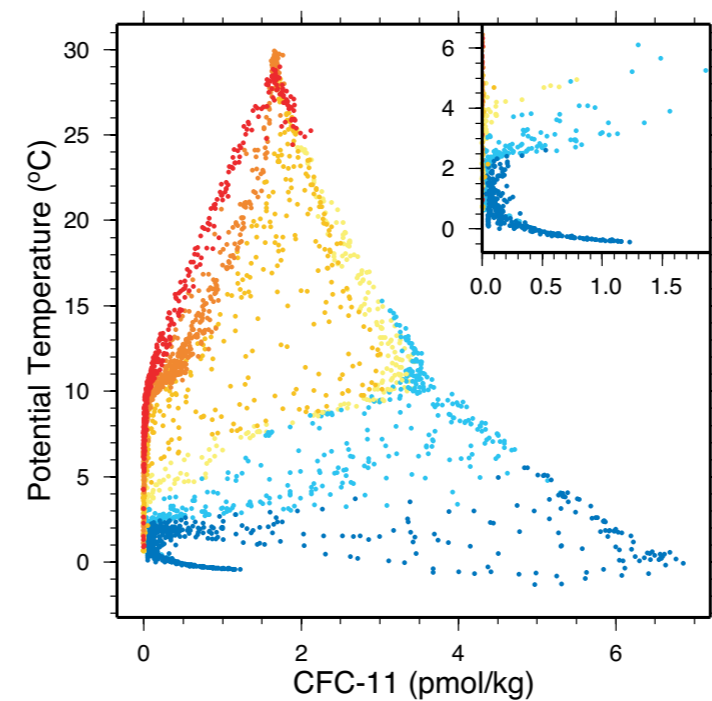
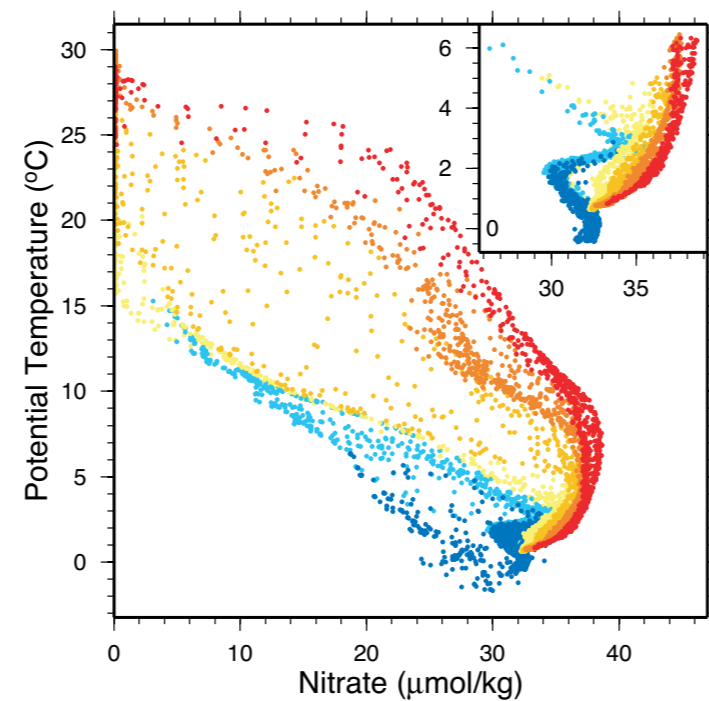
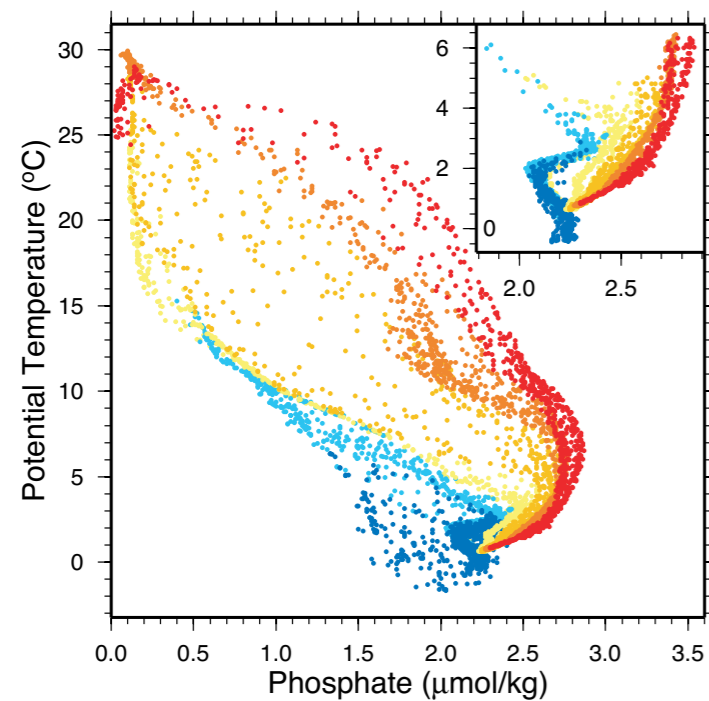
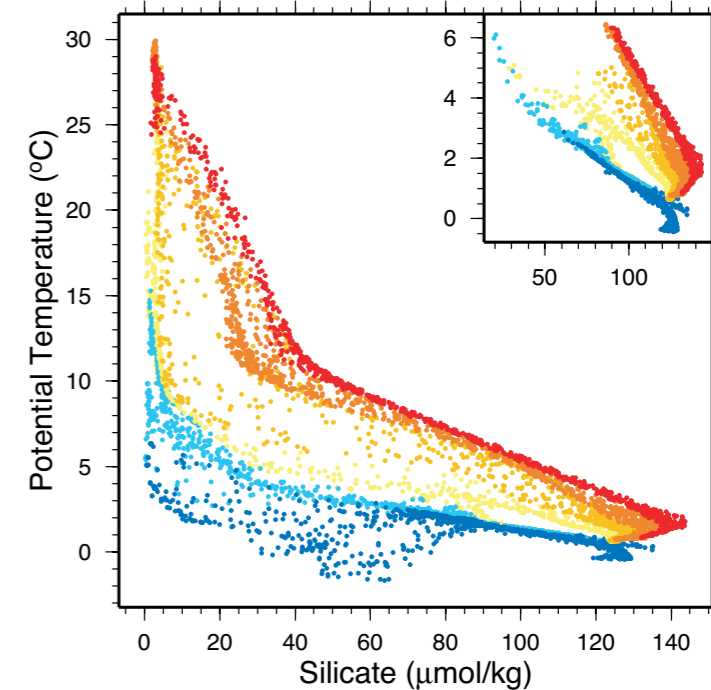
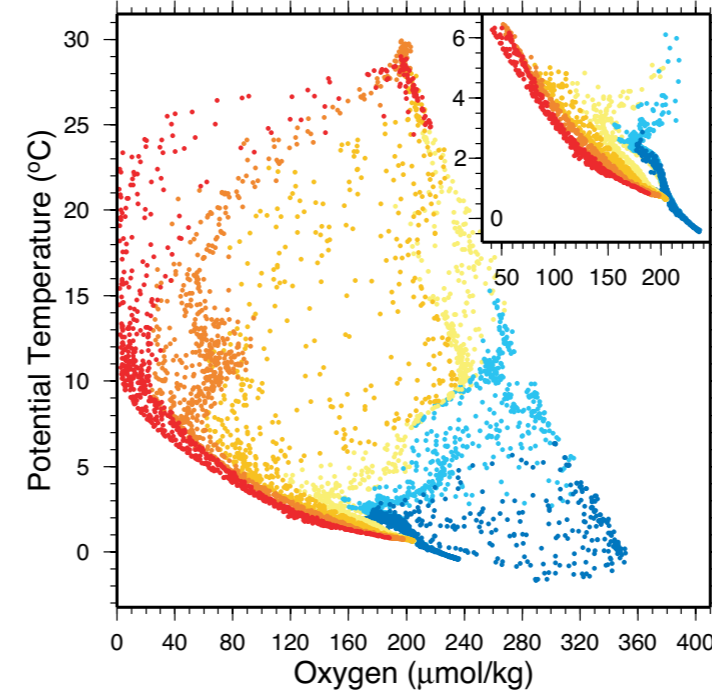
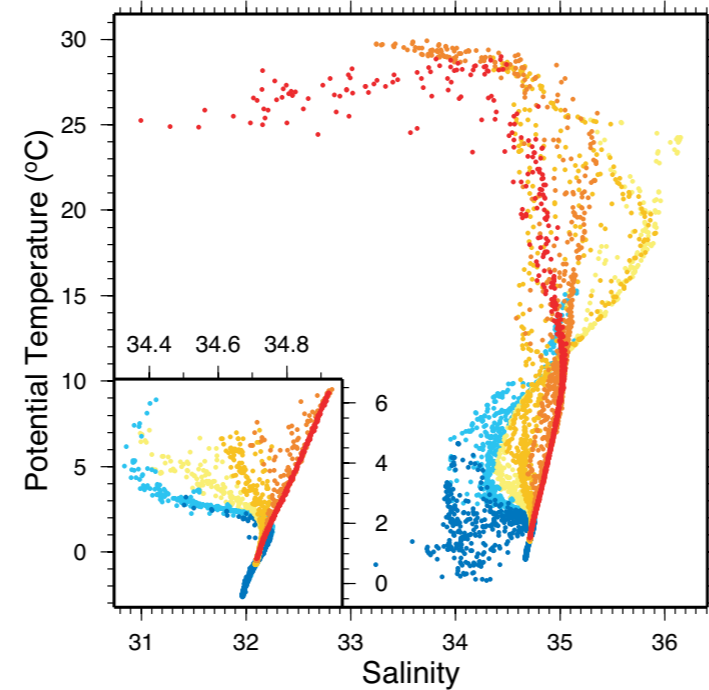
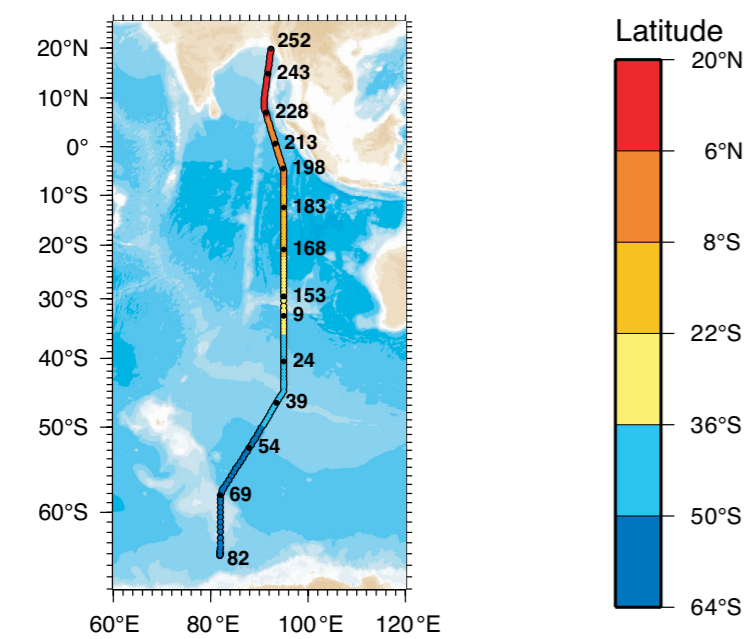
I819

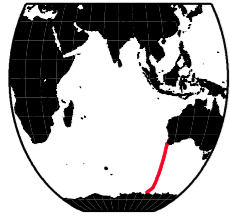
I819 (95°E)

$\delta^{13}\text{C}$ (‰)

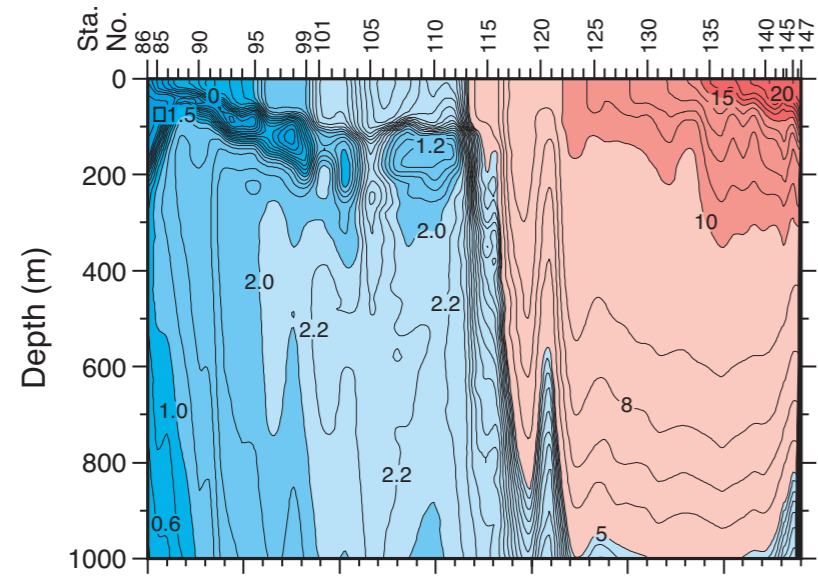


I819



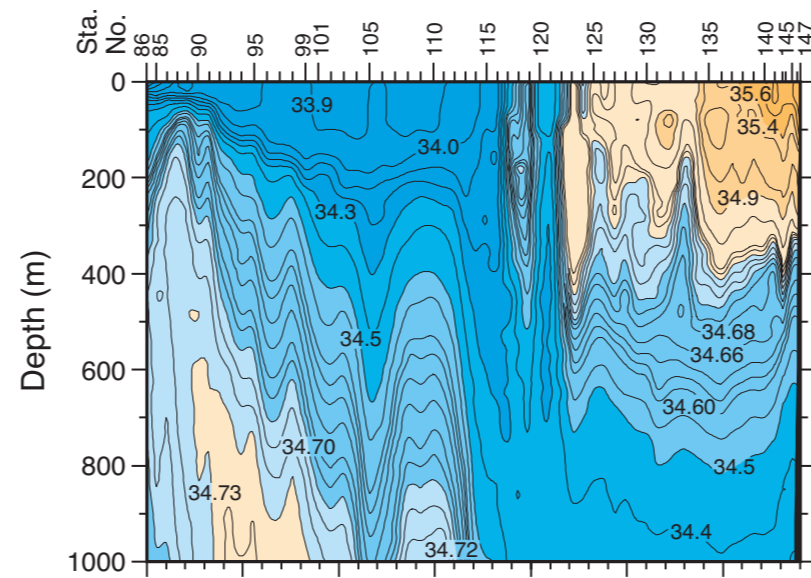


Potential Temperature ($^{\circ}\text{C}$)

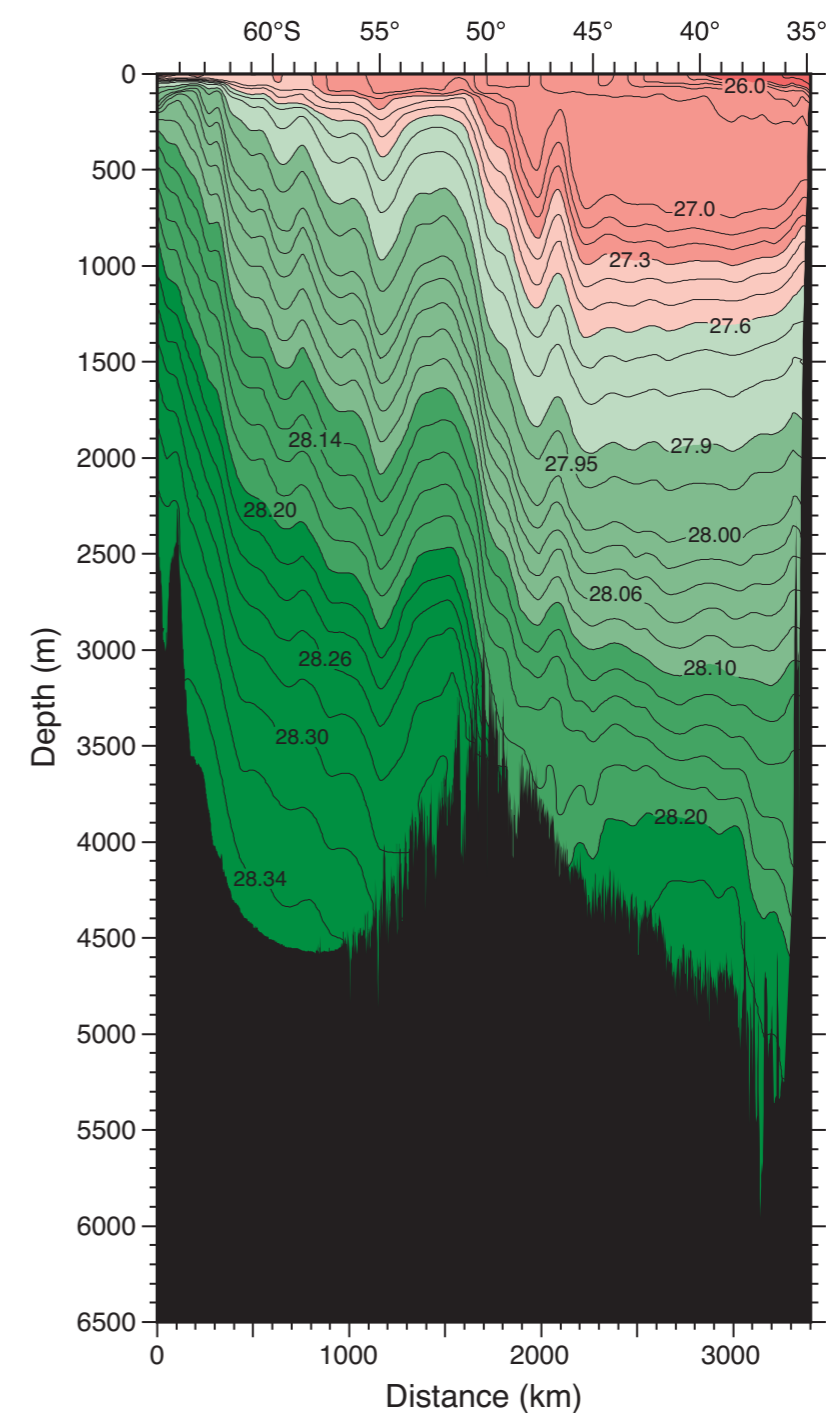
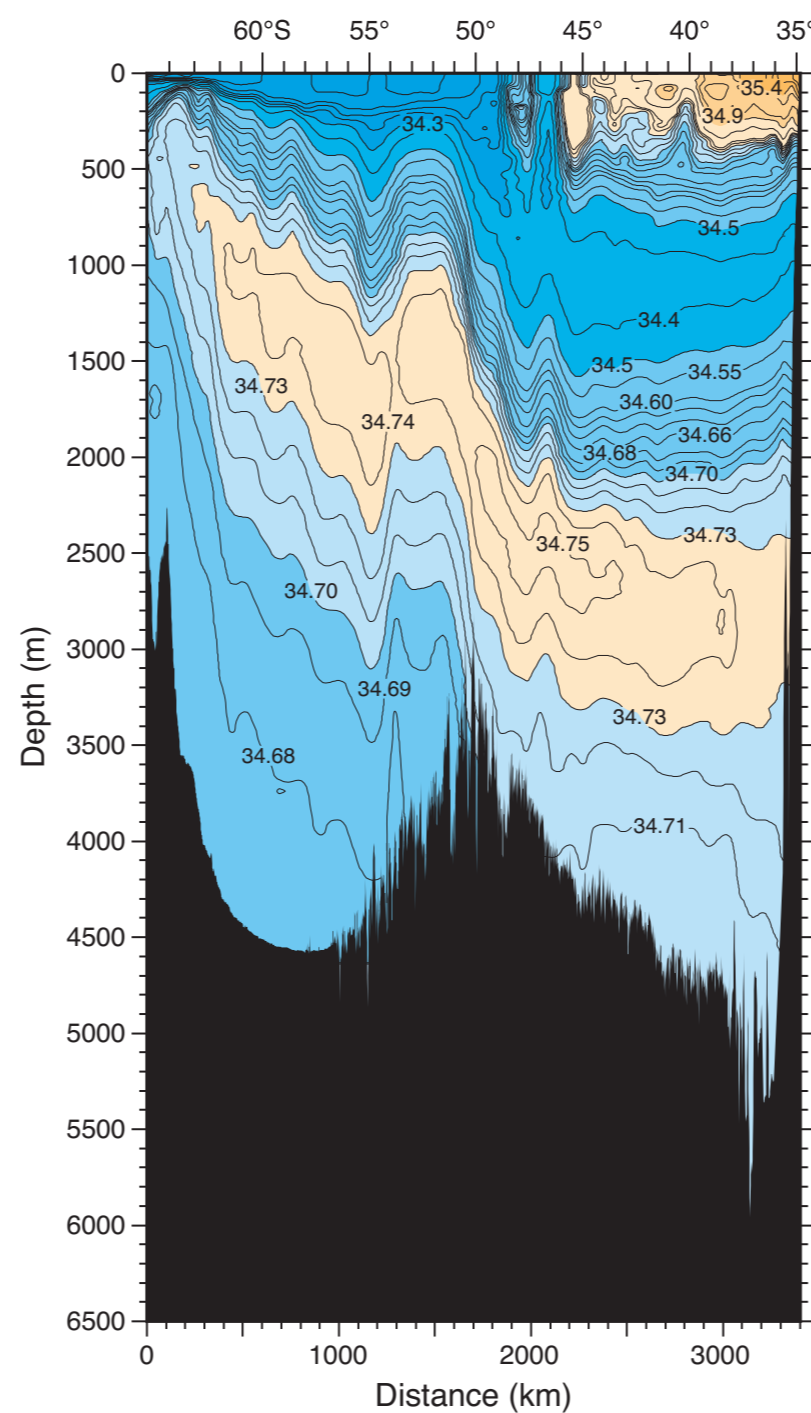
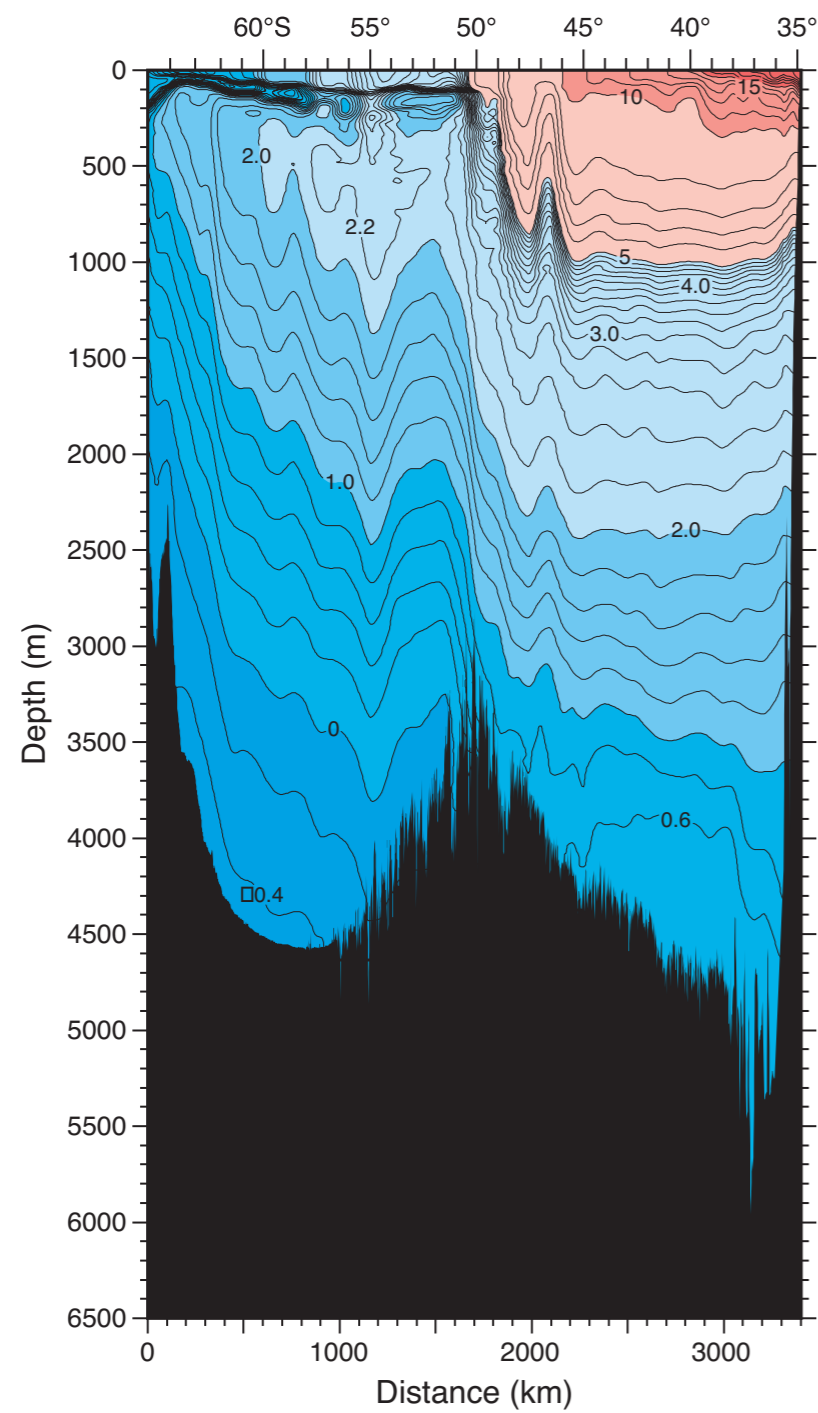
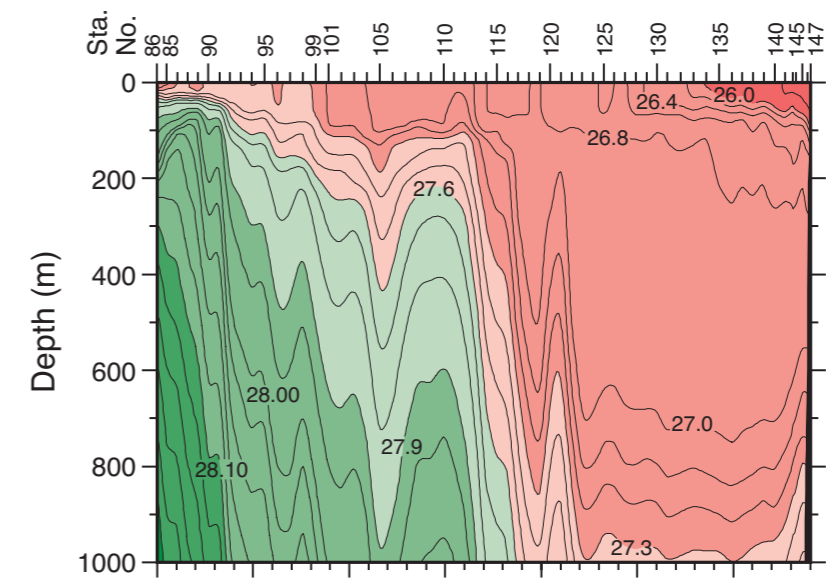


I9S (115°E)

Salinity (PSS78)

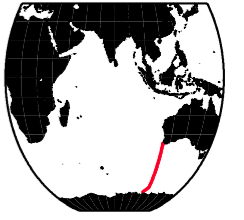


Neutral Density (kg/m^3)

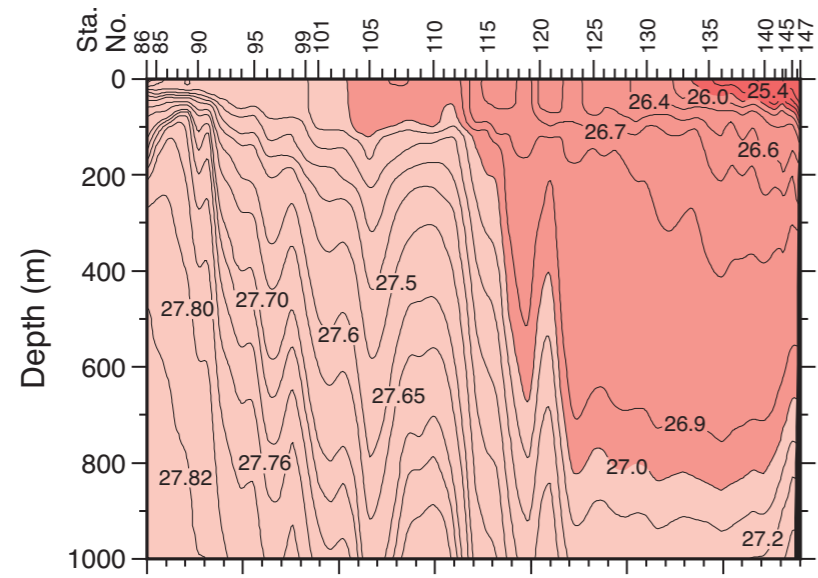


I9S

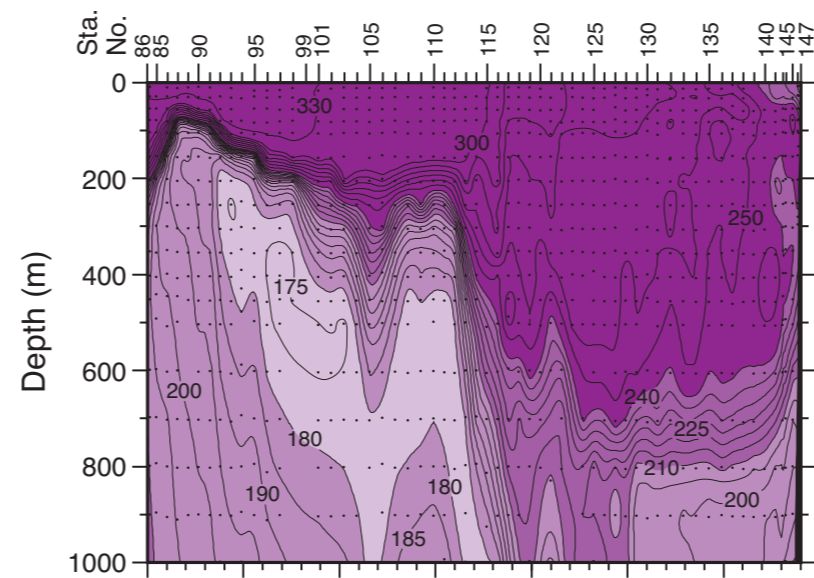
I9S (115°E)



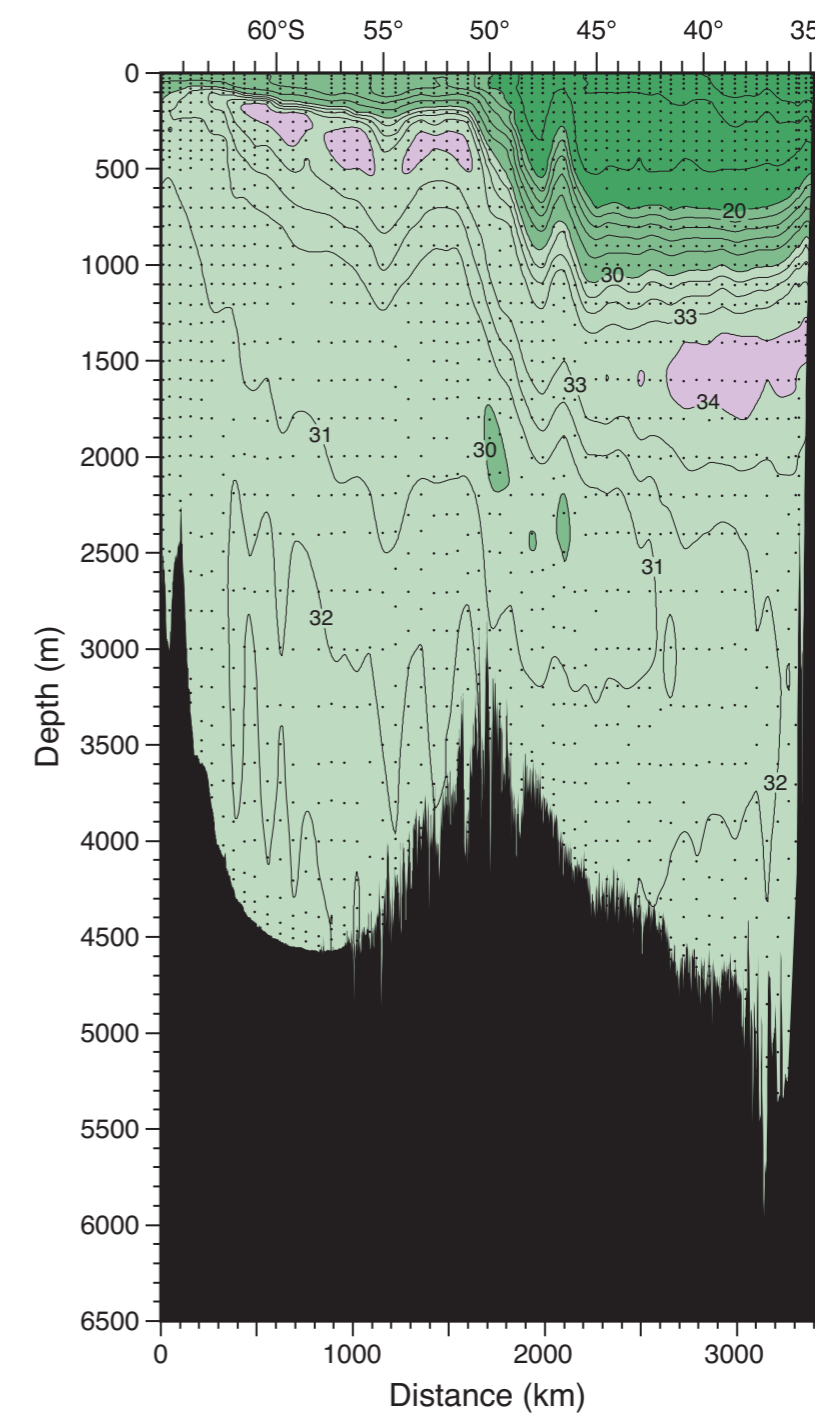
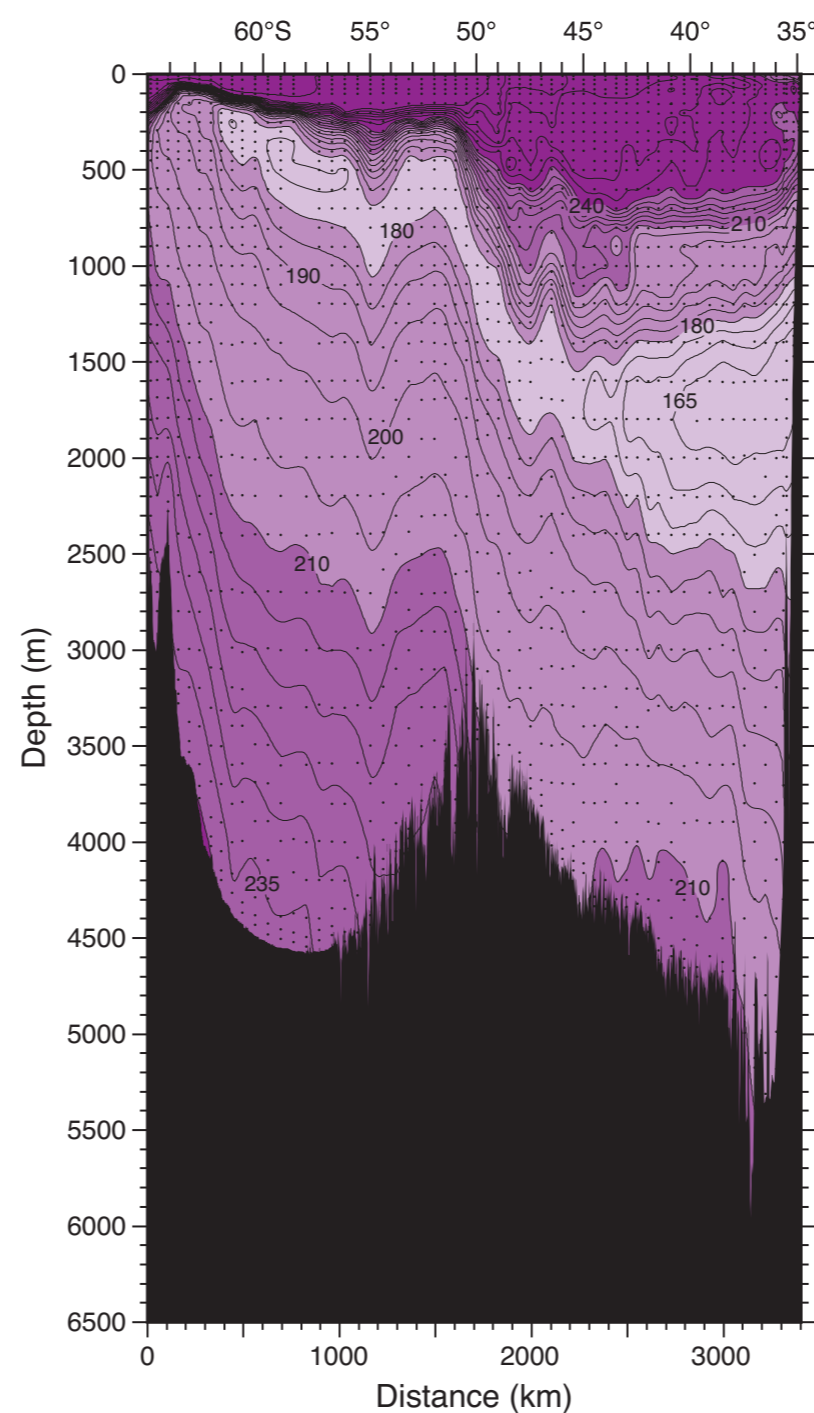
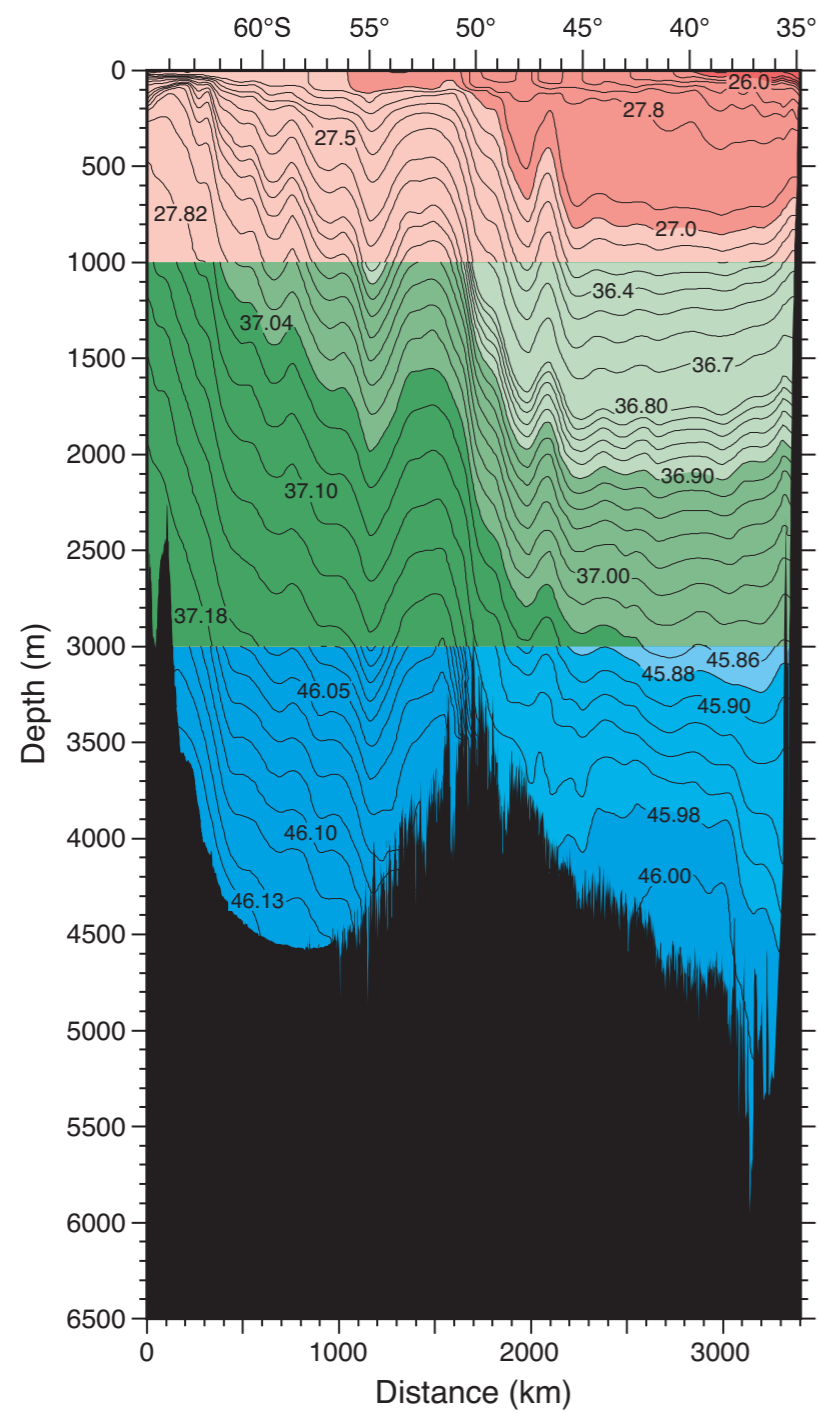
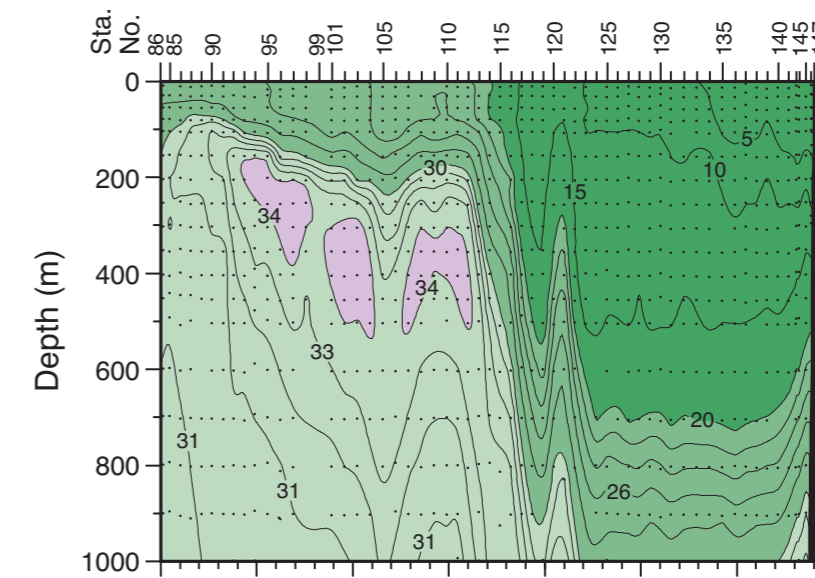
σ_0, σ_2 and σ_4 (kg/m^3)

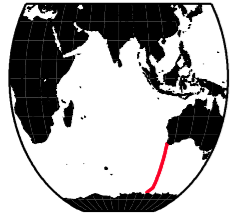


Oxygen ($\mu\text{mol/kg}$)



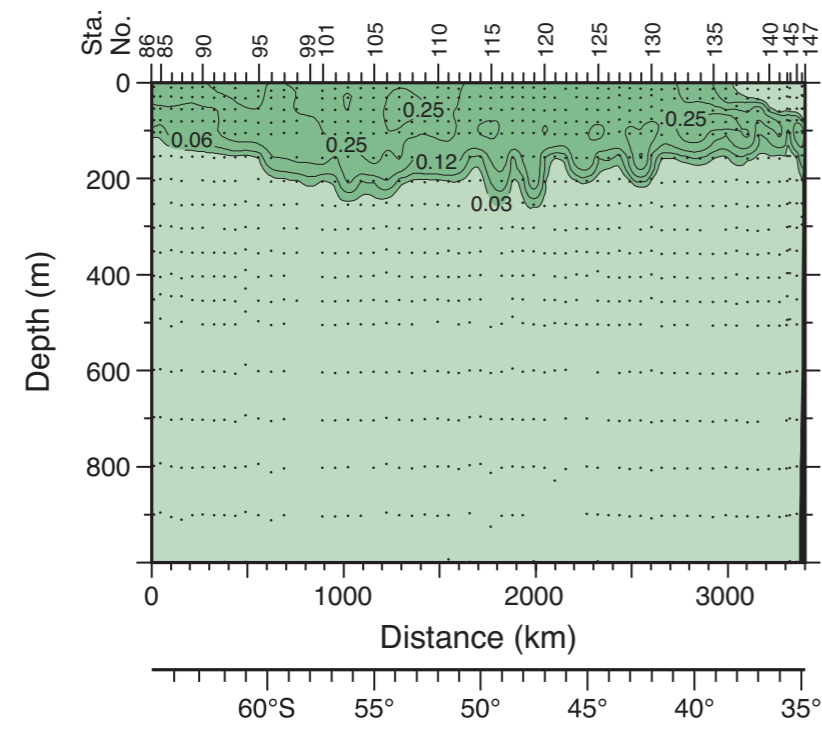
Nitrate ($\mu\text{mol/kg}$)



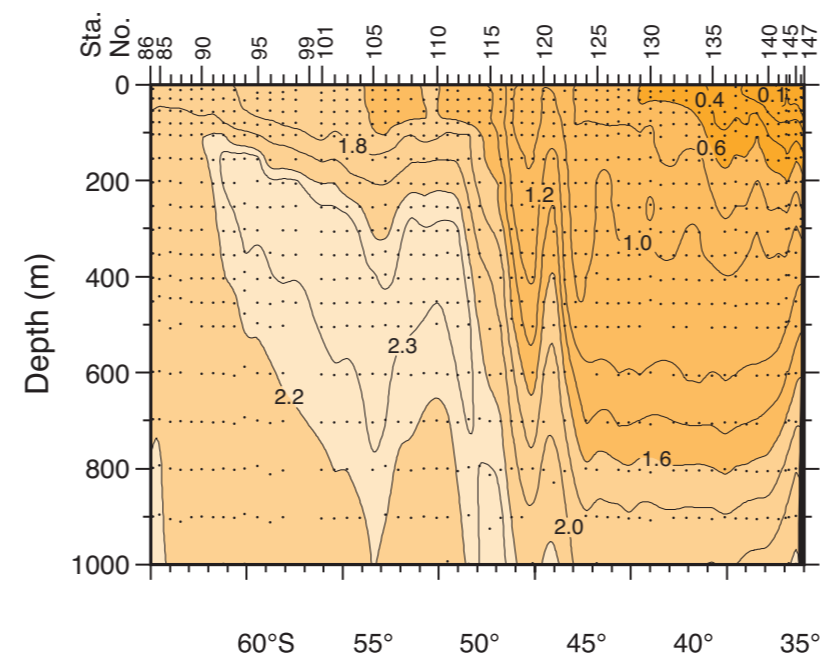


I9S (115°E)

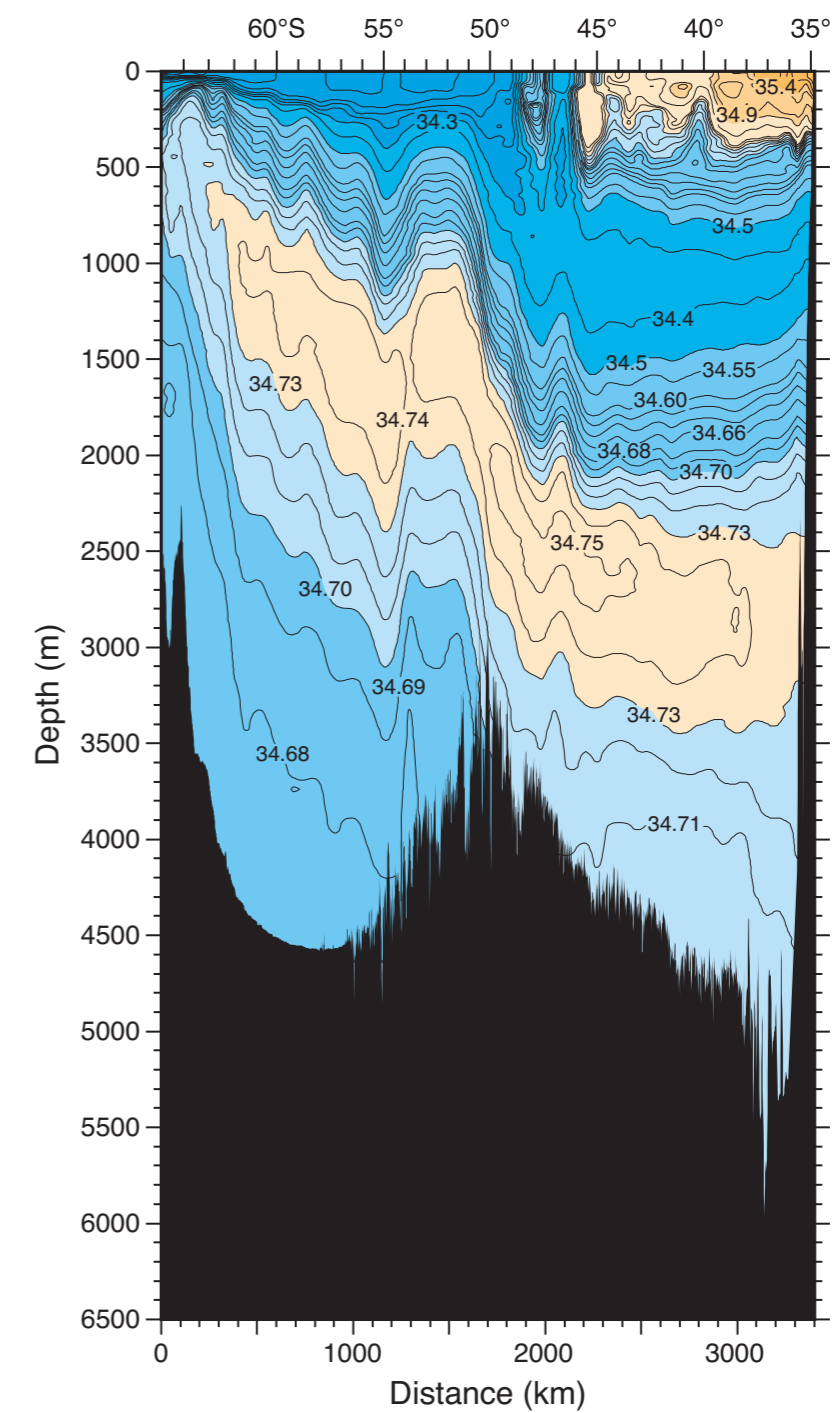
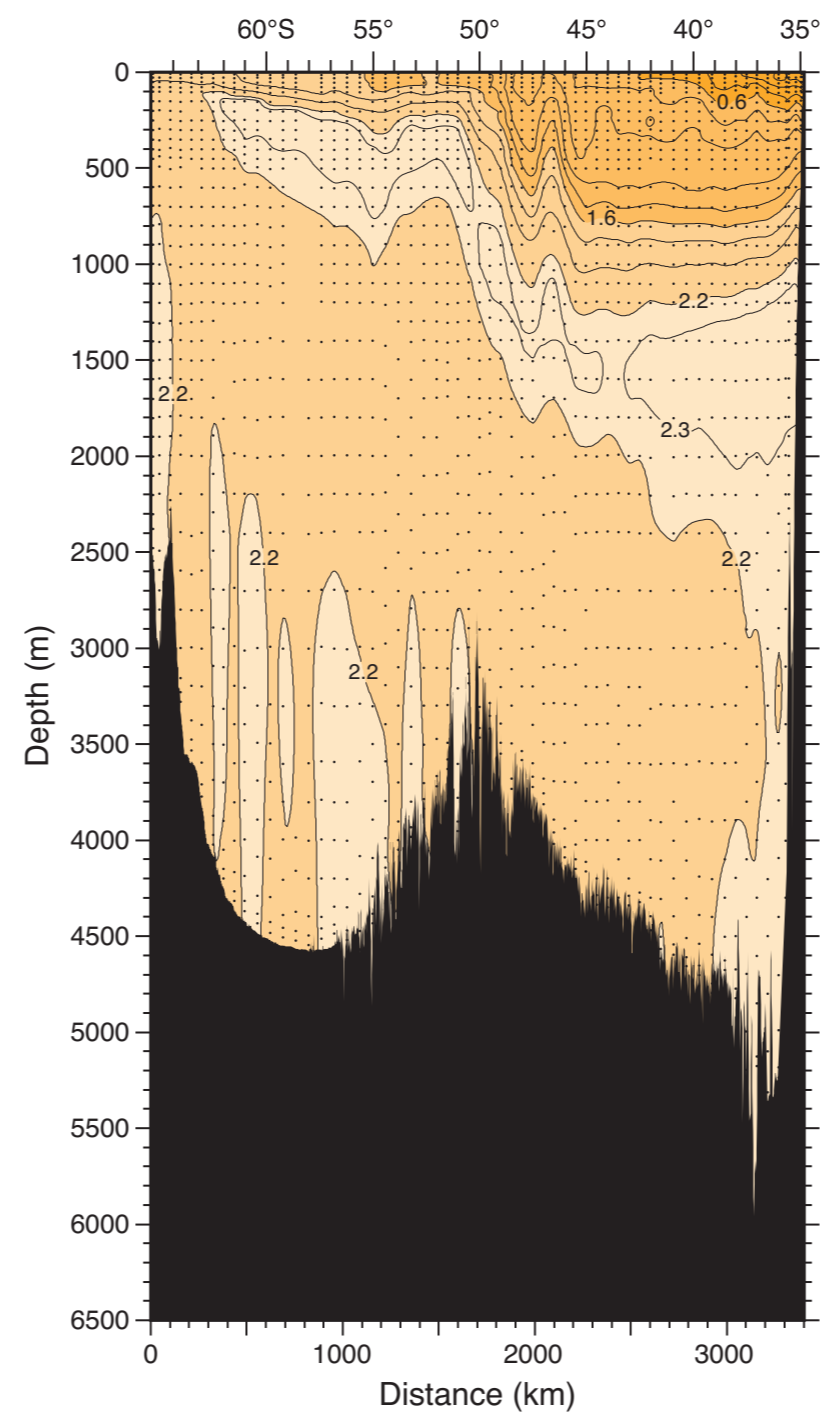
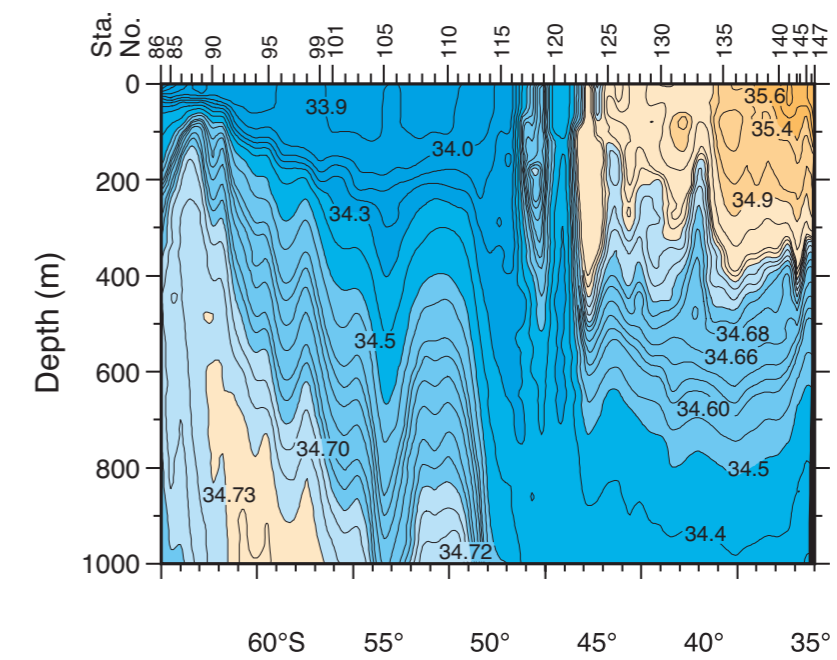
Nitrite ($\mu\text{mol/kg}$)



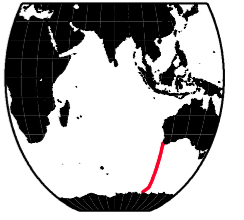
Phosphate ($\mu\text{mol/kg}$)



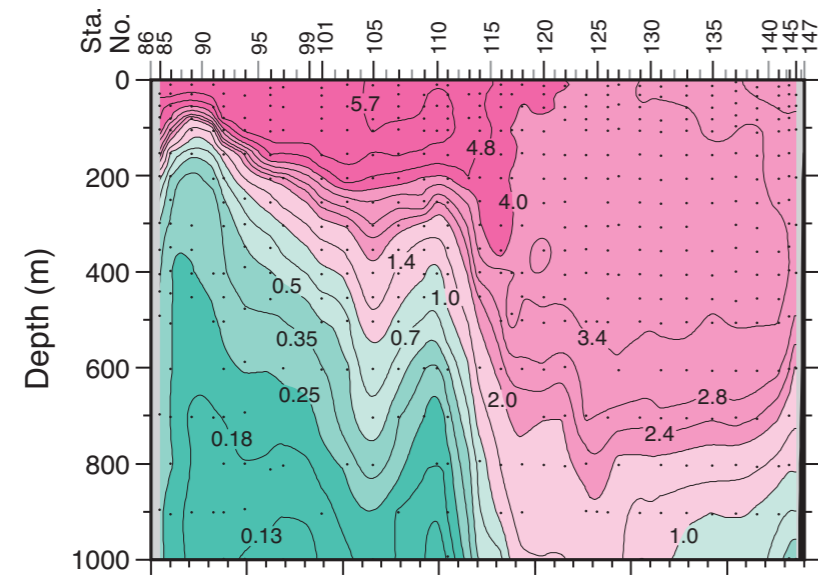
Dissolved Silica ($\mu\text{mol/kg}$)



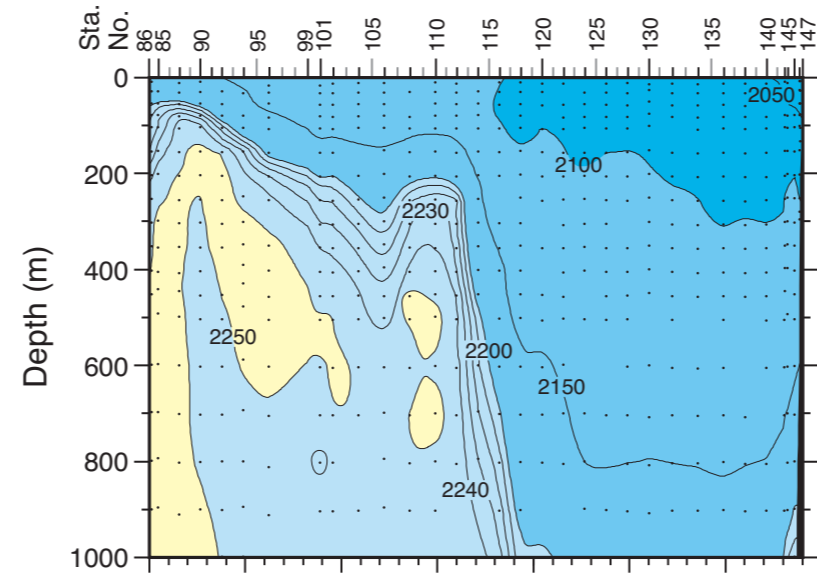
I9S (115°E)



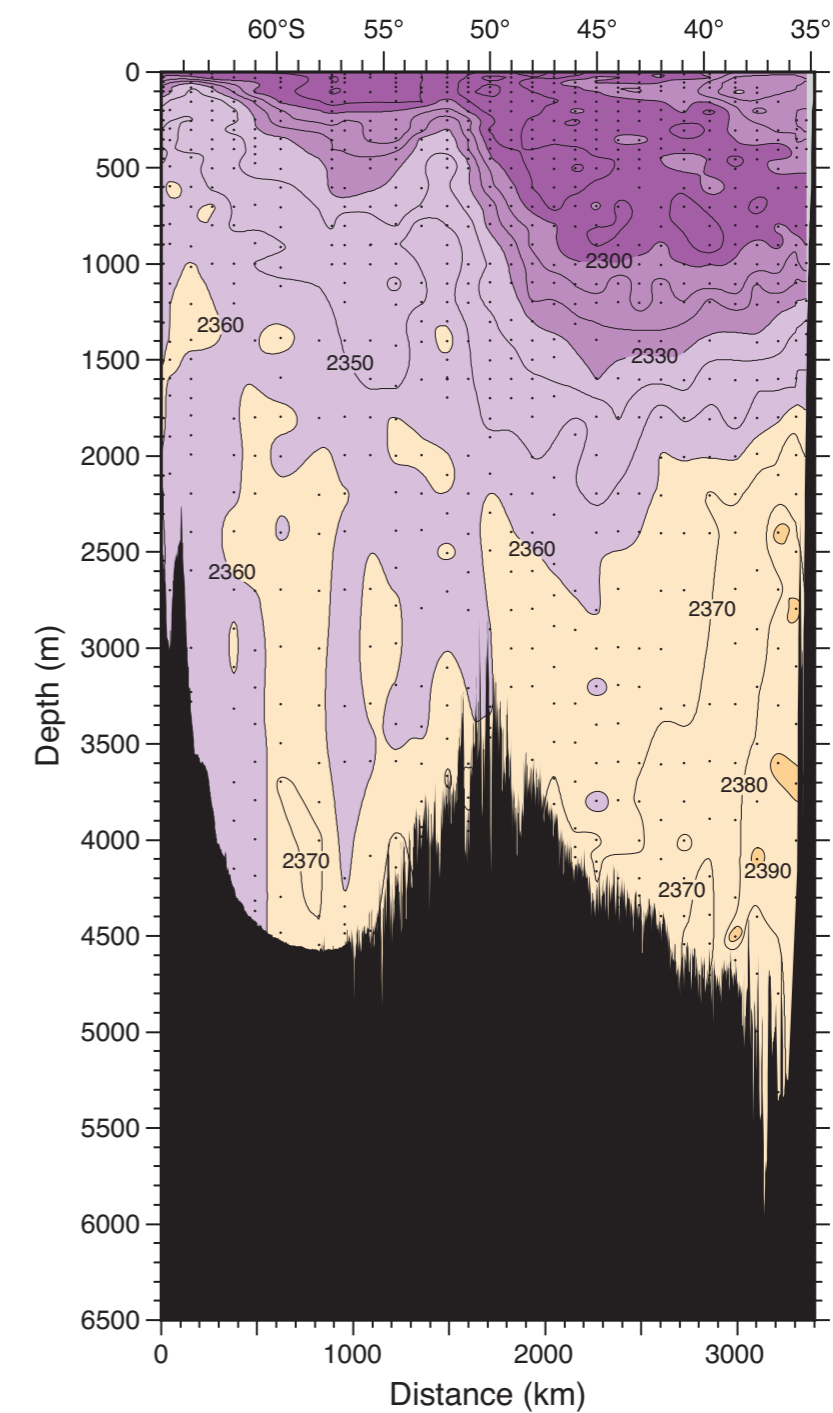
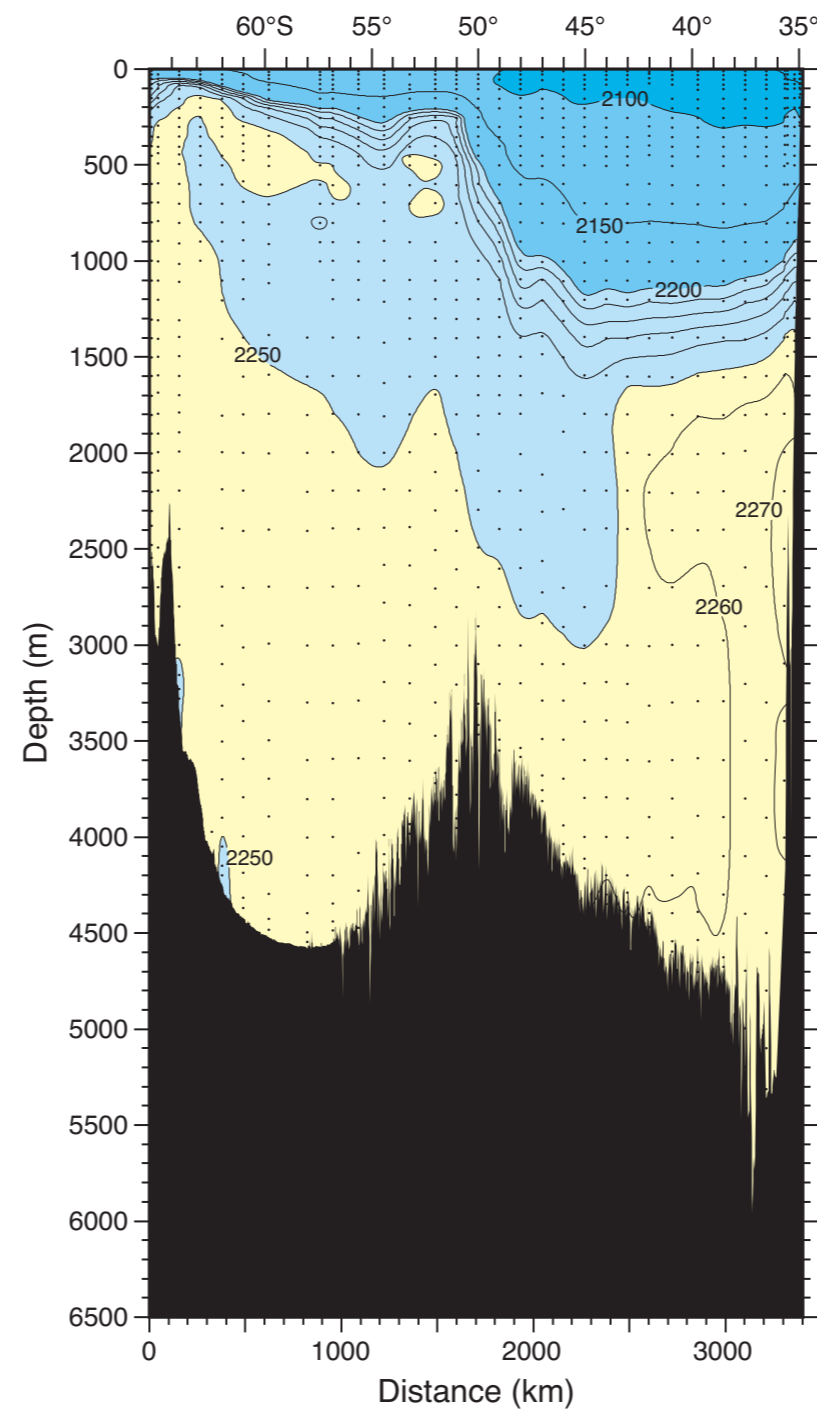
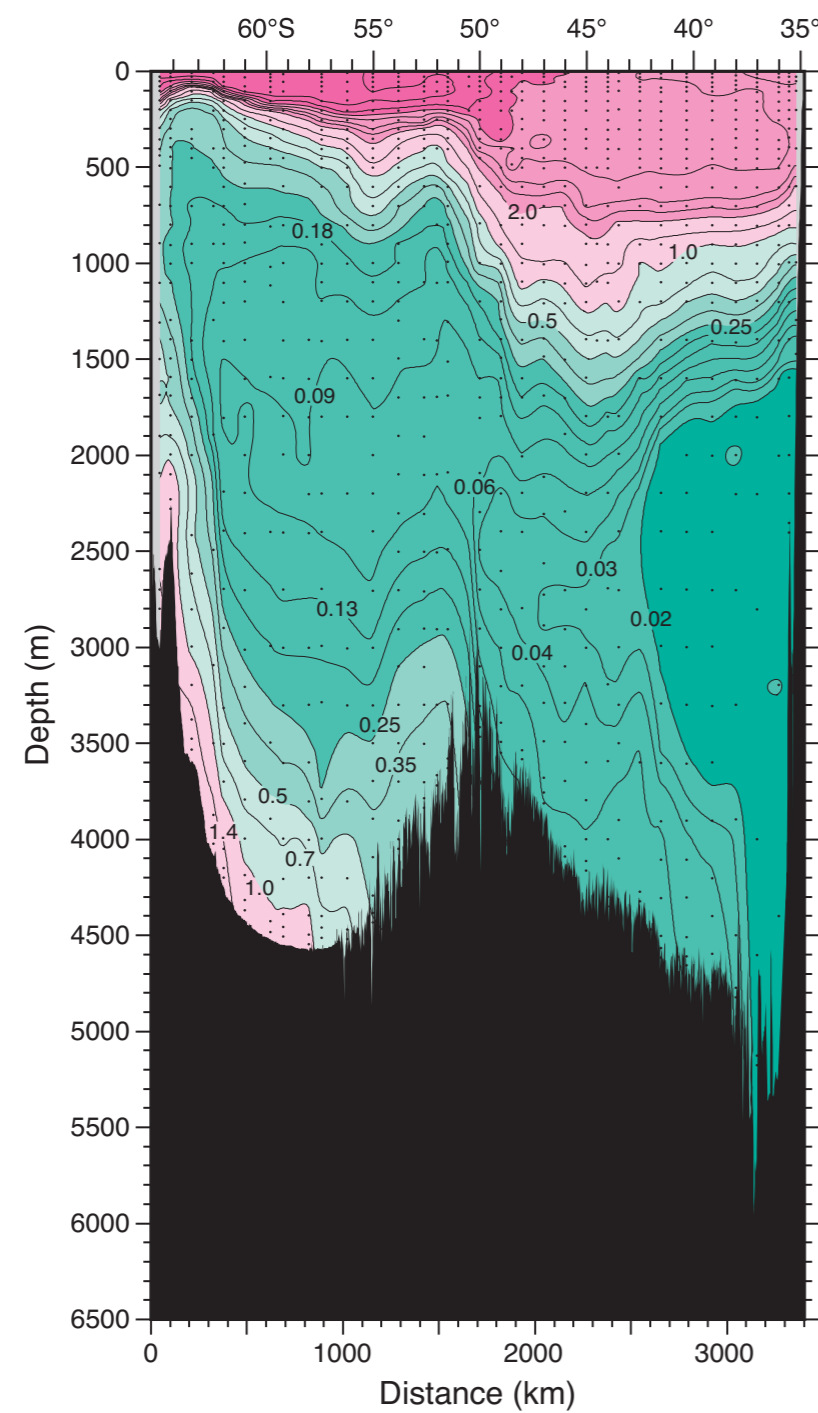
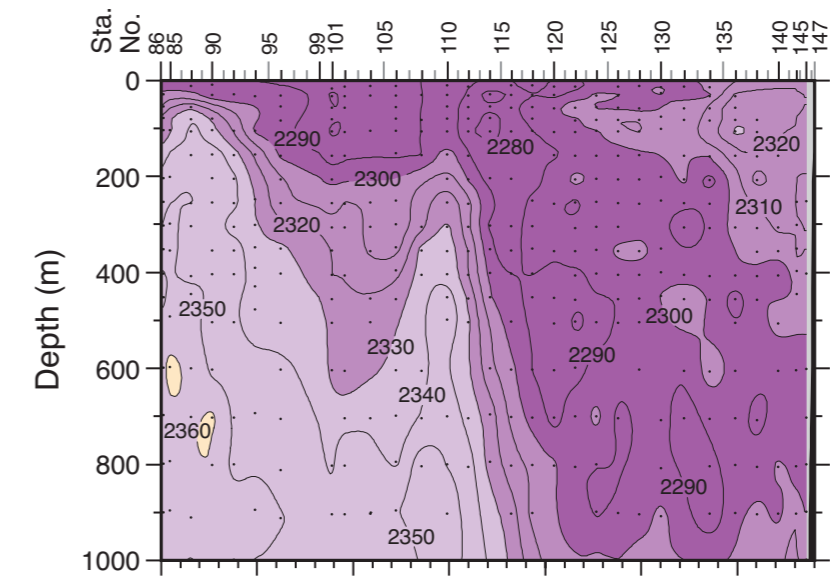
CFC-11 (pmol/kg)

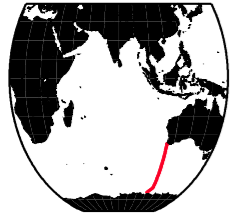


Total Carbon ($\mu\text{mol/kg}$)



Alkalinity ($\mu\text{mol/kg}$)



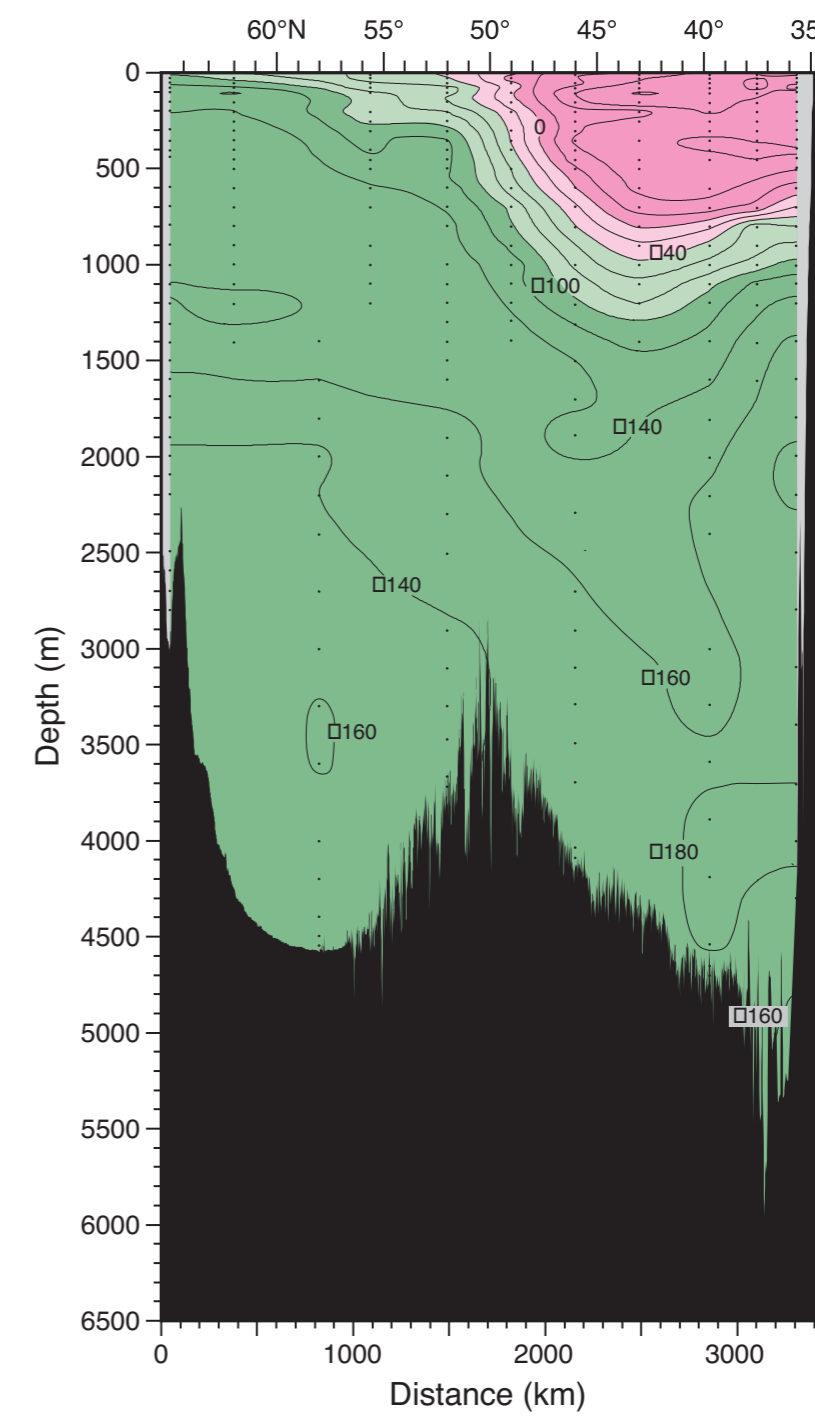
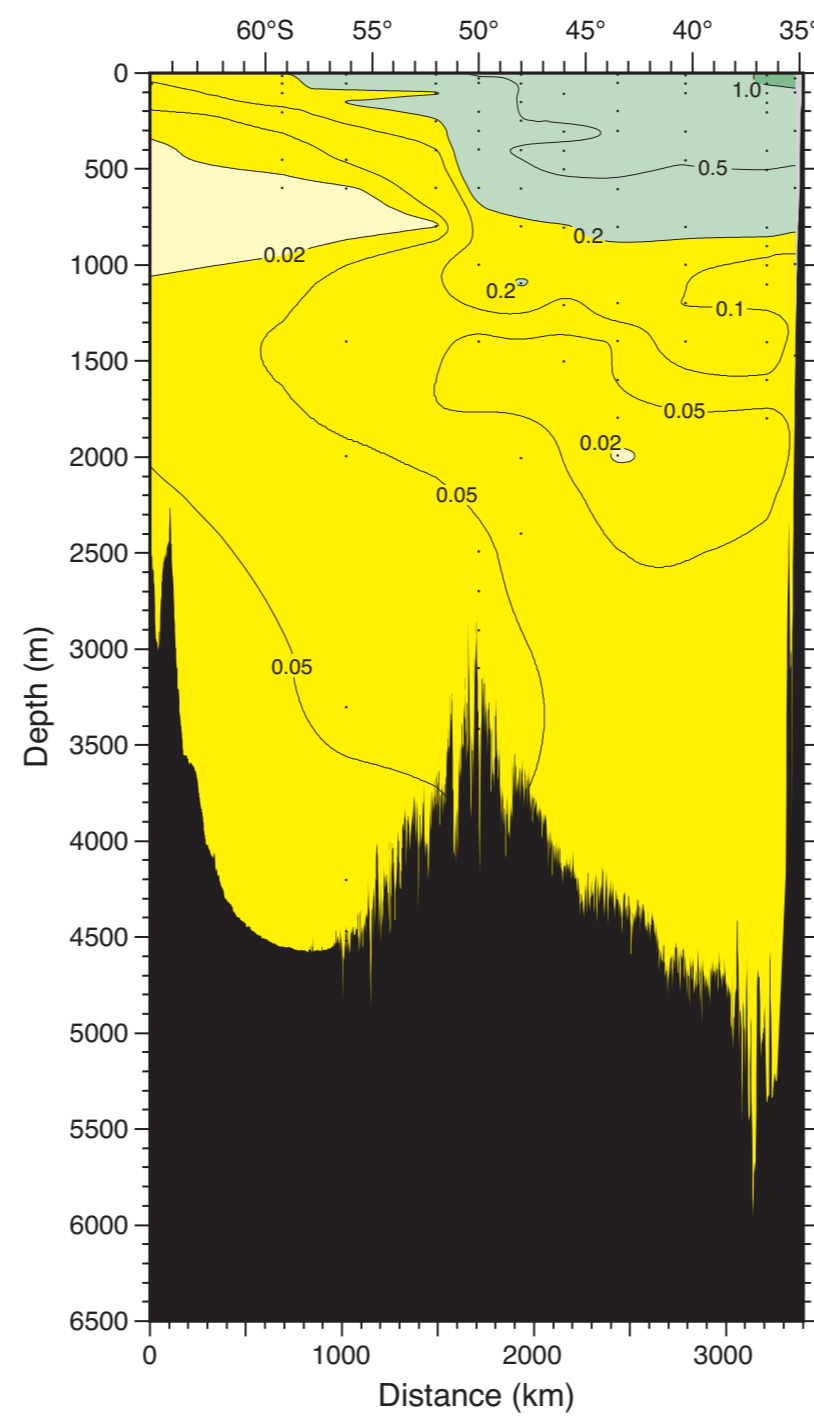
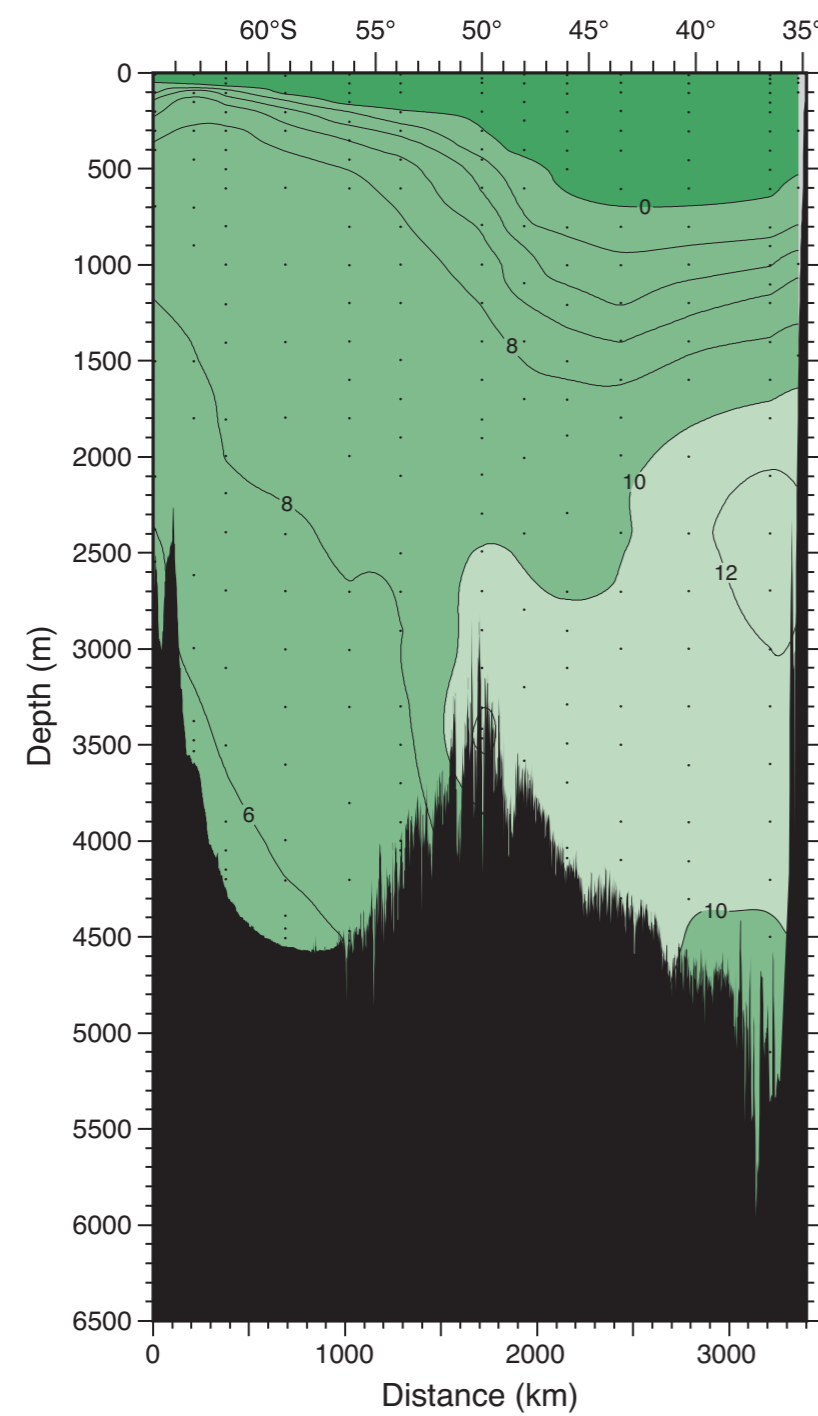
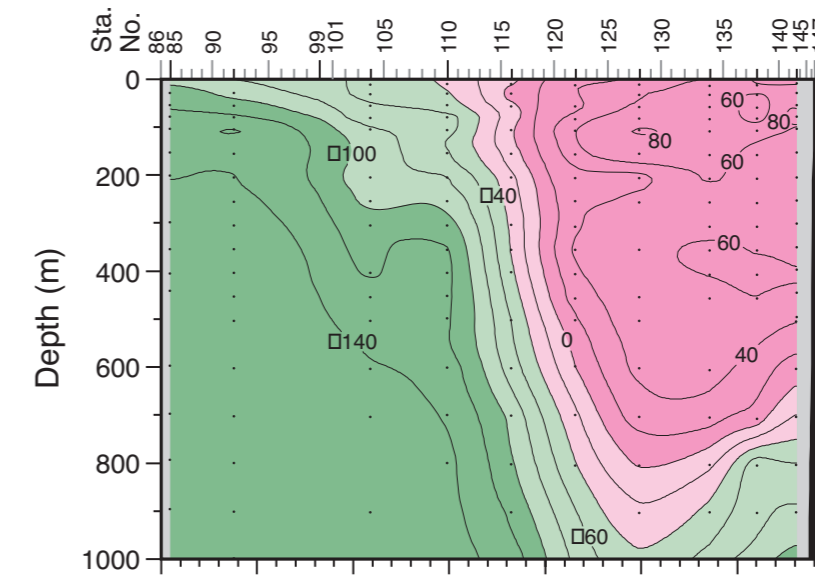
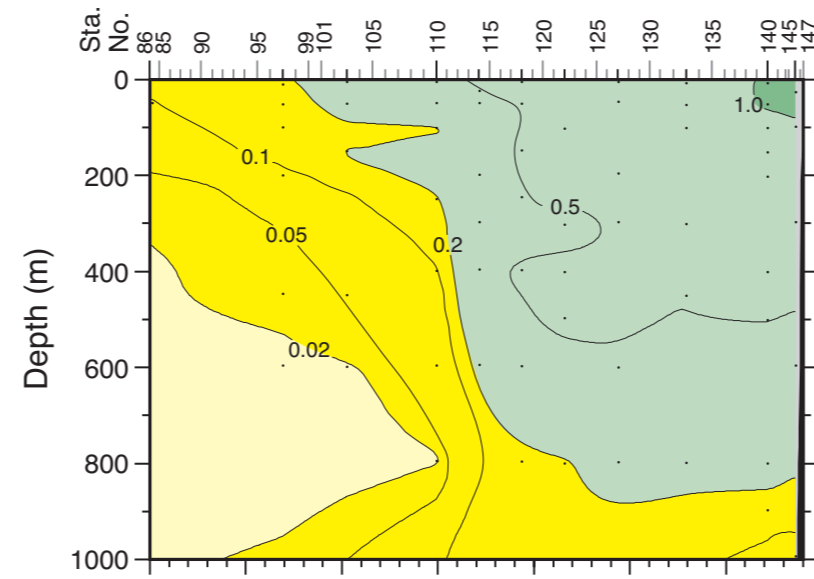
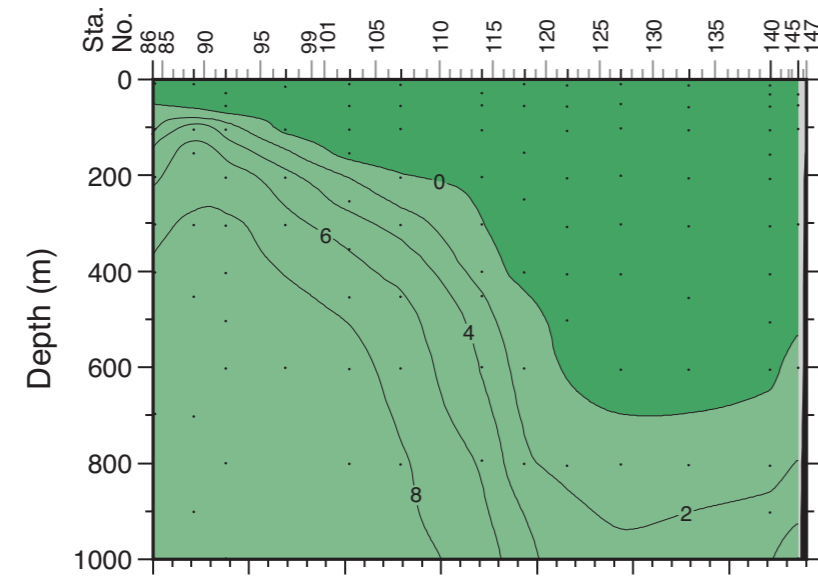


I9S (115°E)

$\delta^3\text{He}$ (‰)

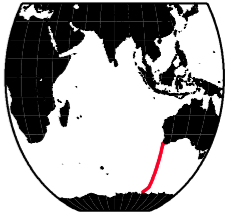
Tritium (TU)

$\Delta^{14}\text{C}$ (‰)

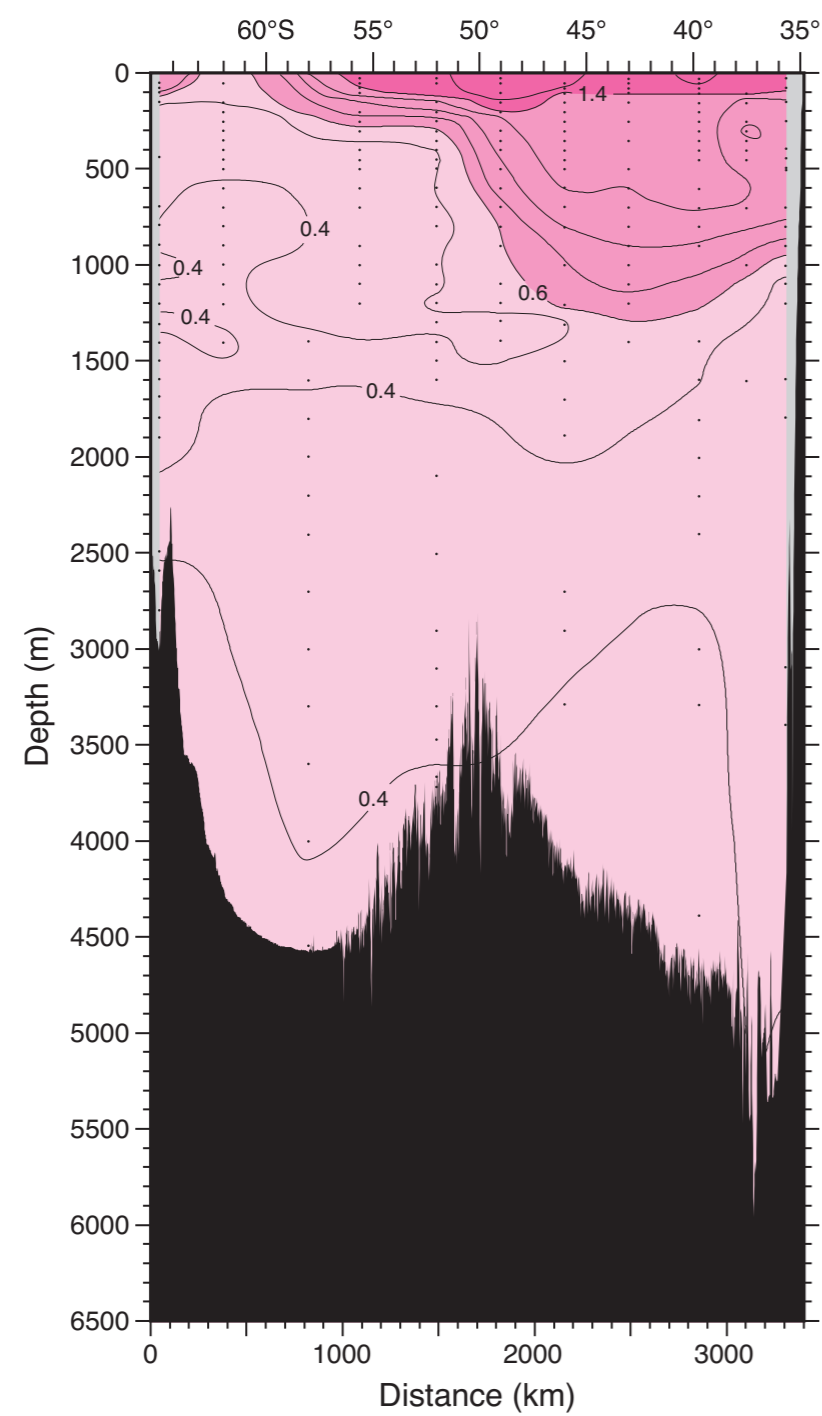
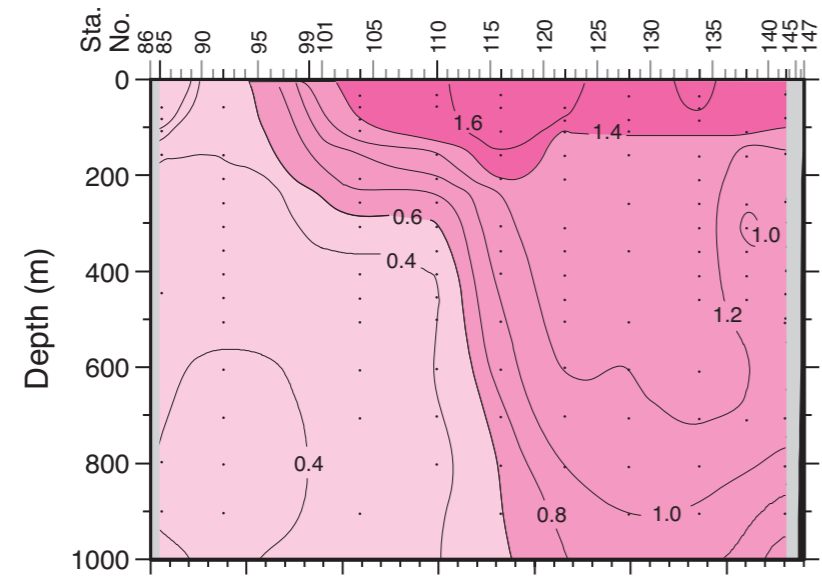


I9S

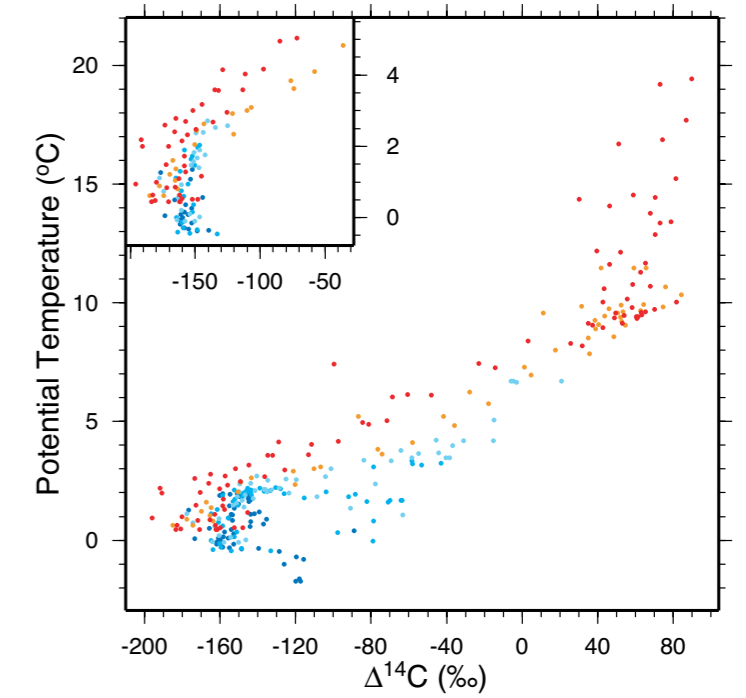
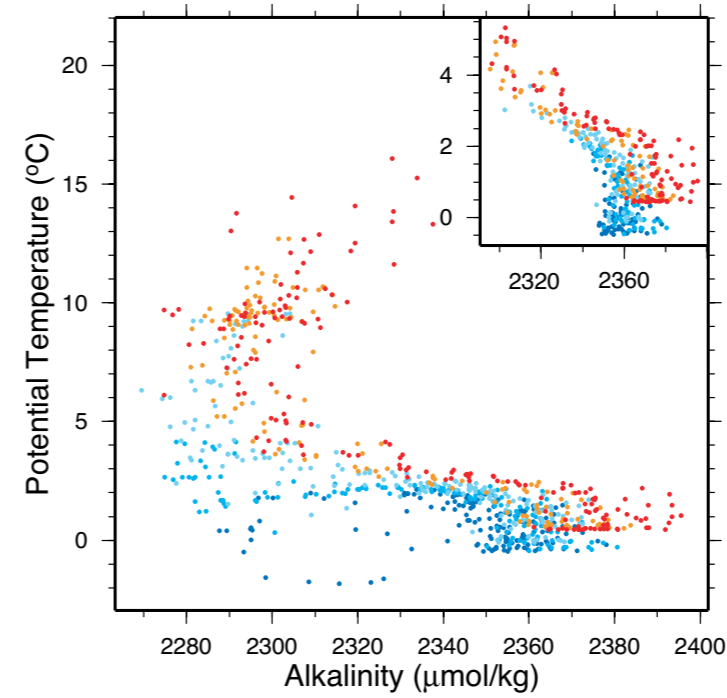
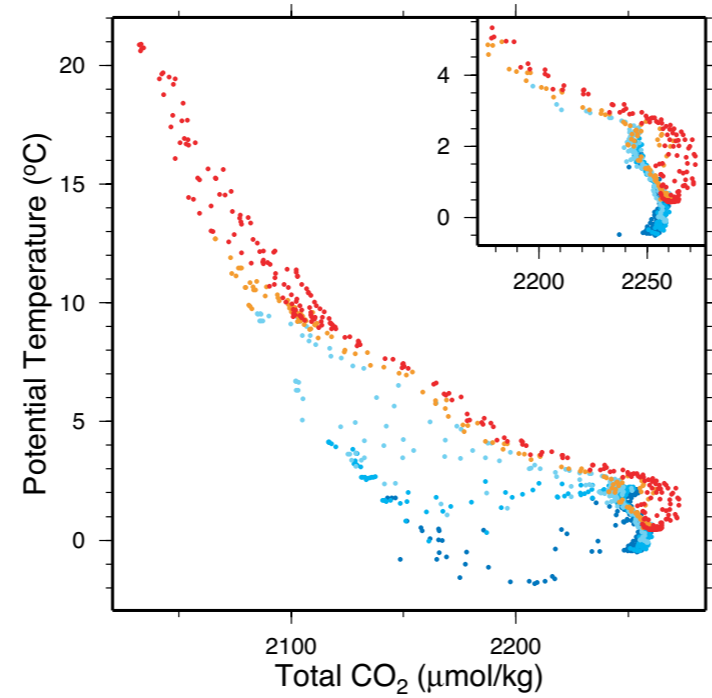
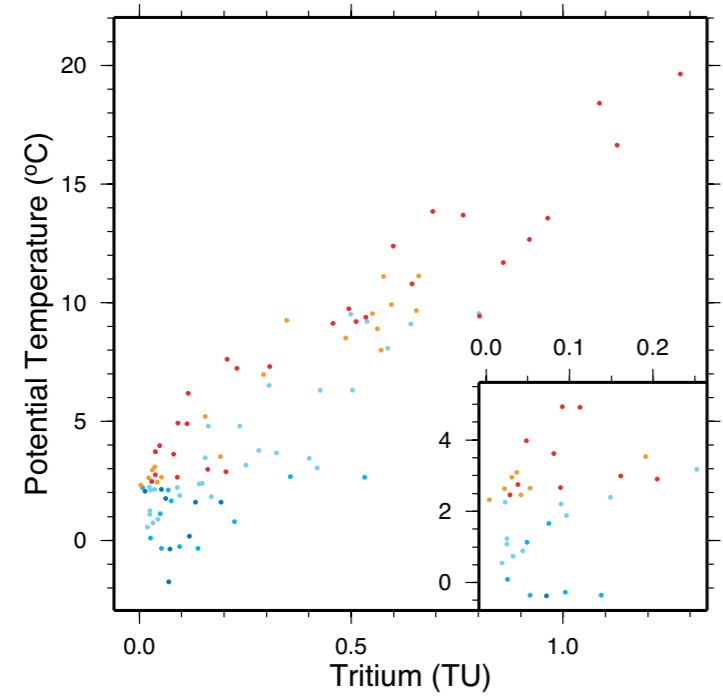
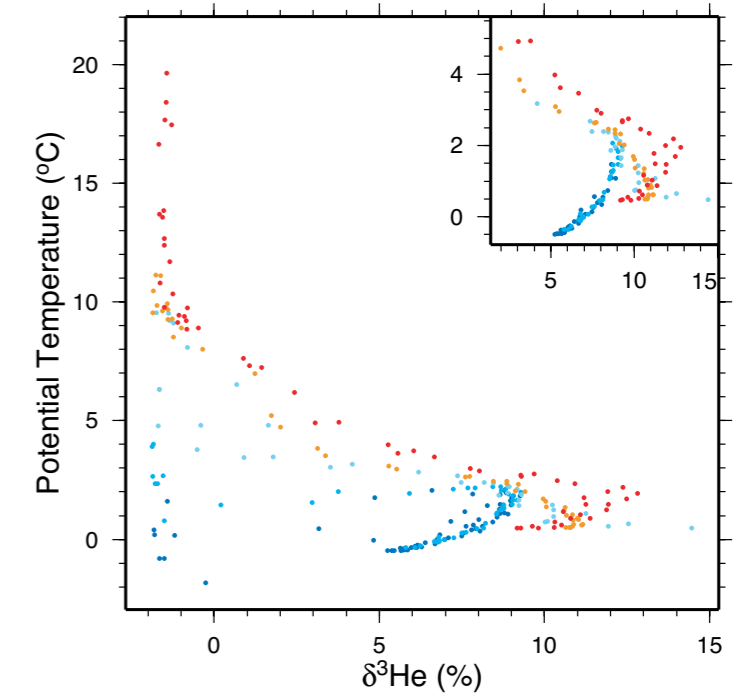
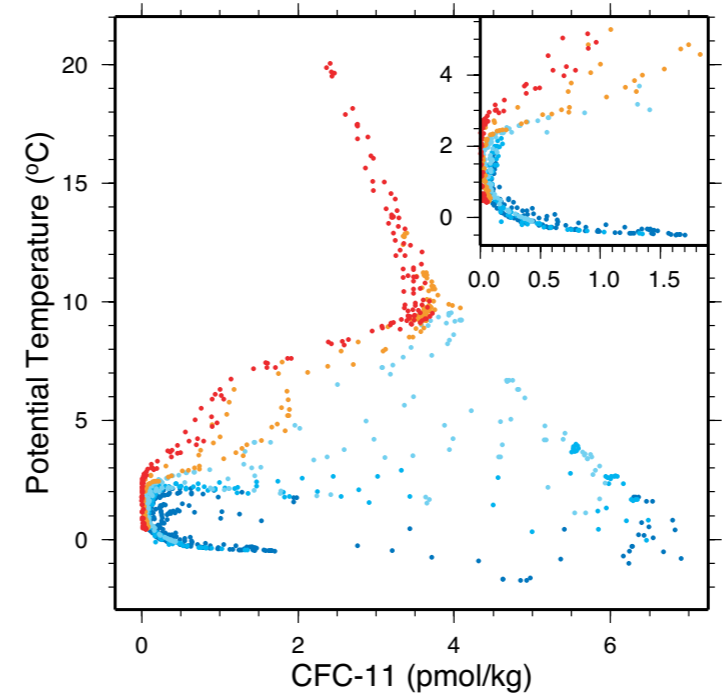
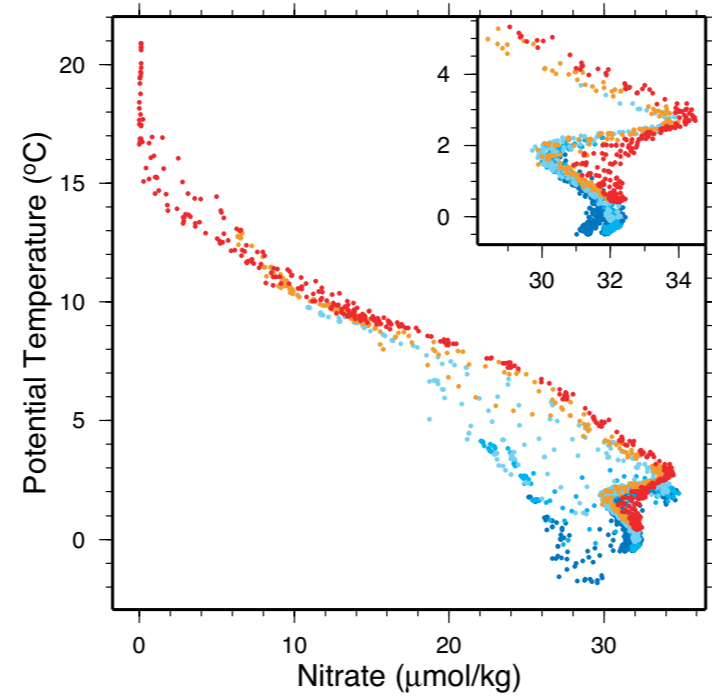
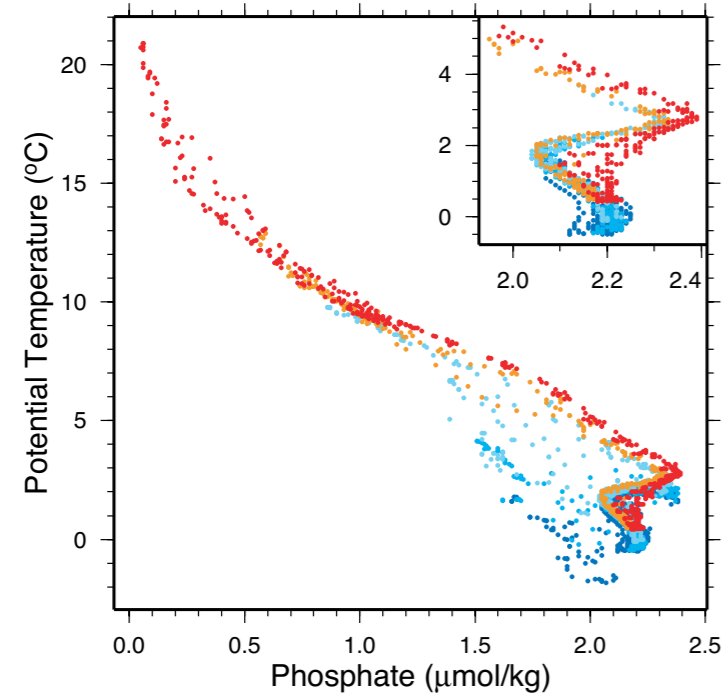
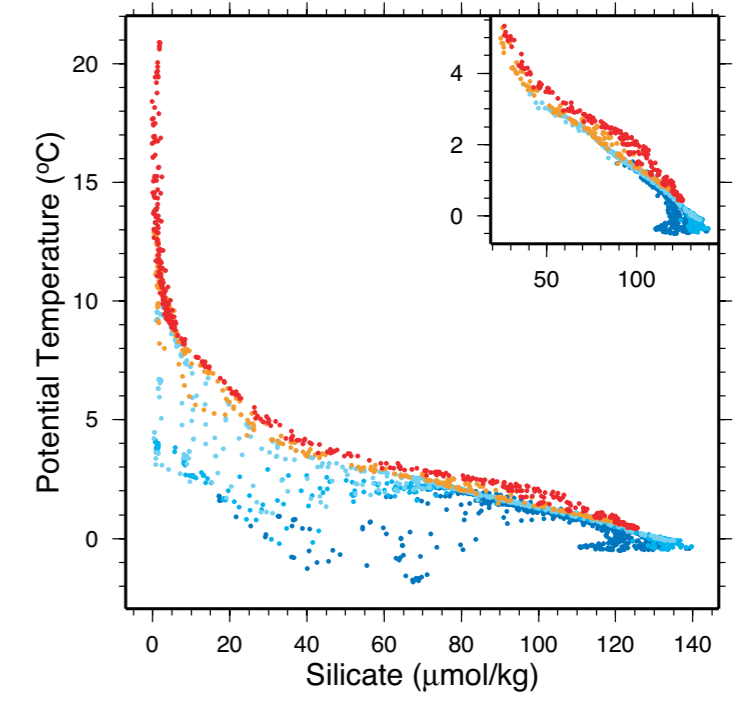
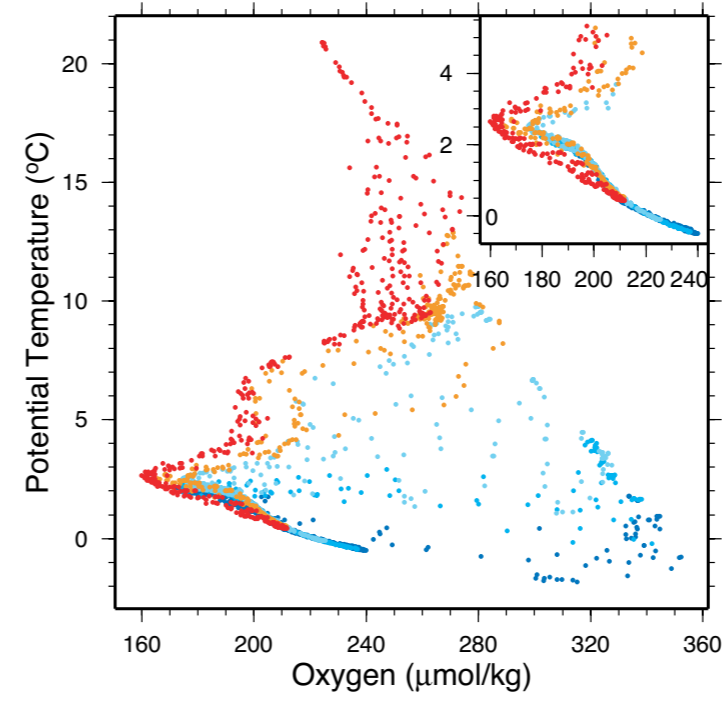
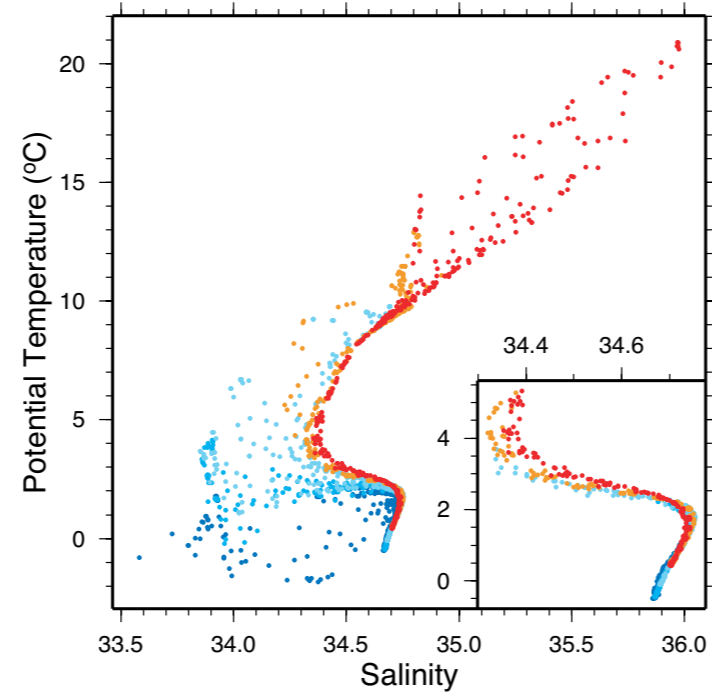
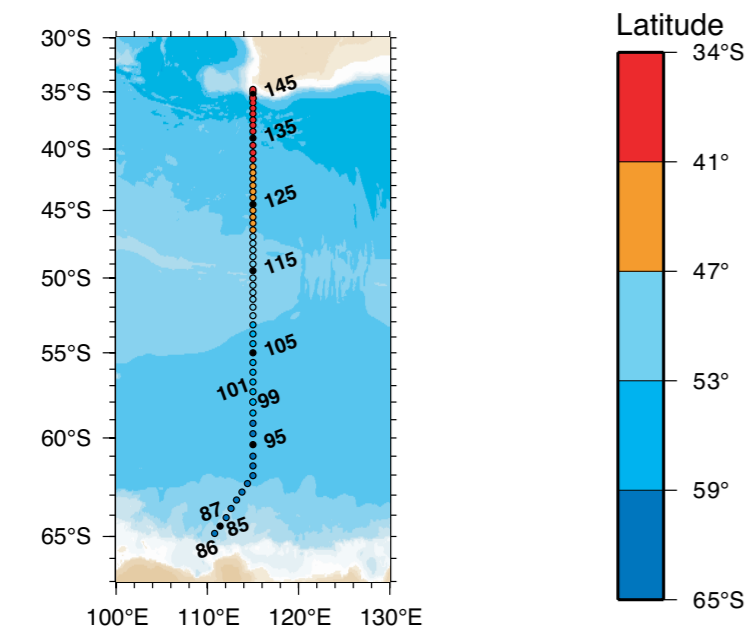
I9S (115°E)



$\delta^{13}\text{C}$ (‰)



I9S





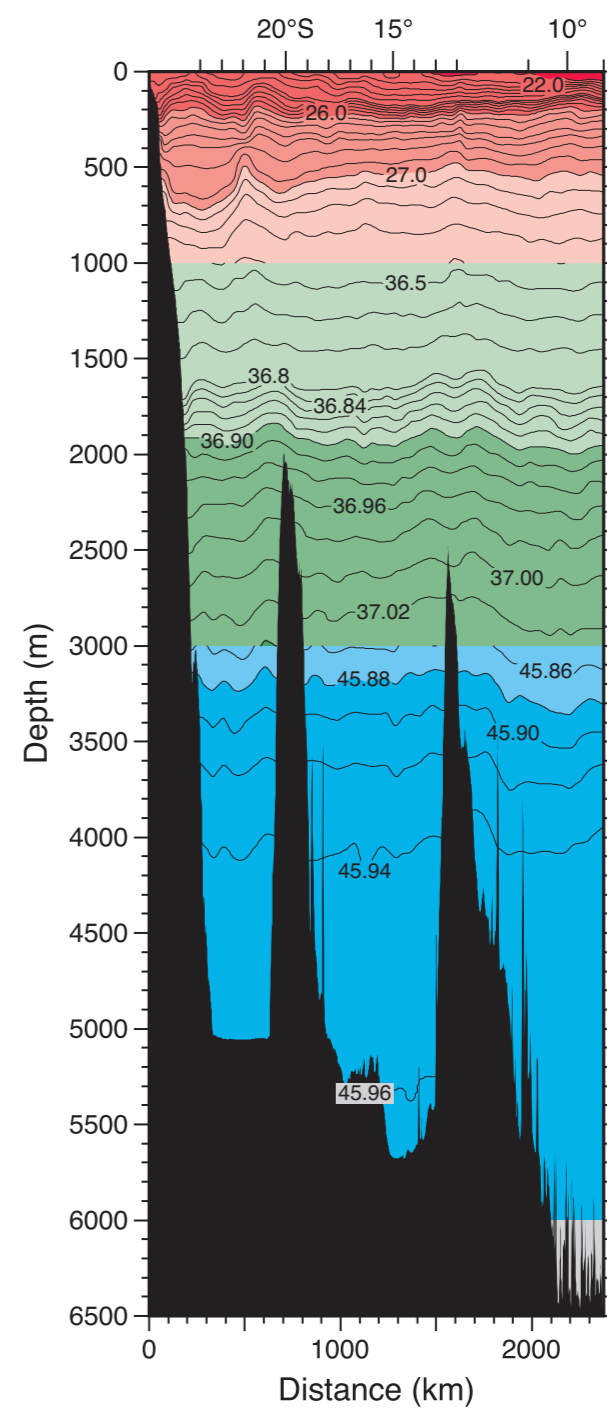
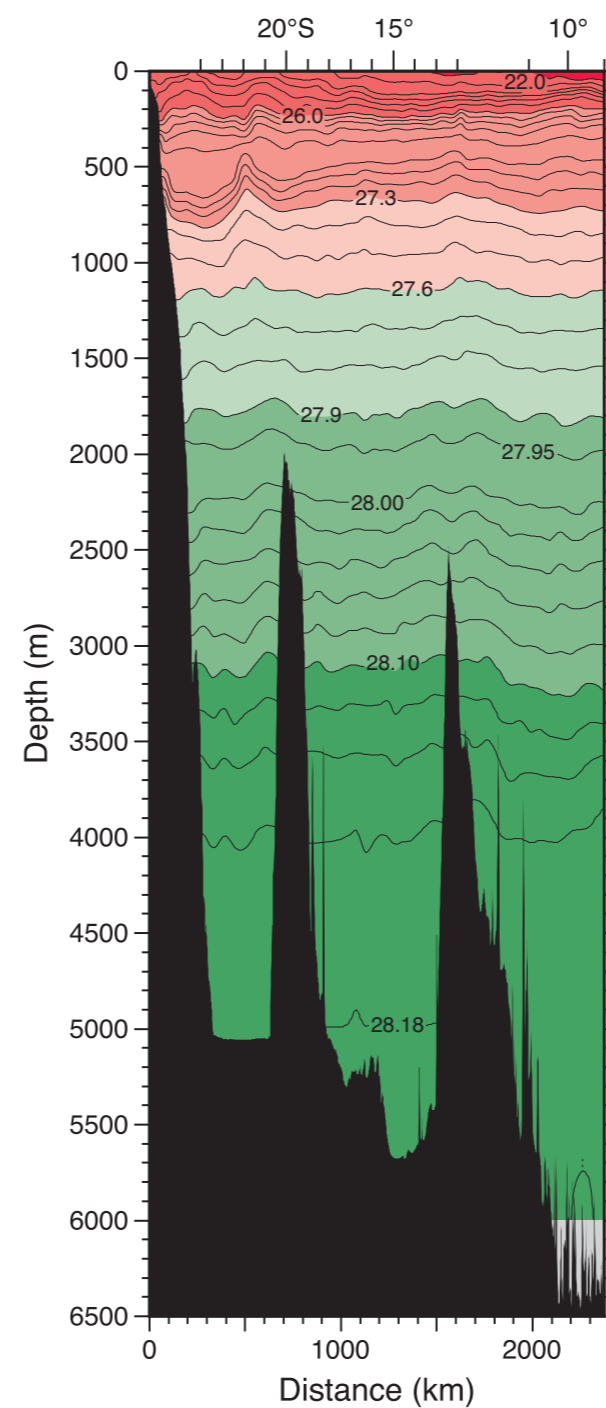
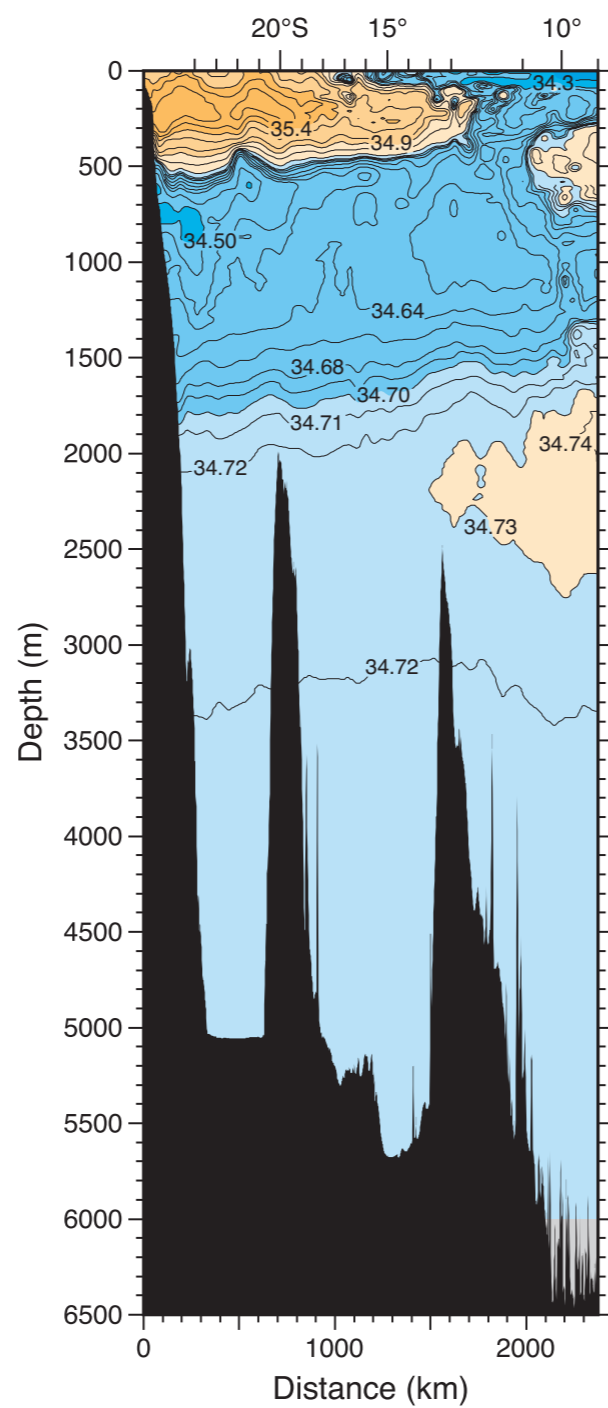
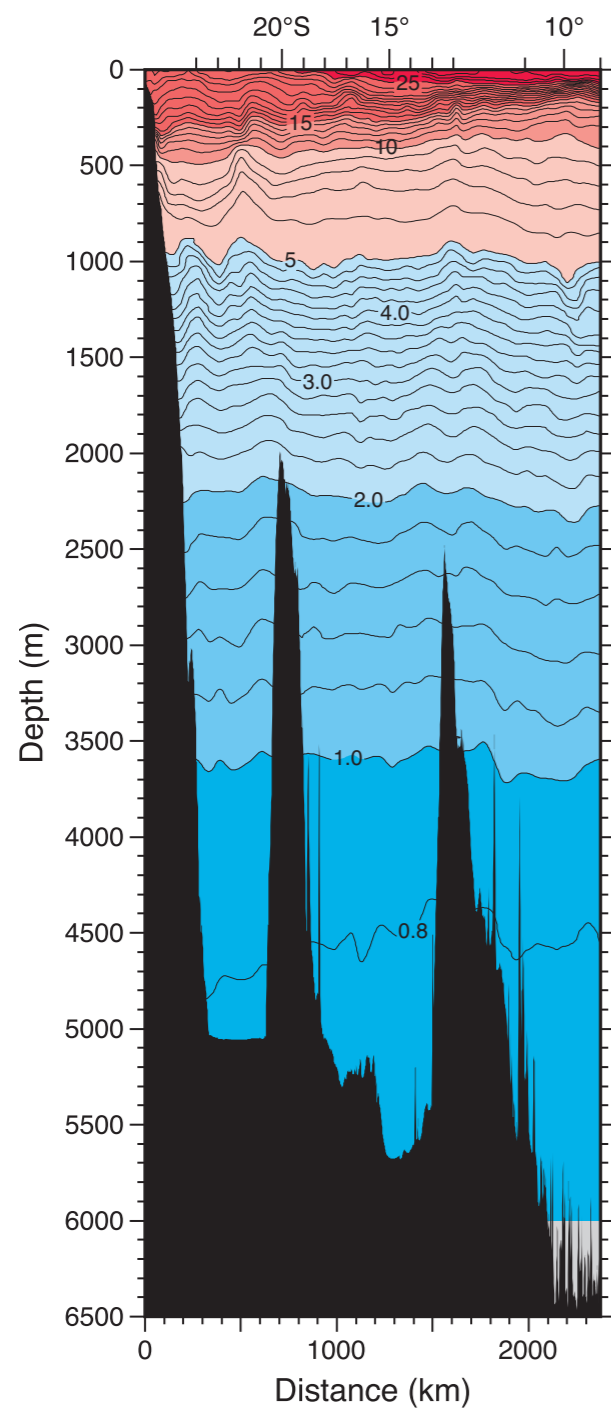
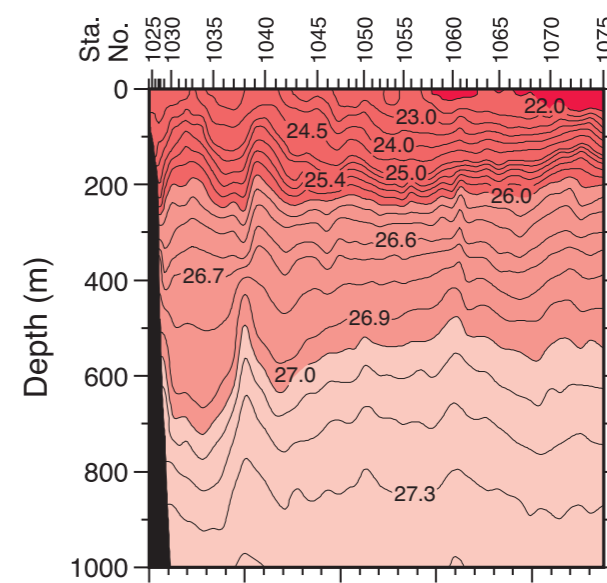
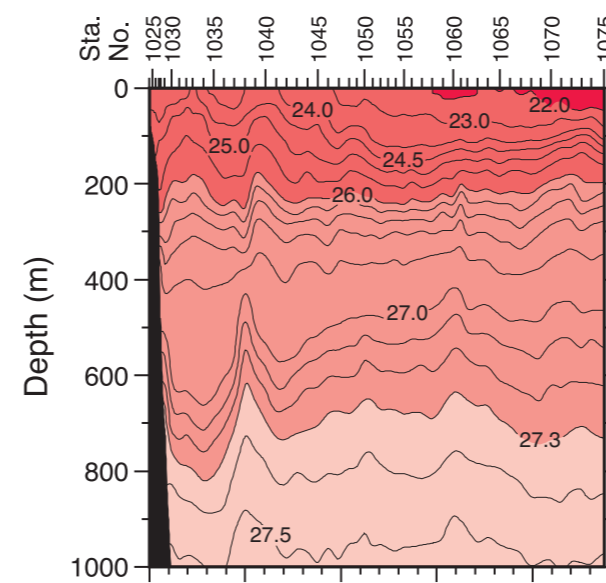
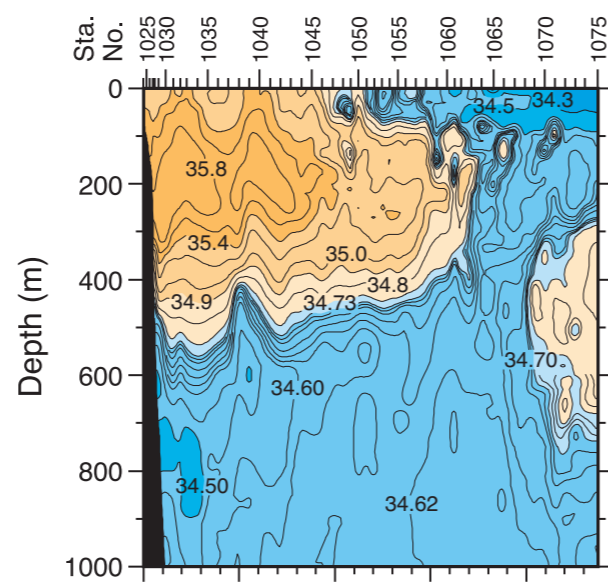
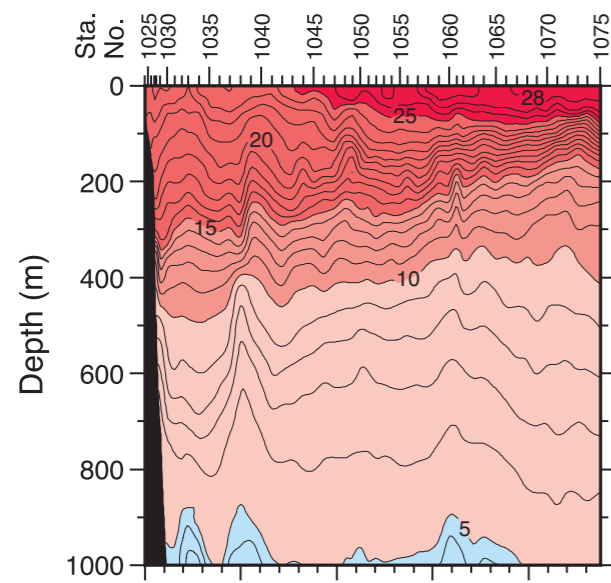
I10 (110°E)

Potential Temperature (°C)

Salinity (PSS78)

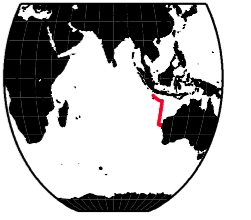
Neutral Density (kg/m³)

σ_0, σ_2 and σ_4 (kg/m³)

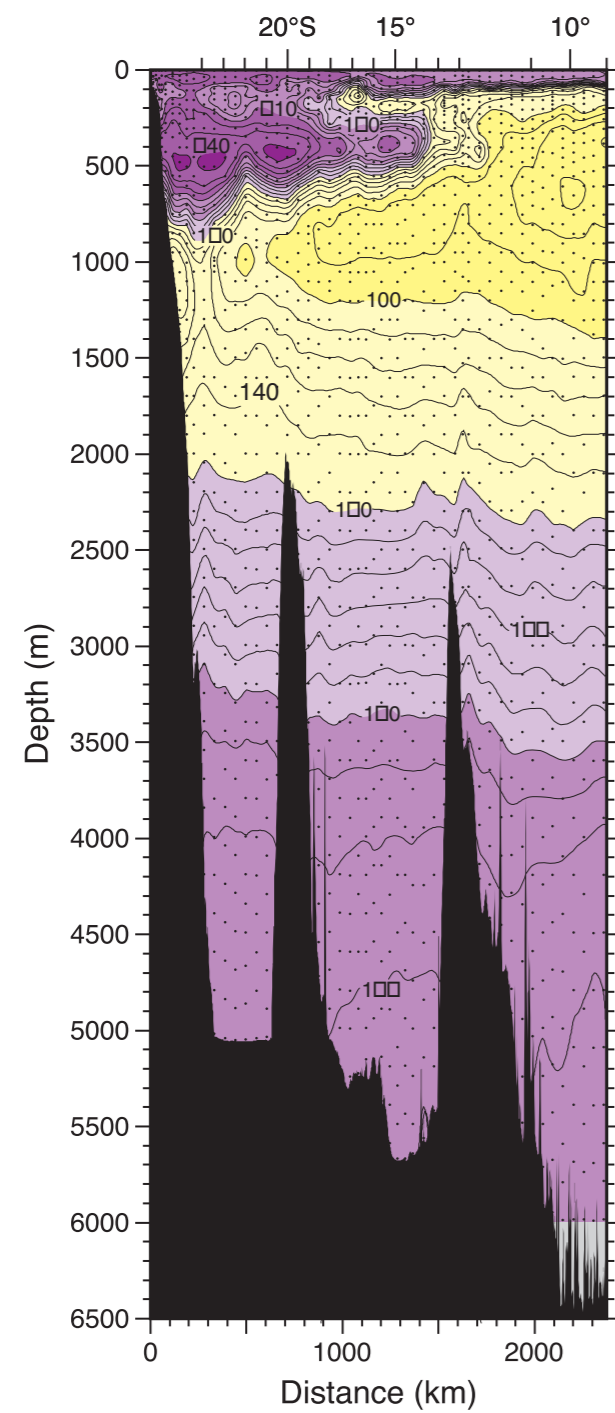
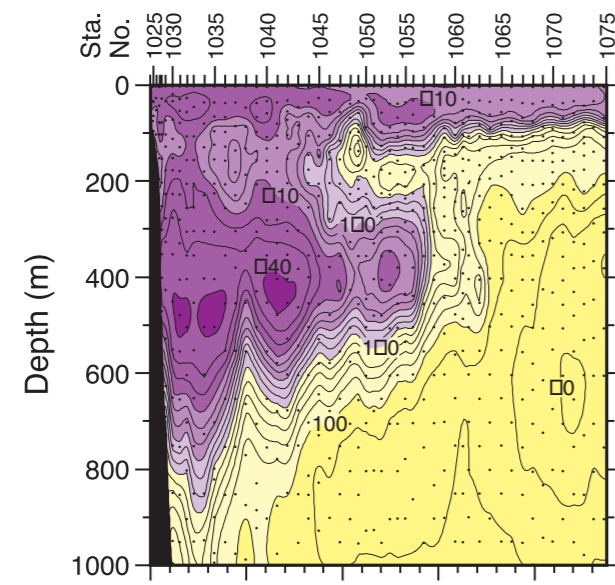


I10

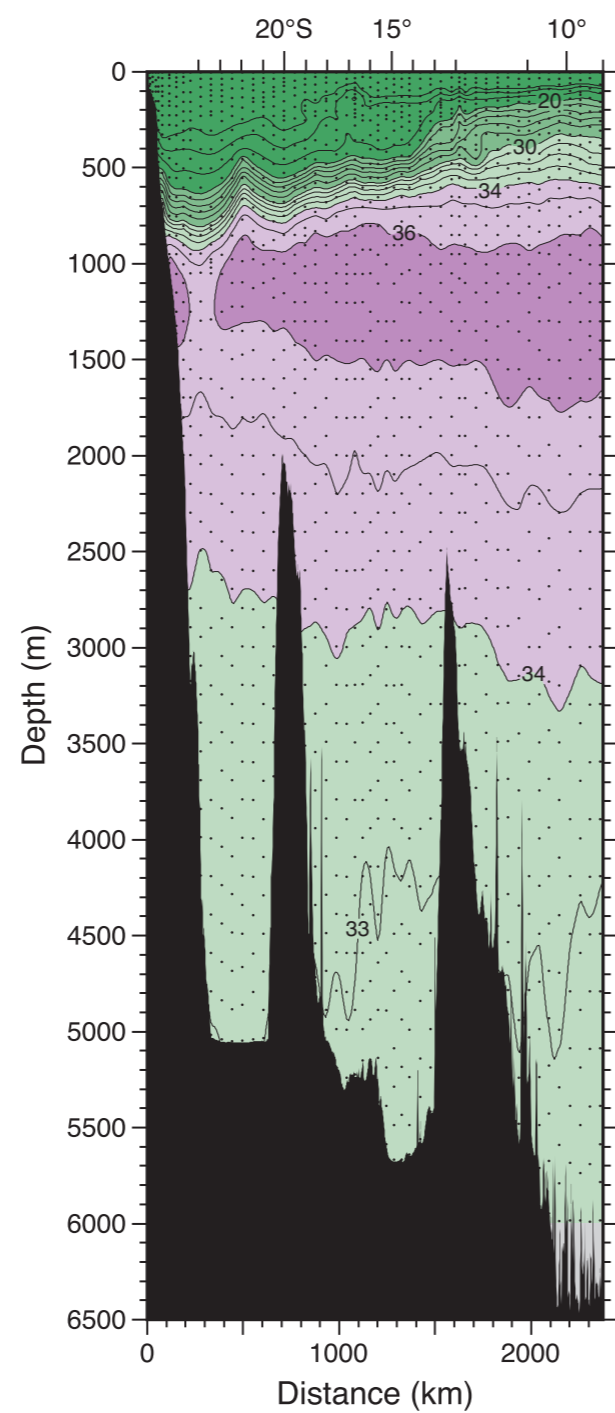
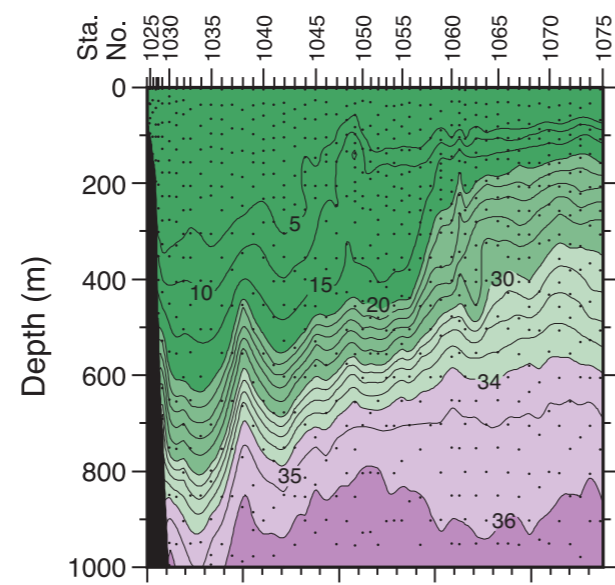
I10 (110°E)



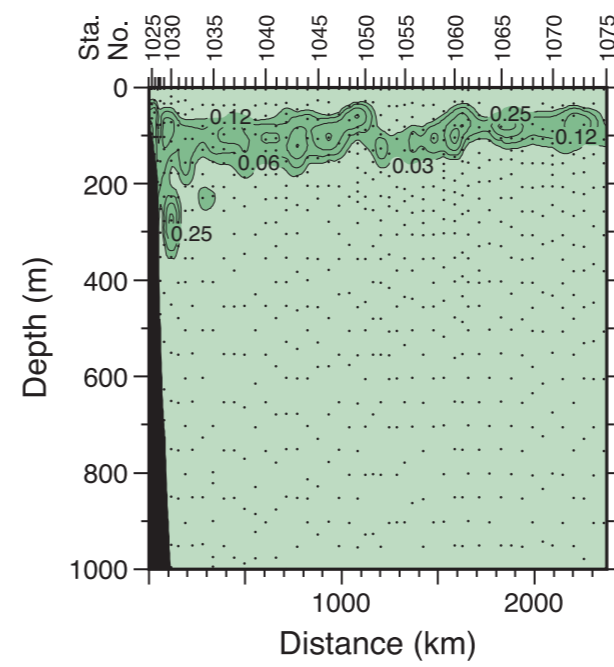
Oxygen ($\mu\text{mol/kg}$)



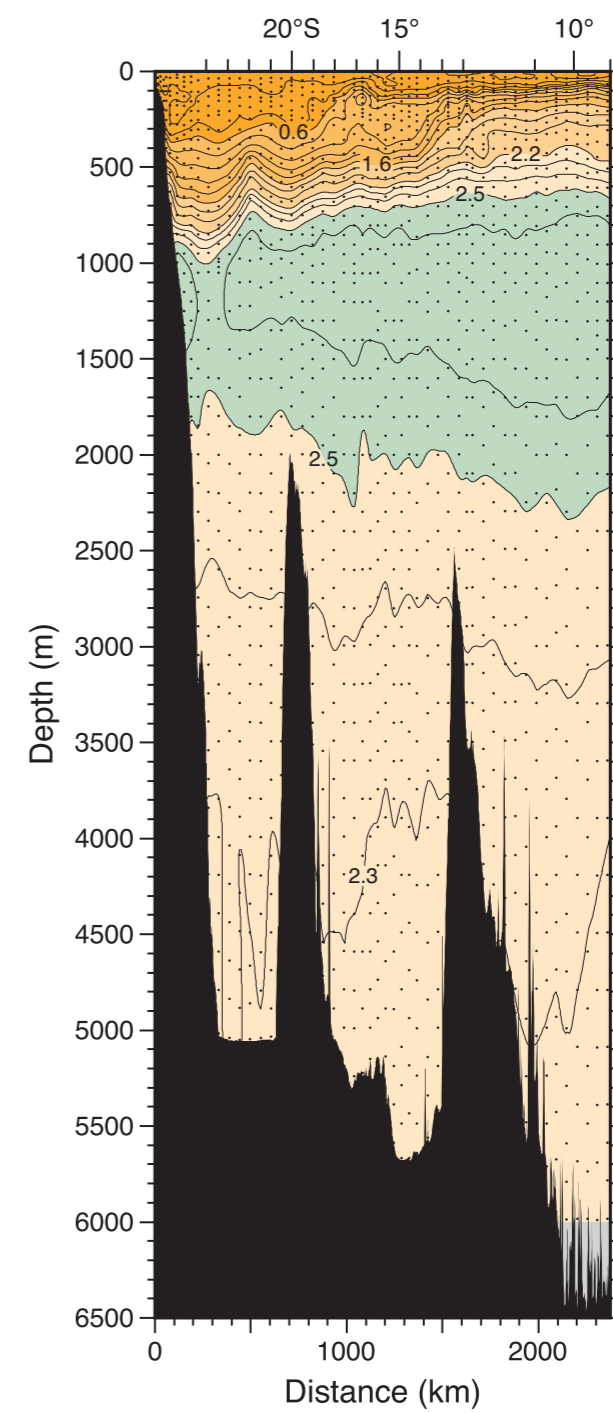
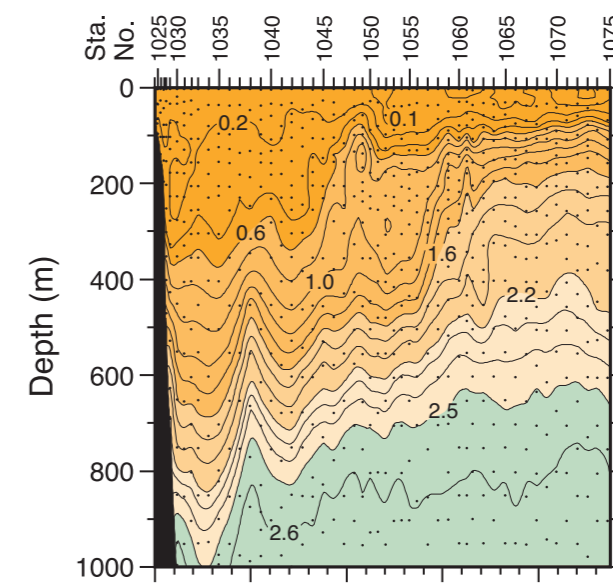
Nitrate ($\mu\text{mol/kg}$)



Nitrite ($\mu\text{mol/kg}$)



Phosphate ($\mu\text{mol/kg}$)





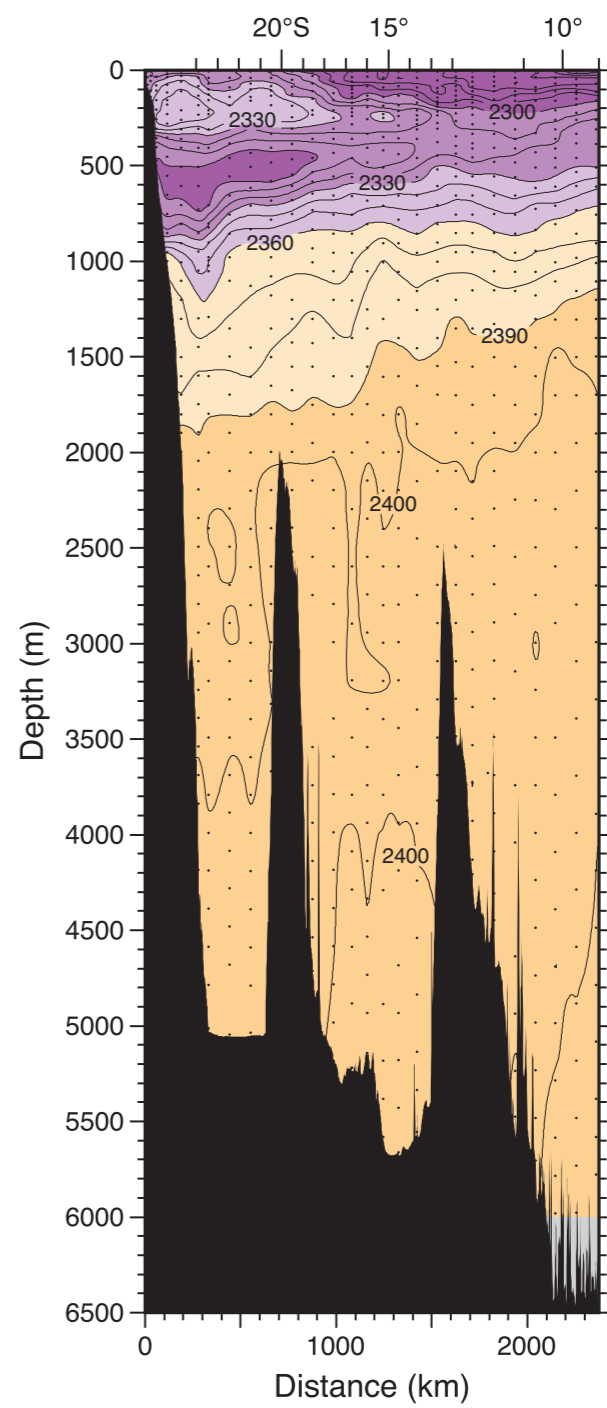
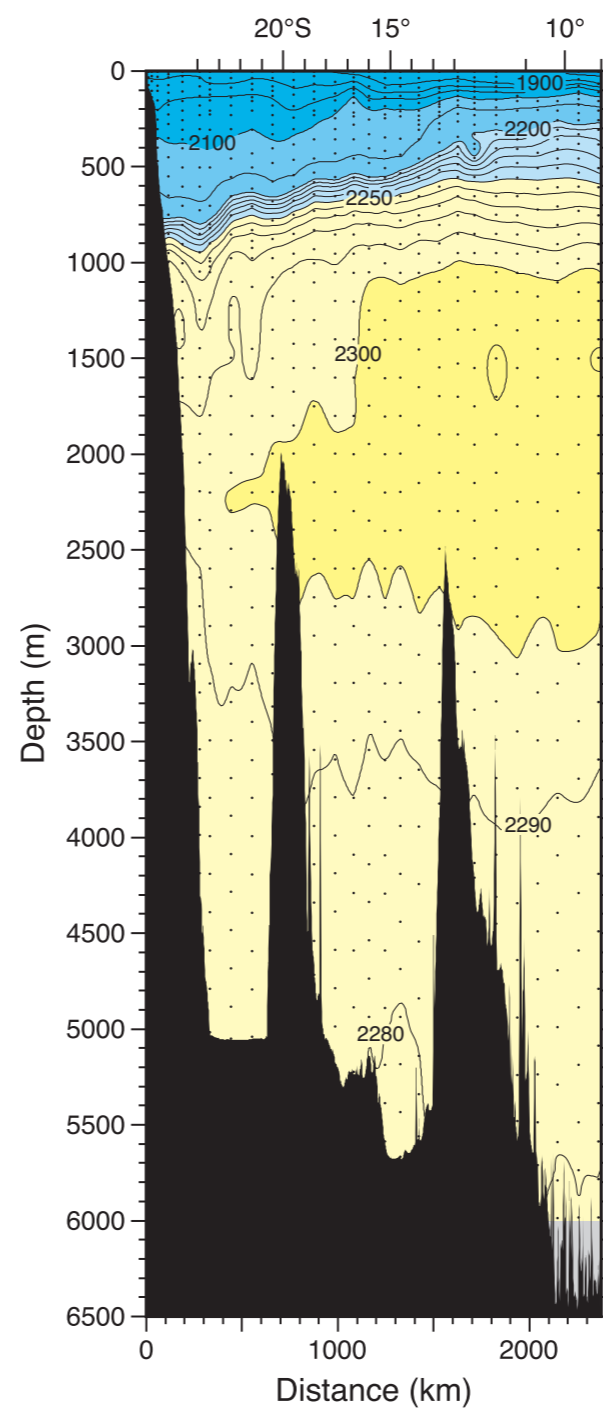
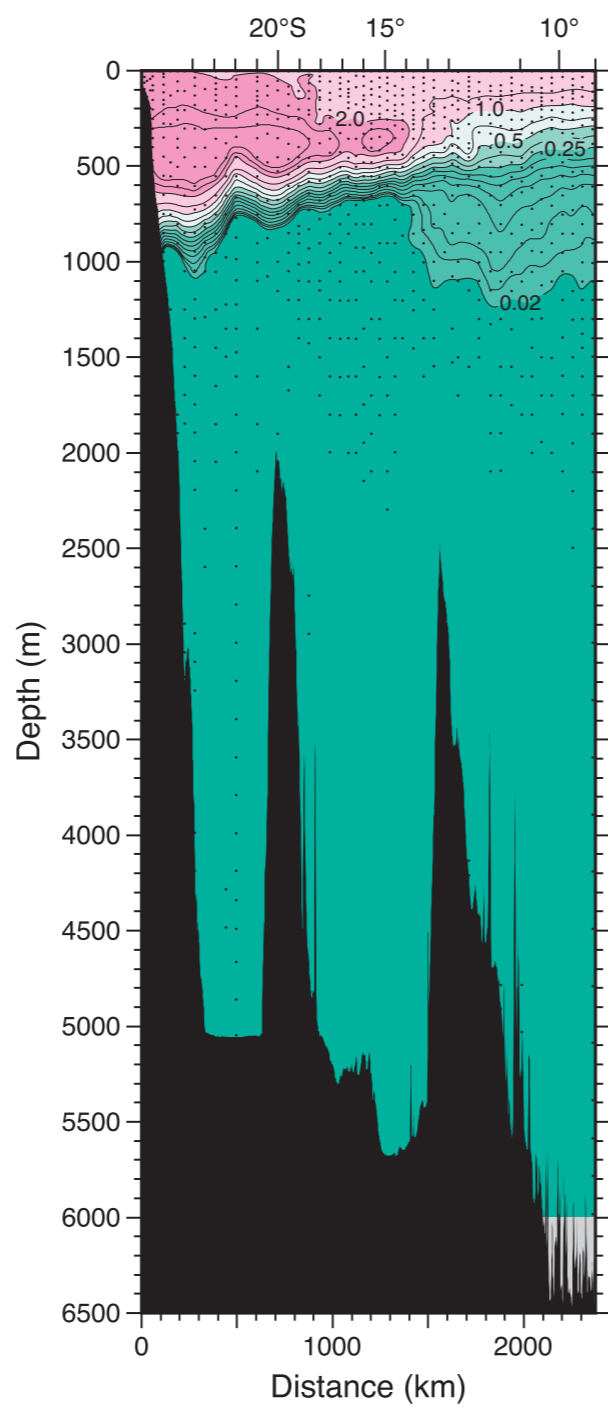
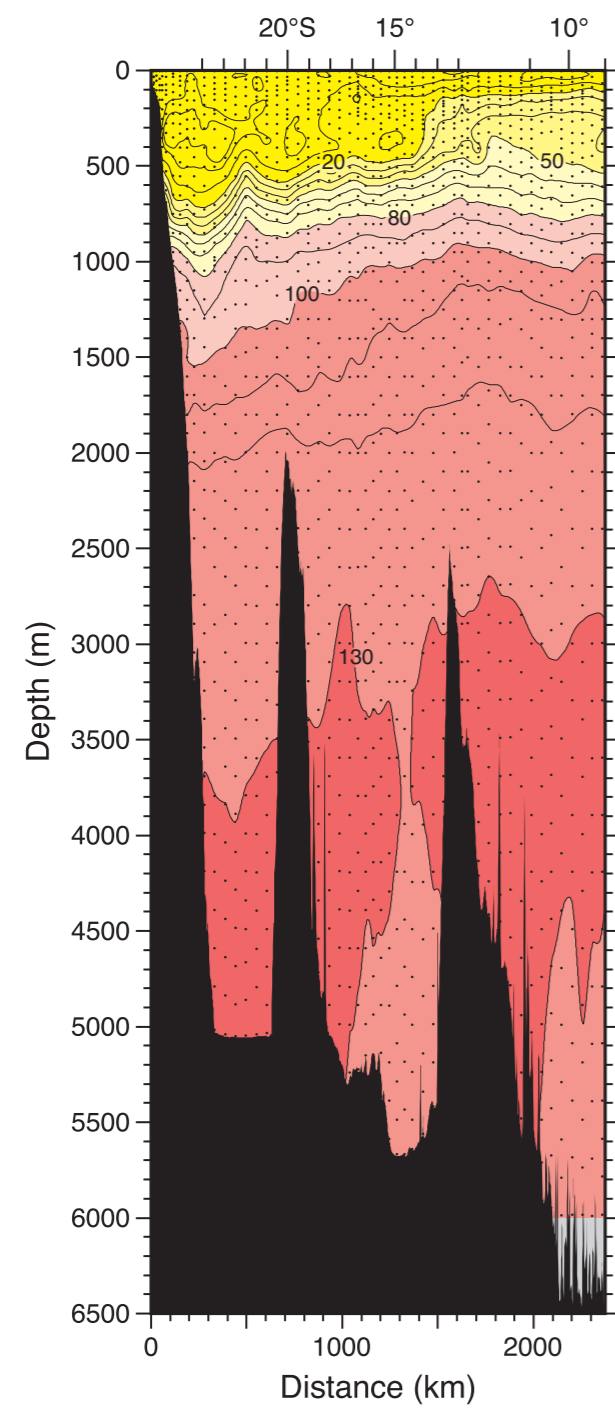
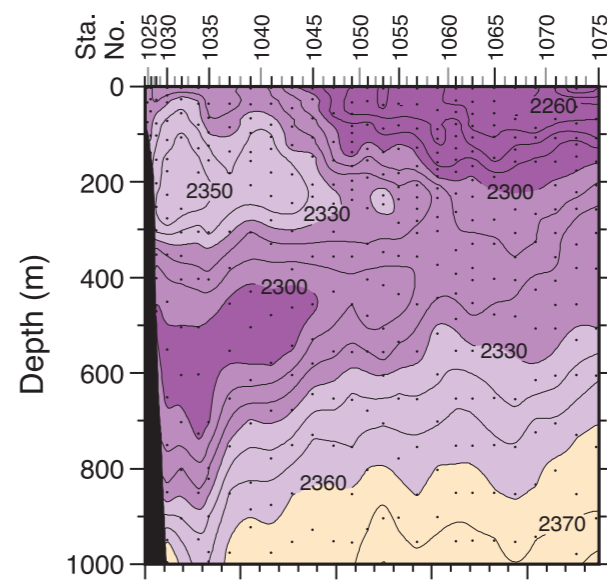
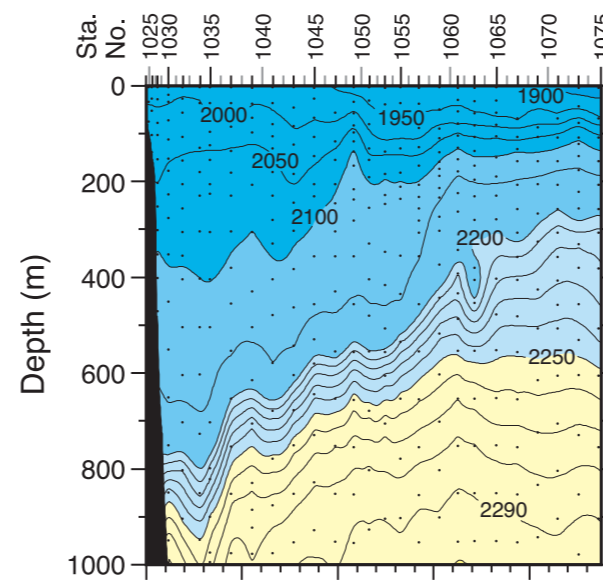
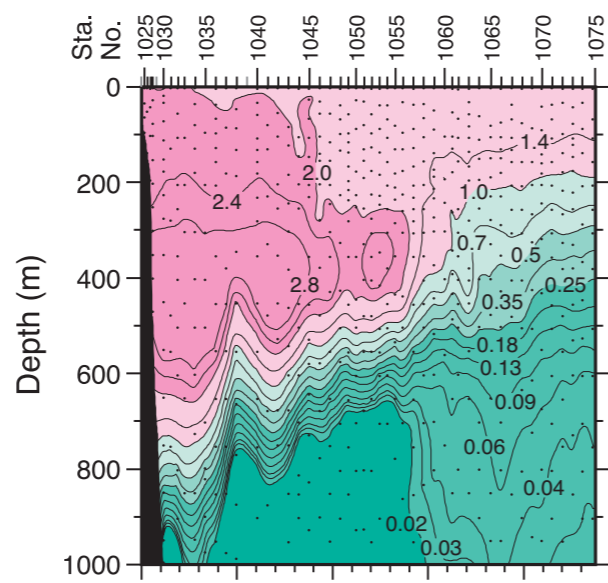
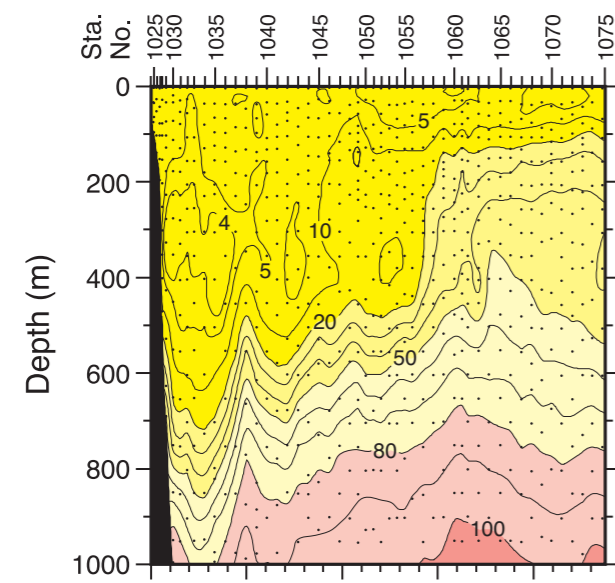
I10 (110°E)

Dissolved Silica ($\mu\text{mol/kg}$)

CFC-11 (pmol/kg)

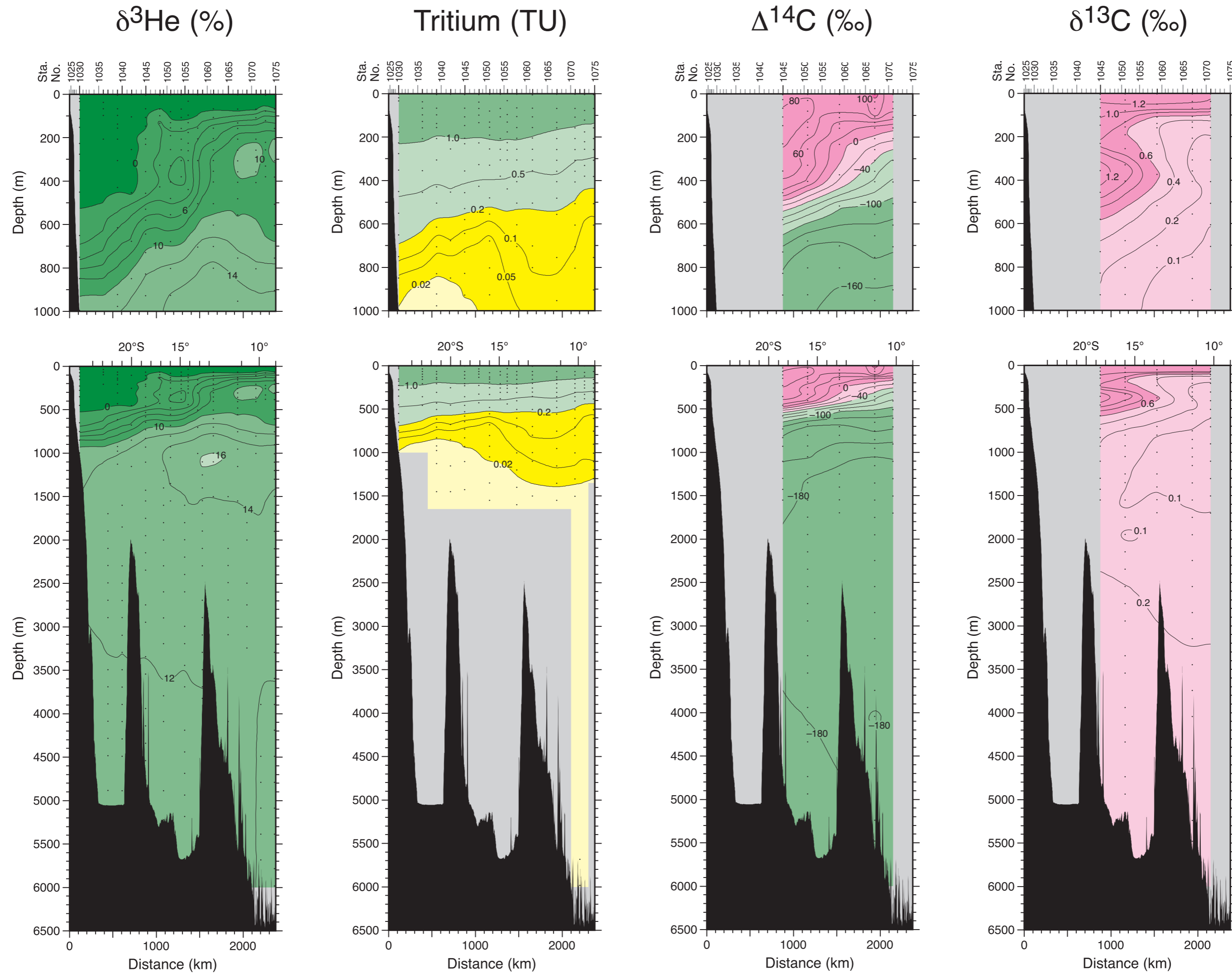
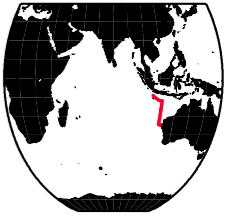
Total Carbon ($\mu\text{mol/kg}$)

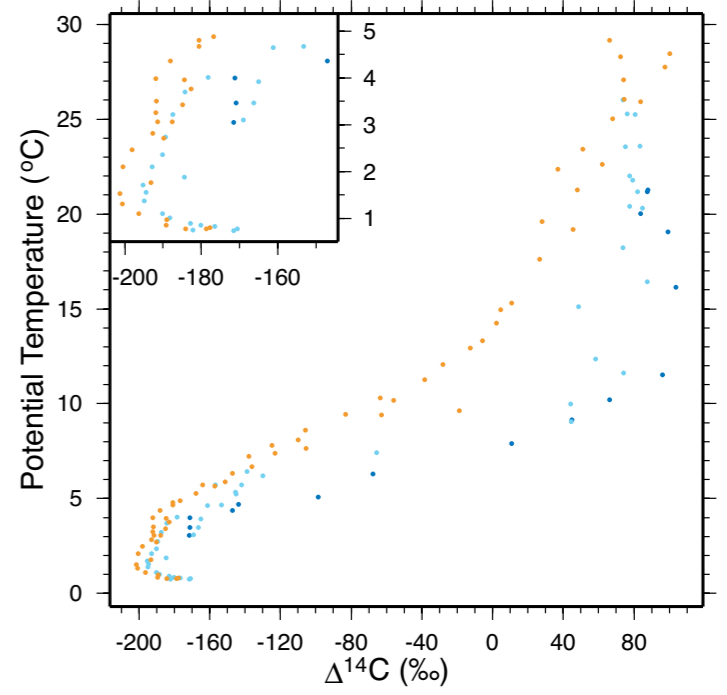
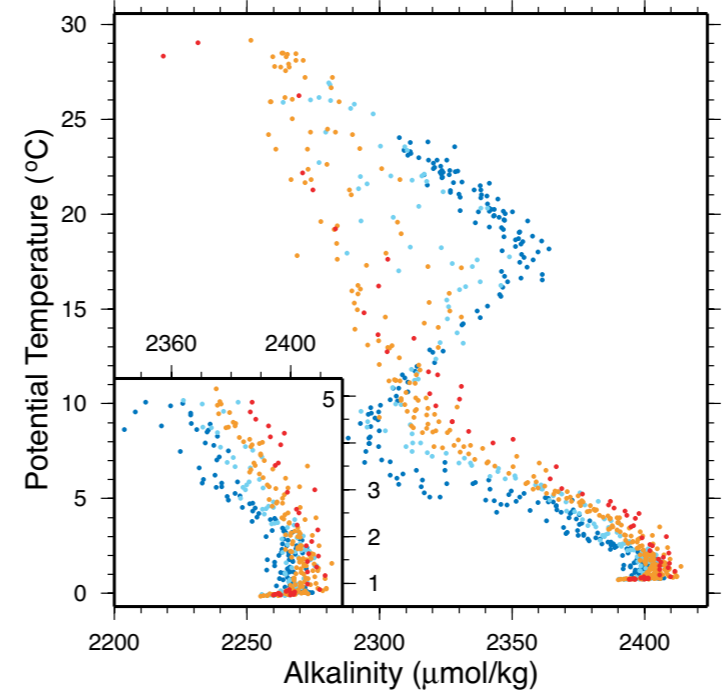
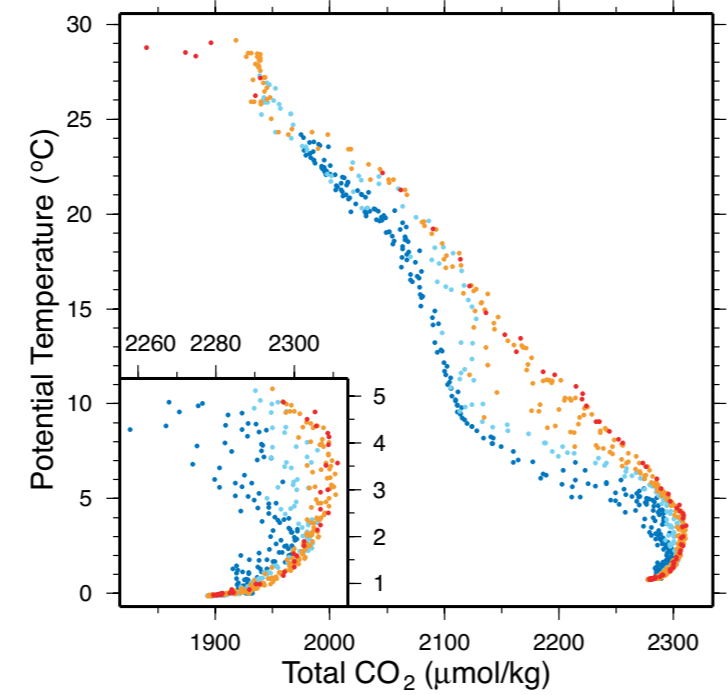
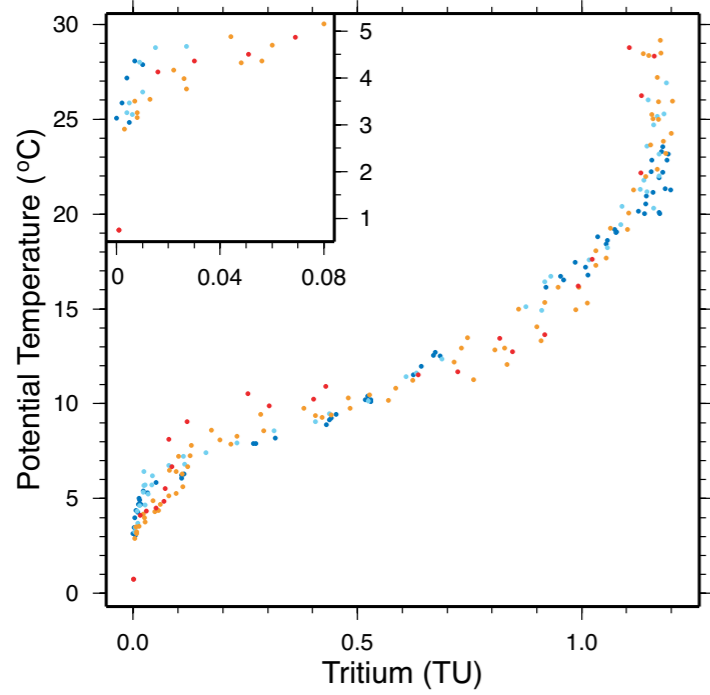
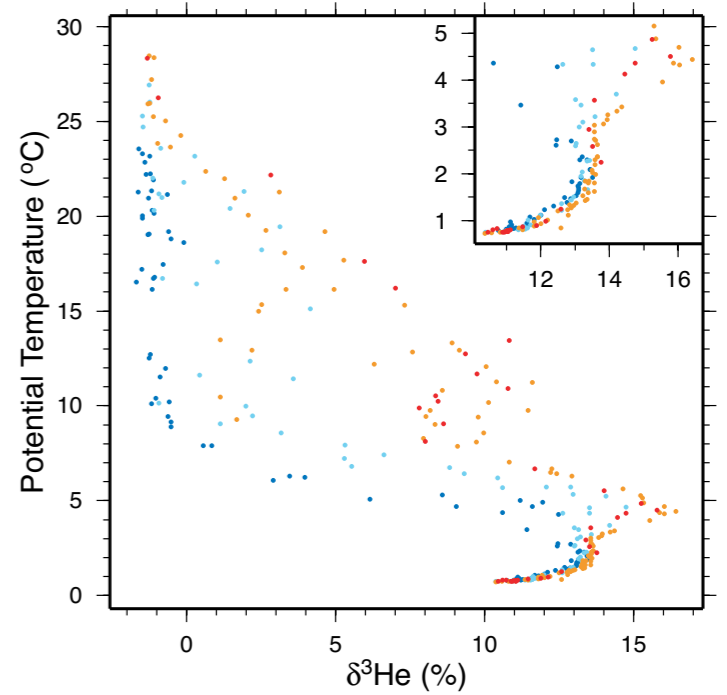
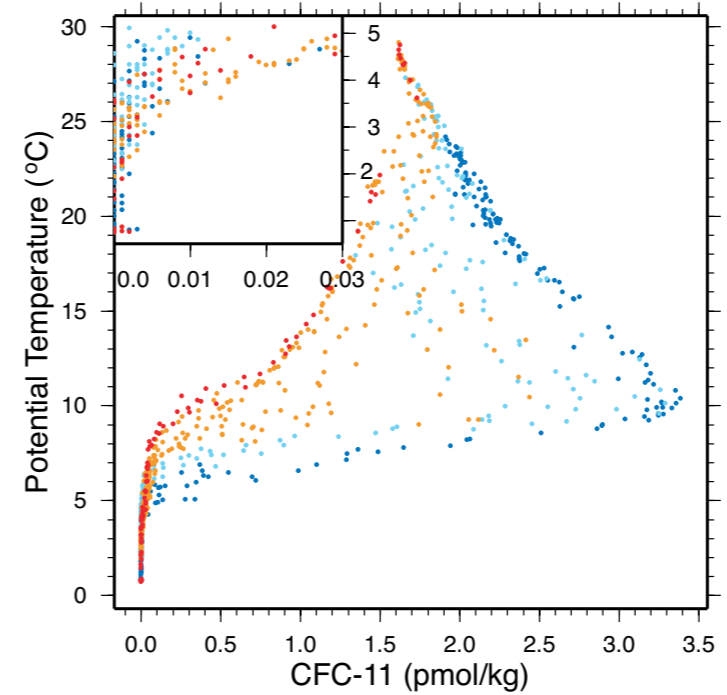
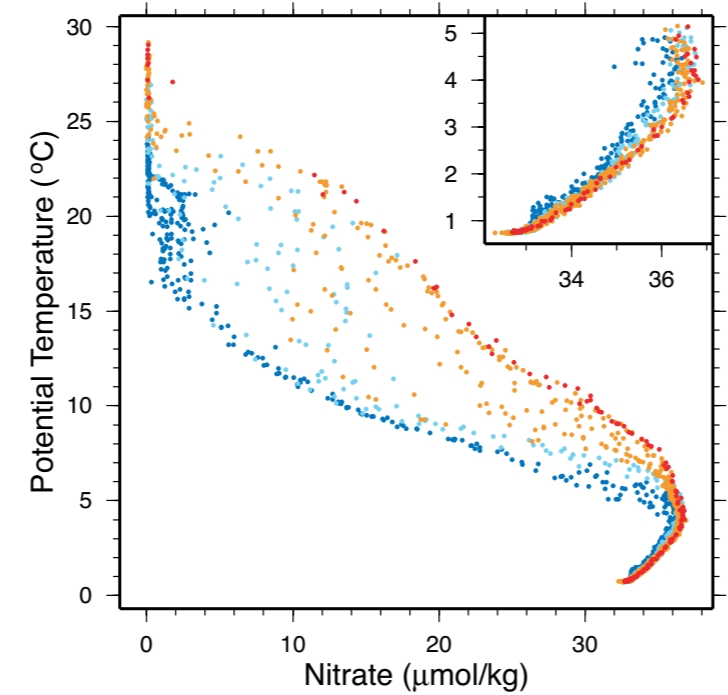
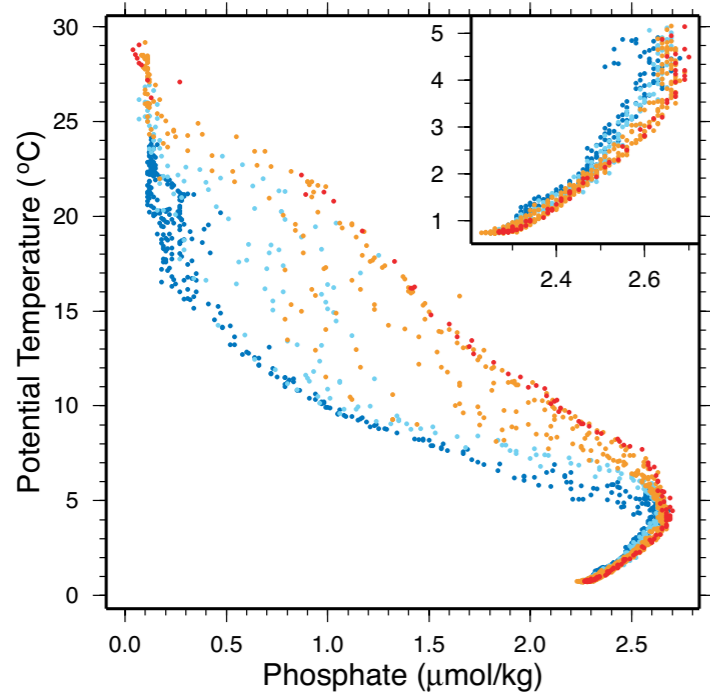
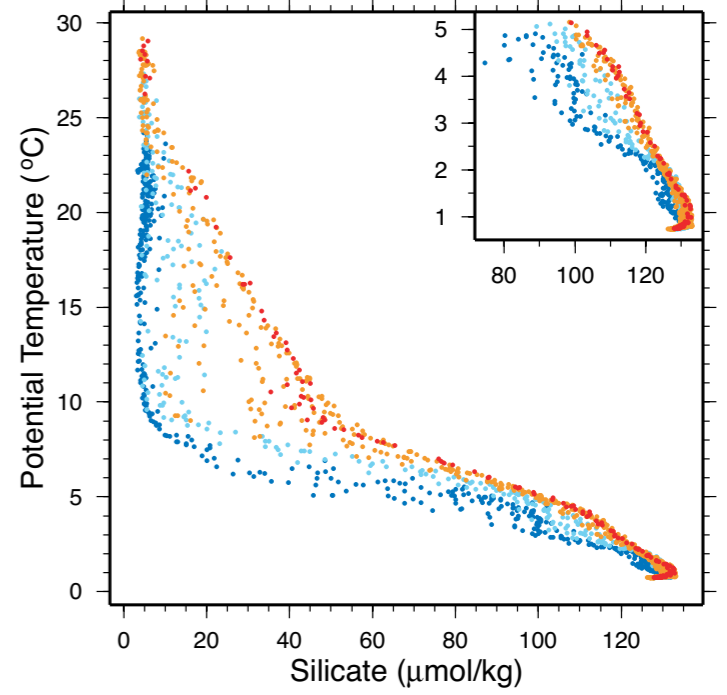
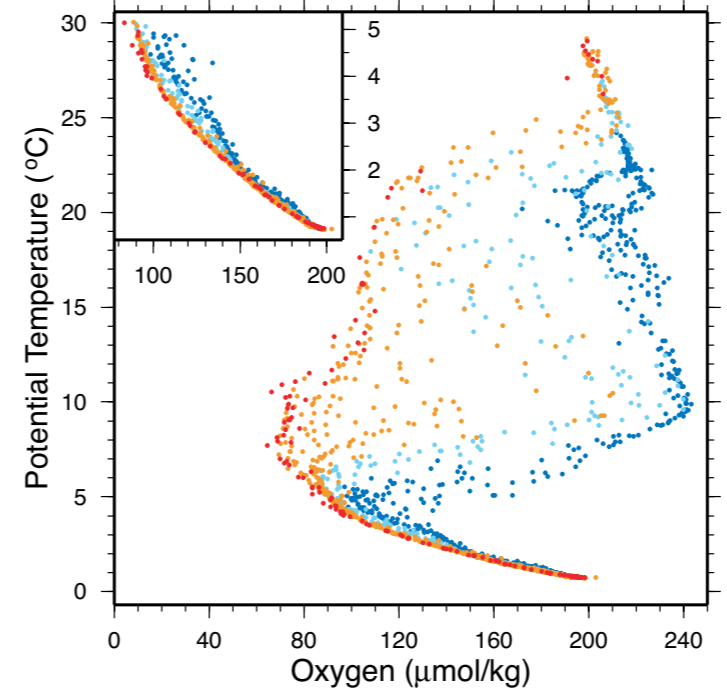
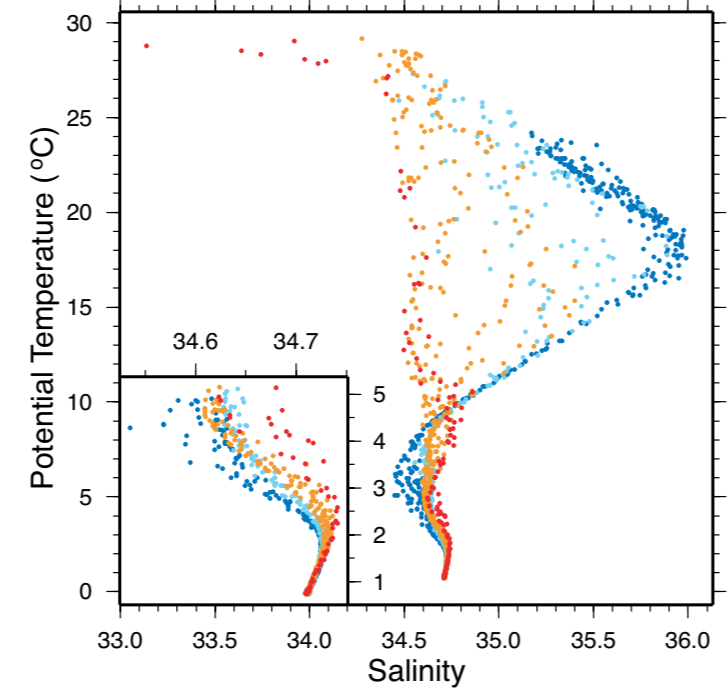
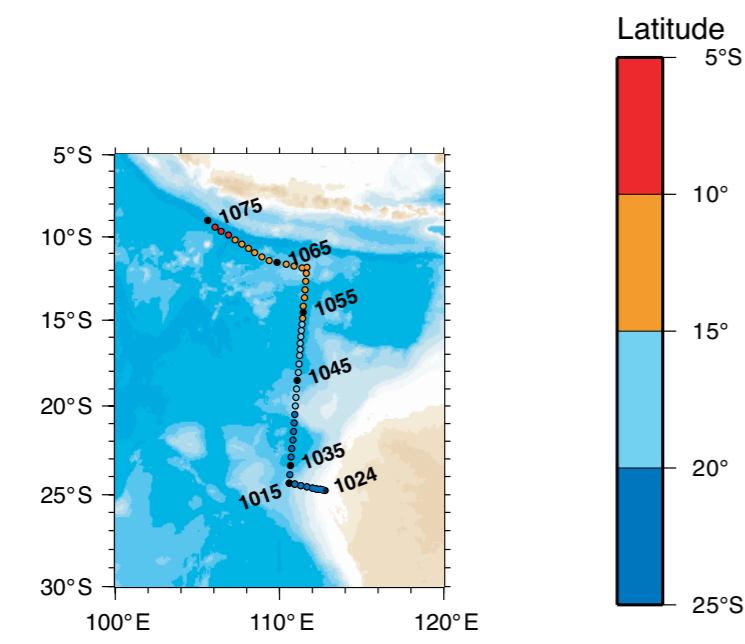
Alkalinity ($\mu\text{mol/kg}$)



I10

I10 (110°E)





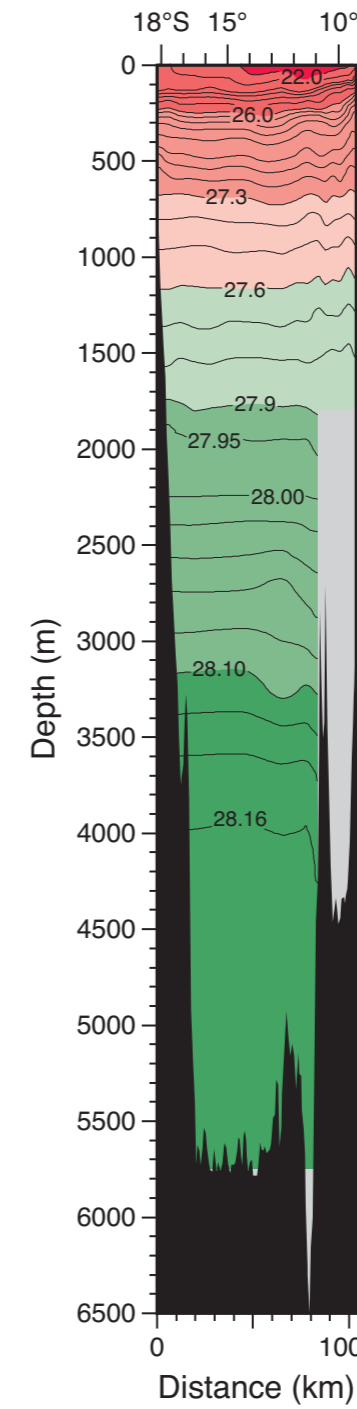
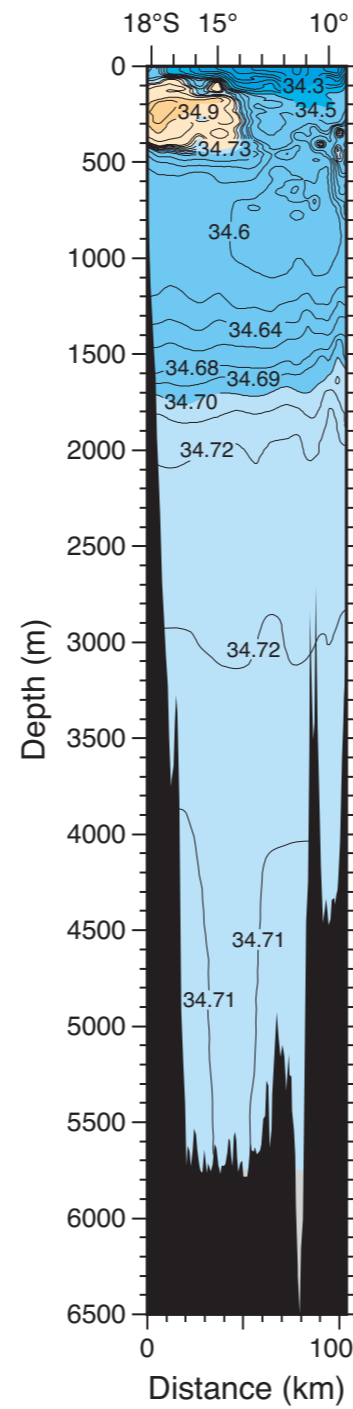
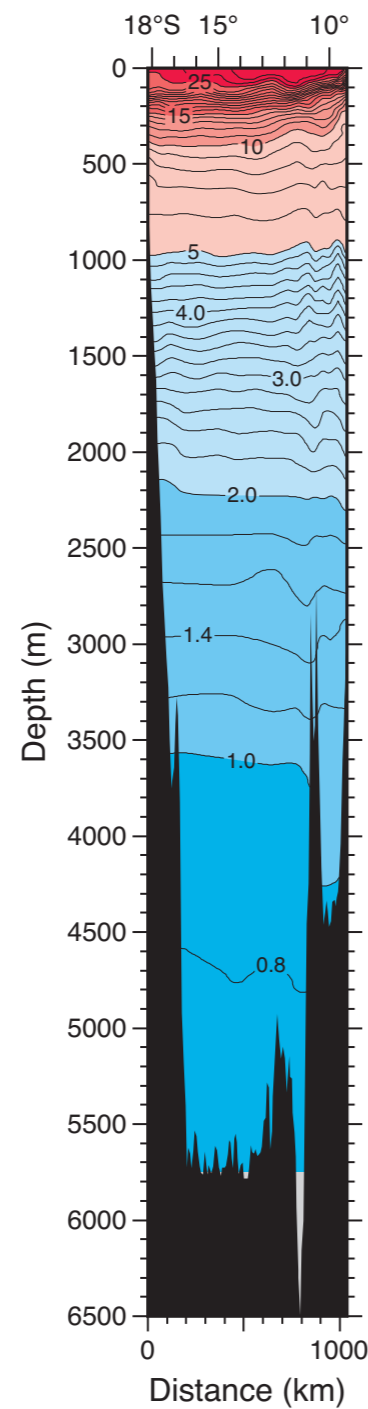
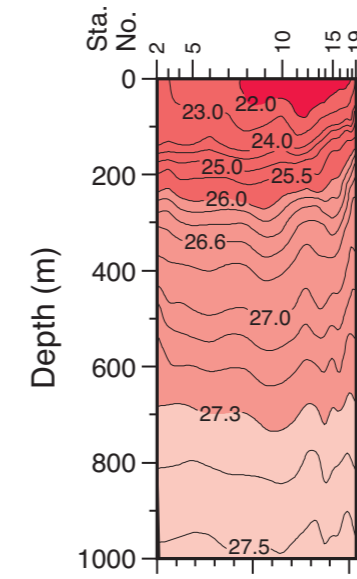
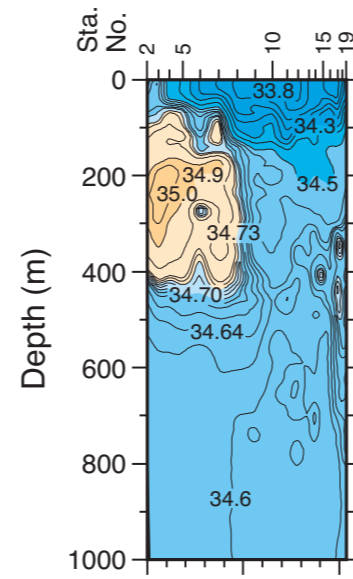
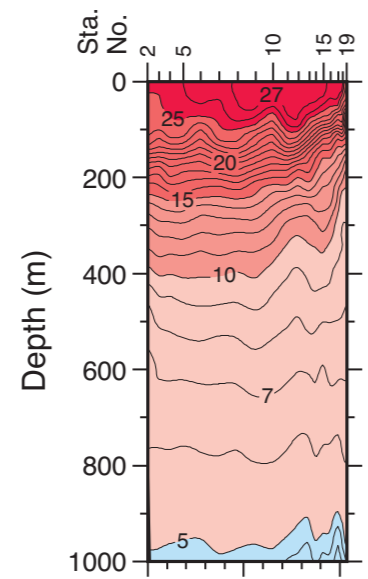


IR6 (1989) (116°E)

Potential Temperature (°C)

Salinity (PSS78)

Neutral Density (kg/m³)

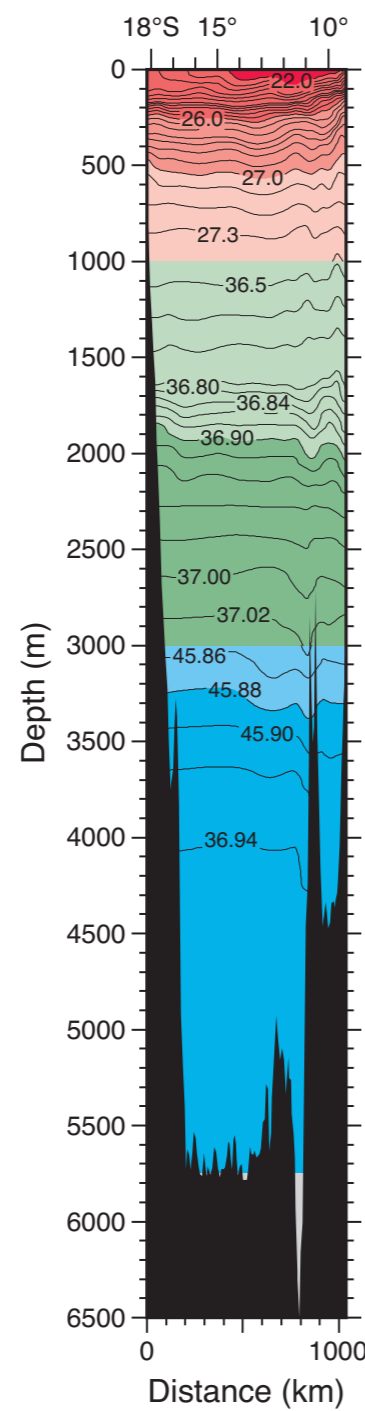
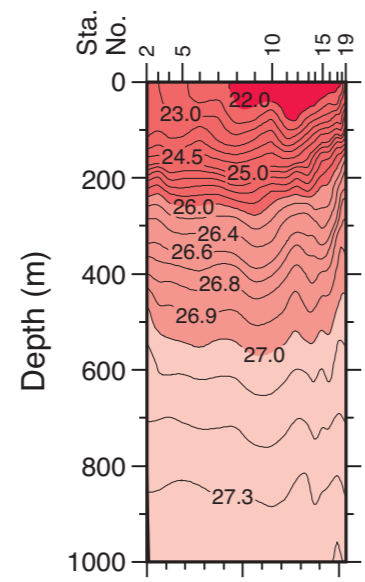


IR6 (1989)

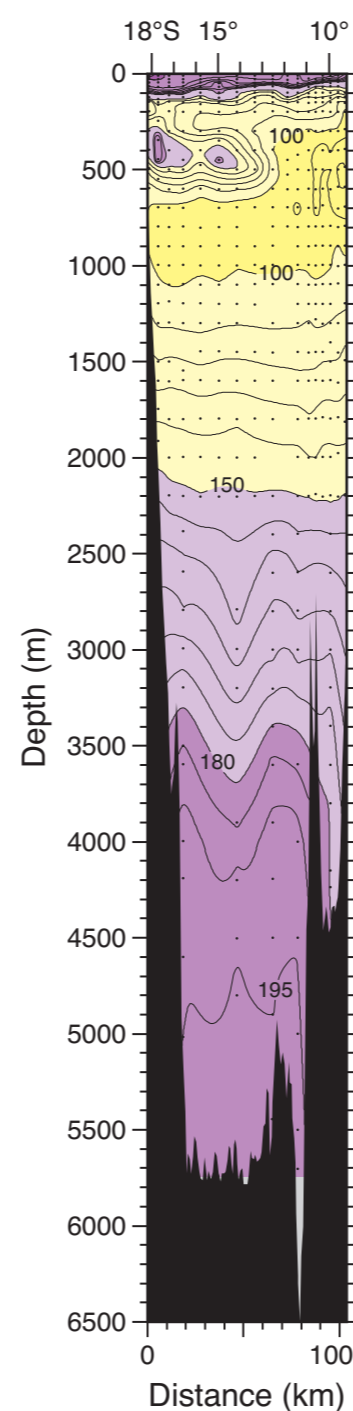
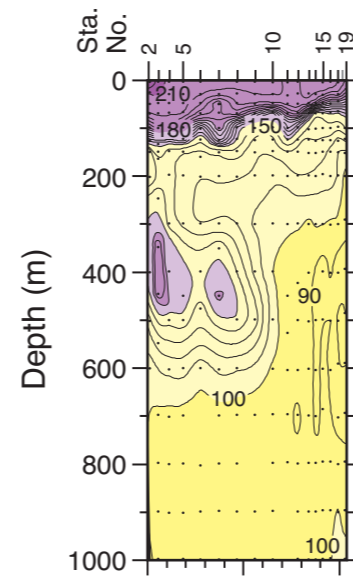
IR6 (1989) (116°E)



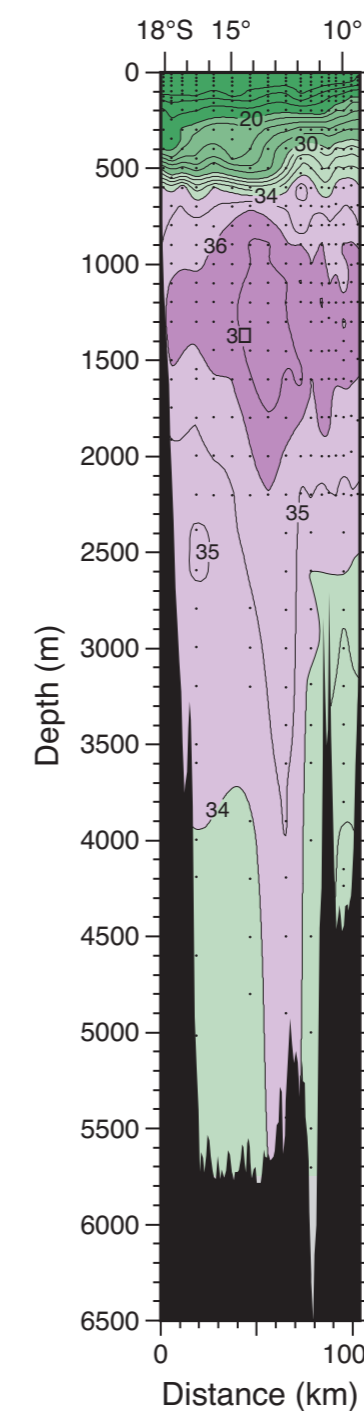
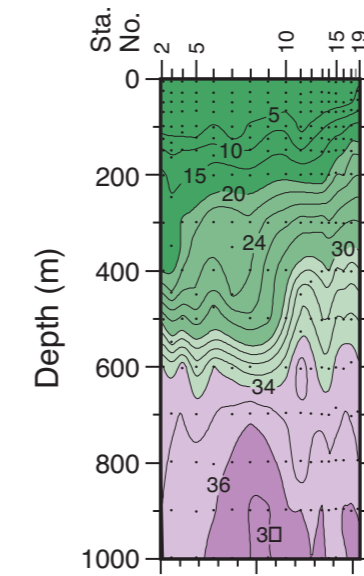
σ_0, σ_2 and σ_4 (kg/m³)



Oxygen ($\mu\text{mol/kg}$)



Nitrate ($\mu\text{mol/kg}$)



IR6 (1989)

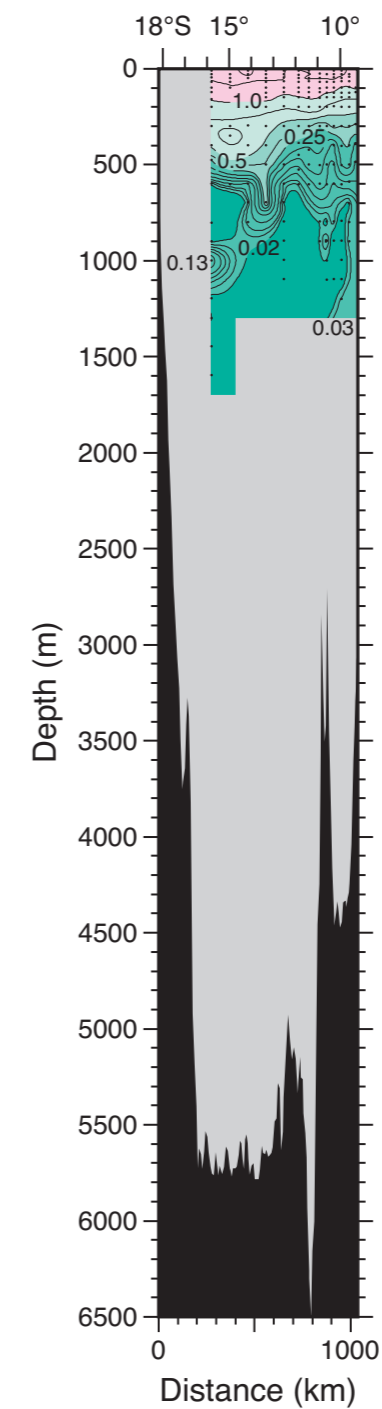
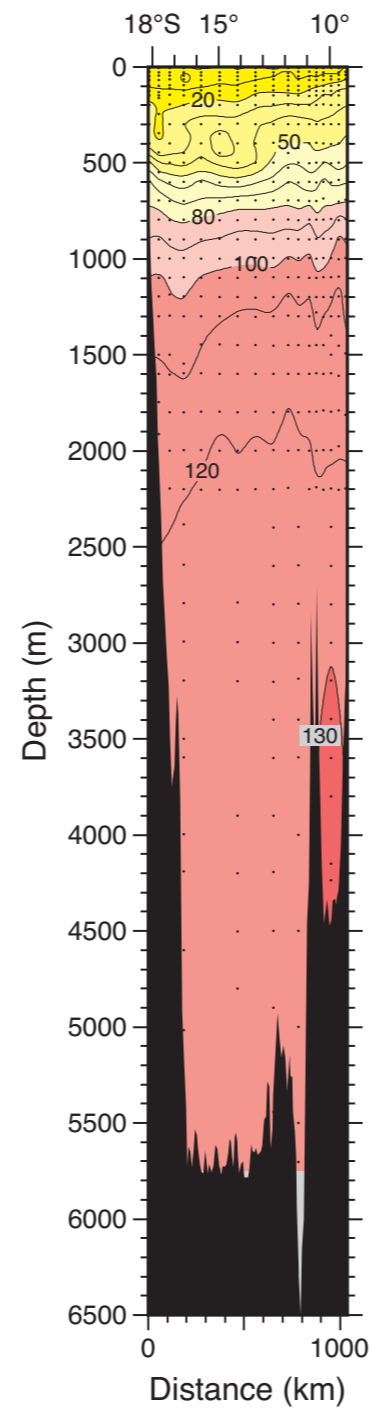
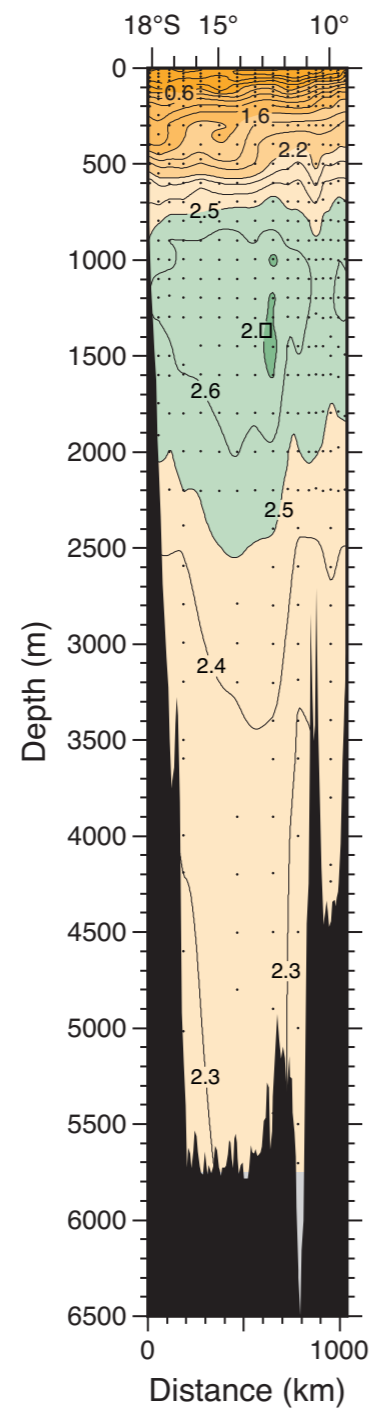
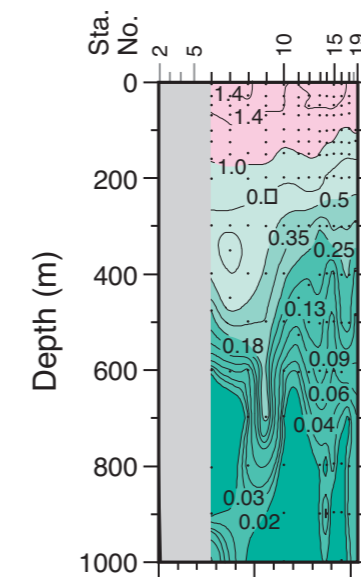
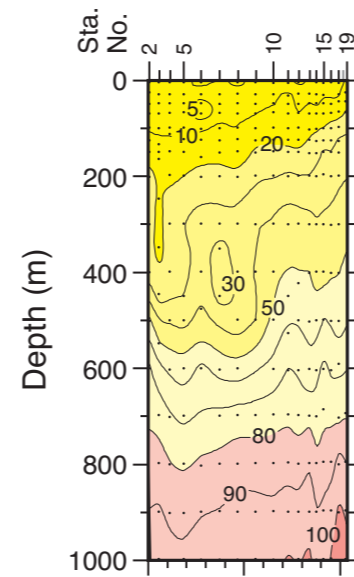
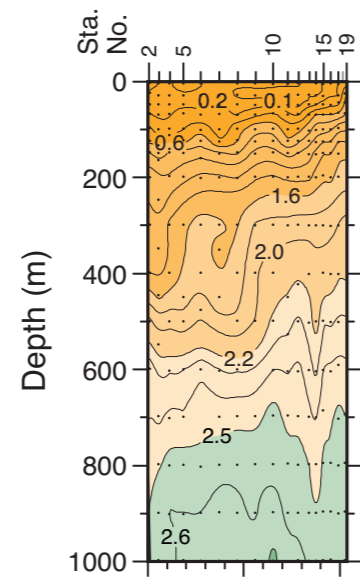


IR6 (1989) (116°E)

Phosphate ($\mu\text{mol/kg}$)

Dissolved Silica ($\mu\text{mol/kg}$)

CFC-11 (pmol/kg)

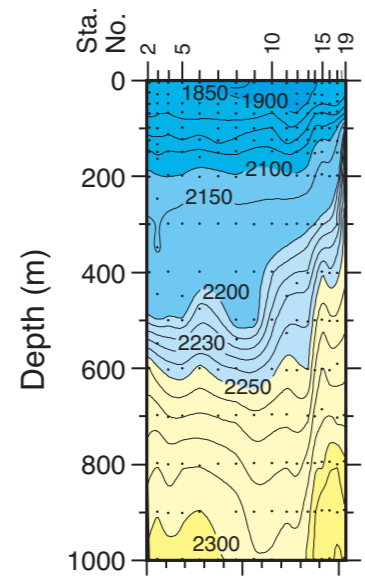


IR6 (1989)

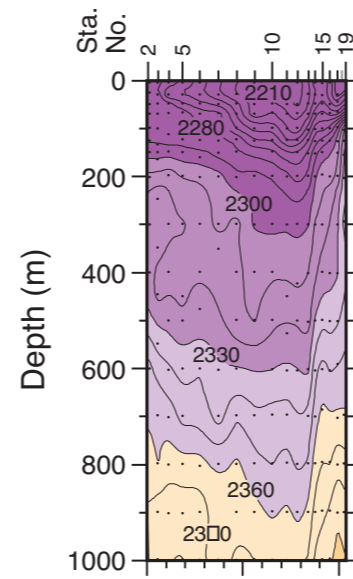
IR6 (1989) (116°E)



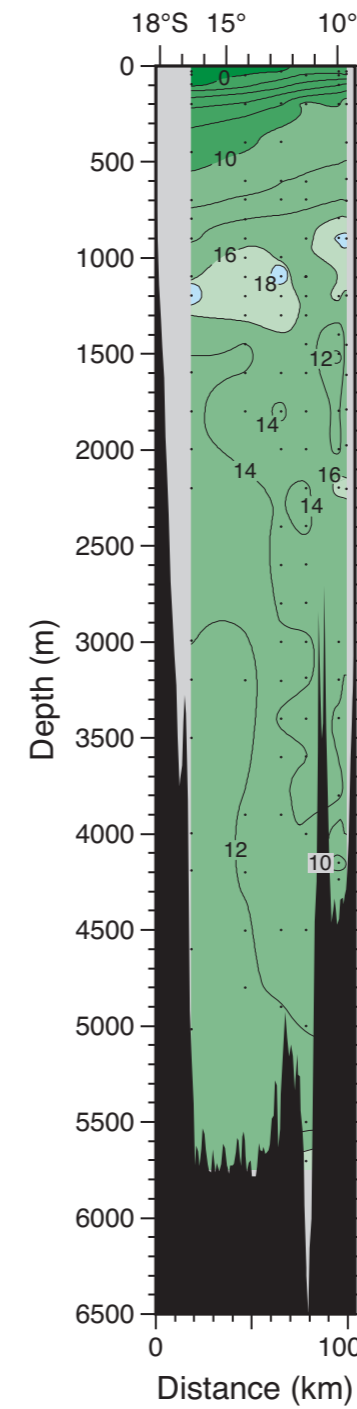
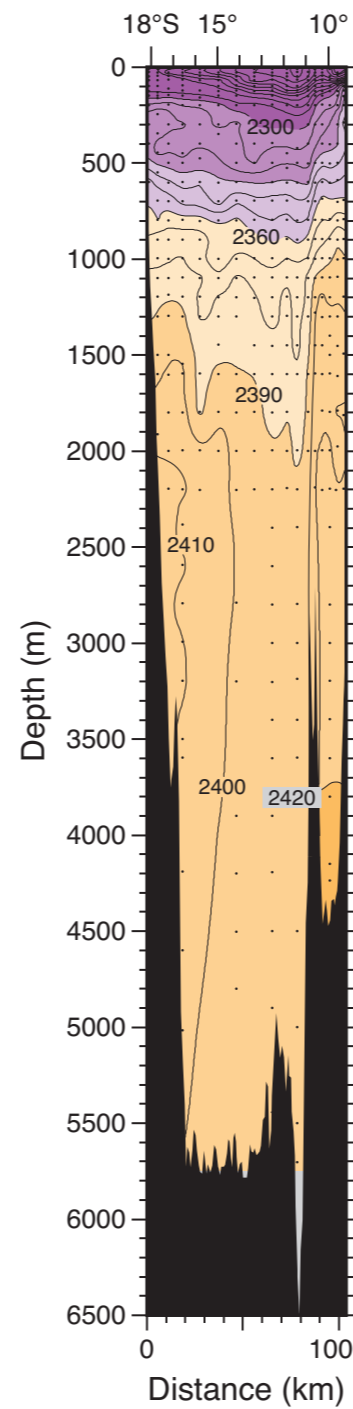
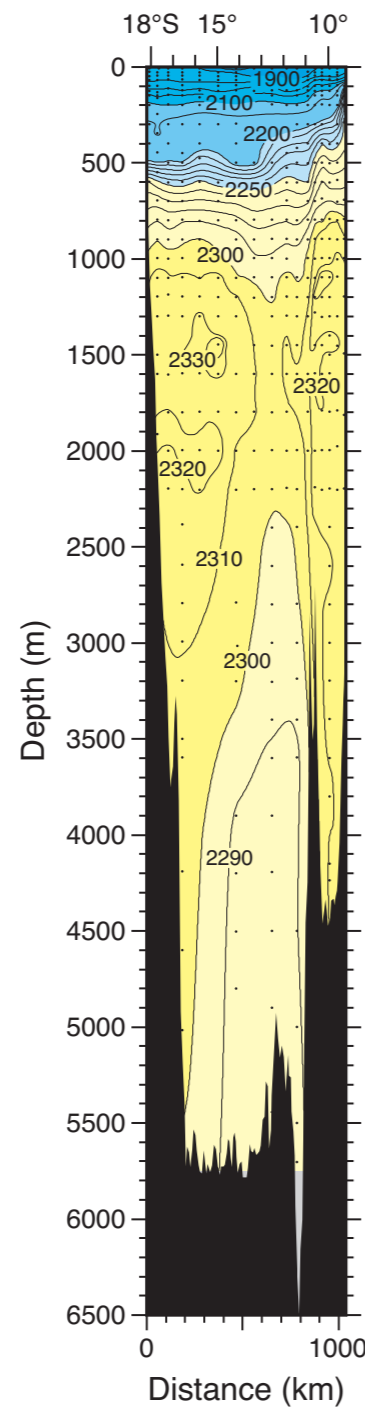
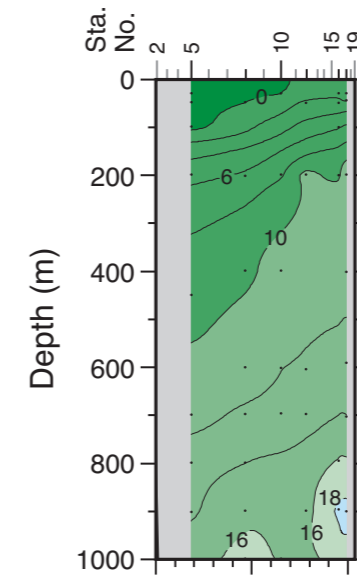
Total Carbon ($\mu\text{mol/kg}$)



Alkalinity ($\mu\text{mol/kg}$)



$\delta^3\text{He}$ (%)

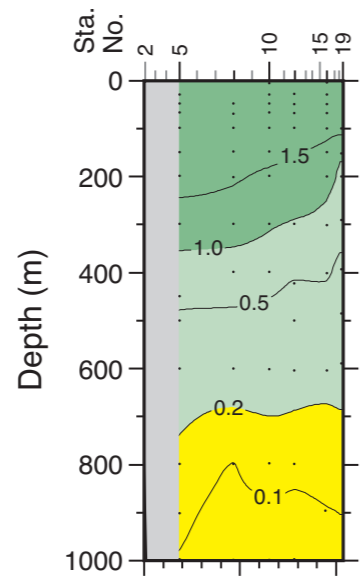


IR6 (1989)

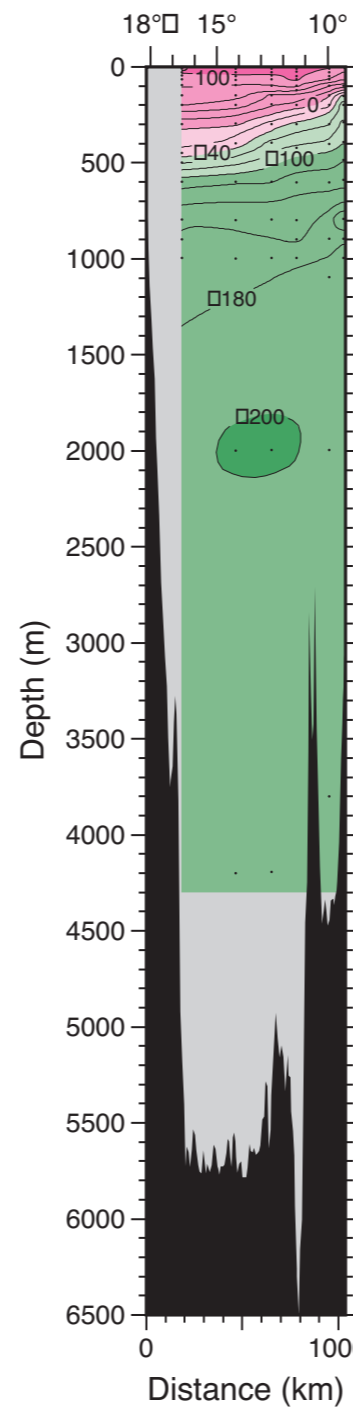
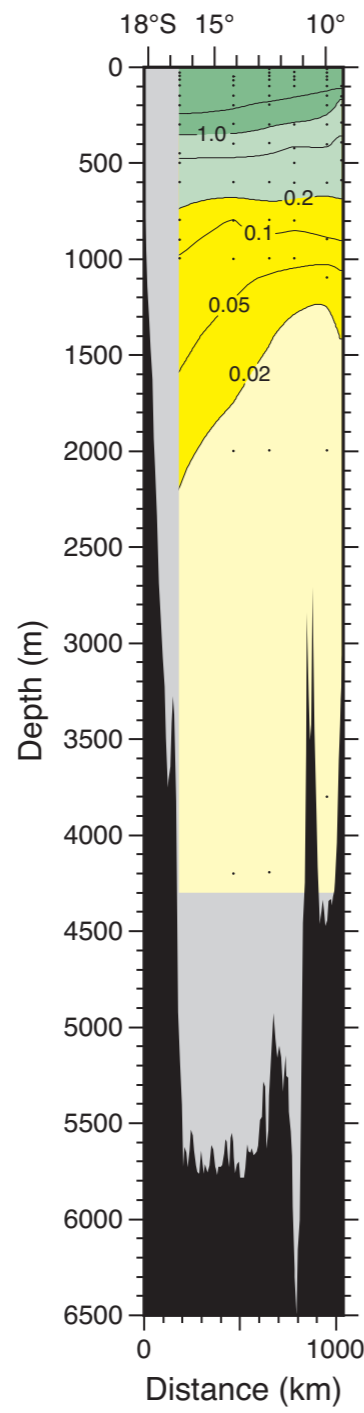
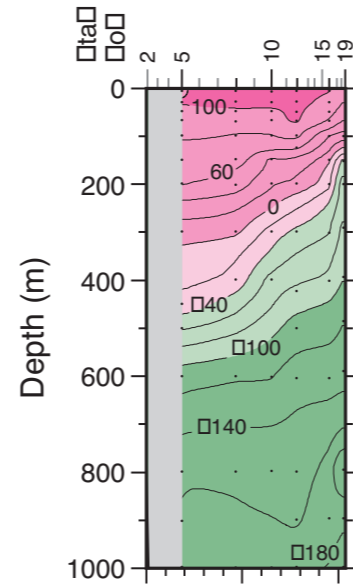


IR6 (1989) (116°E)

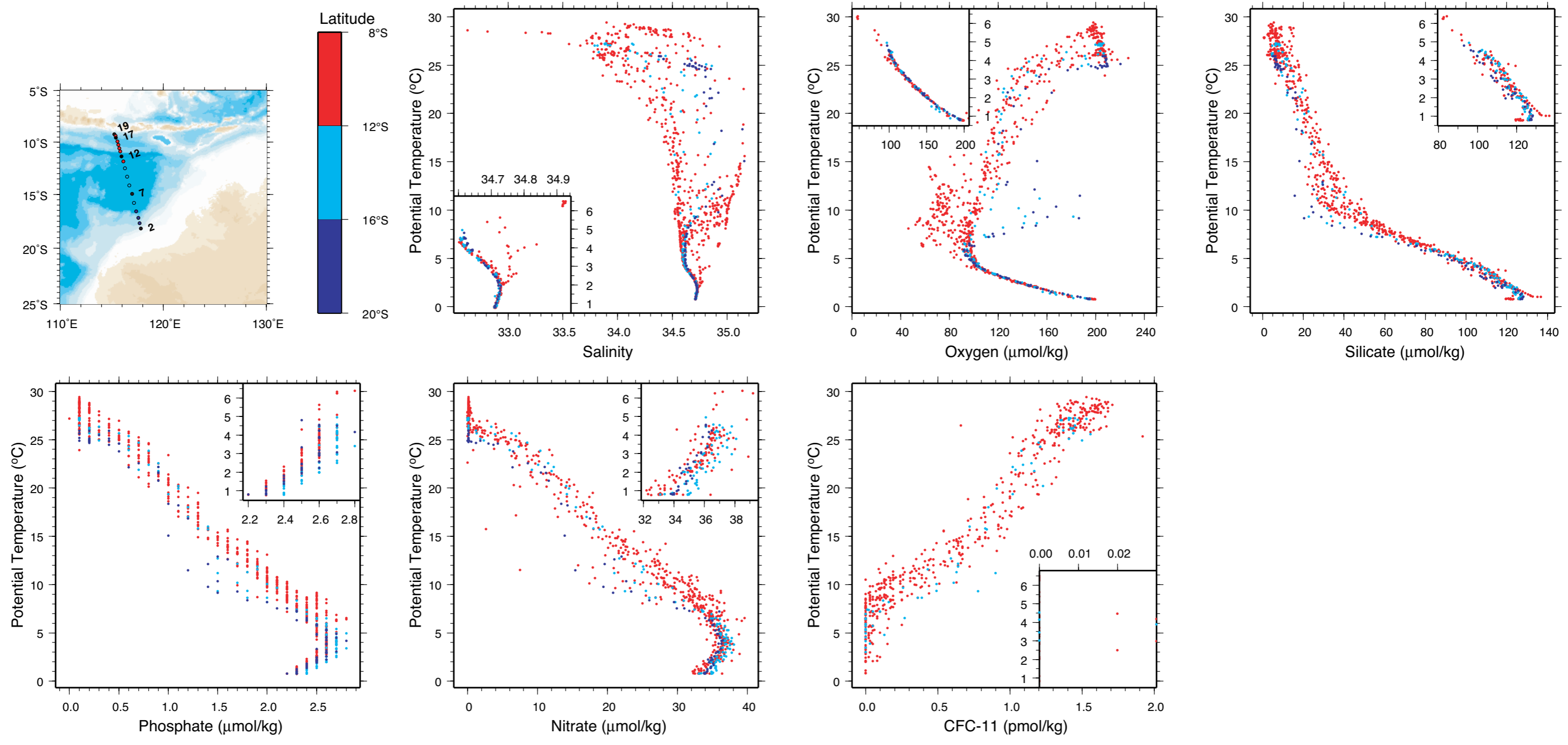
Tritium (TU)



$\Delta^{14}\text{C}$ (‰)



IR6 (1989)



IR6 (1989)