

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

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

Compilation funded by the US National Science Foundation, Ocean Science division grants OCE- 0118046 and OCE-0927650.

Publication supported by BP and the US National Science Foundation.

Cover Picture:
The photo on the front cover was kindly supplied by Herman Ridderinkhof, taken from R/V Pelagia in the Mozambique Channel (April, 2000)

Cover design:
Signature Design in association with the atlas editors, Principal Investigators and BP.

Printed by:
RanRoy Printing, San Diego, California.

DVD production:
ReelPictures, San Diego, California

Published by:
National Oceanography Centre, Southampton, UK.

Recommended form of citation:

1. For this volume:
Talley, L. D., Hydrographic Atlas of the World Ocean Circulation Experiment (WOCE). Volume 4: Indian Ocean (eds. M. Sparrow, P. Chapman and J. Gould). International WOCE Project Office, Southampton, UK, ISBN 0904175588, 2013.

2. For the whole series:
Sparrow, M., P. Chapman, J. Gould (eds.), The World Ocean Circulation Experiment (WOCE) Hydrographic Atlas Series (4 volumes), International WOCE Project Office, Southampton, UK, 2005-2013.

WOCE was a project of the World Climate Research Programme (WCRP) which is sponsored by the World Meteorological Organization (WMO), the International Council for Science (ICSU) and the Intergovernmental Oceanographic Commission (IOC) of UNESCO.

ISBN 0904175588

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Vertical Sections, Property-Property Plots and Basemaps

Zonal Sections

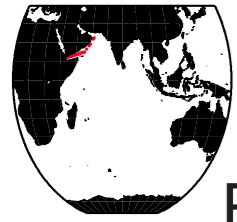
	θ (°C)	S (PSS78)	γ^n (kg/m ³)	$\sigma_{0,2,4}$ (kg/m ³)	O ₂ (μ mol/kg)	NO ₃ (μ mol/kg)	NO ₂ (μ mol/kg)	PO ₄ (μ mol/kg)	Si (μ mol/kg)	CFC-11 (pmol/kg)	TCO ₂ (μ mol/kg)	Alk (μ mol/kg)	$\delta^3\text{He}$ (%)	Tr (TU)	$\Delta^{14}\text{C}$ (‰)	$\delta^{13}\text{C}$ (‰)	PvP plot & Basemap
I1RS (17°N)	page 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.



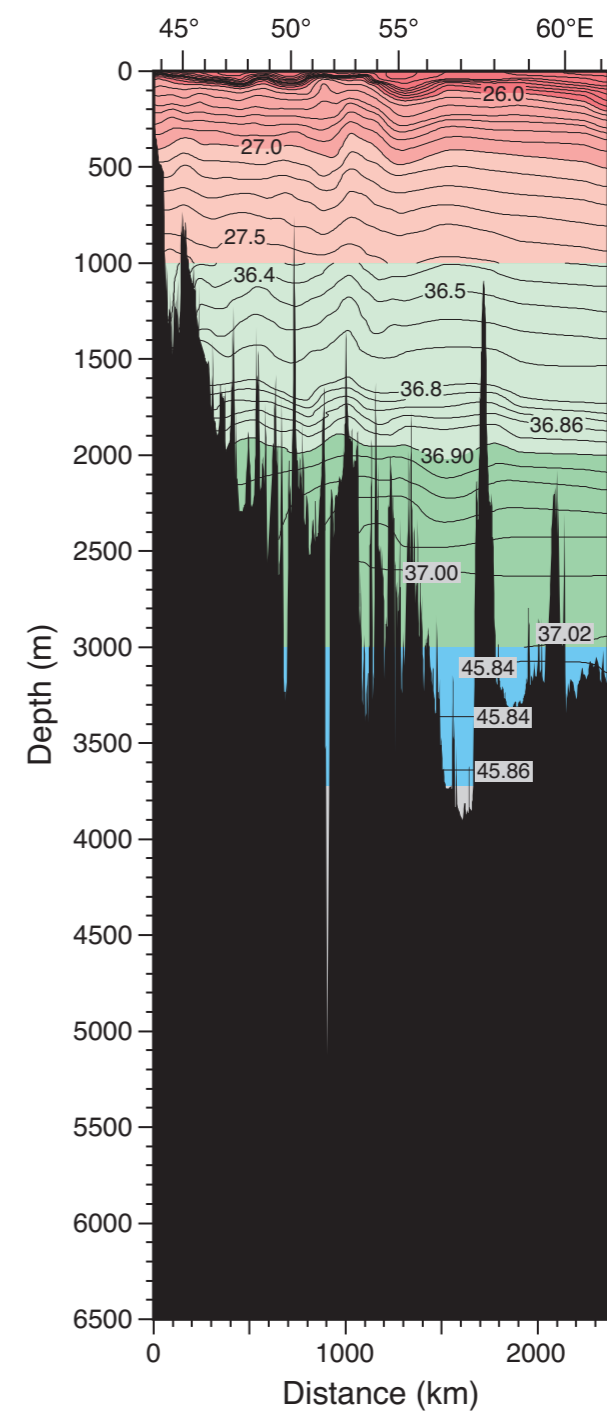
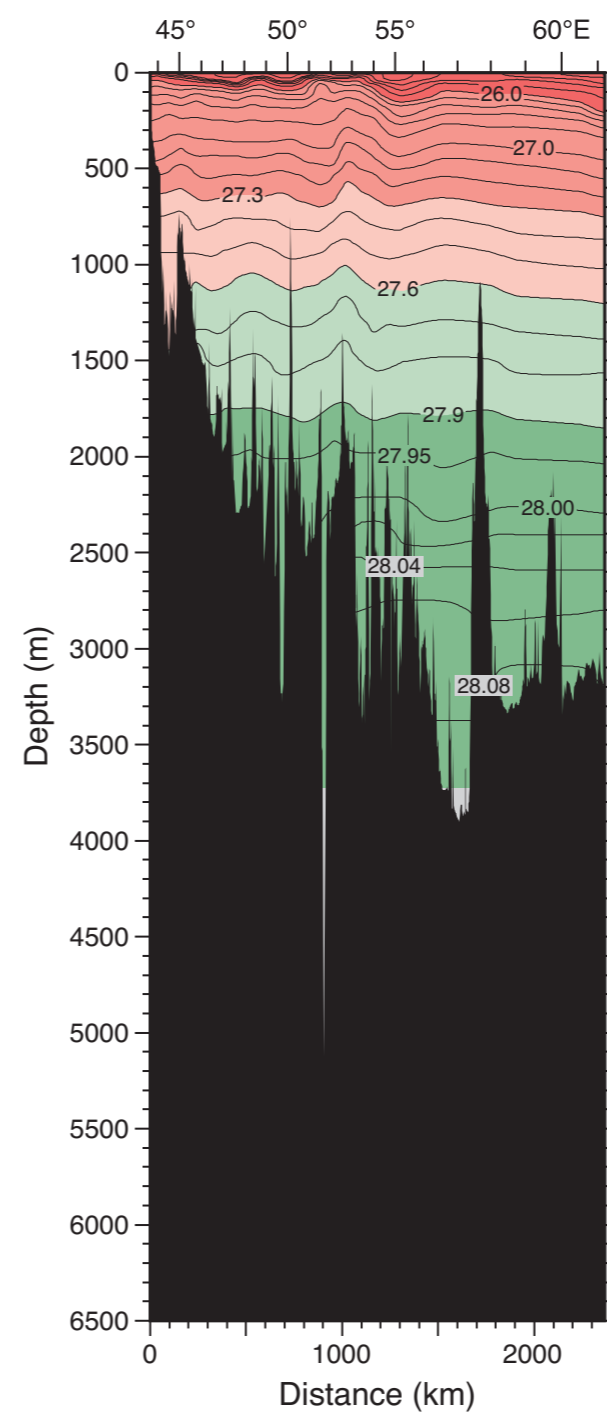
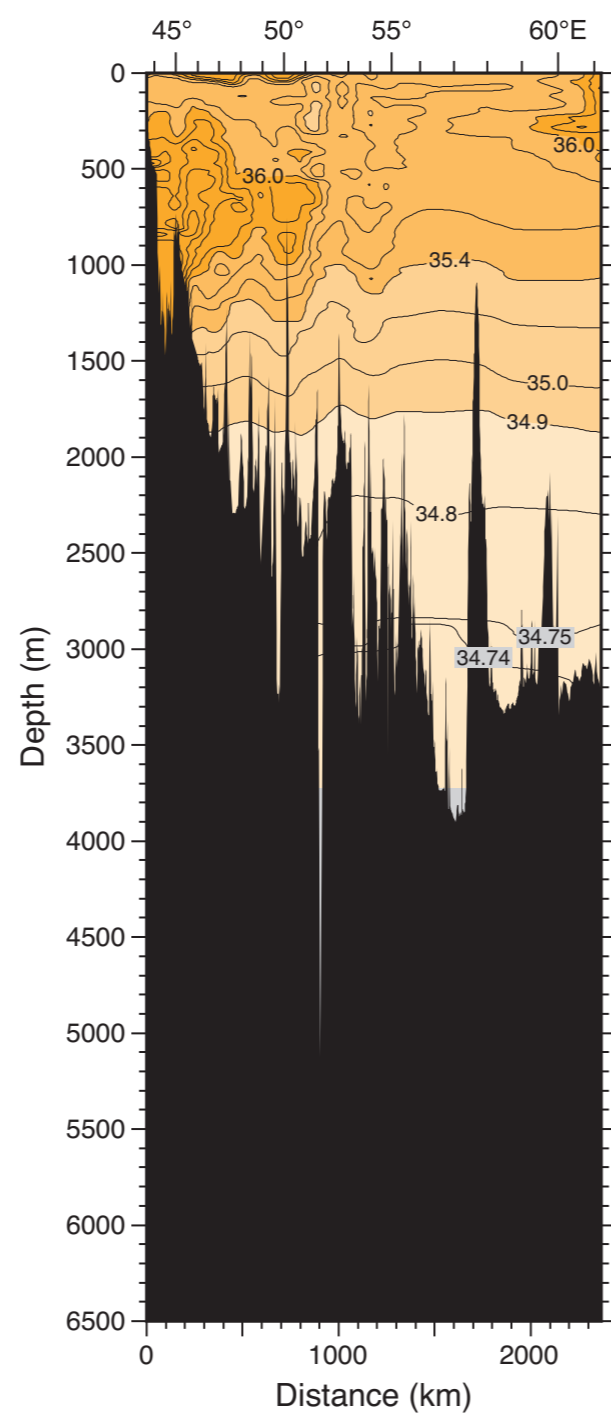
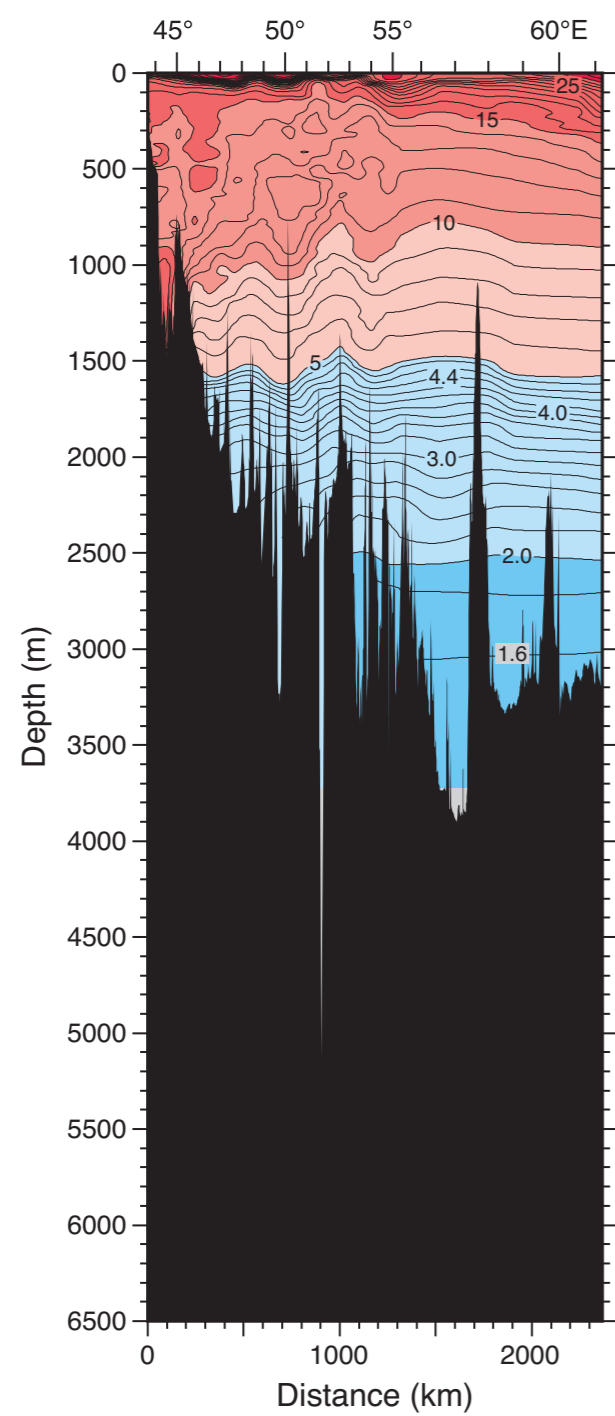
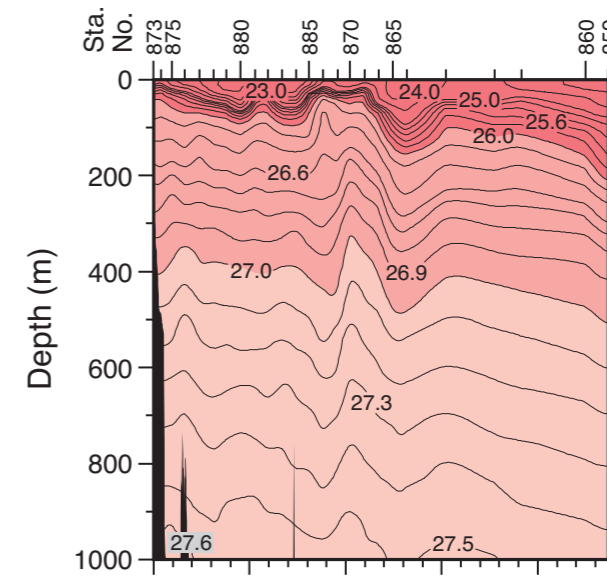
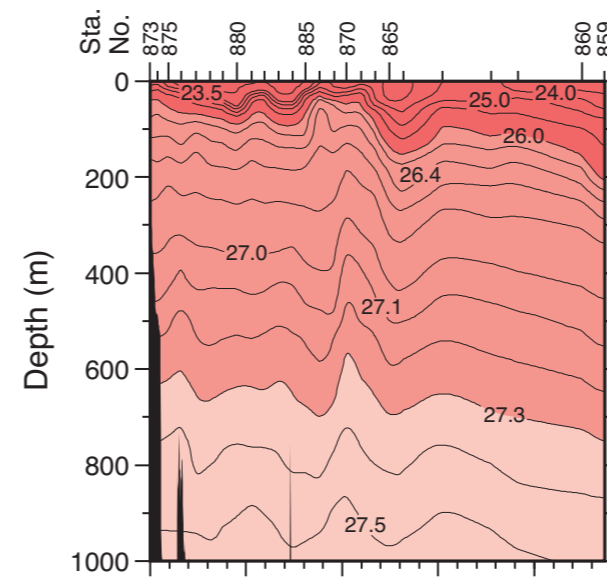
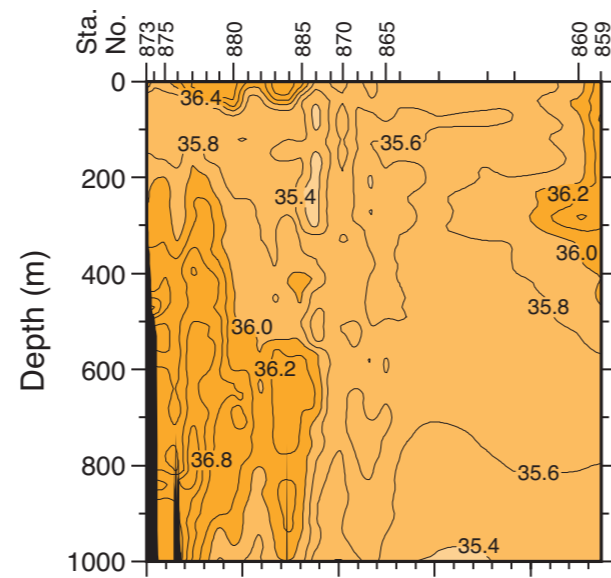
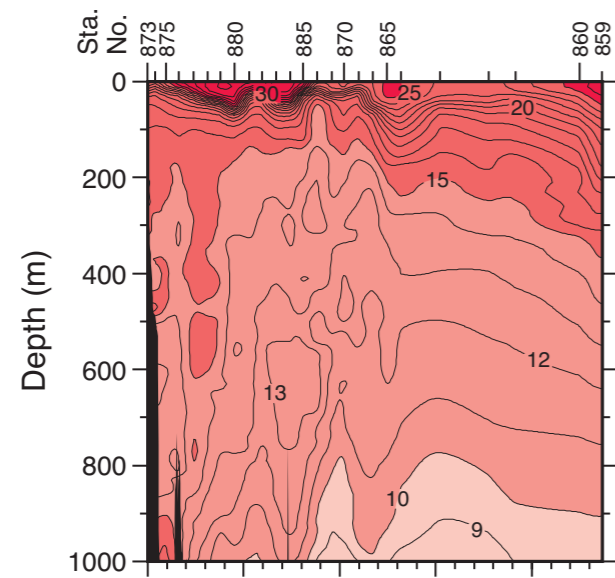
I1RS (17°N)

Potential Temperature (°C)

Salinity (PSS78)

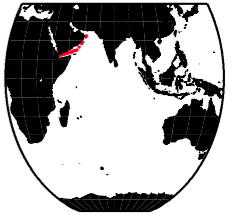
Neutral Density (kg/m³)

σ_0, σ_2 and σ_4 (kg/m³)

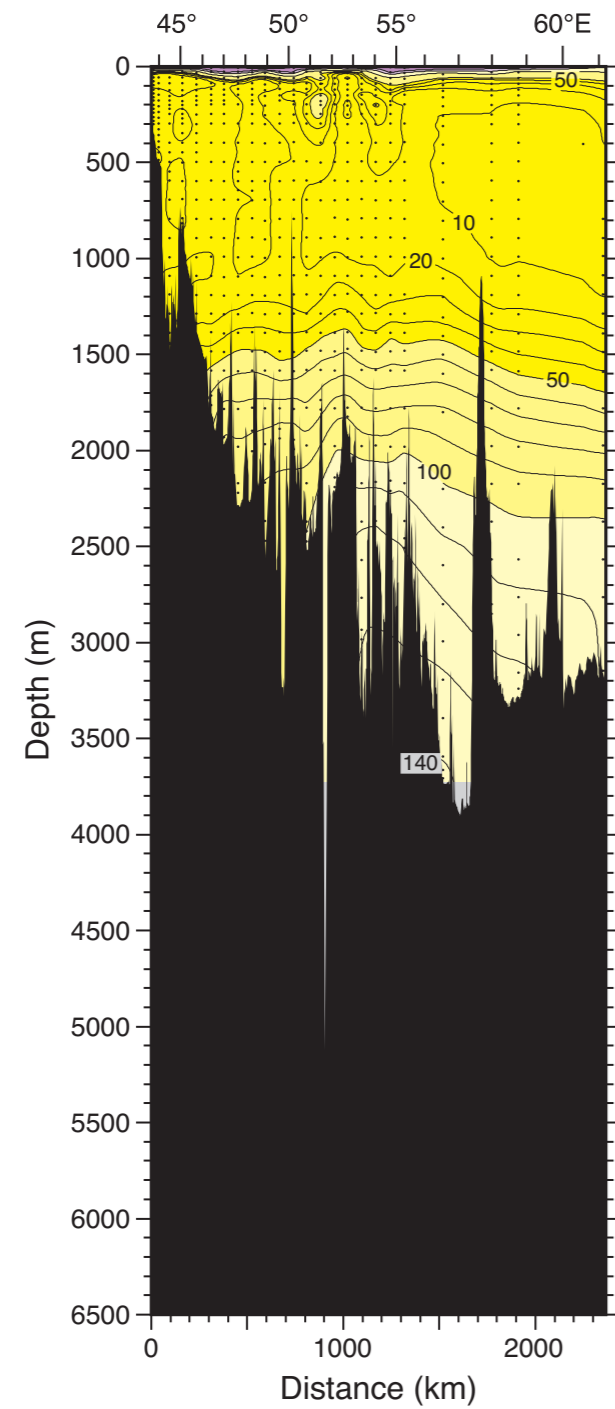
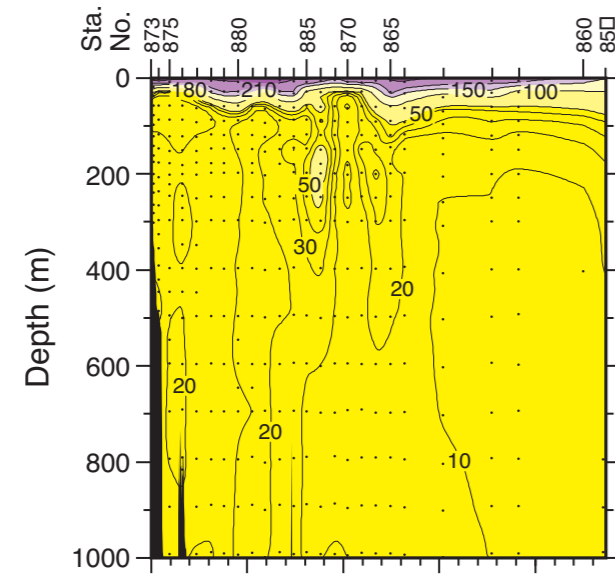


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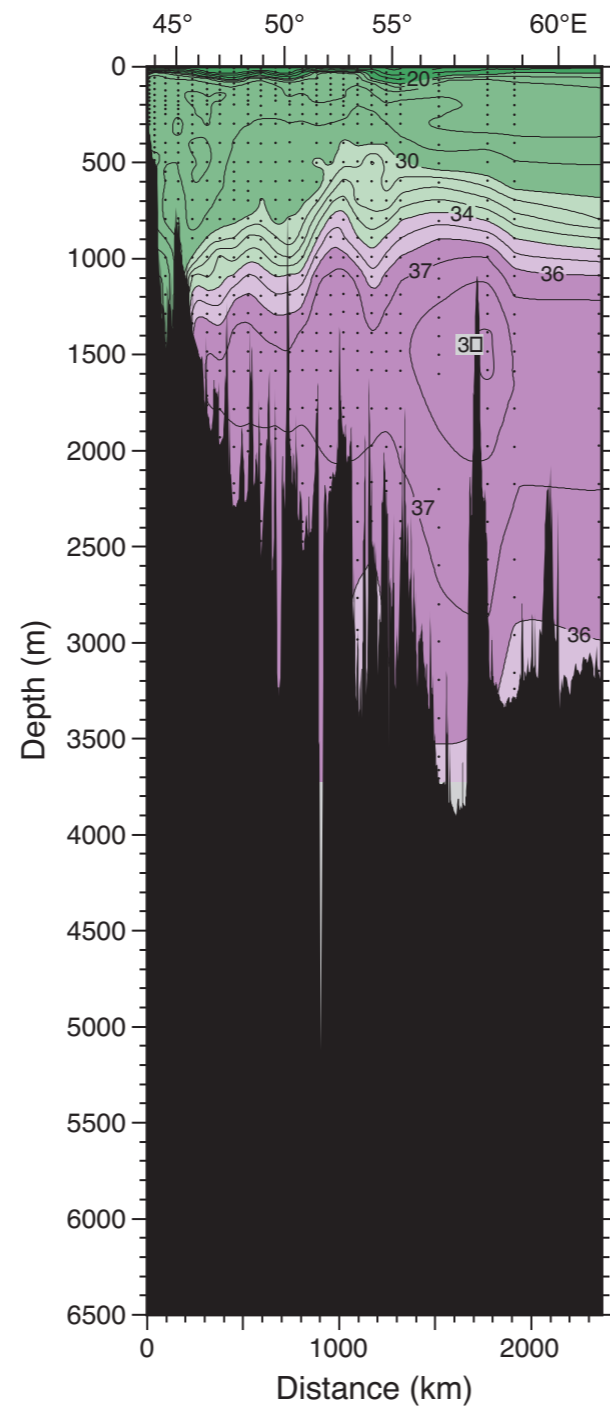
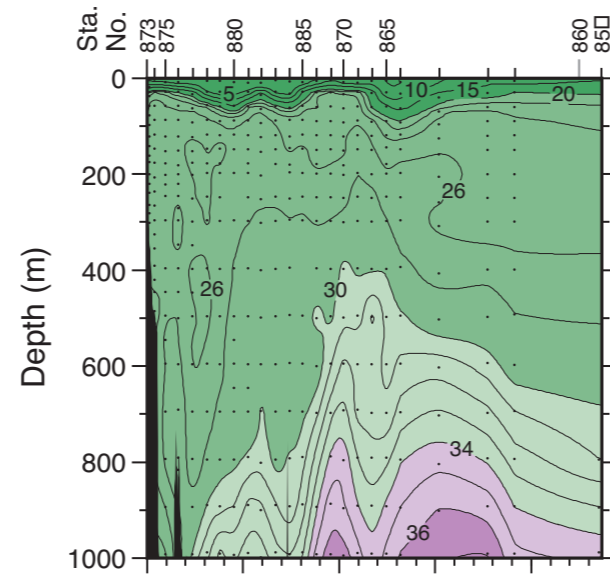
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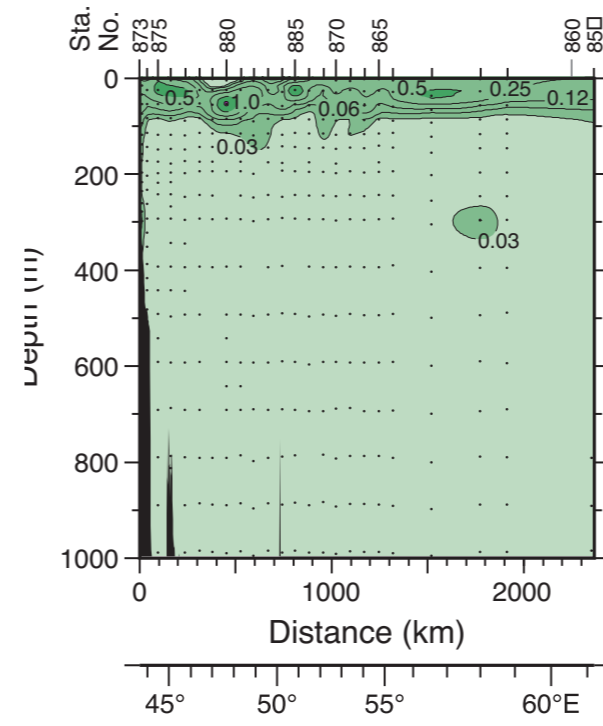
Oxygen ($\mu\text{mol/kg}$)



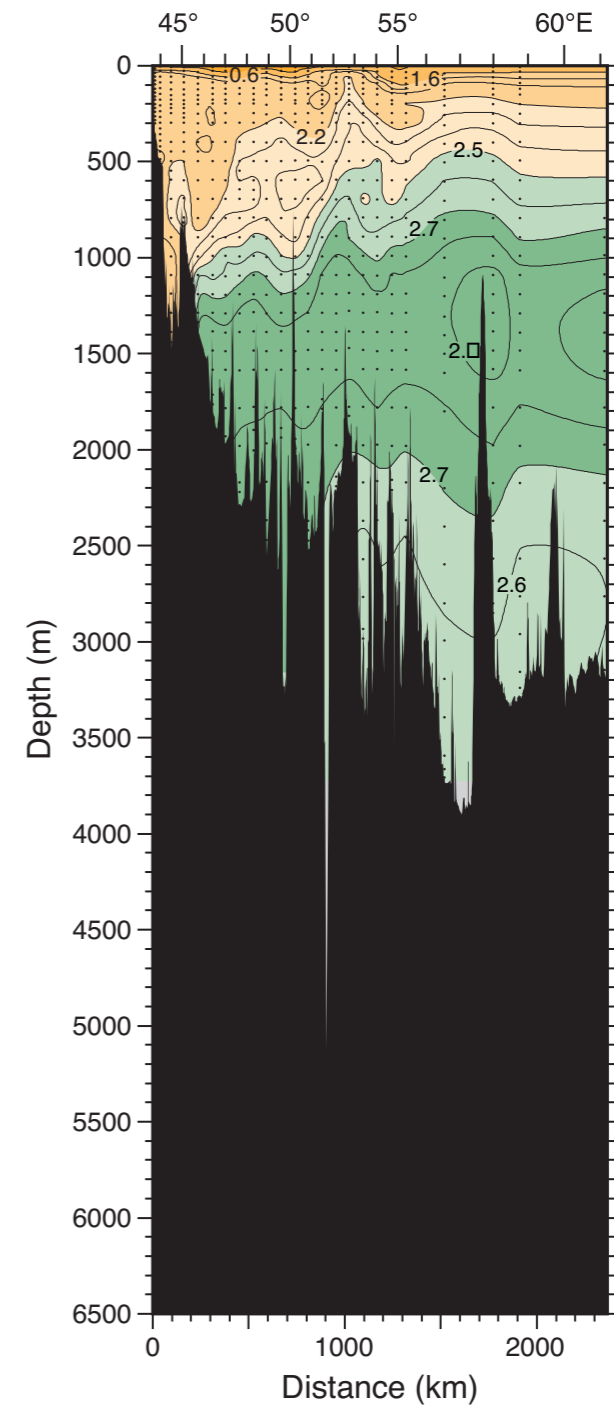
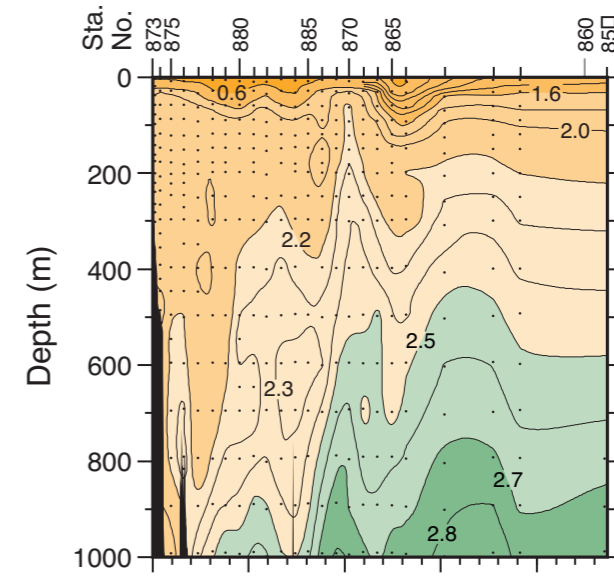
Nitrate ($\mu\text{mol/kg}$)

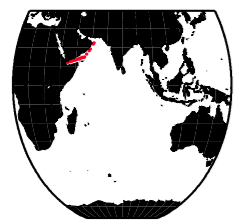


Nitrite ($\mu\text{mol/kg}$)



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





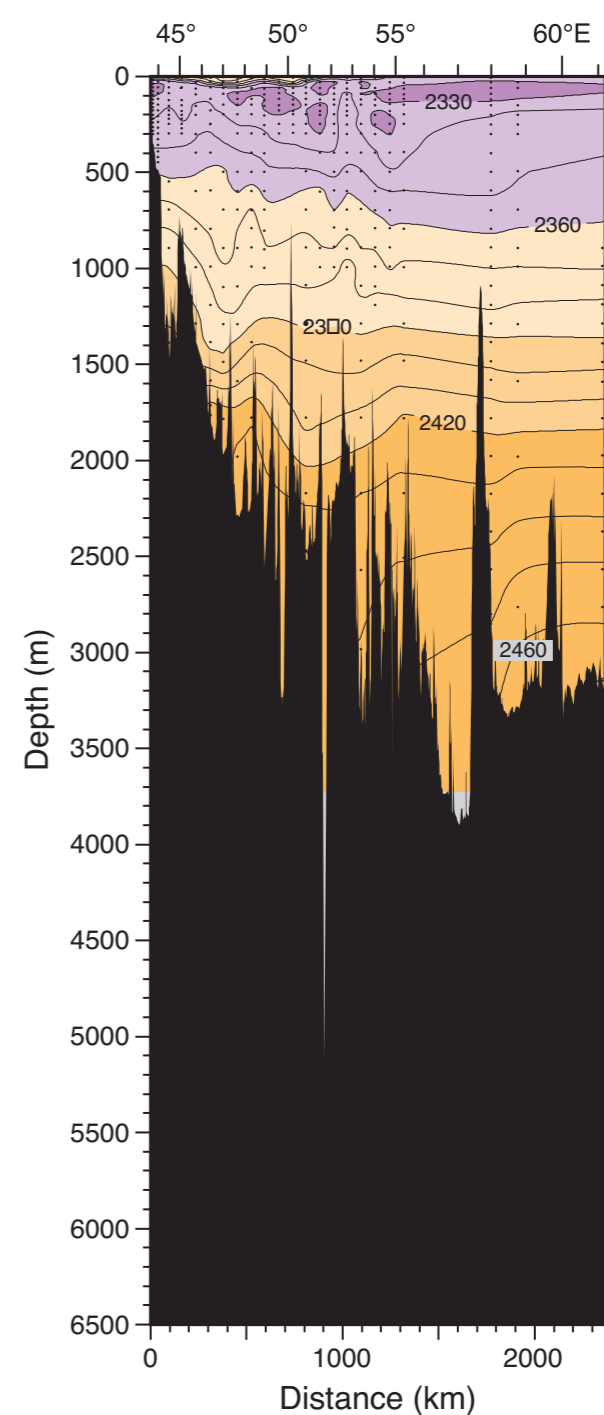
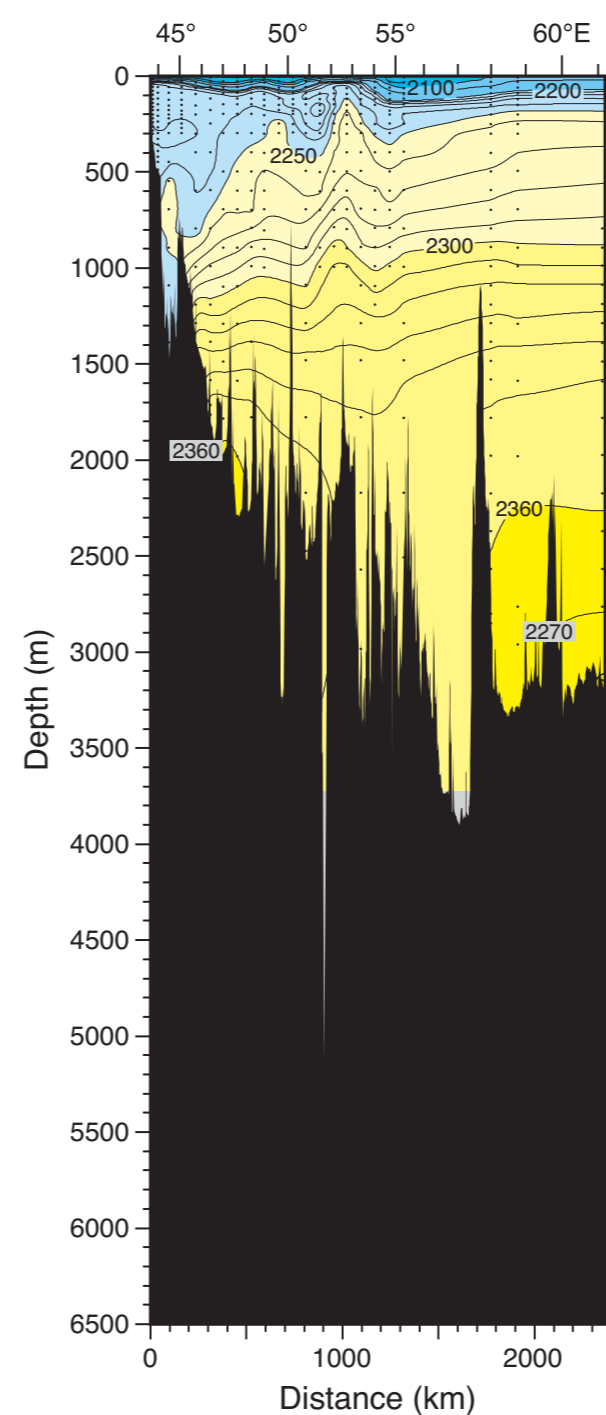
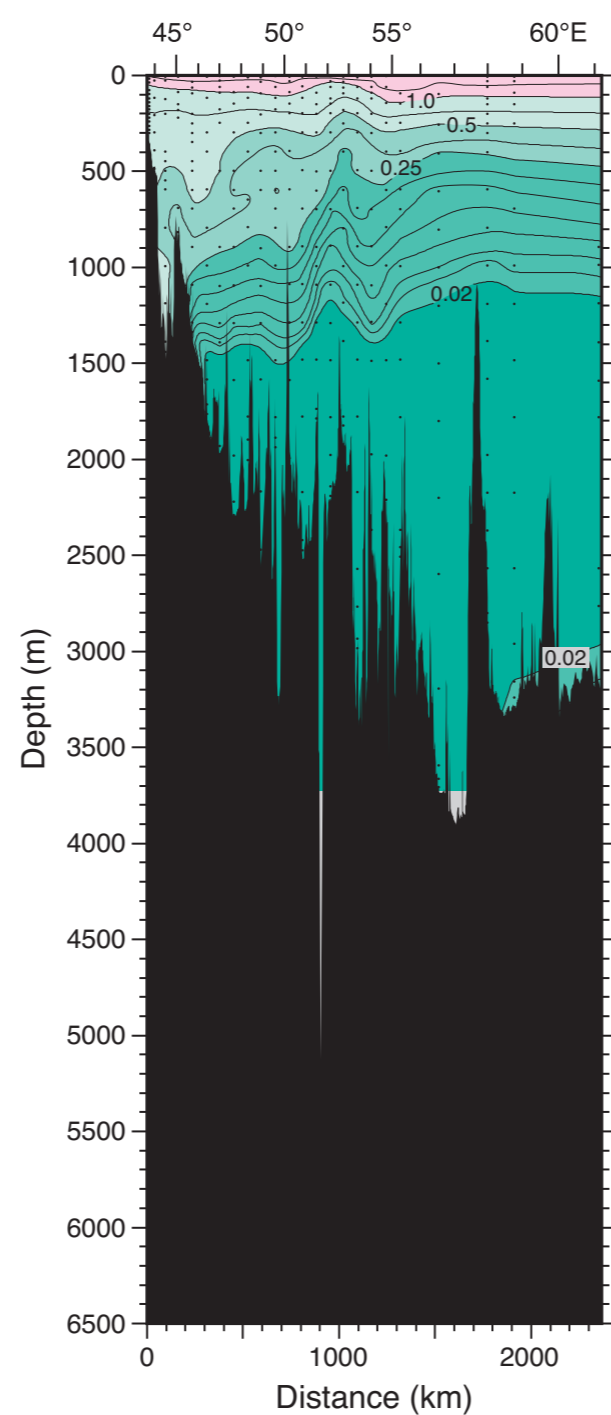
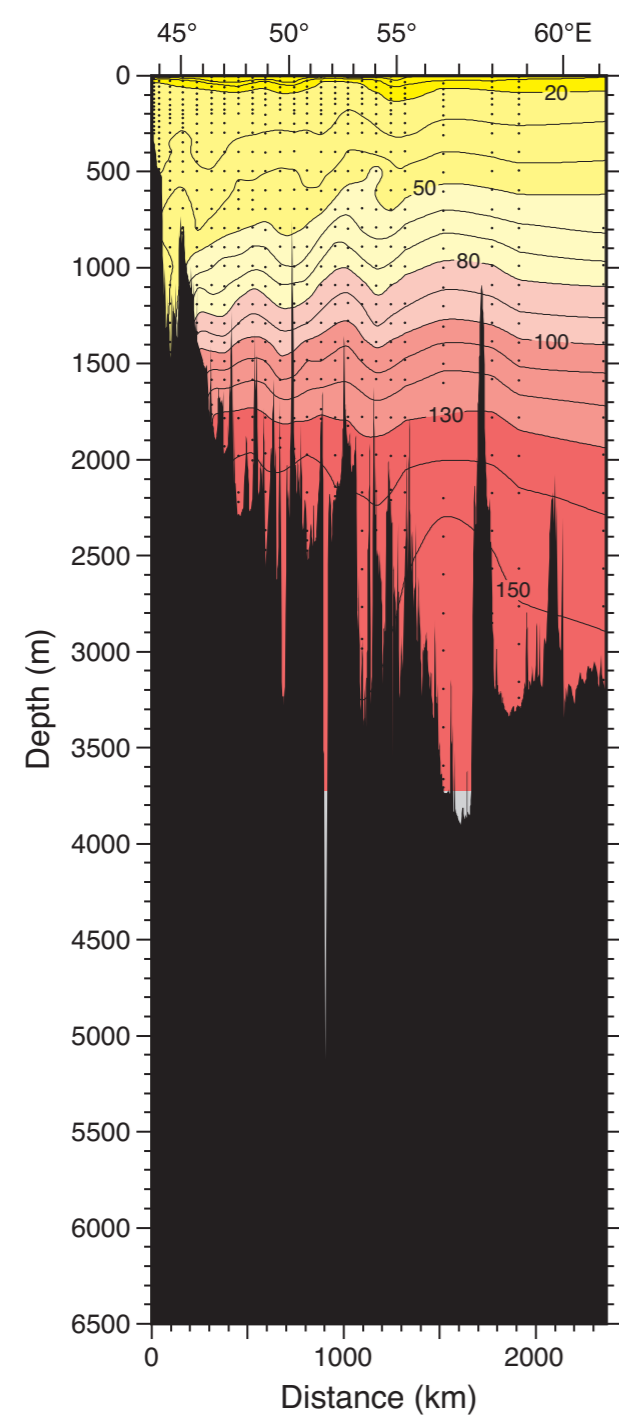
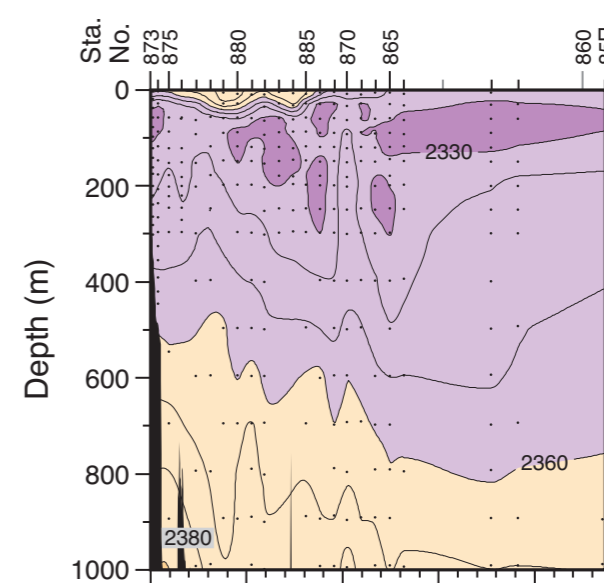
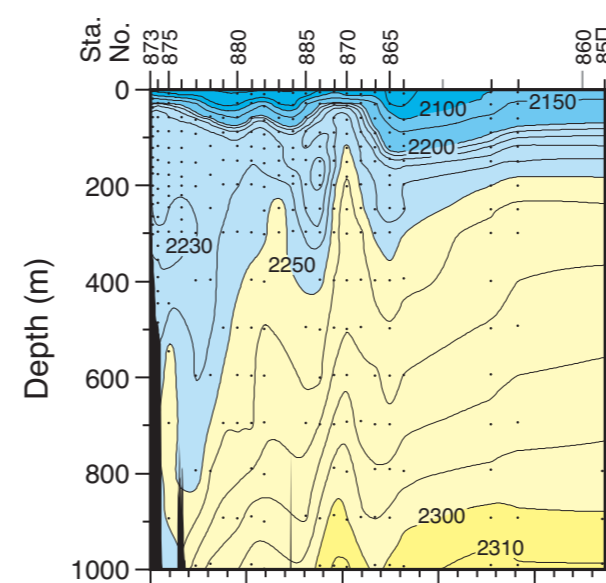
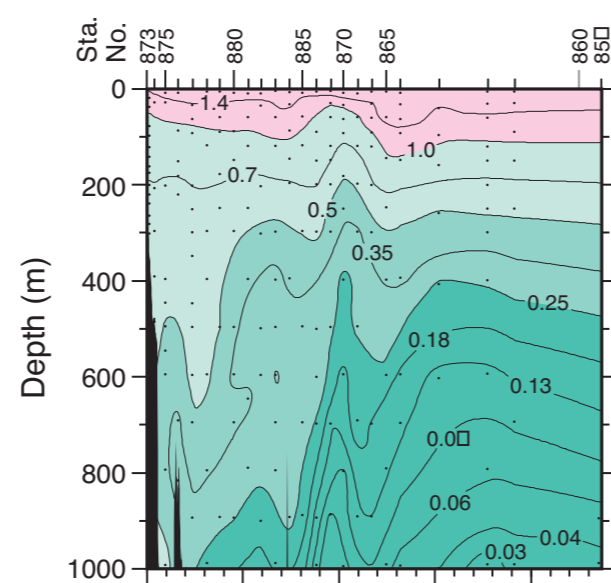
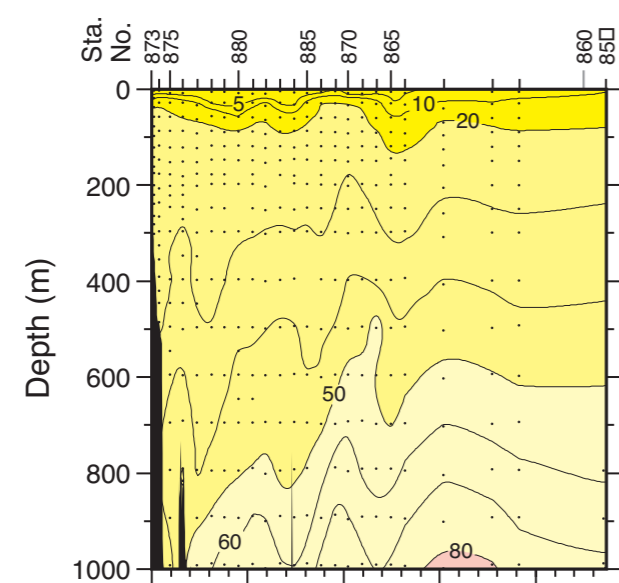
I1RS (17°N)

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

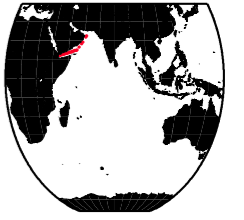
CFC-11 (pmol/kg)

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

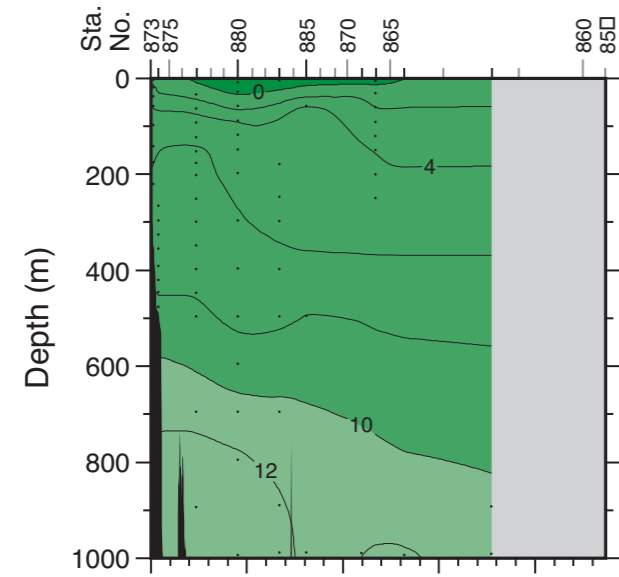
Alkalinity ($\mu\text{mol/kg}$)



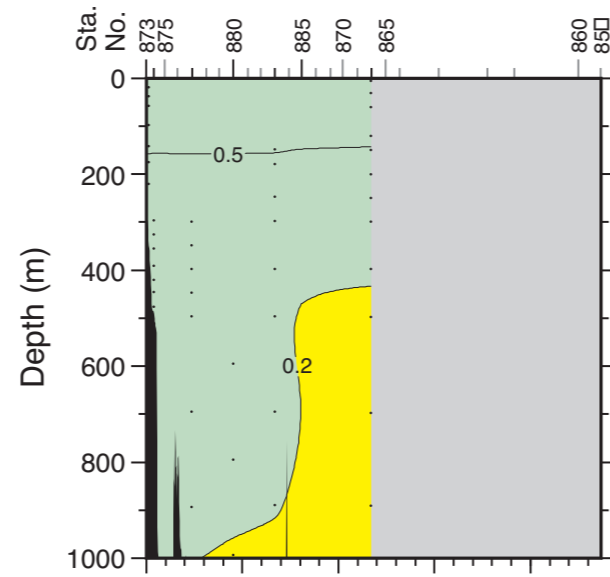
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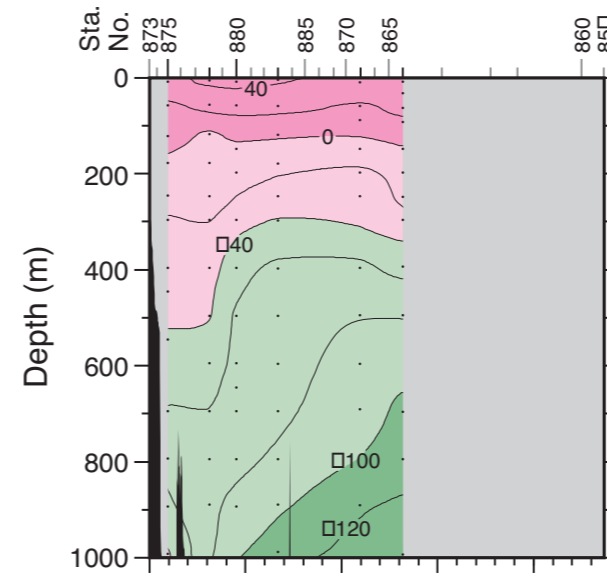
$\delta^3\text{He}$ (%)



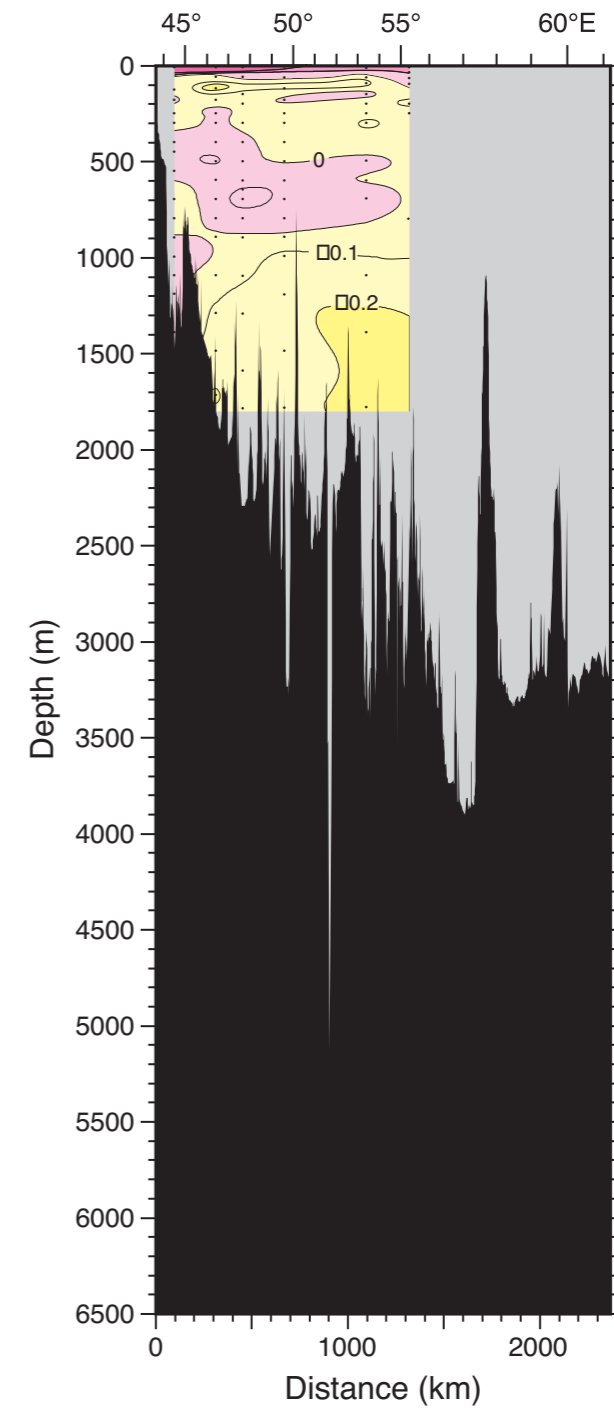
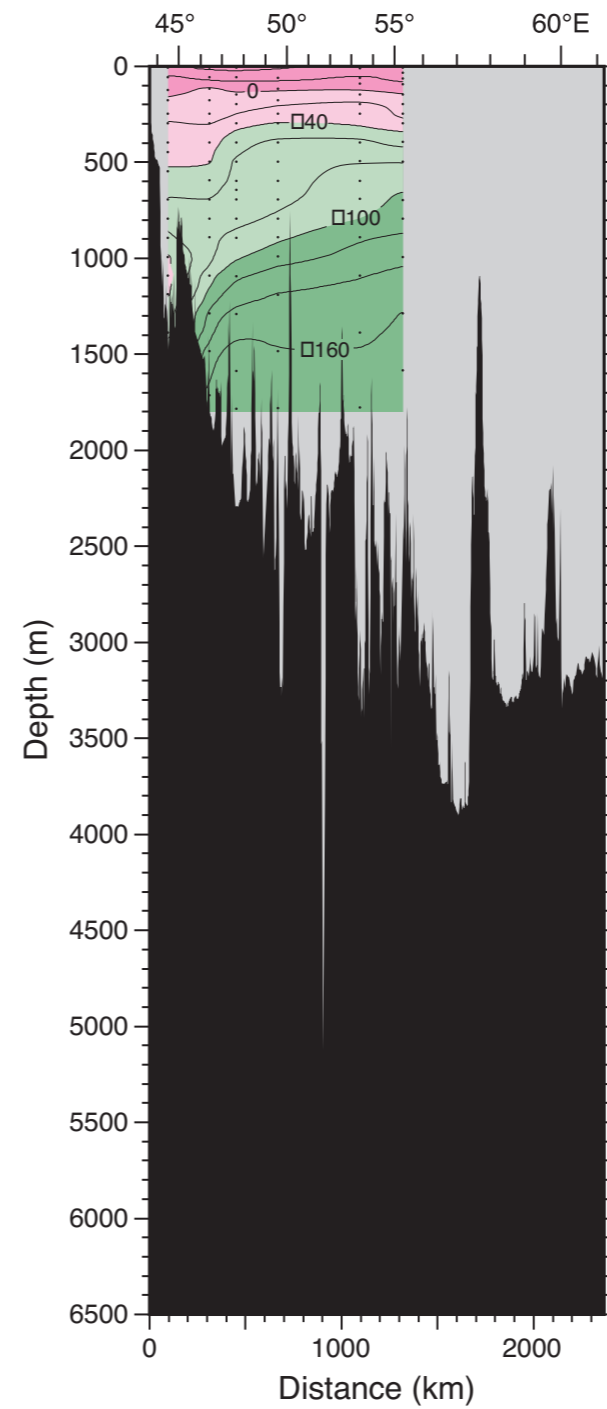
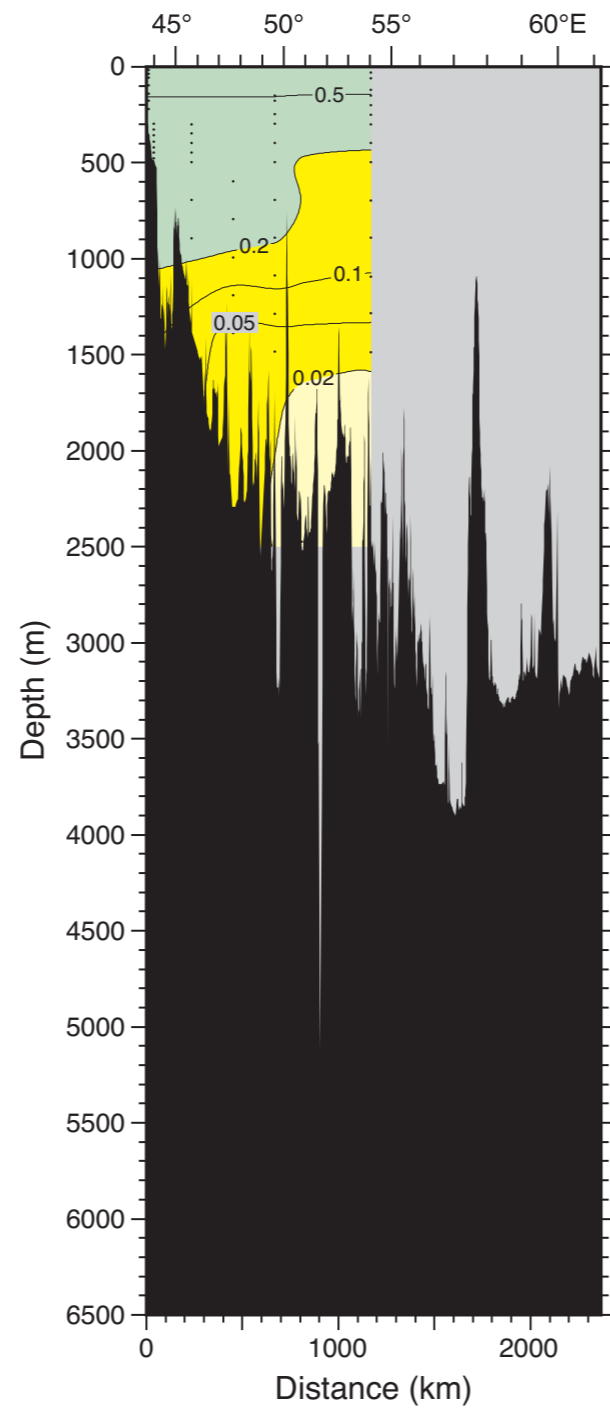
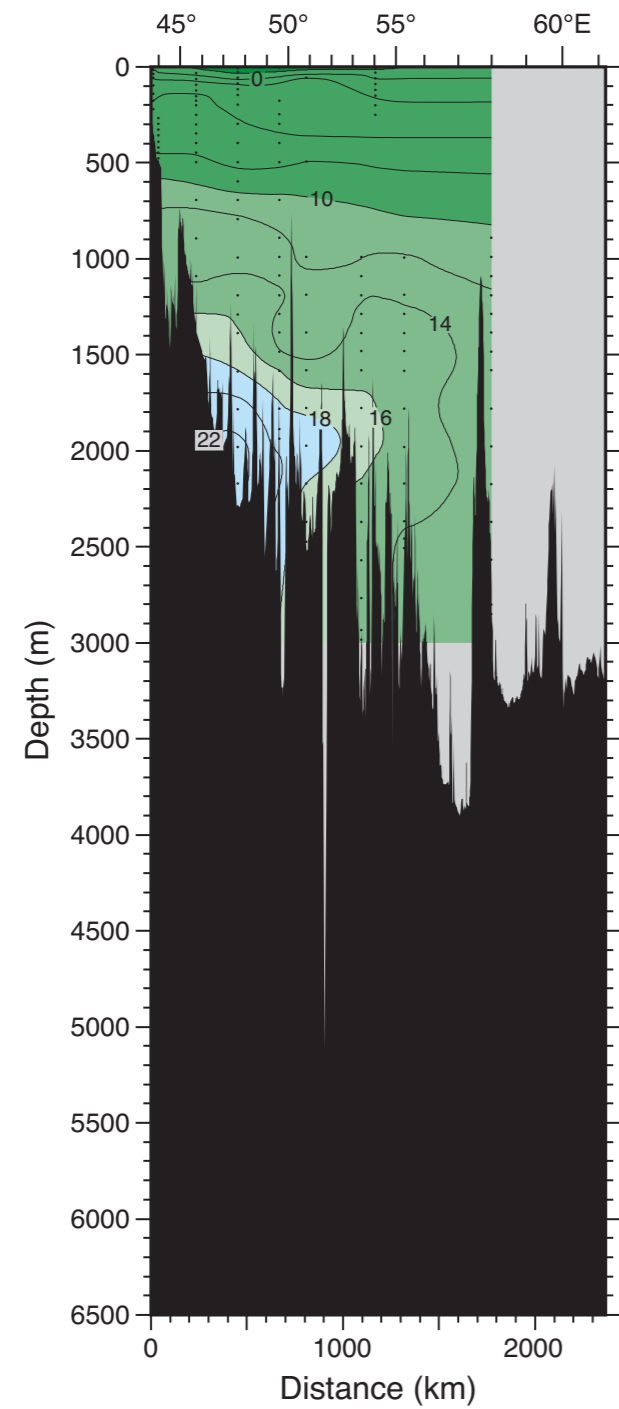
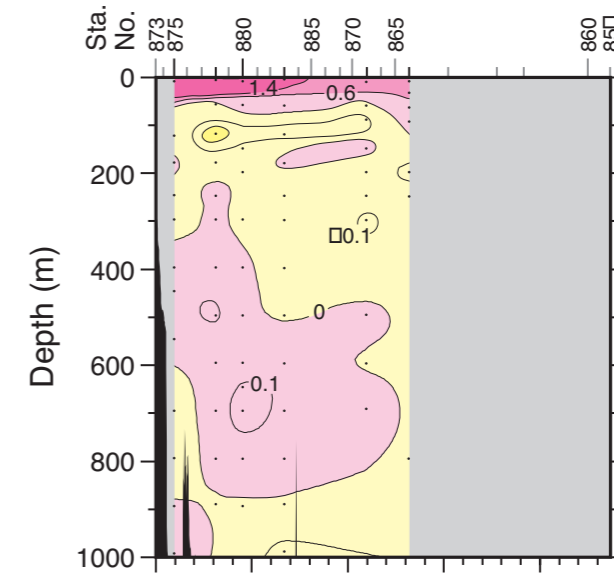
Tritium (TU)

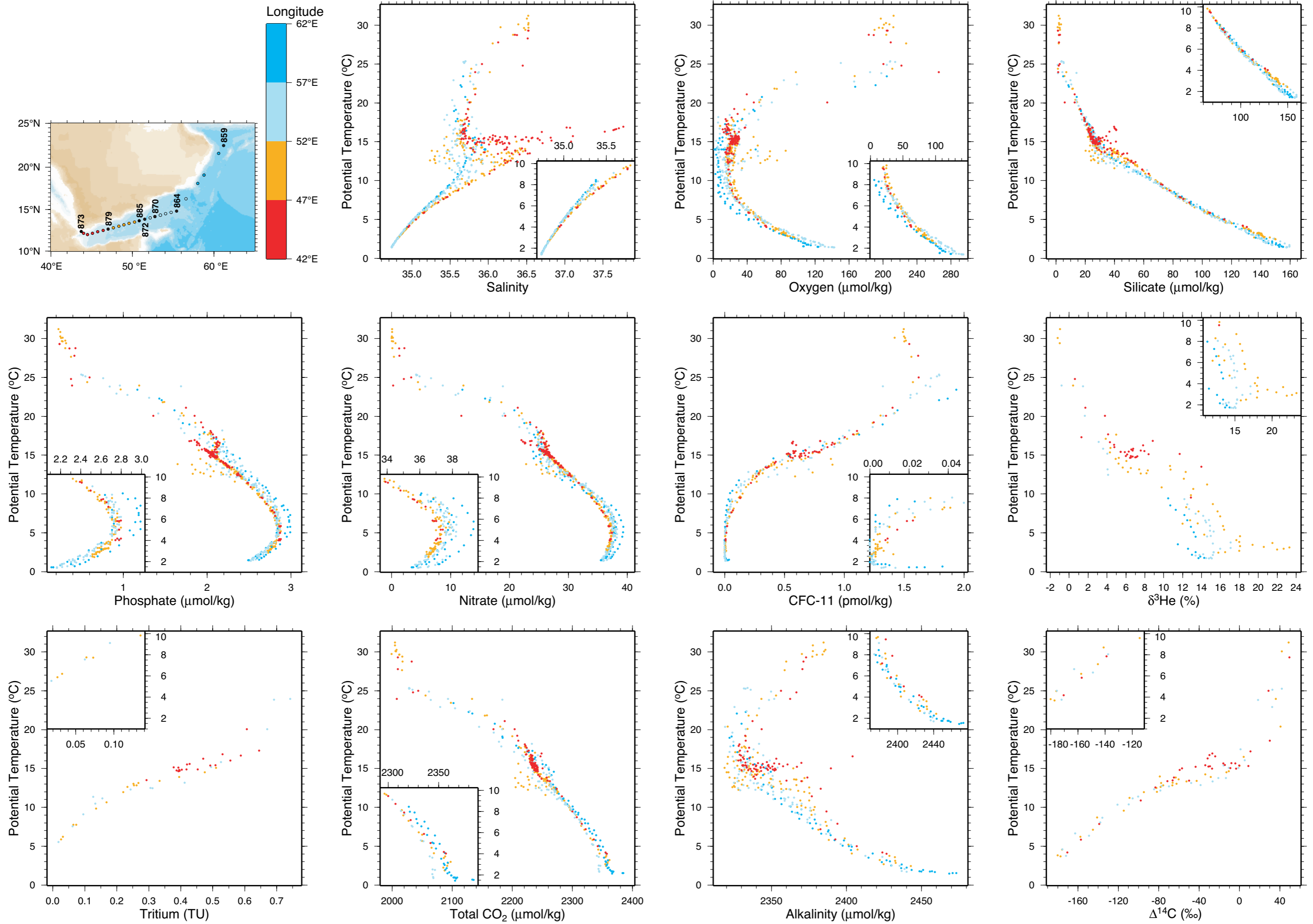


$\Delta^{14}\text{C}$ (‰)

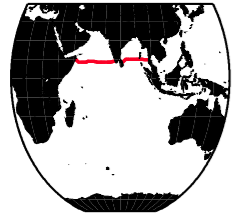


$\delta^{13}\text{C}$ (‰)



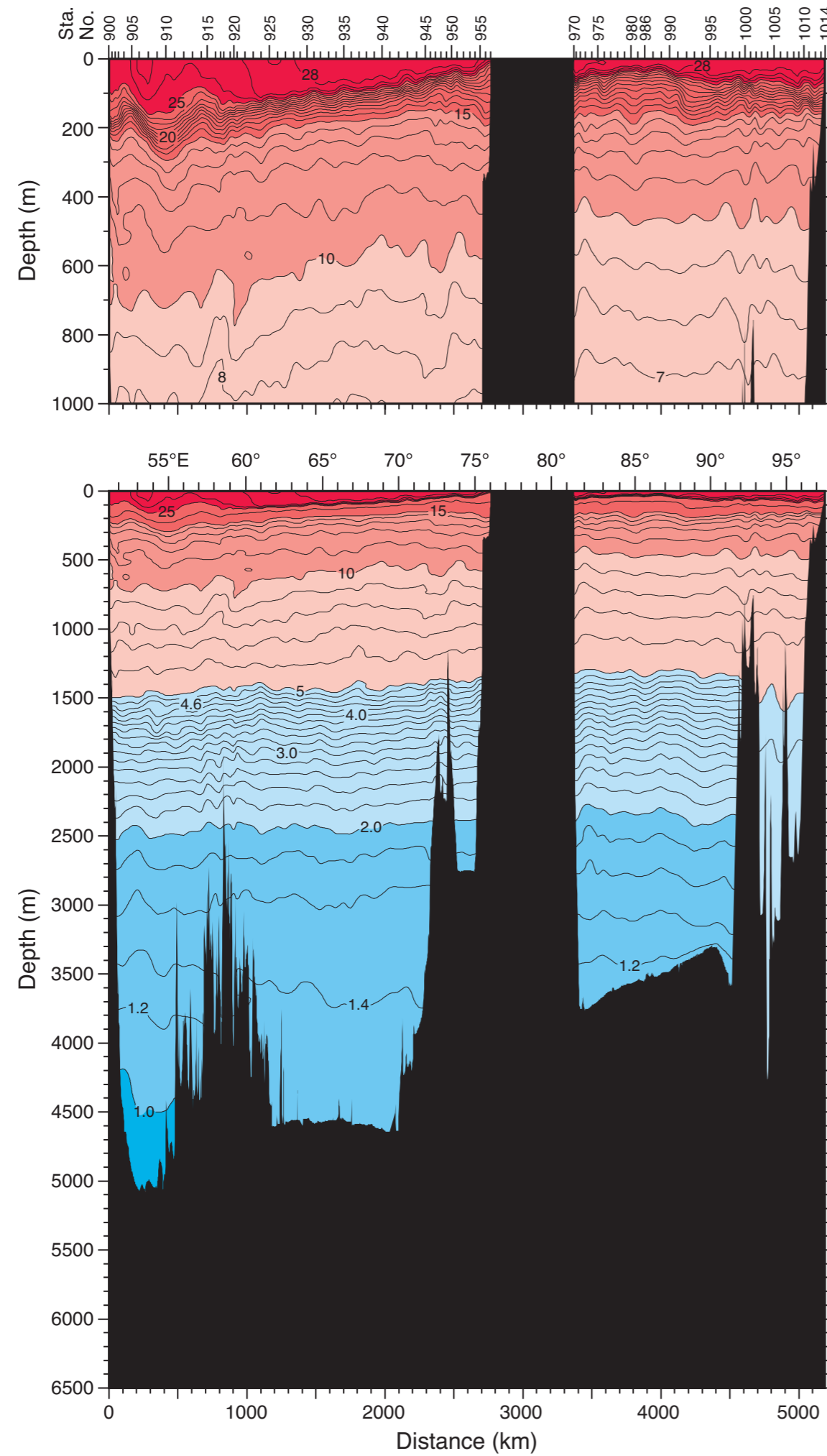


I1RS

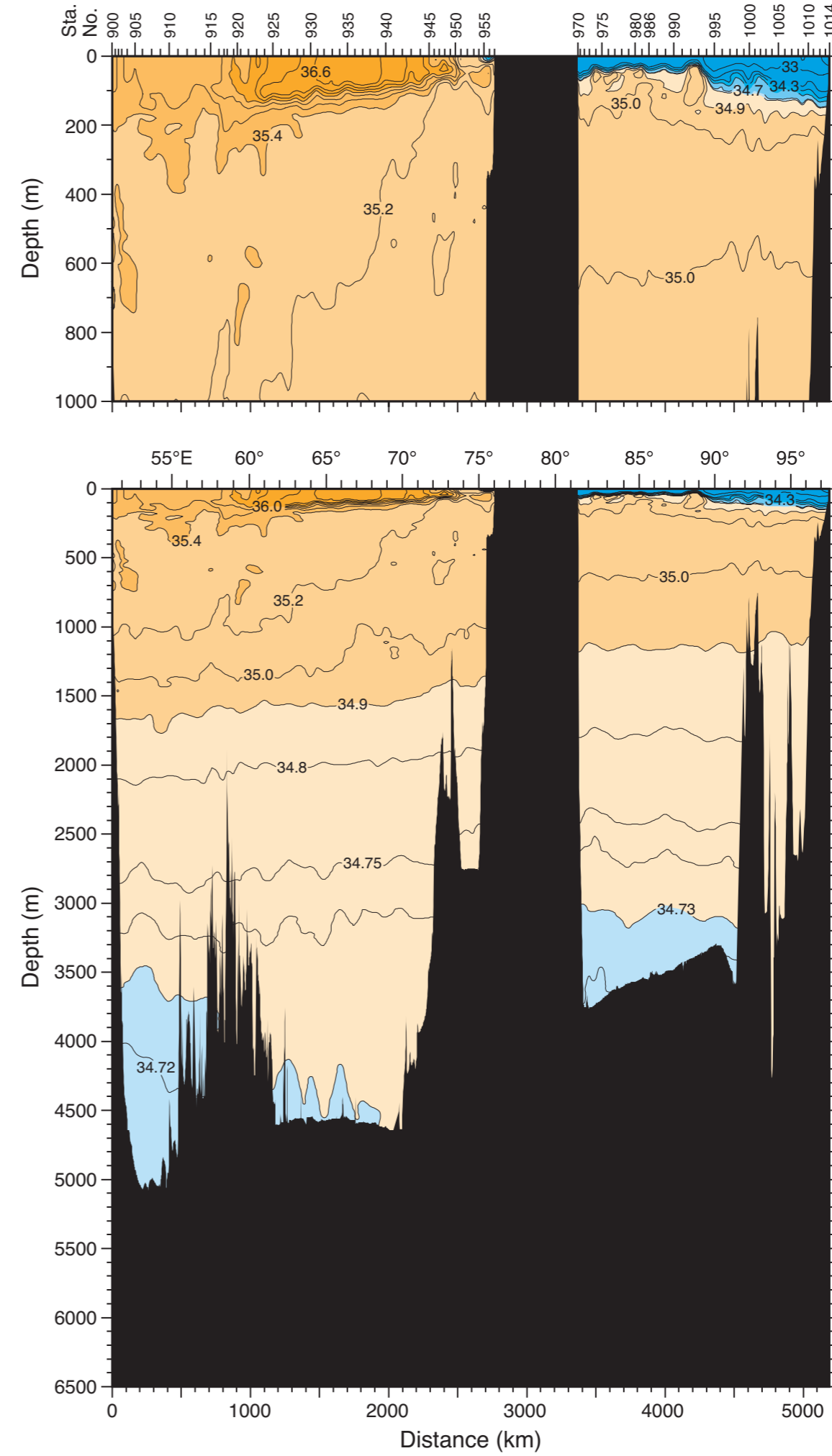


I1 (9°N)

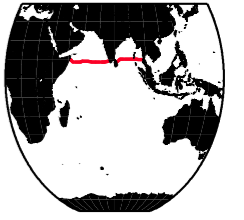
Potential Temperature (°C)



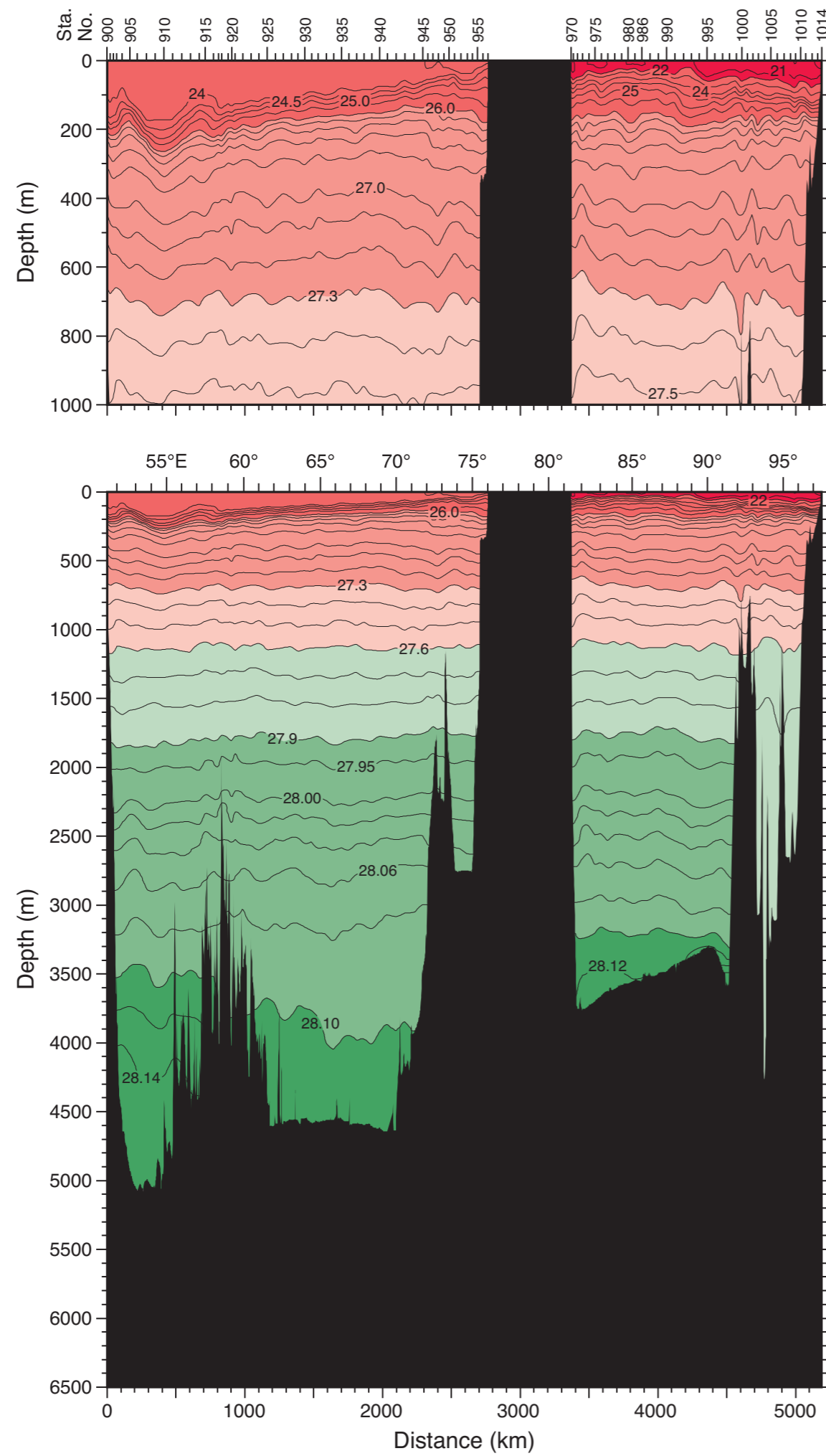
Salinity (PSS78)



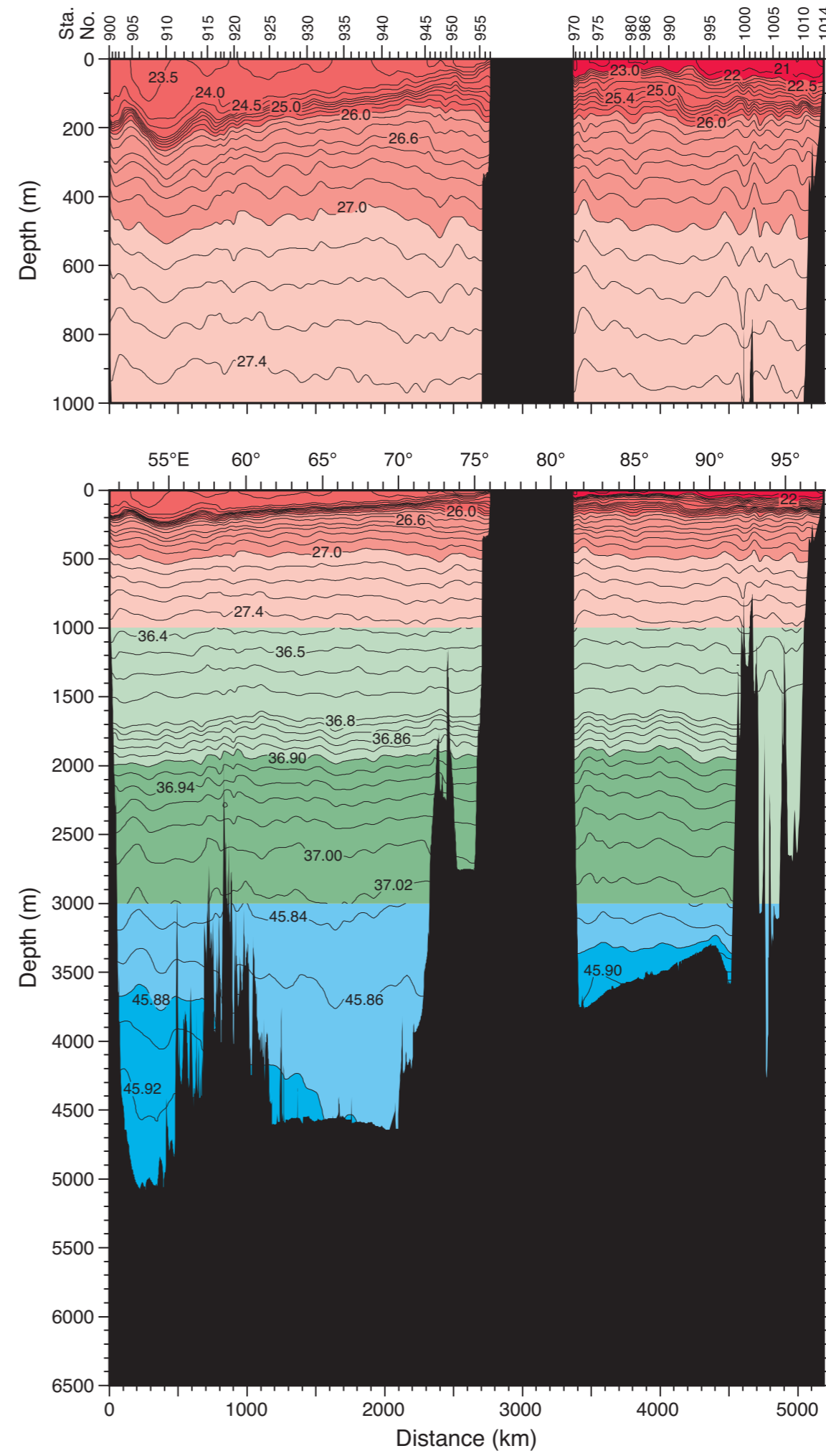
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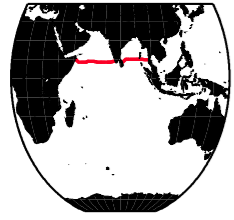


Neutral Density (kg/m^3)



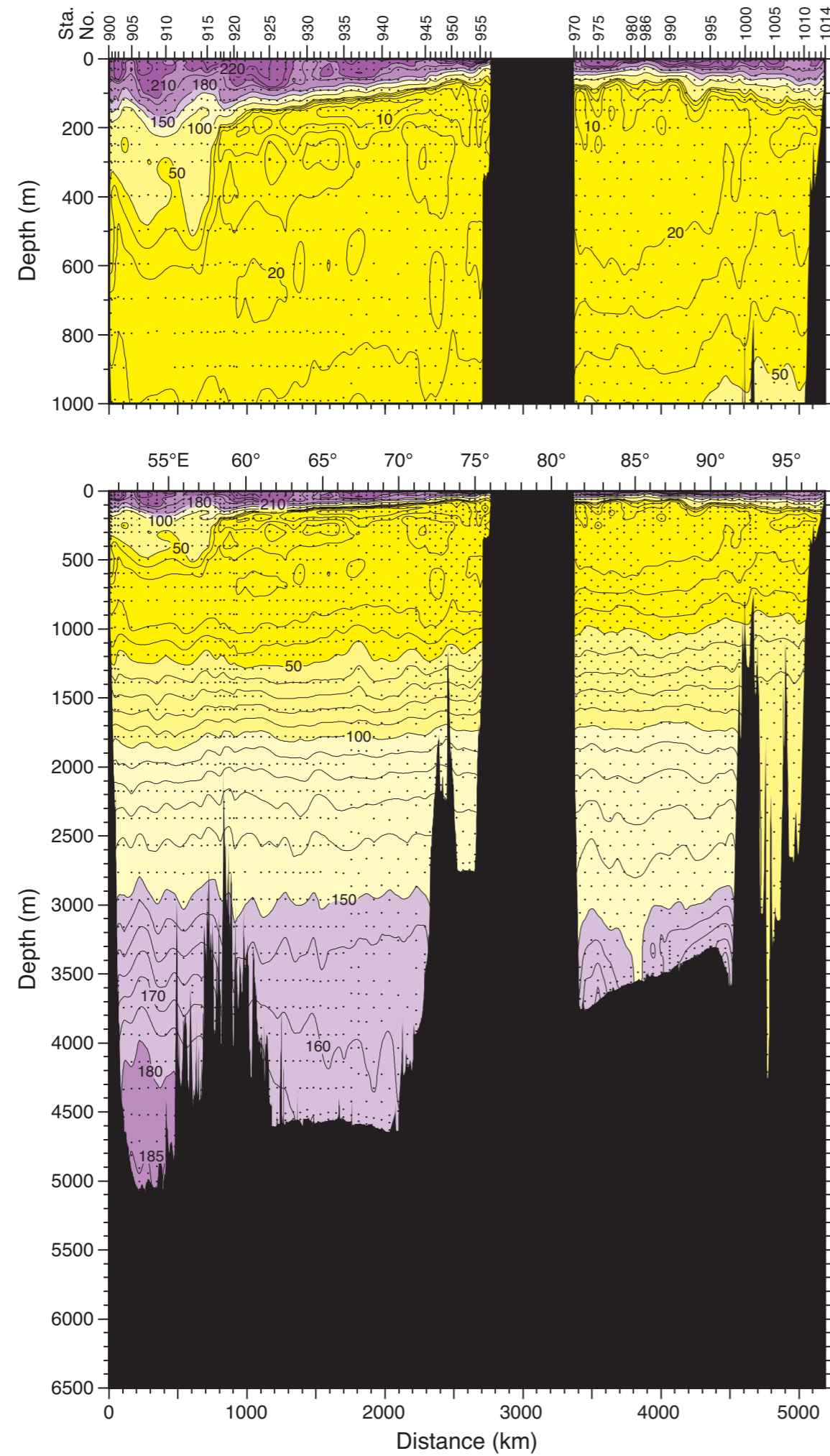
σ_0, σ_2 and σ_4 (kg/m^3)



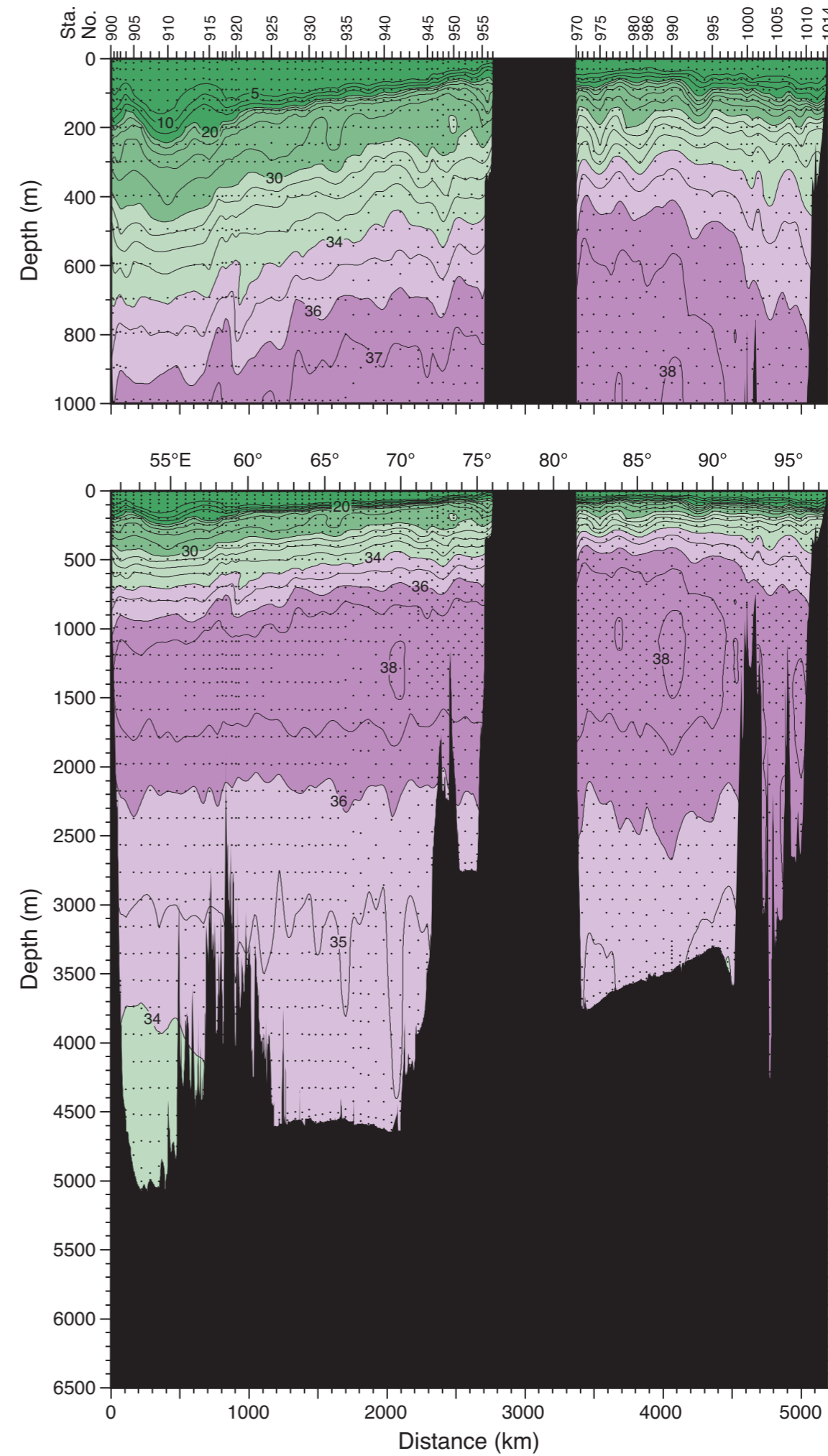


I1 (9°N)

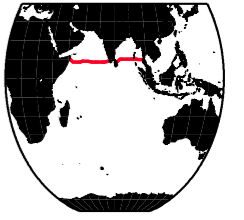
Oxygen ($\mu\text{mol/kg}$)



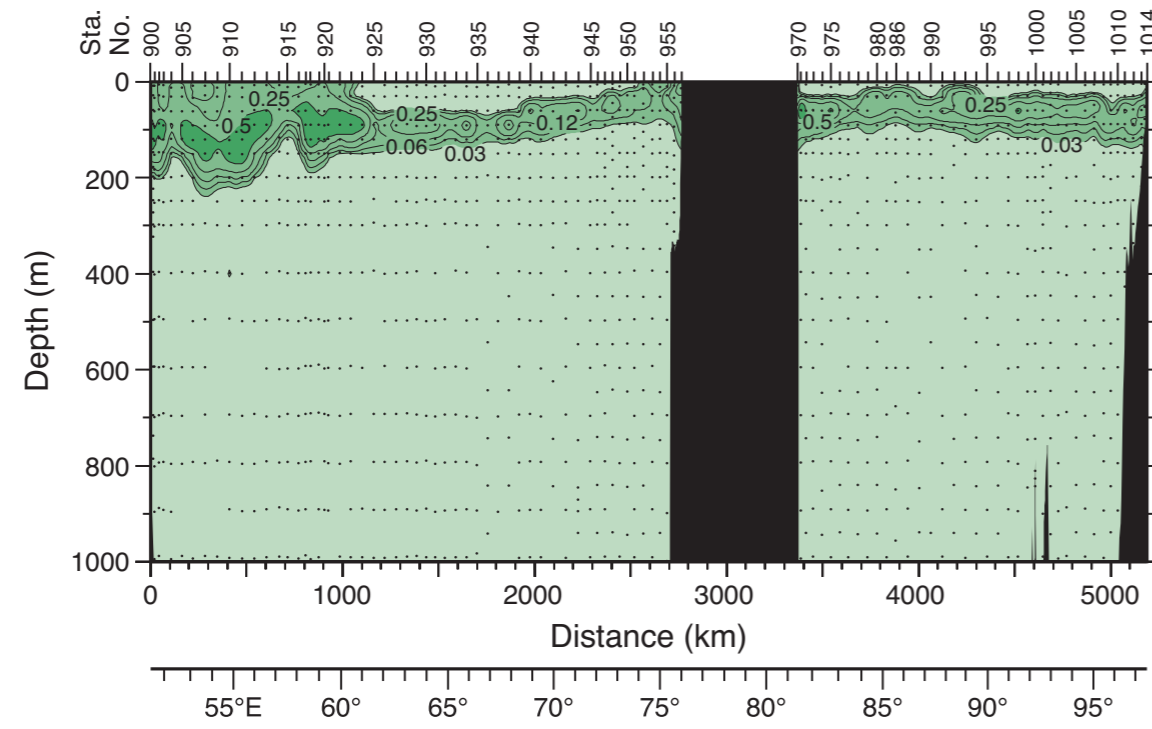
Nitrate ($\mu\text{mol/kg}$)



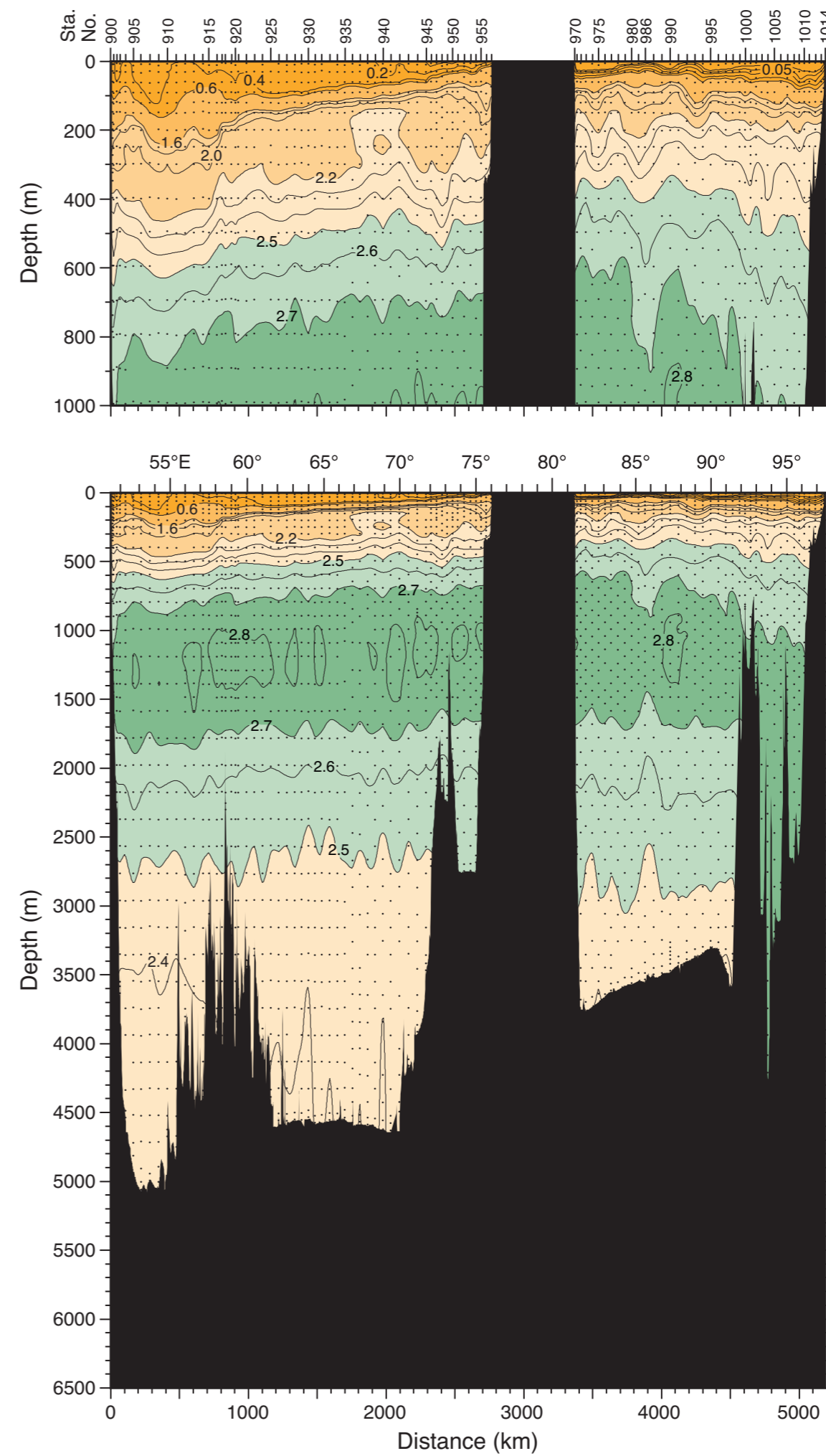
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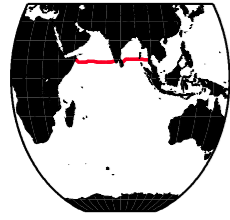


Nitrite ($\mu\text{mol/kg}$)



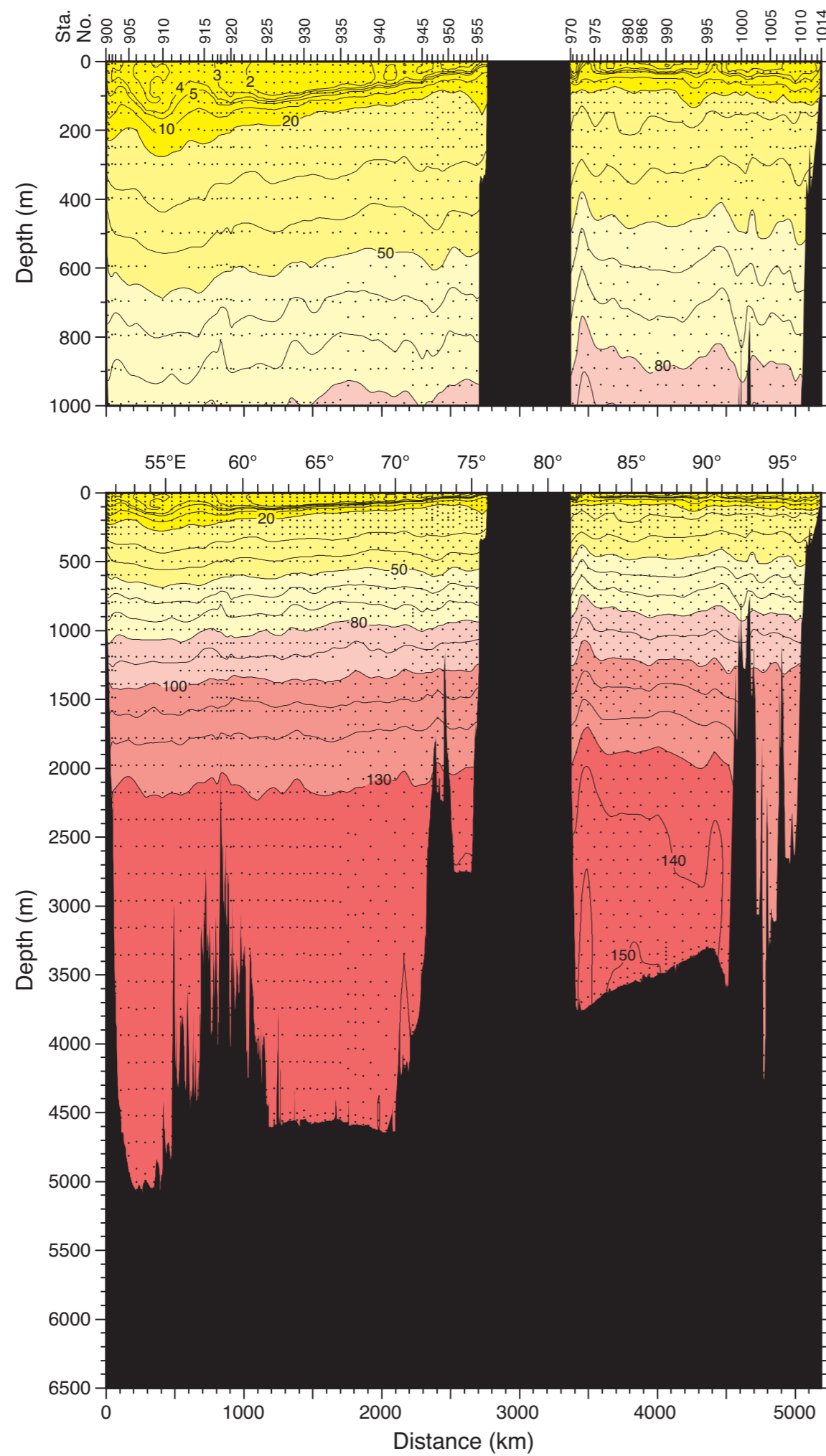
Phosphate ($\mu\text{mol/kg}$)



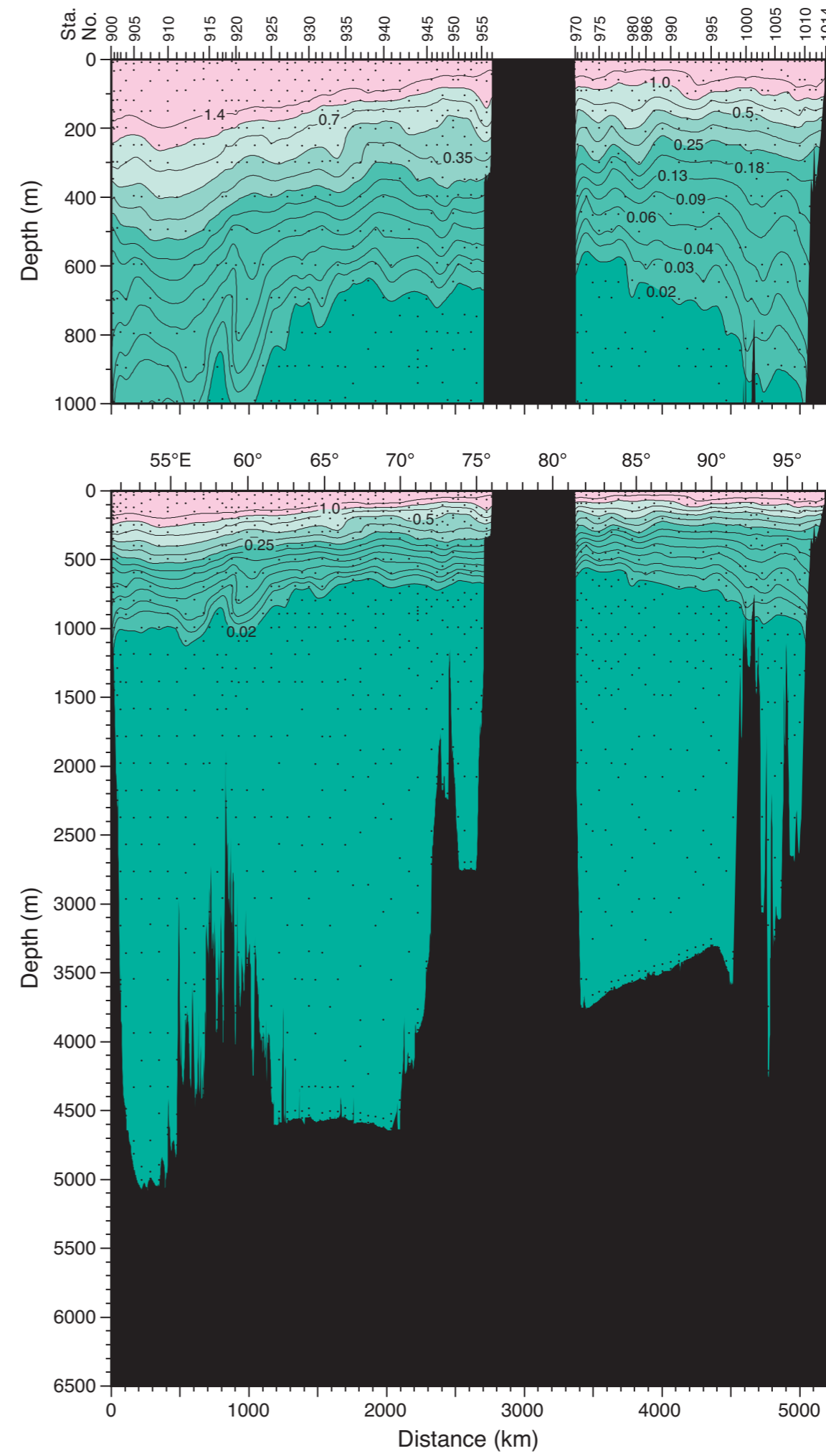


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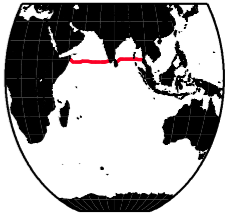
Dissolved Silica ($\mu\text{mol/kg}$)



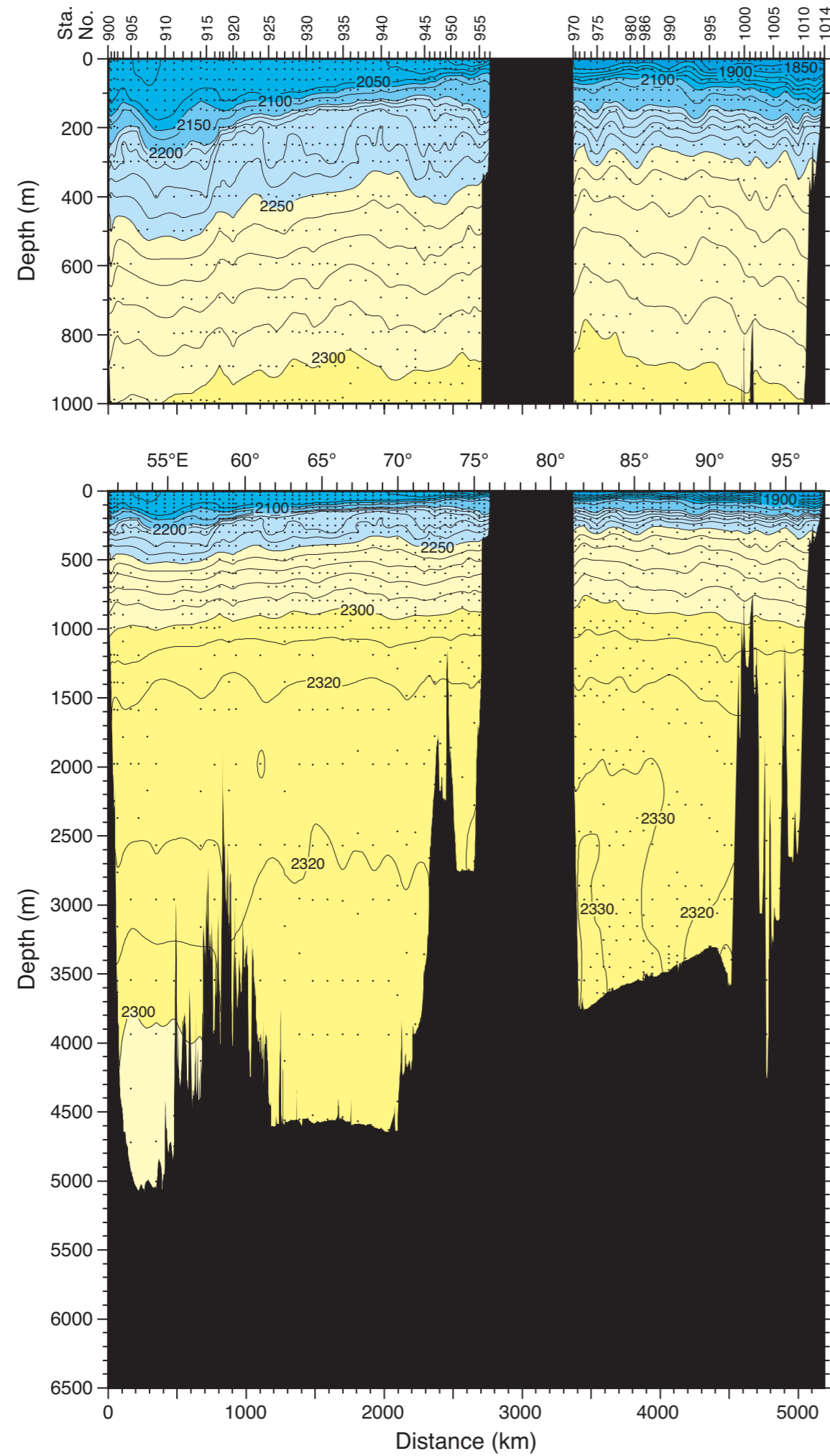
CFC-11 (pmol/kg)



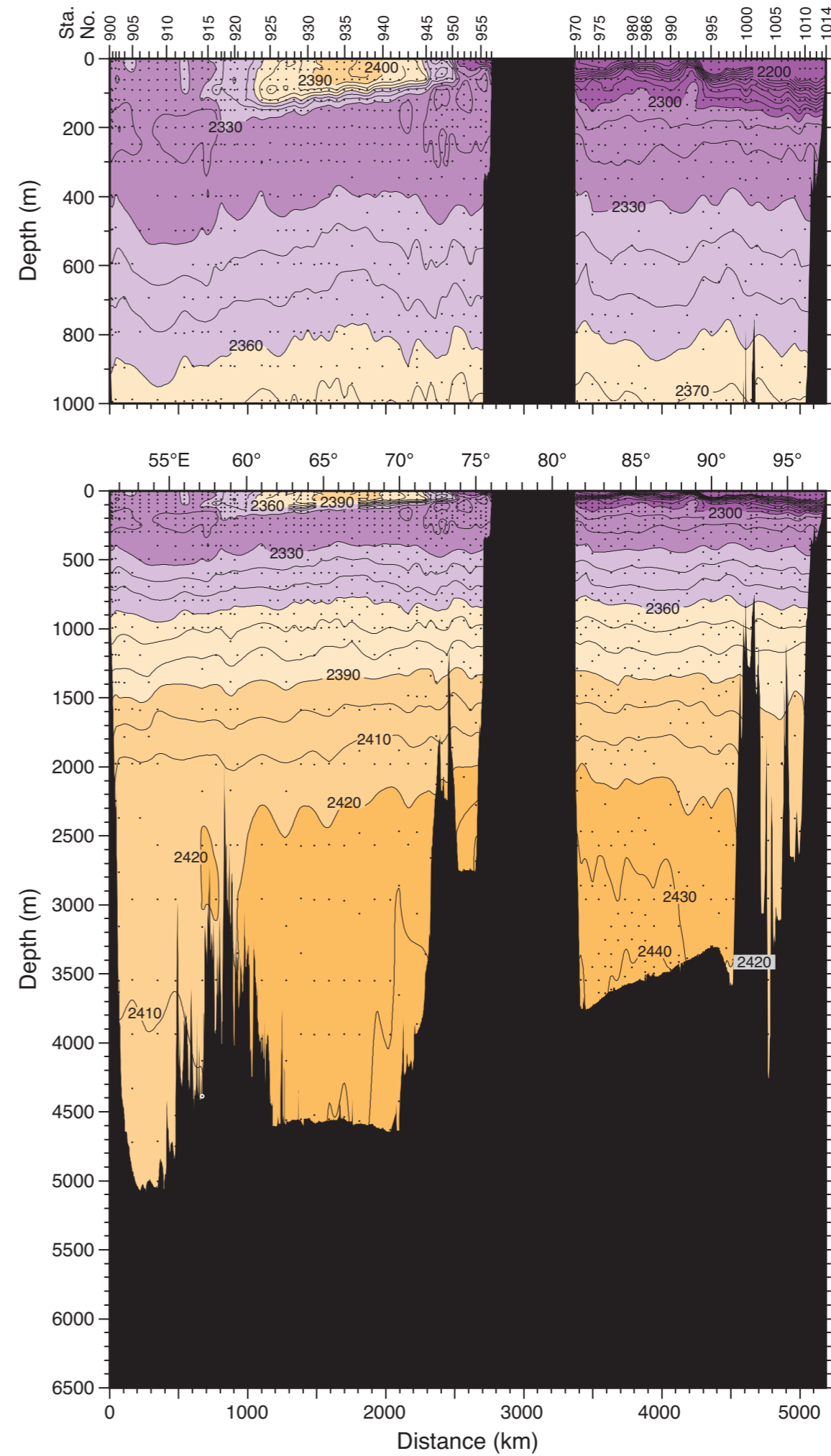
I1 (9°N)

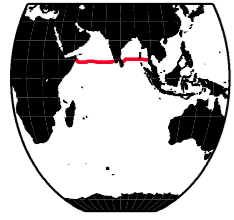


Total Carbon ($\mu\text{mol/kg}$)



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

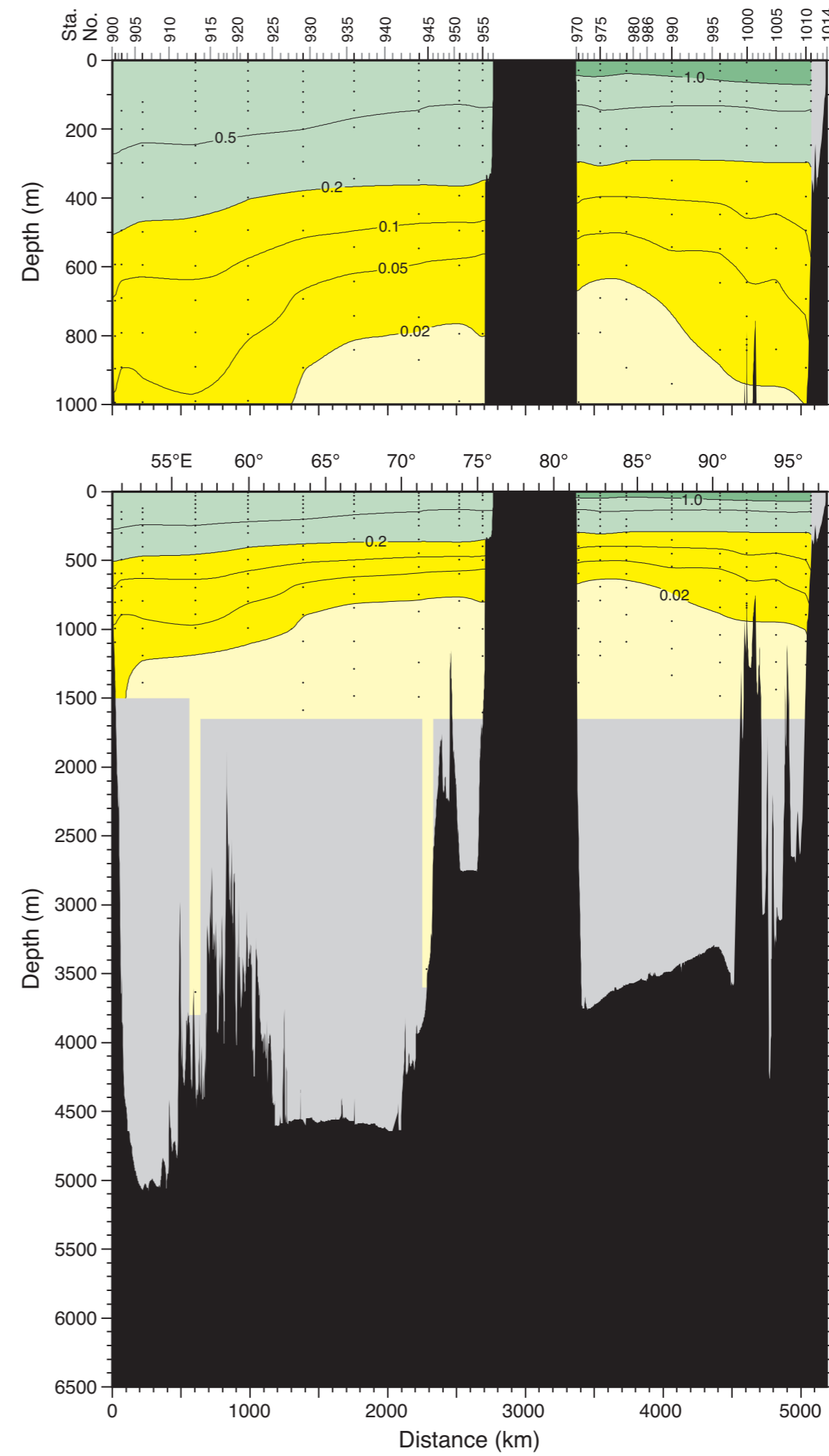
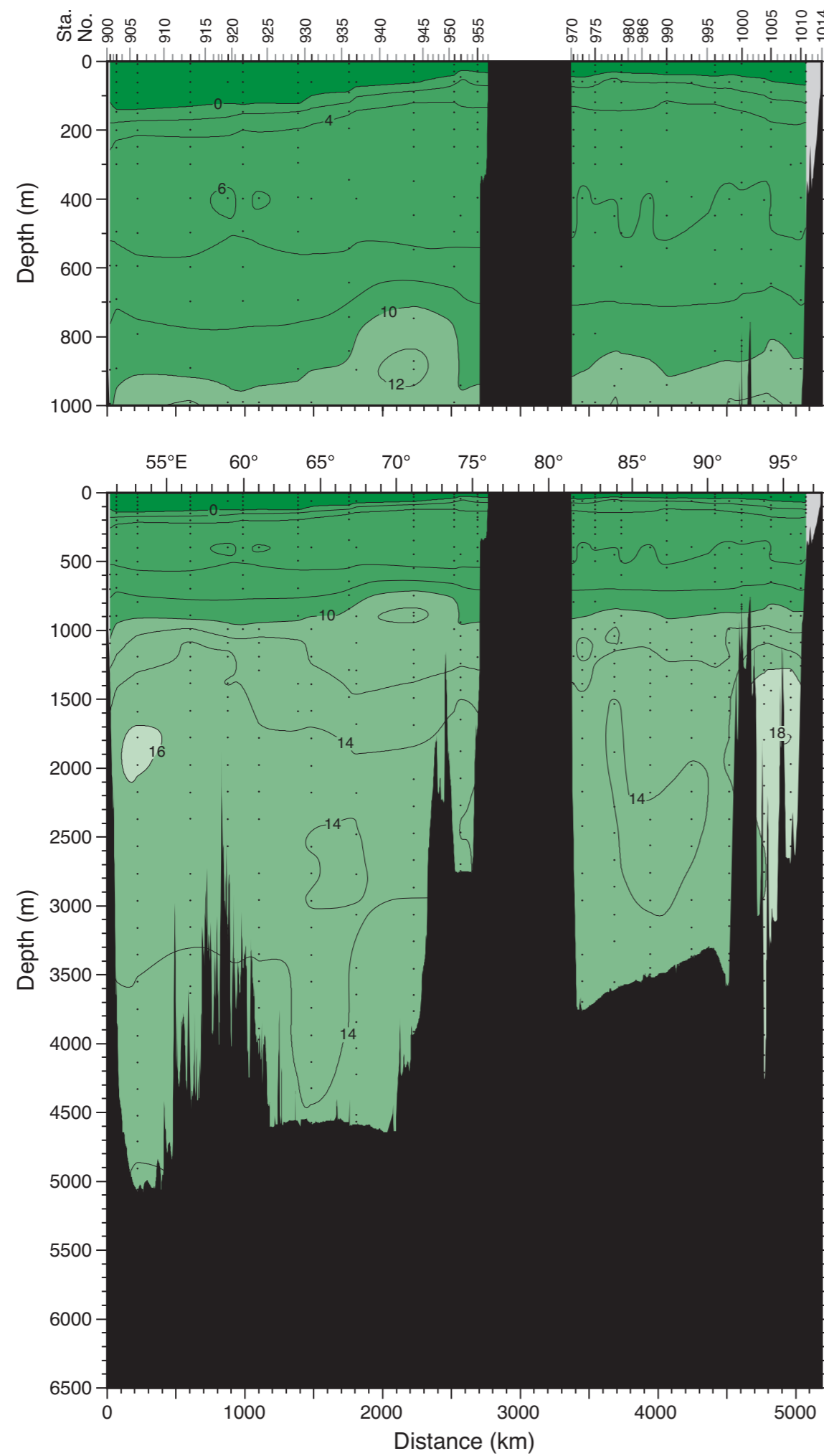




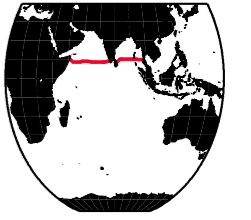
I1 (9°N)

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

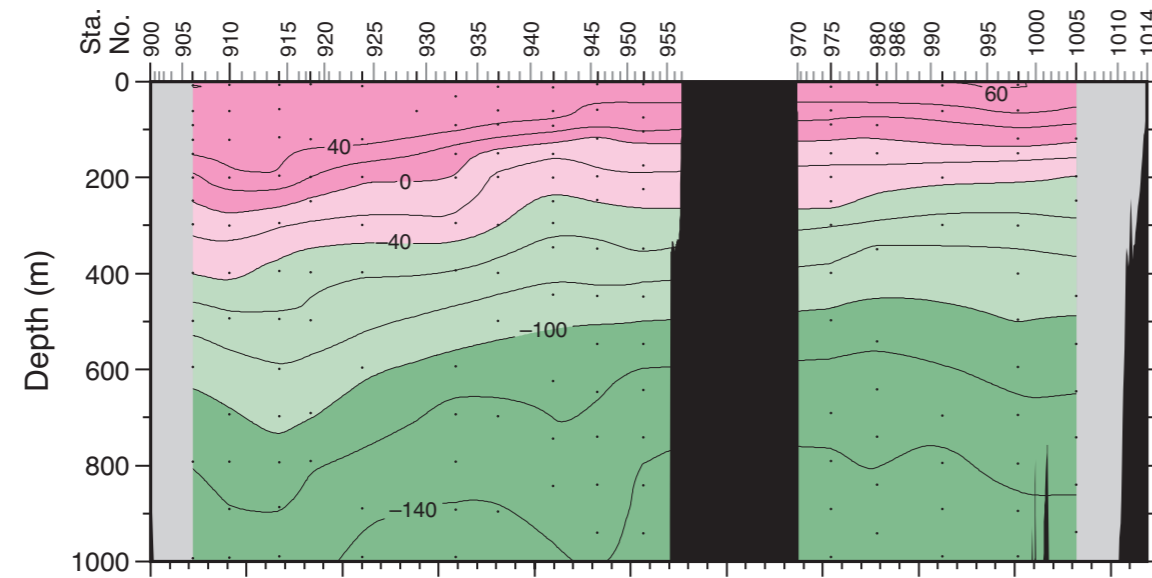
Tritium (TU)



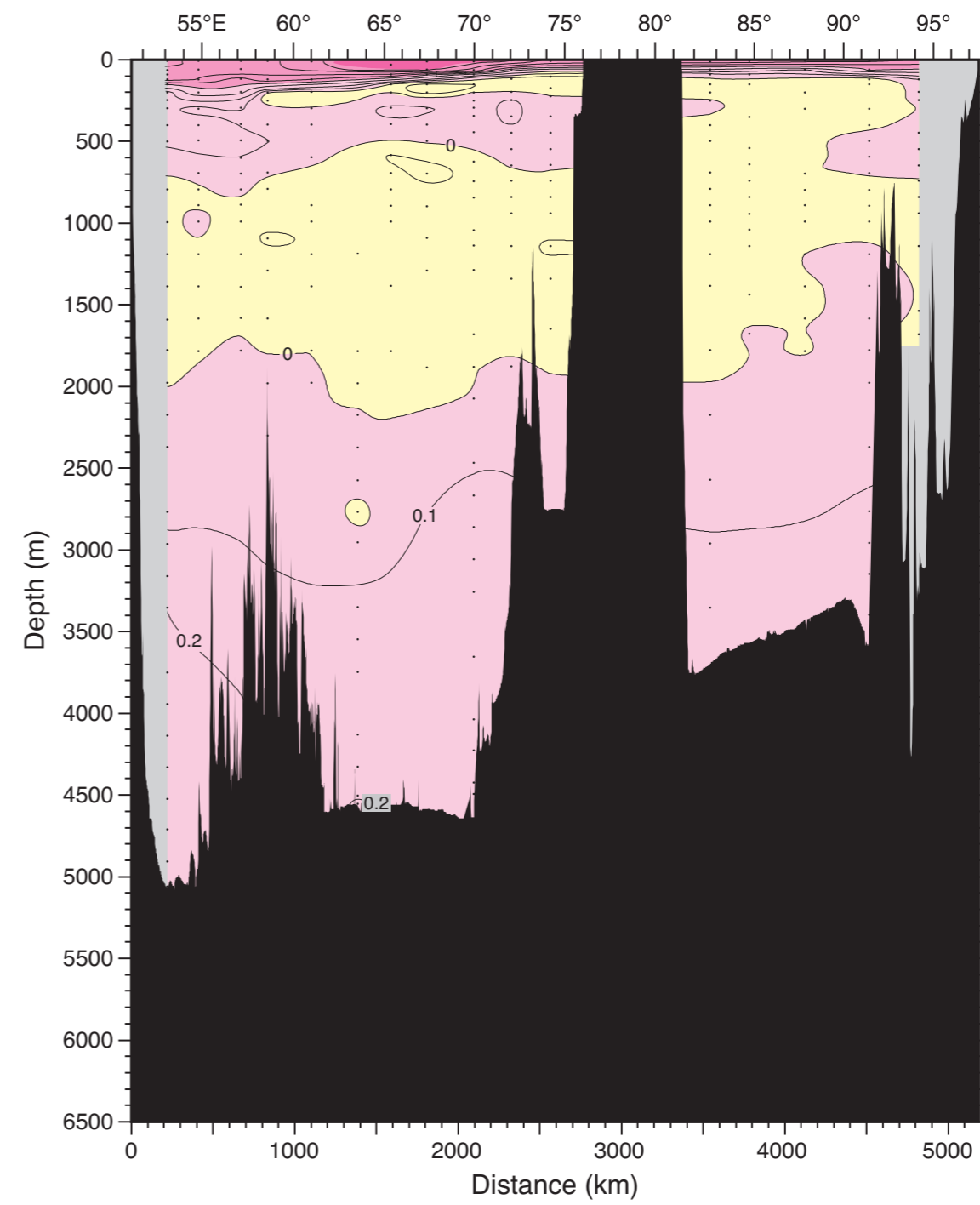
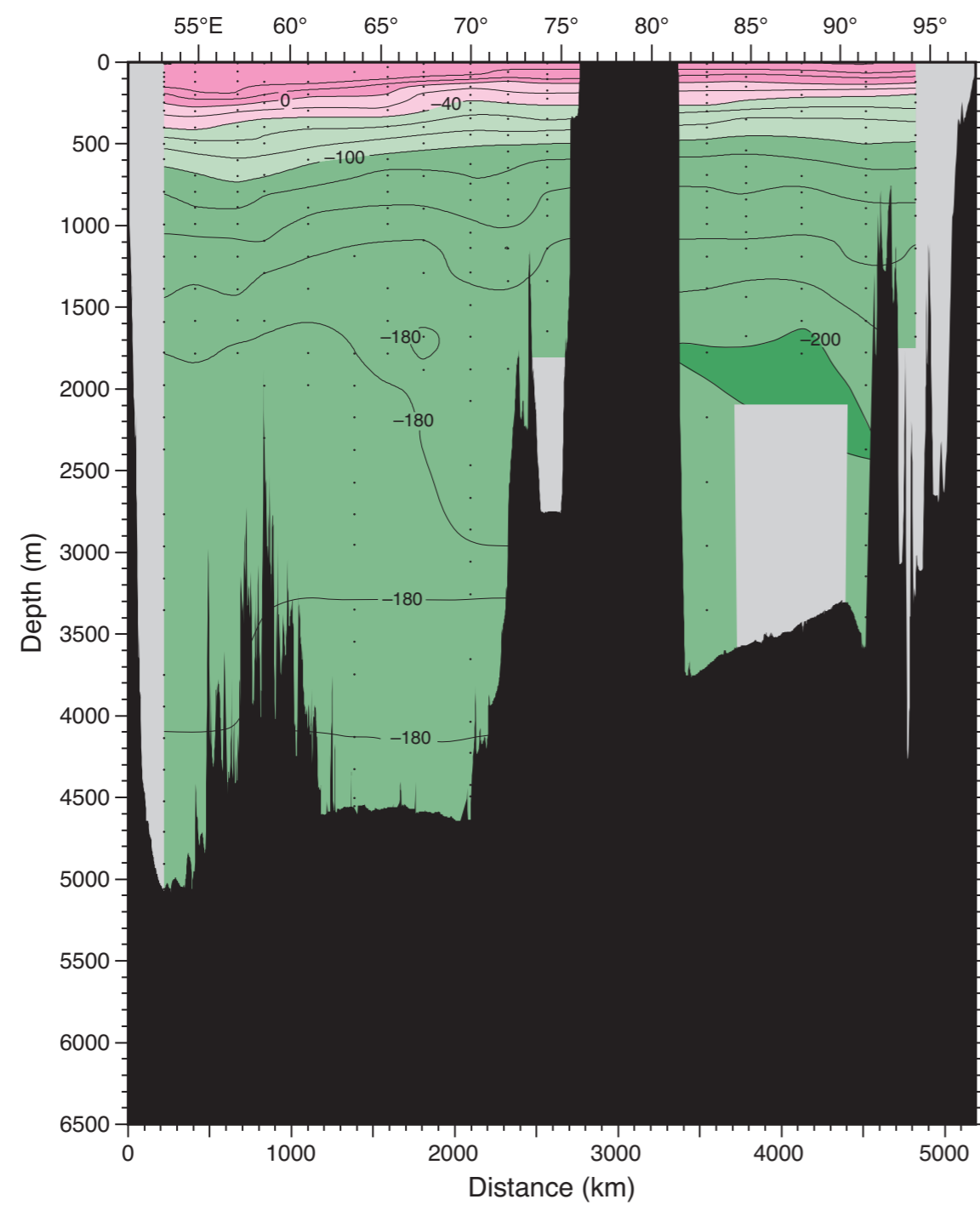
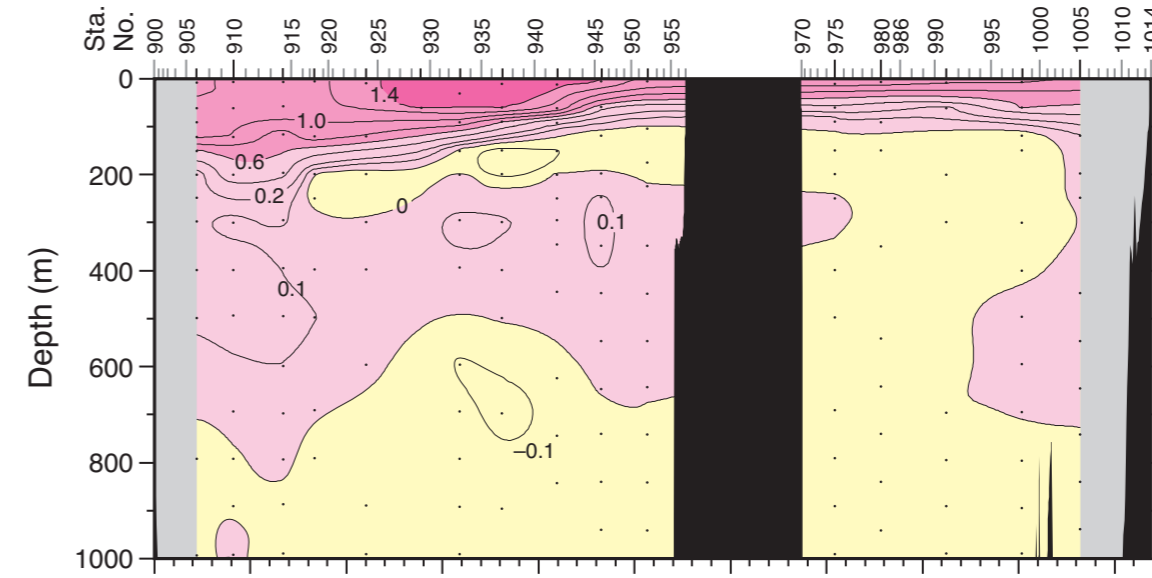
I1 (9°N)

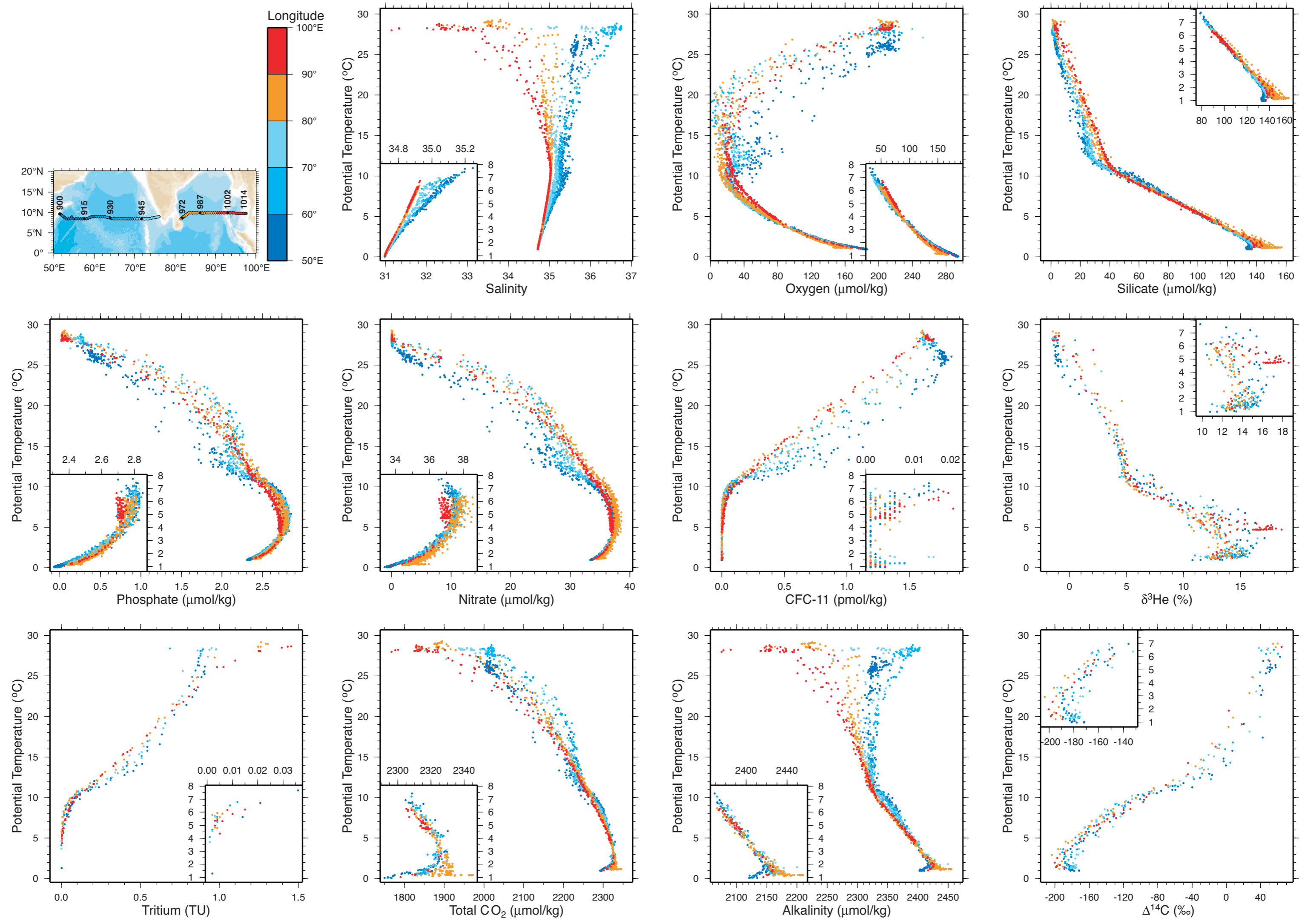


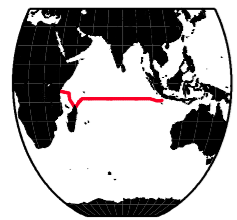
$\Delta^{14}\text{C}$ (‰)



$\delta^{13}\text{C}$ (‰)

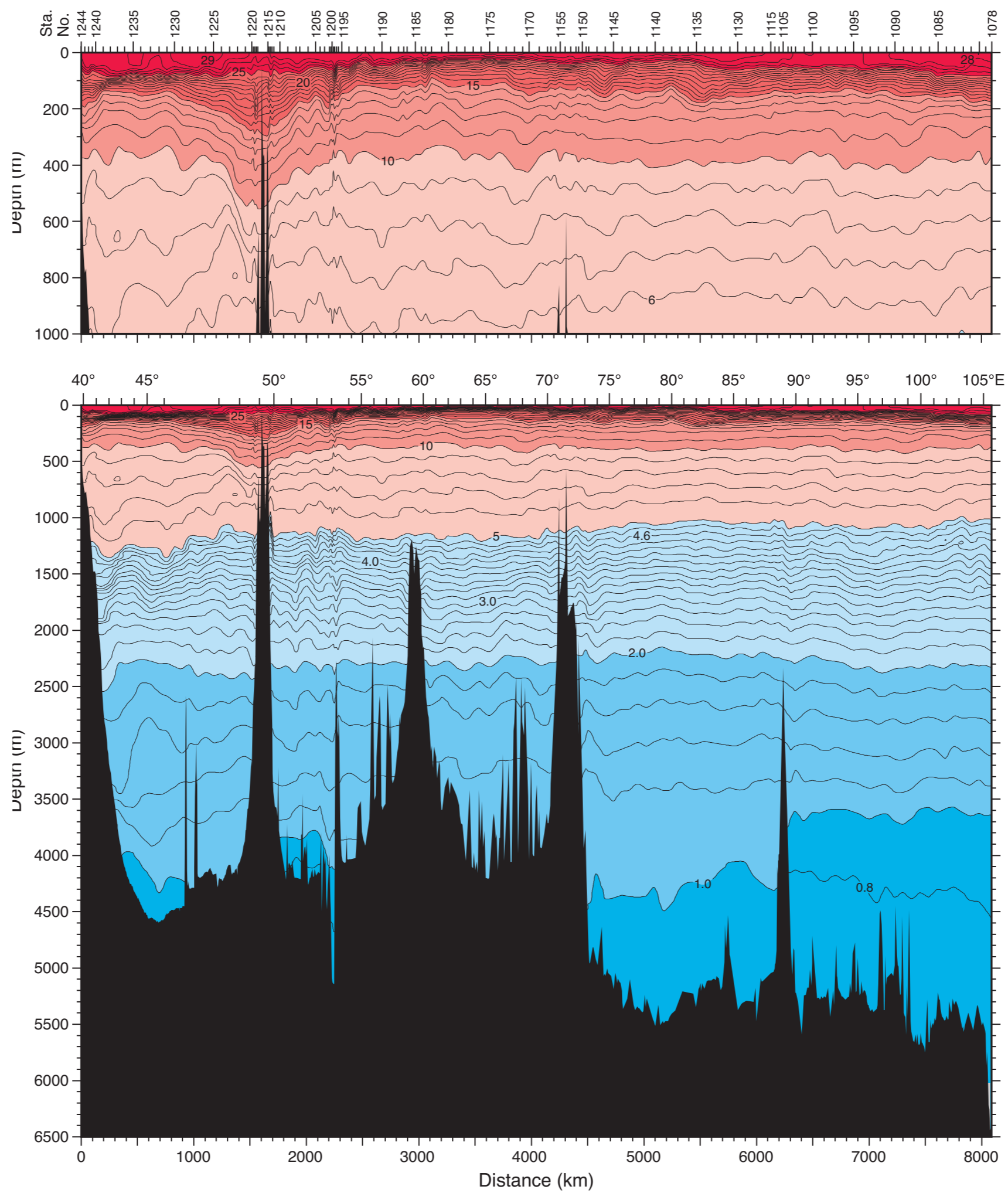






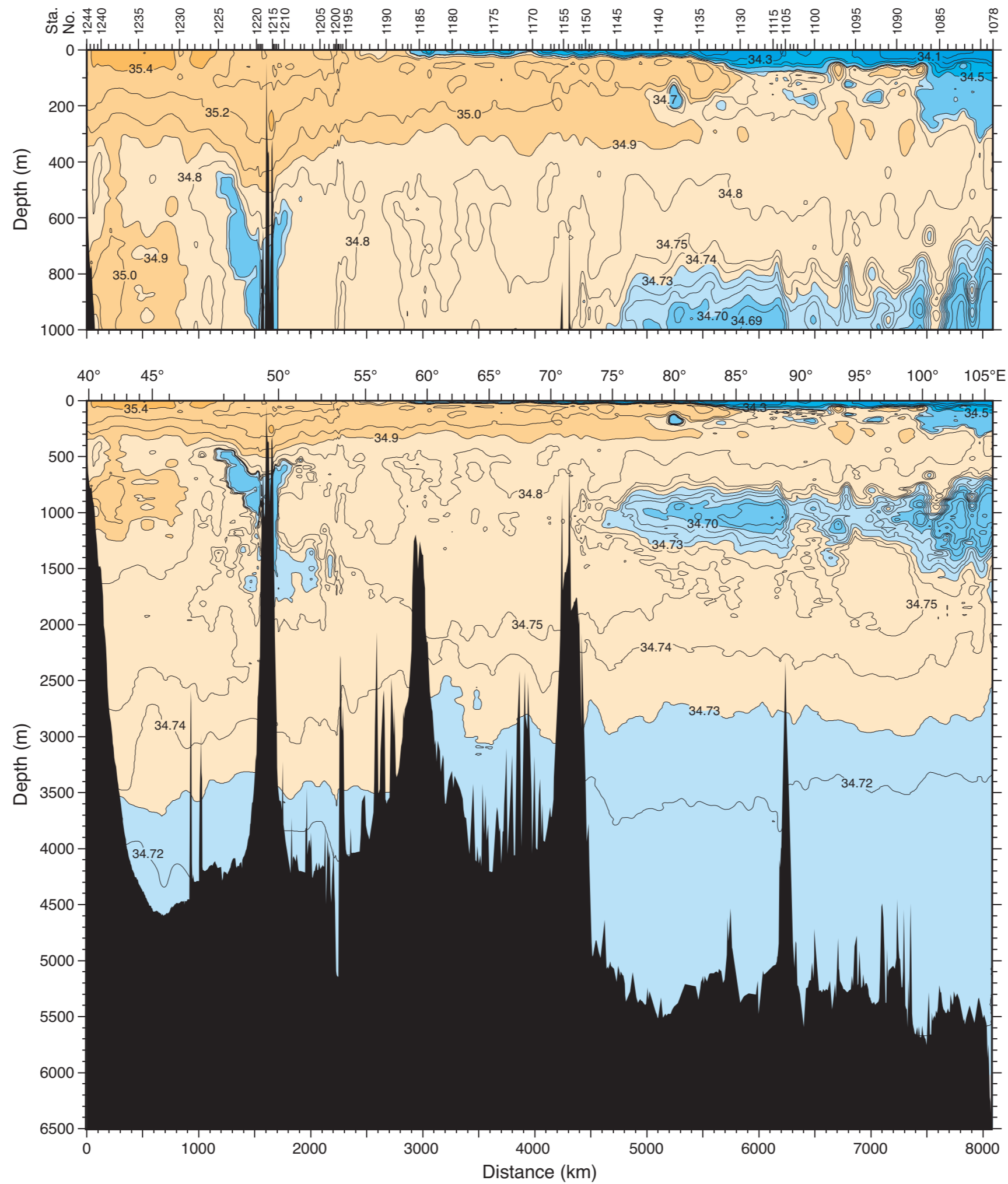
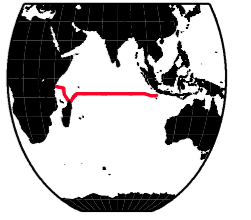
I2 (8°S)

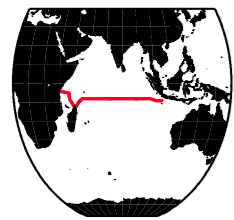
Potential Temperature (°C)



I2 (8°S)

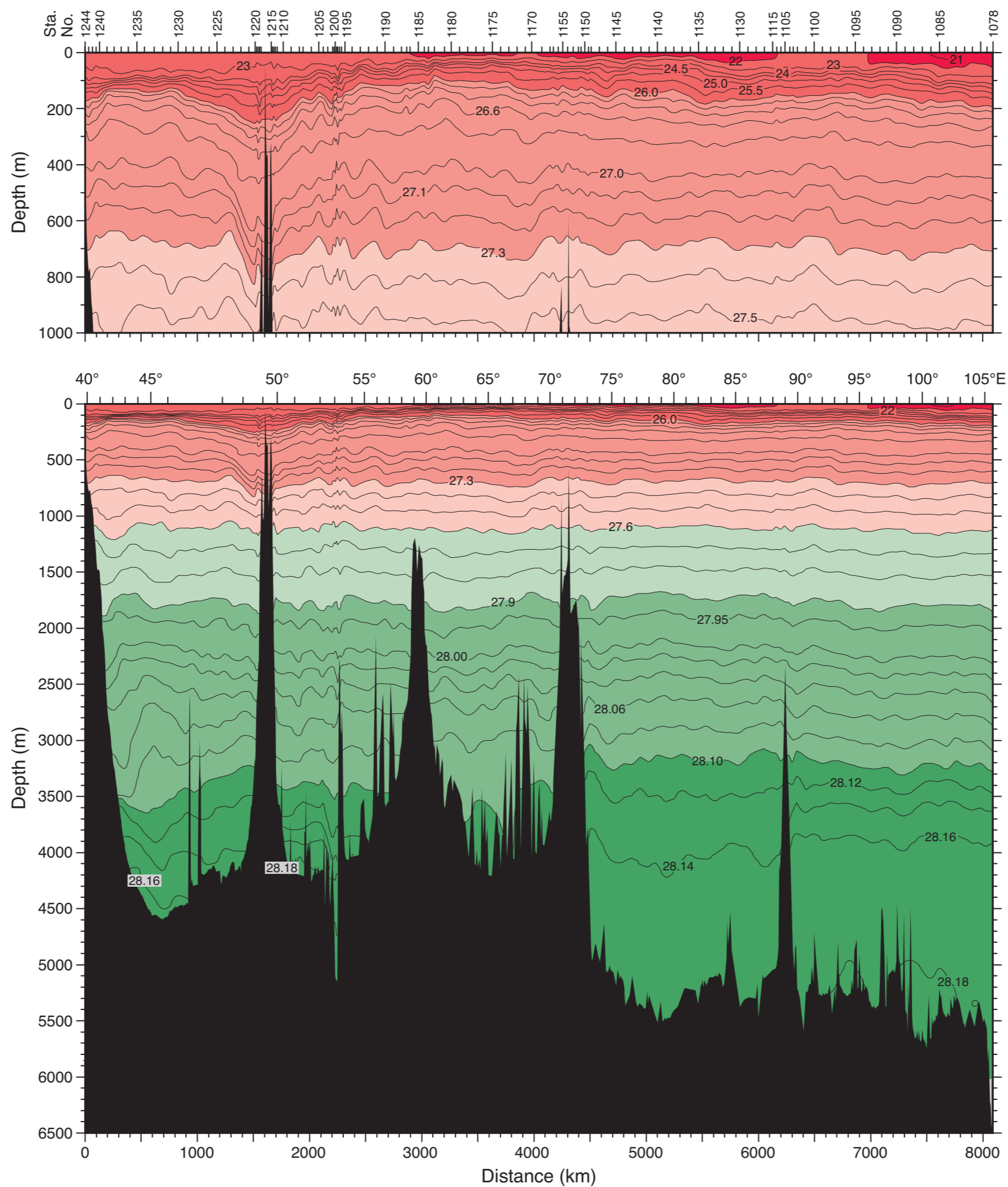
Salinity (PSS78)



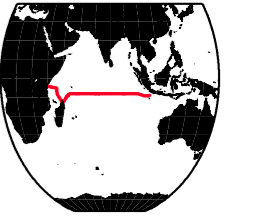


I2 (8°S)

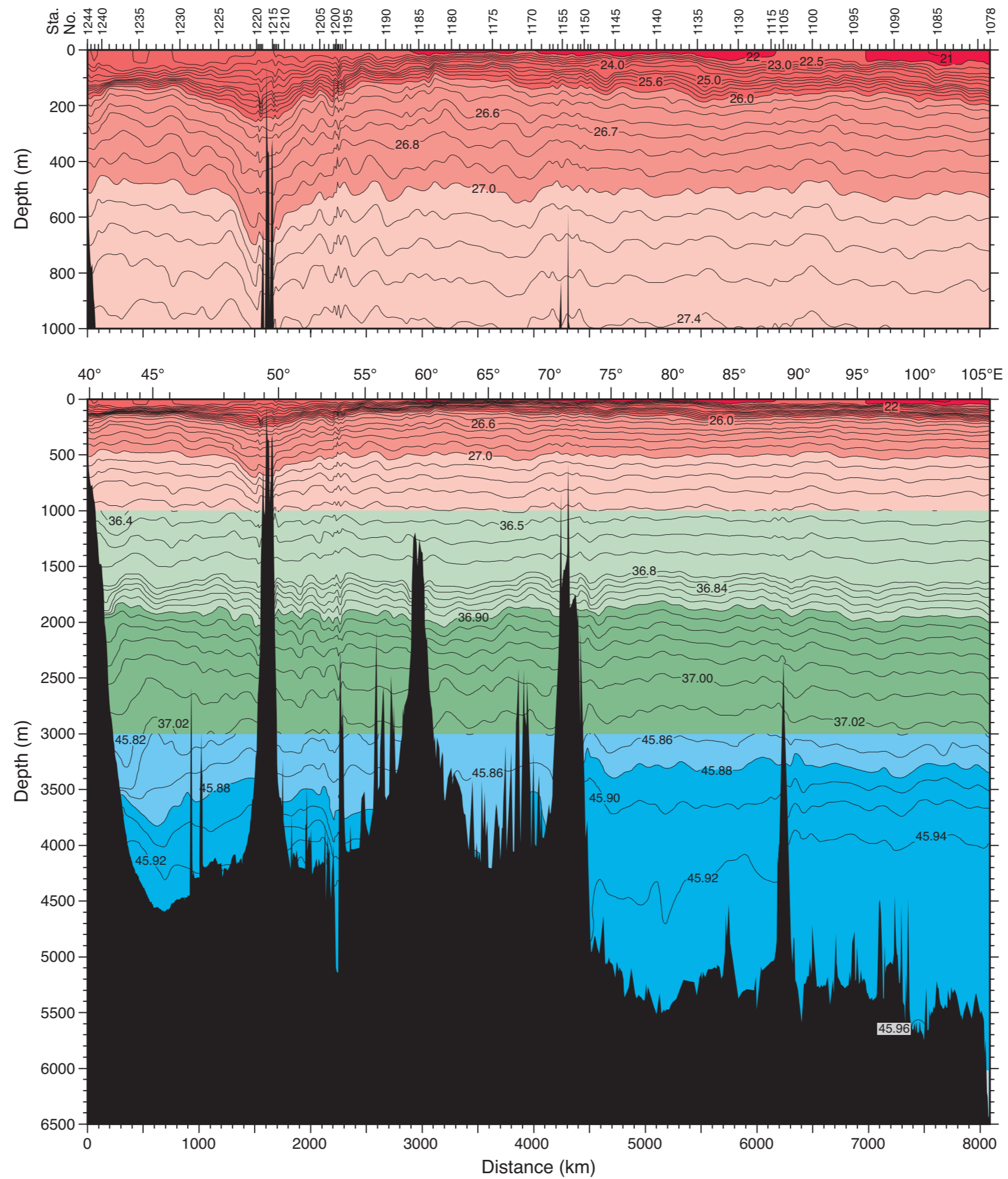
Neutral Density (kg/m³)

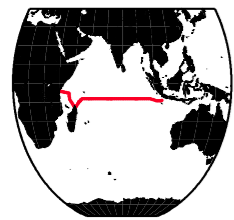


I2 (8°S)



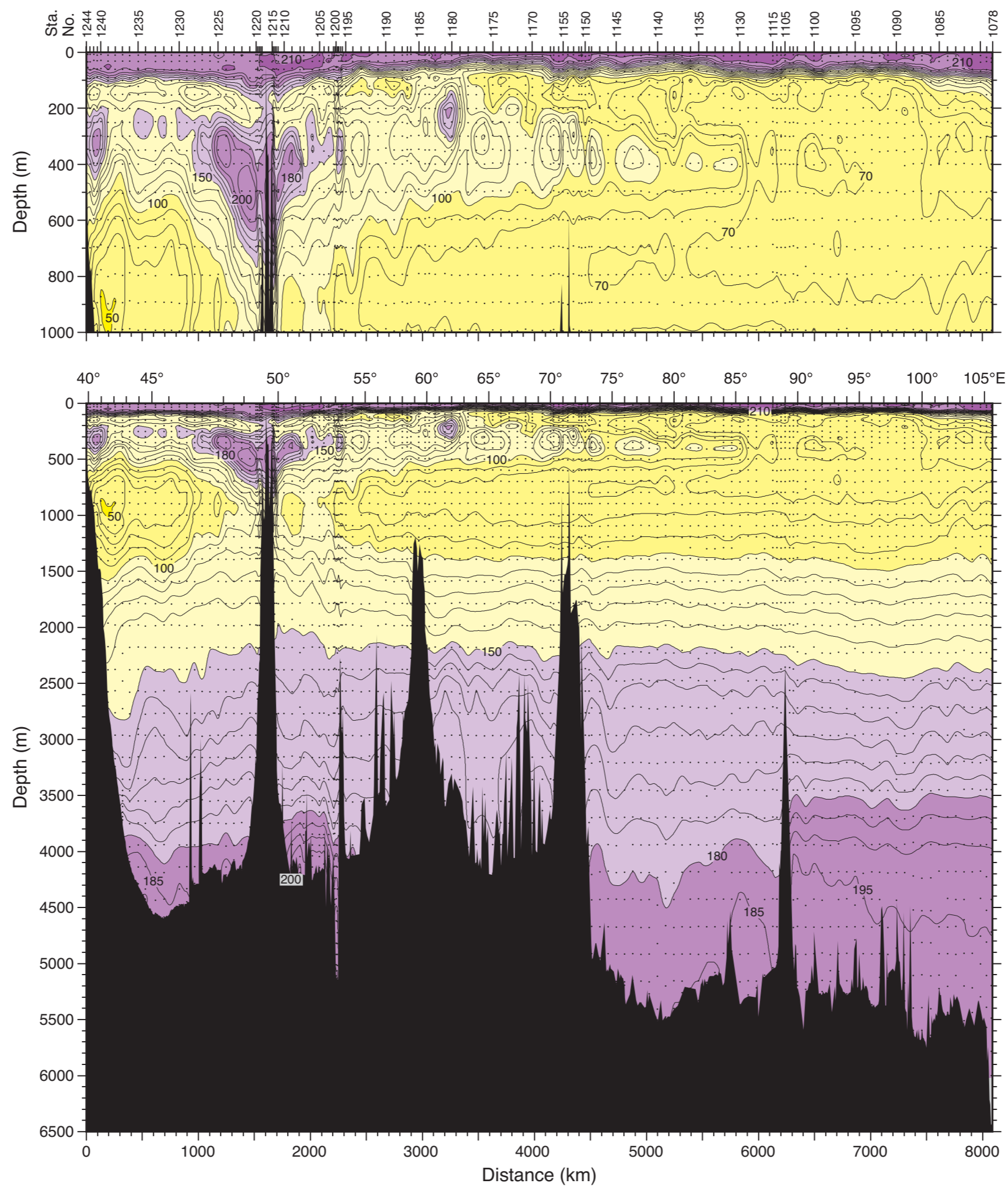
σ_0, σ_2 and σ_4 (kg/m³)



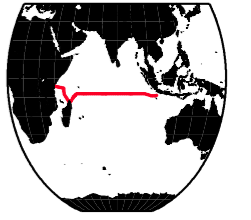


I2 (8°S)

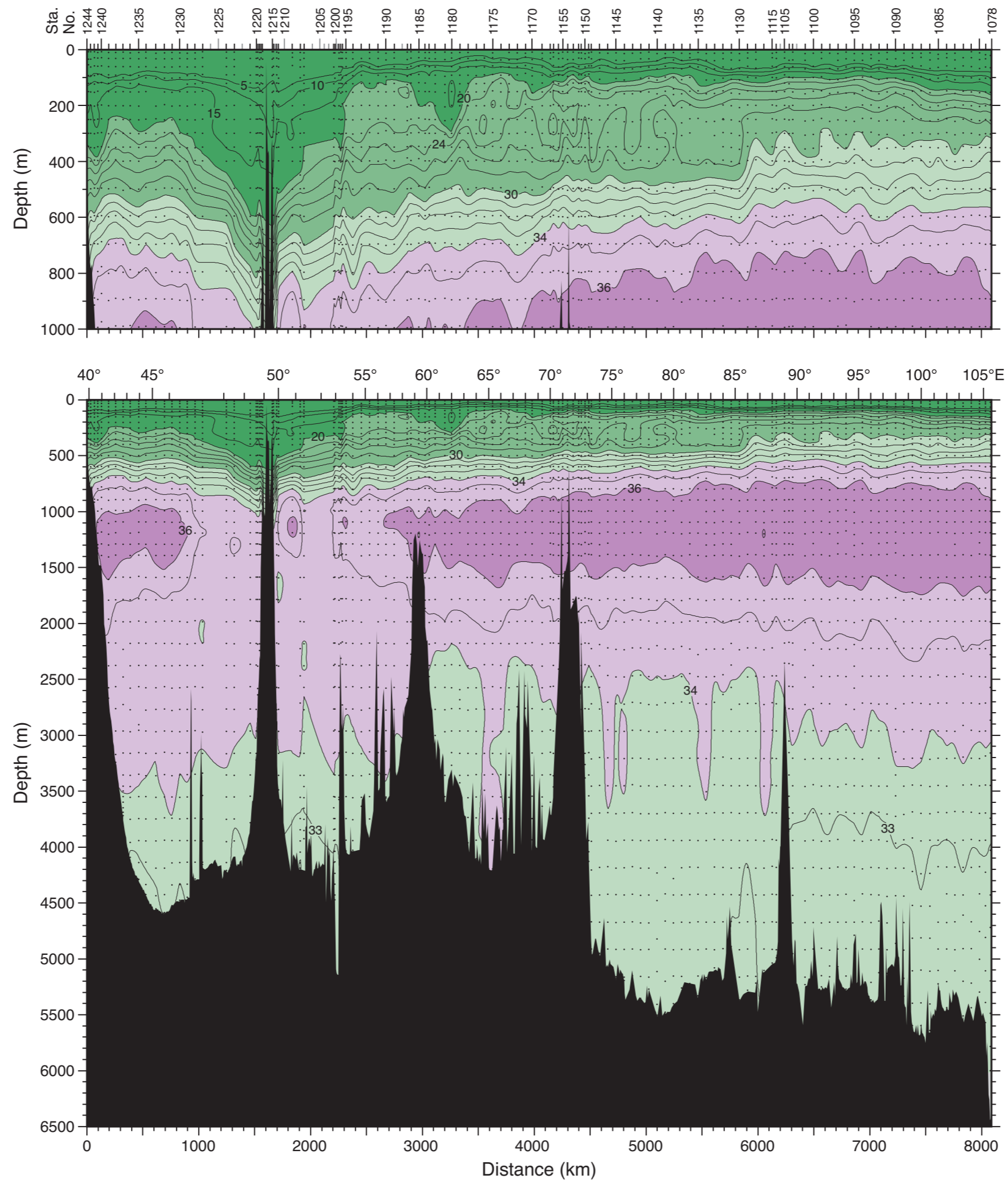
Oxygen ($\mu\text{mol/kg}$)

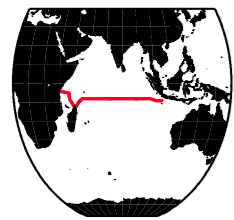


I2 (8°S)



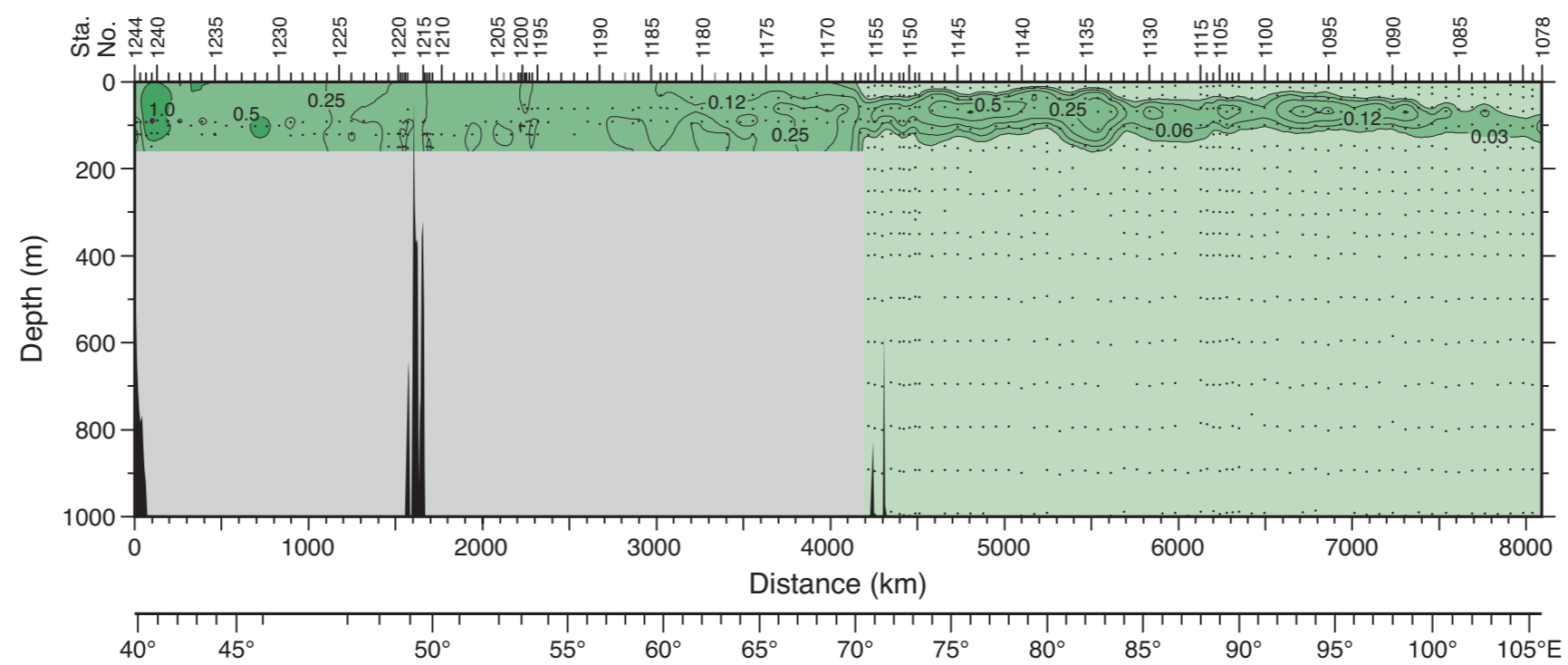
Nitrate ($\mu\text{mol/kg}$)



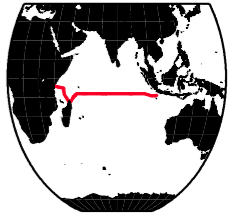


I2 (8°S)

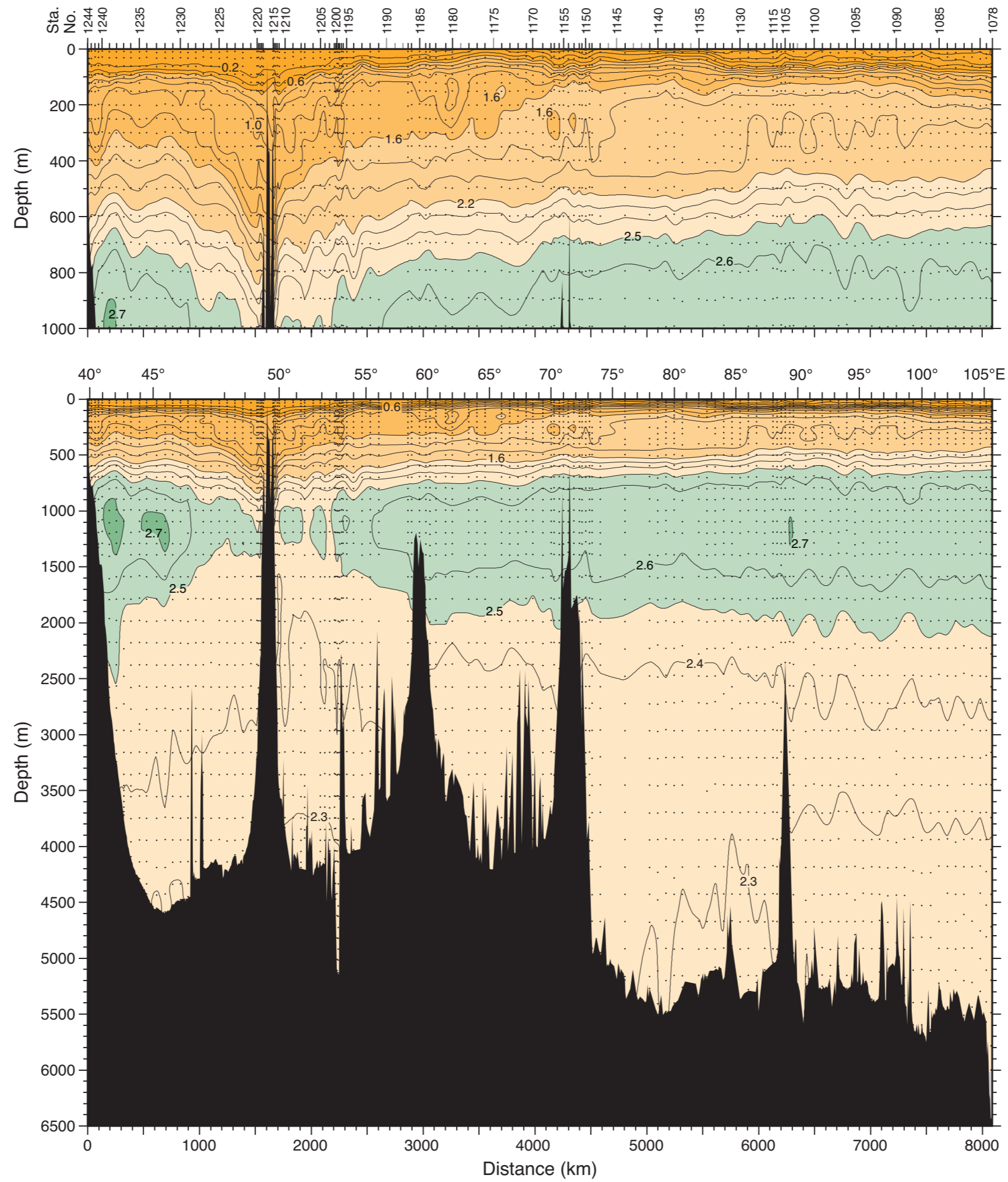
Nitrite ($\mu\text{mol/kg}$)

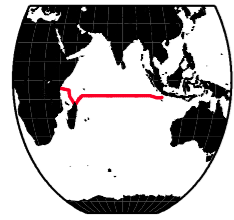


I2 (8°S)



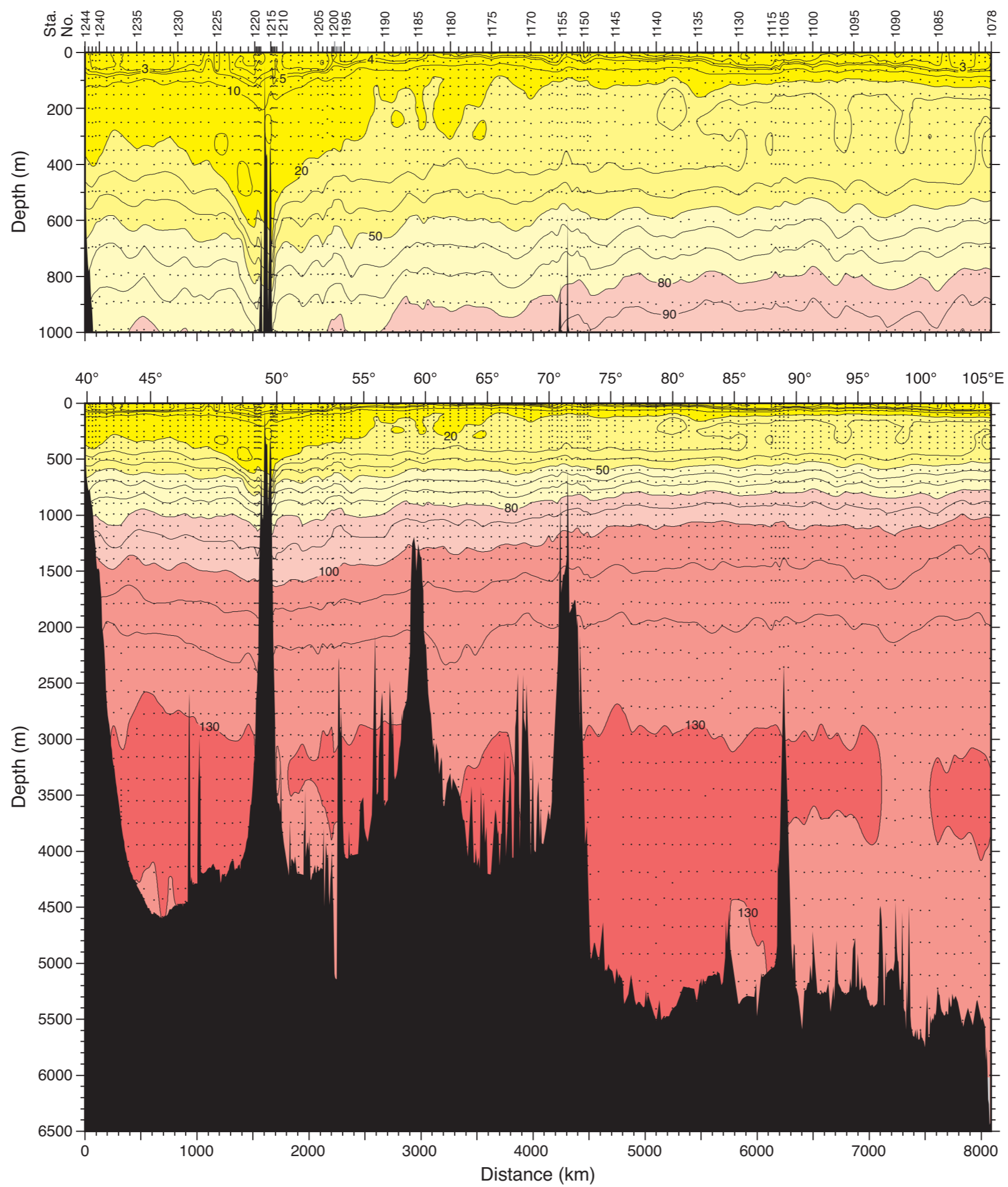
Phosphate ($\mu\text{mol}/\text{kg}$)





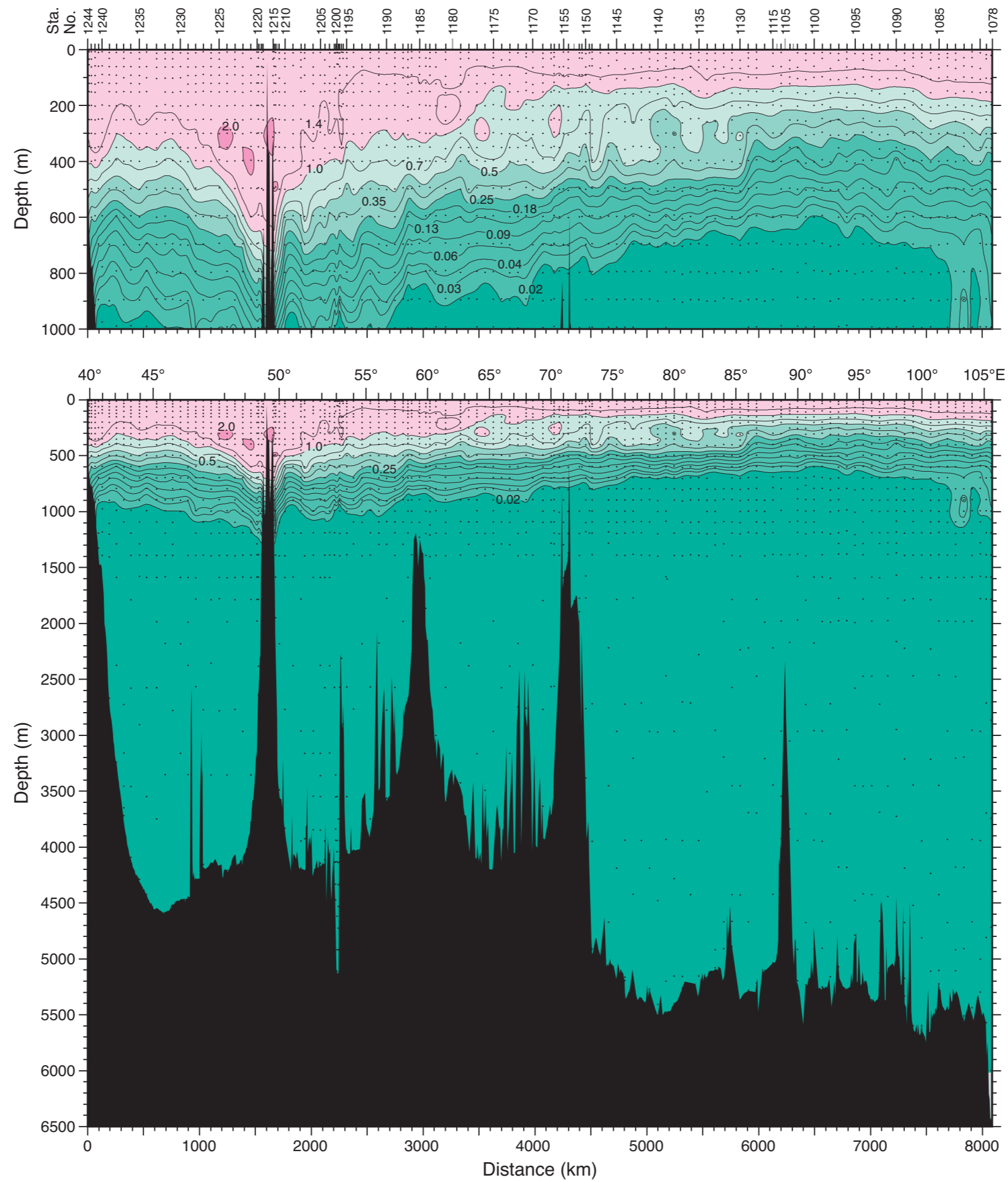
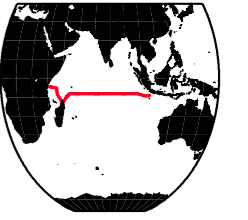
I2 (8°S)

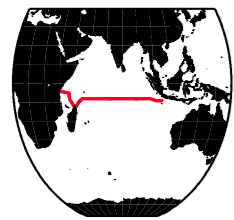
Dissolved Silica ($\mu\text{mol/kg}$)



I2 (8°S)

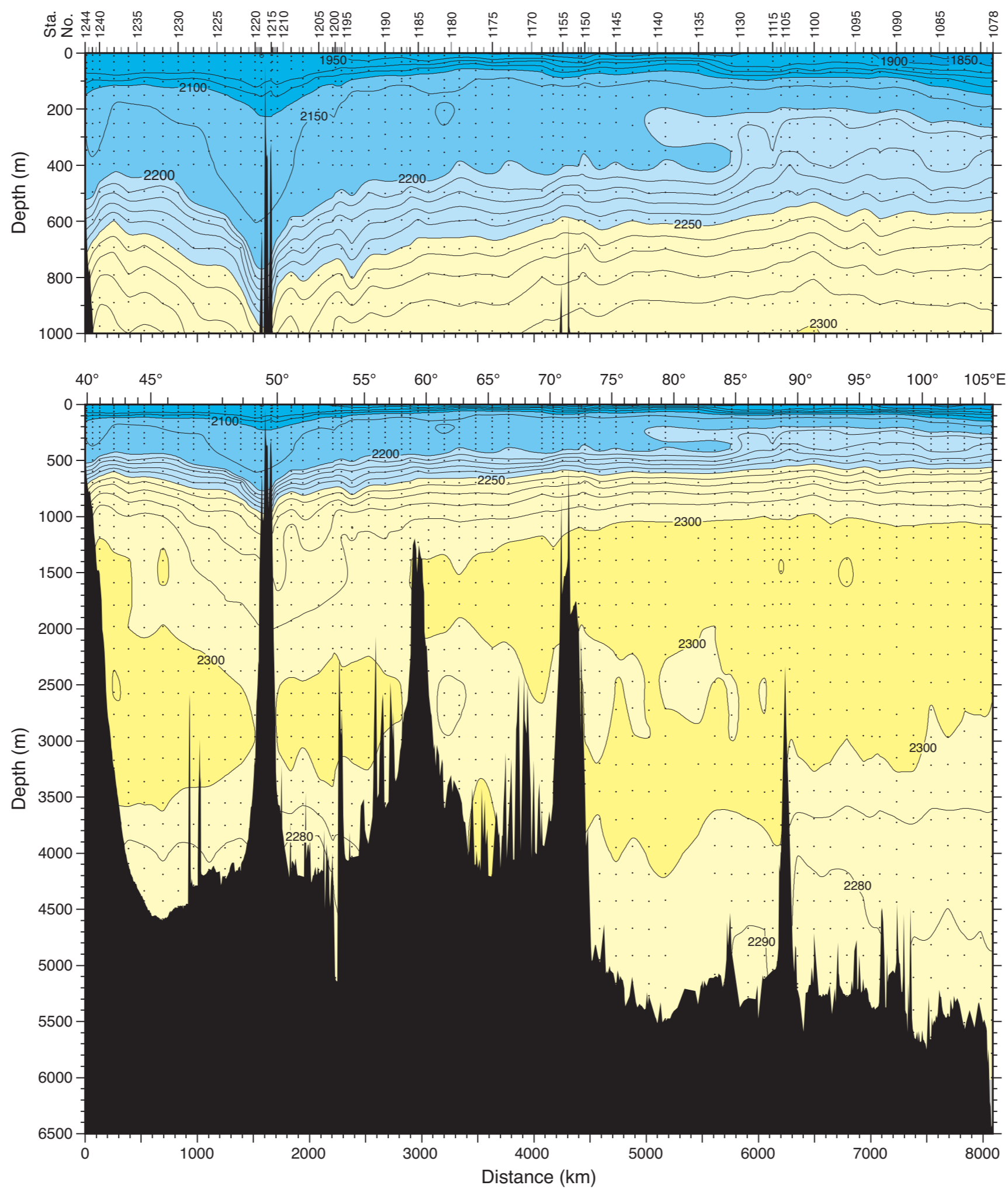
CFC-11 (pmol/kg)



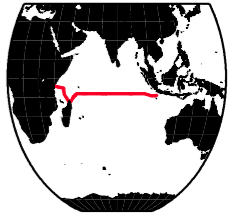


I2 (8°S)

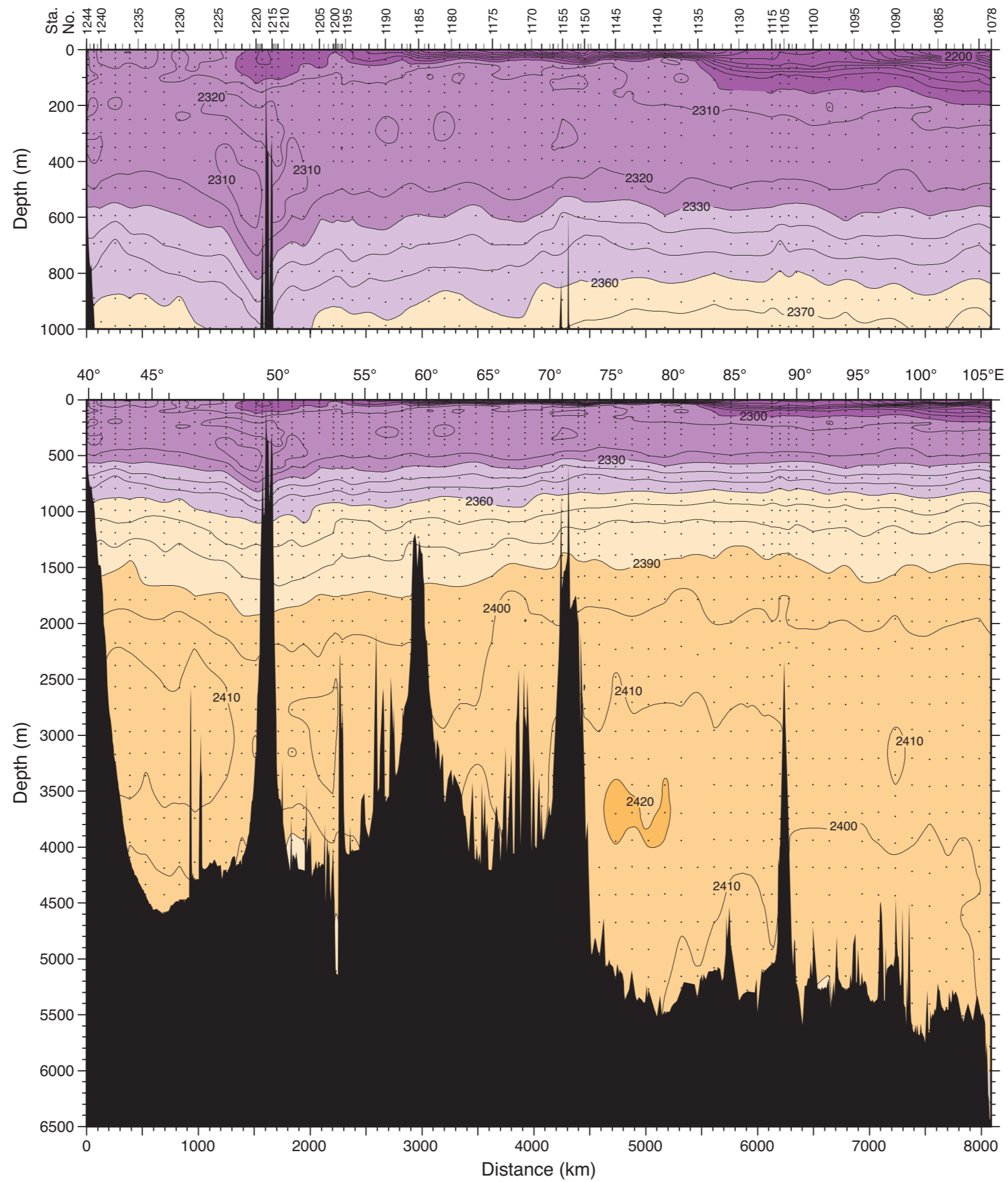
Total Carbon ($\mu\text{mol}/\text{kg}$)

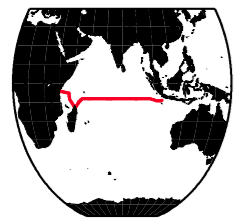


I2 (8°S)



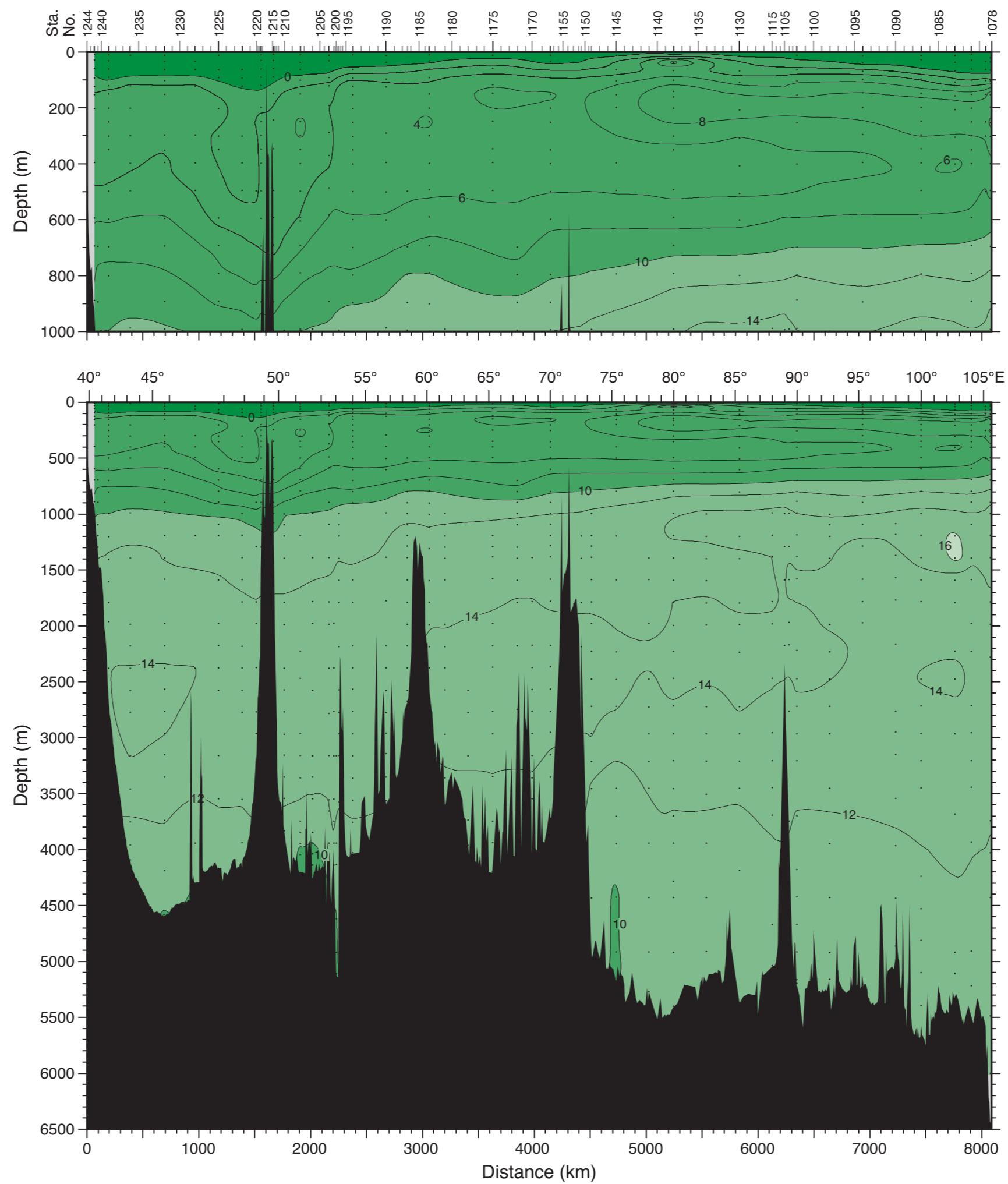
Alkalinity ($\mu\text{mol/kg}$)





I2 (8°S)

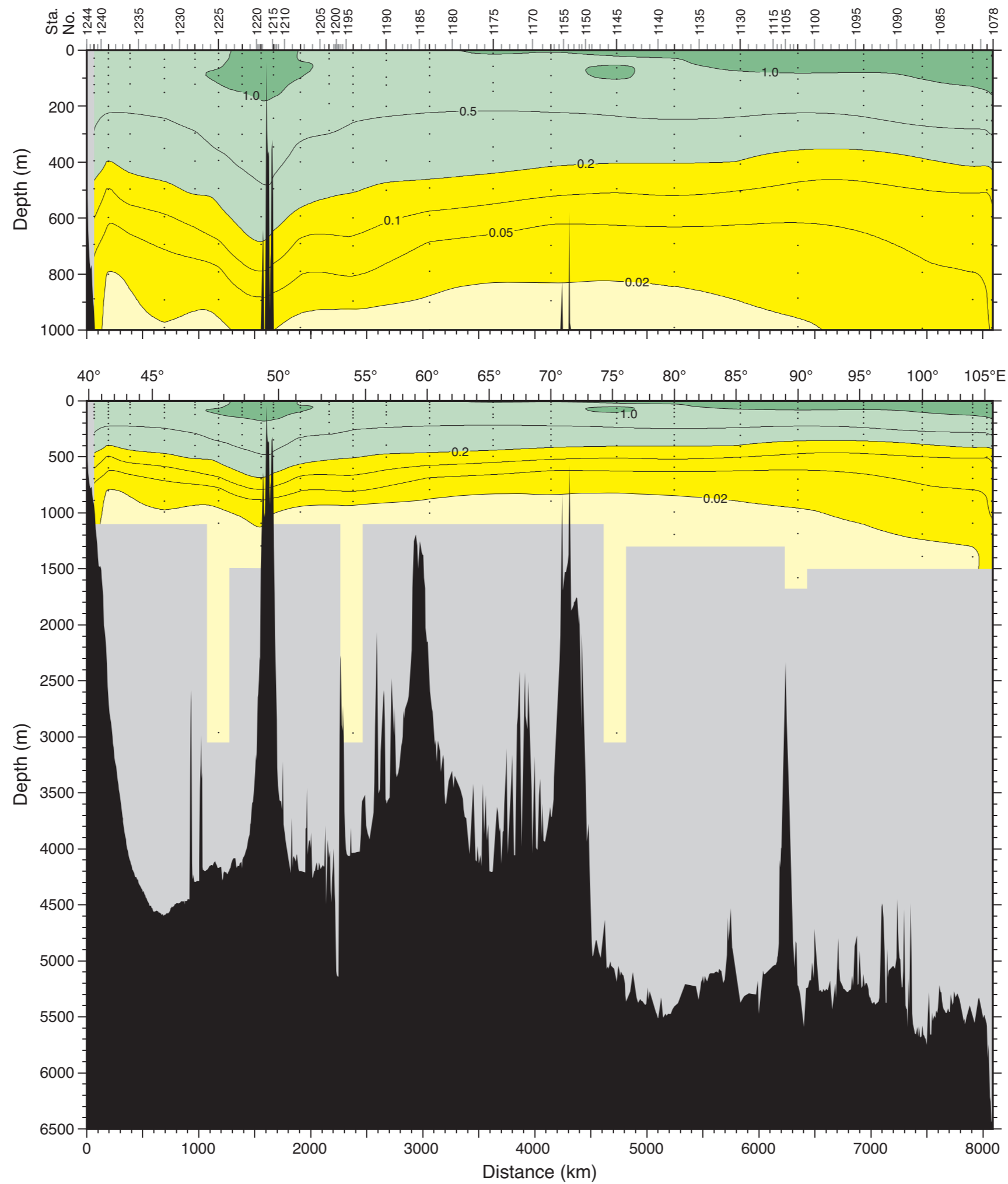
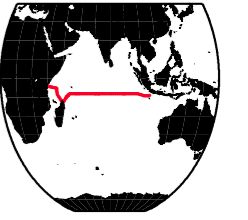
$\delta^3\text{He}$ (%)

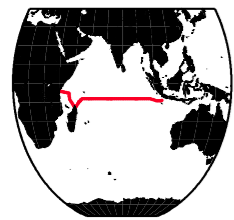


I2

I2 (8°S)

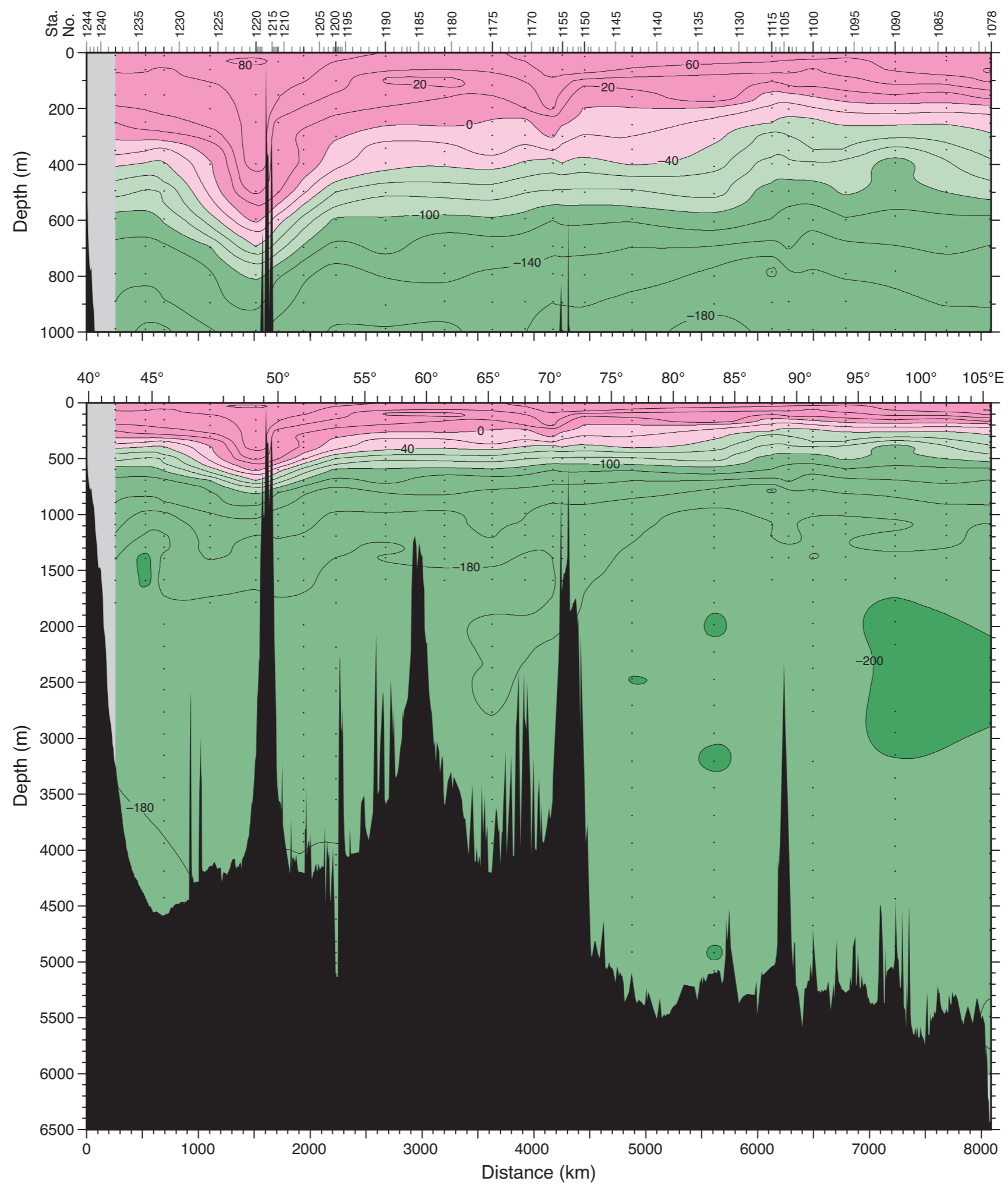
Tritium (TU)





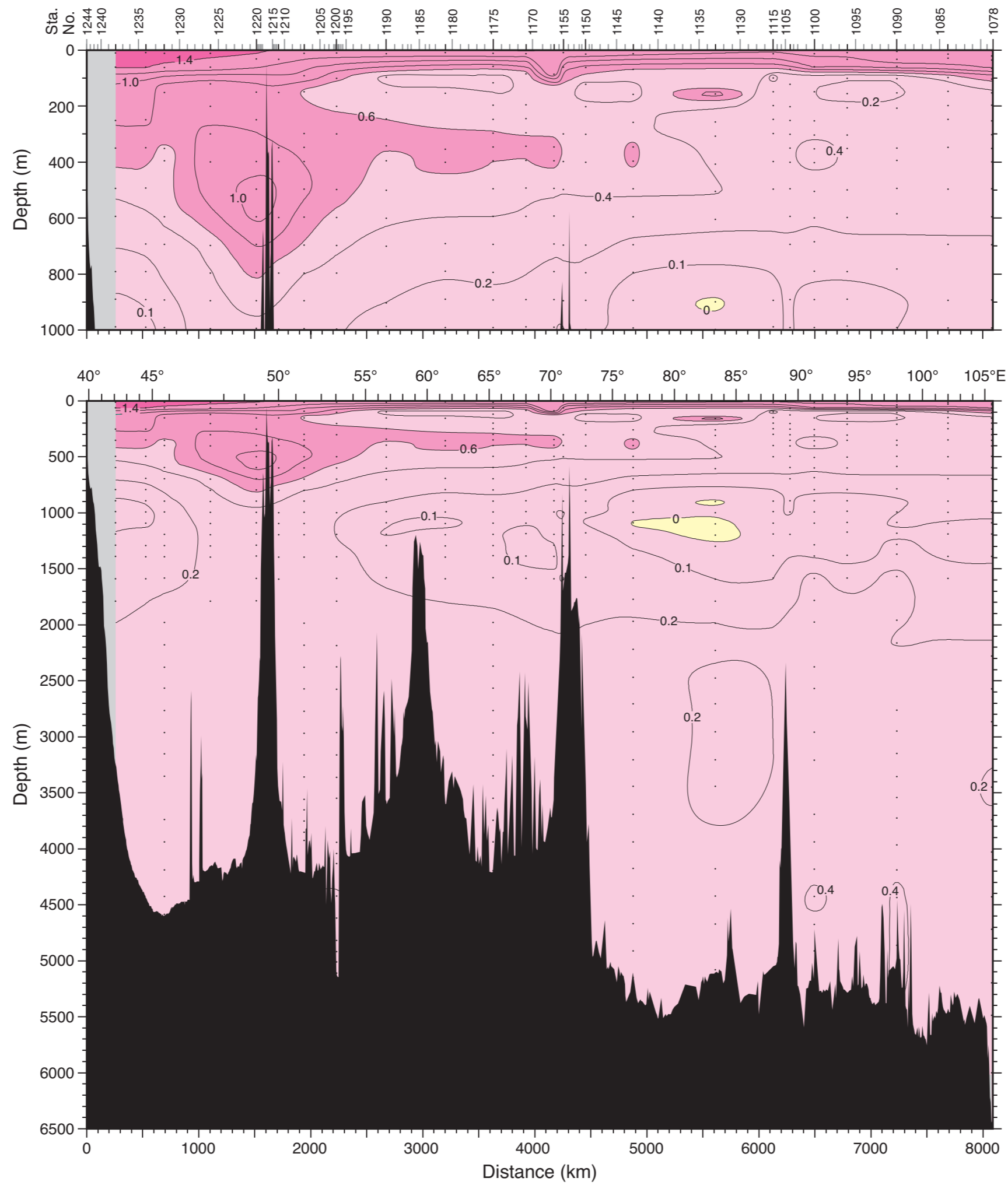
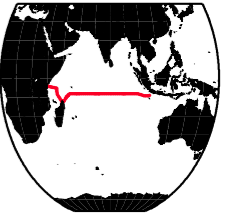
I2 (8°S)

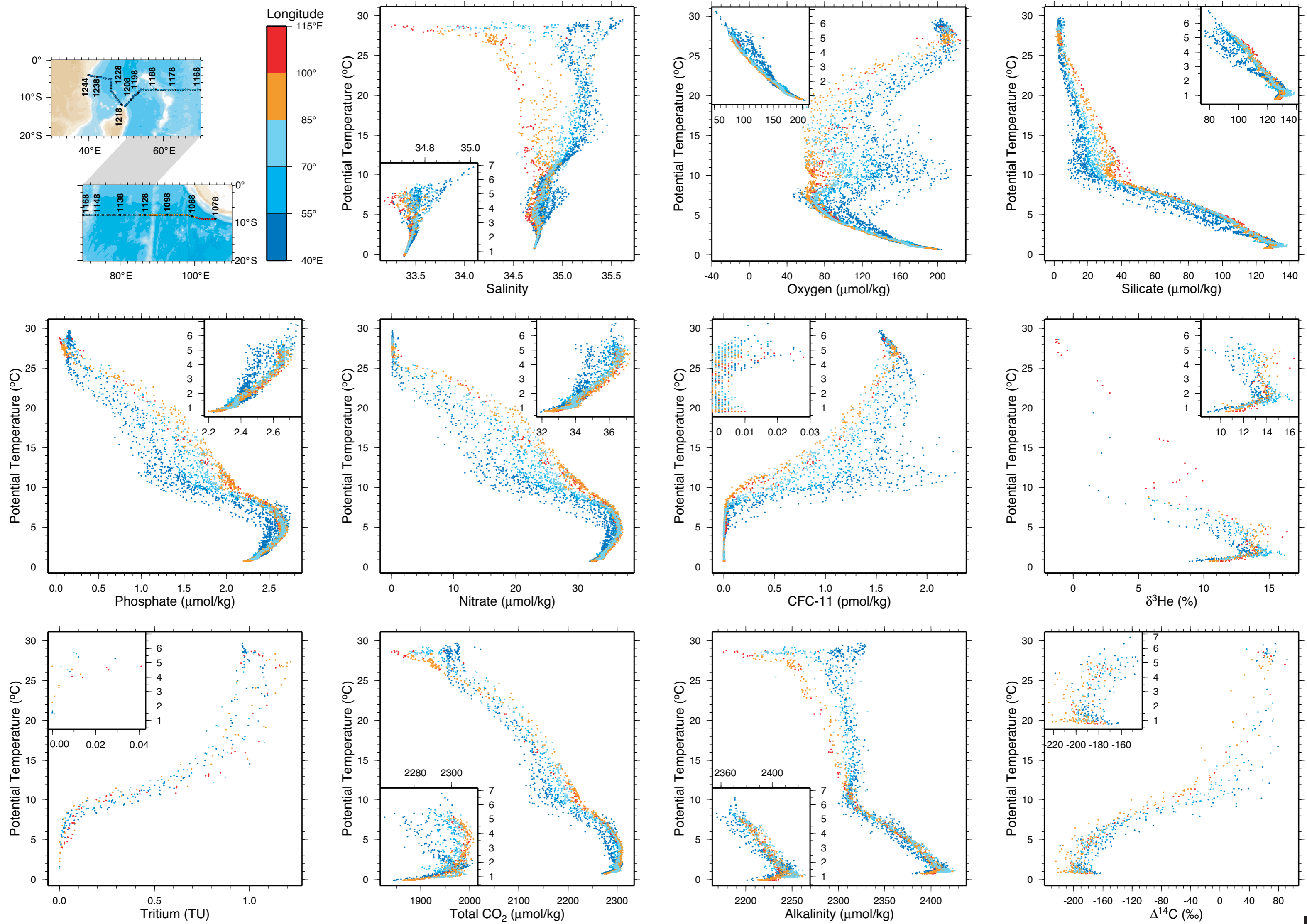
$\Delta^{14}\text{C}$ (‰)

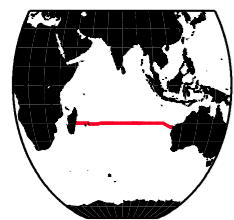


I2 (8°S)

$\delta^{13}\text{C}$ (‰)

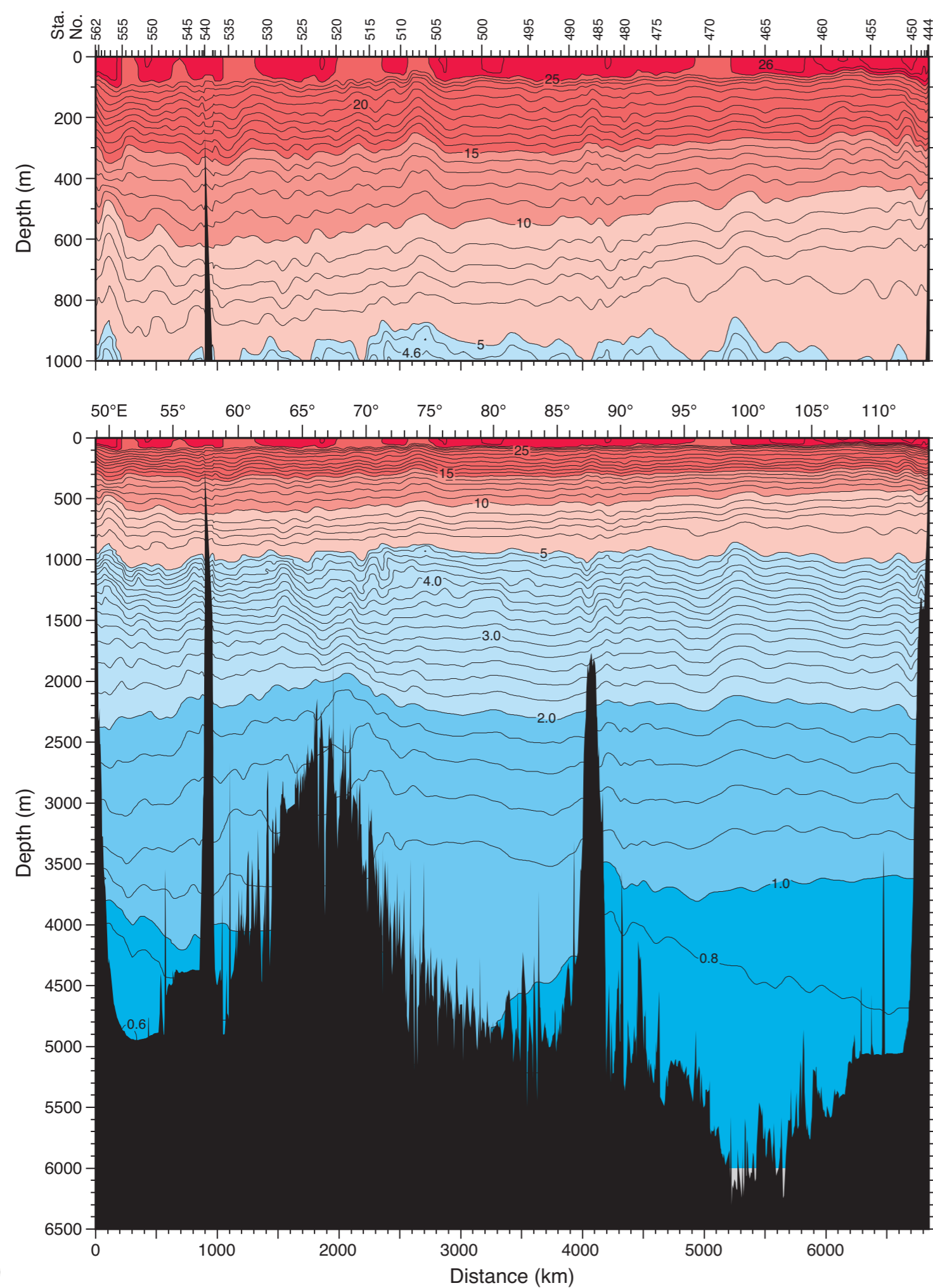




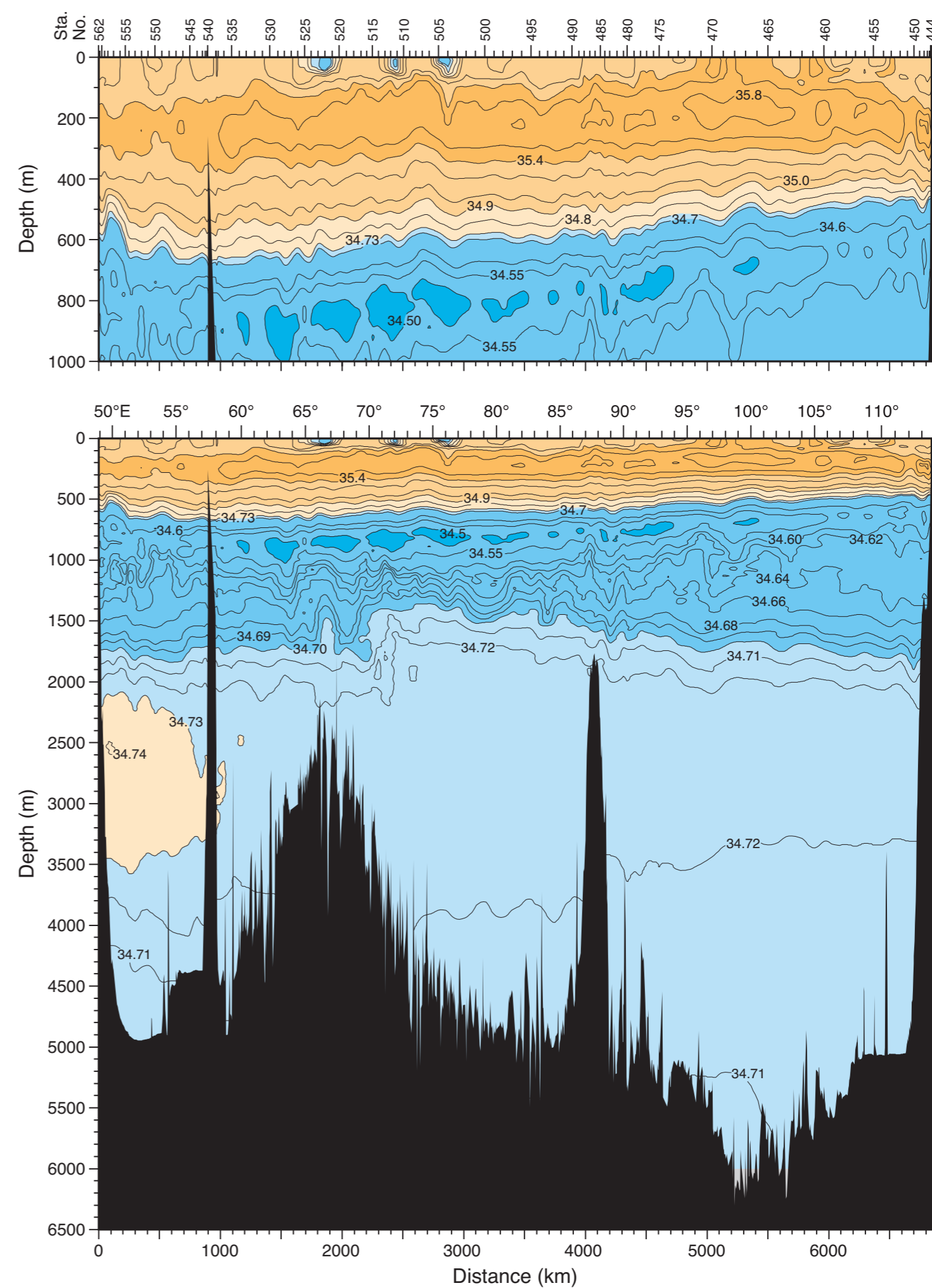


I3 (20°S)

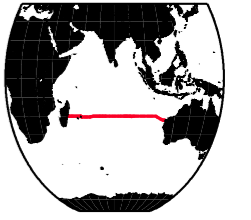
Potential Temperature (°C)



Salinity (PSS78)

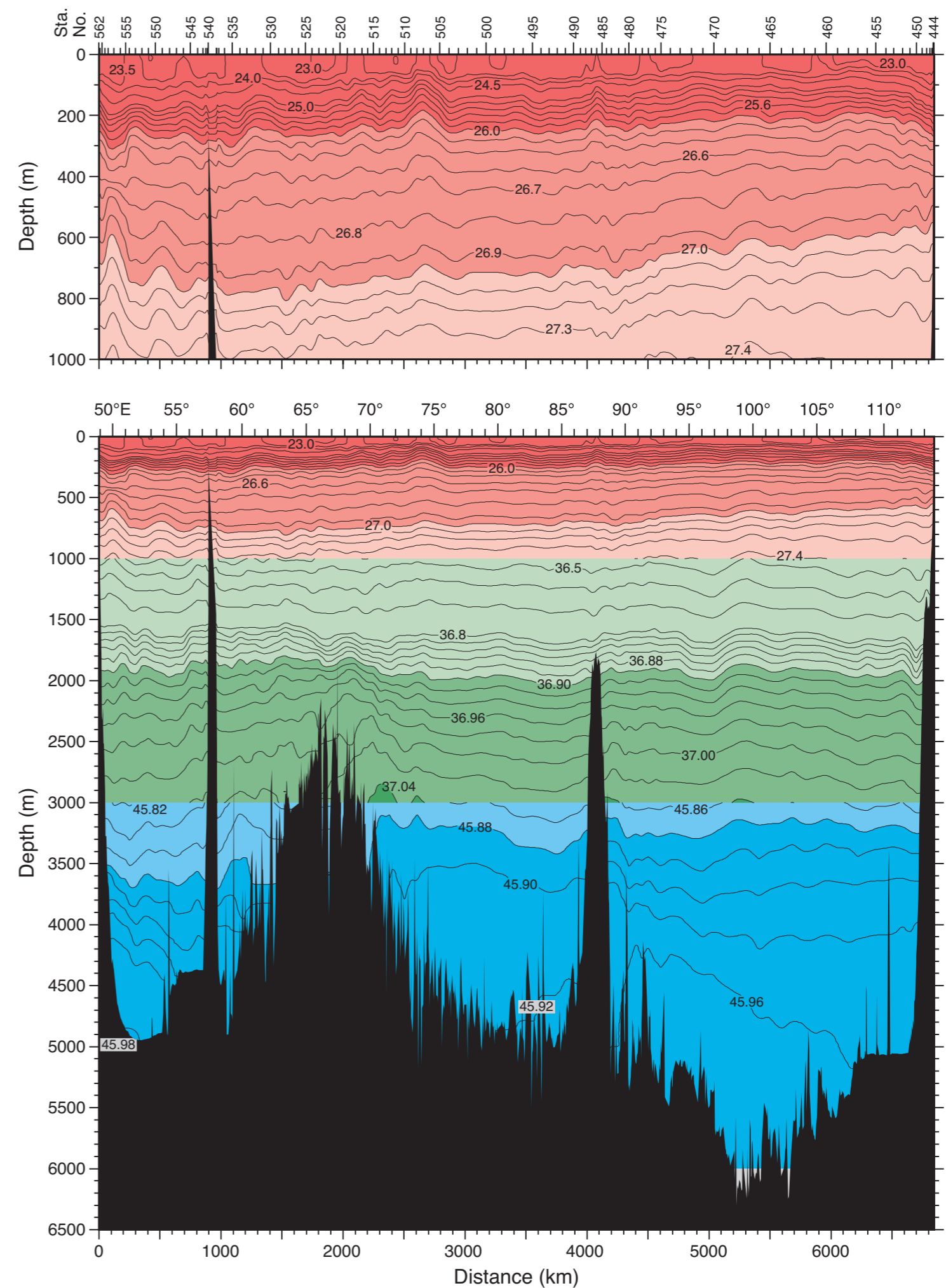
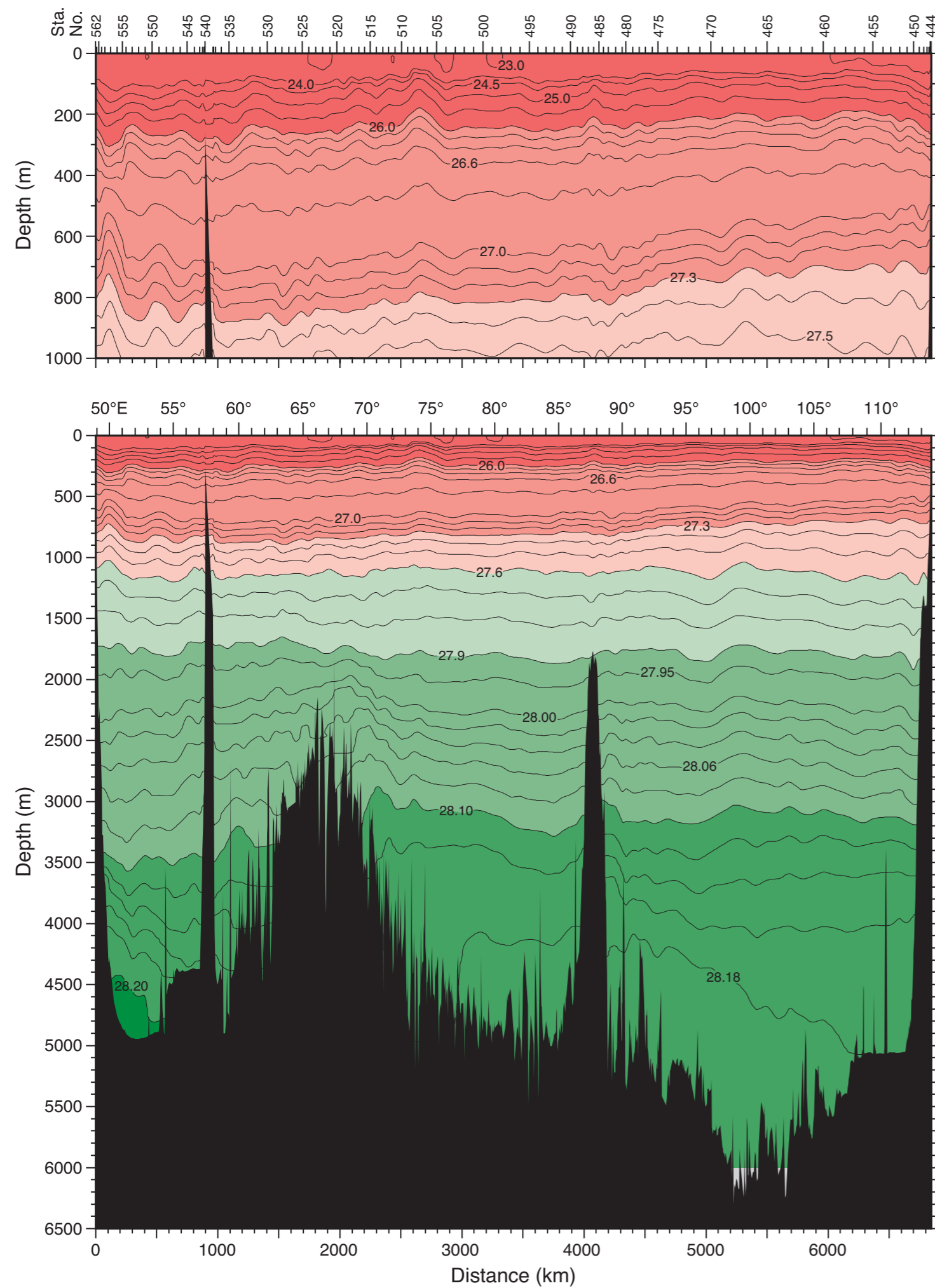


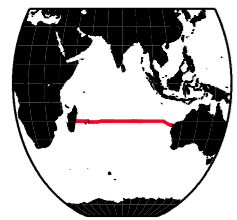
I3 (20°S)



Neutral Density (kg/m^3)

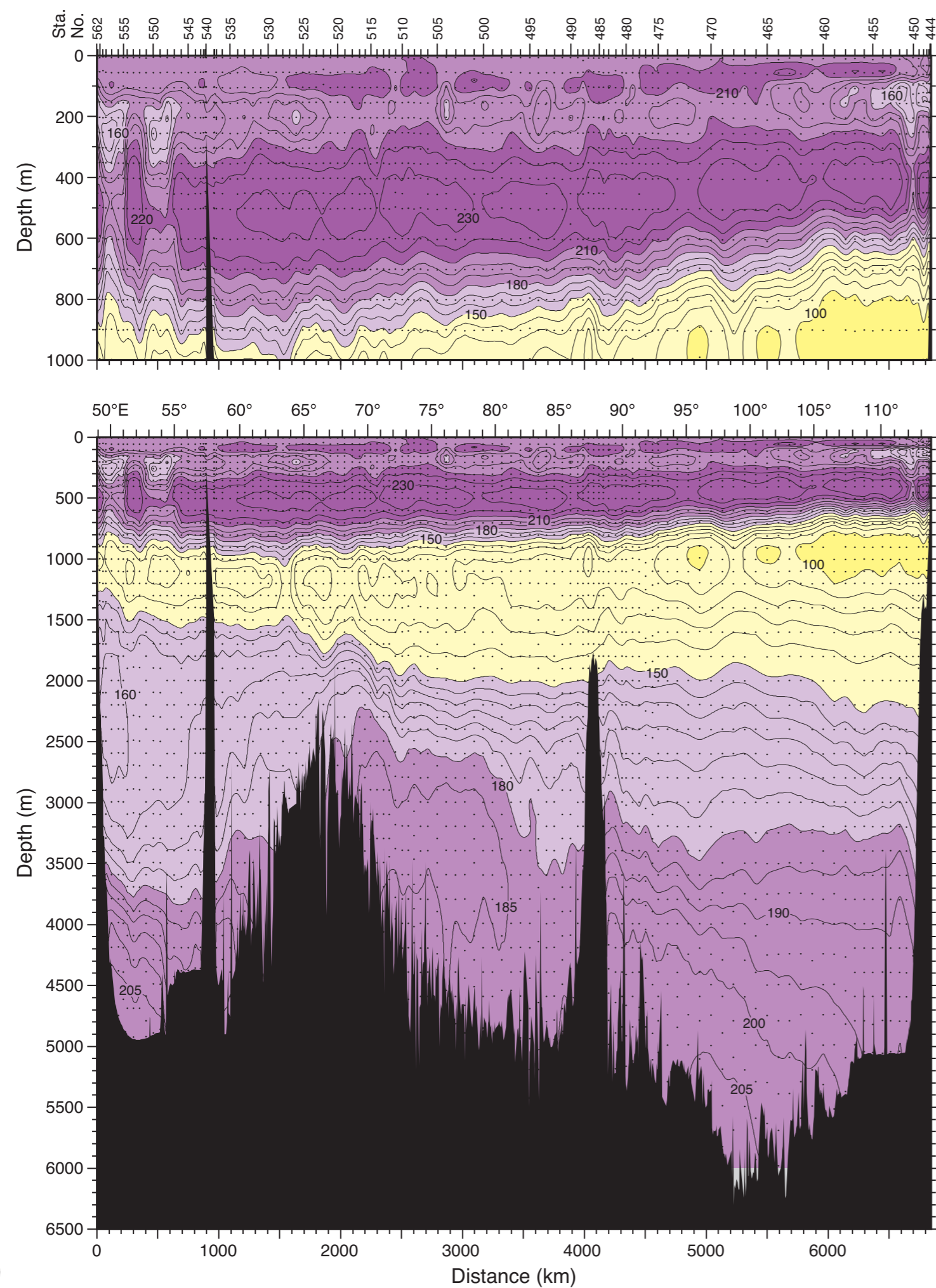
σ_0, σ_2 and σ_4 (kg/m^3)



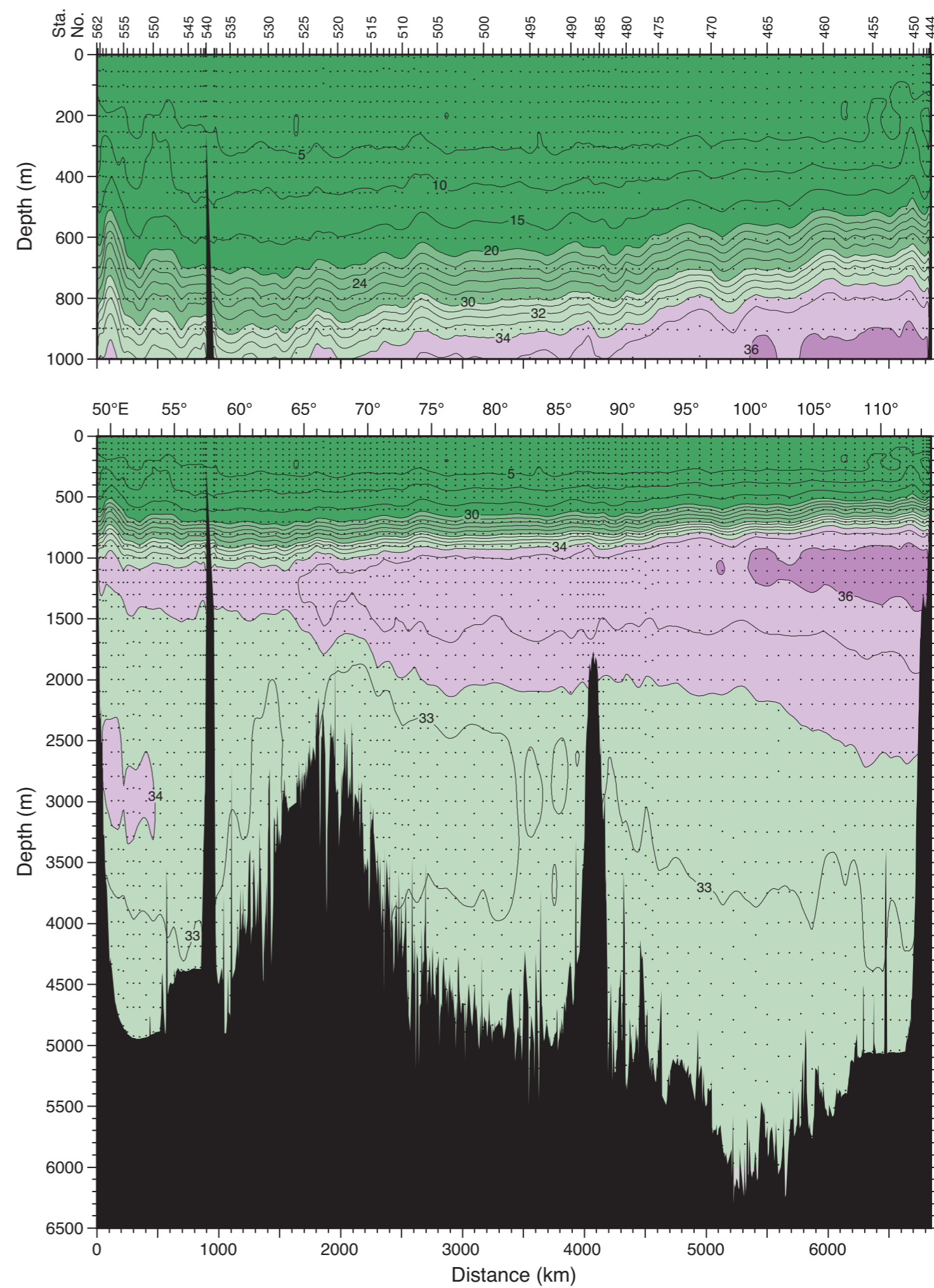


I3 (20°S)

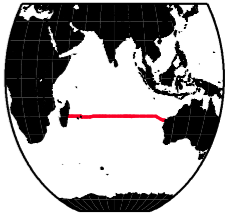
Oxygen ($\mu\text{mol/kg}$)



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

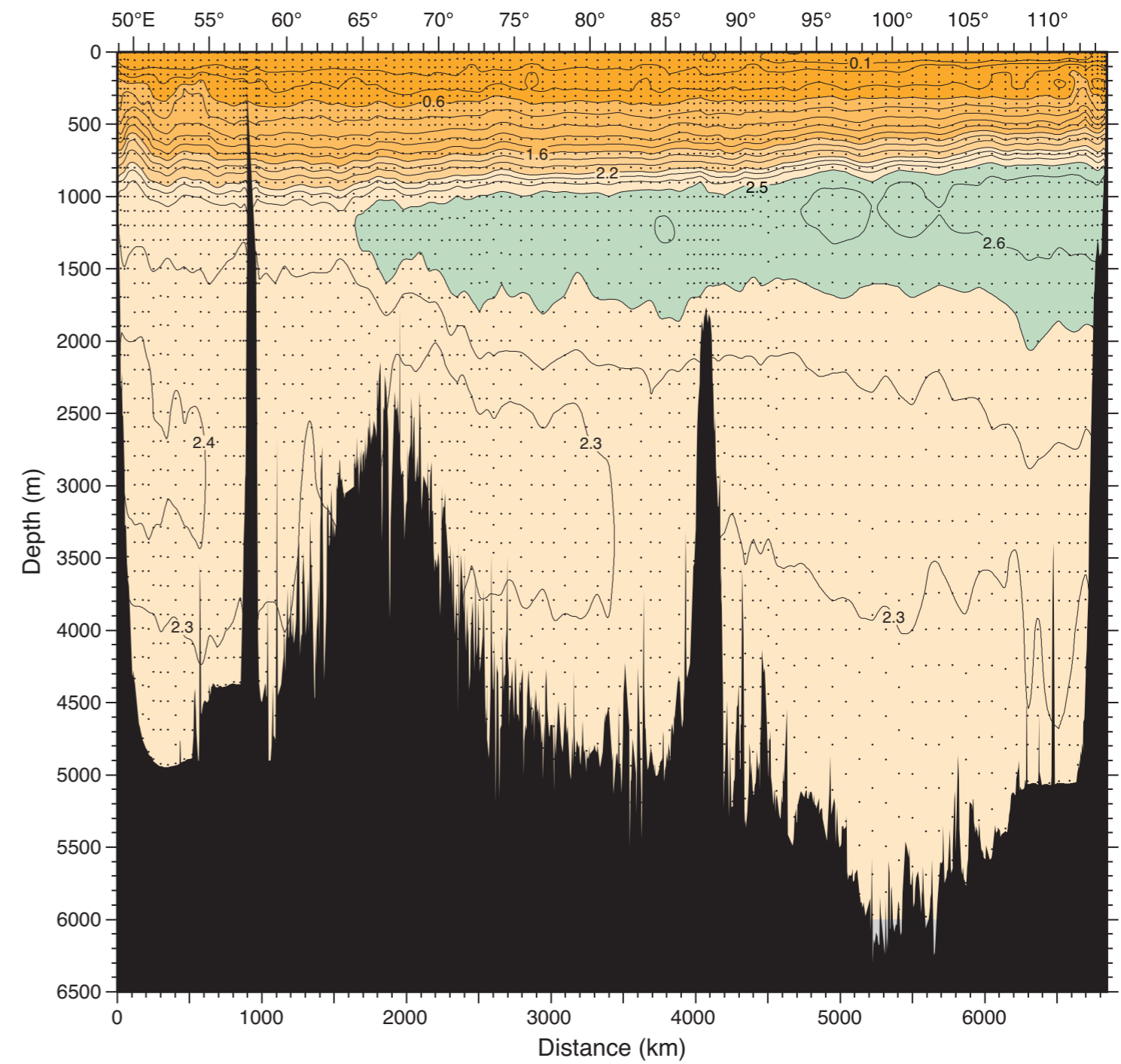
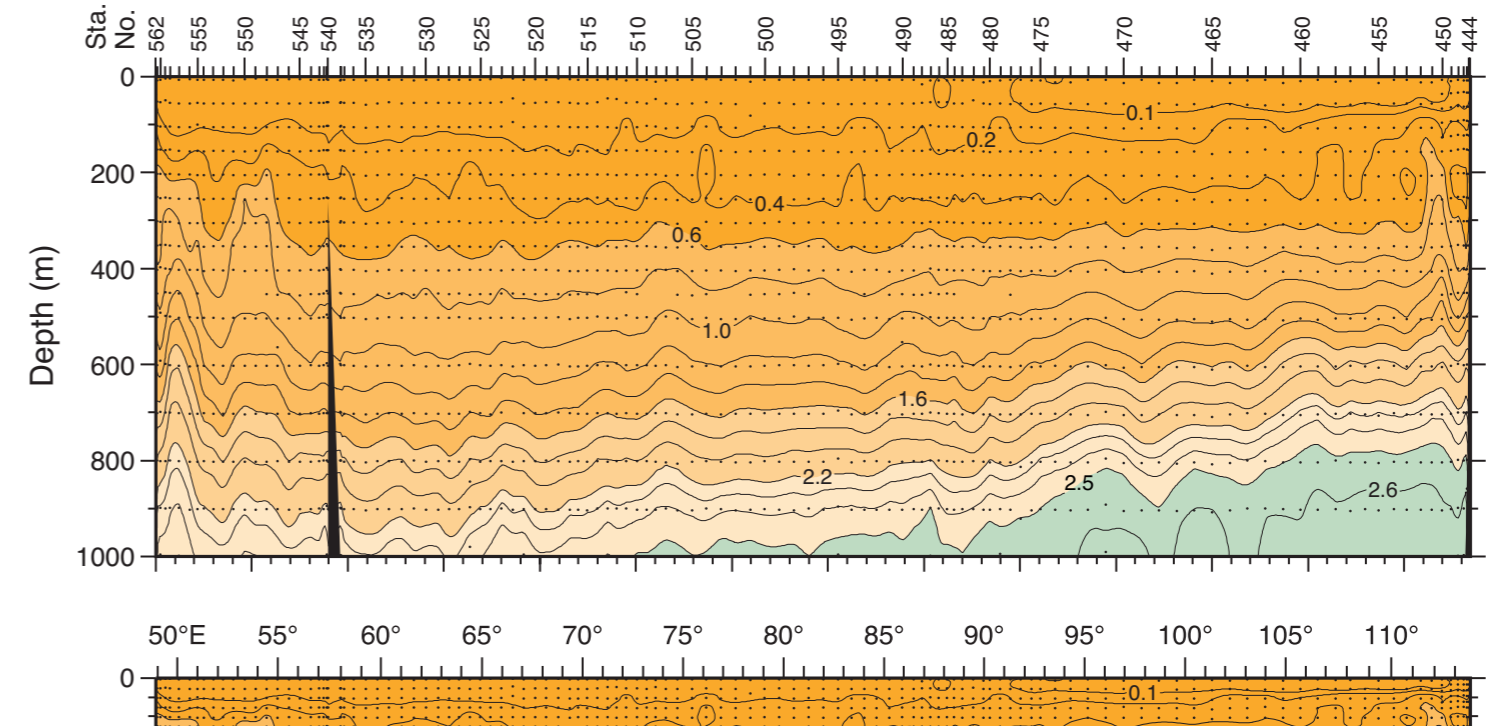
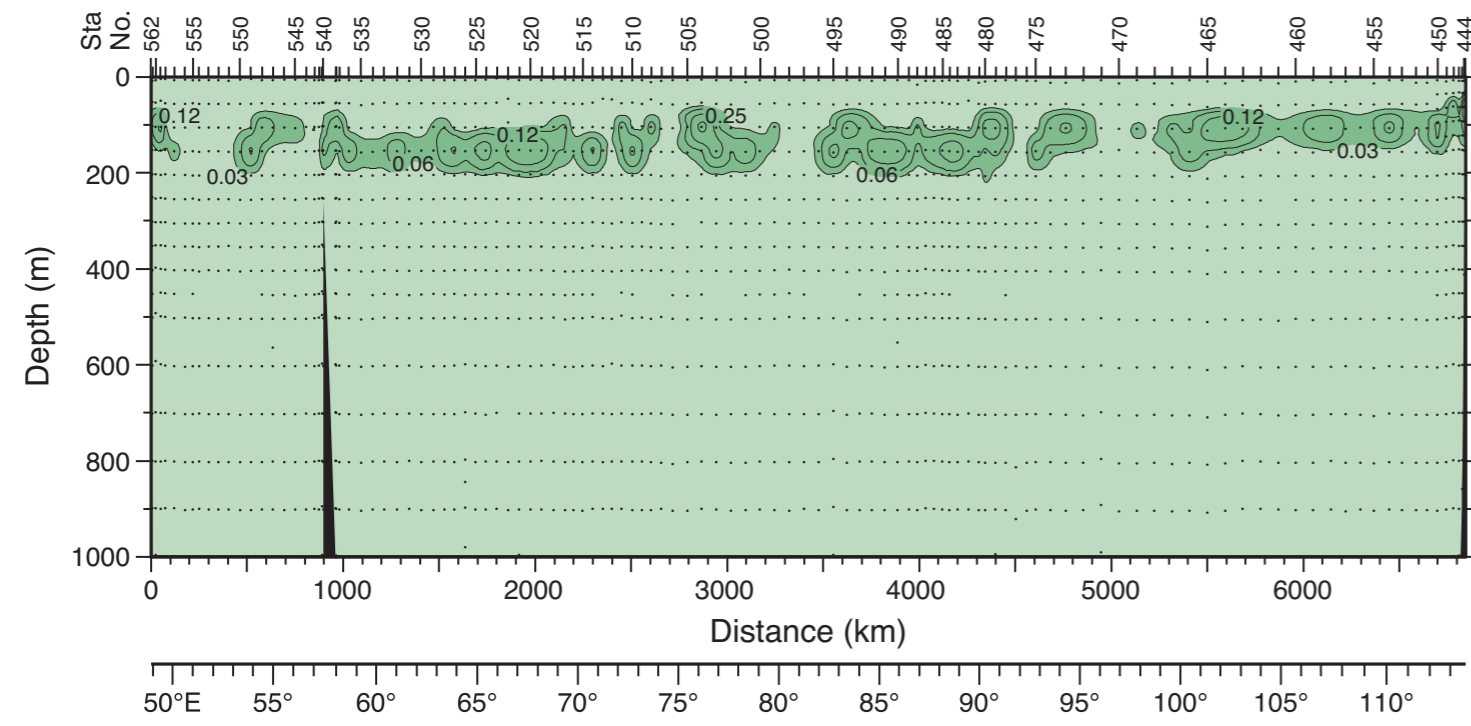


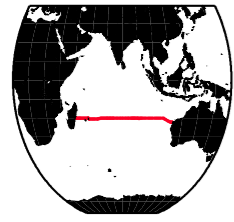
I3 (20°S)



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

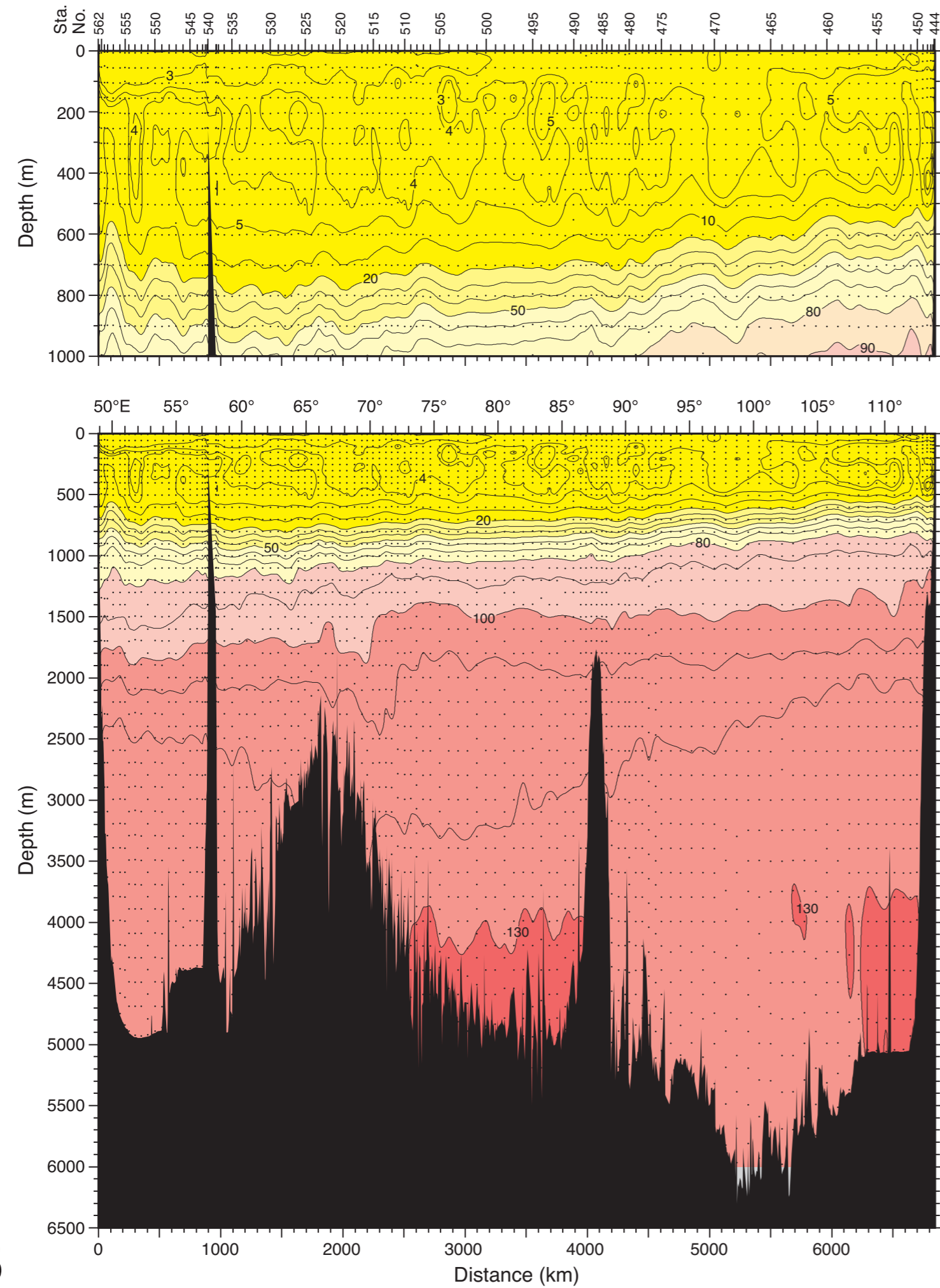
Phosphate ($\mu\text{mol/kg}$)



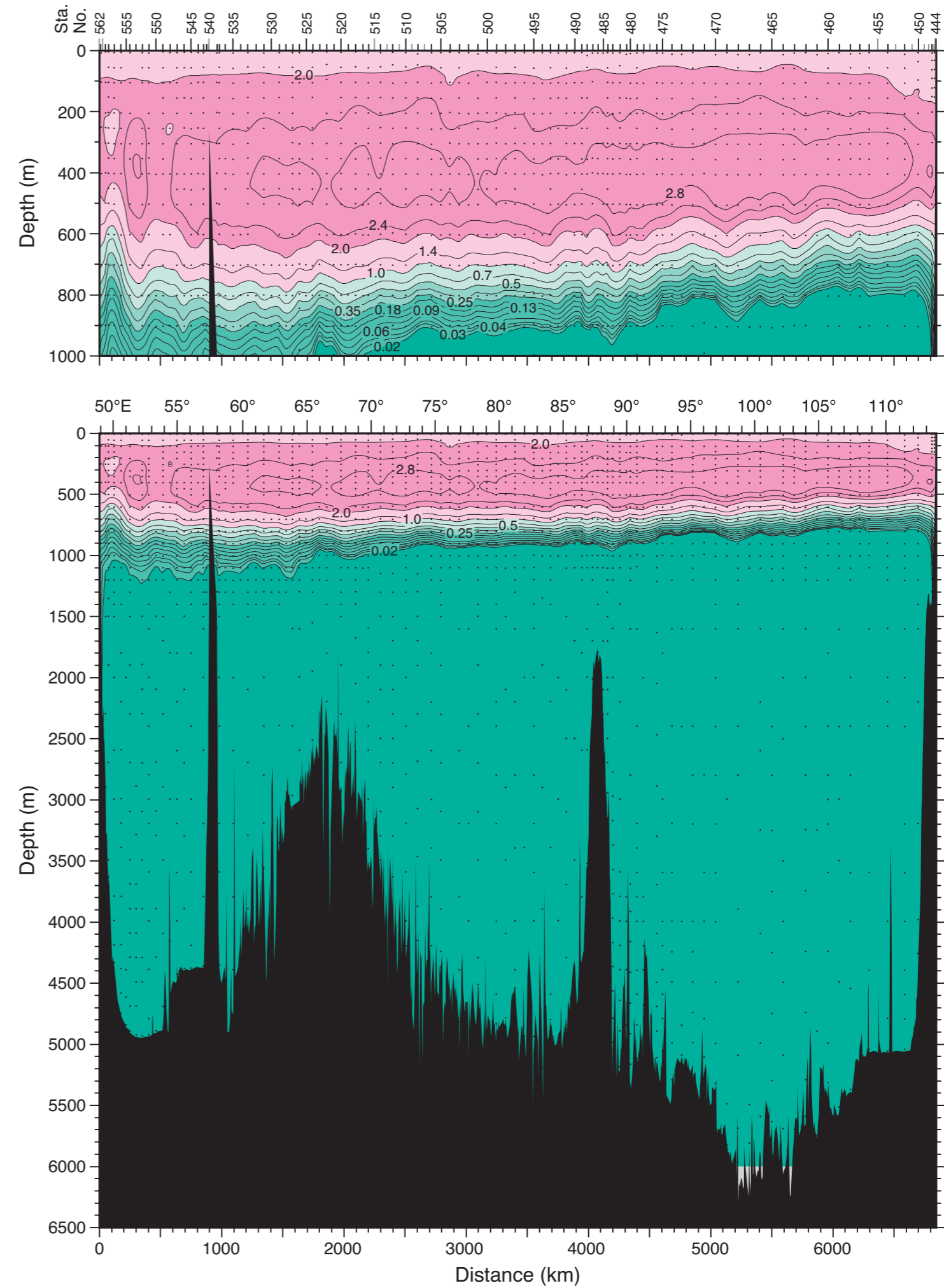


I3 (20°S)

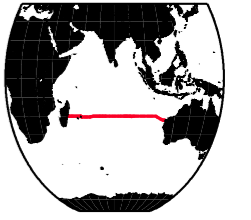
Dissolved Silica ($\mu\text{mol/kg}$)



CFC-11 (pmol/kg)

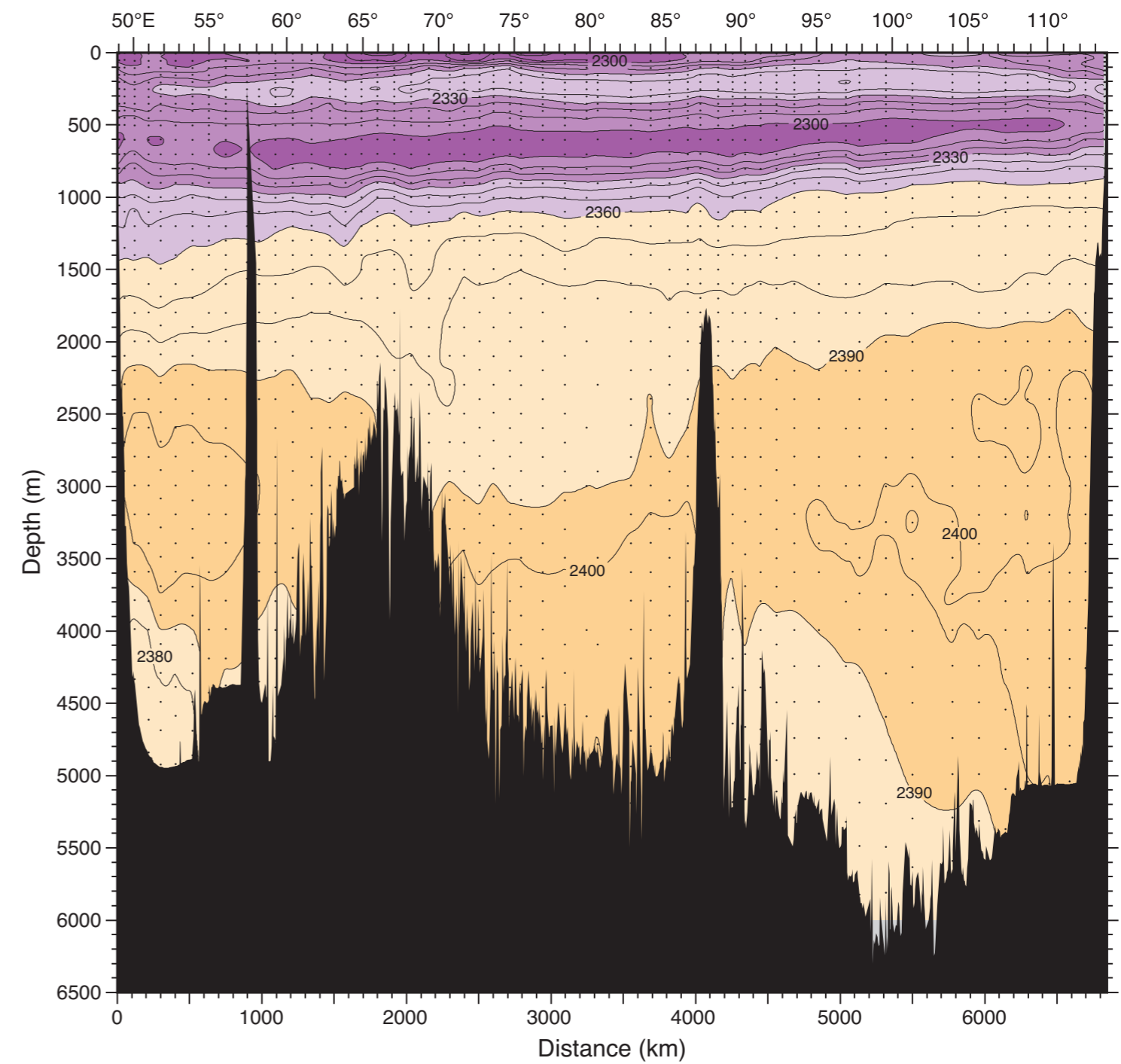
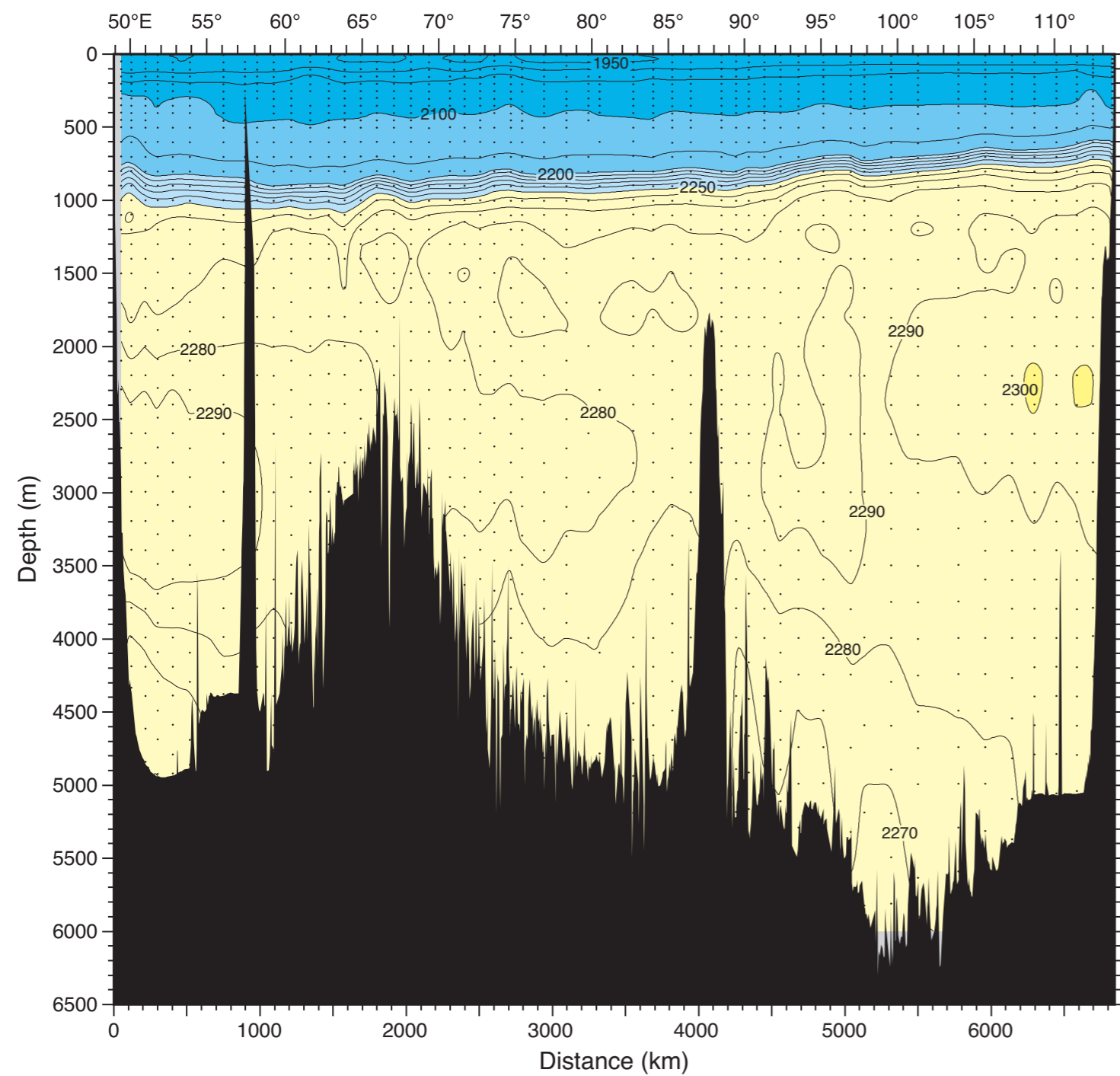
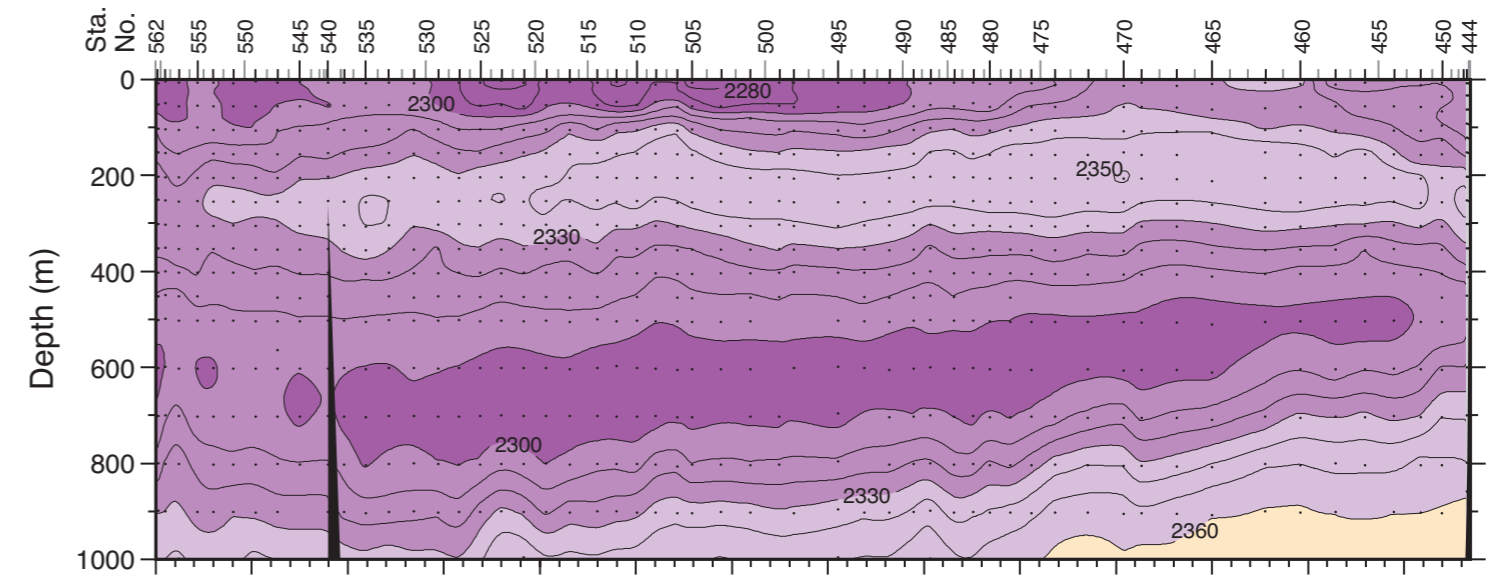
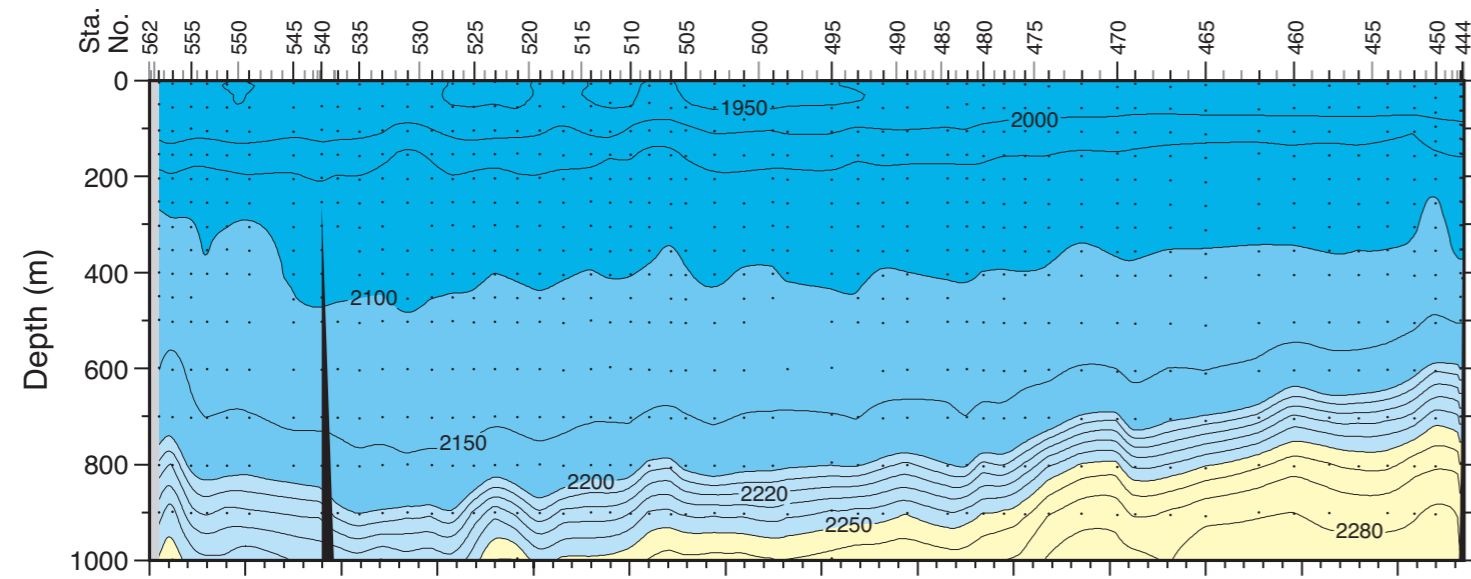


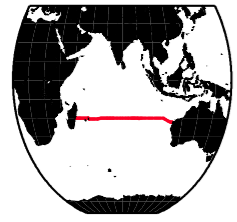
I3 (20°S)



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

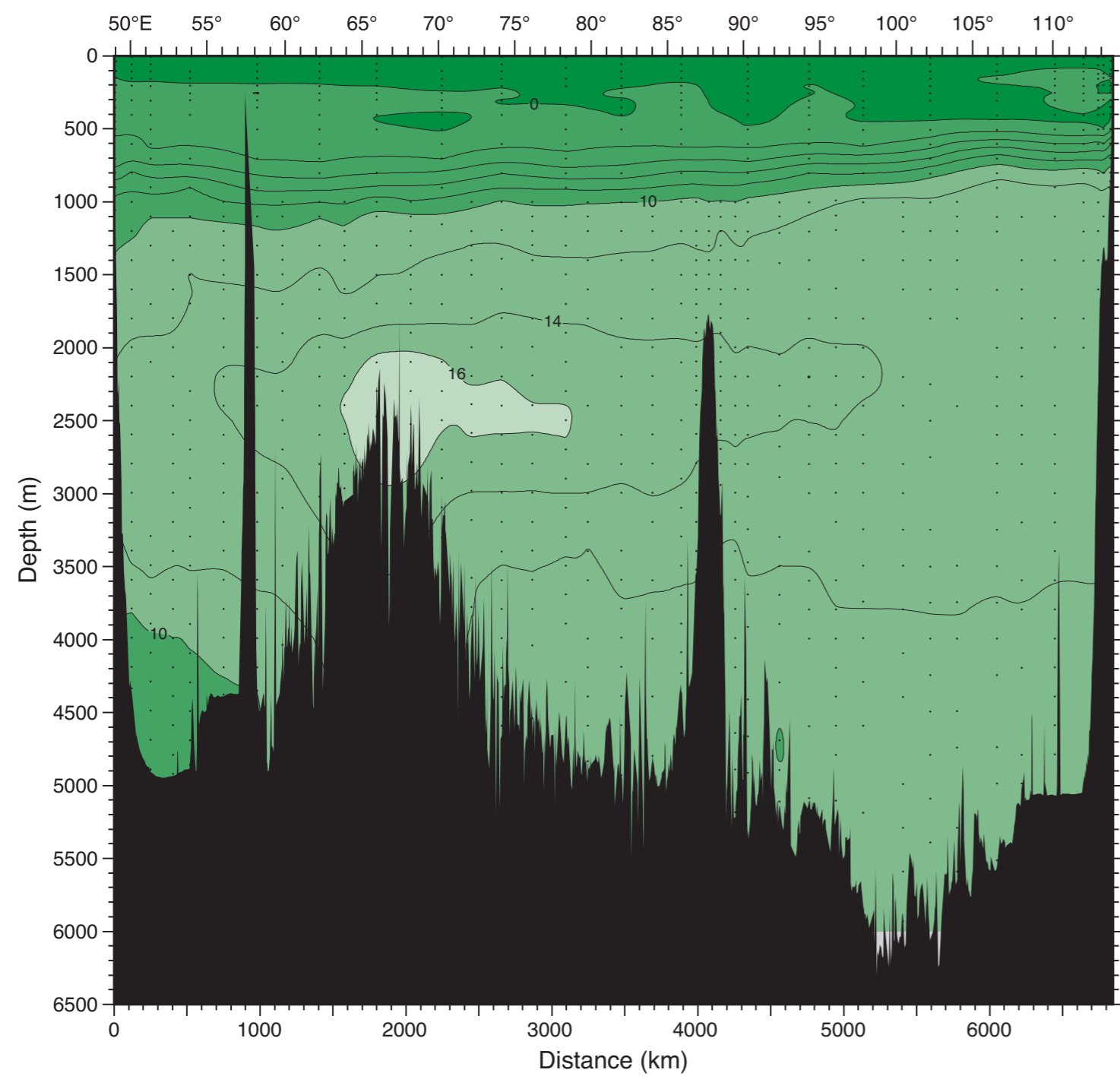
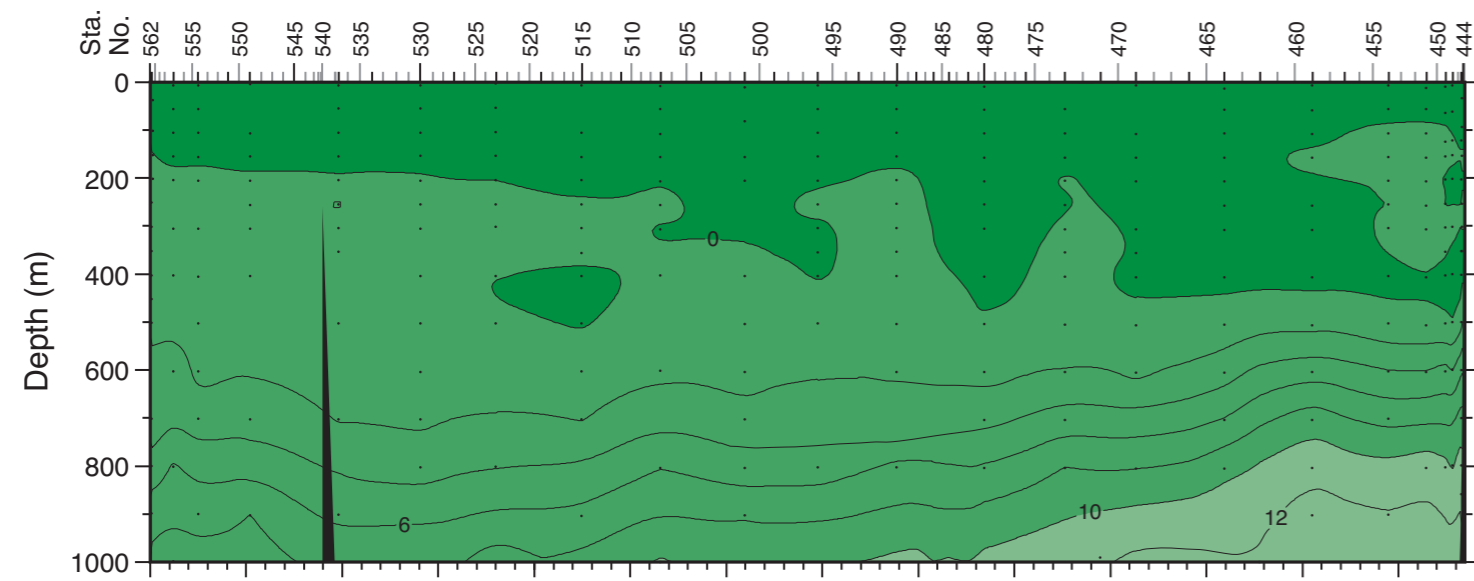
Alkalinity ($\mu\text{mol/kg}$)



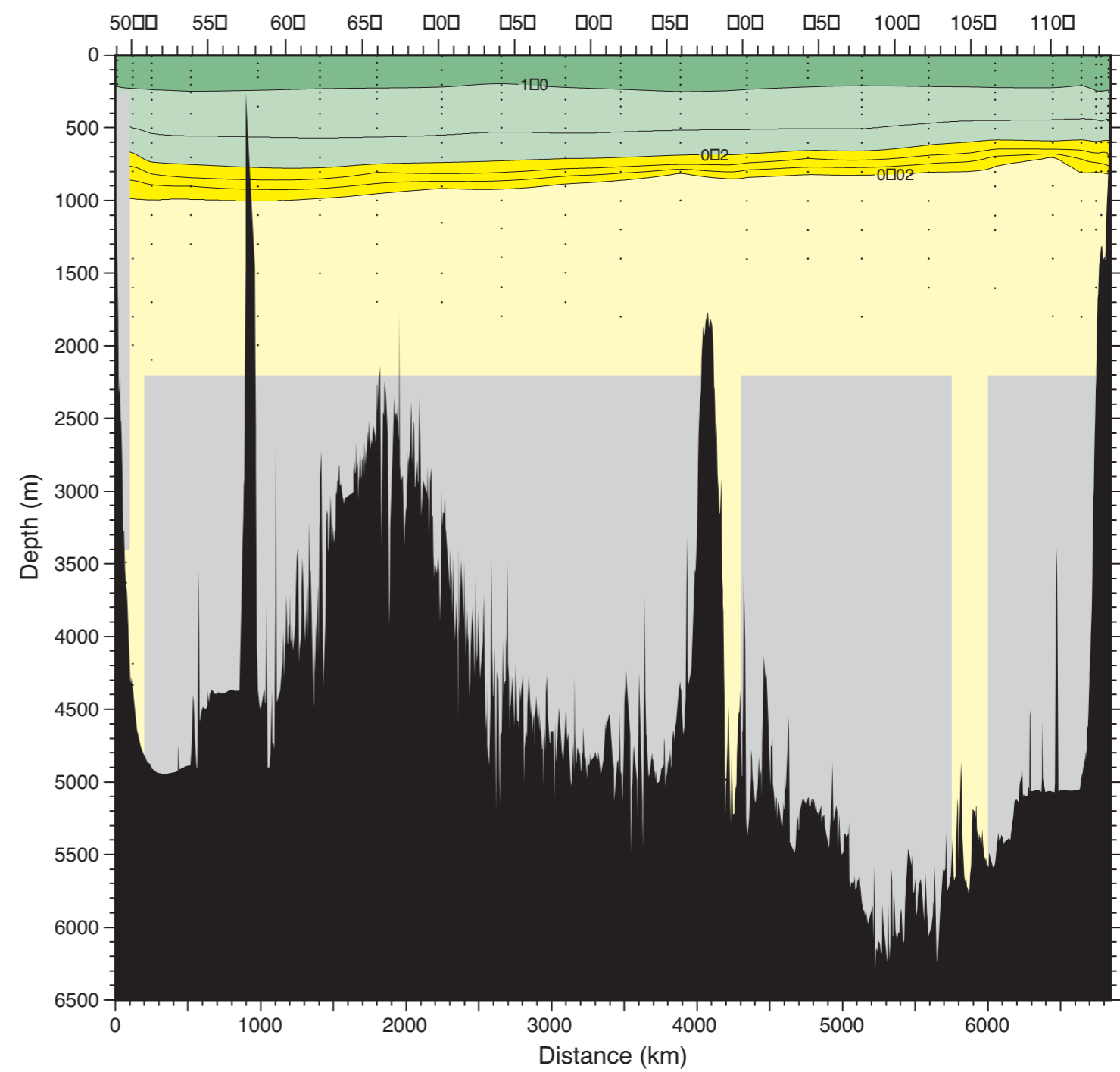
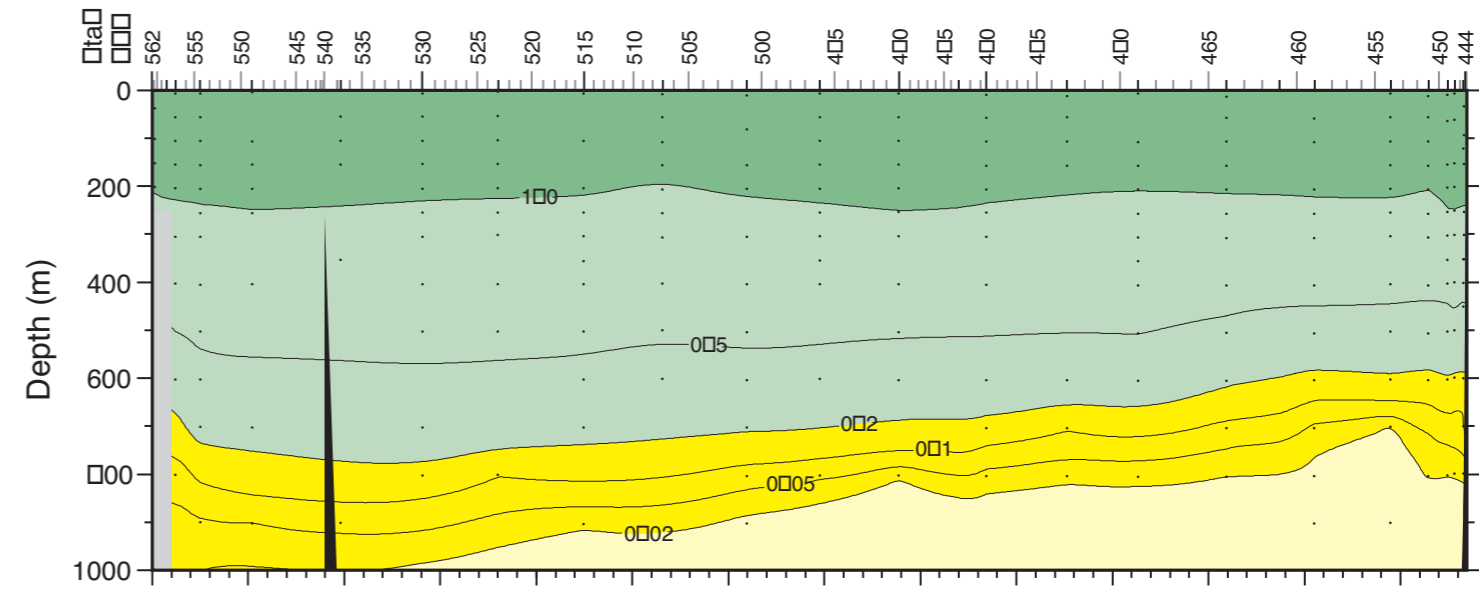


I3 (20°S)

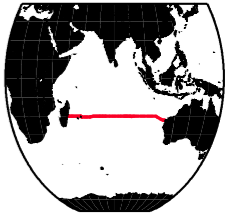
$\delta^3\text{He}$ (%)



Tritium (TU)

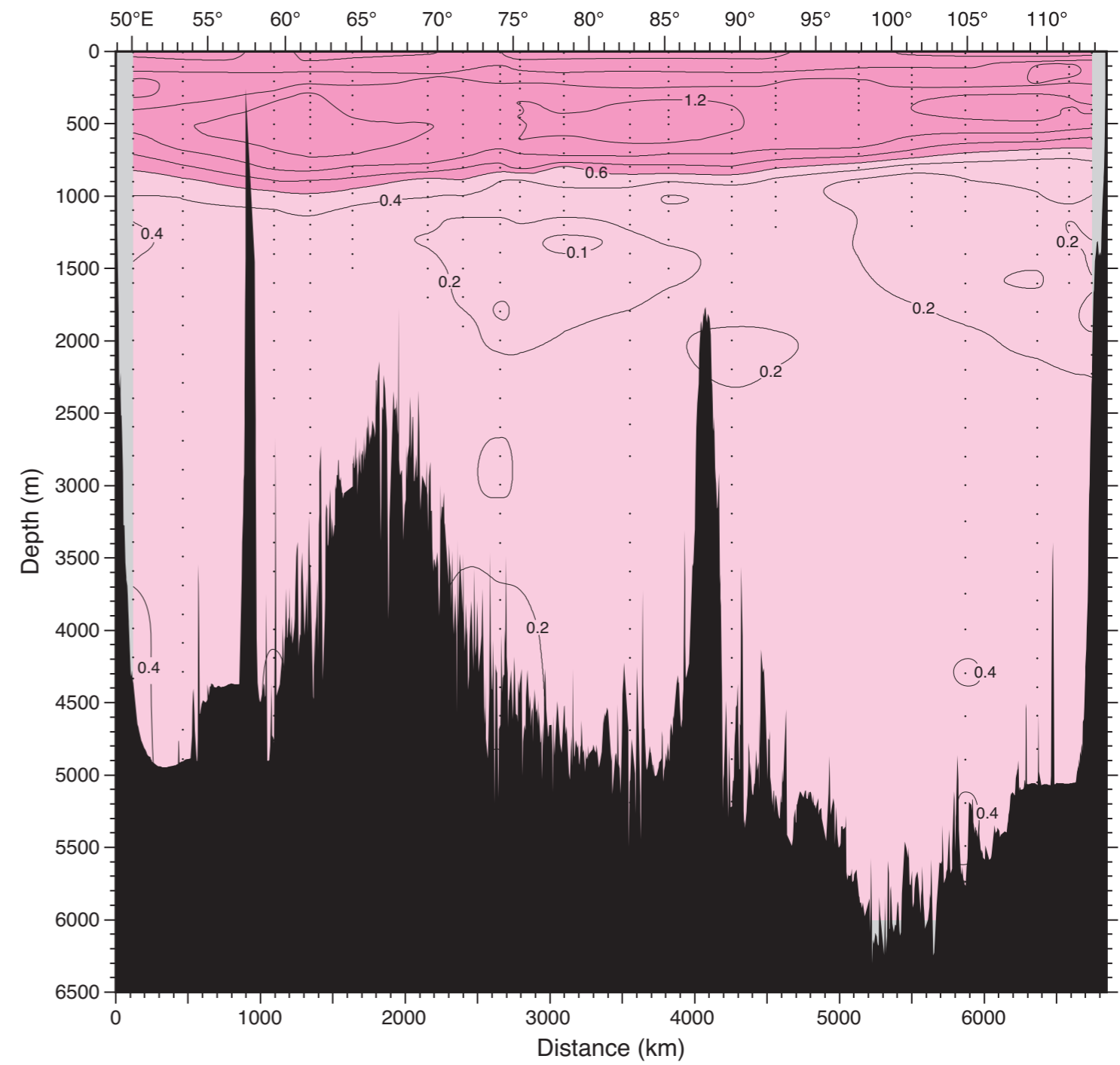
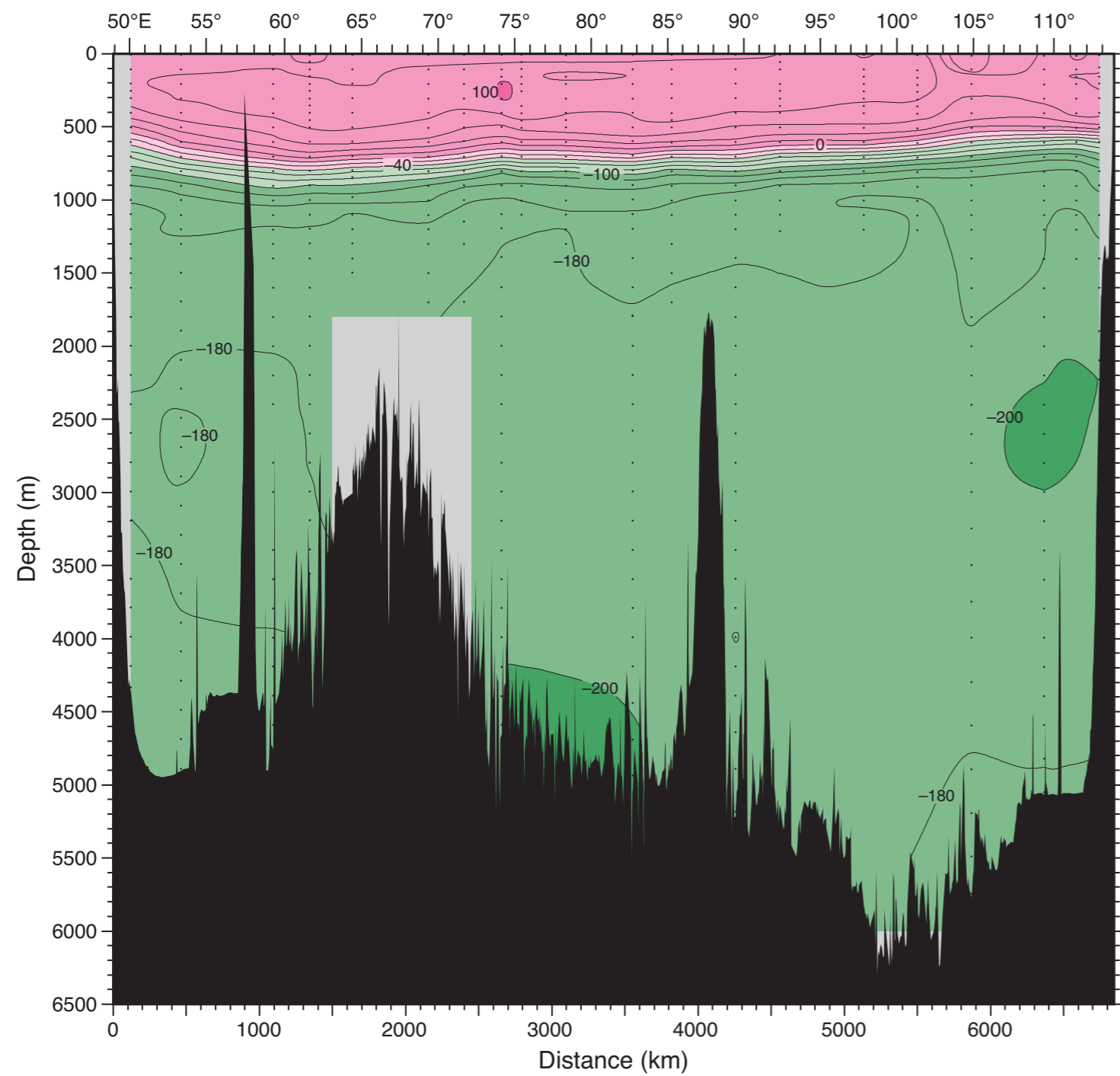
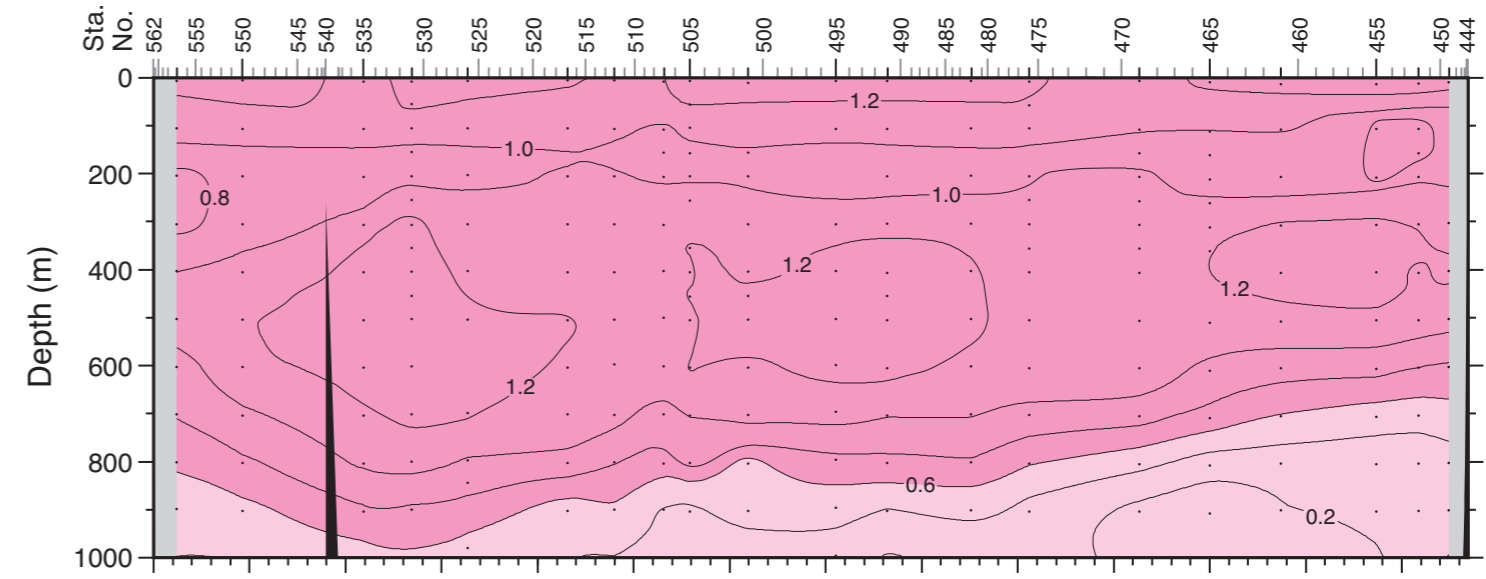
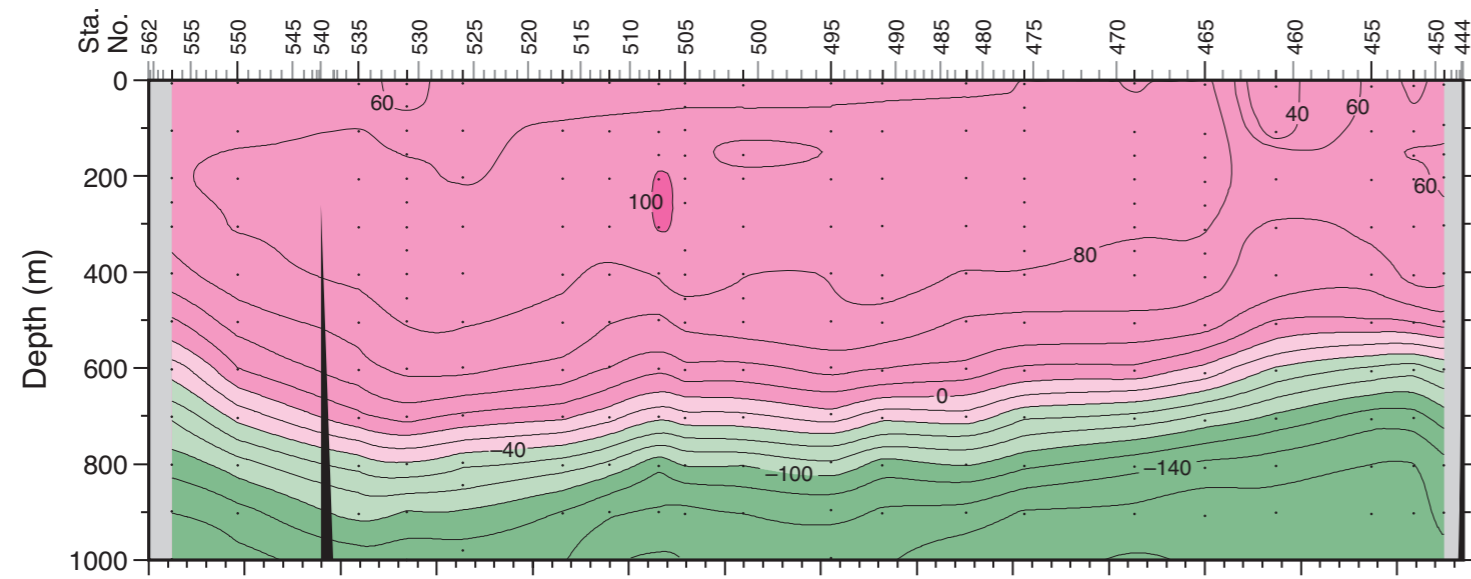


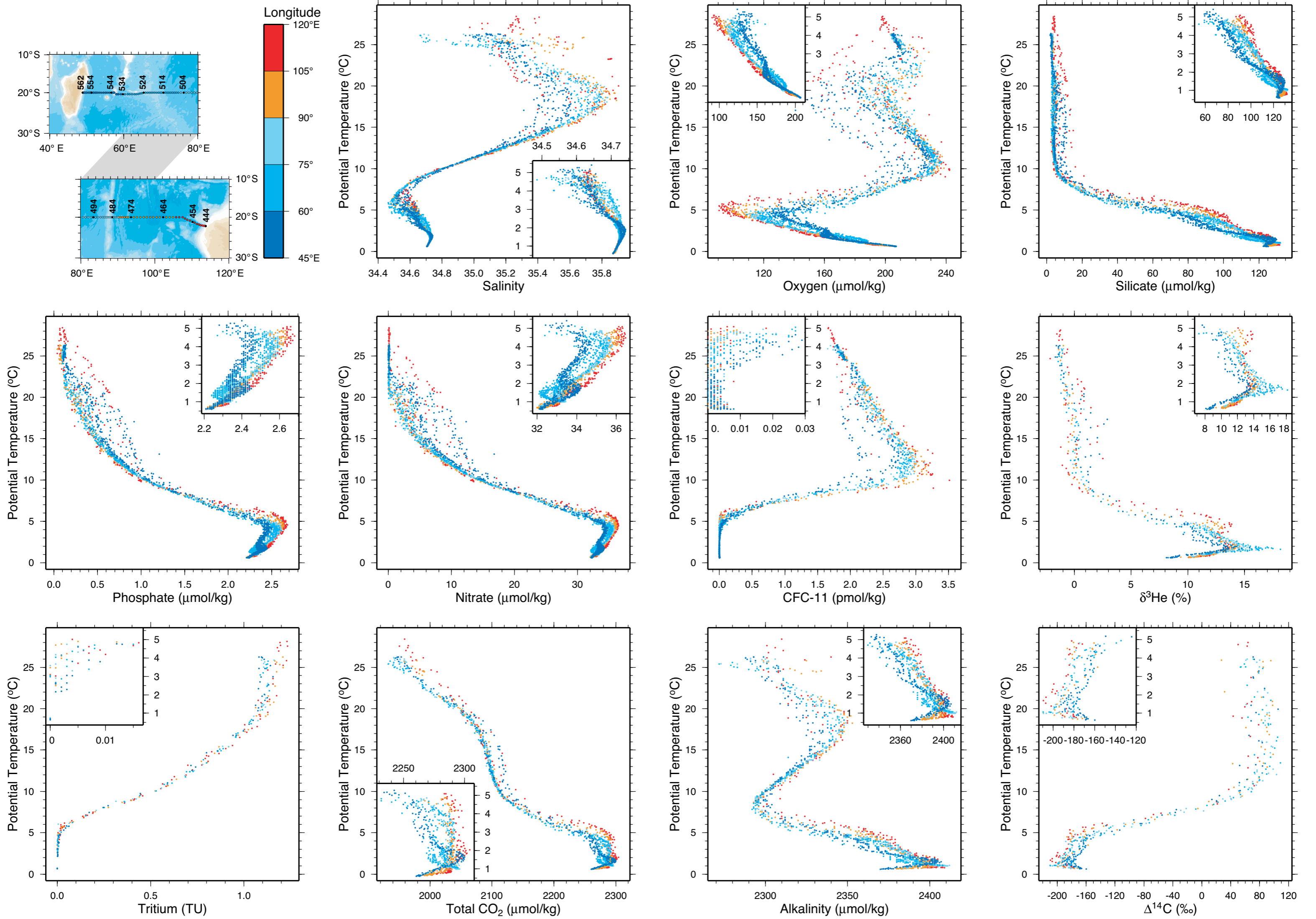
I3 (20°S)

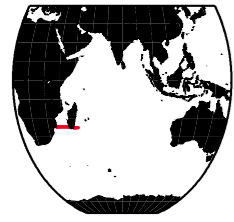


$\Delta^{14}\text{C}$ (‰)

$\delta^{13}\text{C}$ (‰)







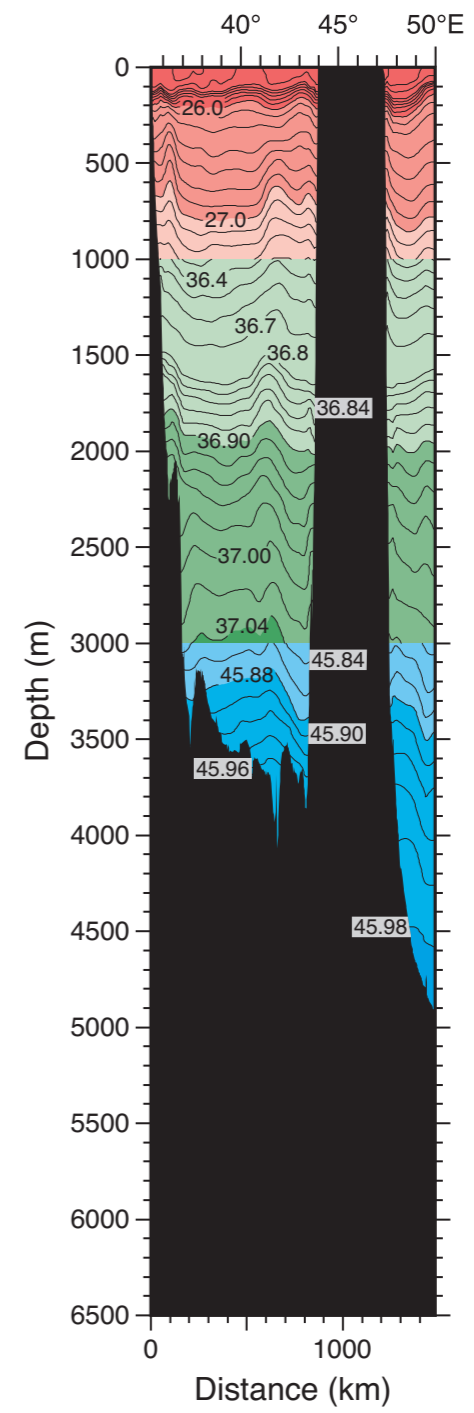
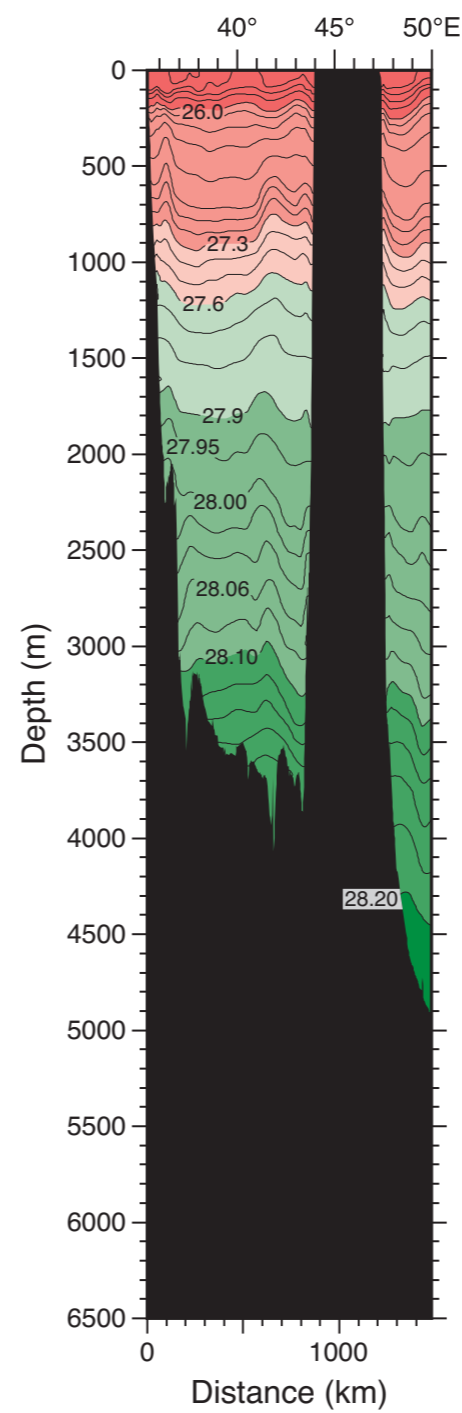
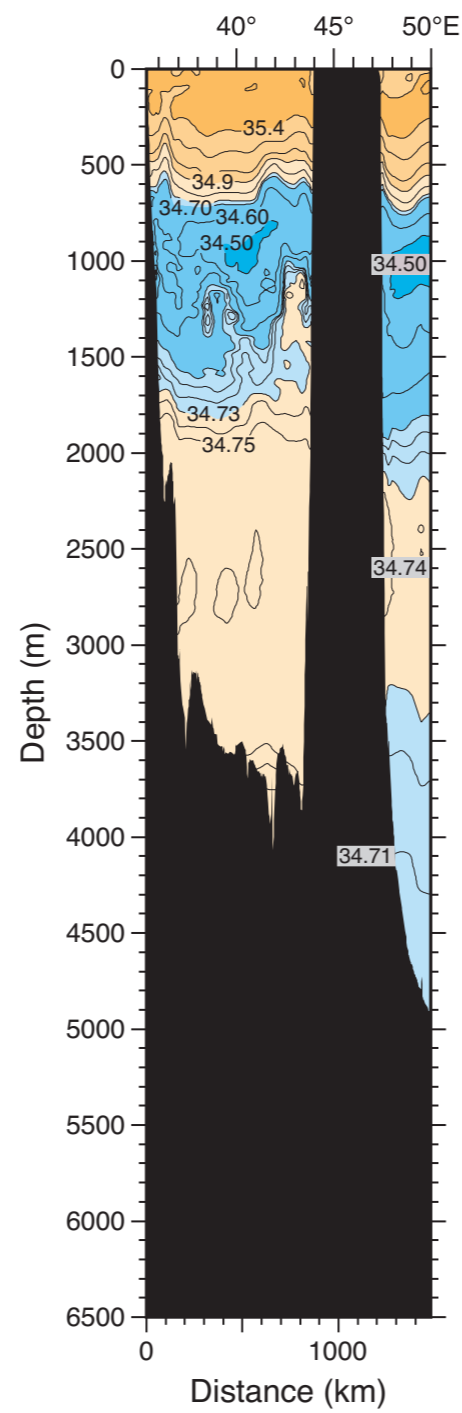
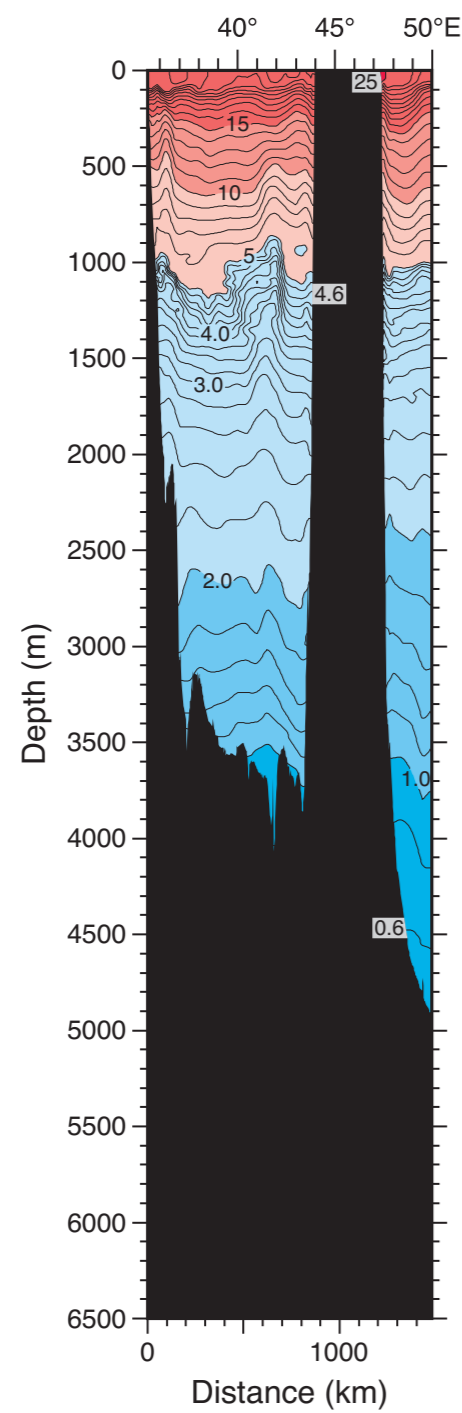
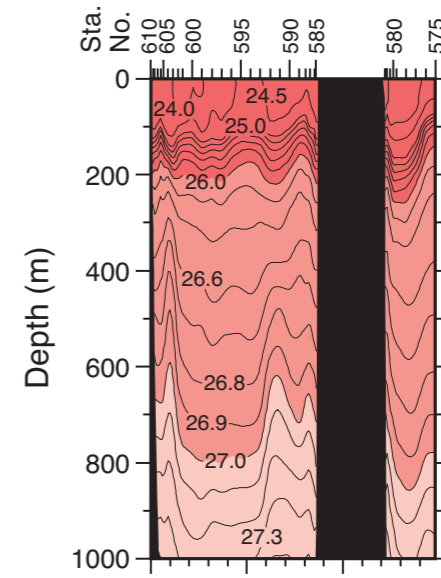
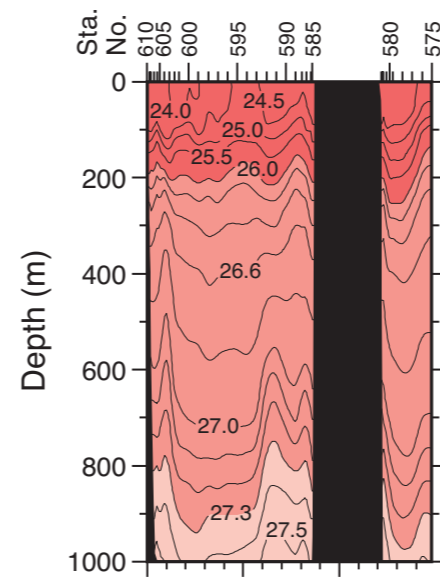
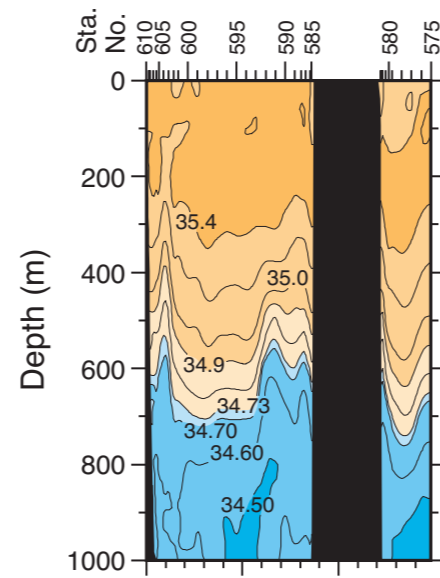
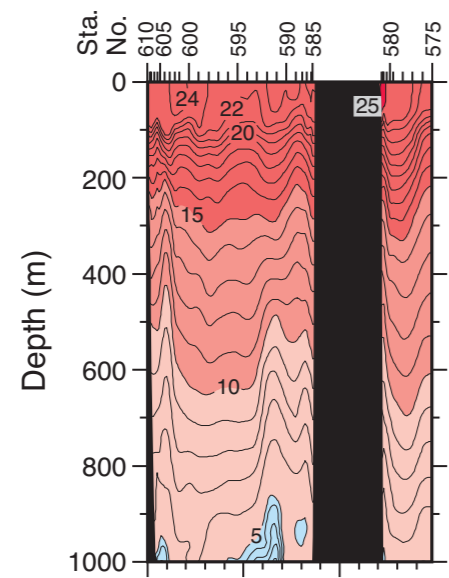
14 (24°S)

Potential Temperature (°C)

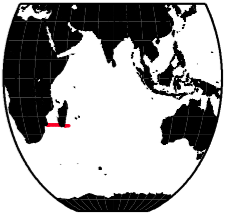
Salinity (PSS78)

Neutral Density (kg/m³)

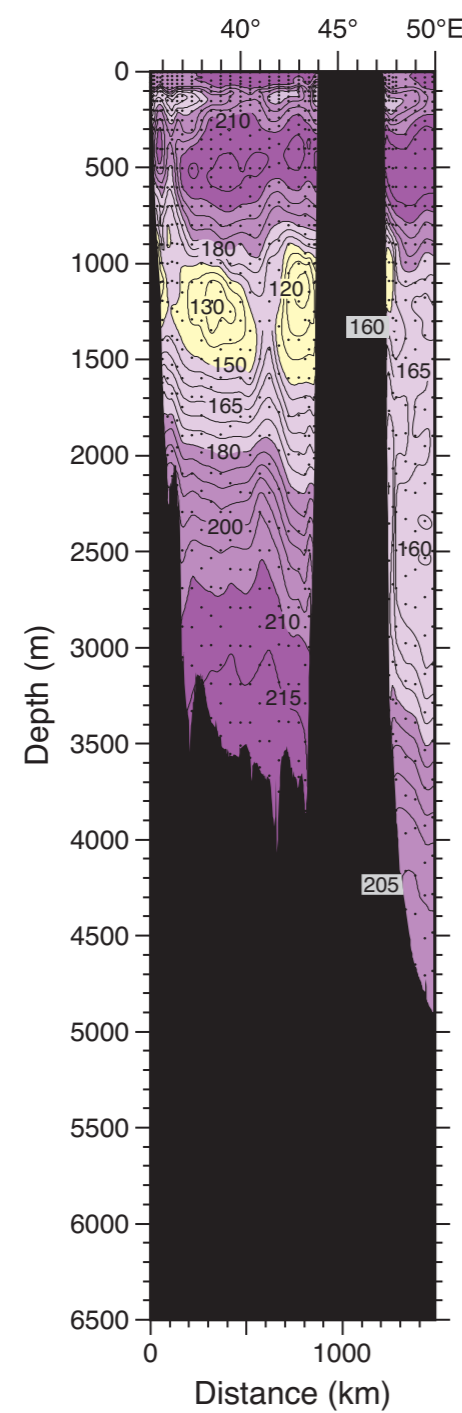
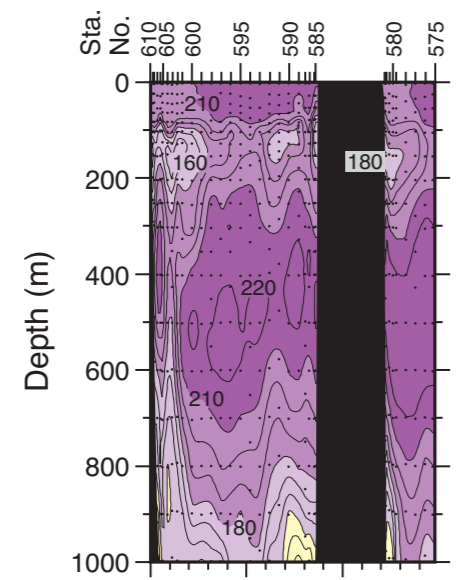
σ_0, σ_2 and σ_4 (kg/m³)



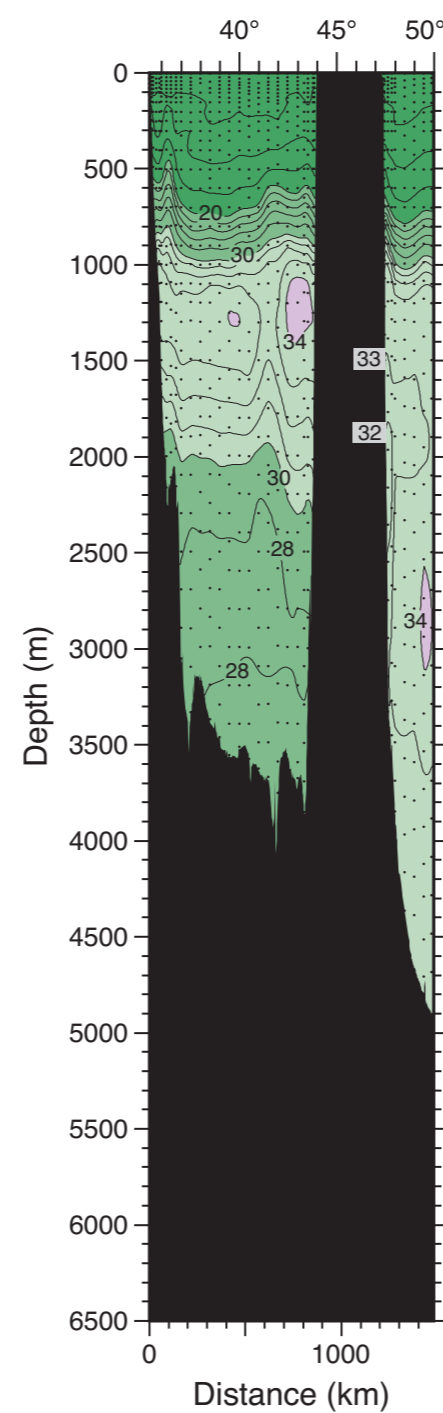
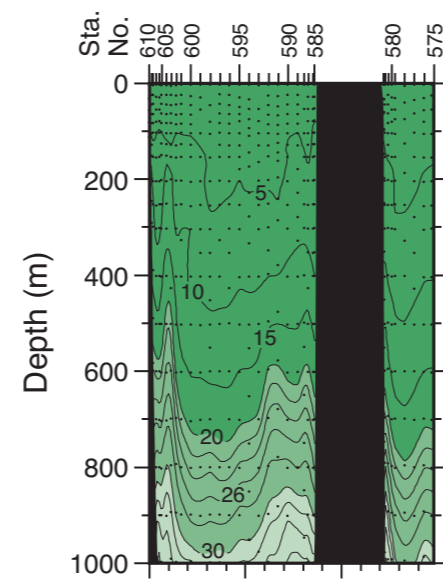
I4 (24°S)



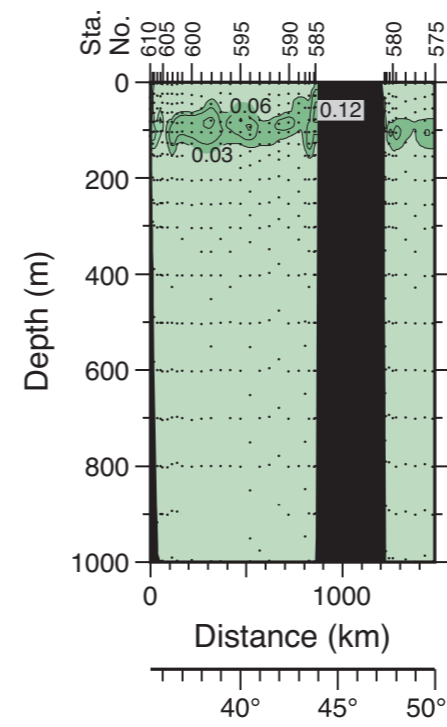
Oxygen ($\mu\text{mol/kg}$)



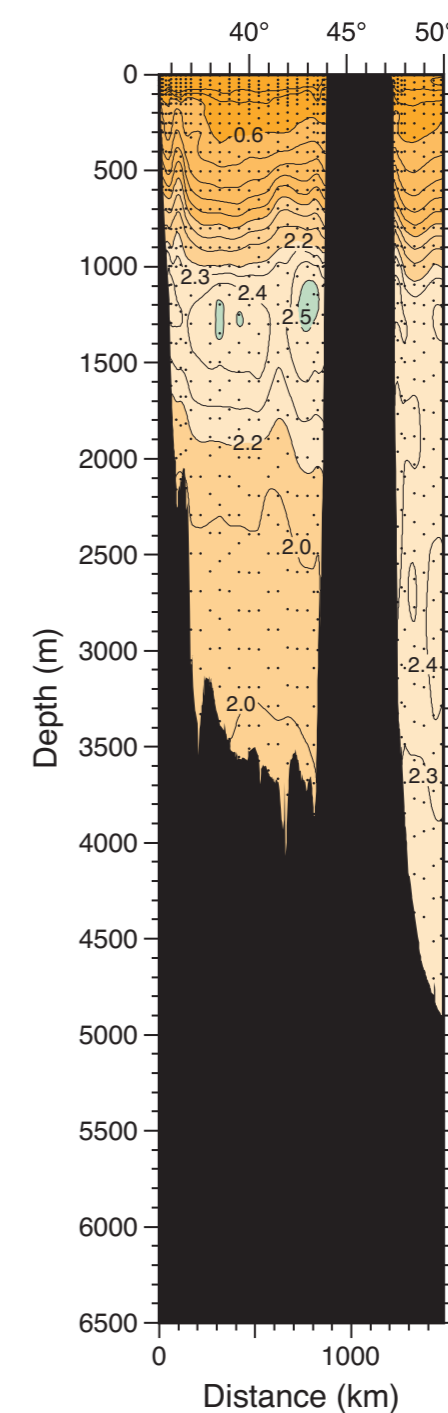
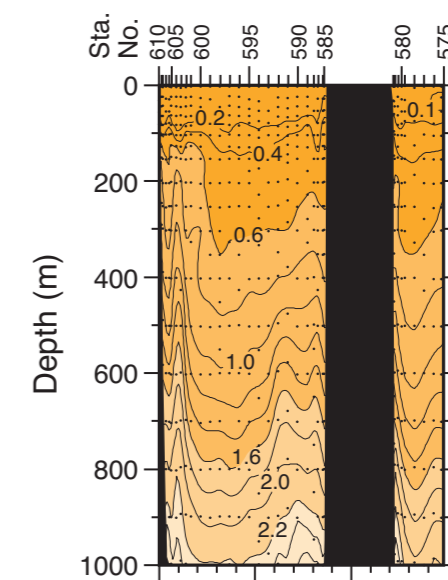
Nitrate ($\mu\text{mol/kg}$)

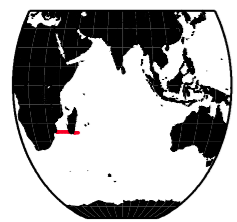


Nitrite ($\mu\text{mol/kg}$)



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





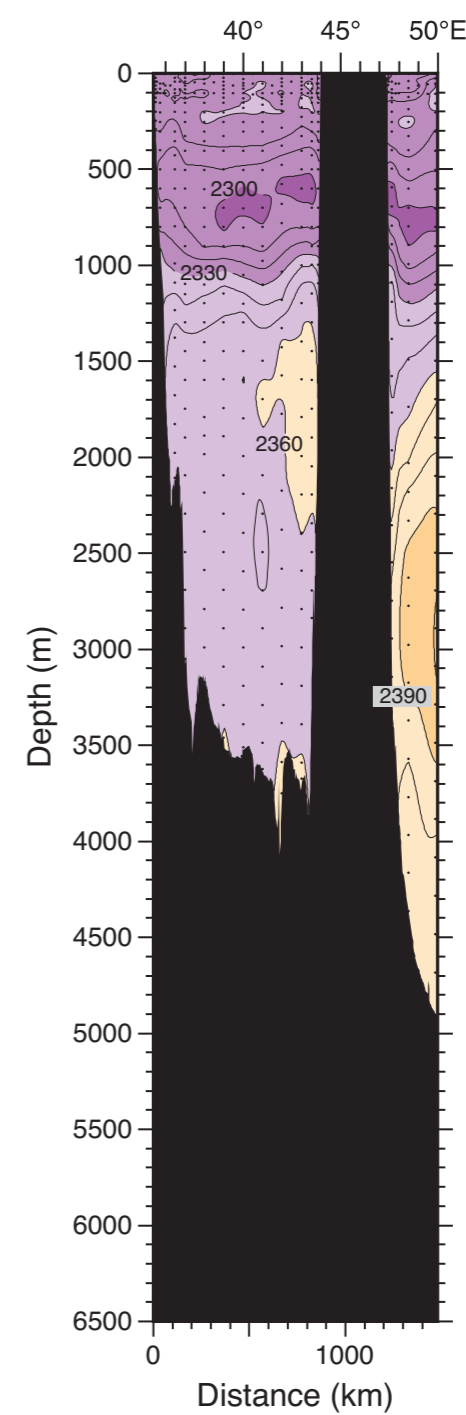
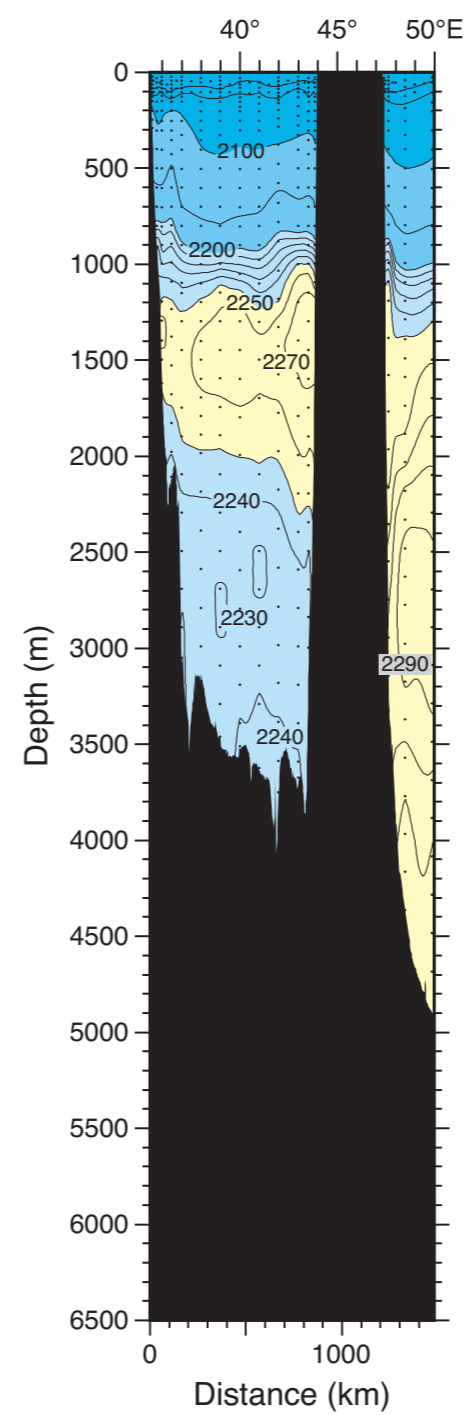
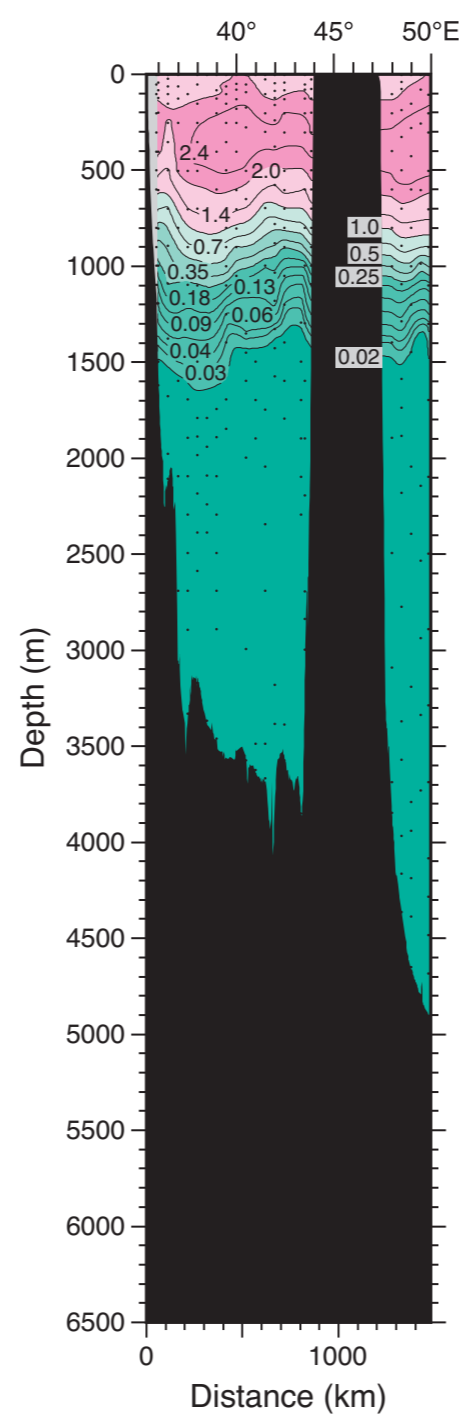
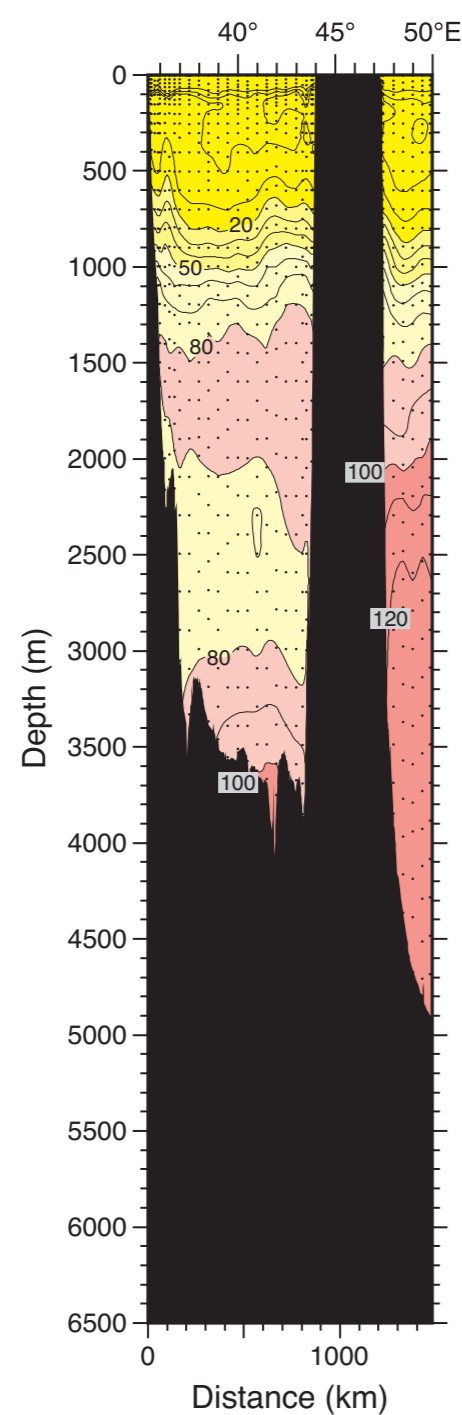
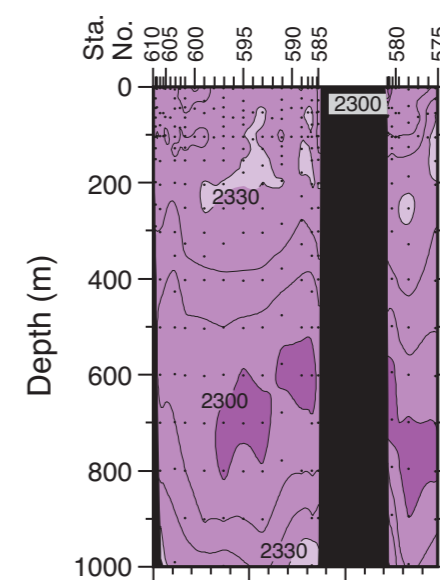
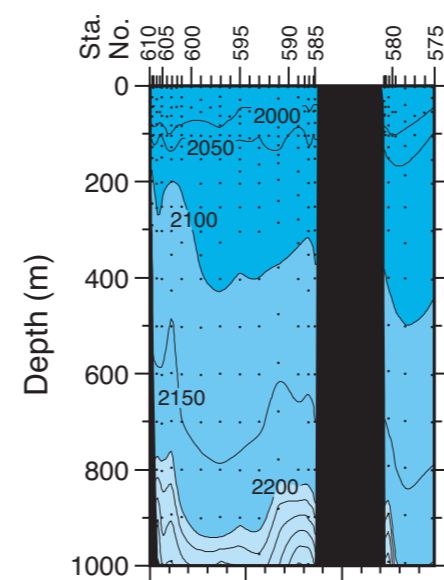
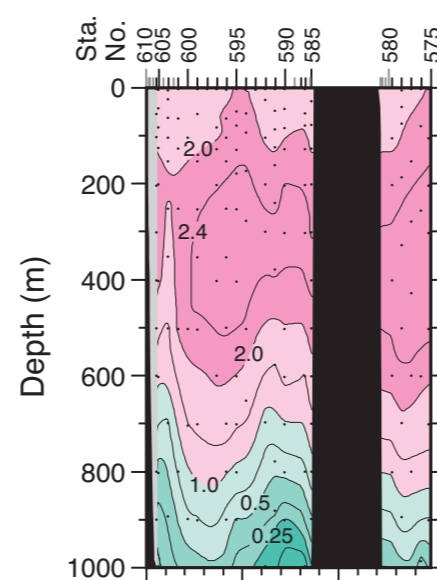
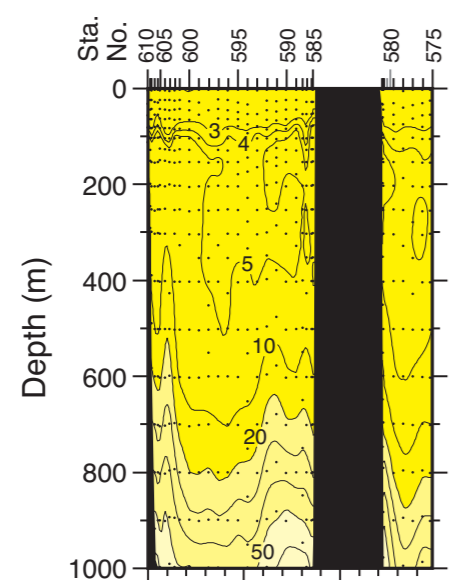
14 (24°S)

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

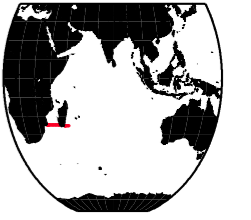
CFC-11 (pmol/kg)

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

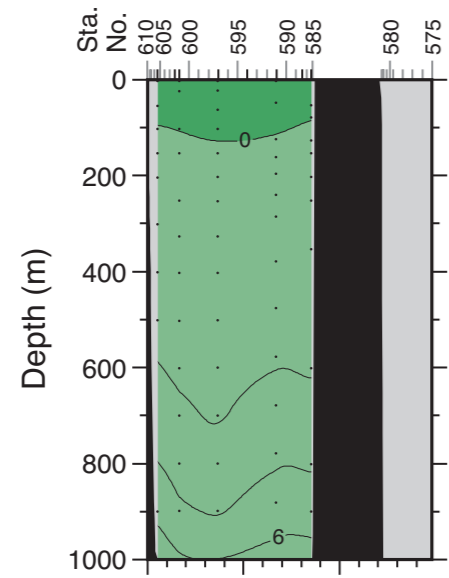
Alkalinity ($\mu\text{mol/kg}$)



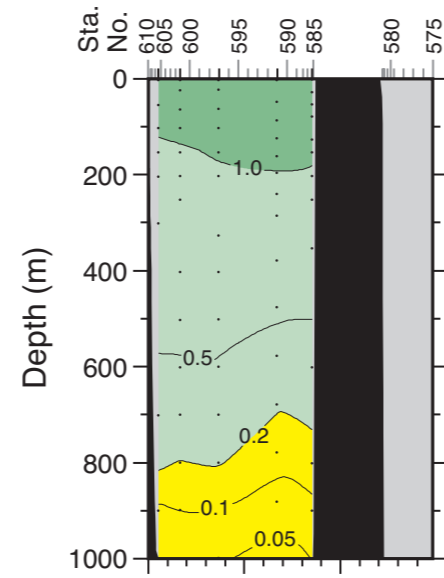
I4 (24°S)



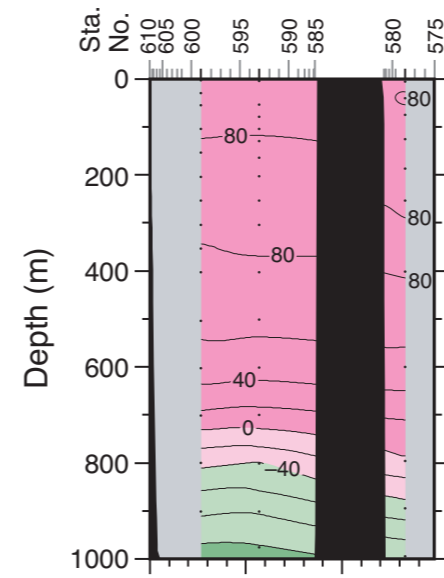
$\delta^3\text{He}$ (‰)



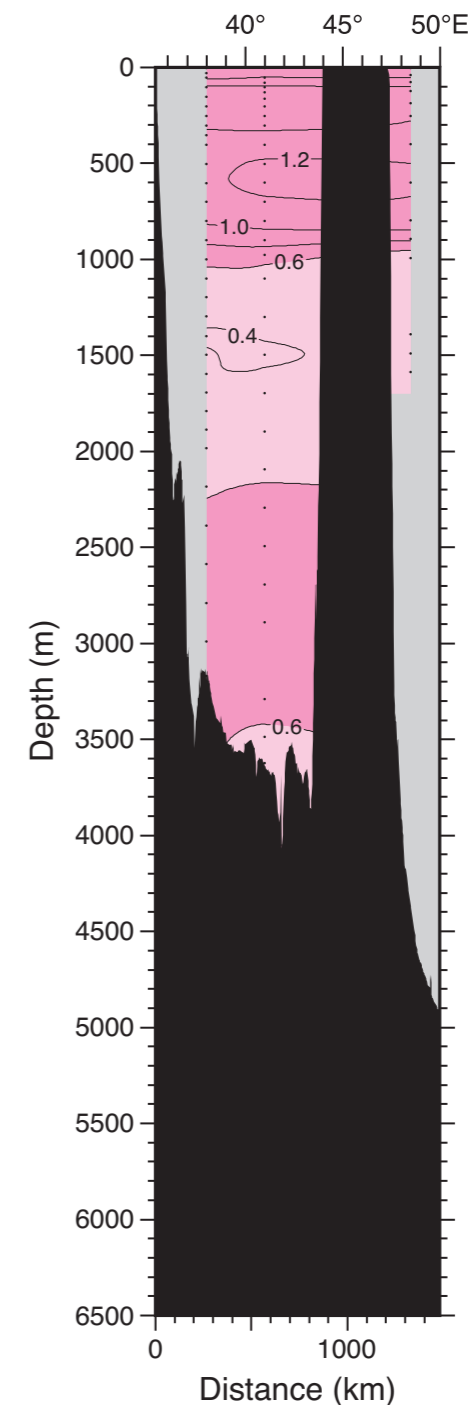
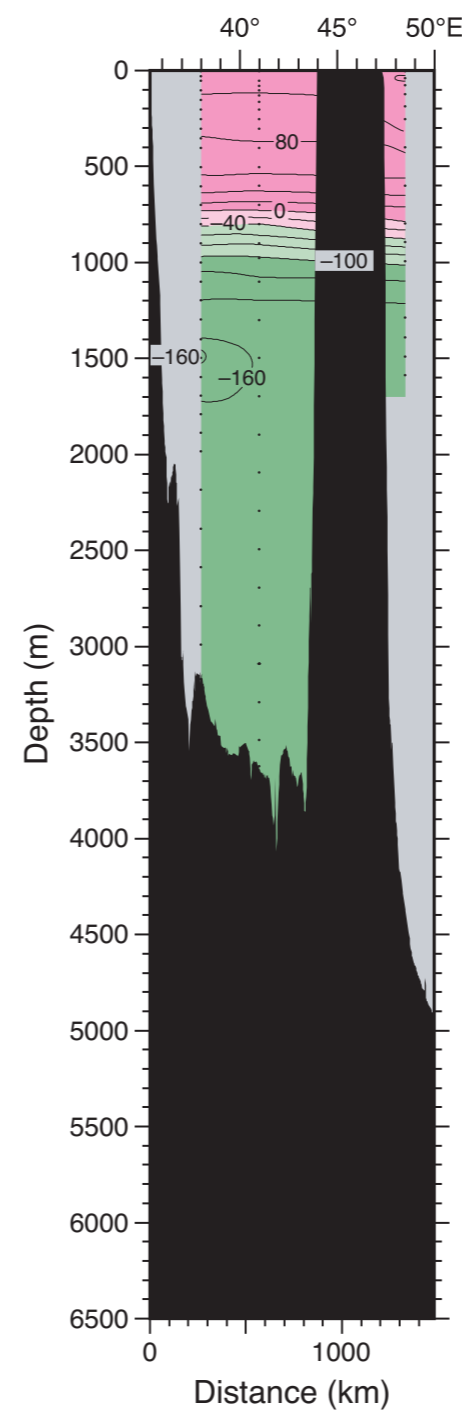
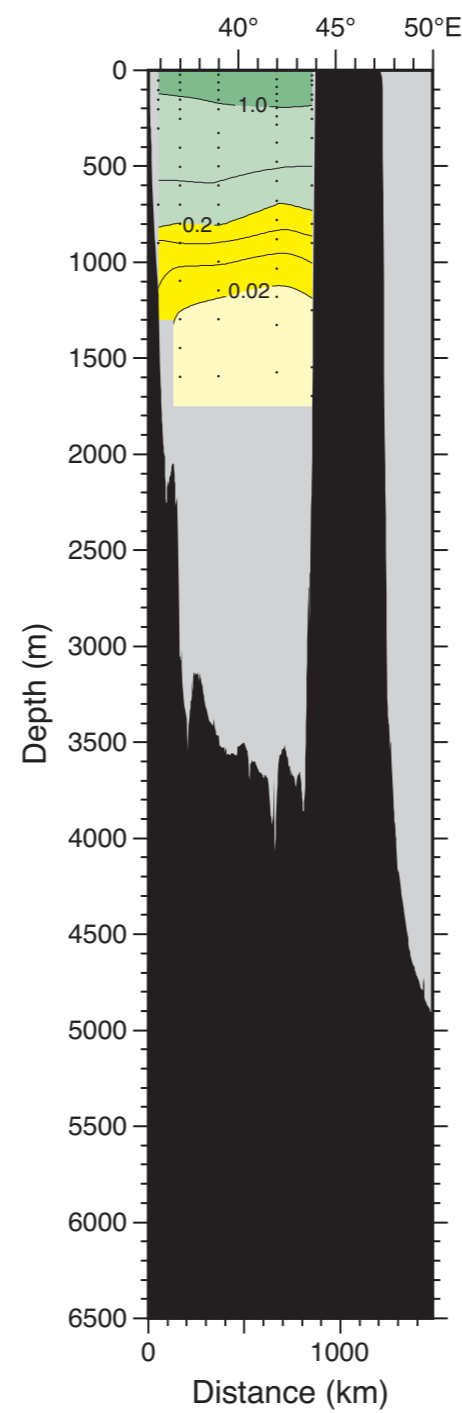
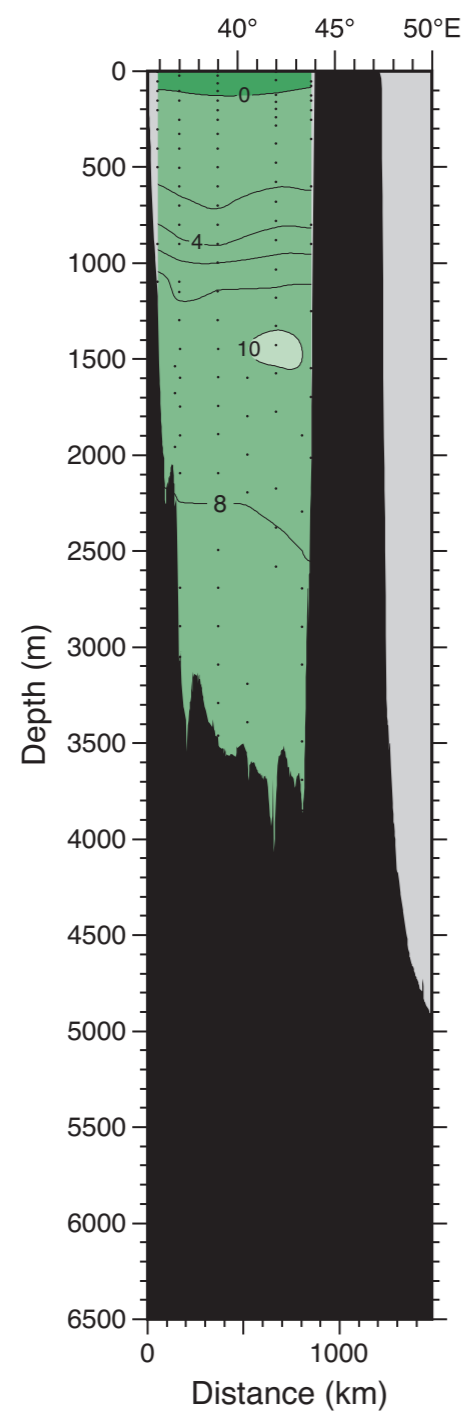
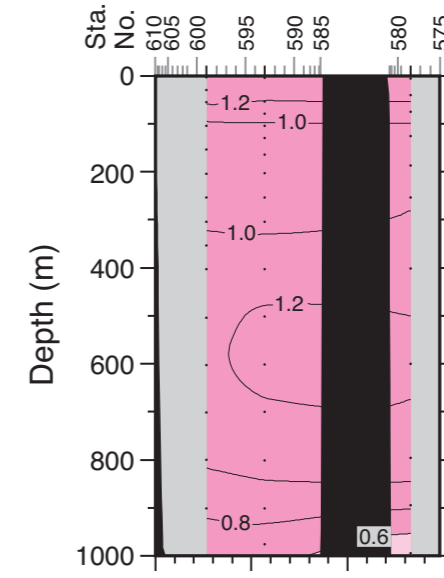
Tritium (TU)

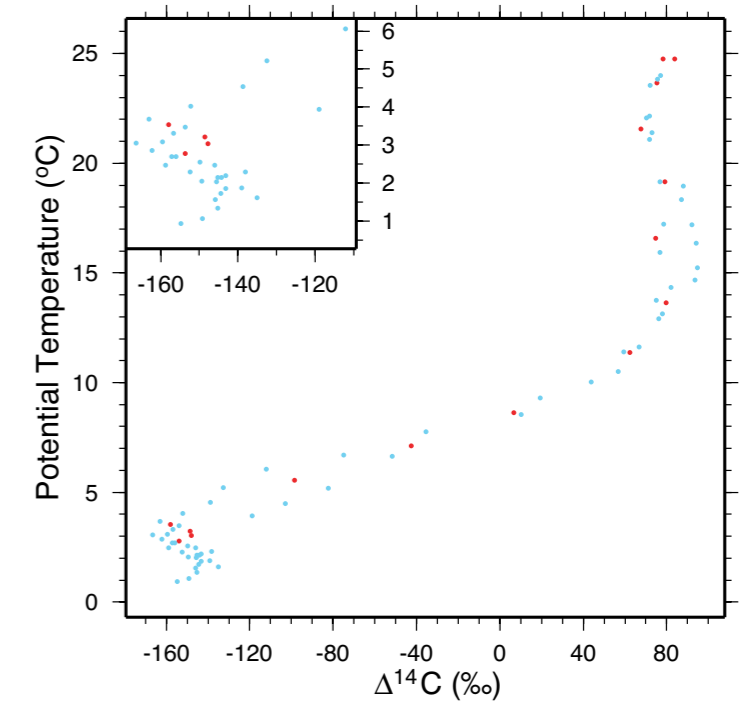
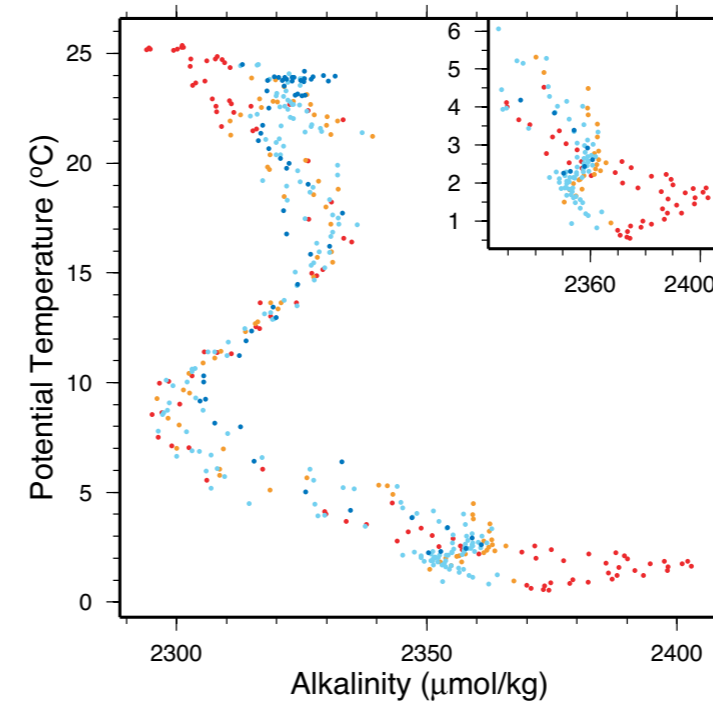
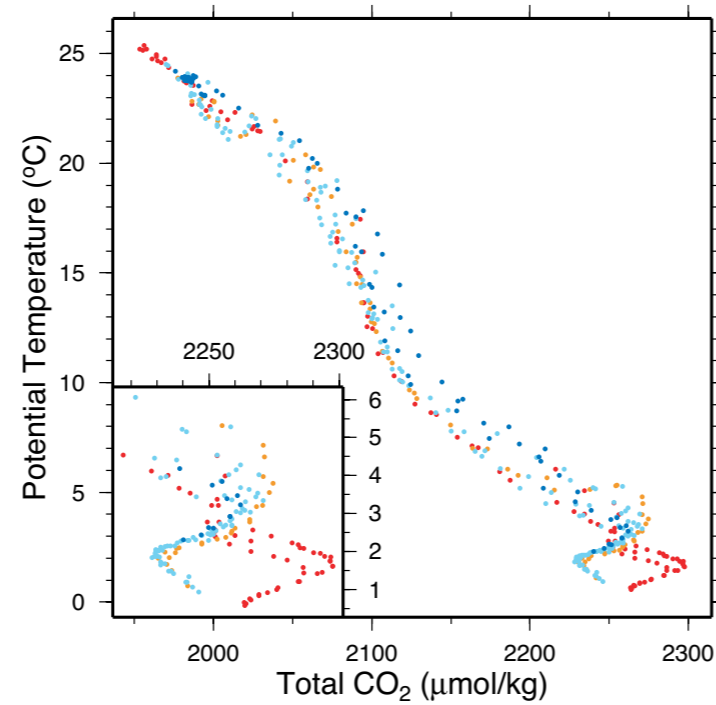
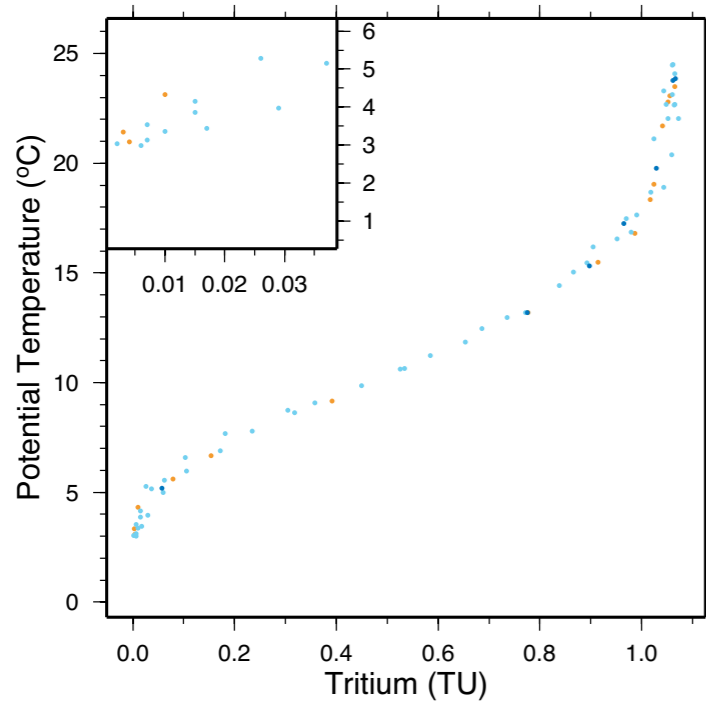
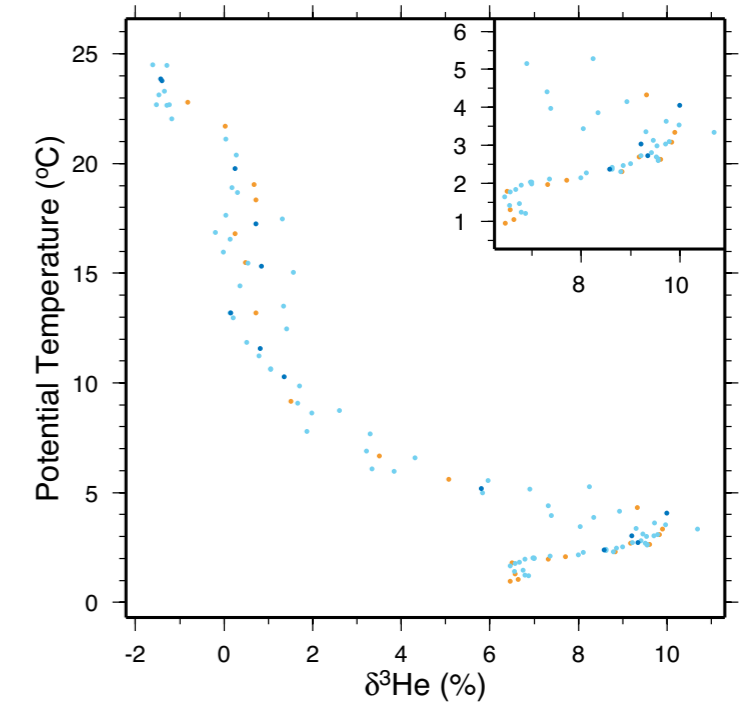
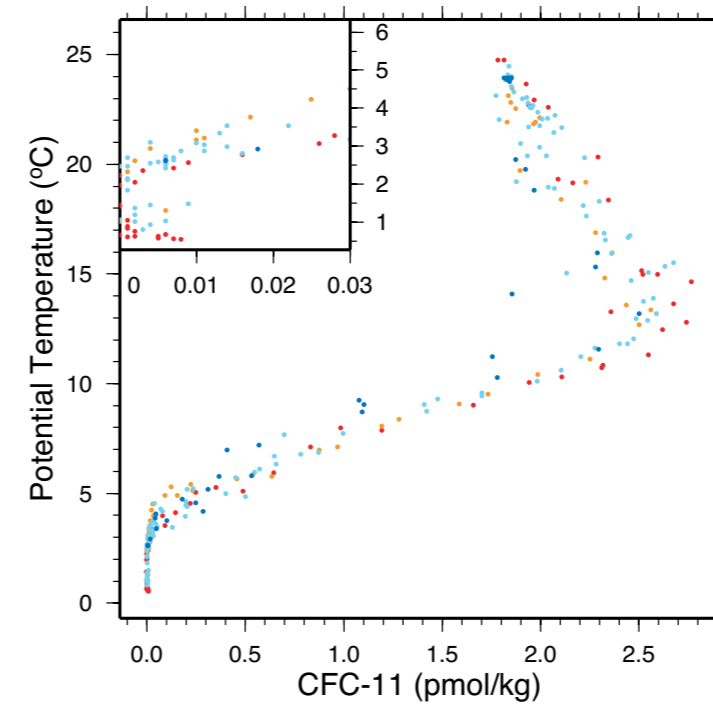
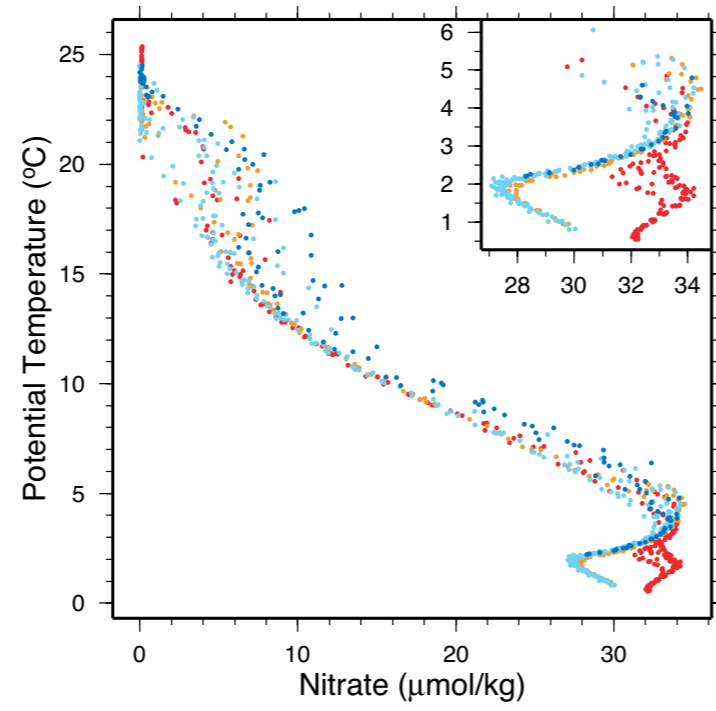
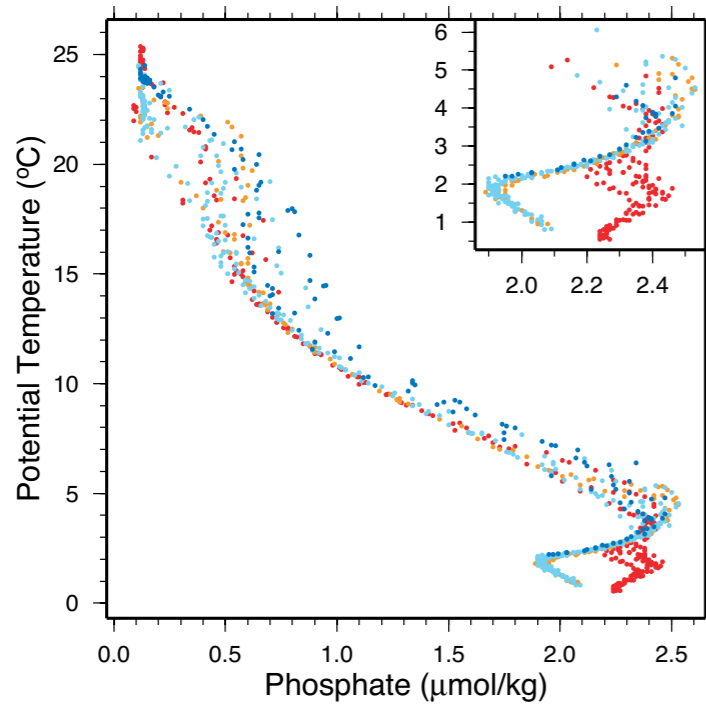
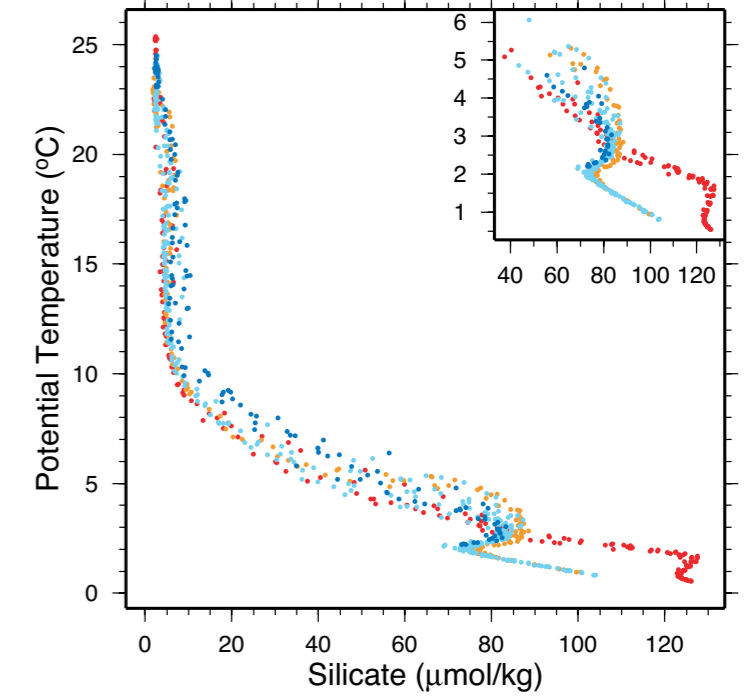
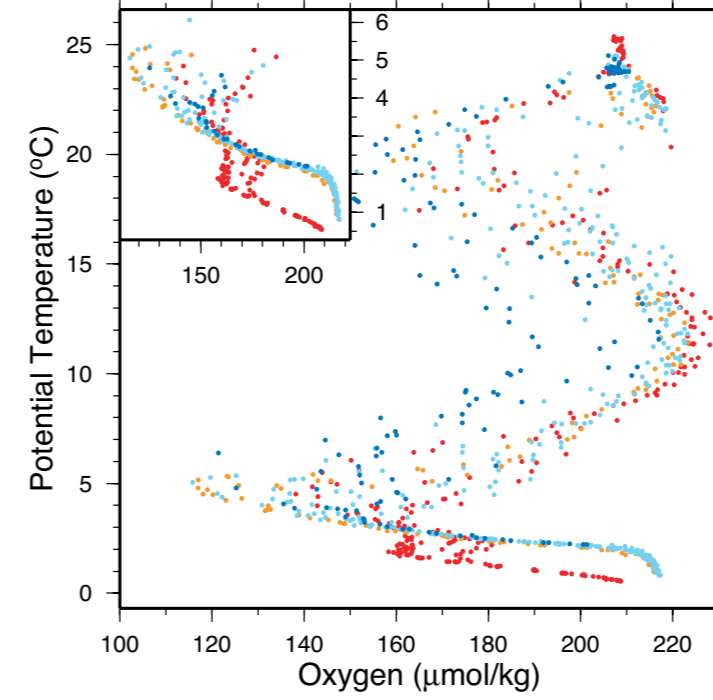
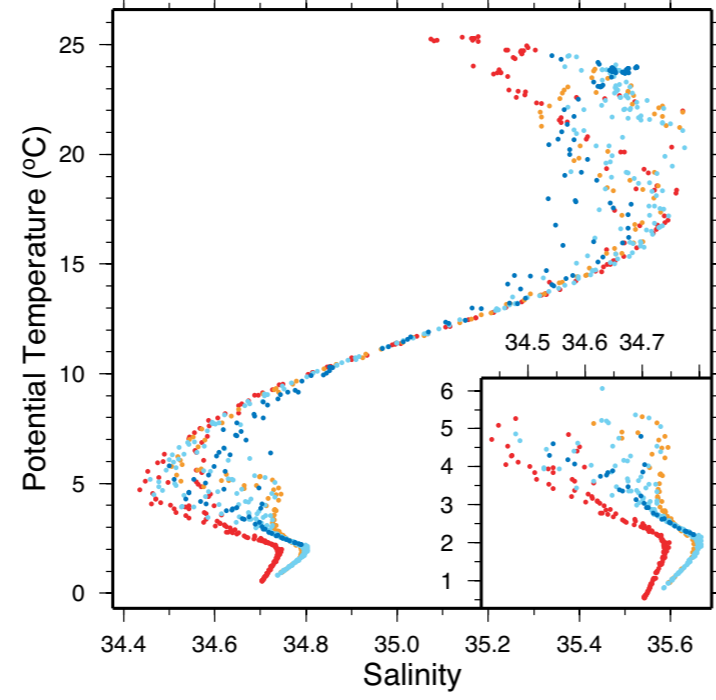
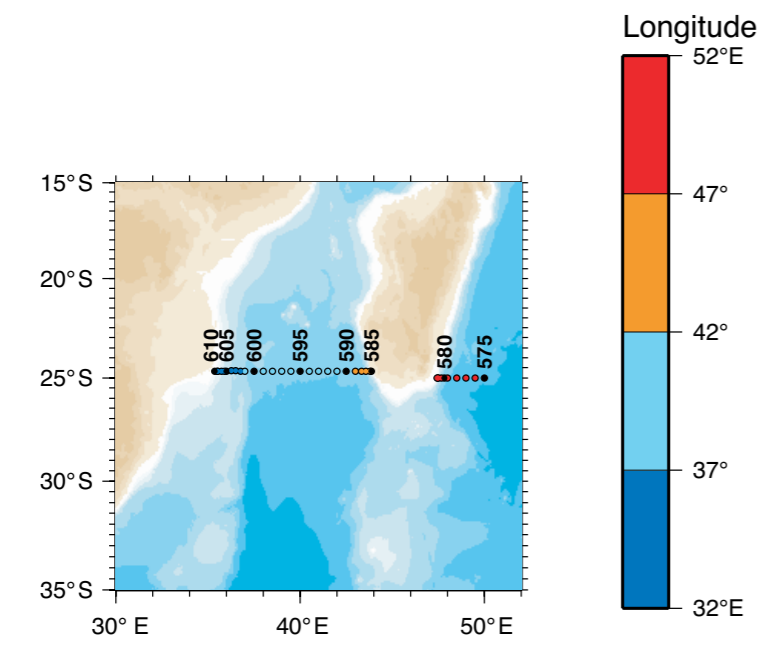


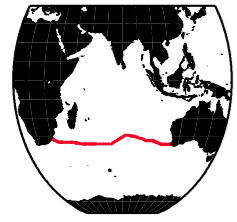
$\Delta^{14}\text{C}$ (‰)



$\delta^{13}\text{C}$ (‰)

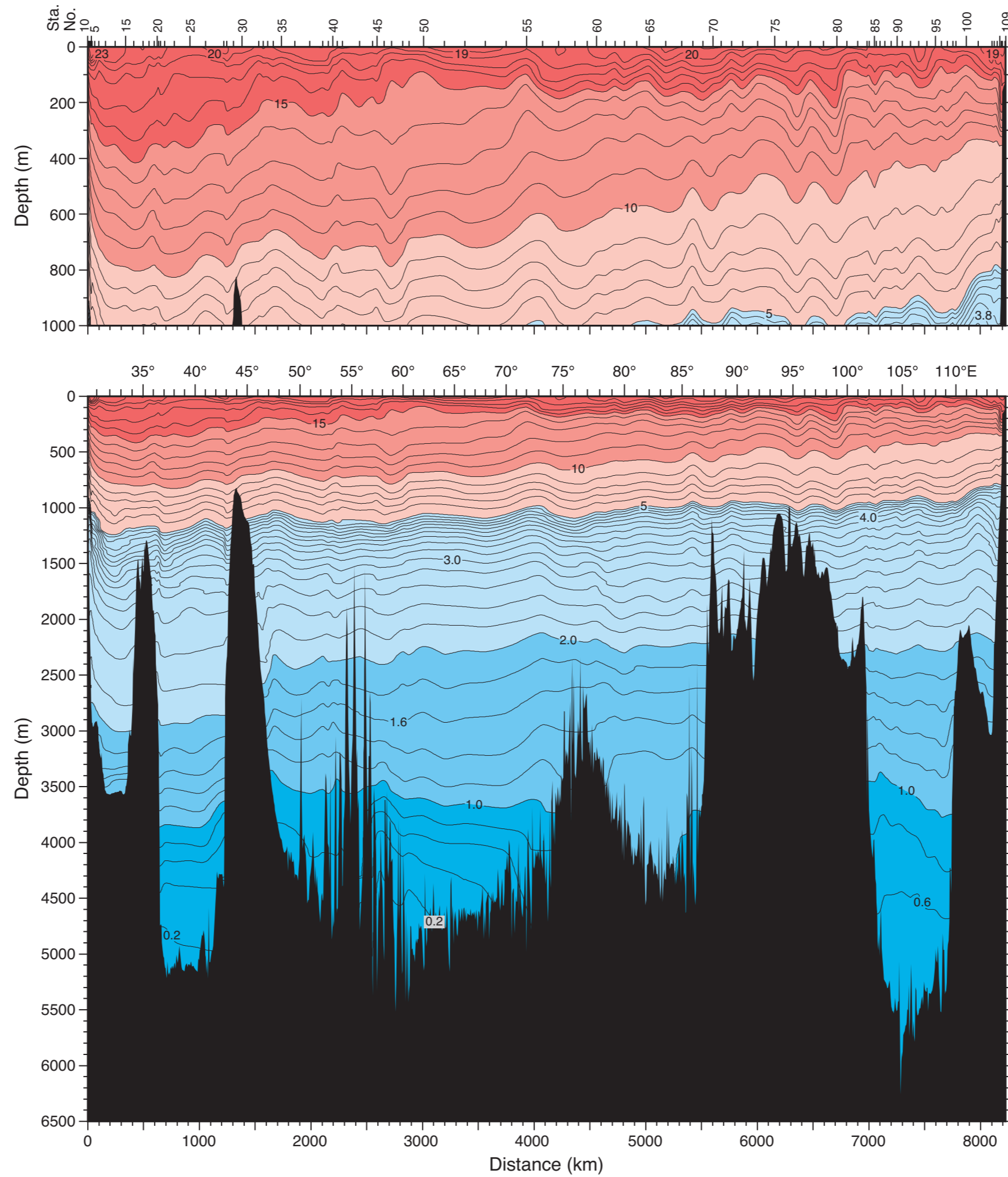






I5P (33°S)

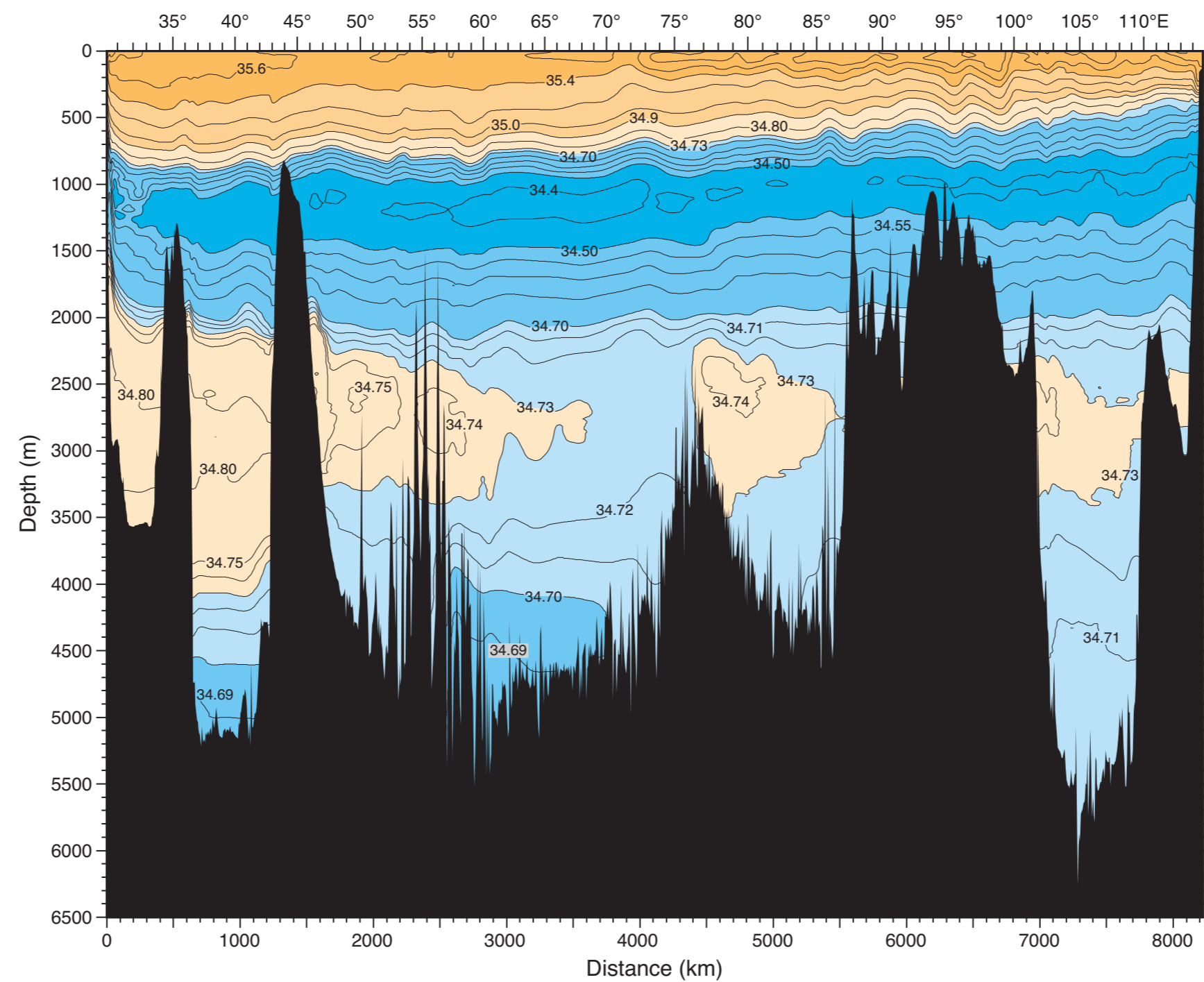
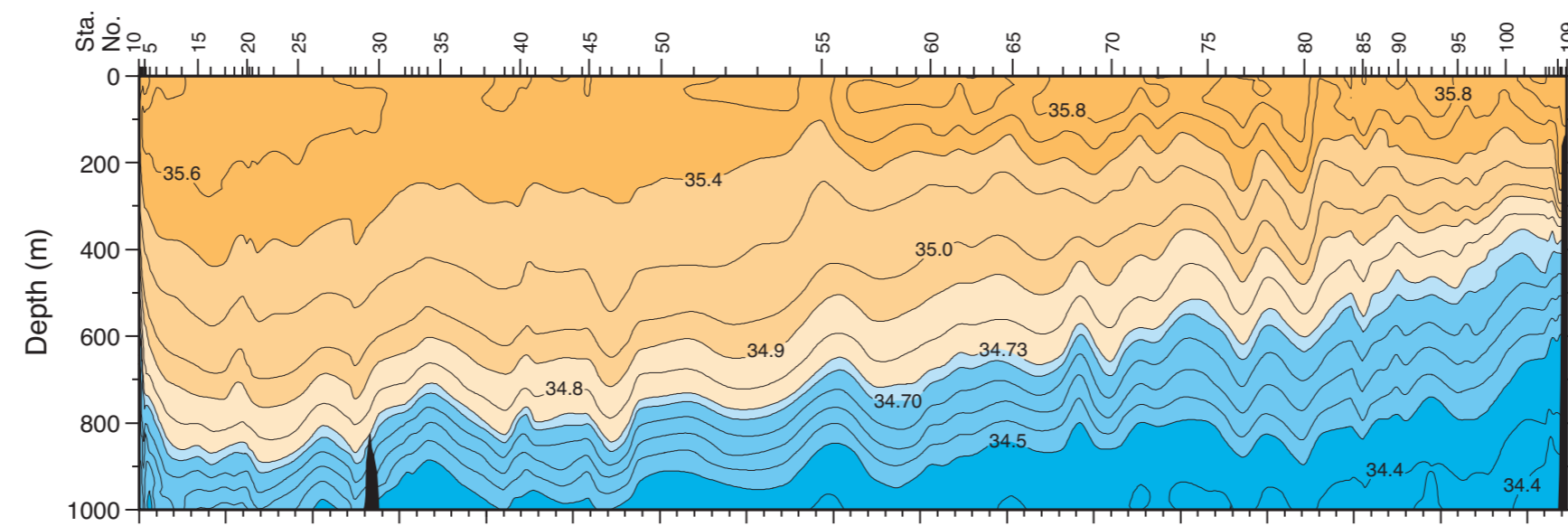
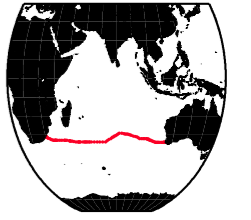
Potential Temperature (°C)

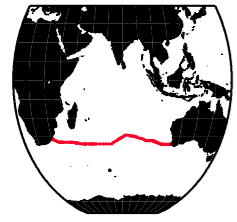


I5P

I5P (33°S)

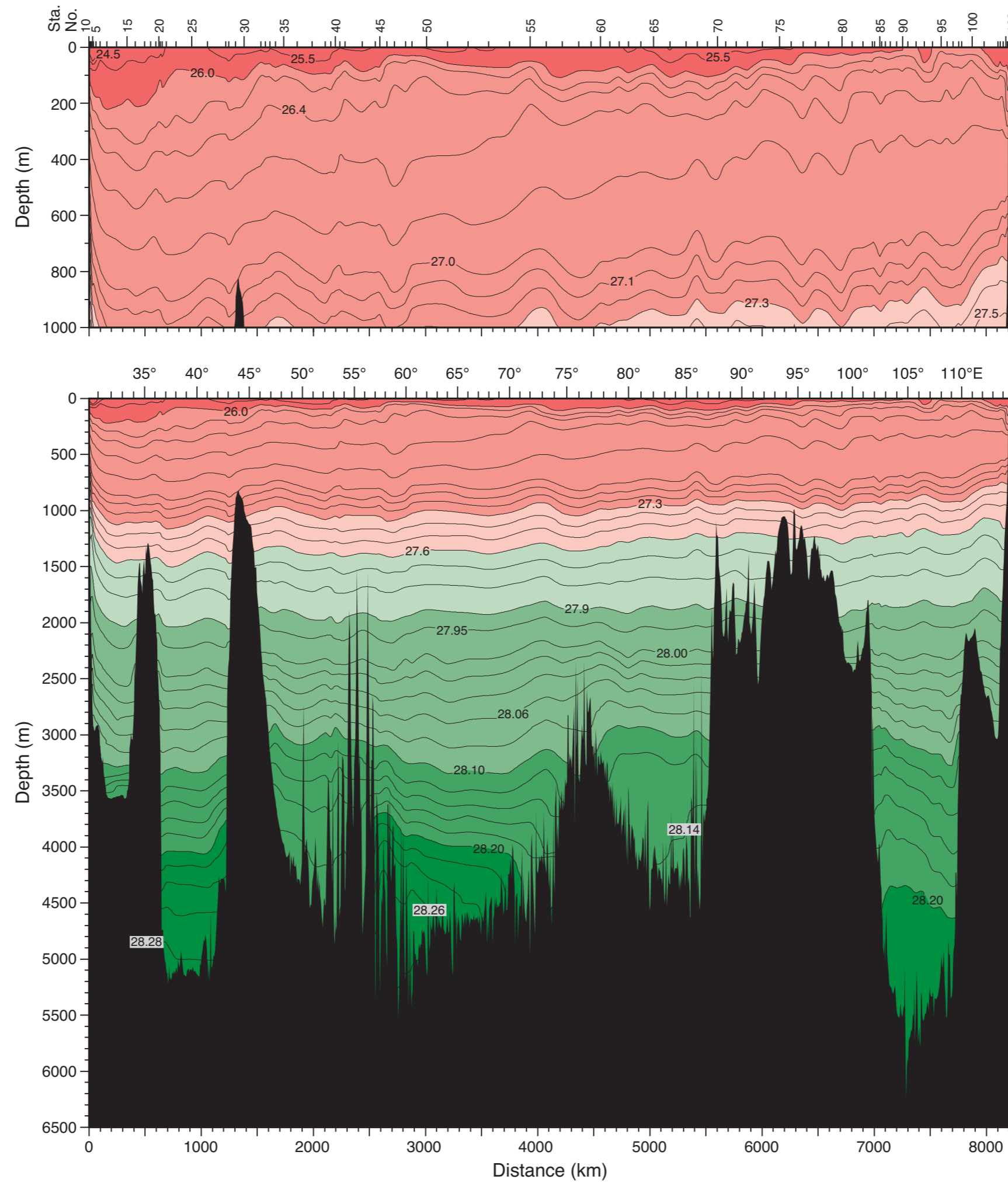
Salinity (PSS78)





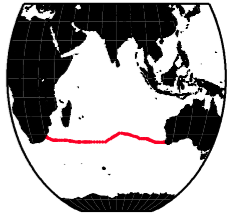
I5P (33°S)

Neutral Density (kg/m^3)

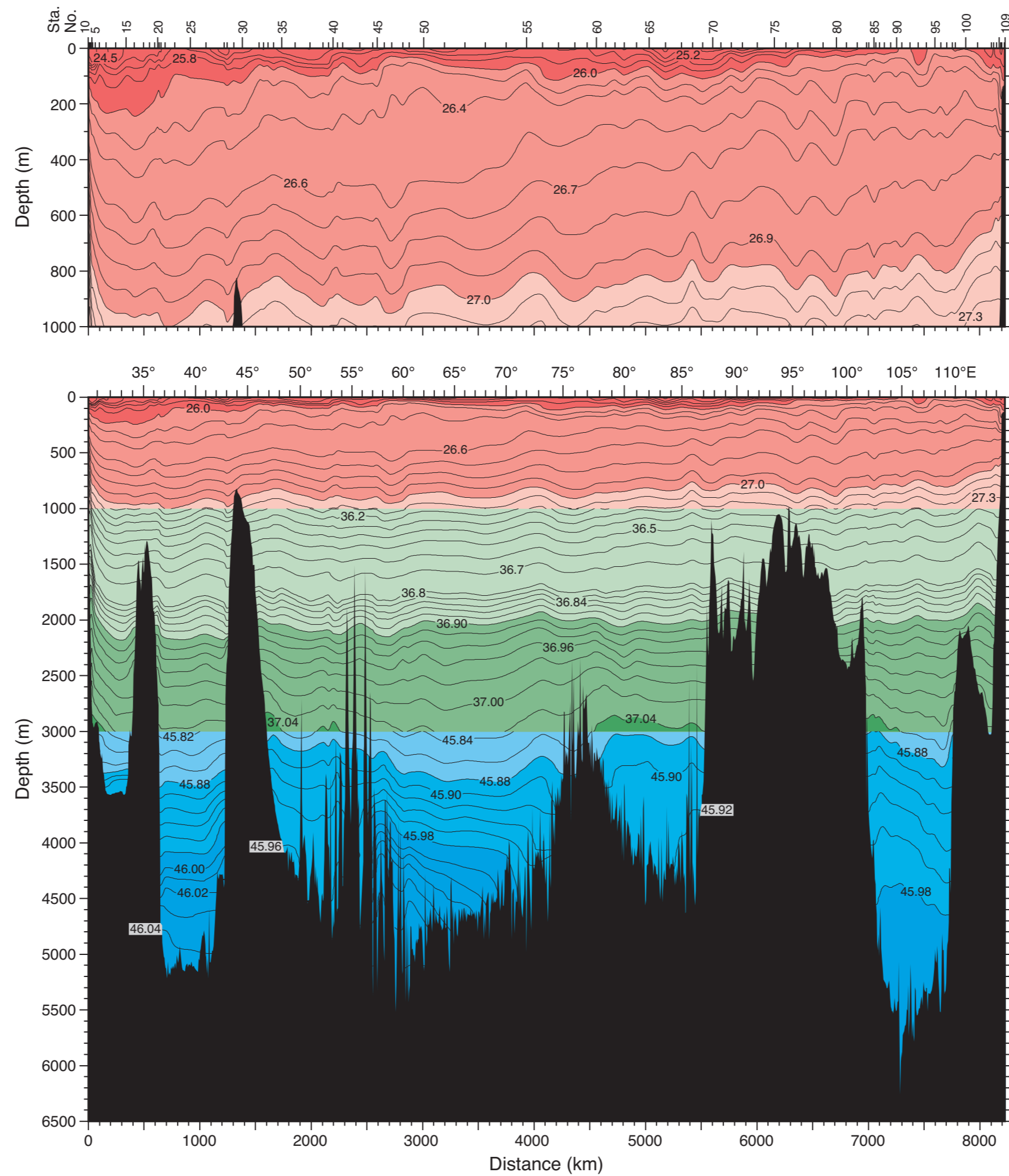


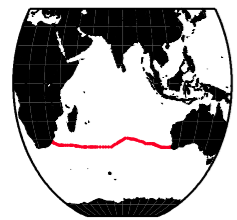
I5P

I5P (33°S)



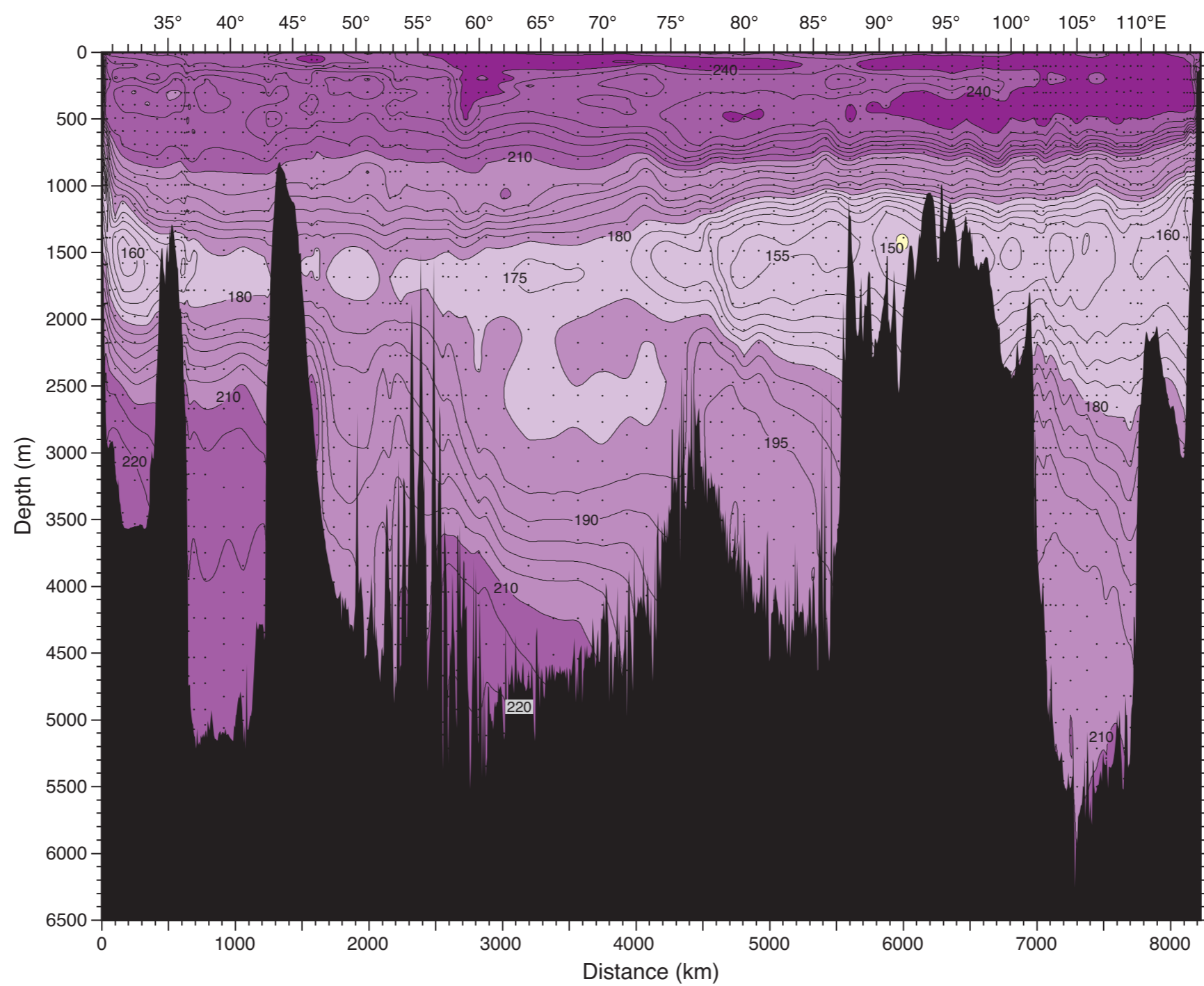
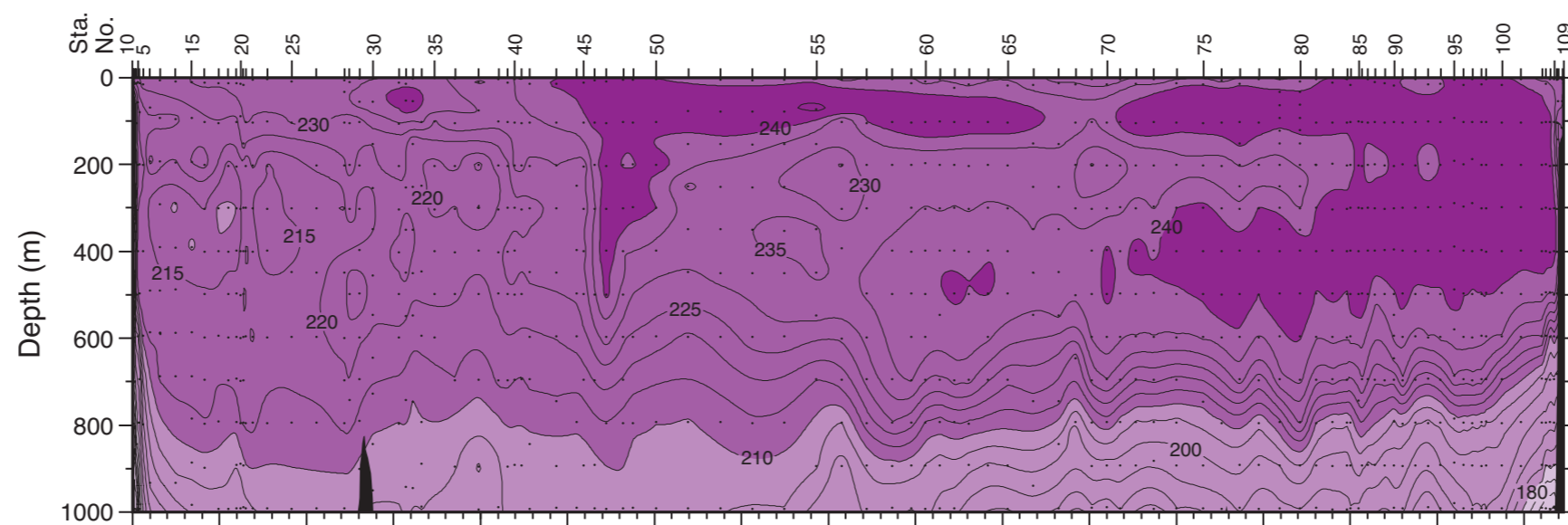
σ_0, σ_2 and σ_4 (kg/m³)





I5P (33°S)

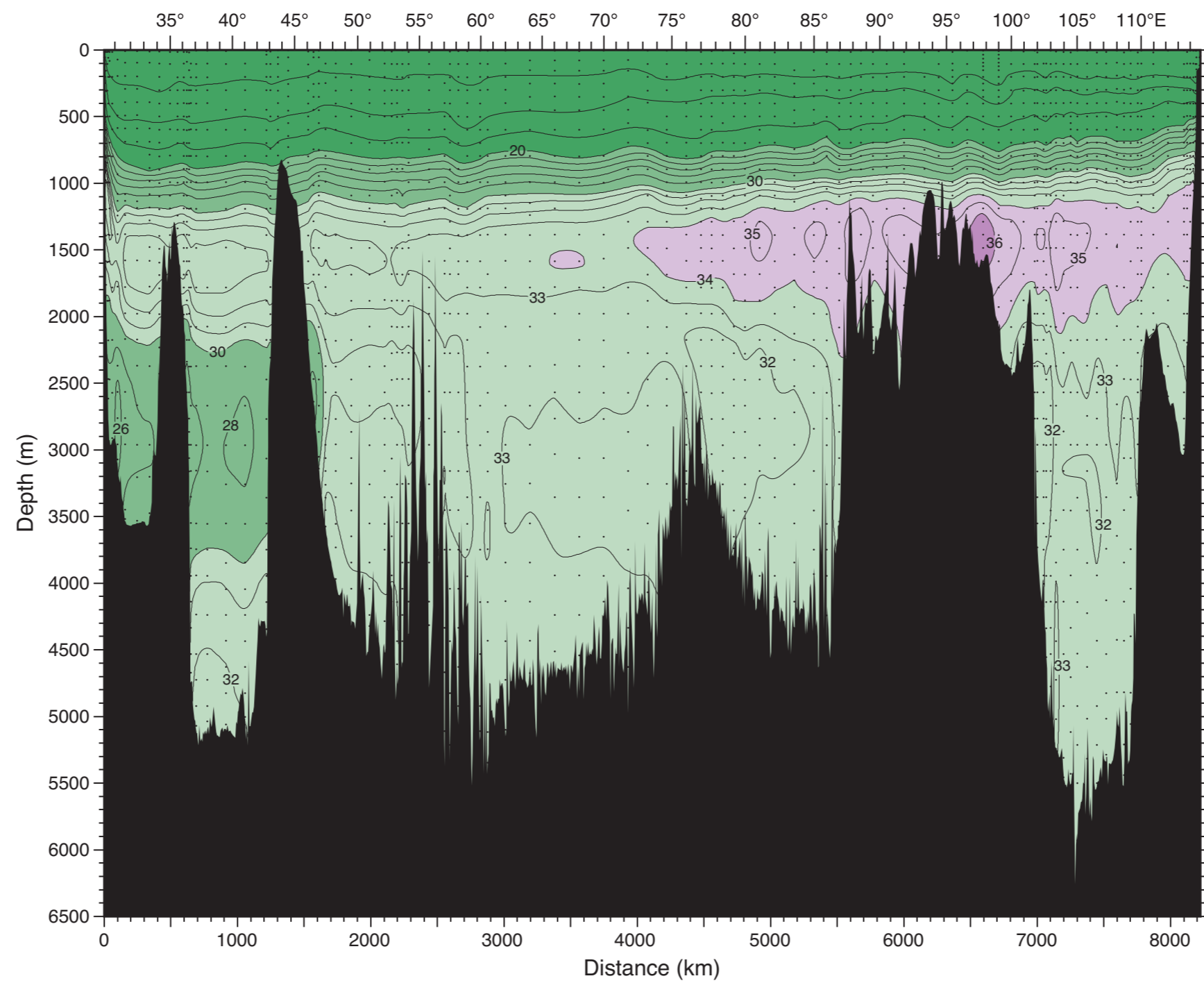
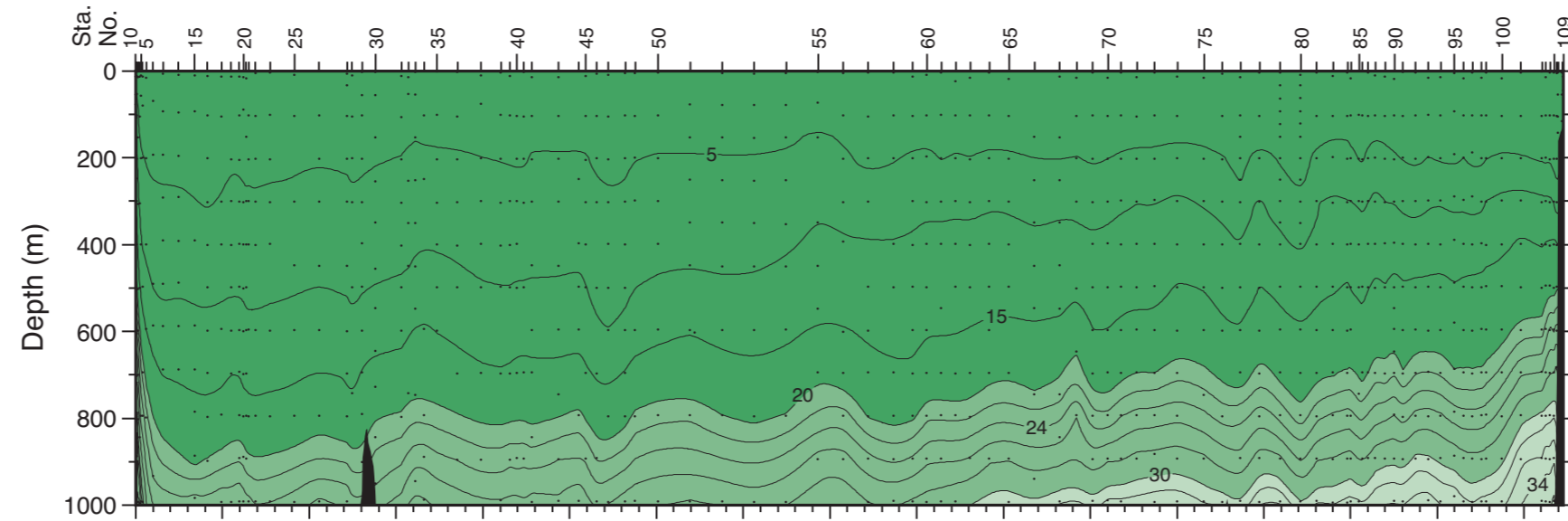
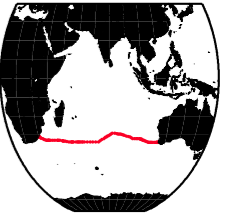
Oxygen ($\mu\text{mol/kg}$)



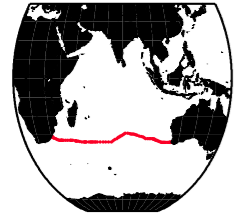
I5P

I5P (33°S)

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

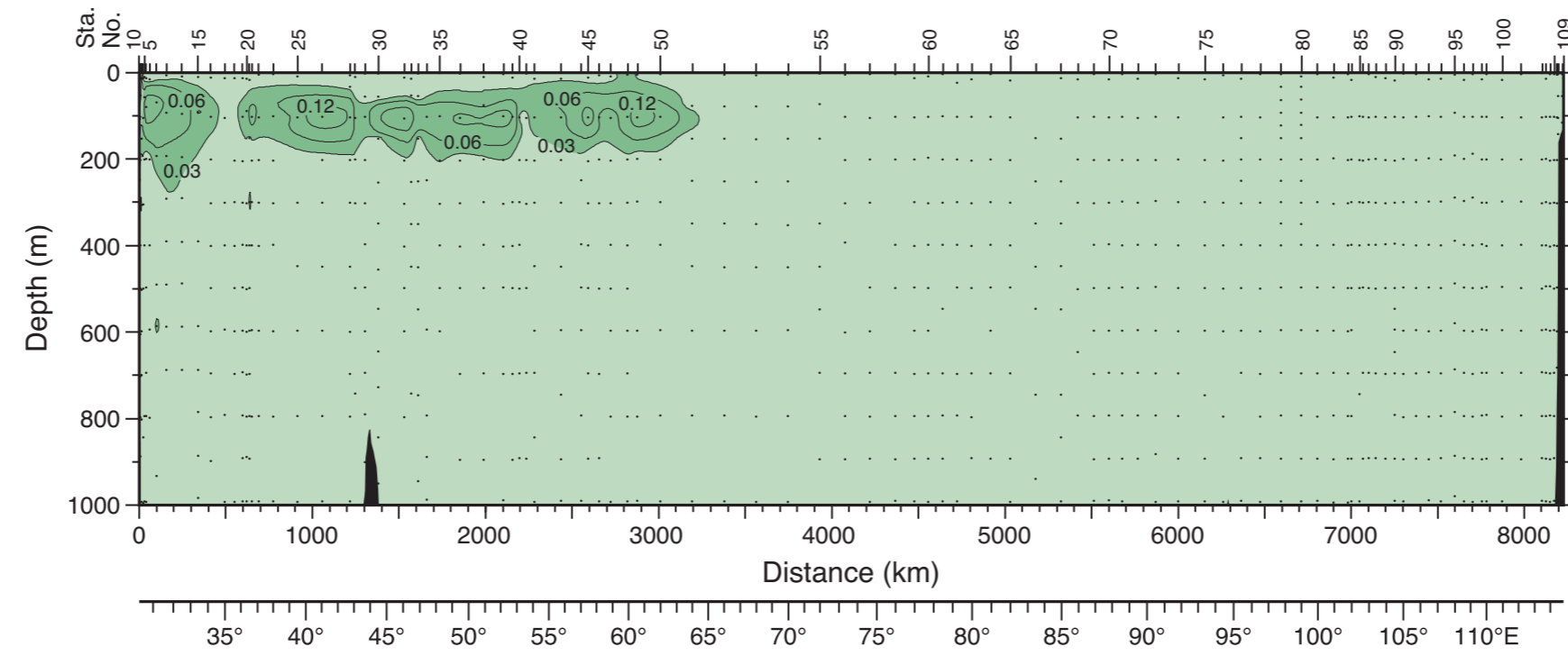


I5P



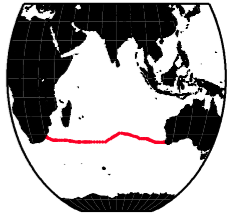
I5P (33°S)

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

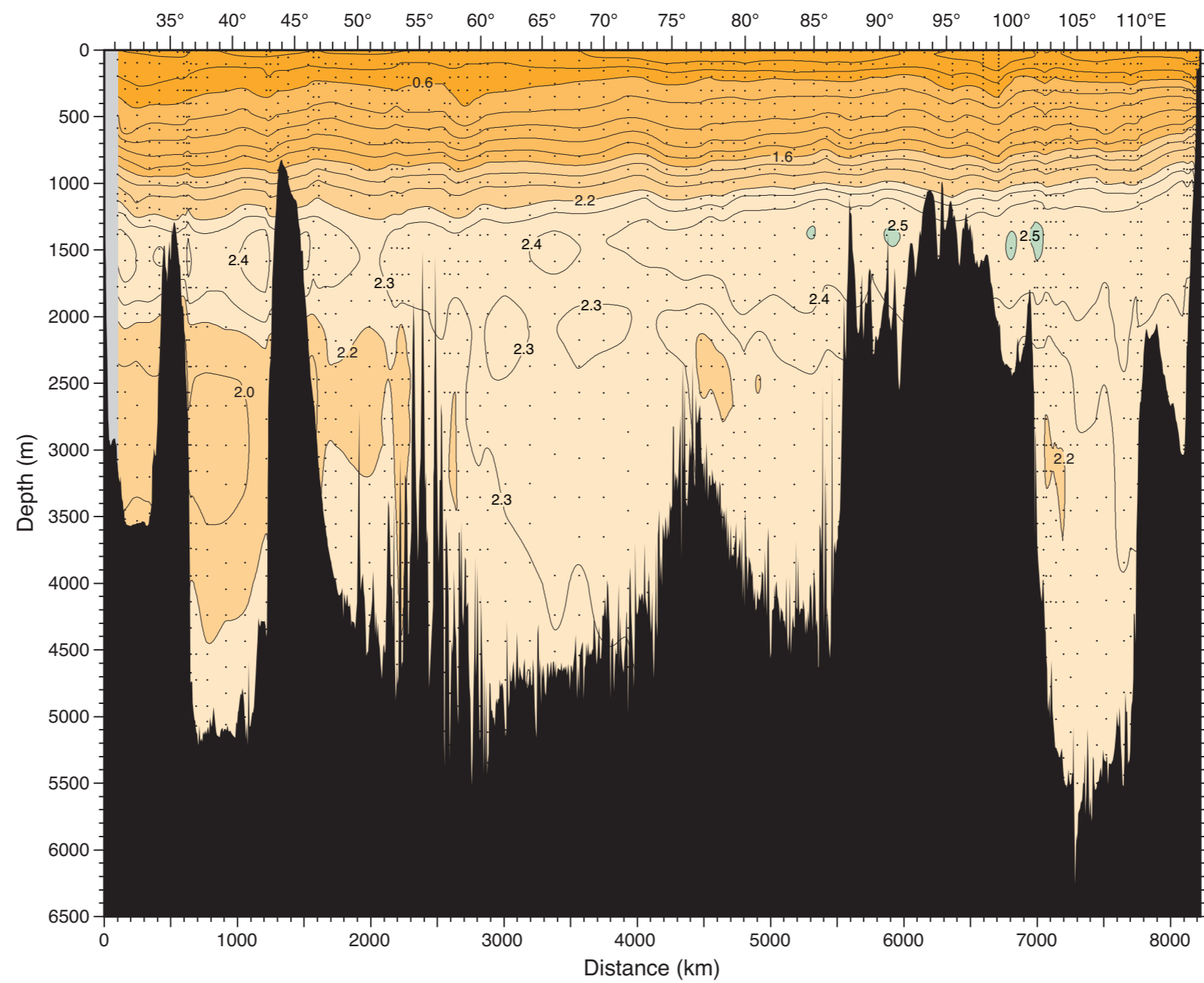
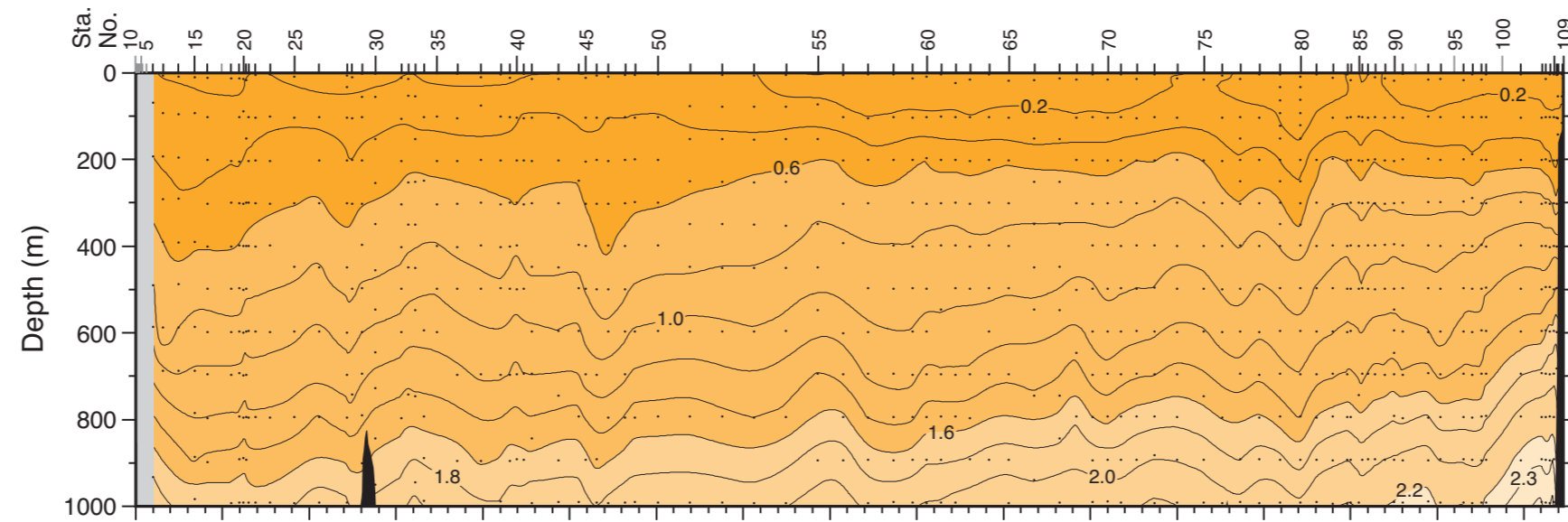


I5P

I5P (33°S)



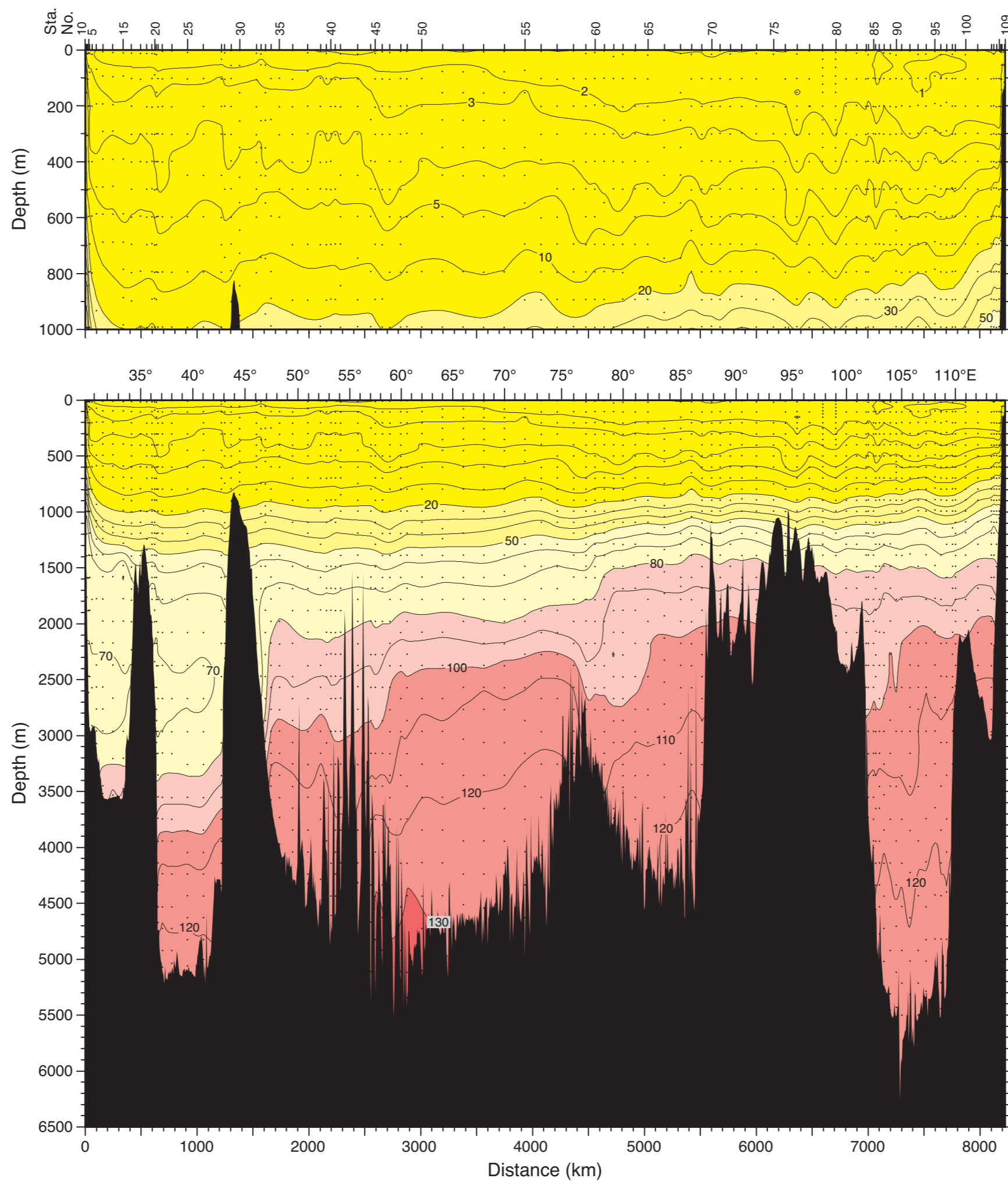
Phosphate ($\mu\text{mol/kg}$)





I5P (33°S)

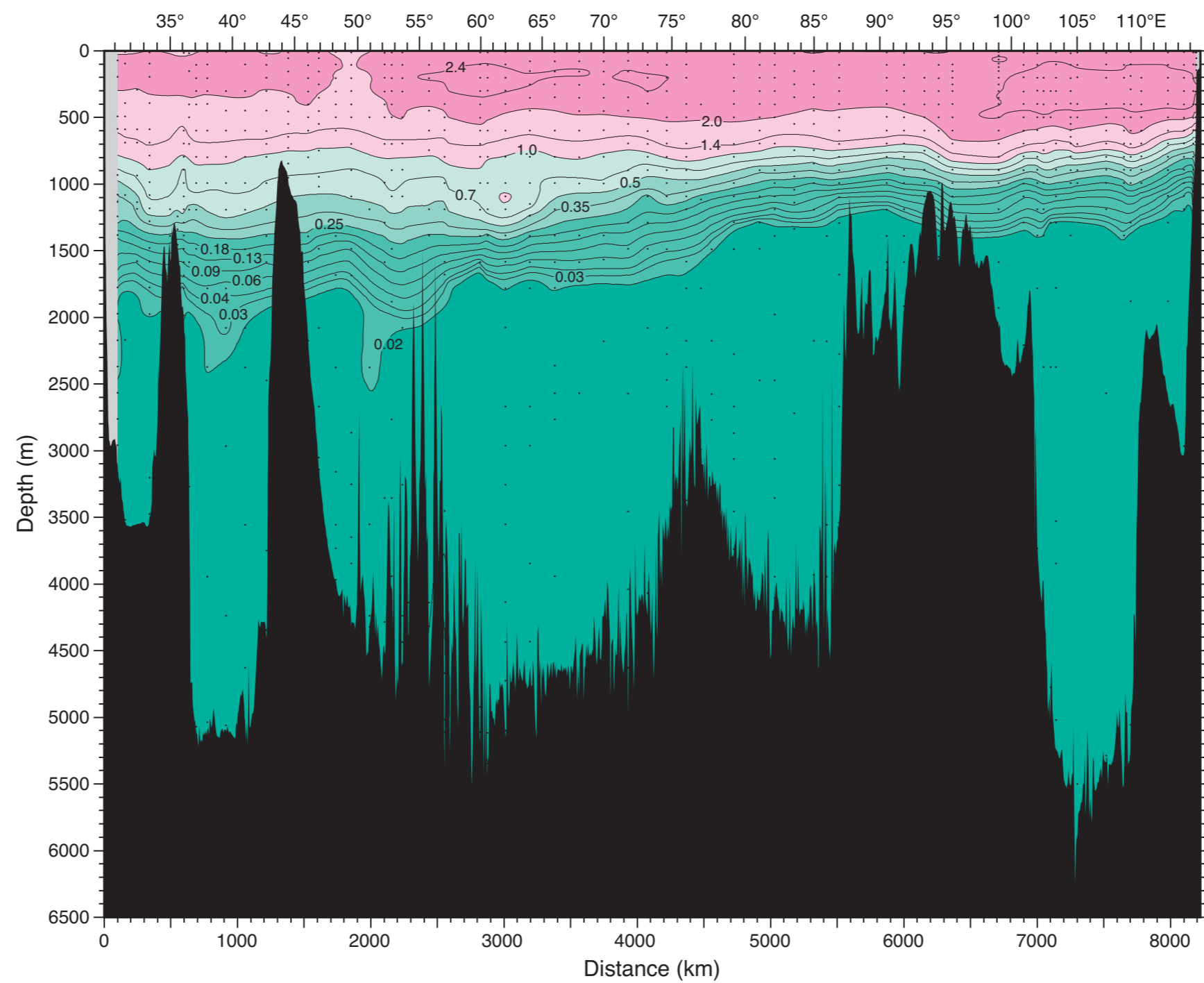
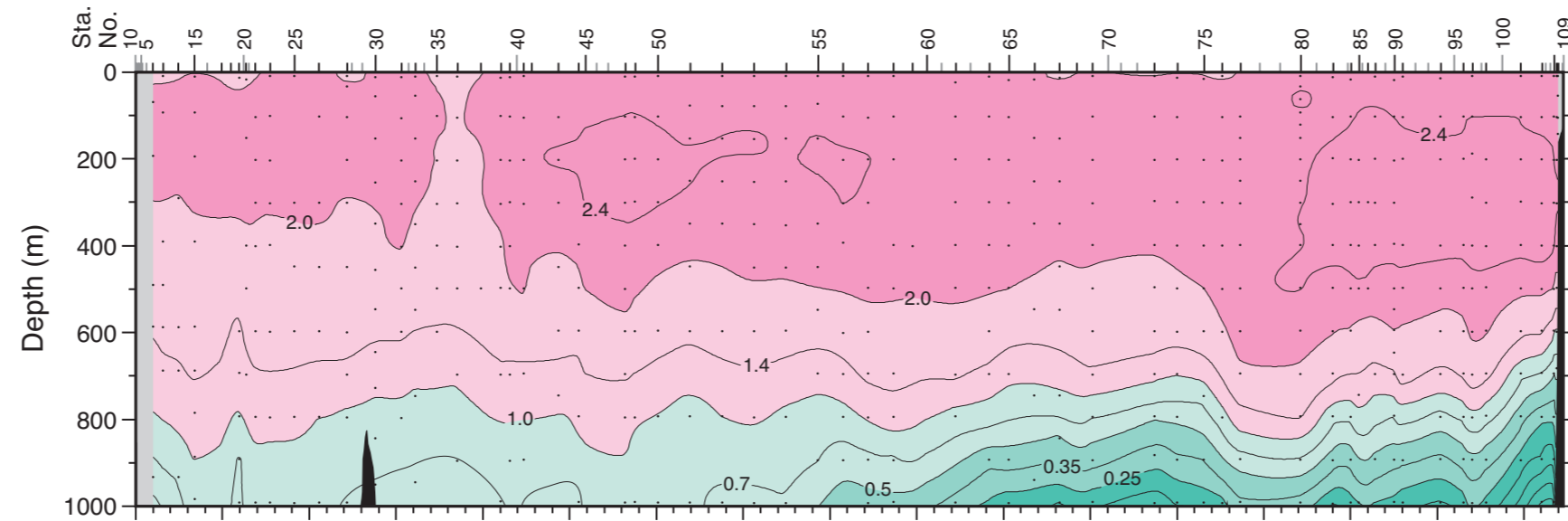
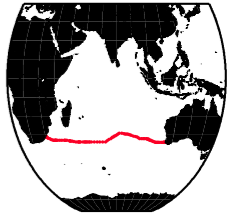
Dissolved Silica ($\mu\text{mol/kg}$)



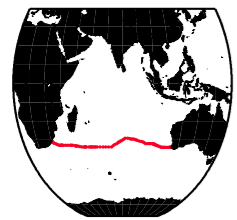
I5P

I5P (33°S)

CFC-11 (pmol/kg)

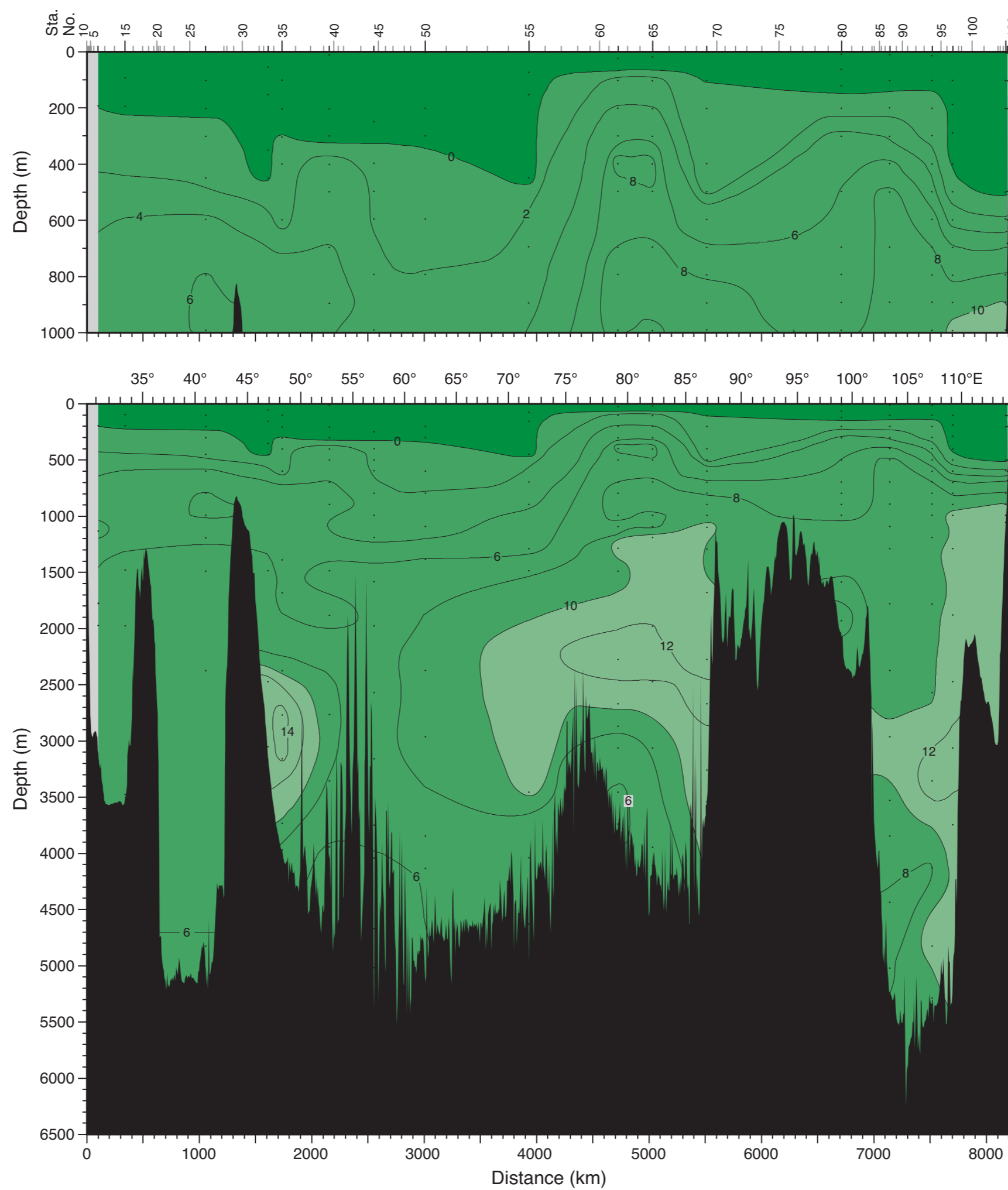


I5P



I5P (33°S)

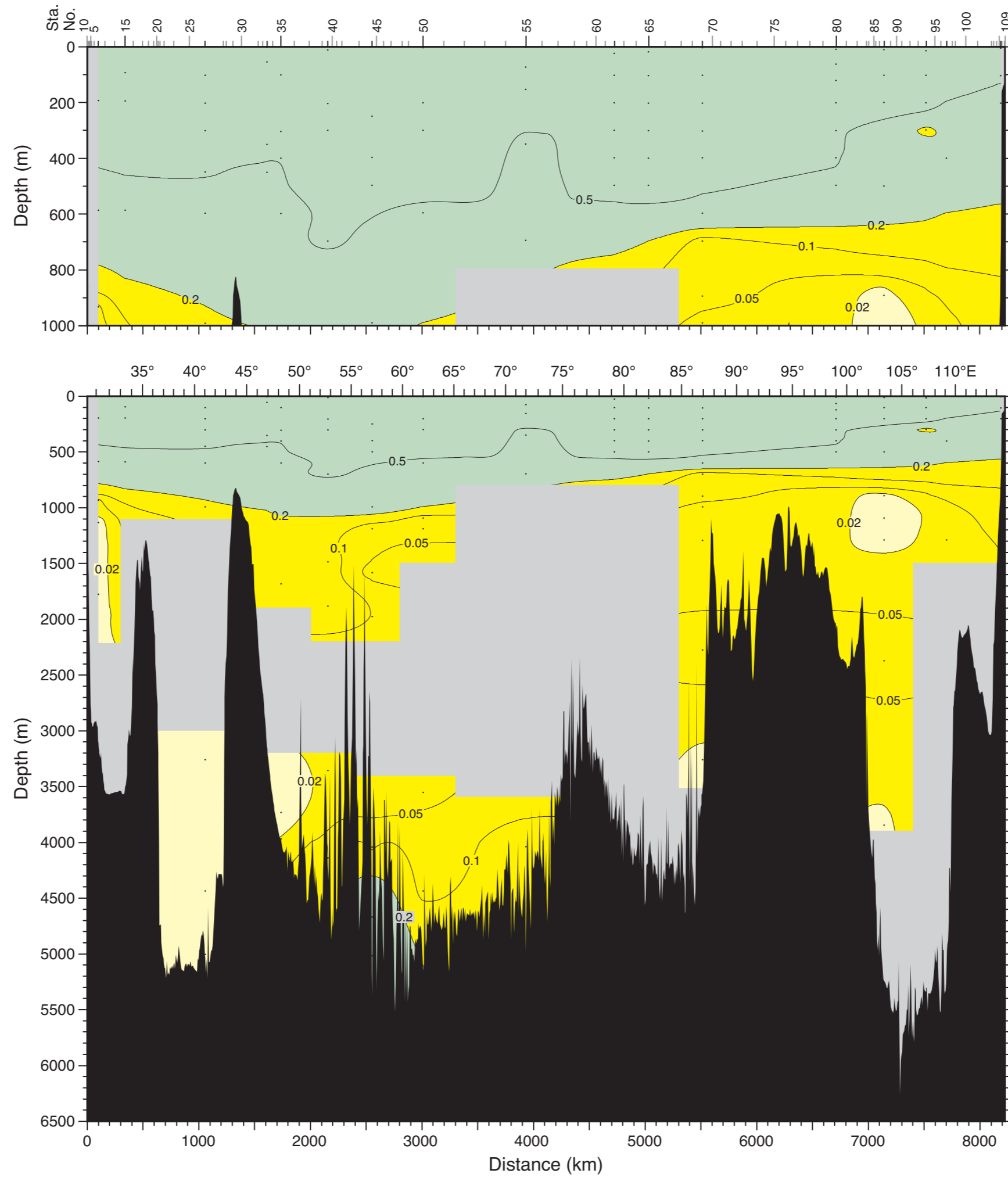
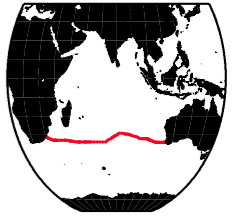
$\delta^3\text{He}$ (%)

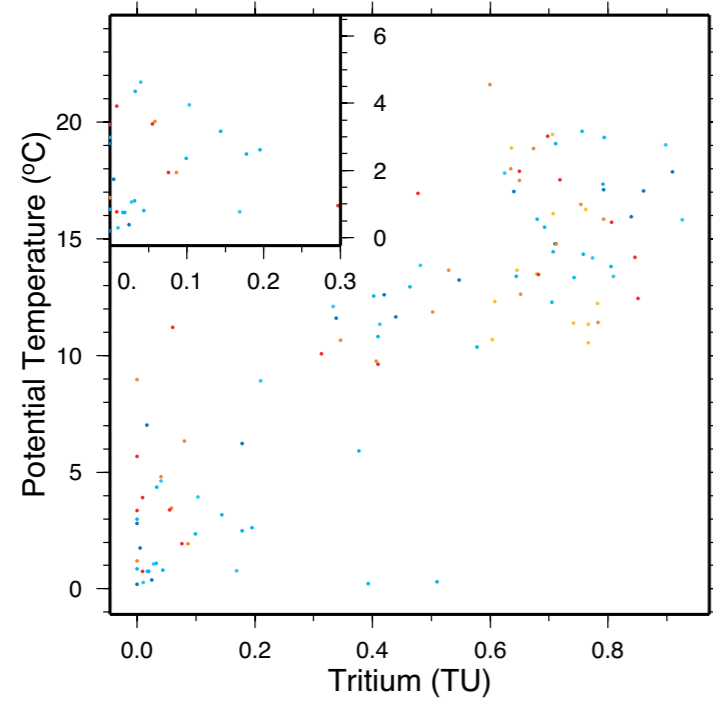
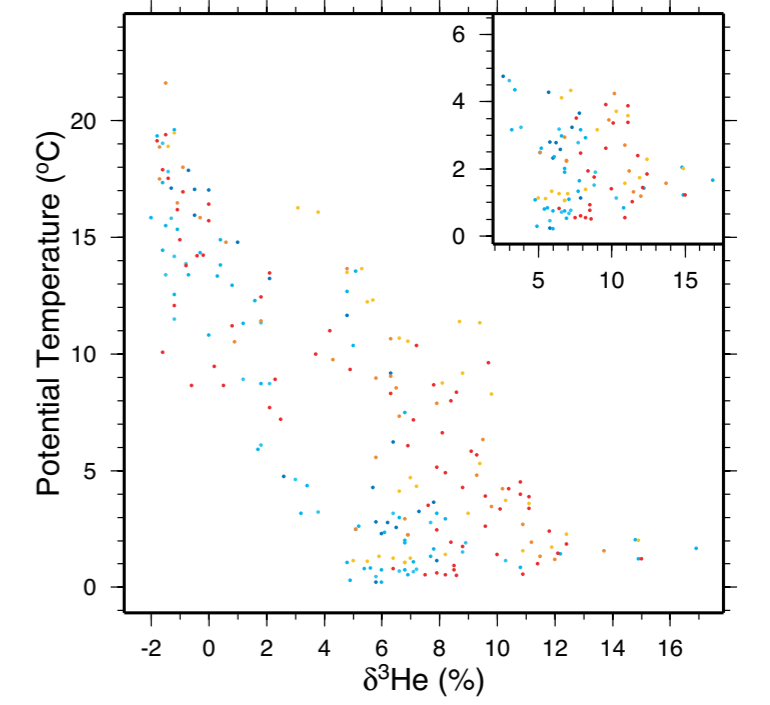
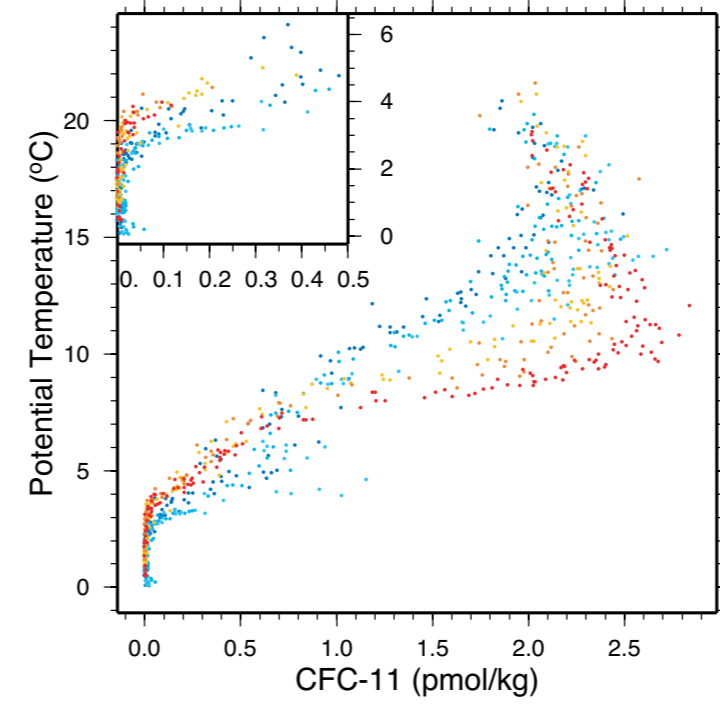
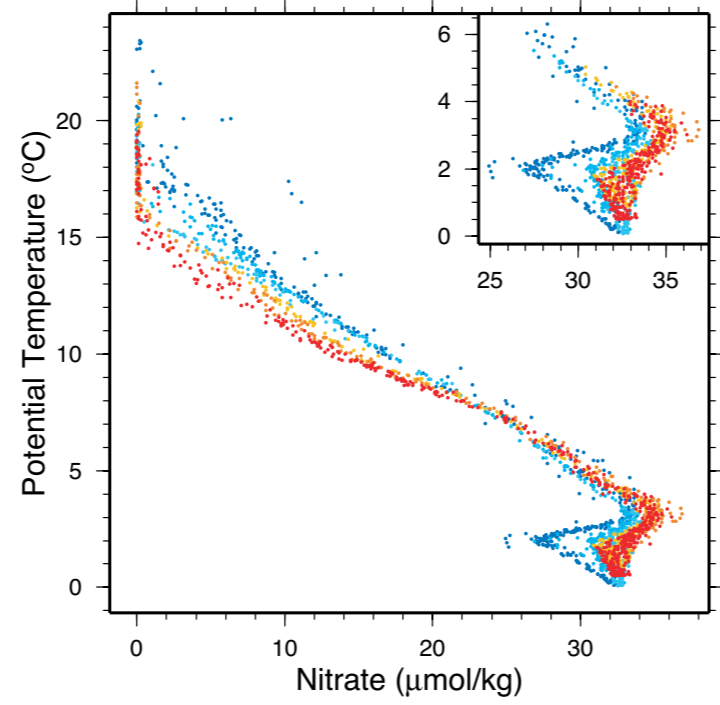
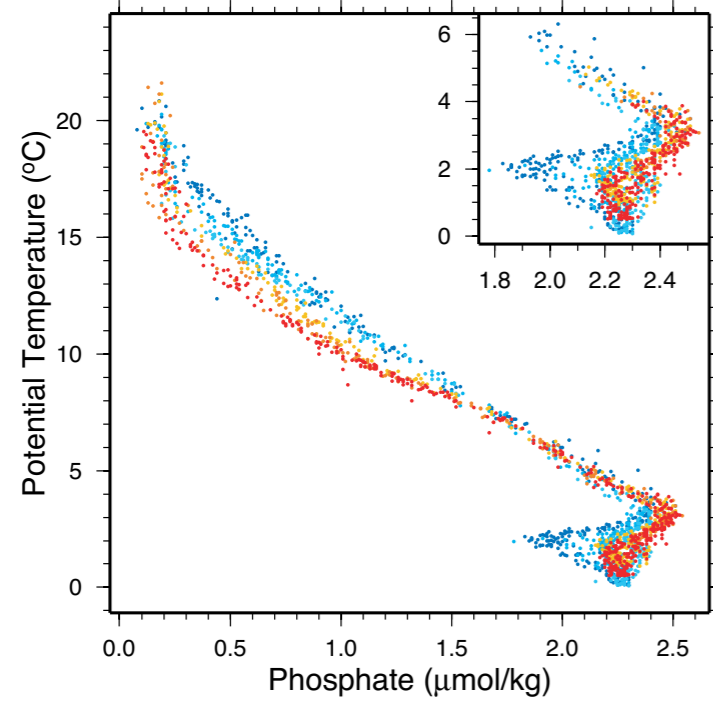
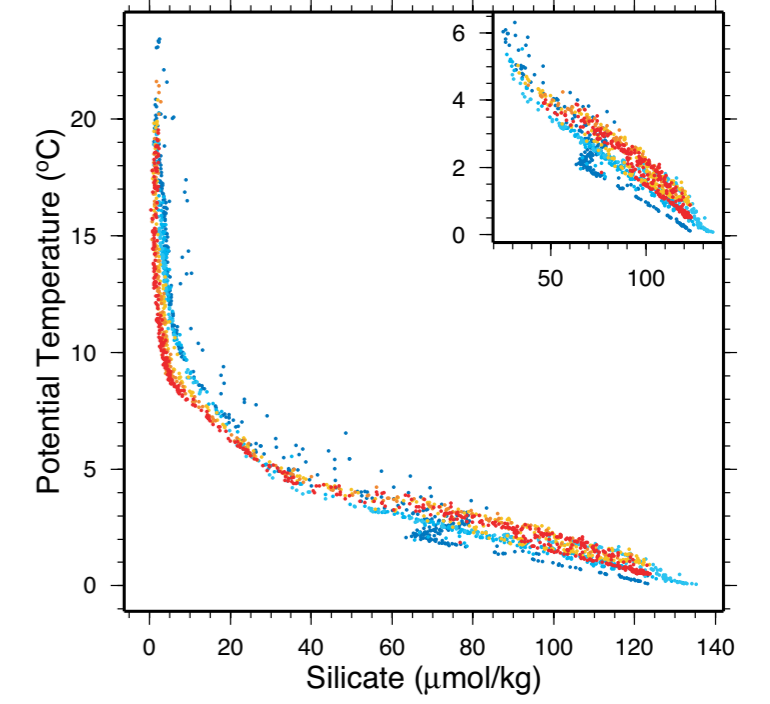
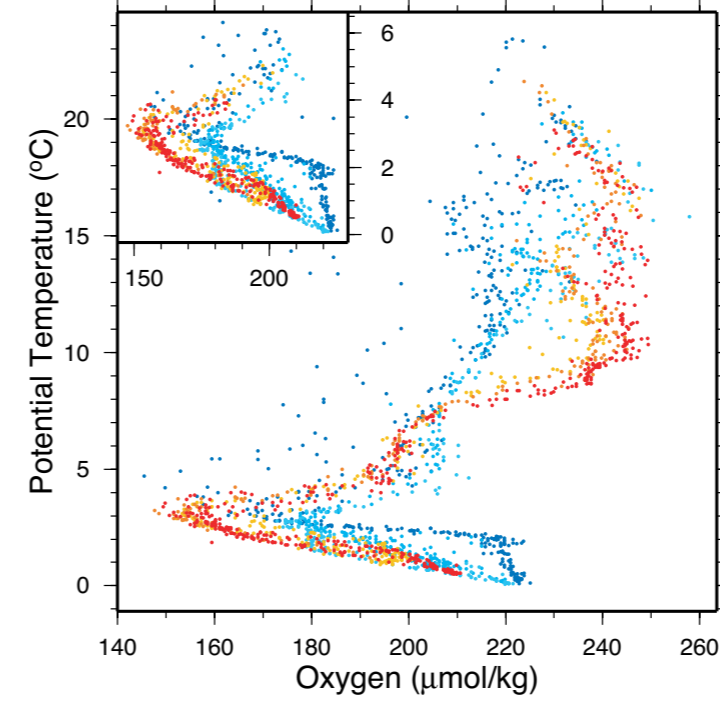
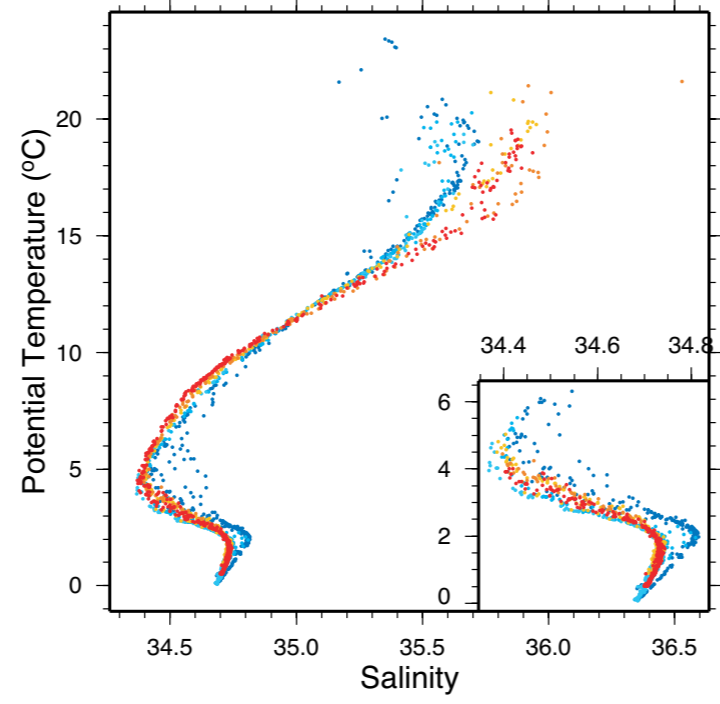
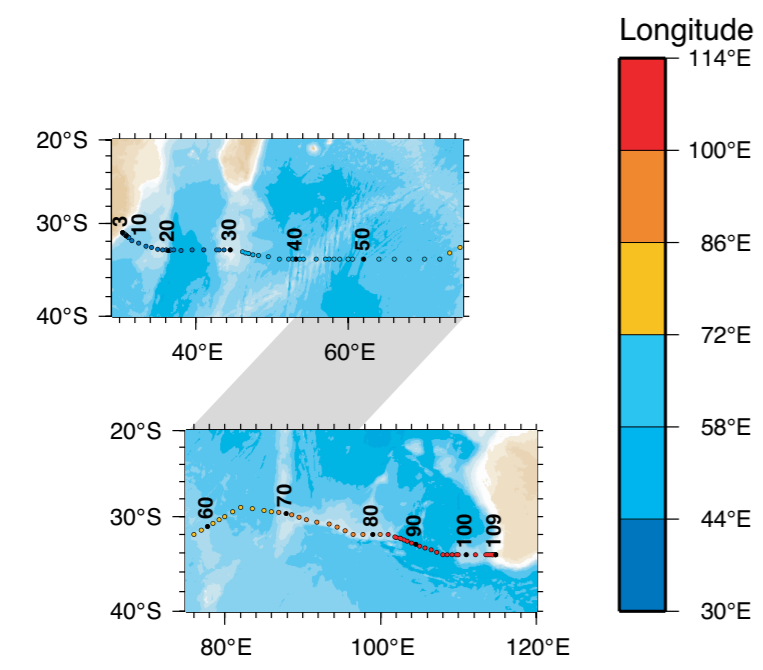


I5P

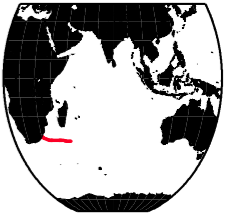
I5P (33°S)

Tritium (TU)

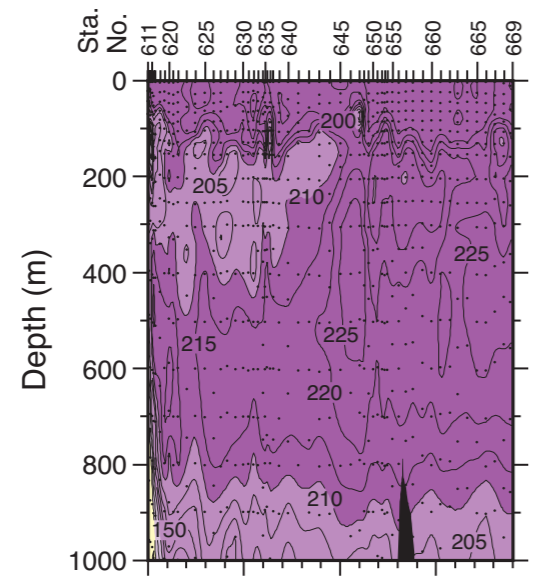




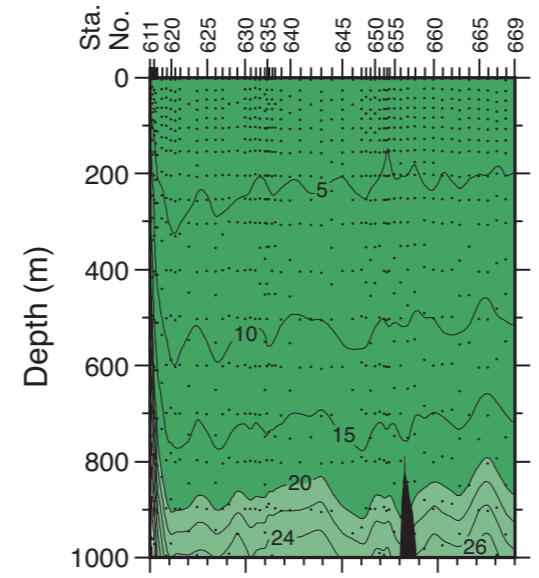
15W (33°S)



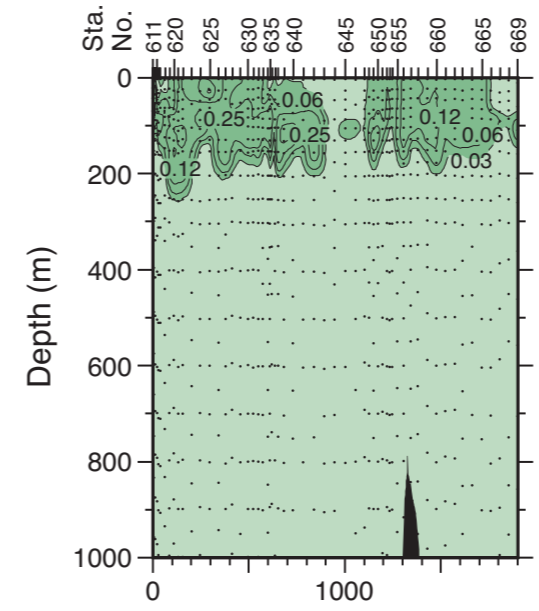
Oxygen ($\mu\text{mol/kg}$)



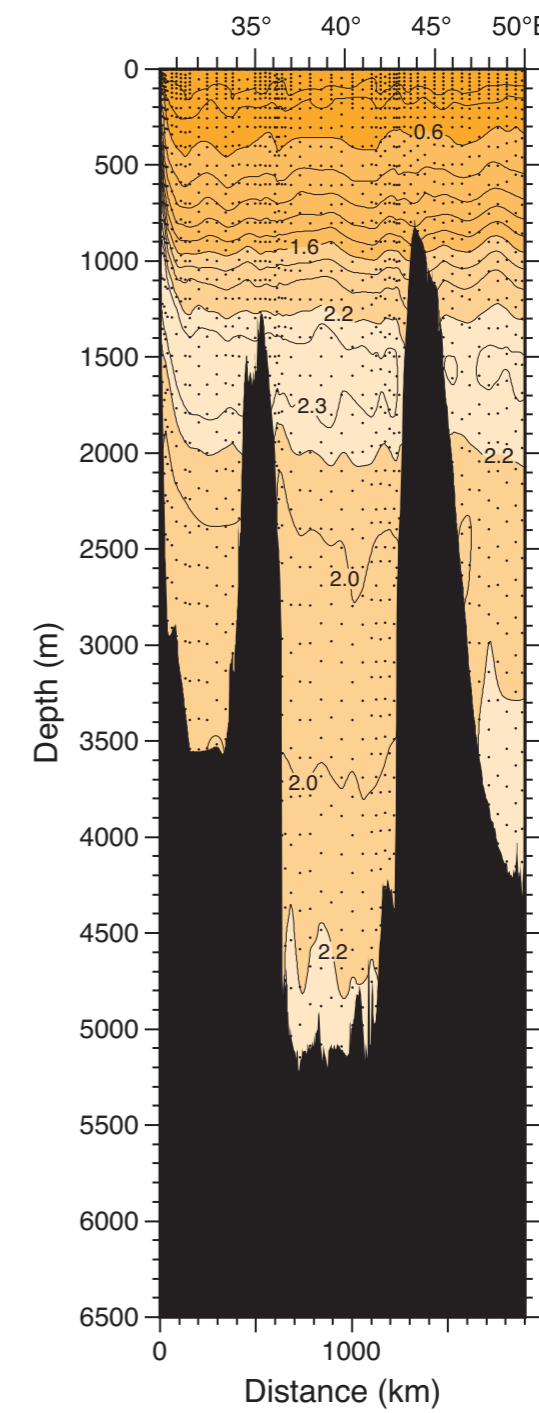
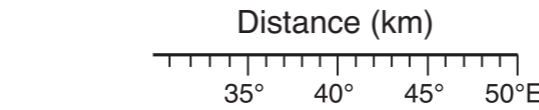
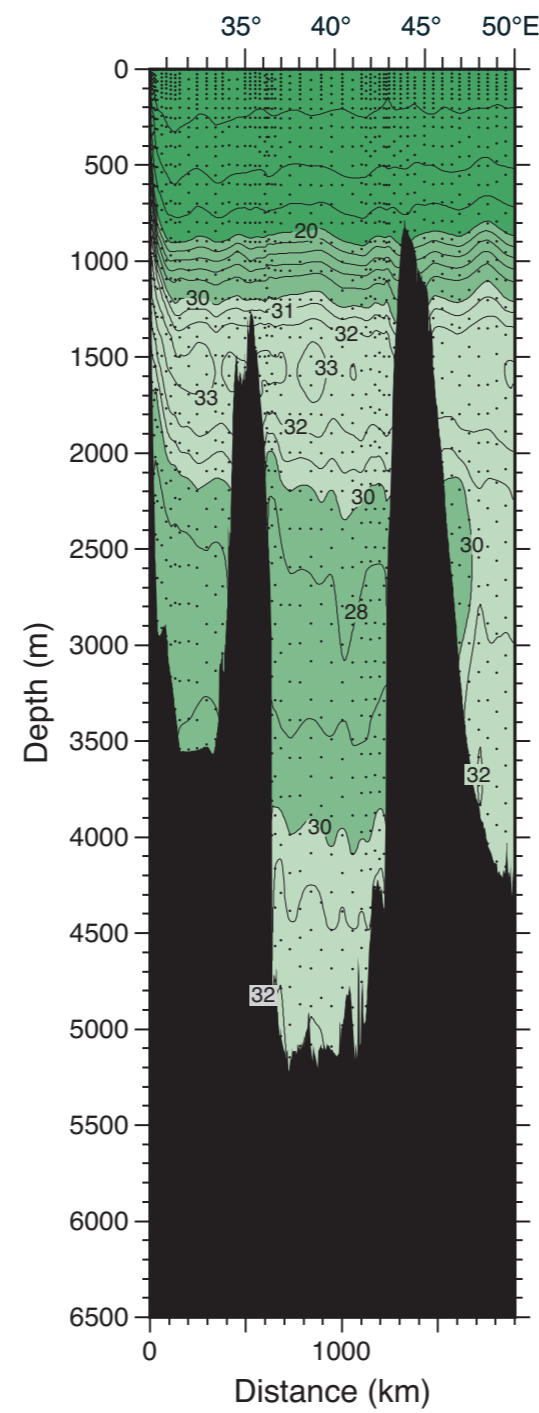
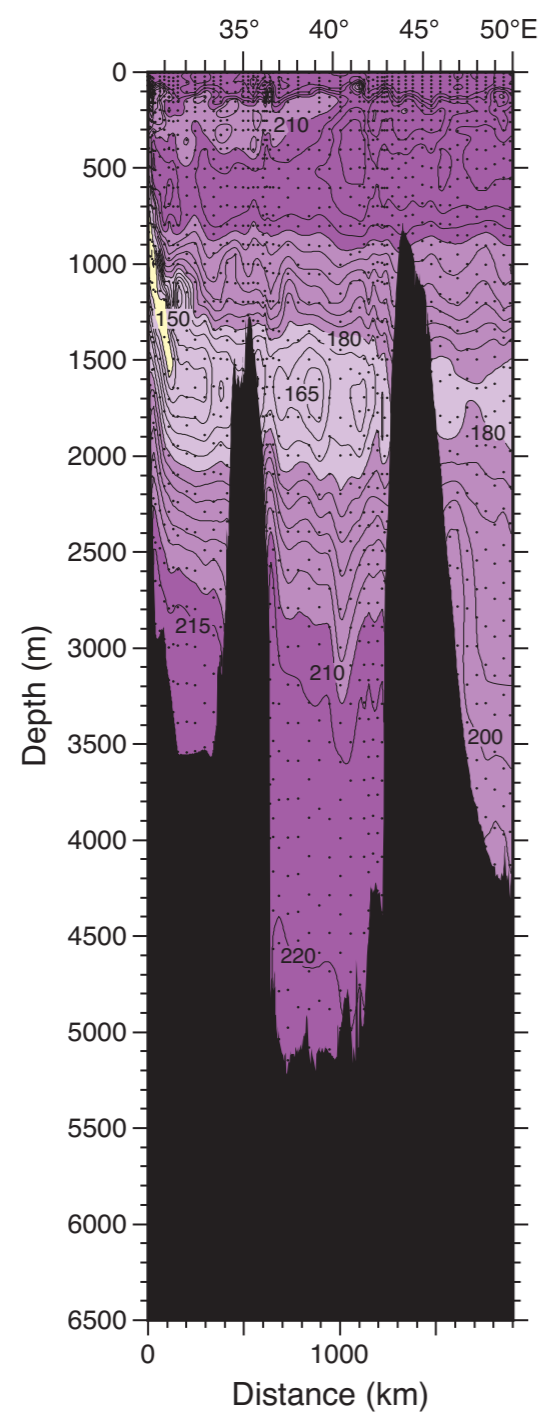
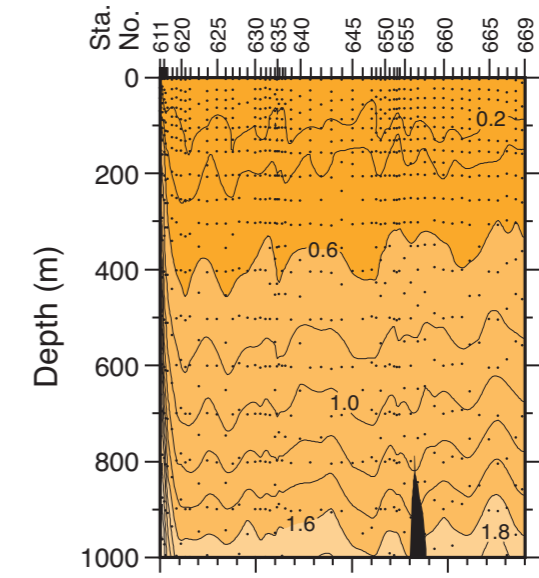
Nitrate ($\mu\text{mol/kg}$)



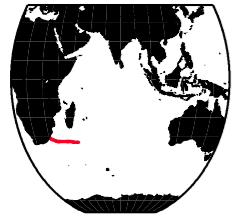
Nitrite ($\mu\text{mol/kg}$)



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



15W



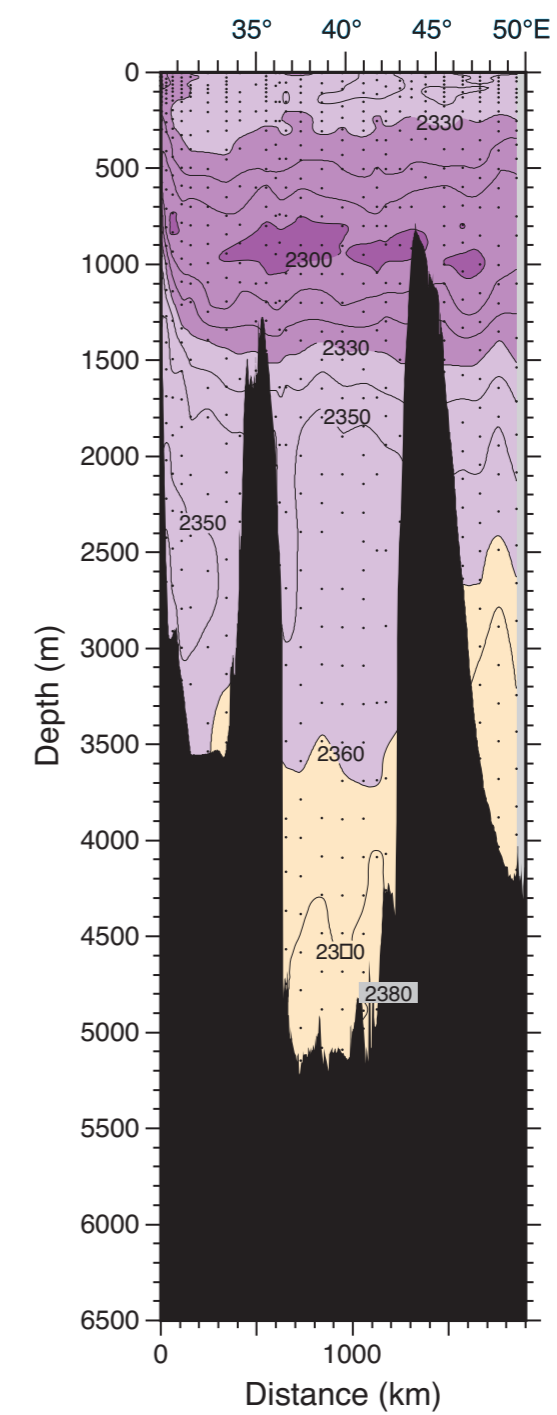
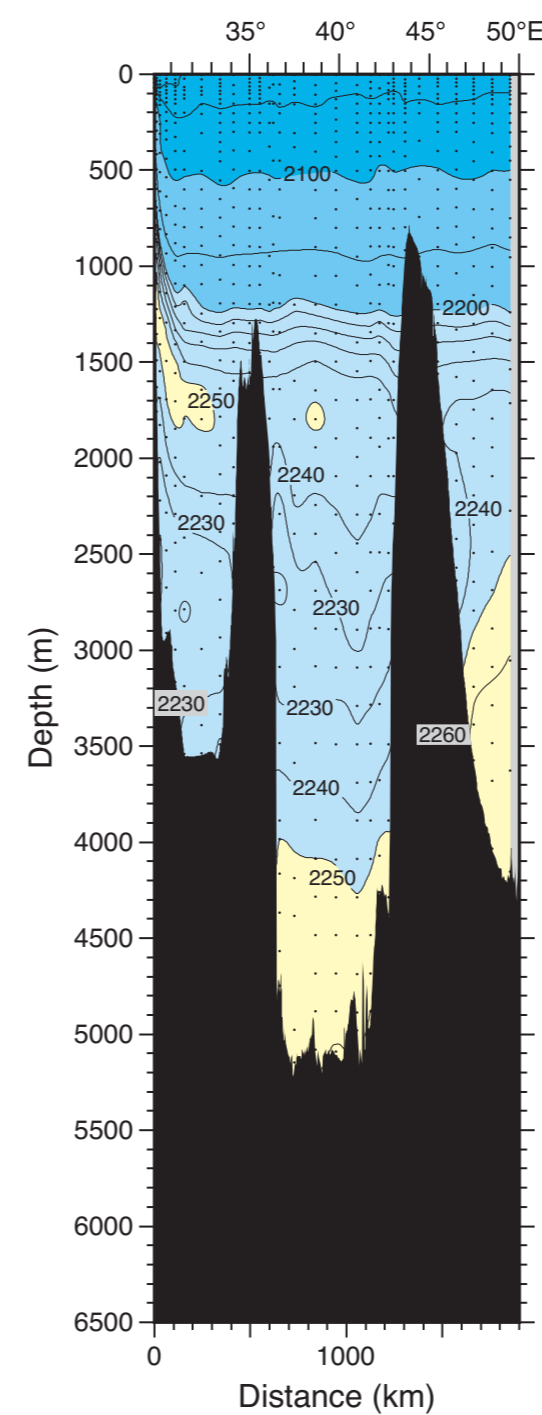
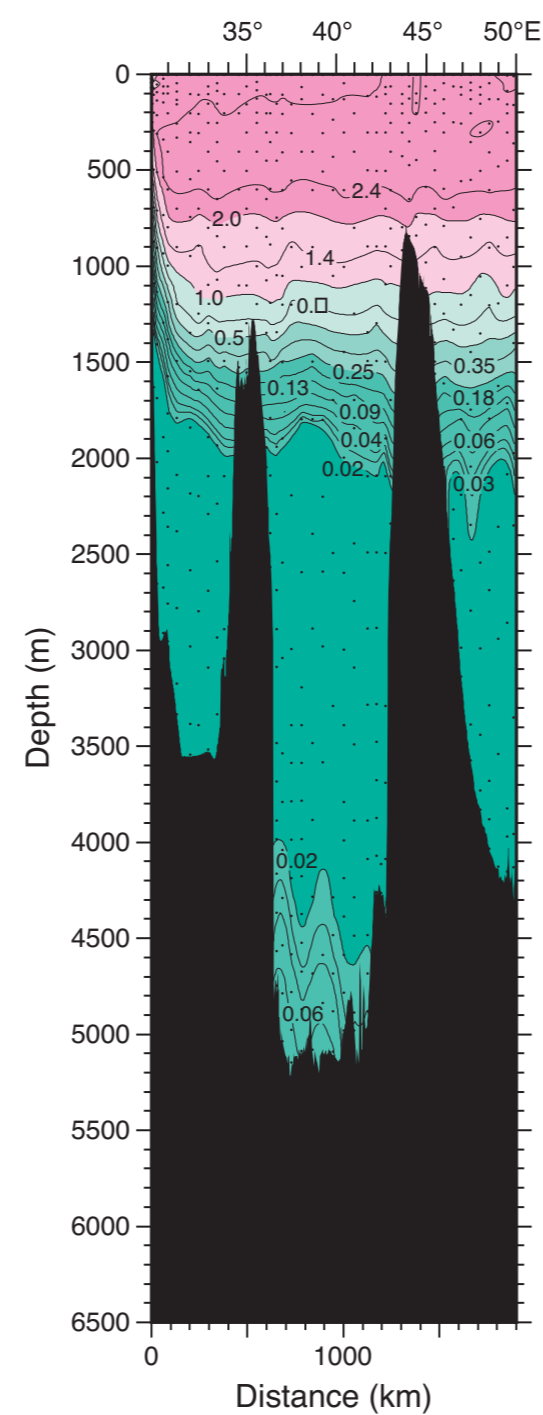
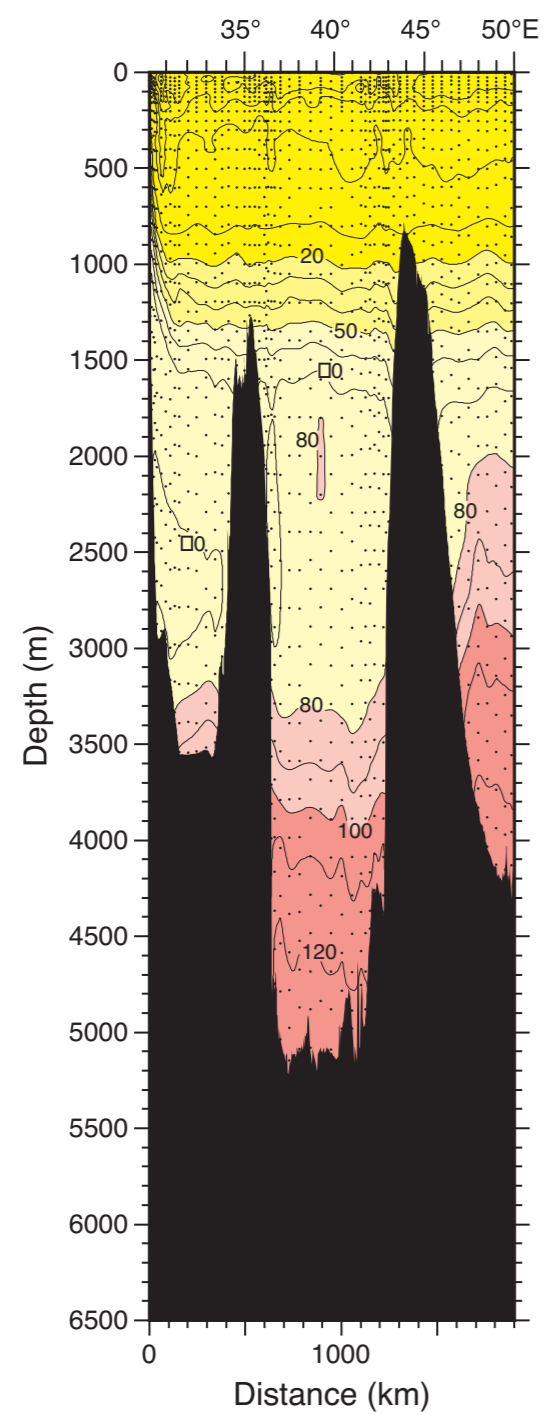
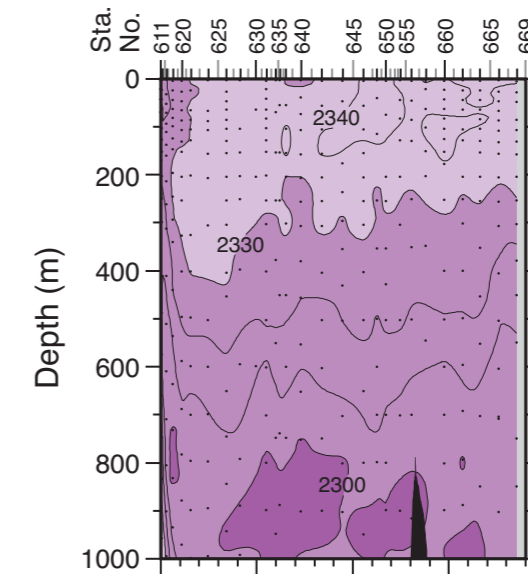
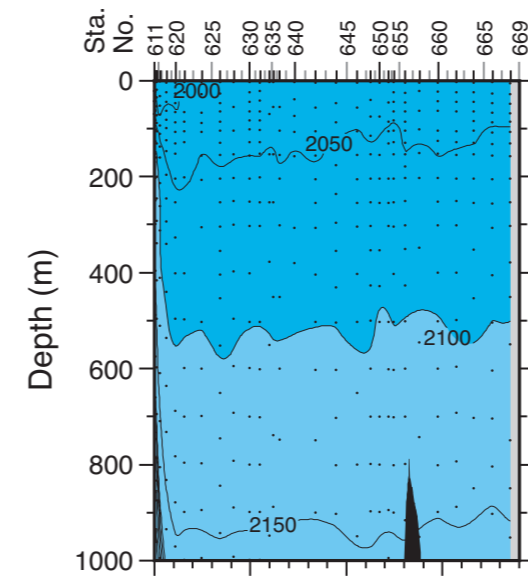
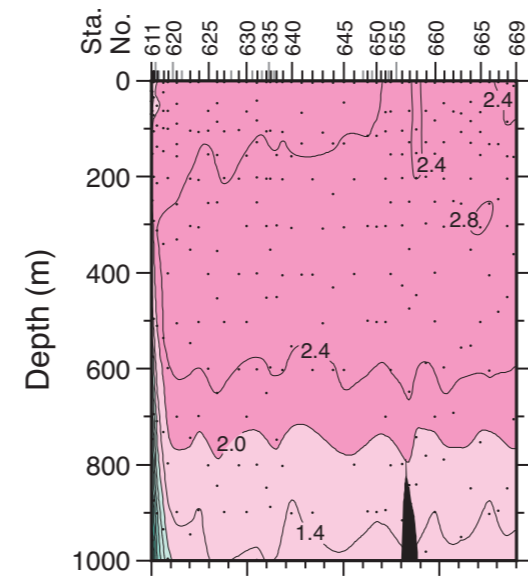
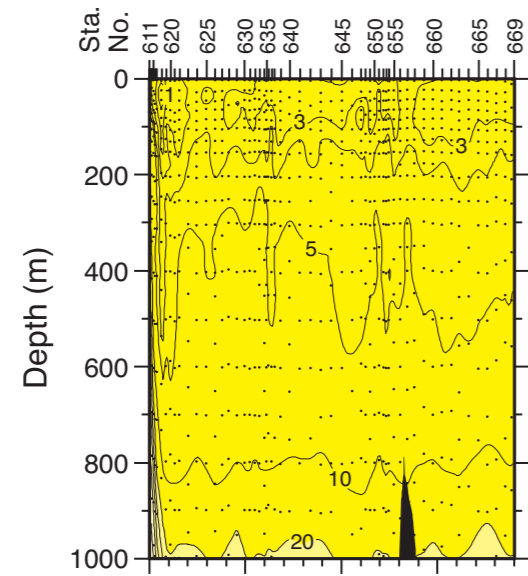
15W (33°S)

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

CFC-11 (pmol/kg)

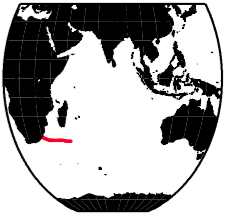
Total Carbon ($\mu\text{mol/kg}$)

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

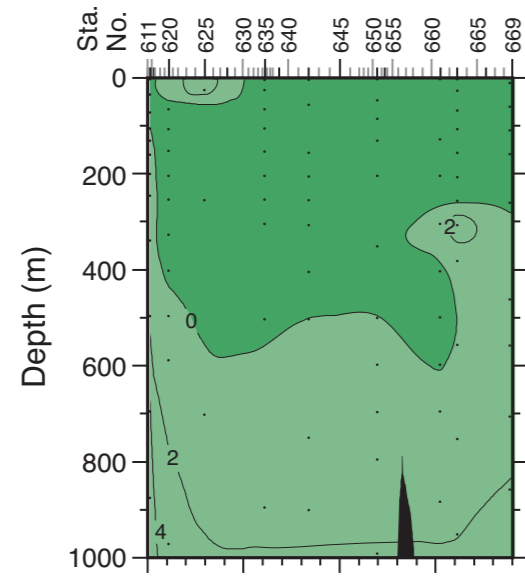


15W

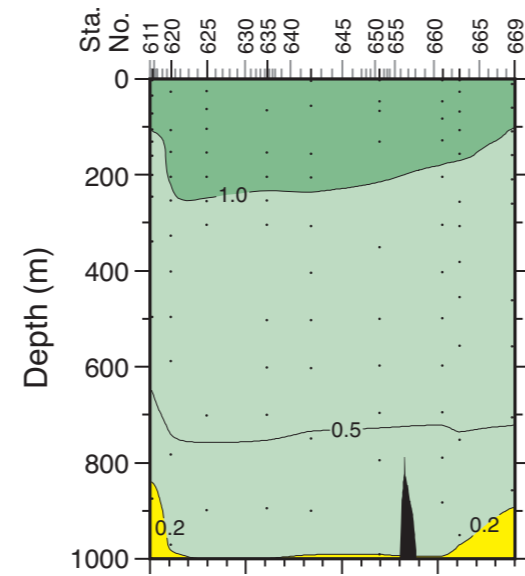
I5W (33°S)



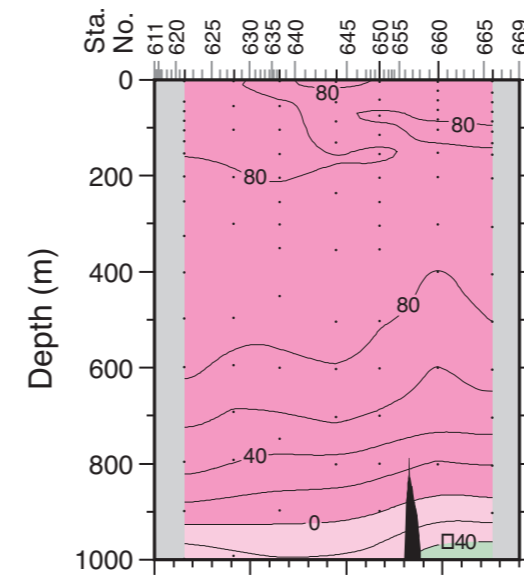
$\delta^3\text{He}$ (%)



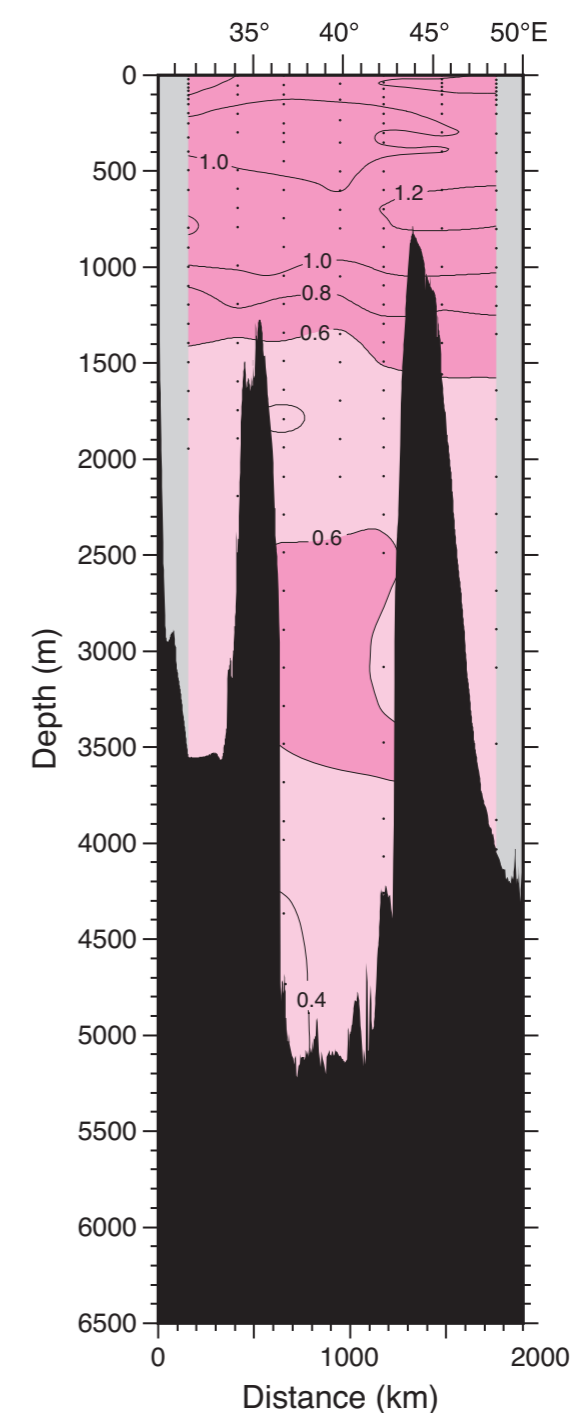
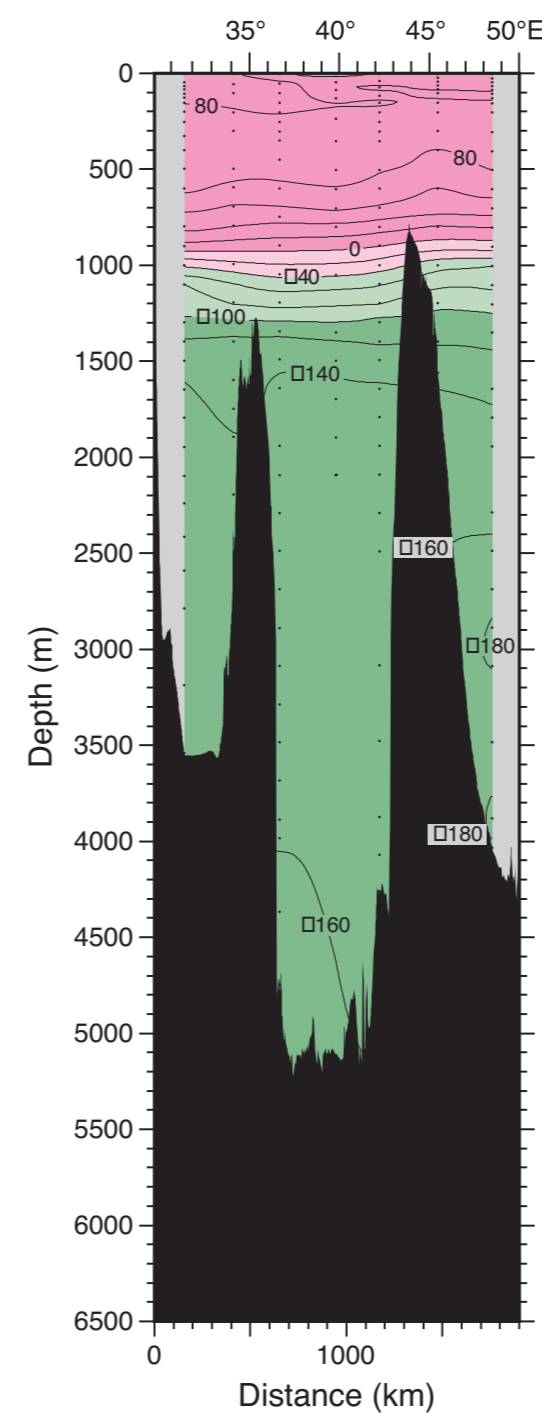
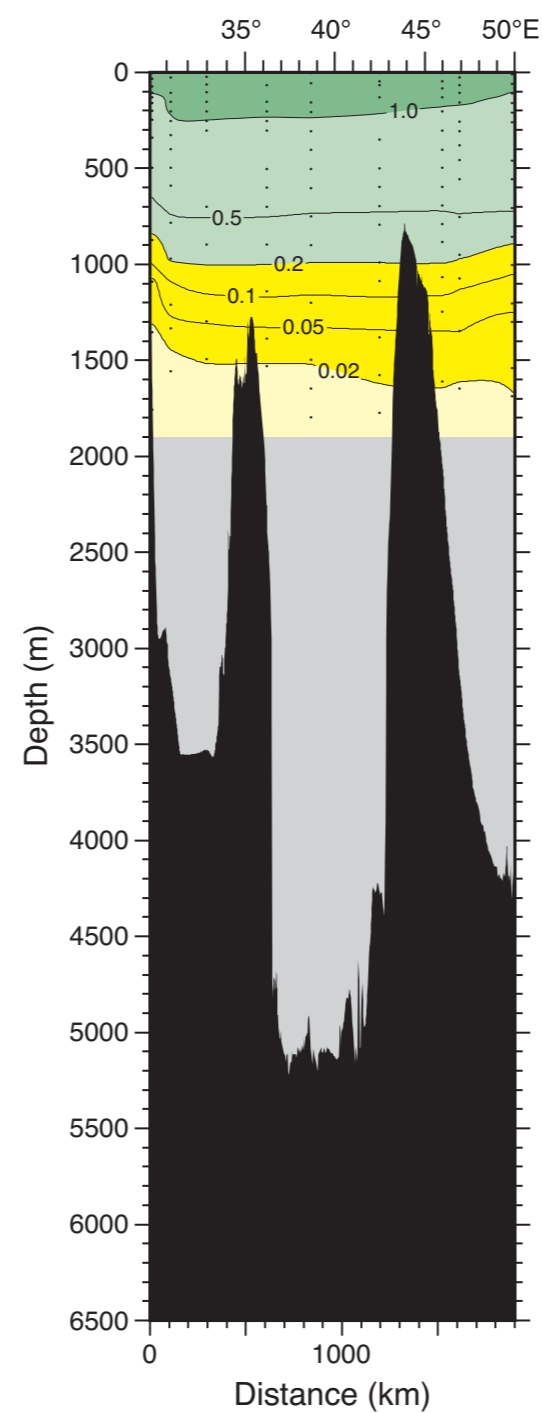
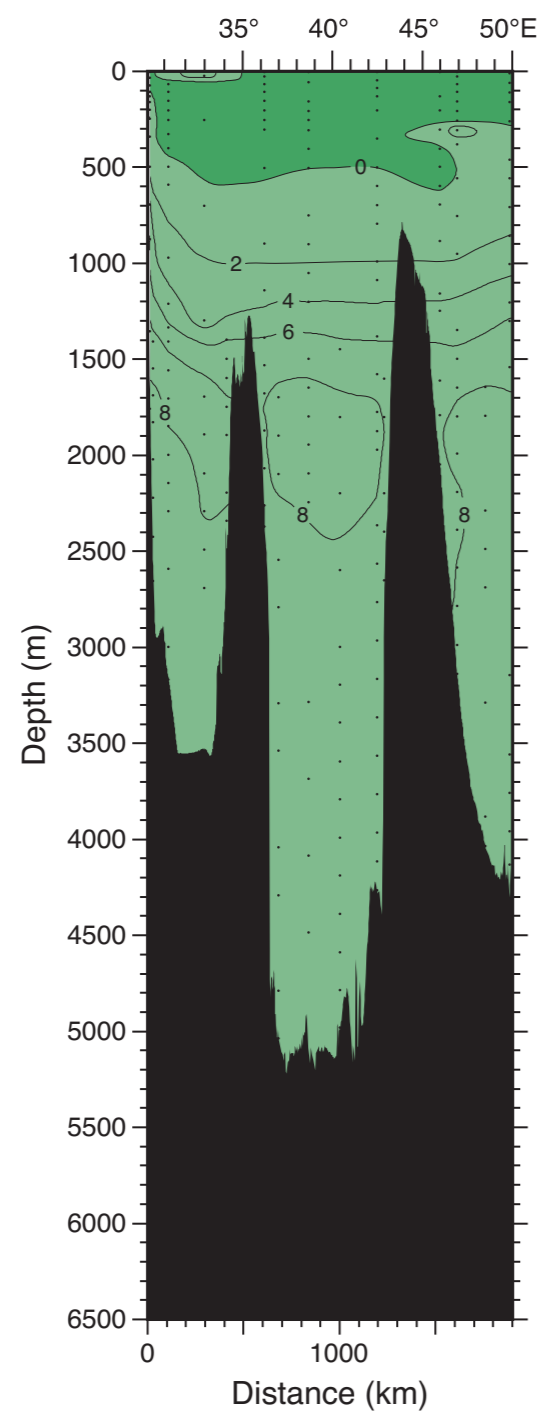
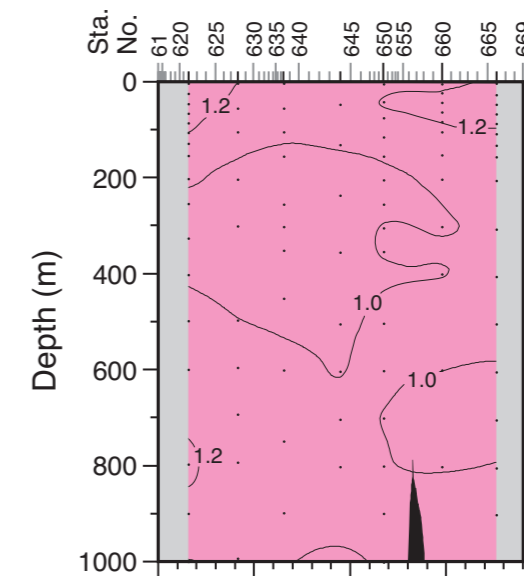
Tritium (TU)



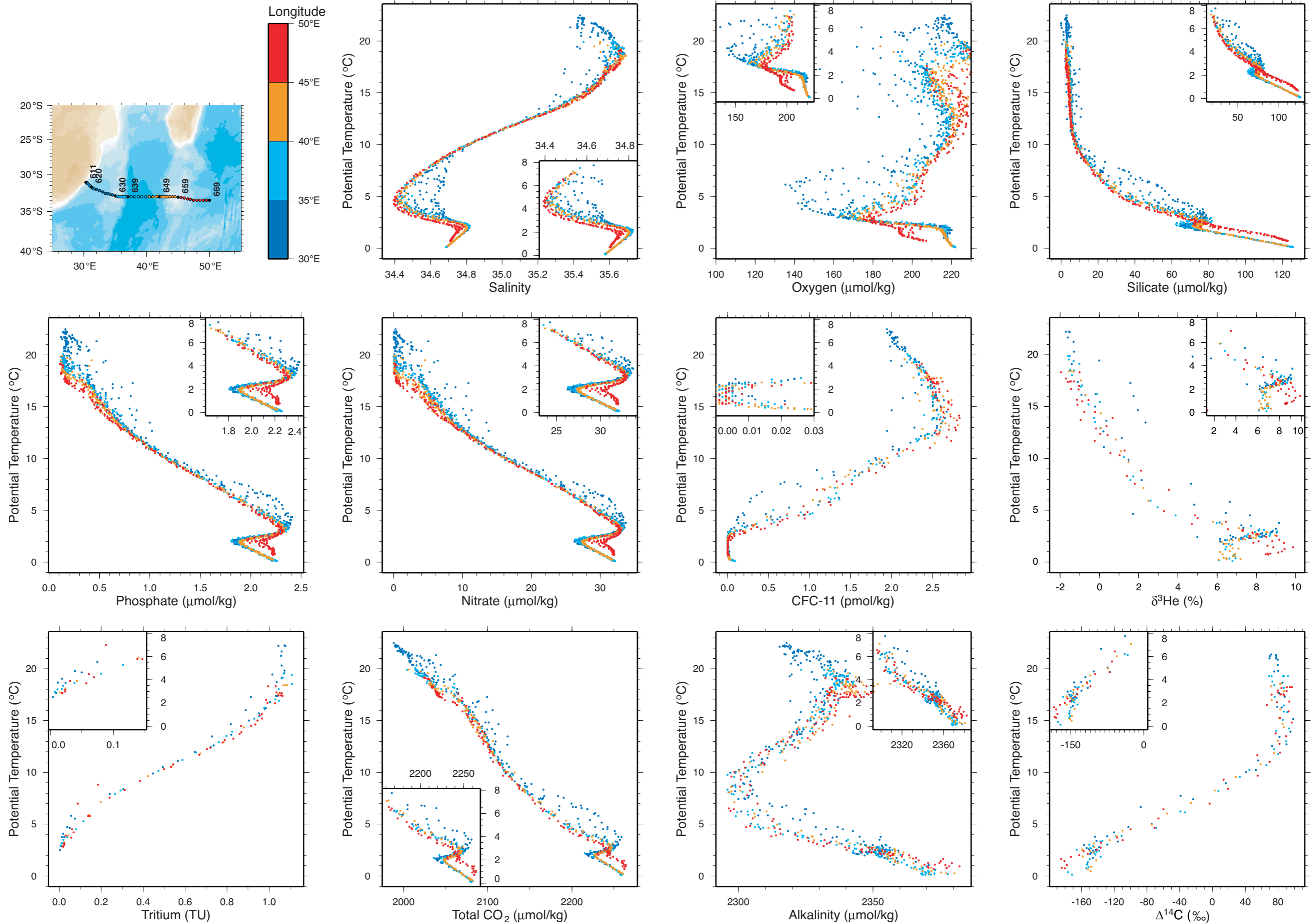
$\Delta^{14}\text{C}$ (‰)



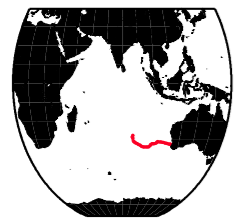
$\delta^{13}\text{C}$ (‰)



I5W



I5W

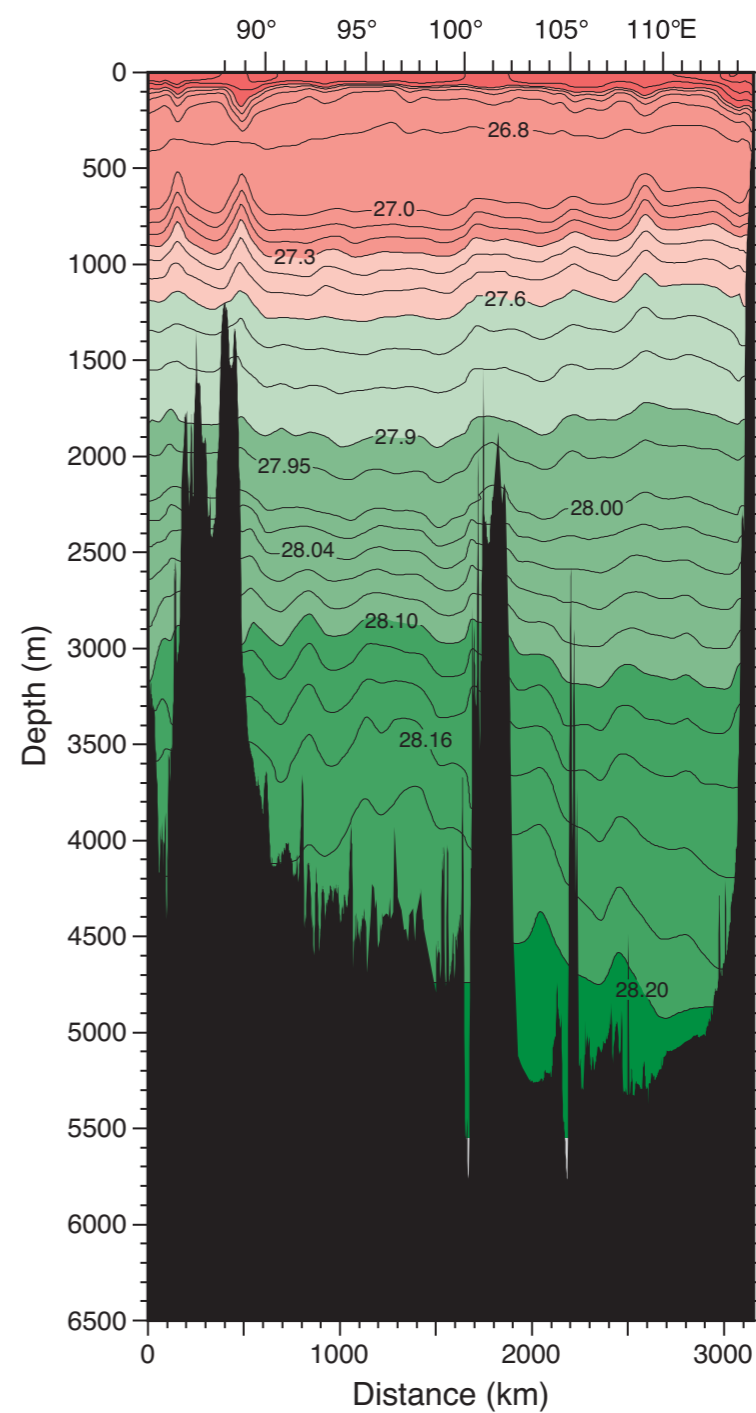
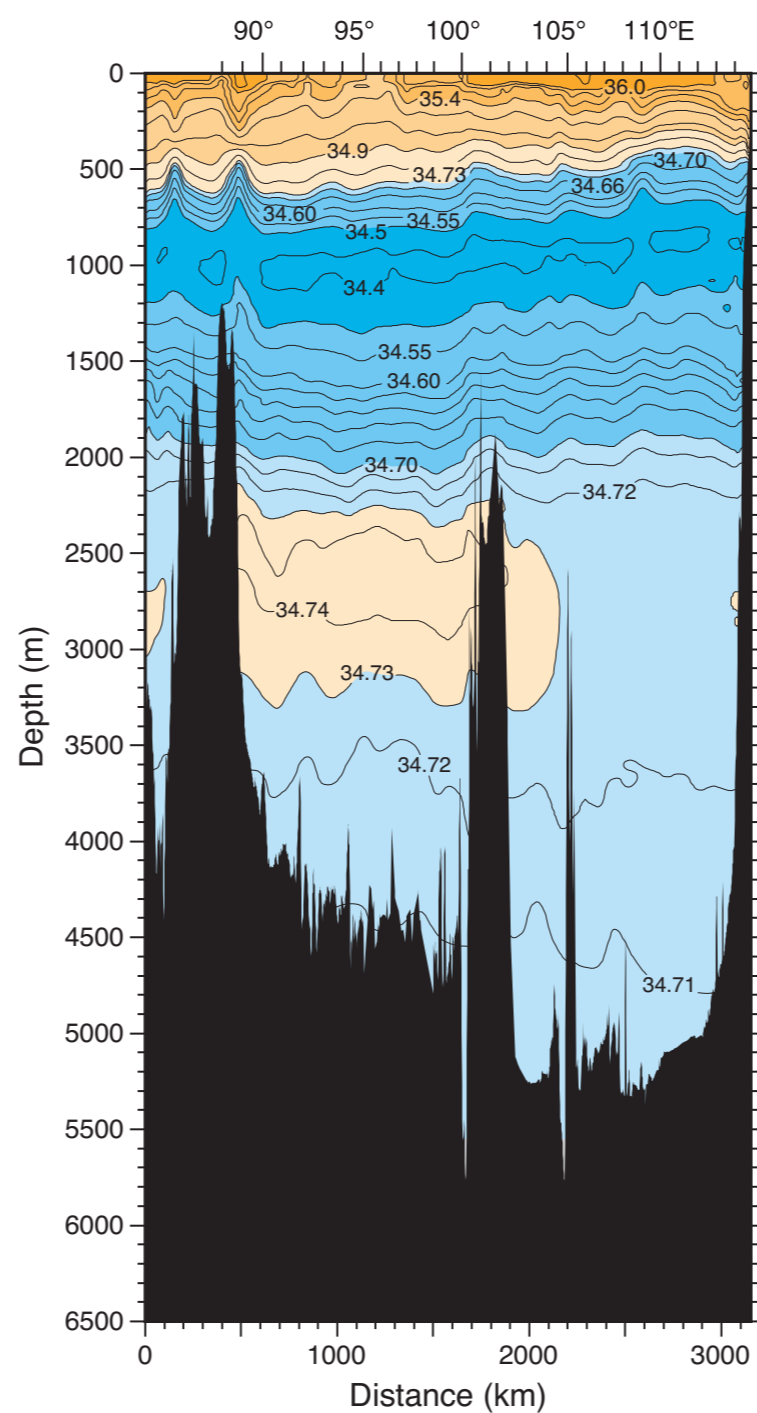
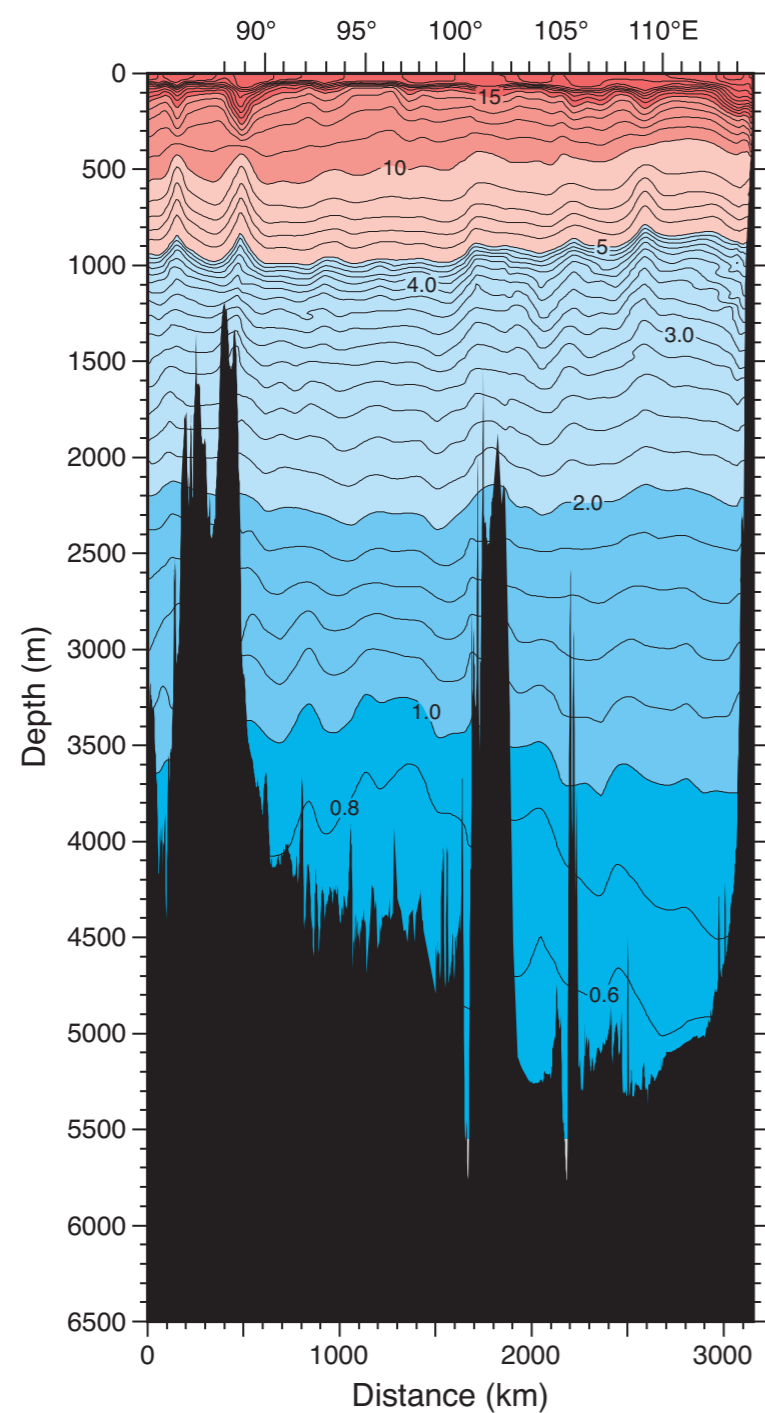
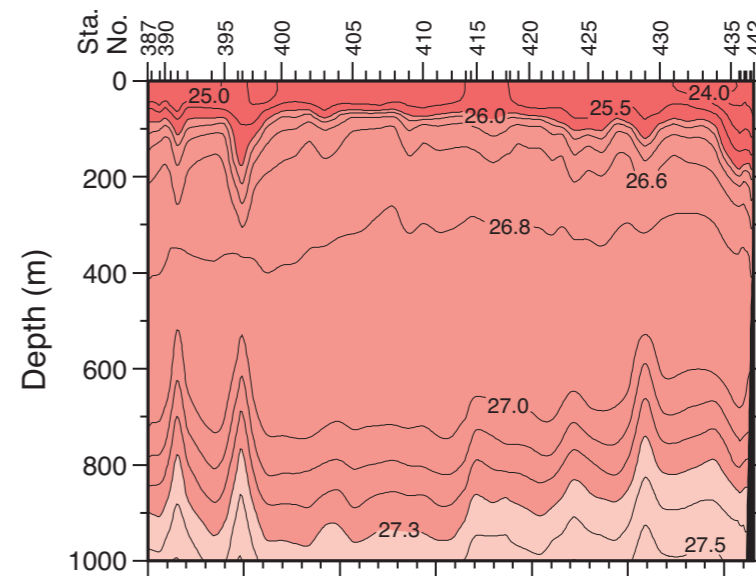
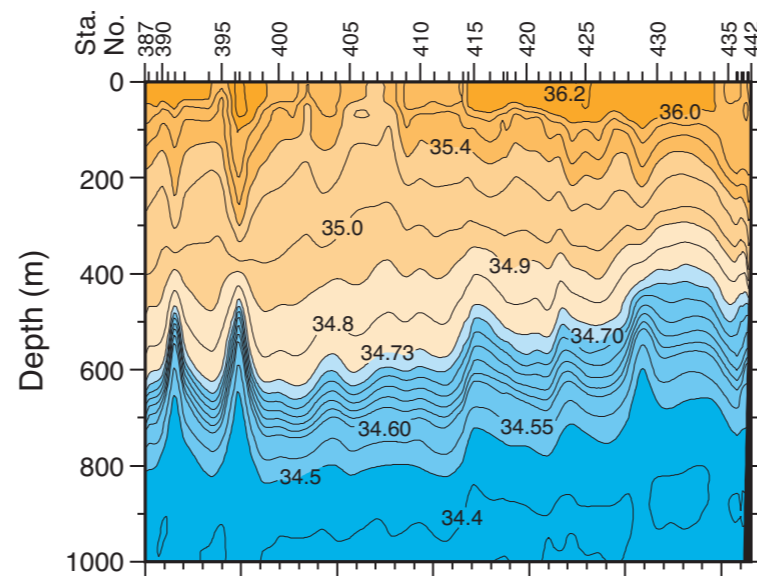
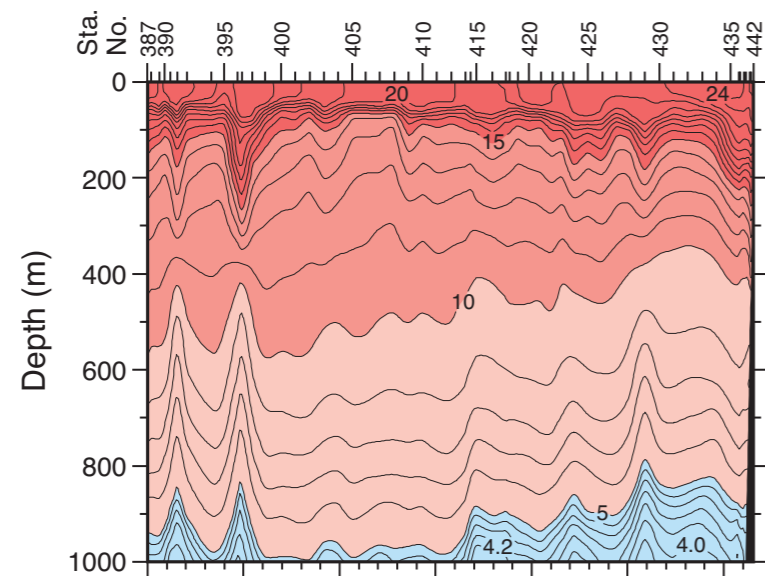


I5E (30°S)

Potential Temperature (°C)

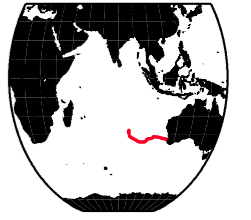
Salinity (PSS78)

Neutral Density (kg/m³)

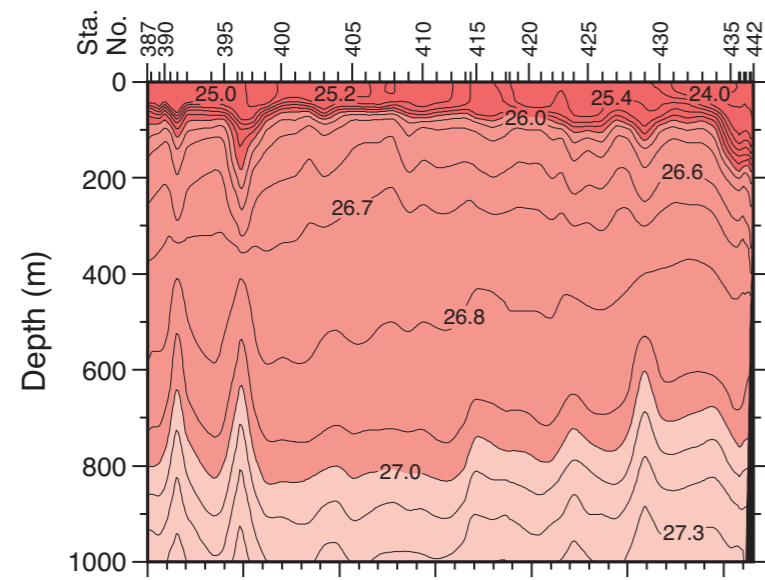


I5E

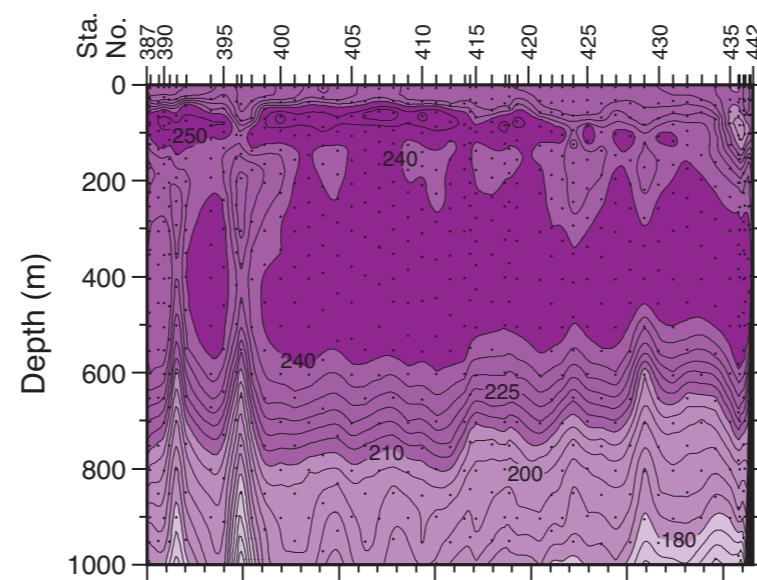
I5E (30°S)



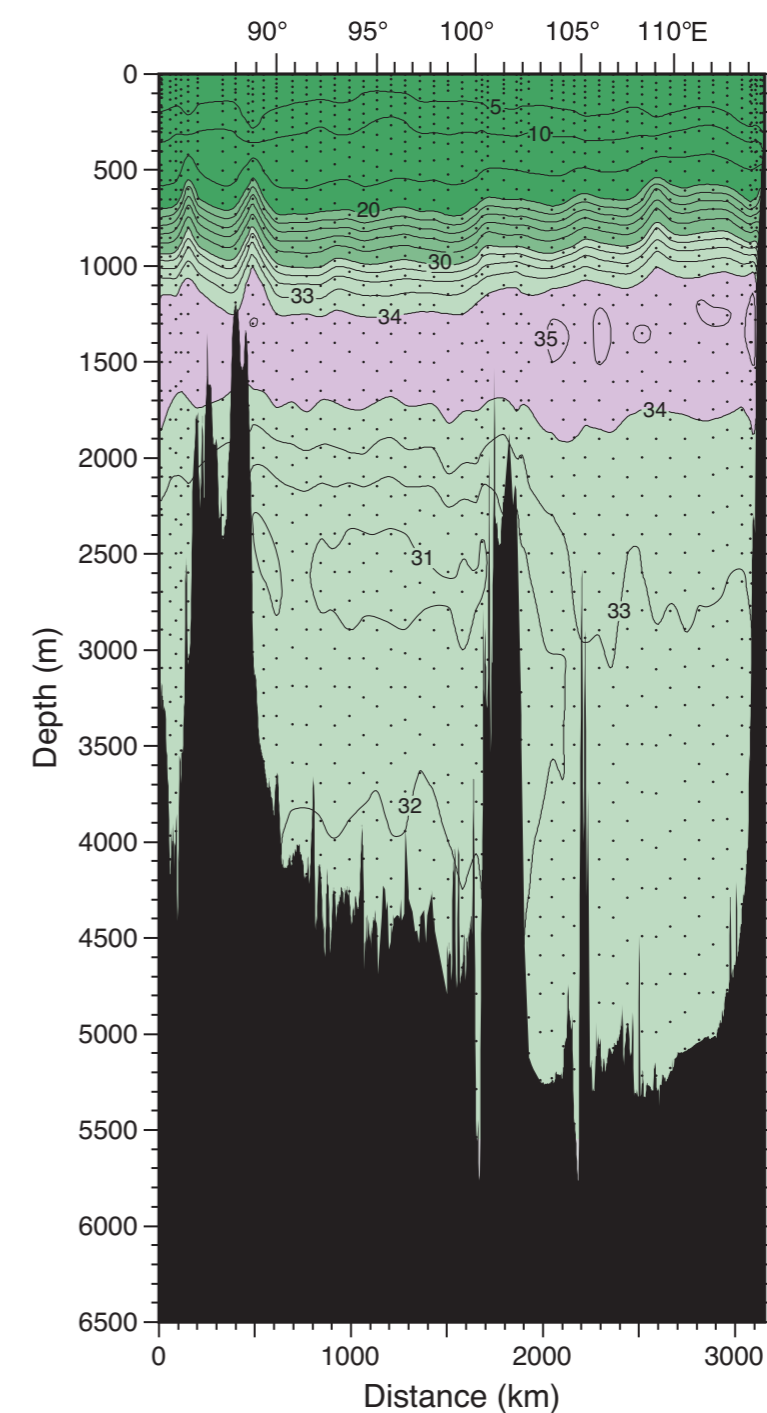
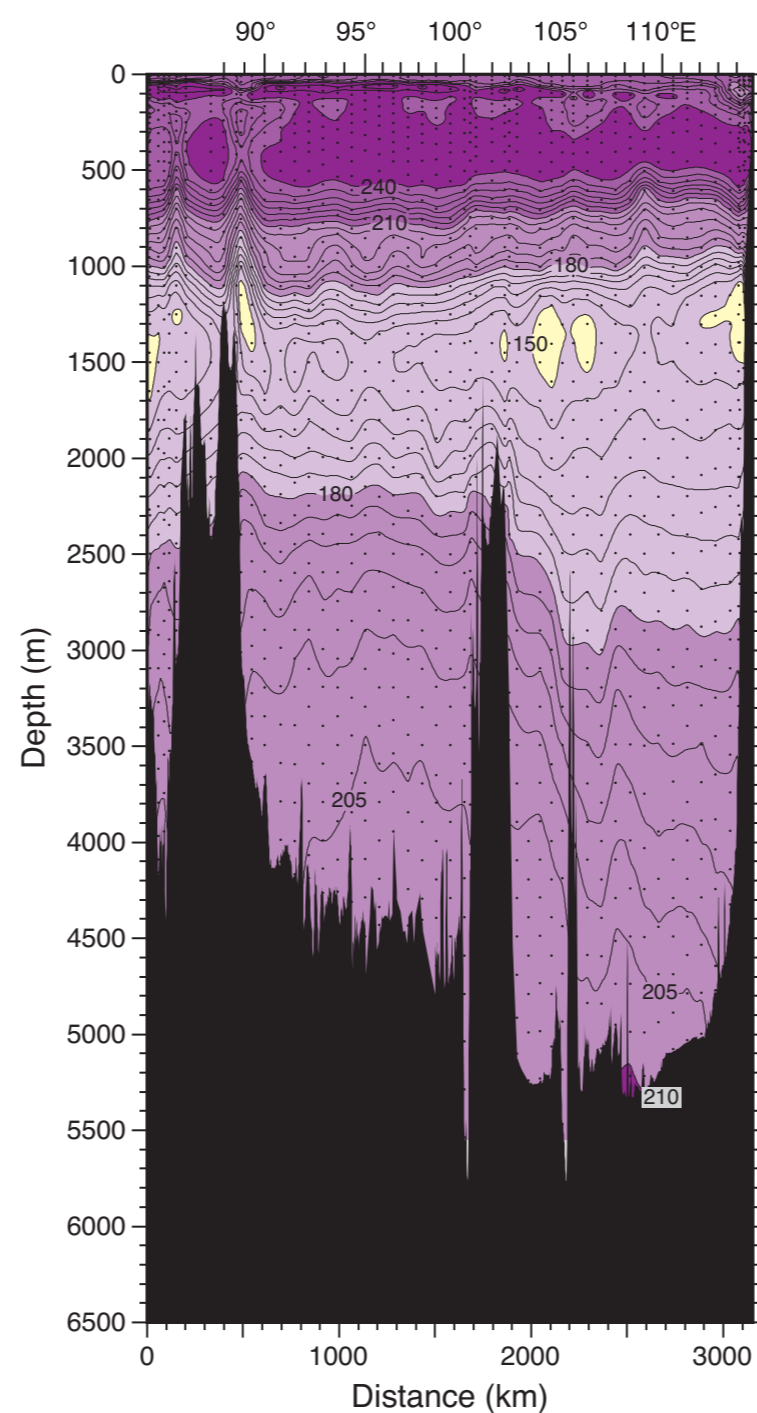
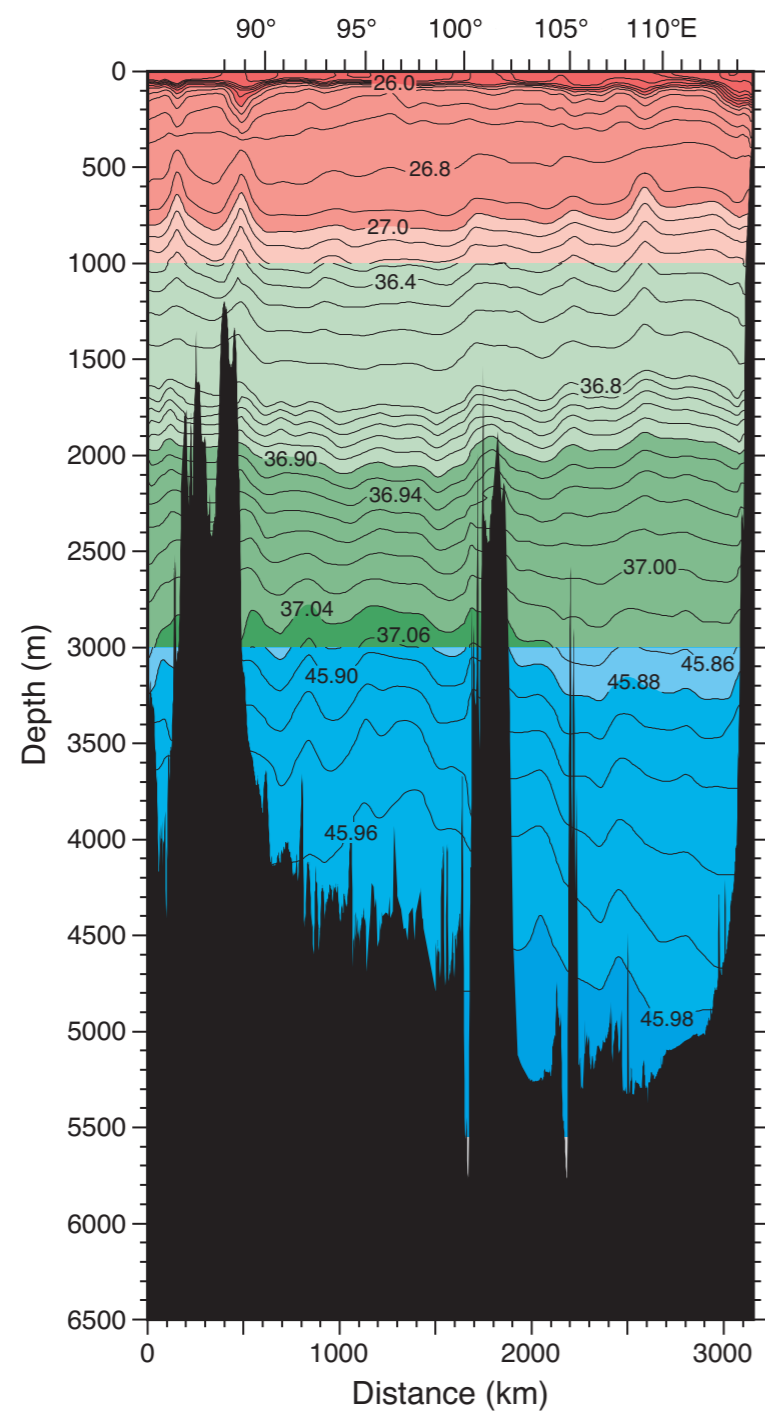
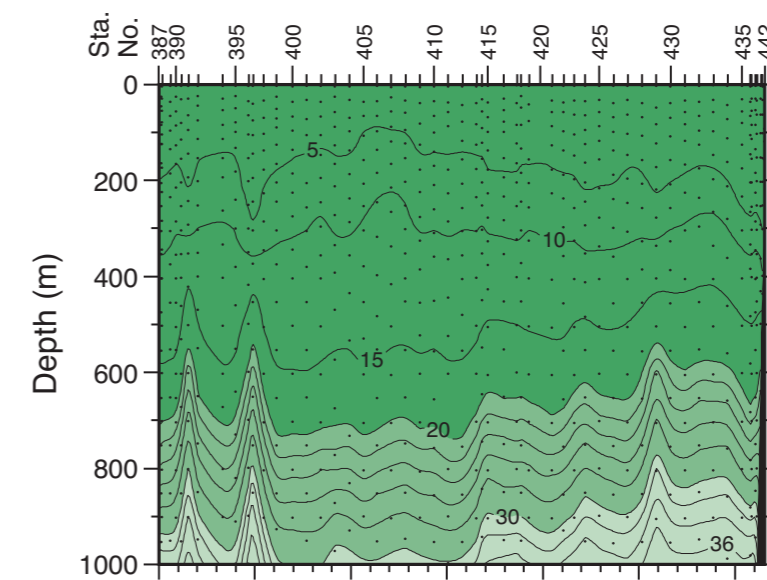
σ_0, σ_2 and σ_4 (kg/m³)

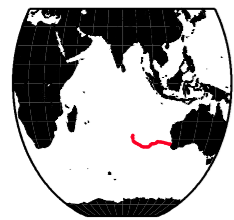


Oxygen ($\mu\text{mol/kg}$)



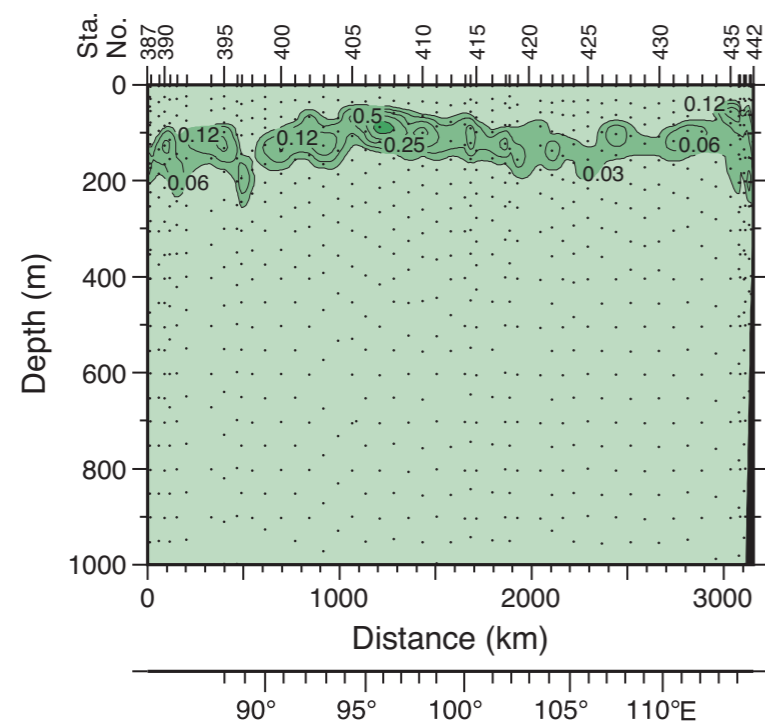
Nitrate ($\mu\text{mol/kg}$)



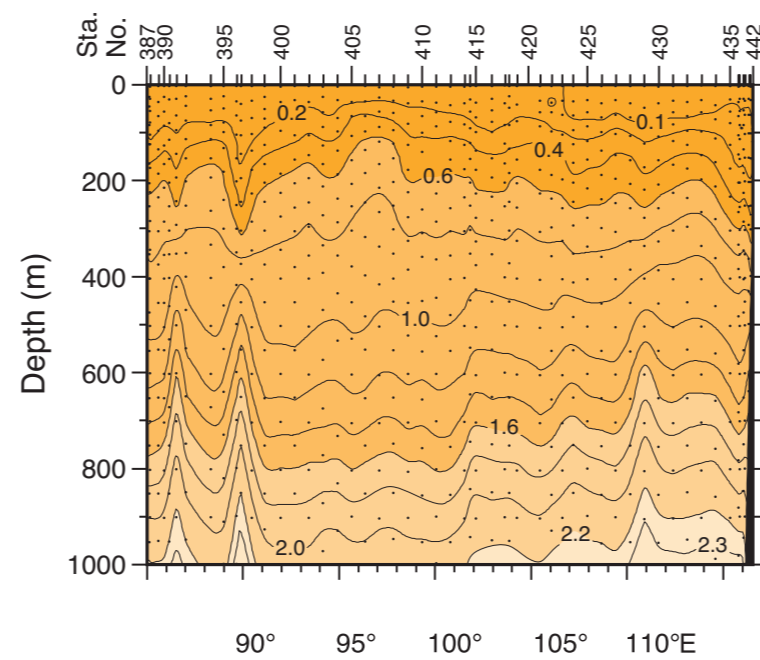


I5E (30°S)

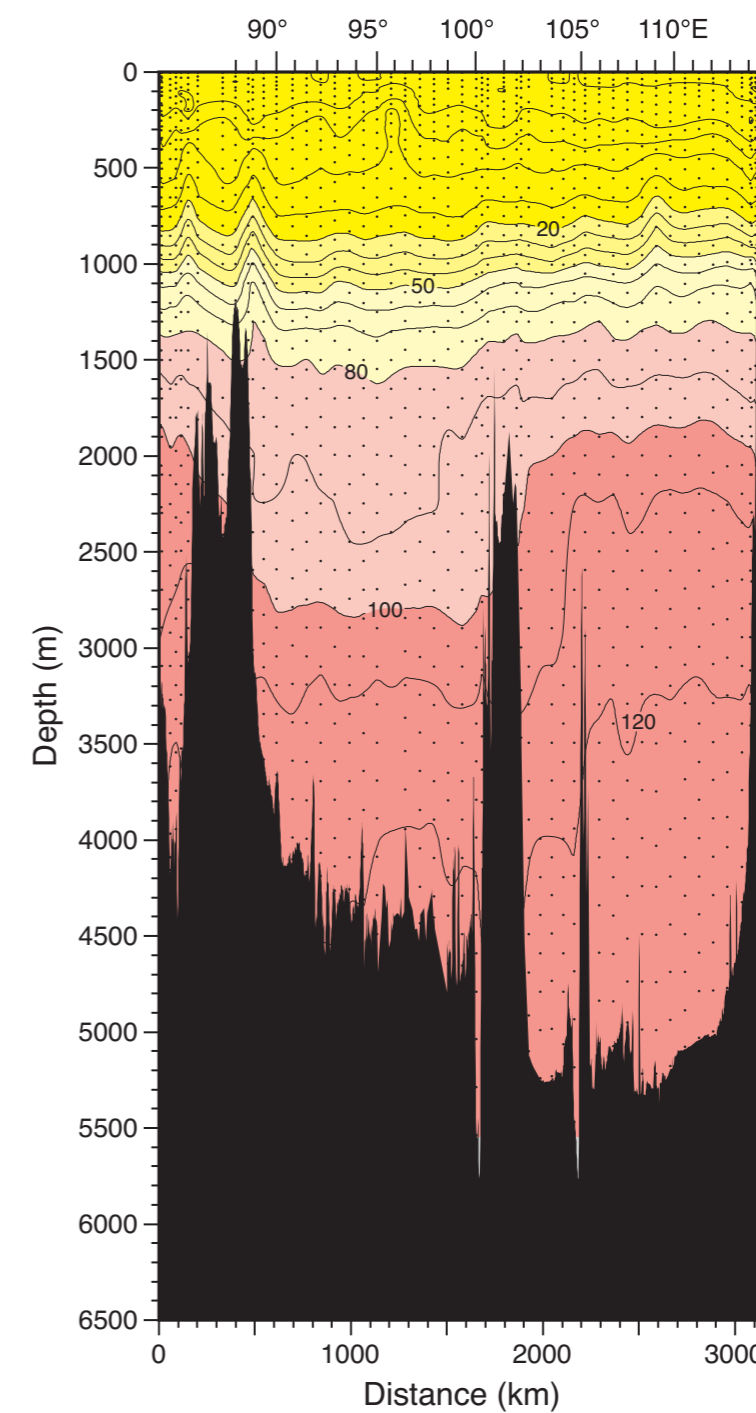
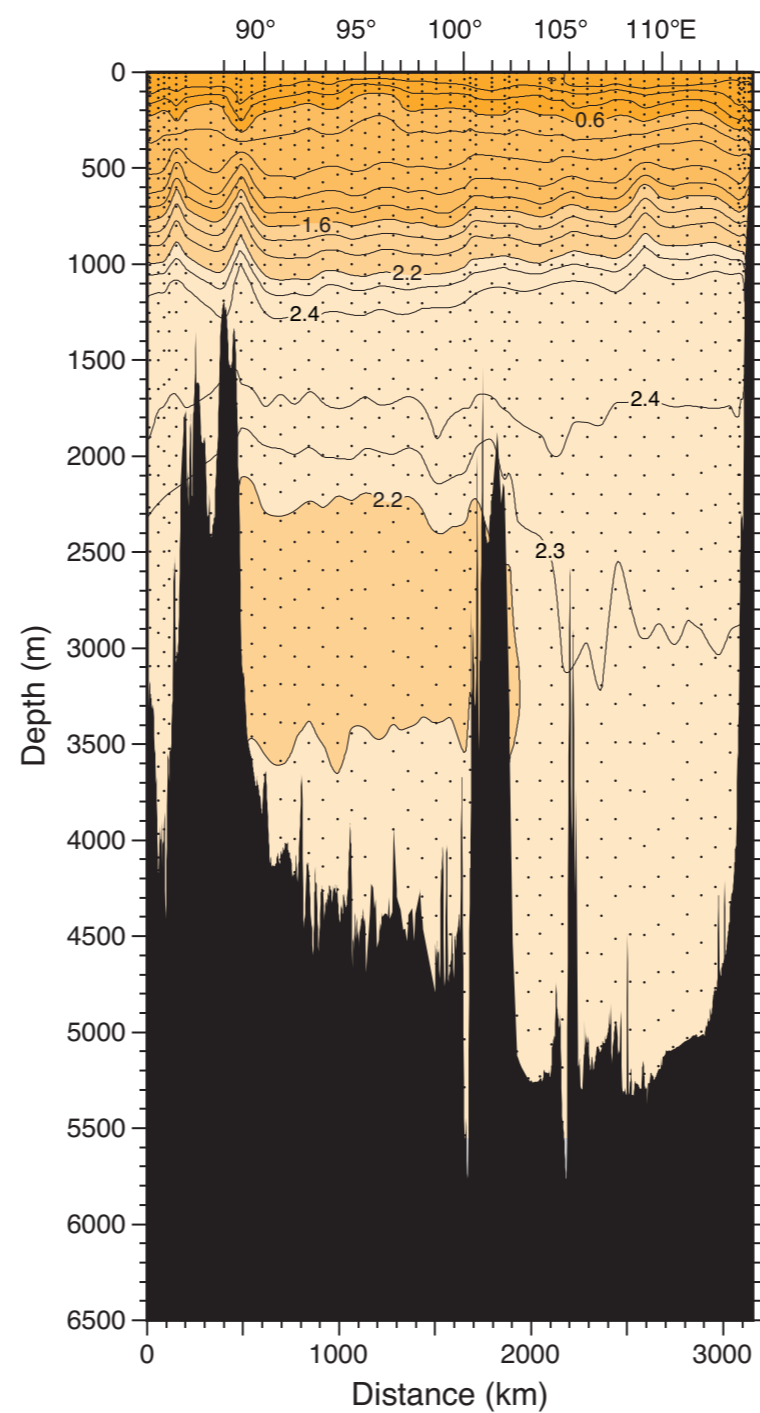
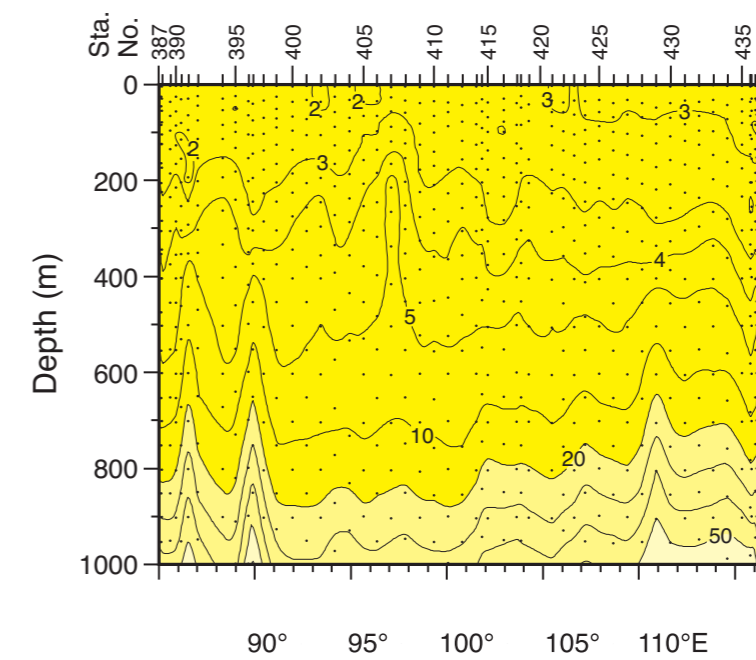
Nitrite ($\mu\text{mol/kg}$)



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

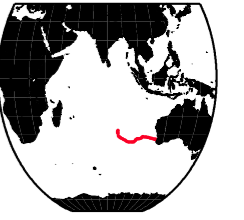


Dissolved Silica ($\mu\text{mol/kg}$)

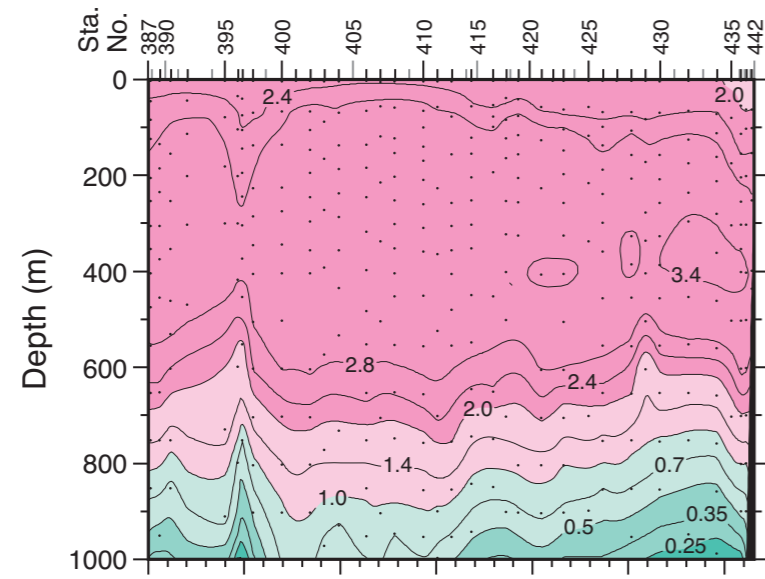


I5E

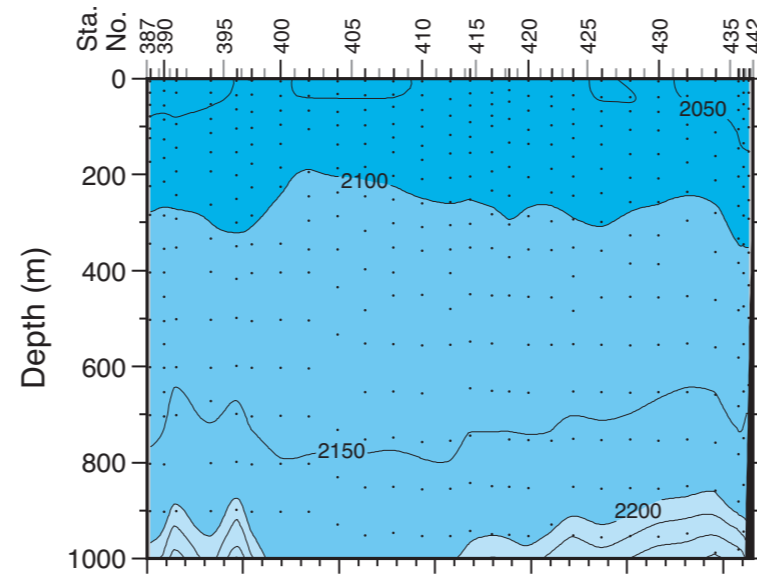
I5E (30°S)



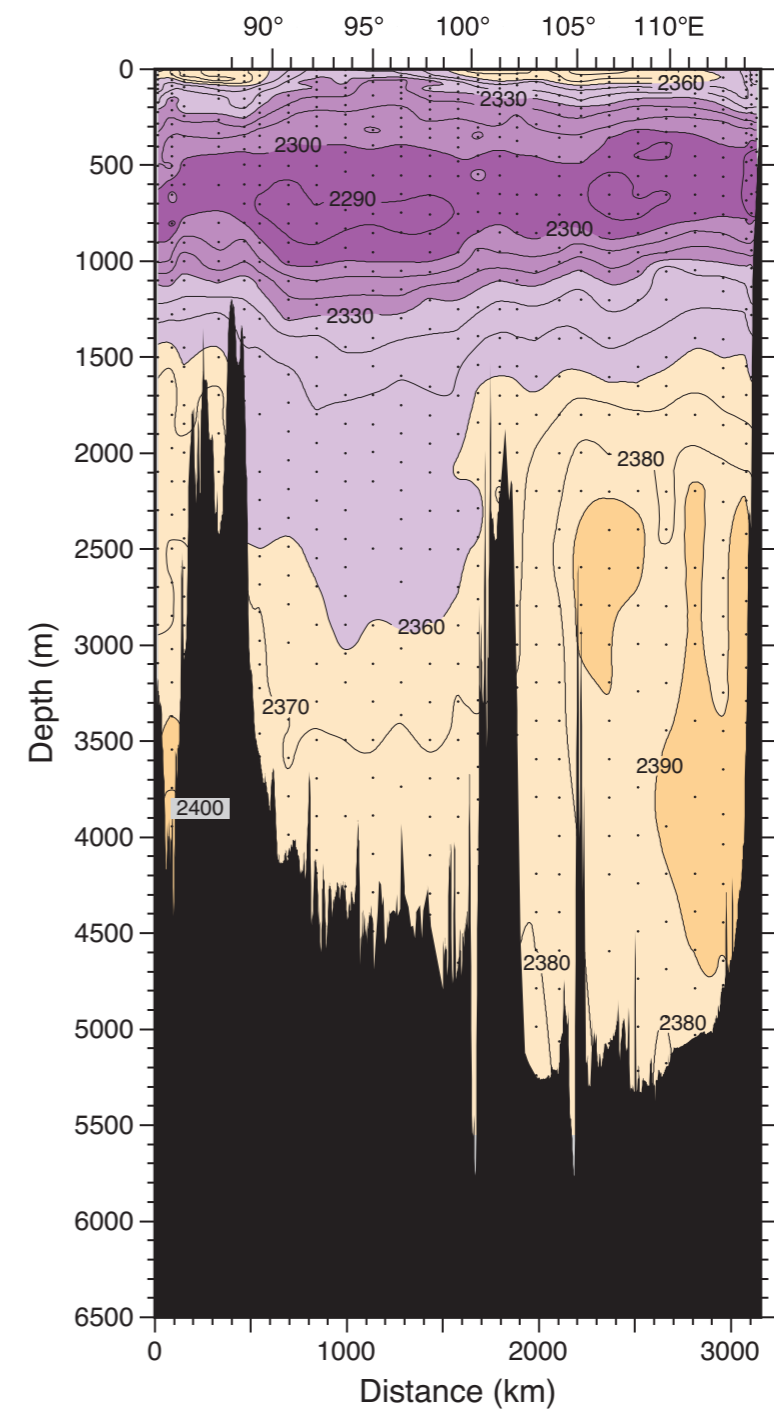
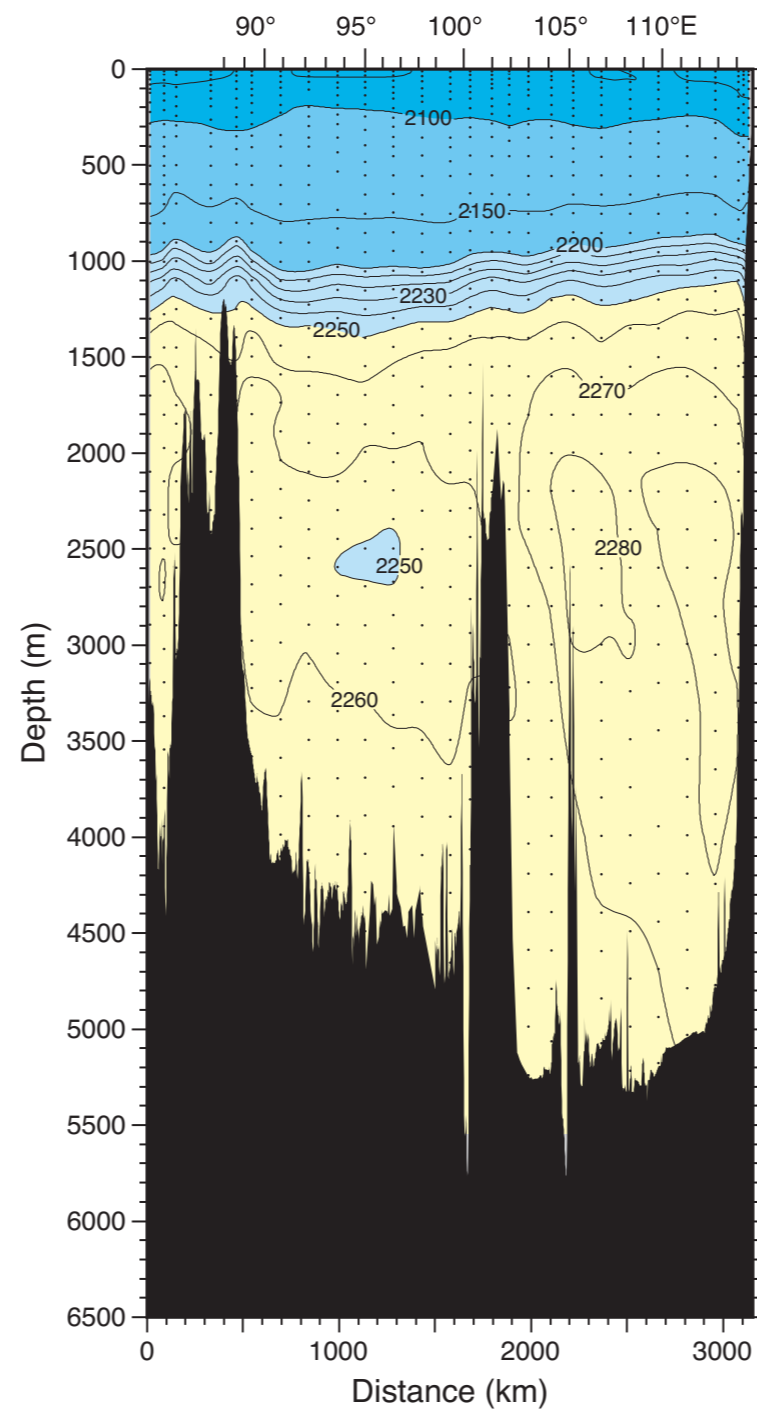
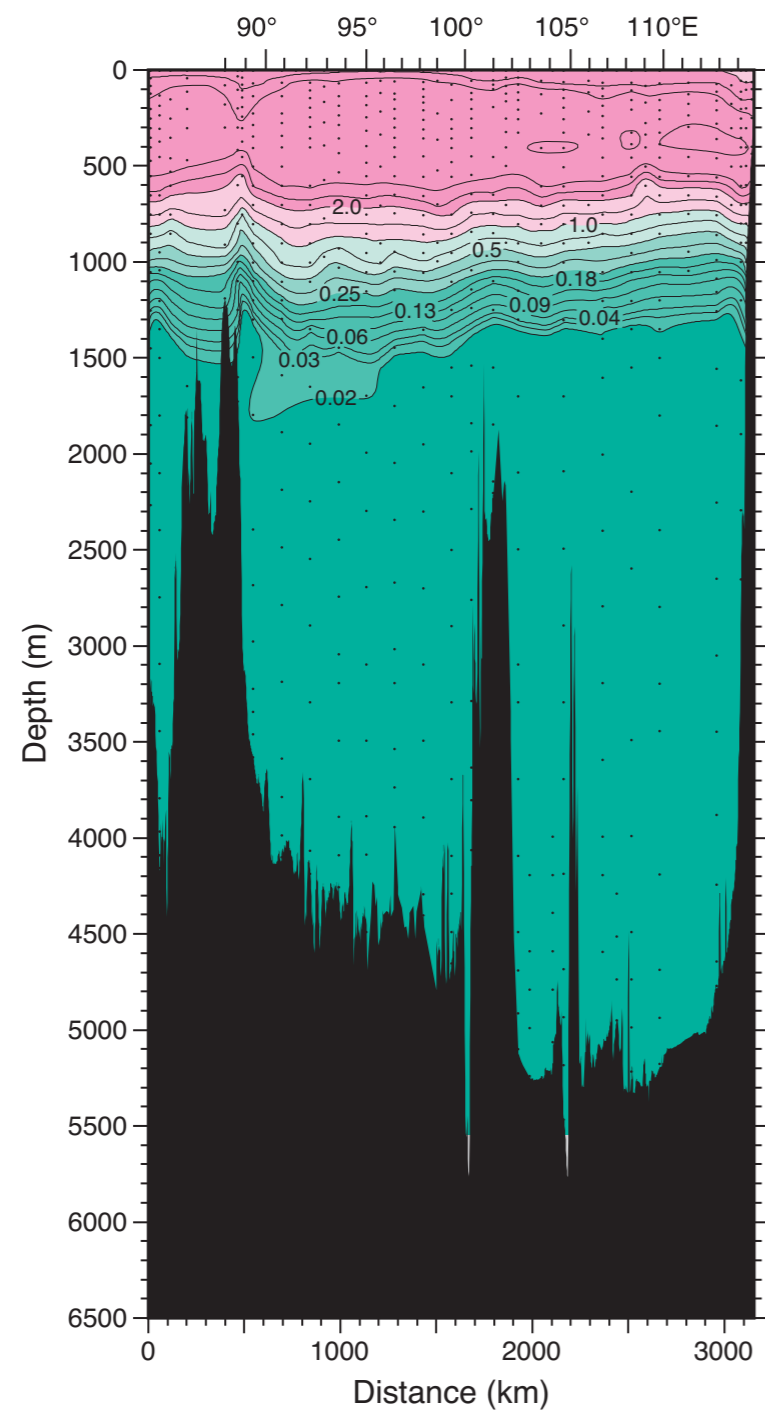
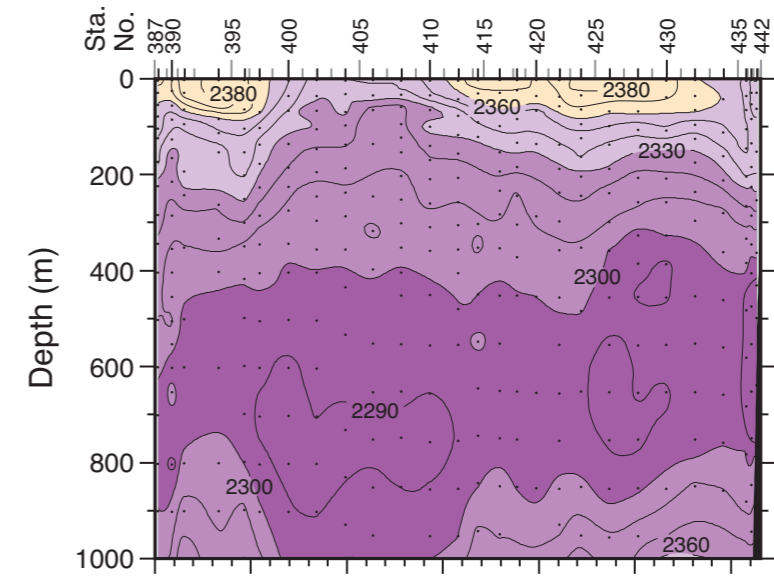
CFC-11 (pmol/kg)

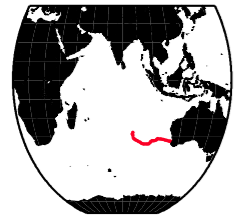


Total Carbon ($\mu\text{mol/kg}$)



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





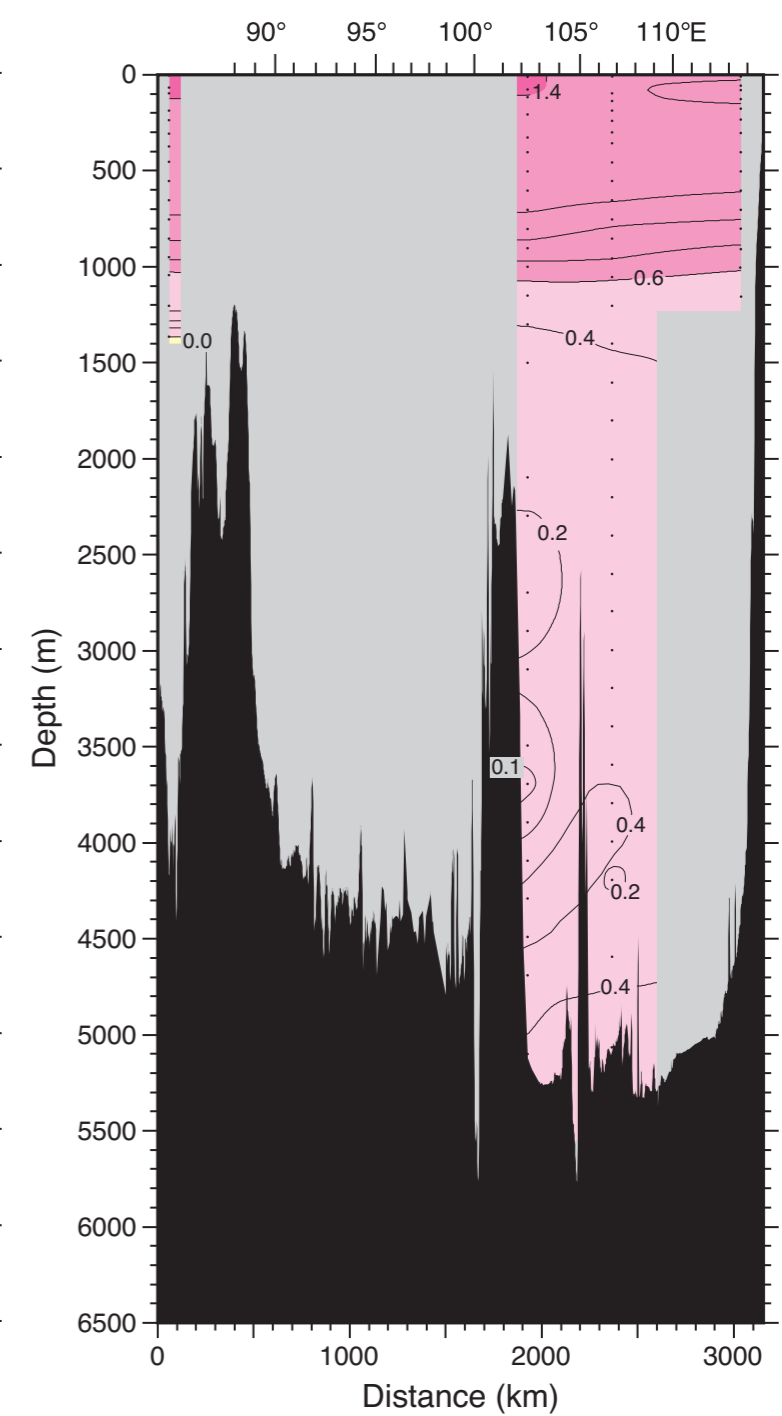
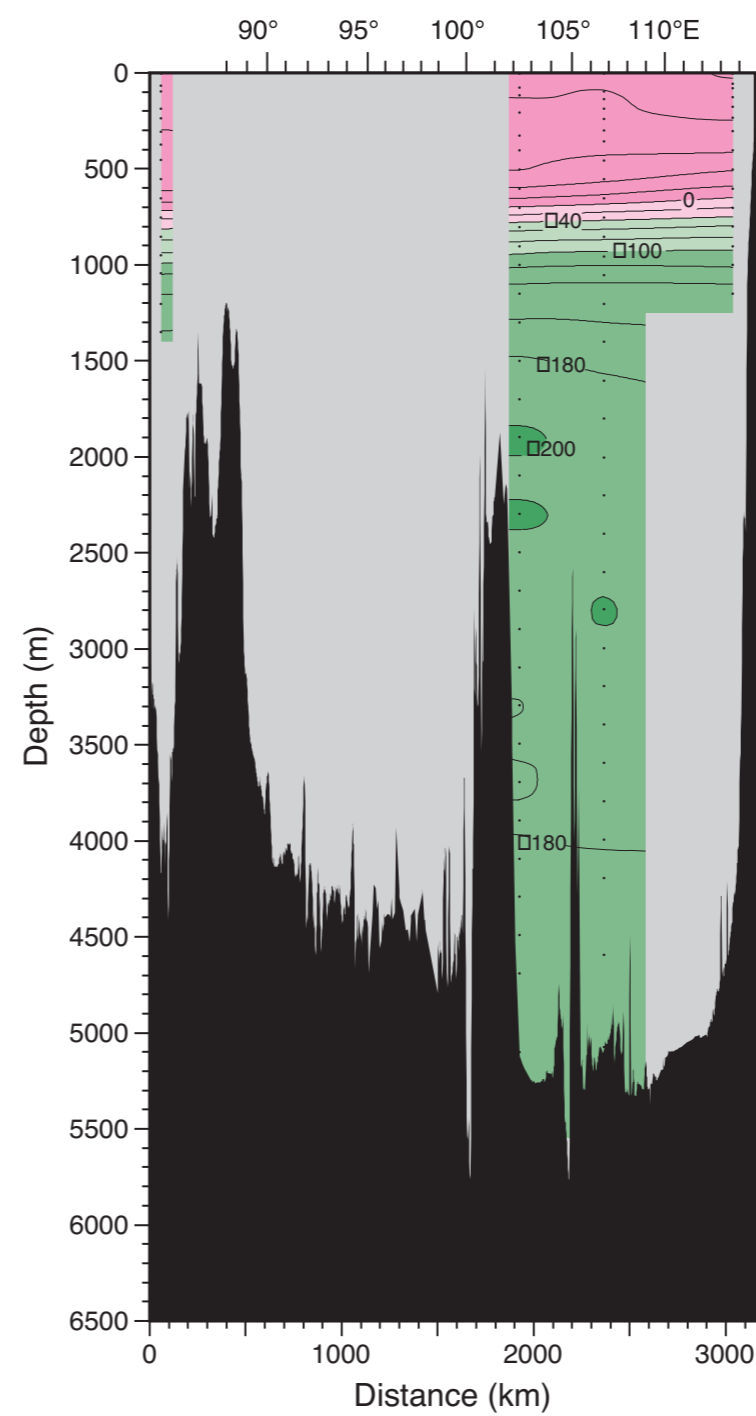
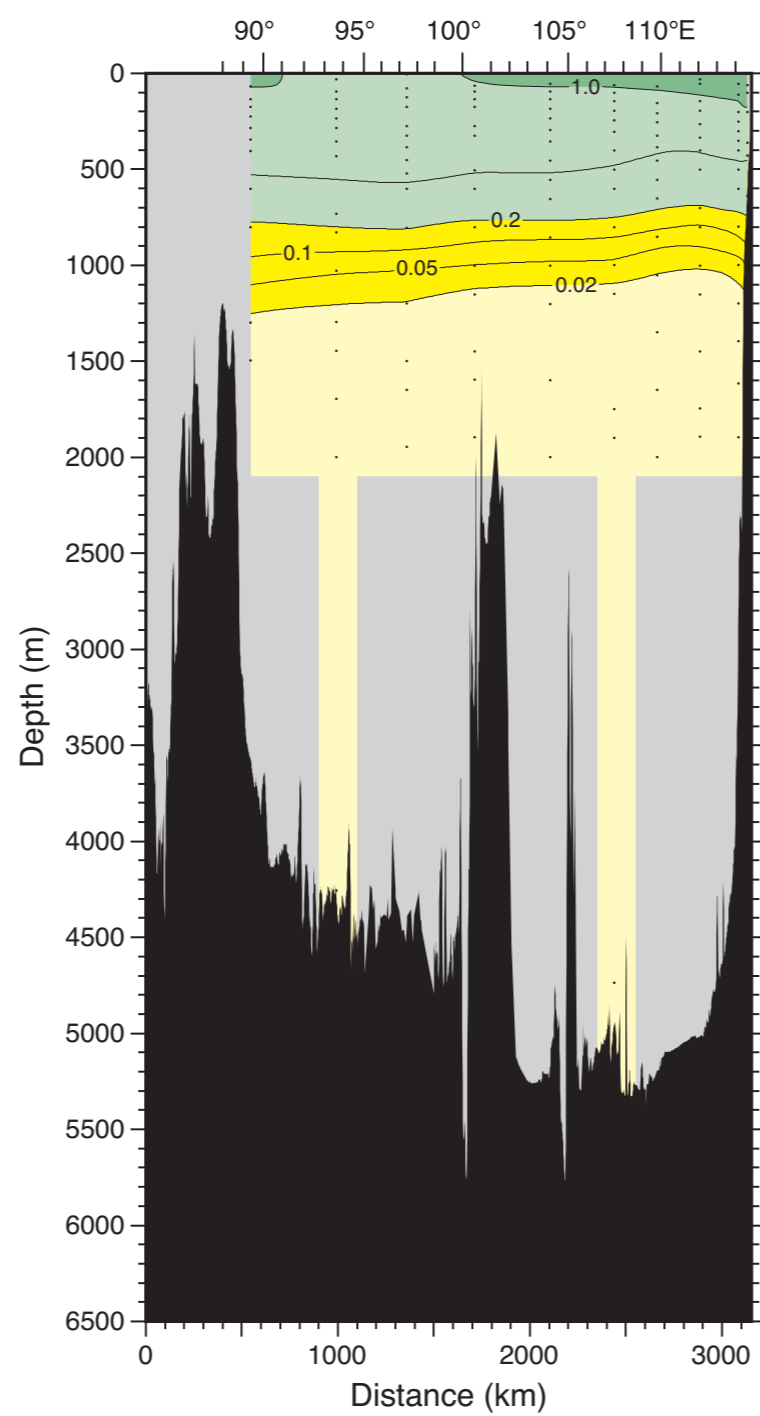
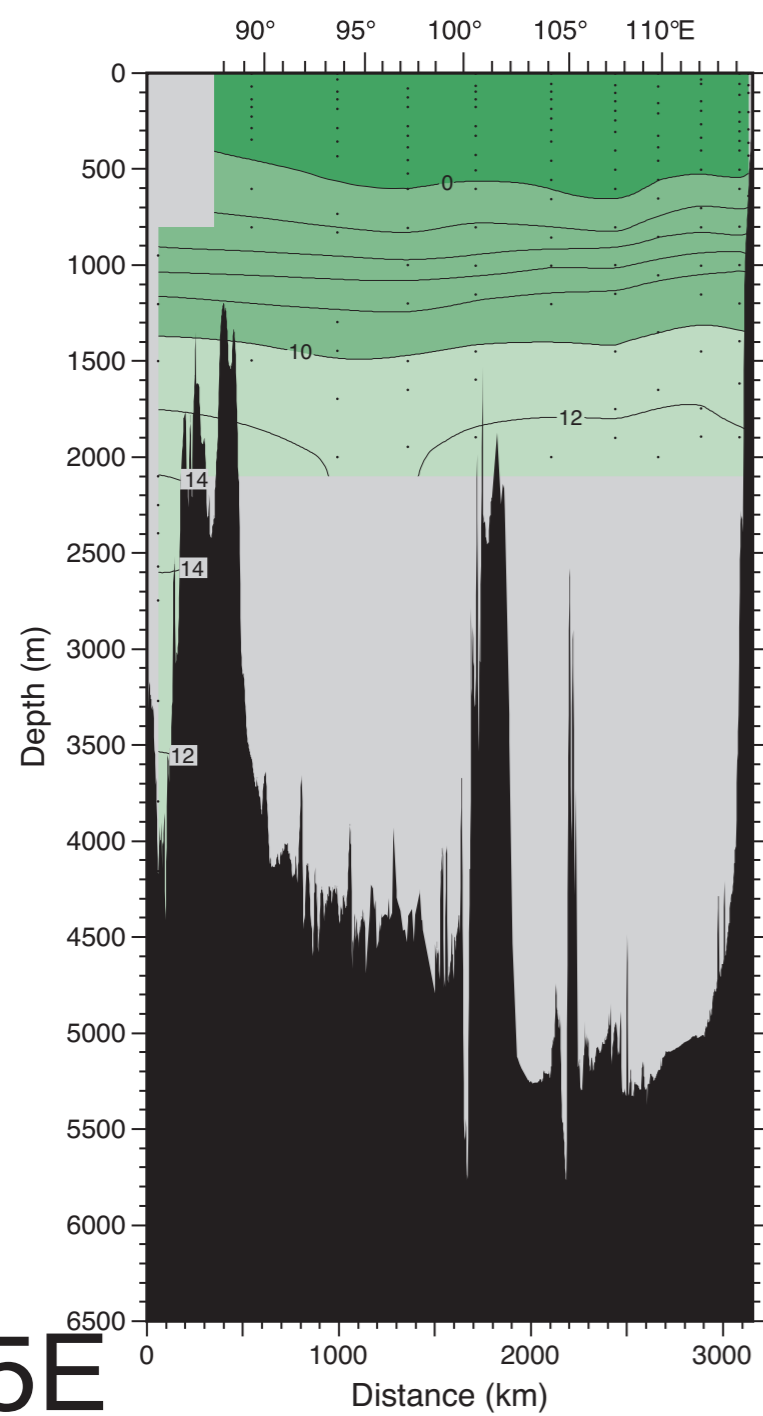
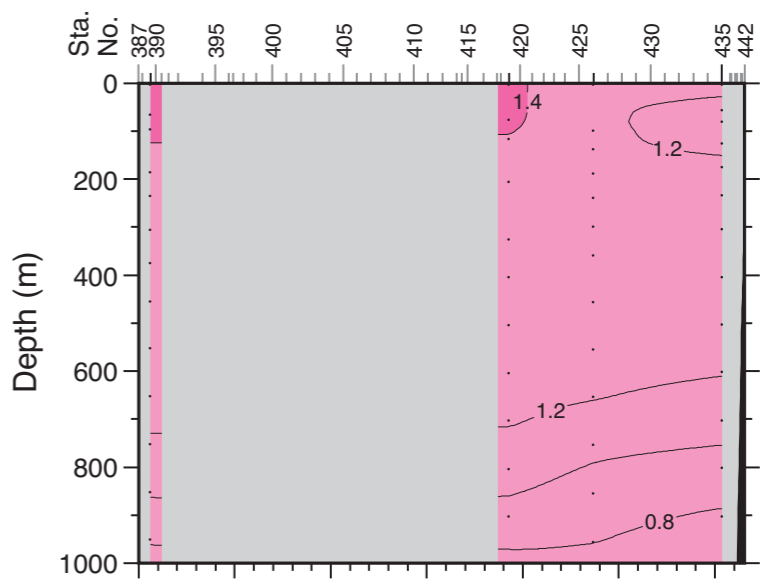
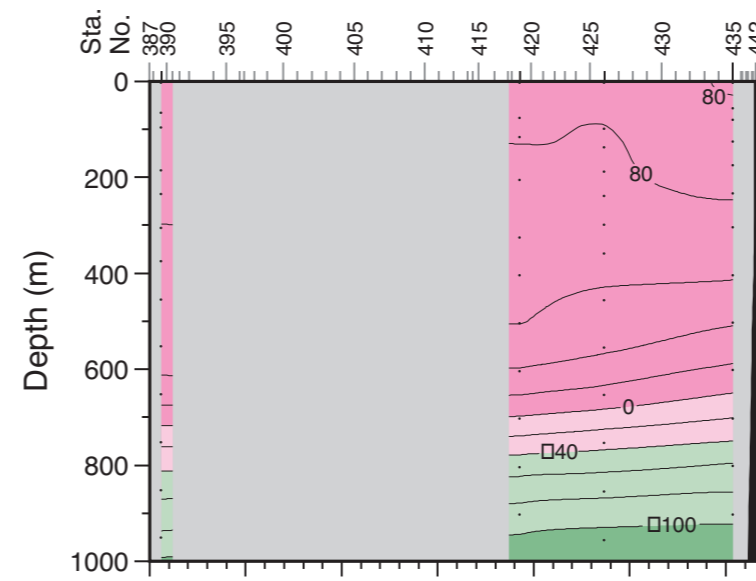
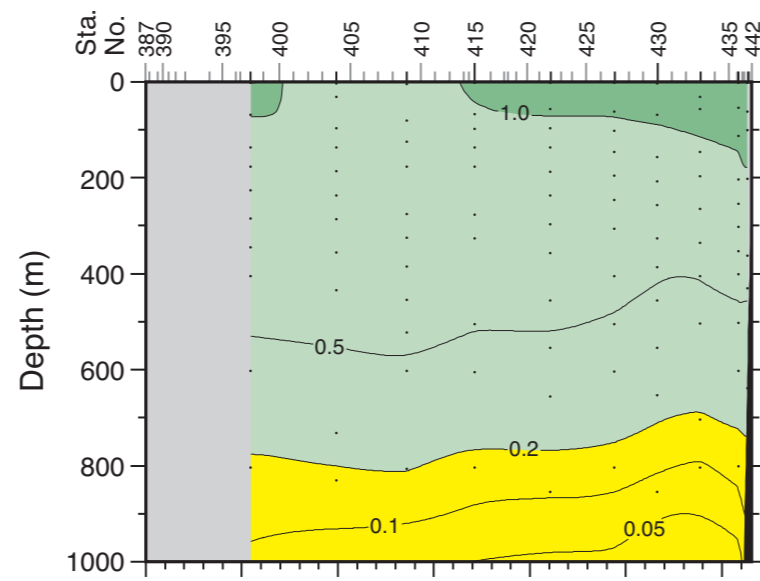
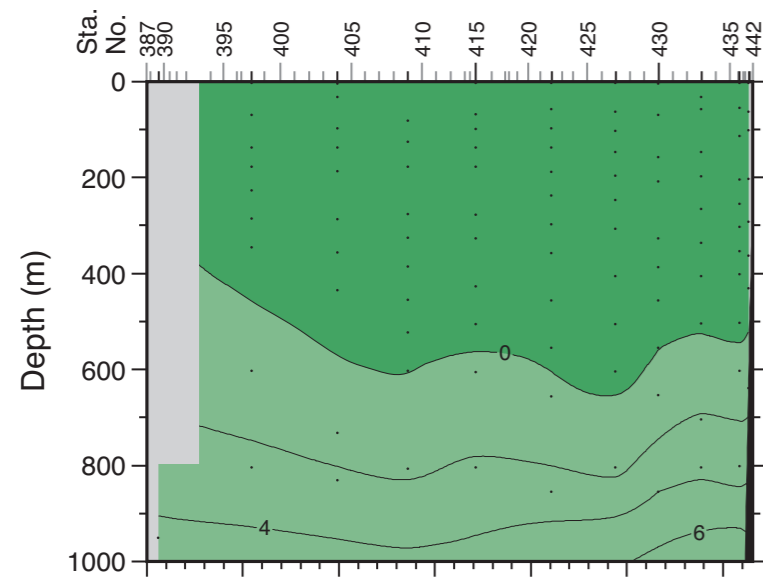
I5E (30°S)

$\delta^3\text{He}$ (‰)

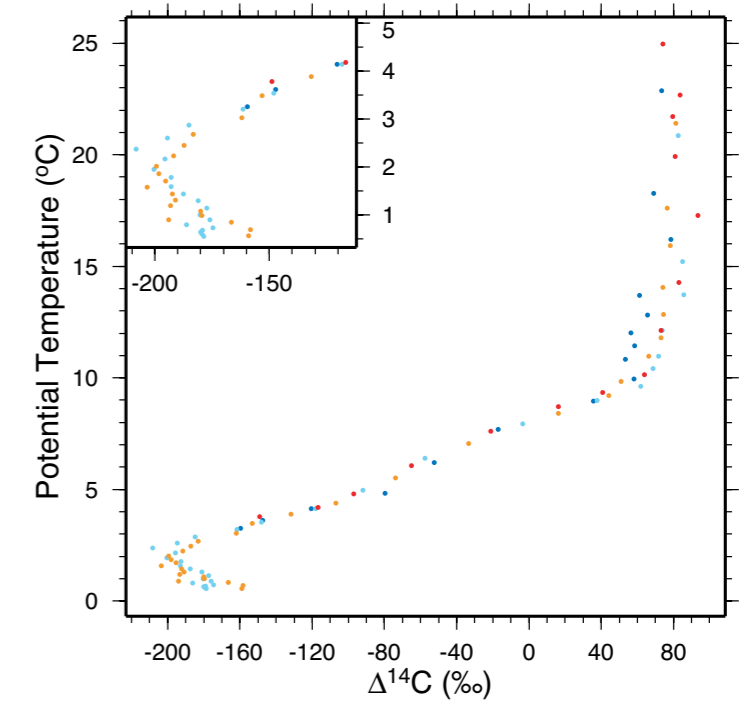
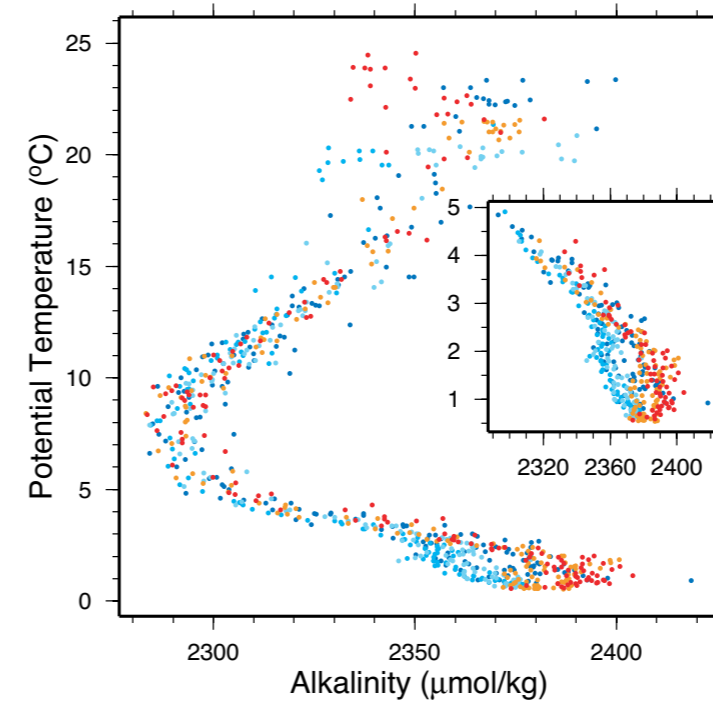
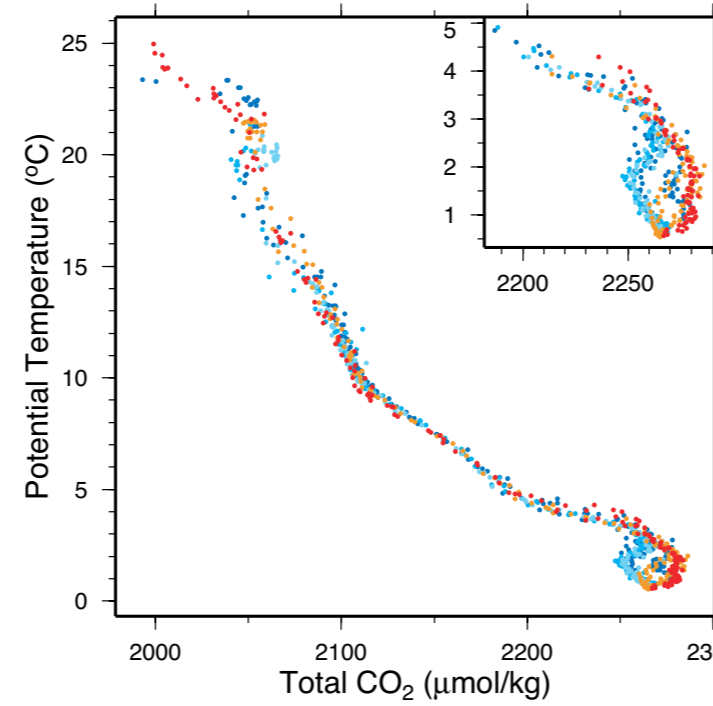
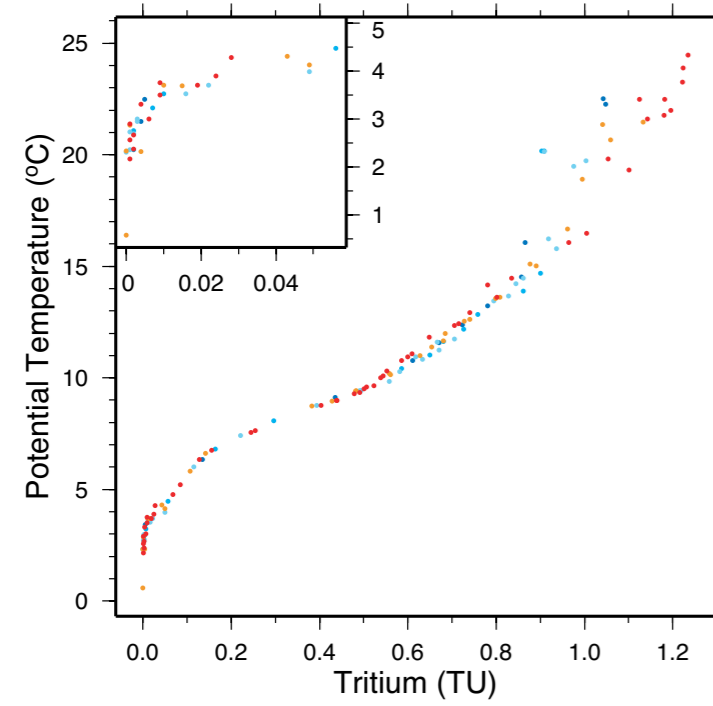
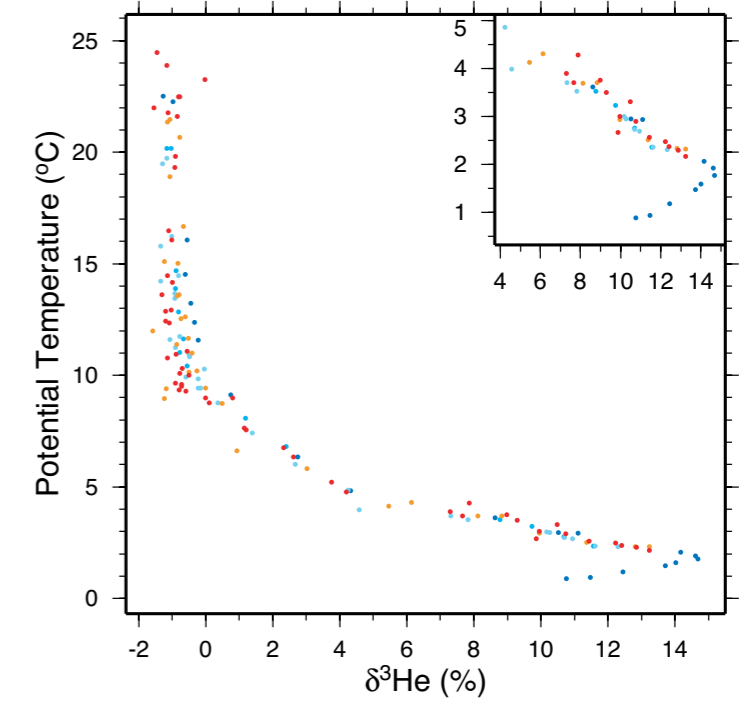
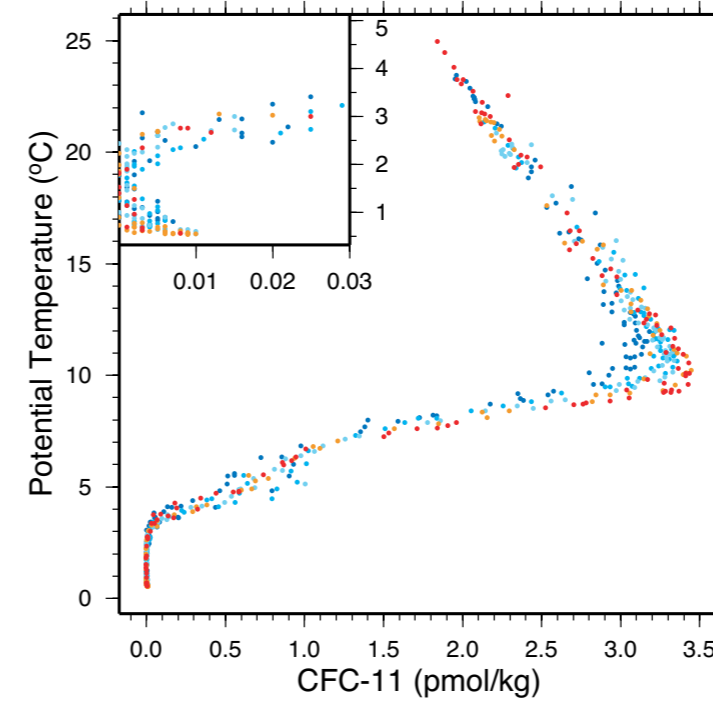
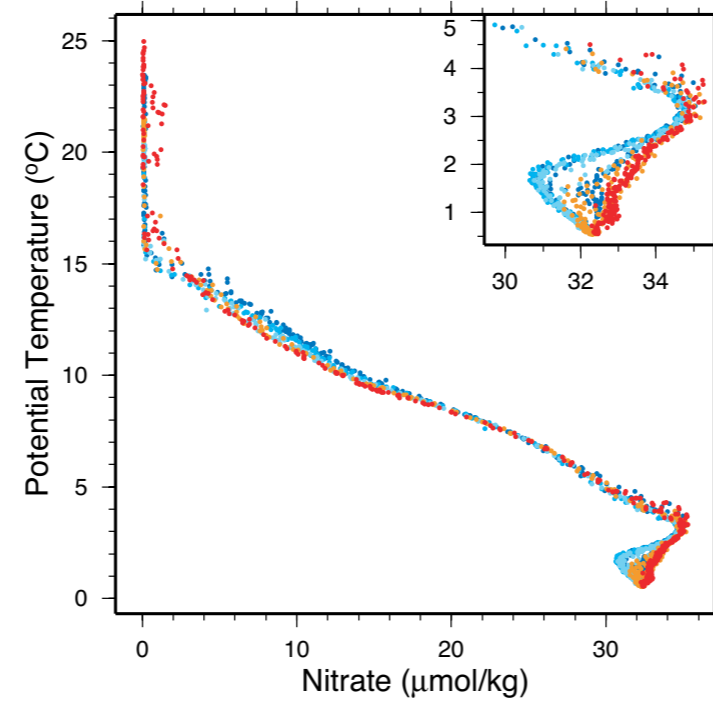
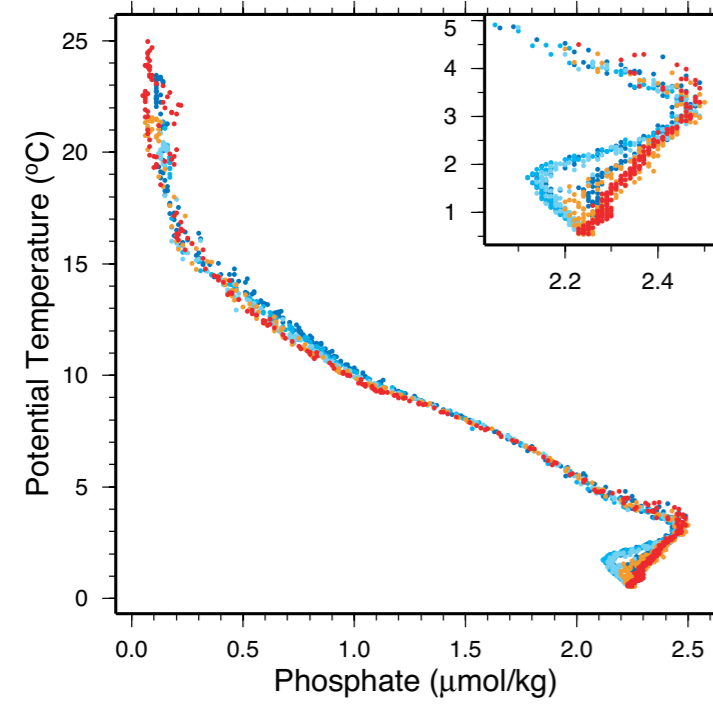
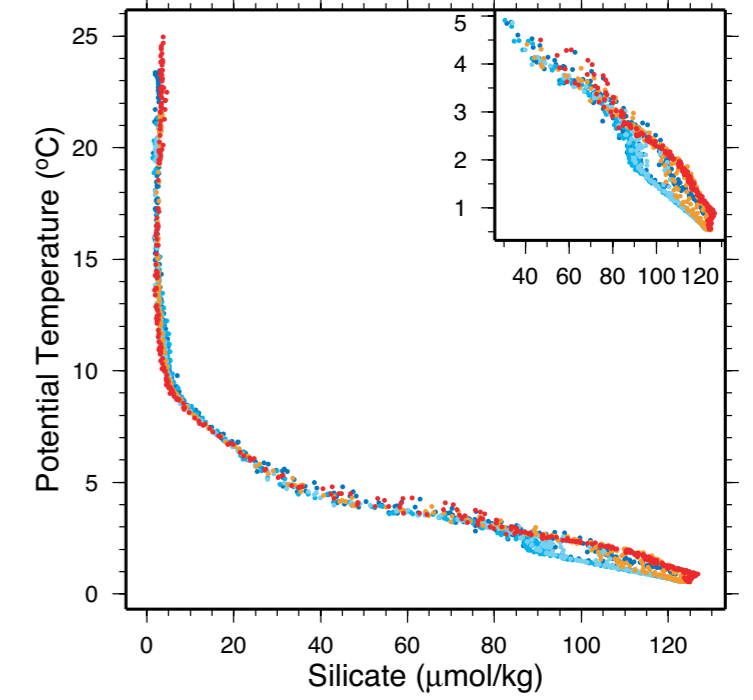
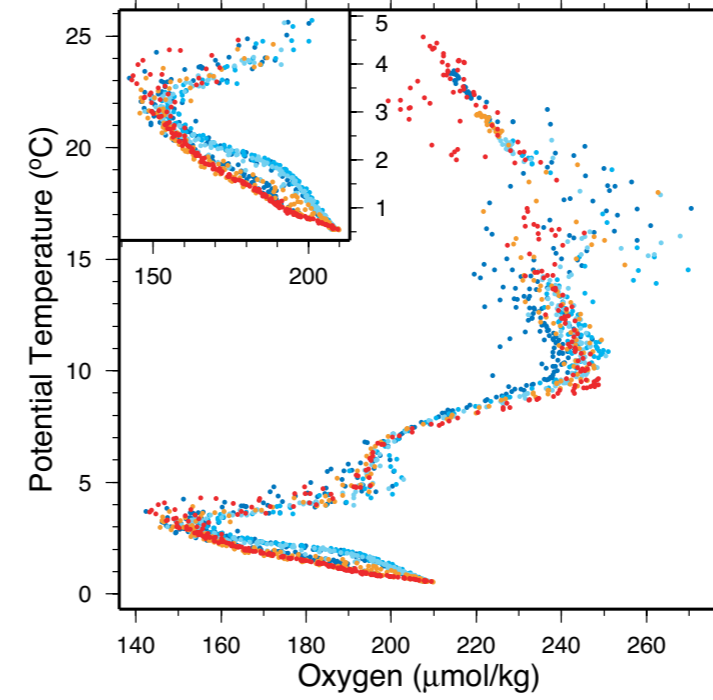
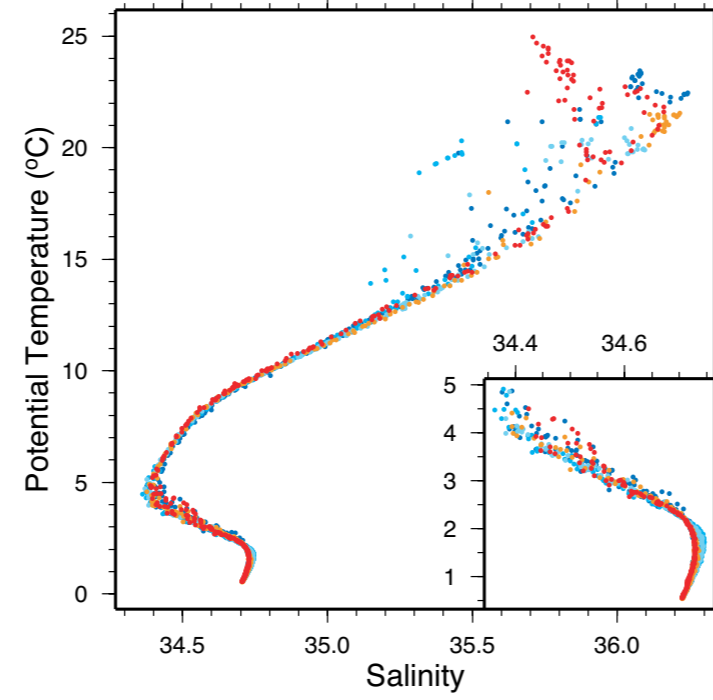
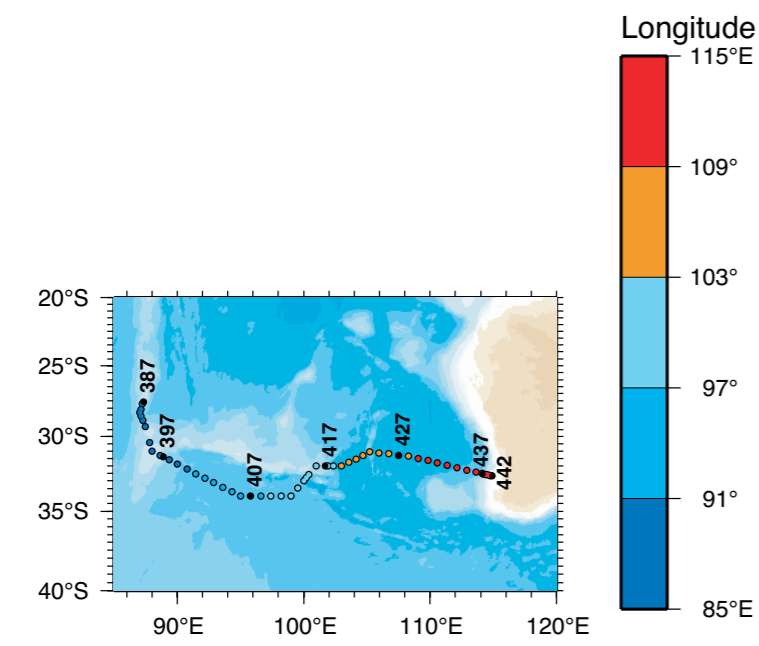
Tritium (TU)

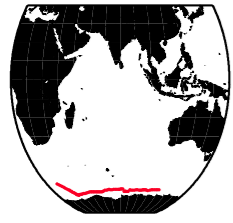
$\Delta^{14}\text{C}$ (‰)

$\delta^{13}\text{C}$ (‰)



I5E

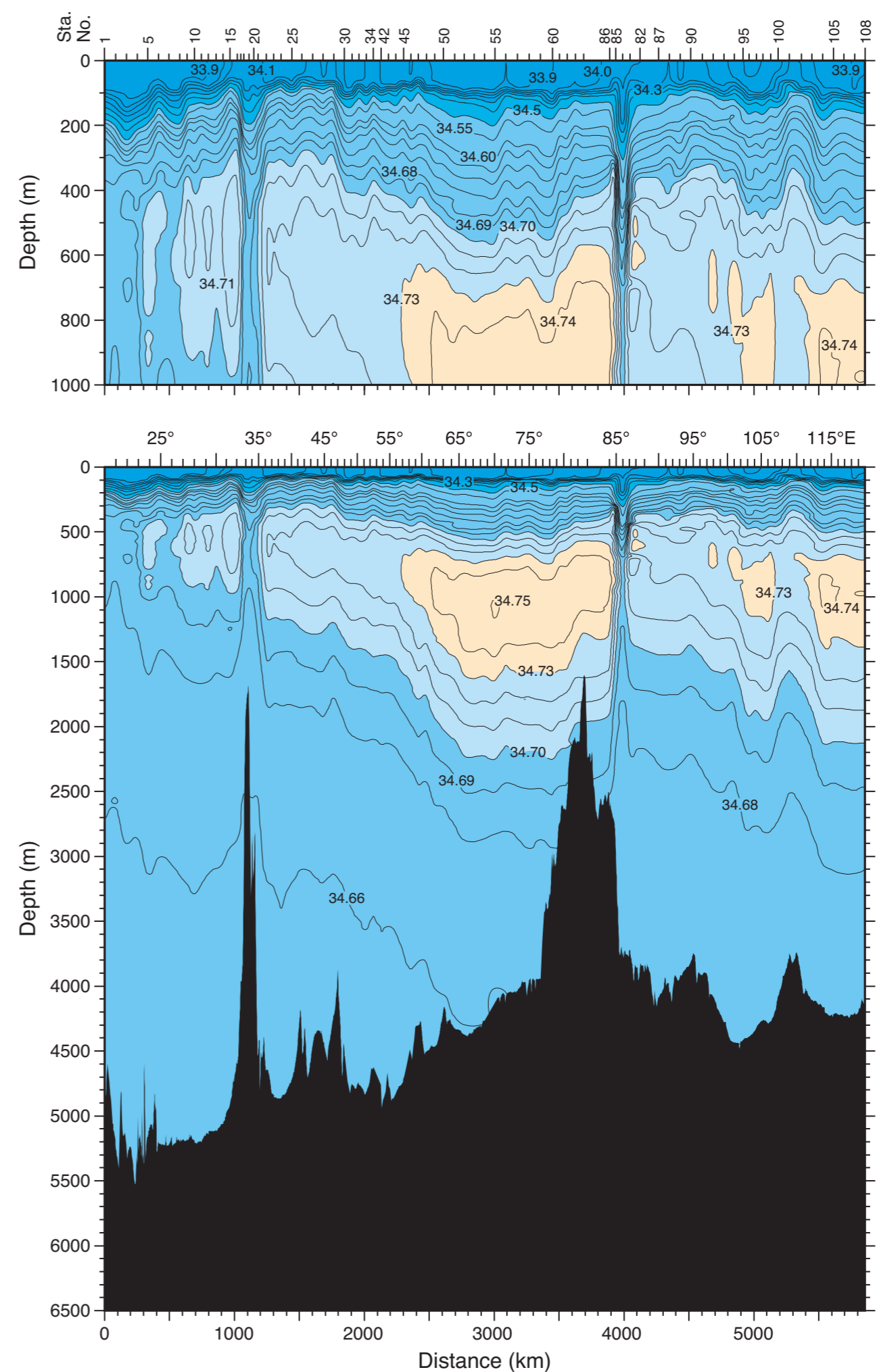
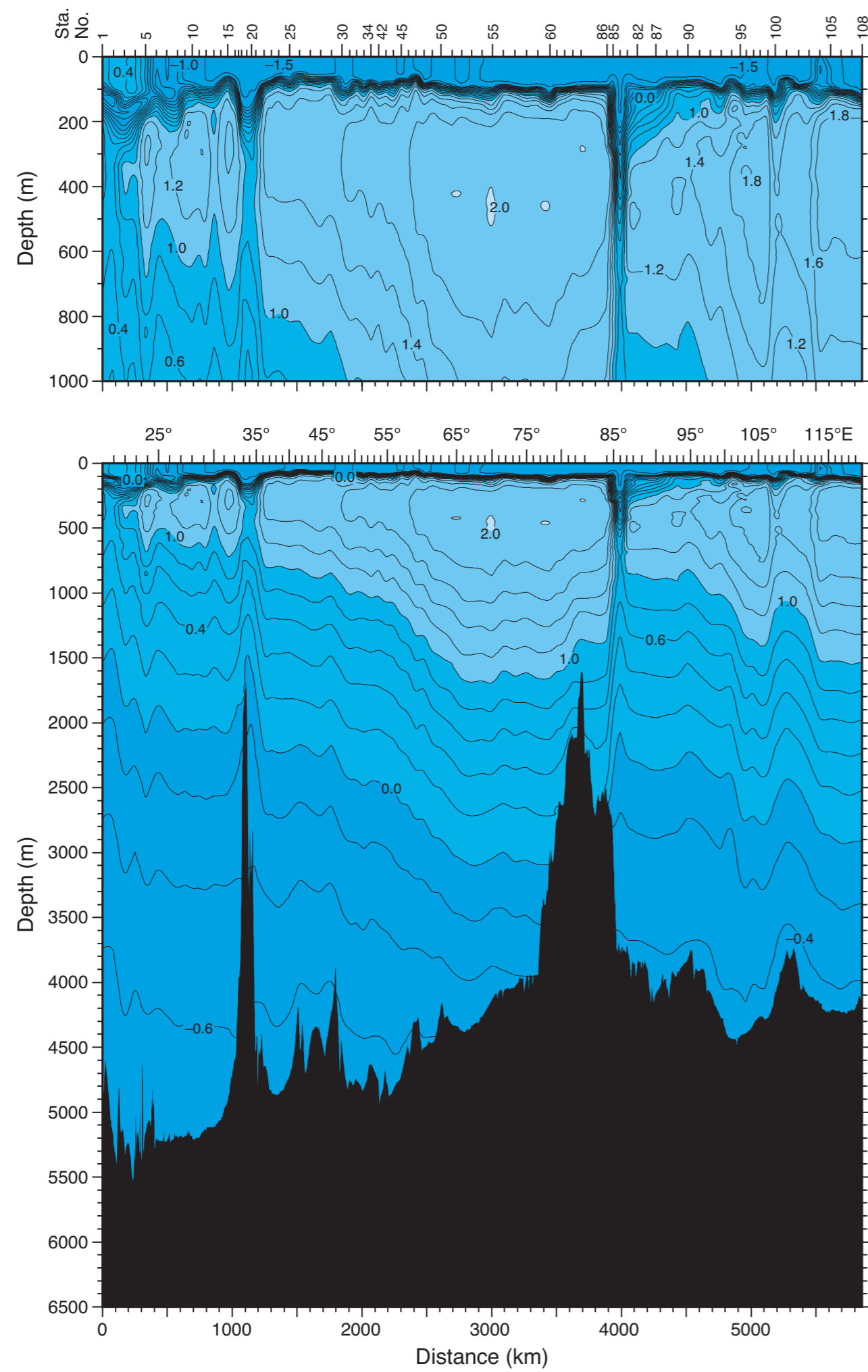


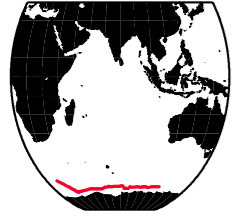


S4I (62°S)

Potential Temperature (°C)

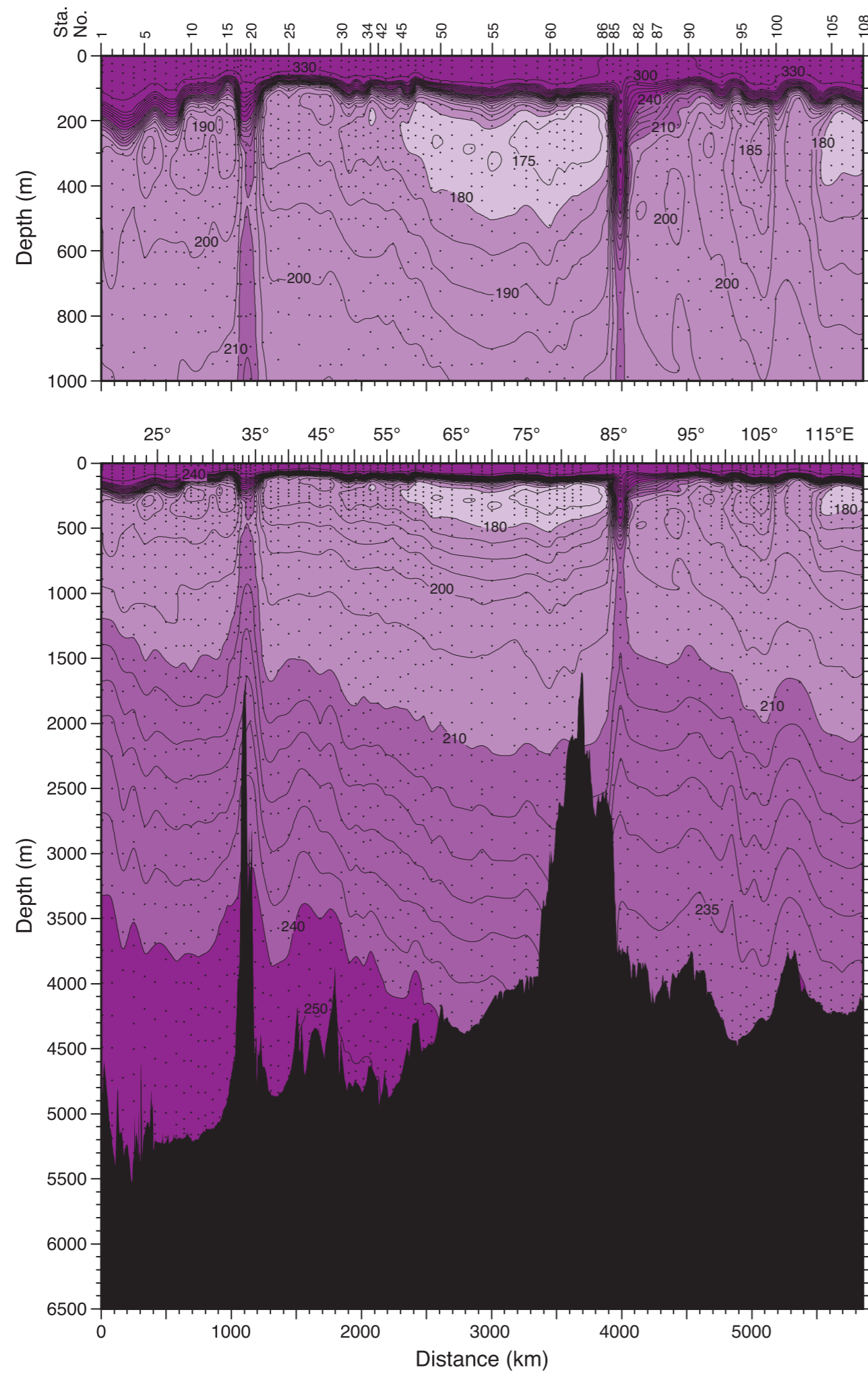
Salinity (PSS78)



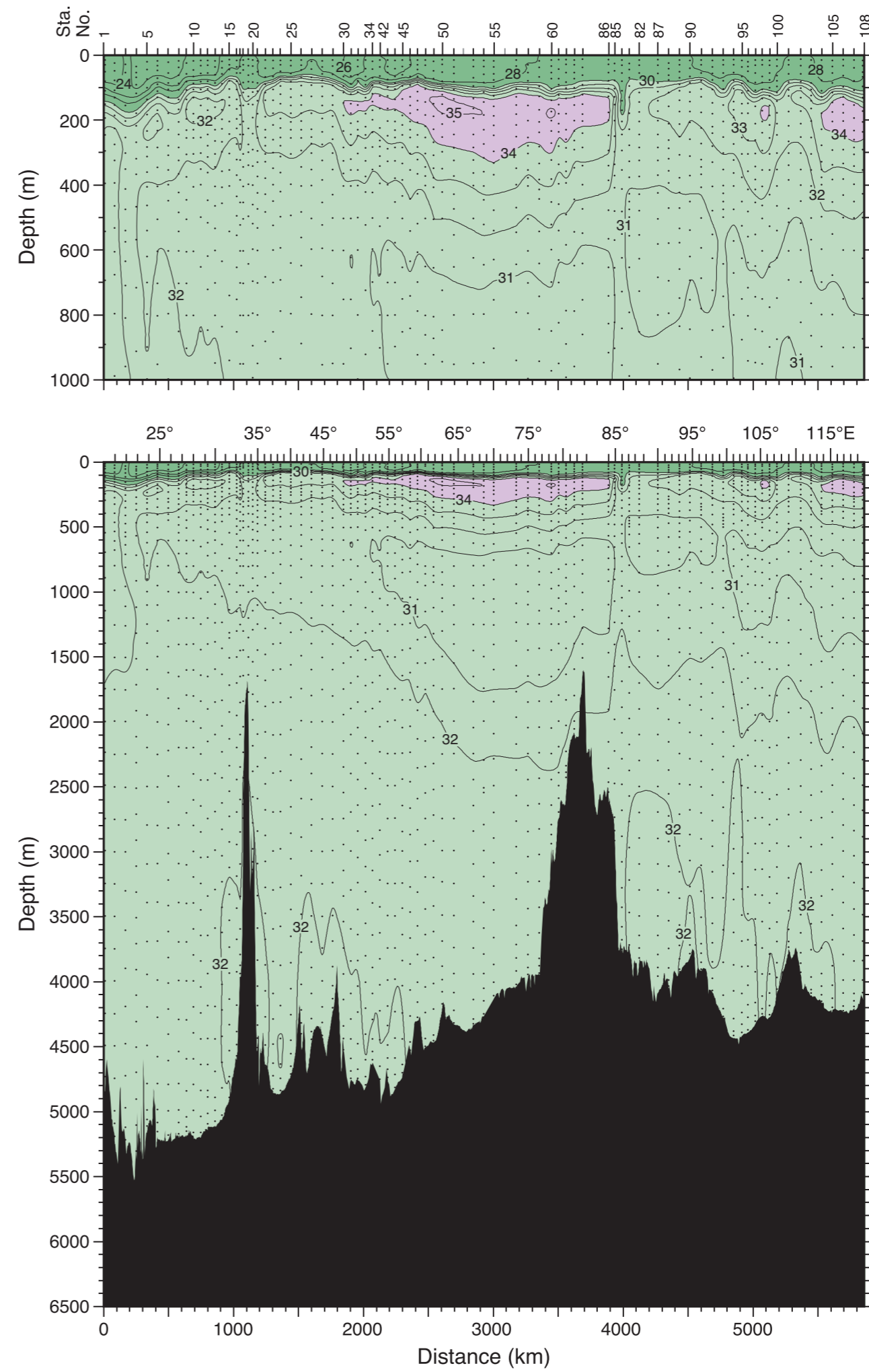


S4I (62°S)

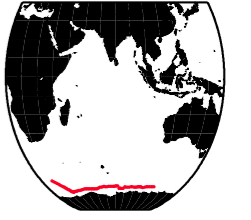
Oxygen ($\mu\text{mol/kg}$)



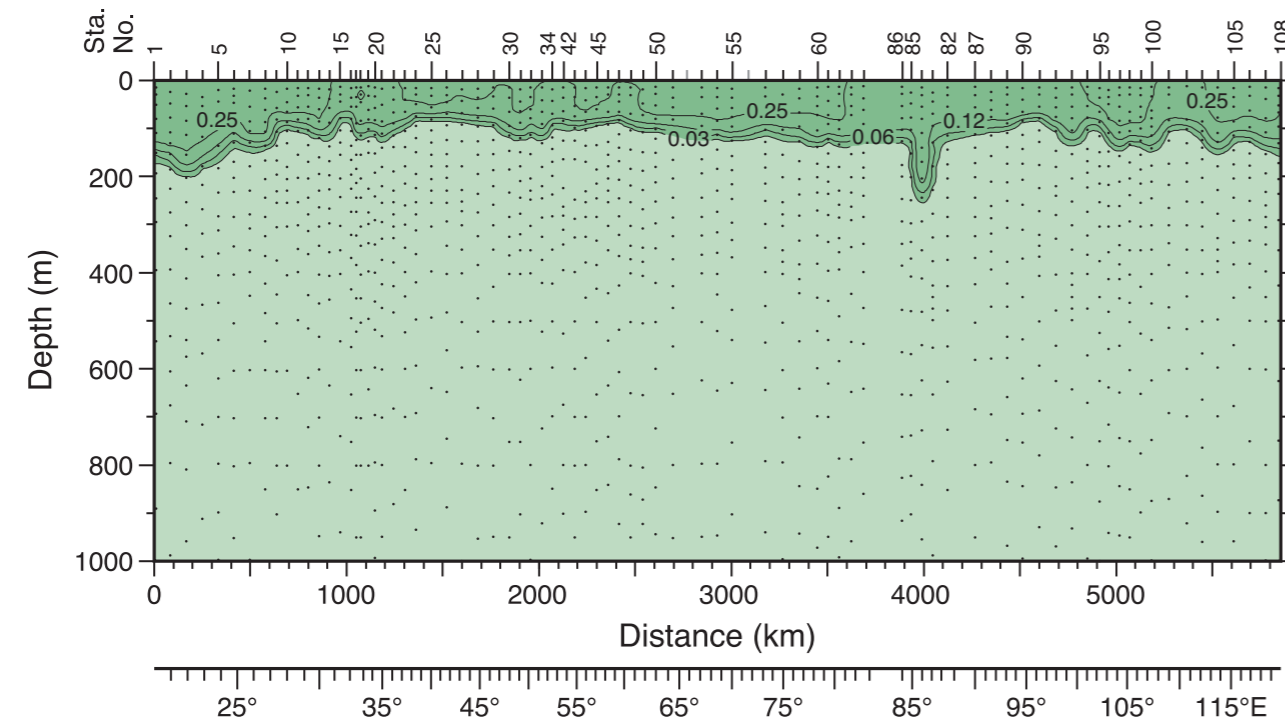
Nitrate ($\mu\text{mol/kg}$)



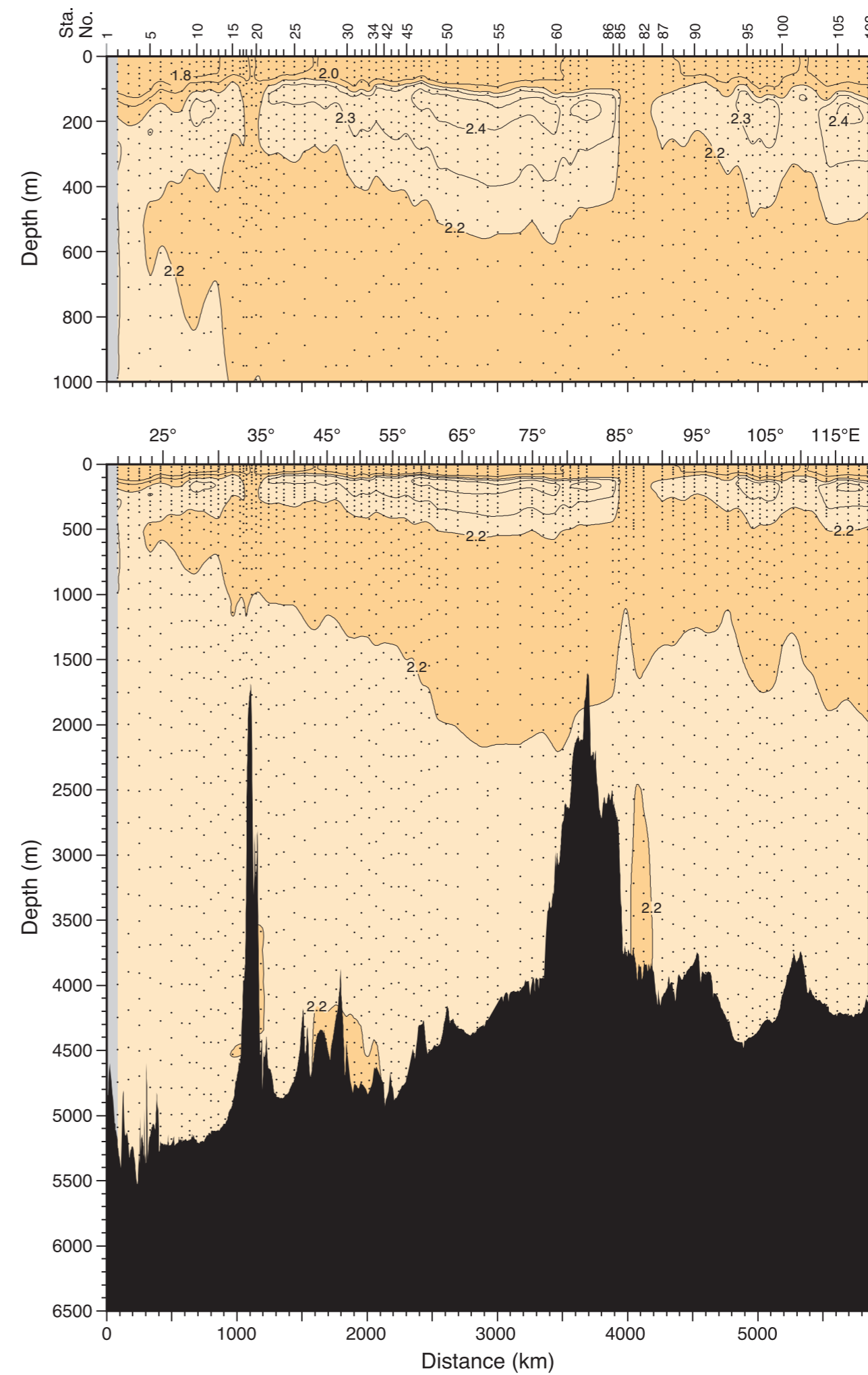
S4I (62°S)

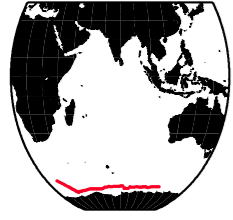


Nitrite ($\mu\text{mol/kg}$)



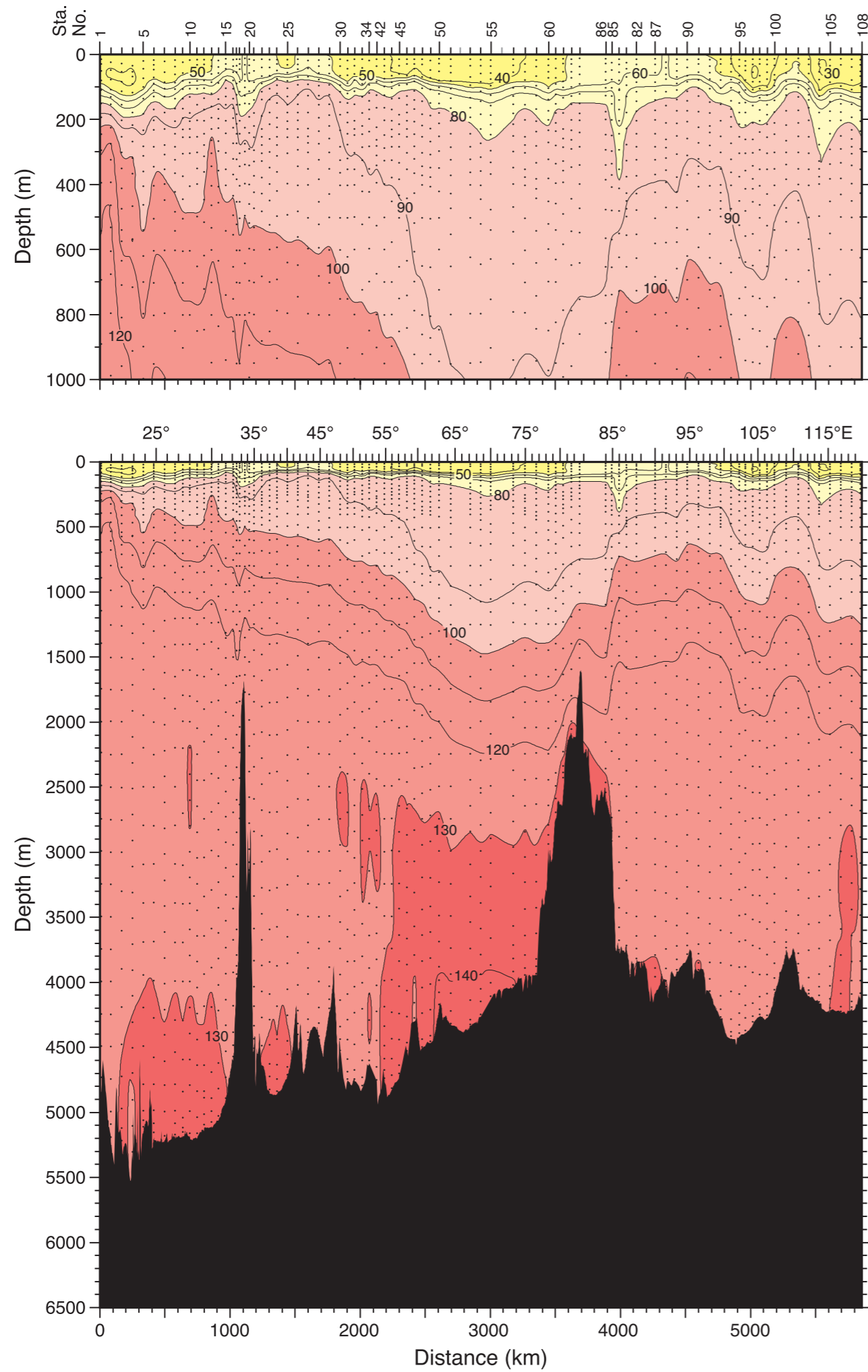
Phosphate ($\mu\text{mol/kg}$)



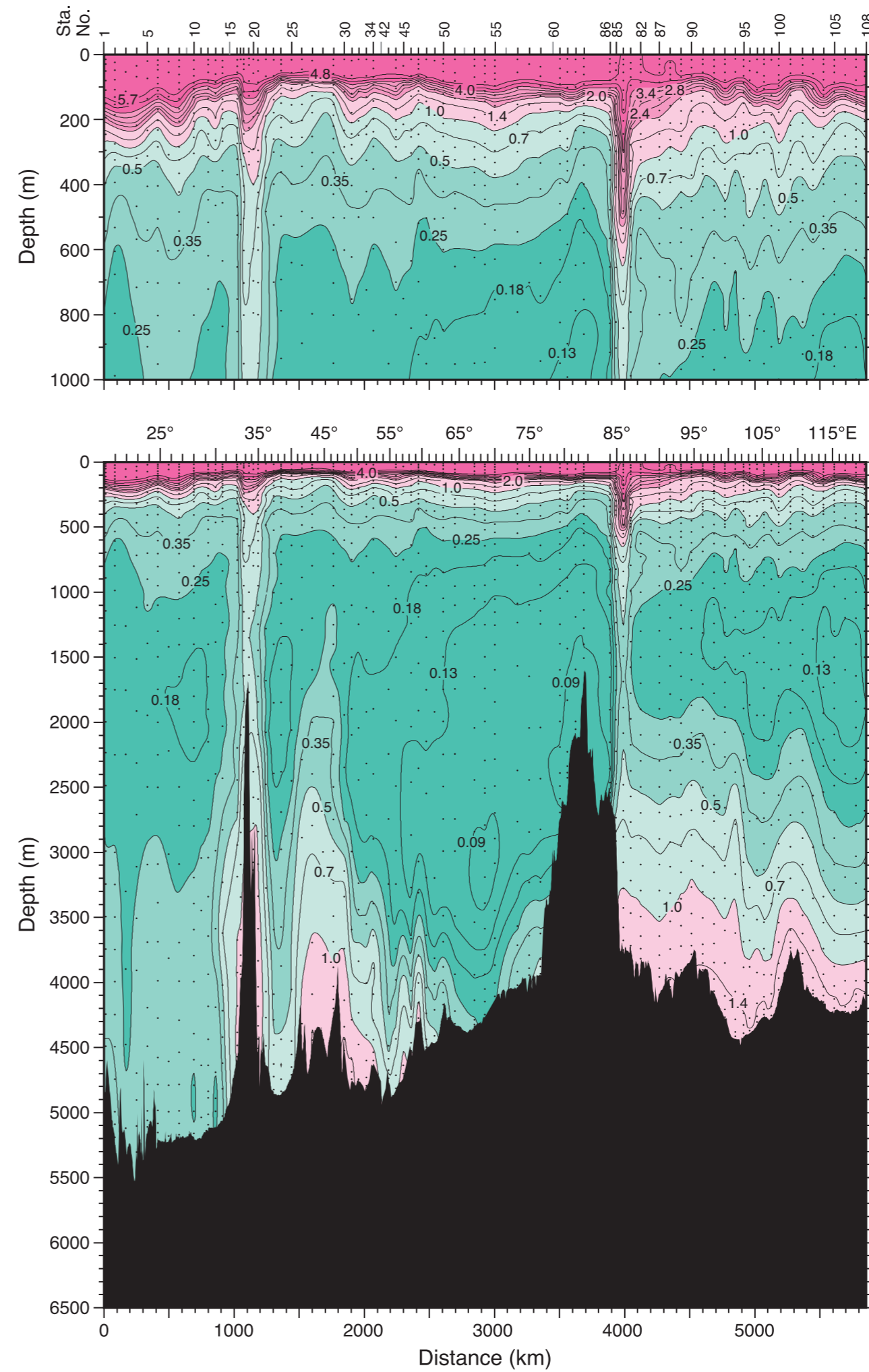


S4I (62°S)

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

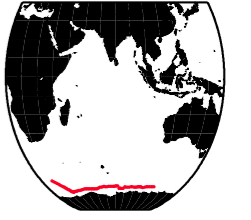


CFC-11 (pmol/kg)

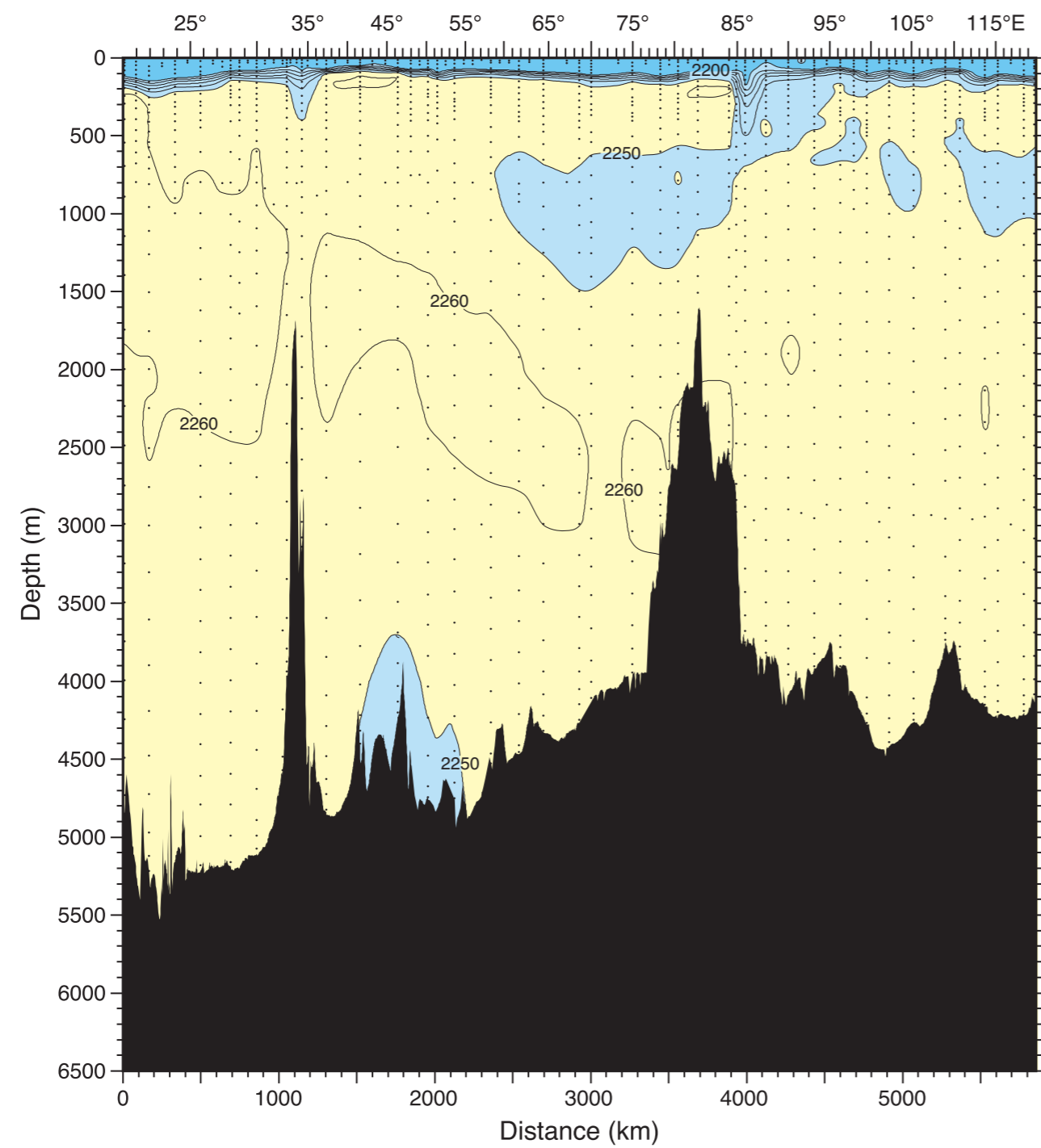
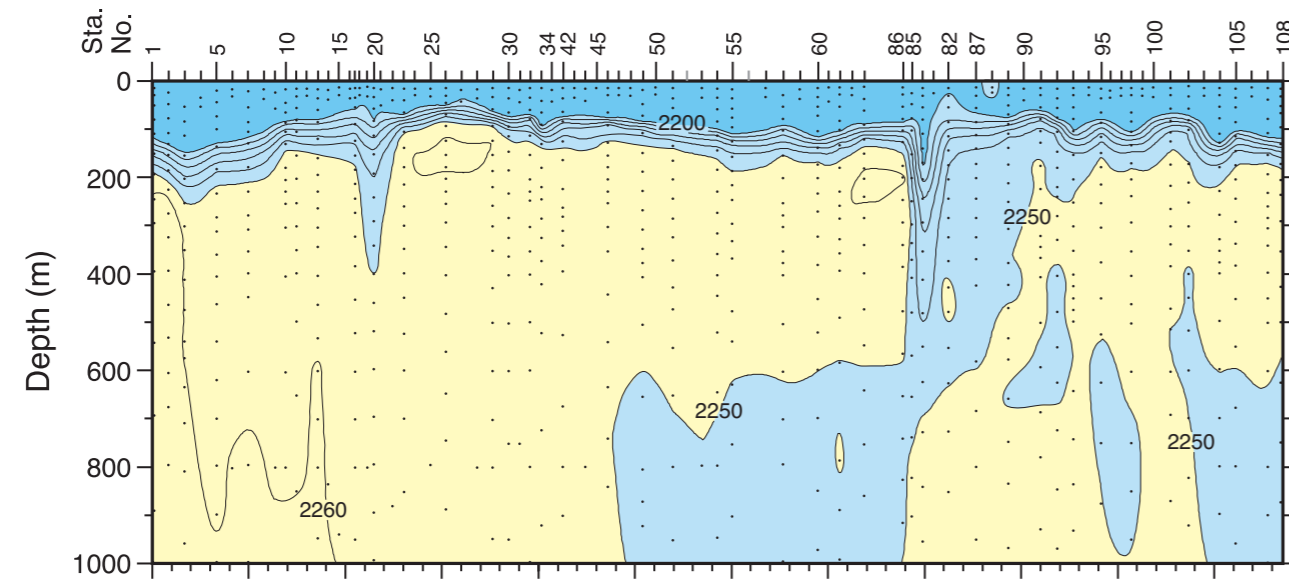


S4I

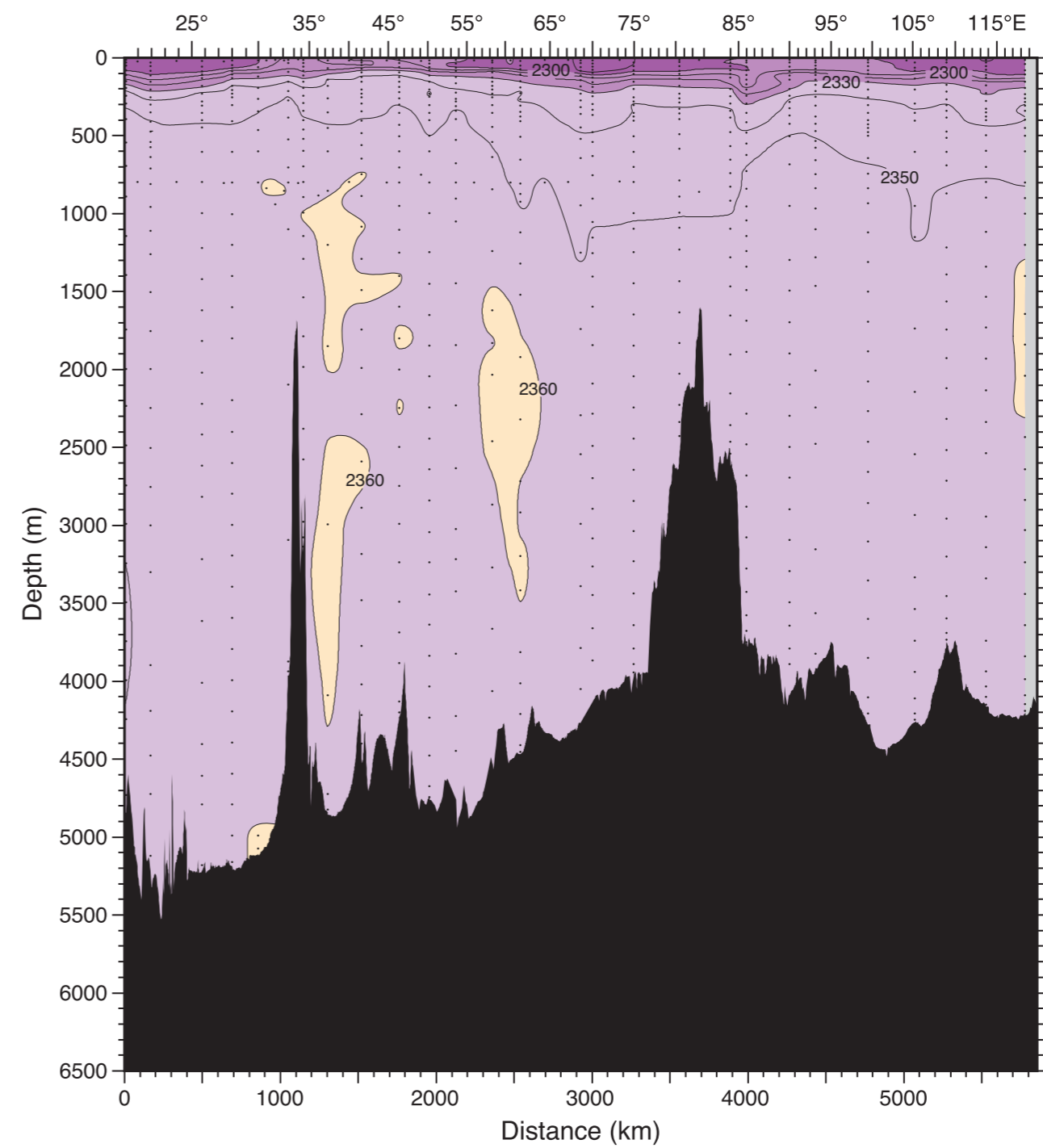
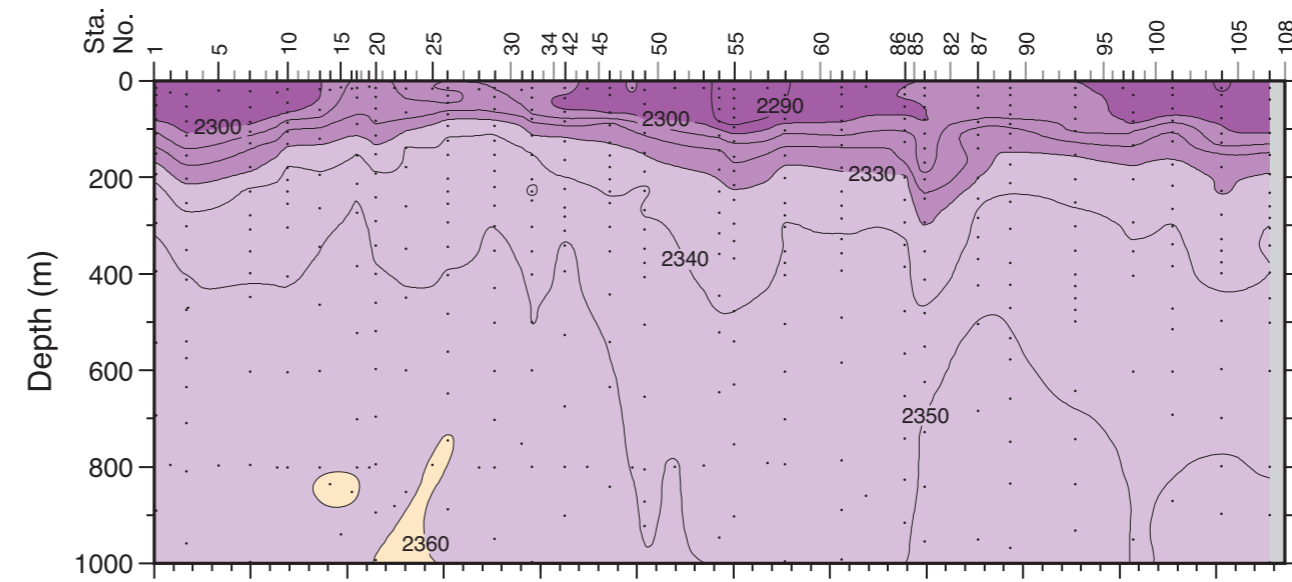
S4I (62°S)

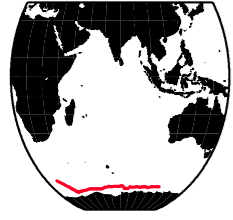


Total Carbon ($\mu\text{mol/kg}$)



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

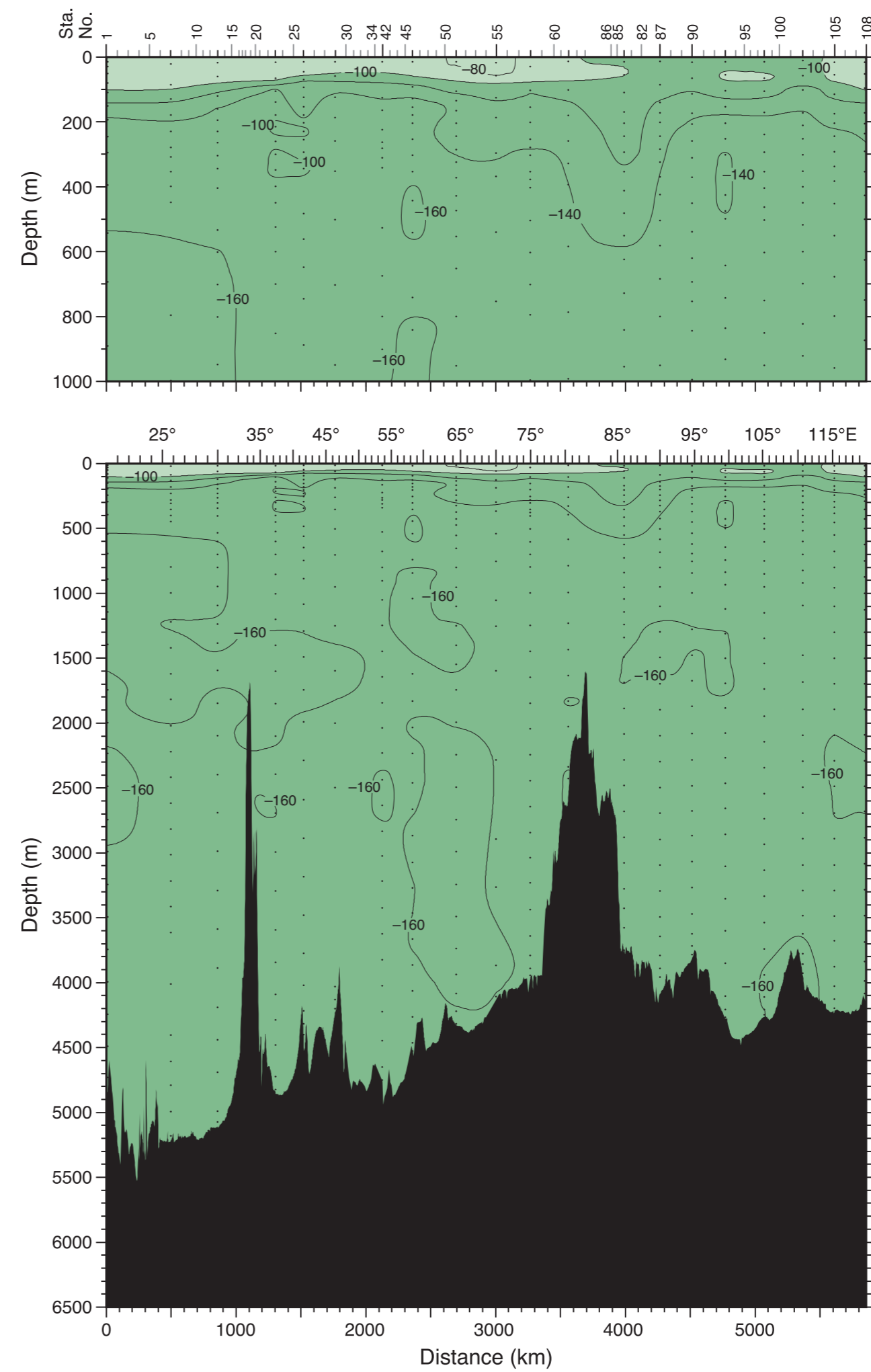
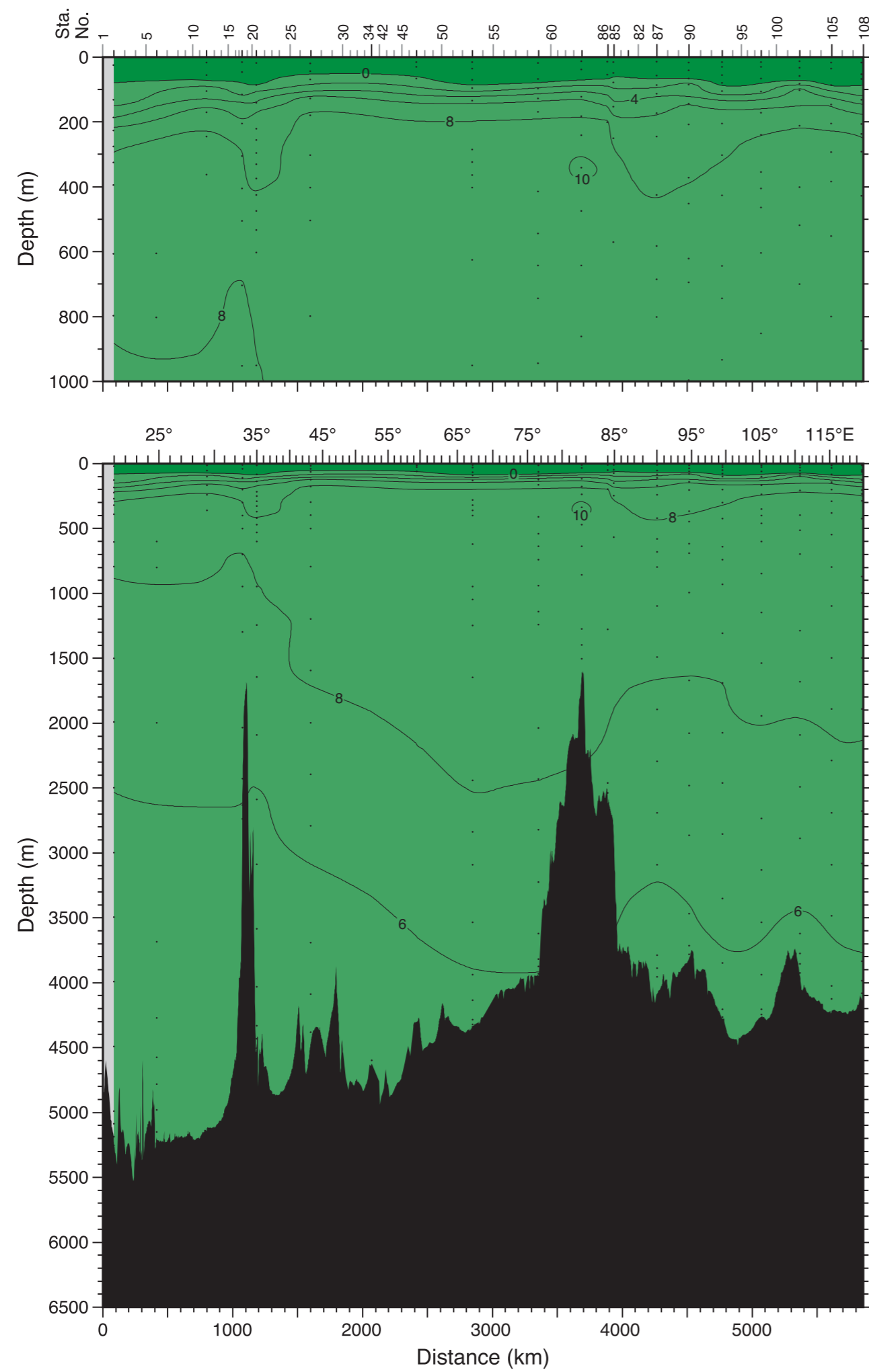




S4I (62°S)

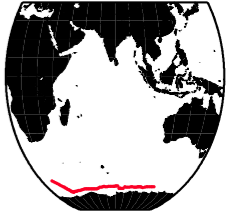
$\delta^3\text{He}$ (‰)

$\Delta^{14}\text{C}$ (‰)



S4I

S4I (62°S)



$\delta^{13}\text{C}$ (‰)

