

Supporting Information for

## **XBT data collected along the Southern Ocean “chokepoint” between New Zealand and Antarctica, 1994-2024**

Giuseppe Aulicino<sup>\*,1,2</sup>, Antonino Ian Ferola<sup>1</sup>, Laura Fortunato<sup>1</sup>, Giorgio Budillon<sup>1,3</sup>, Pasquale Castagno<sup>3,4</sup>, Pierpaolo Falco<sup>3,5</sup>, Giannetta Fusco<sup>1,3</sup>, Naomi Krauzig<sup>5</sup>, Giancarlo Spezie<sup>1,3</sup>, Enrico Zambianchi<sup>1,3</sup>, Yuri Cotroneo<sup>\*,1,3</sup>

<sup>1</sup> Dipartimento di Scienze e Tecnologie, Università degli Studi di Napoli “Parthenope”, Napoli, 80143, Italy

<sup>2</sup> Istituto di Scienze Polari, Consiglio Nazionale delle Ricerche, Bologna, 40129, Italy

<sup>3</sup> Consorzio Nazionale Interuniversitario per le Scienze del Mare (CoNISMa), Roma, 00196, Italy

<sup>4</sup> Dipartimento di Scienze Matematiche e Informatiche, Scienze Fisiche e Scienze della Terra, Università degli Studi di Messina, 98122, Italy

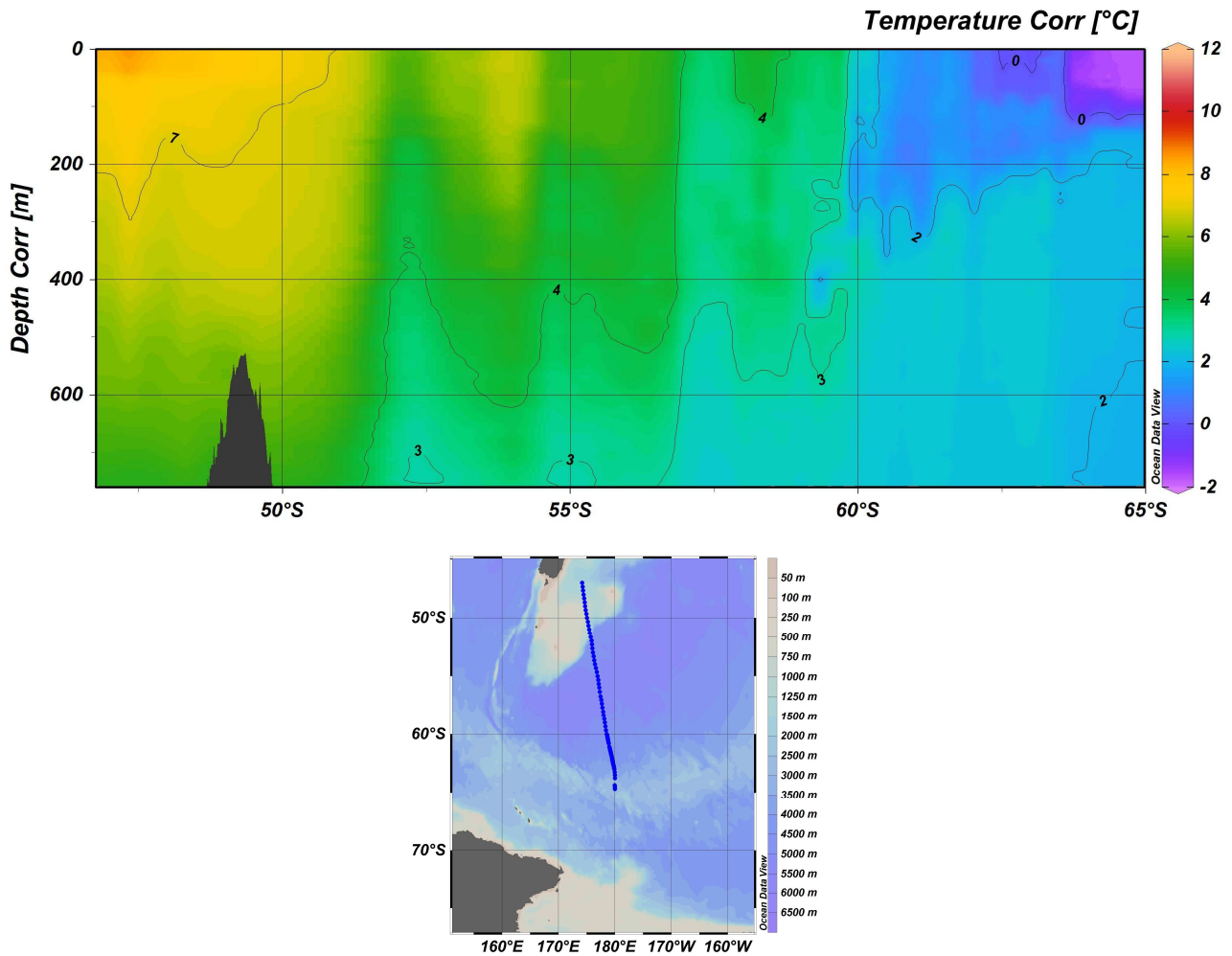
<sup>5</sup> Dipartimento di Scienze della Vita e dell’Ambiente, Università Politecnica delle Marche, Ancona, 60131, Italy

\* *Correspondence to:* Giuseppe Aulicino (giuseppe.aulicino@uniparthenope.it); Yuri Cotroneo (yuri.cotroneo@uniparthenope.it)

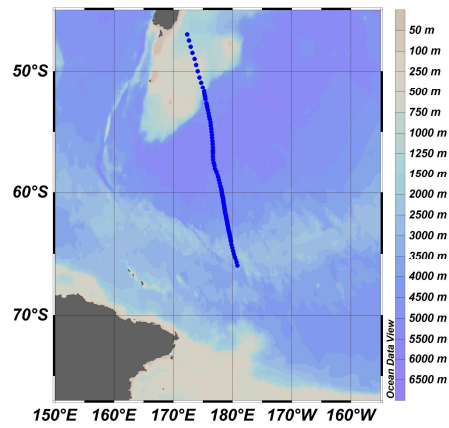
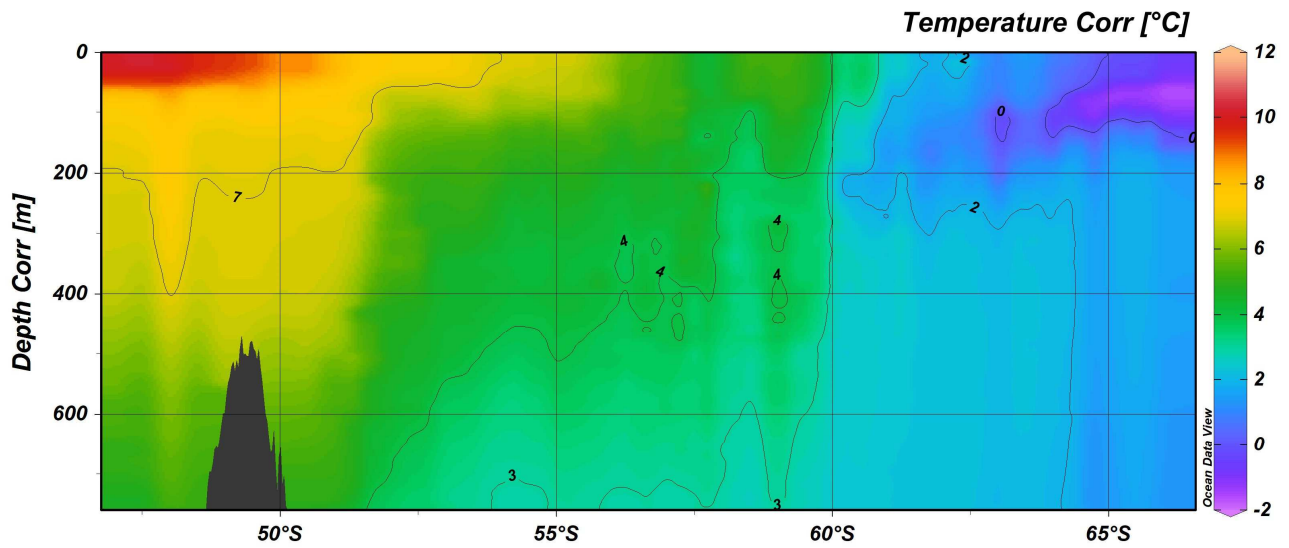
### **Contents of this file**

Figure S1

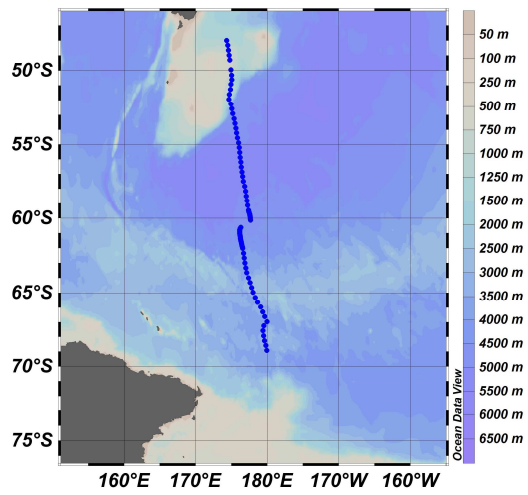
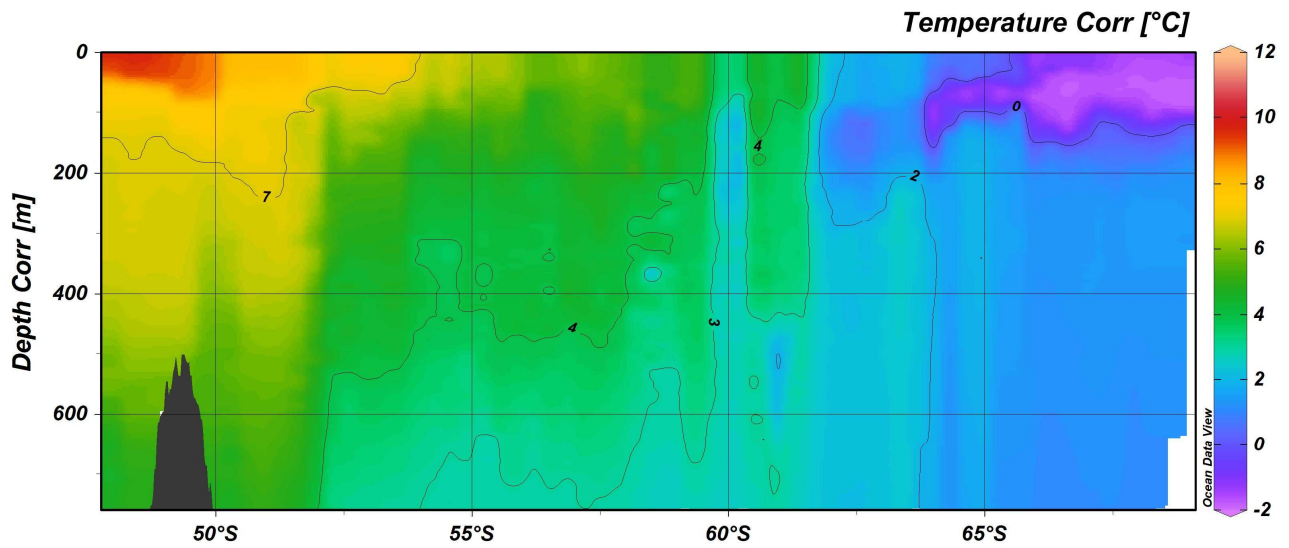
**Figure S1.** Temperature vertical sections from XBT data collected during the PNRA Antarctic expedition conducted between 1994 and 2023 along the New Zealand–Antarctica “chokepoint” (PX36 transect). The dark grey mask represents the bathymetry. The sections are arranged chronologically from top to bottom; below each figure, the map of XBT casts positions is displayed, as well as the cruise name and period.



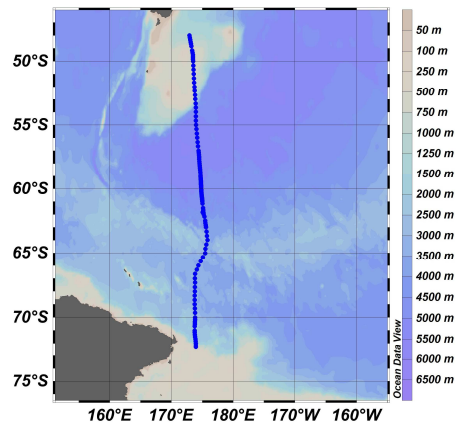
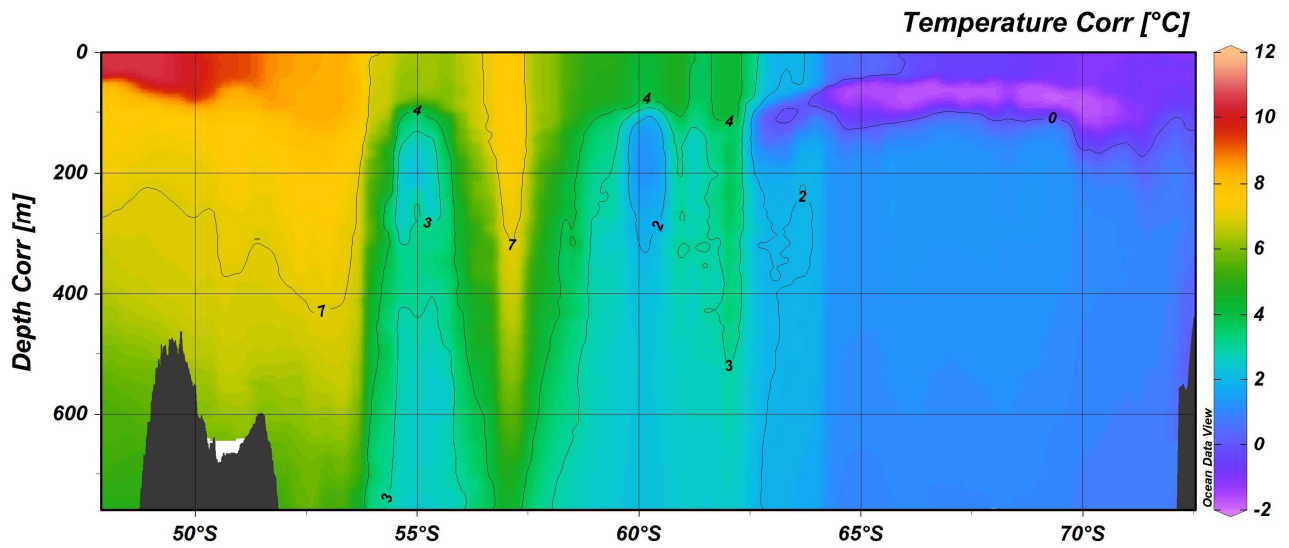
PNRA X first leg conducted from 03 November 1994 to 06 November 1994.



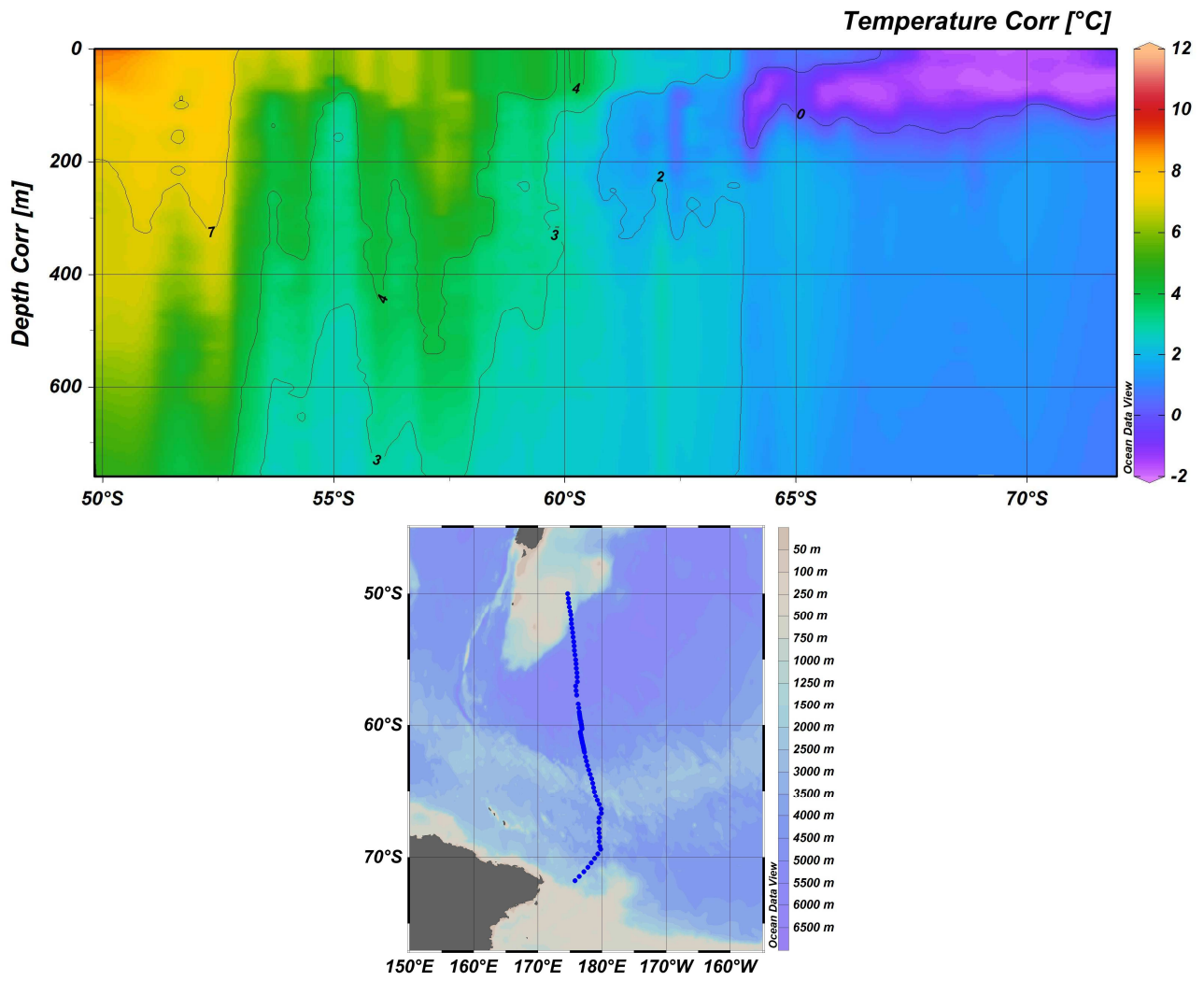
PNRA X second leg conducted from 28 December 1994 to 01 January 1995.



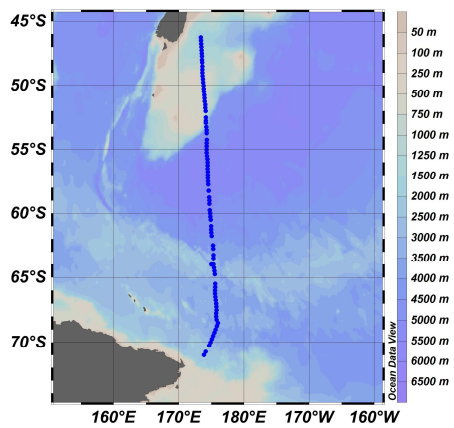
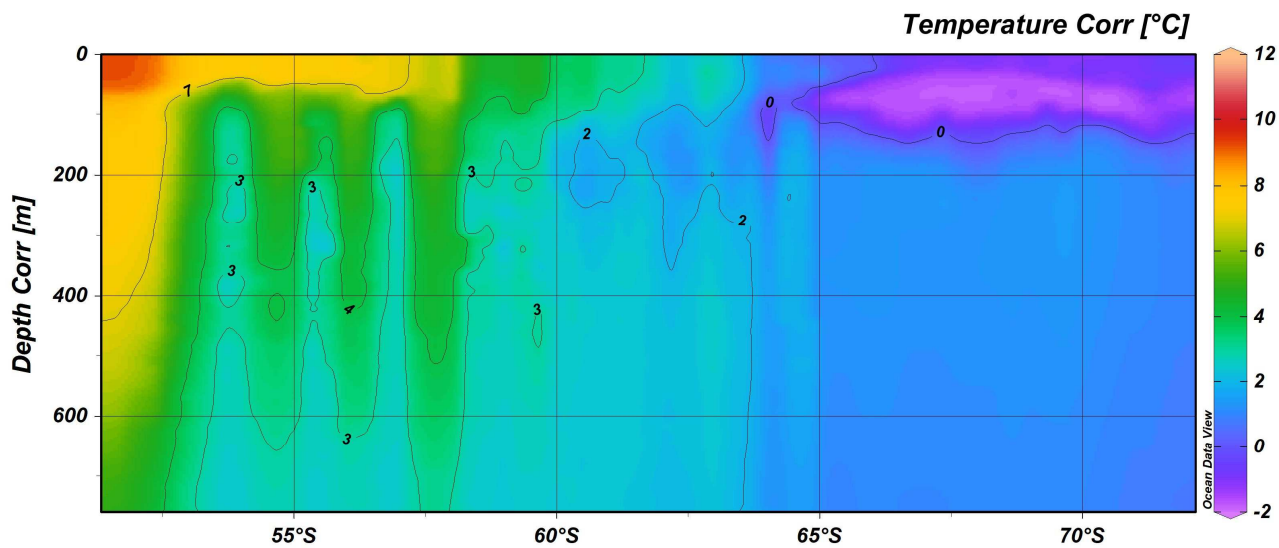
PNRA X third leg conducted from 06 January 1995 to 11 January 1995.



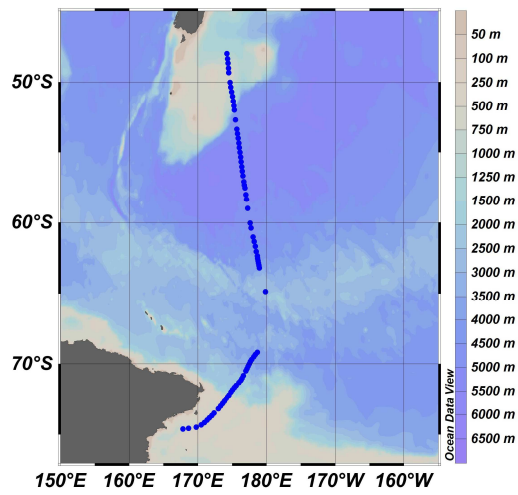
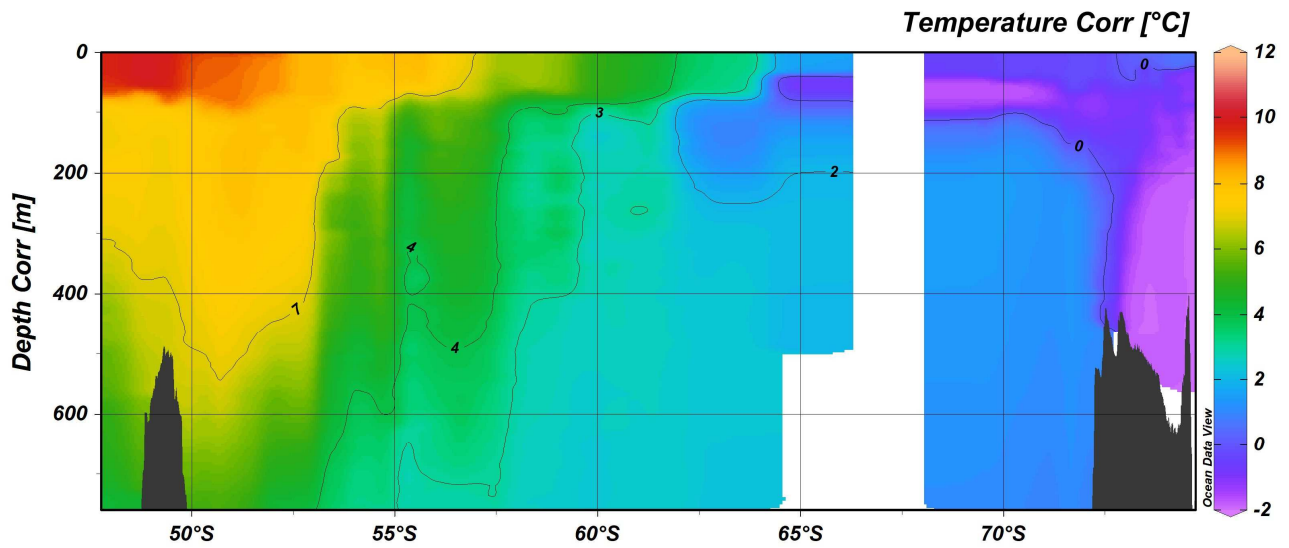
PNRA X forth leg conducted from 26 February 1995 to 02 March 1995.



PNRA XI first leg conducted from 07 January 1996 to 11 January 1996.

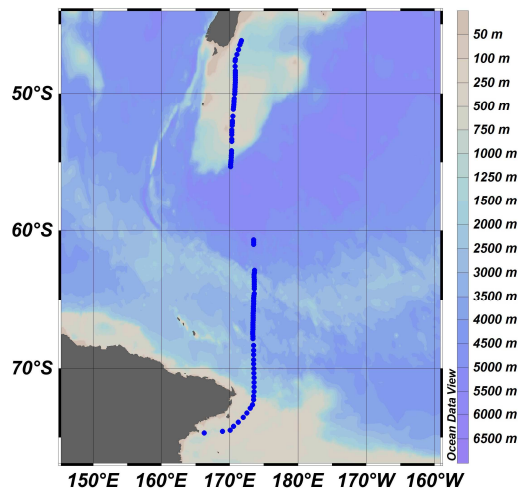
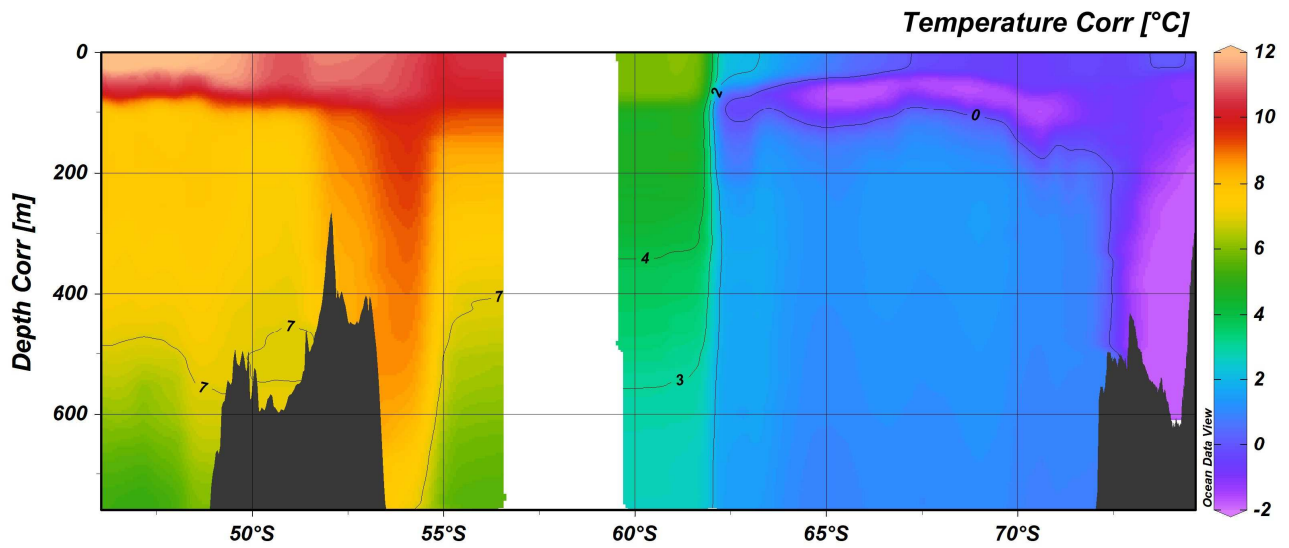


PNRA XI second leg conducted from 13 February 1996 to 18 February 1996.

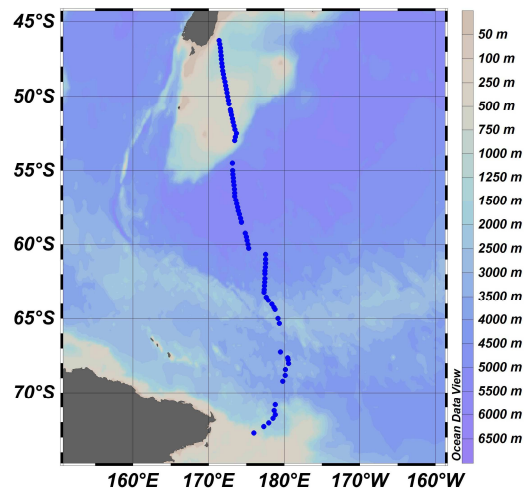
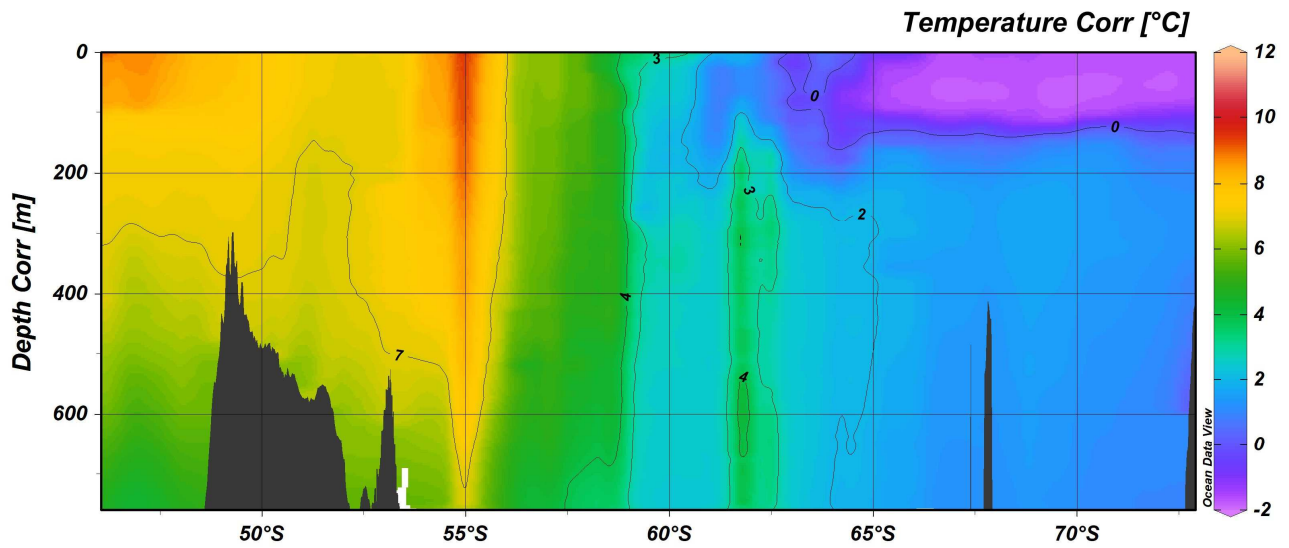


PNRAXII first leg conducted from 26 January 1997 to 30 January 1997.

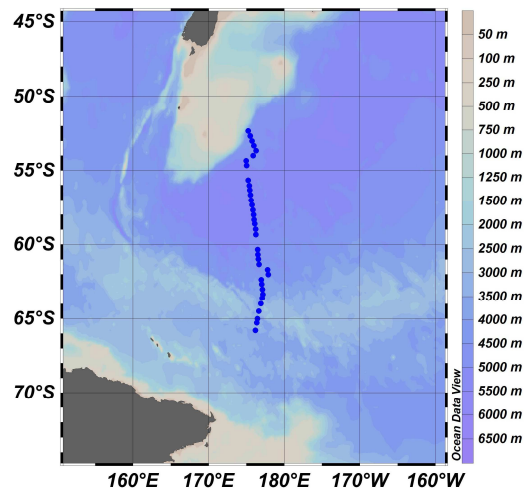
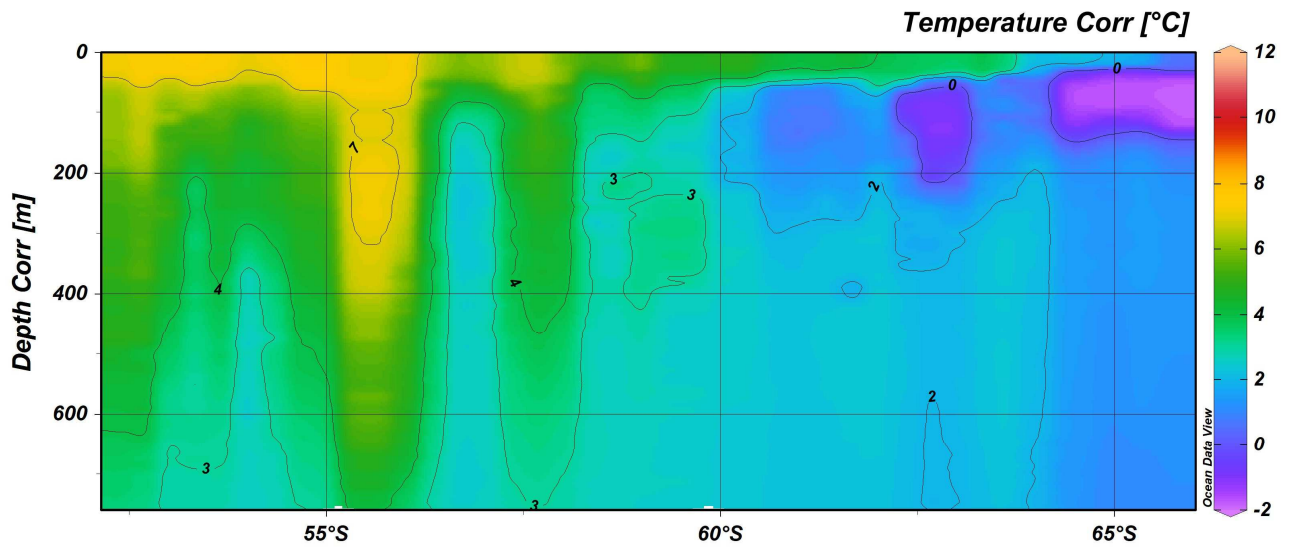




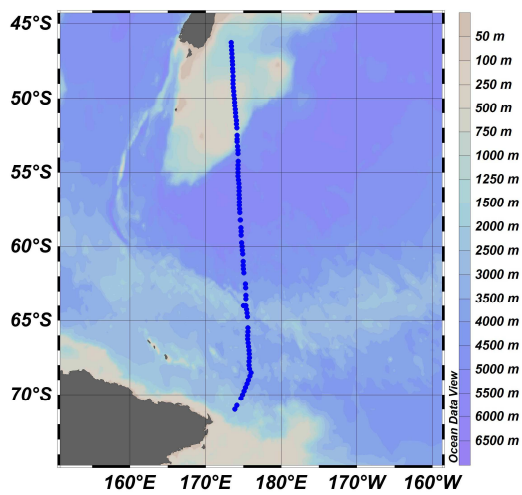
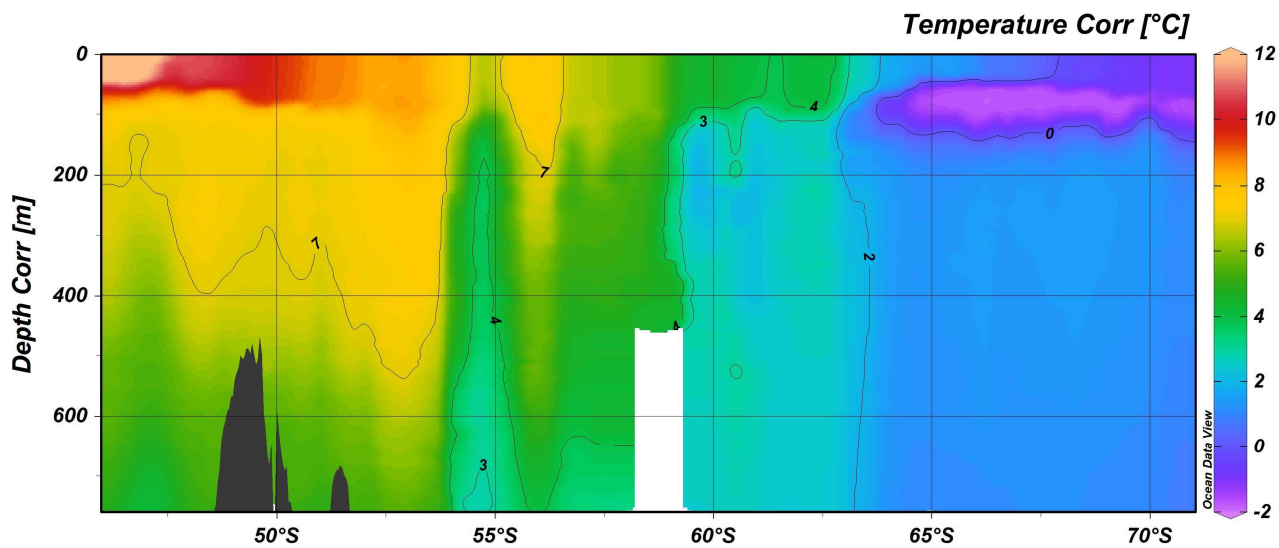
PNRAXII second leg conducted from 14 February 1997 to 19 February 1997.



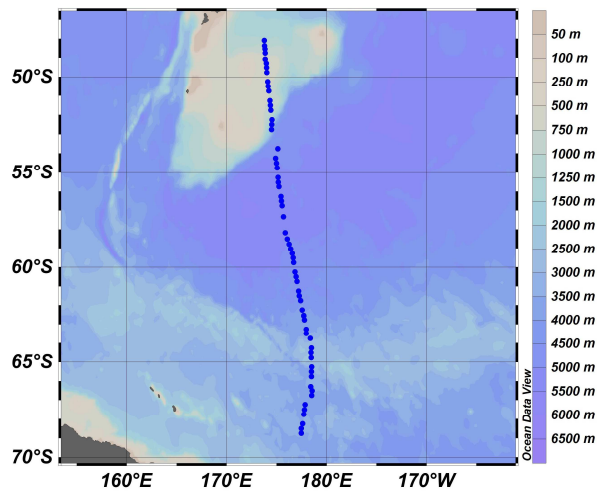
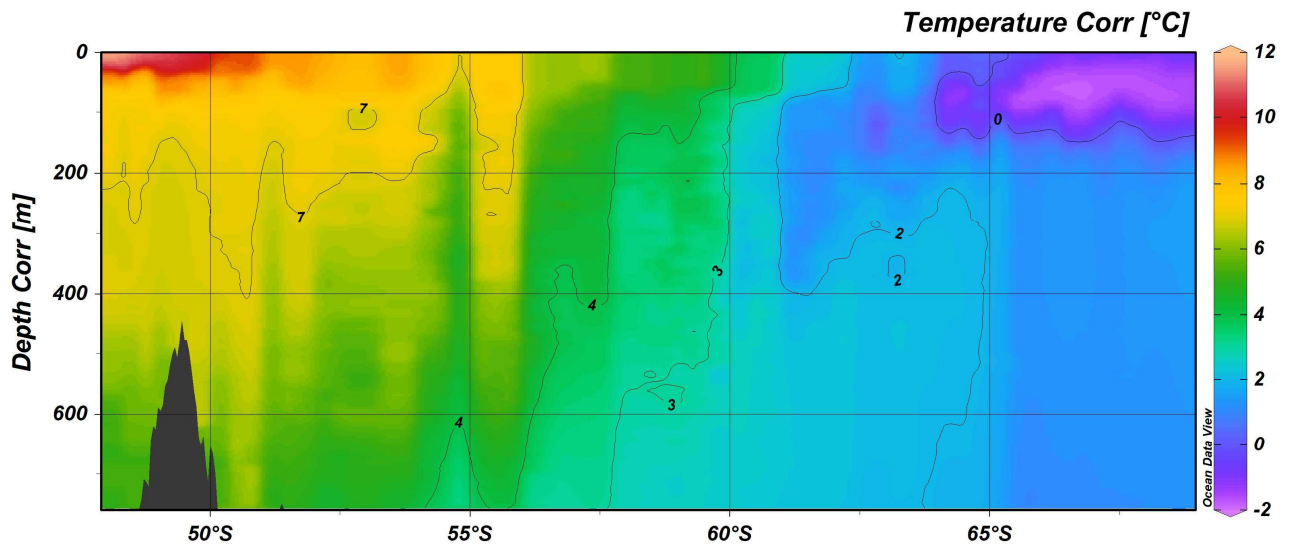
PNRAXIII first leg conducted from 23 November 1997 to 28 November 1997.



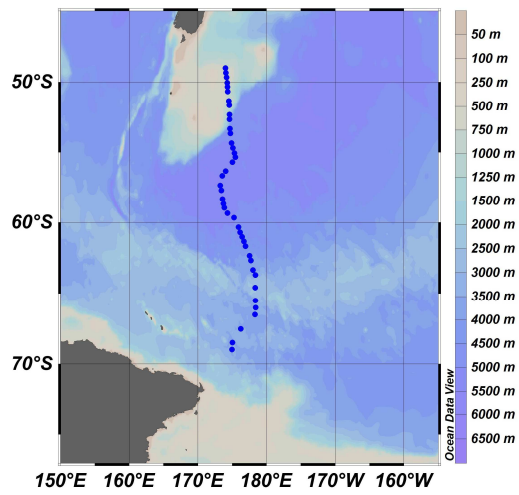
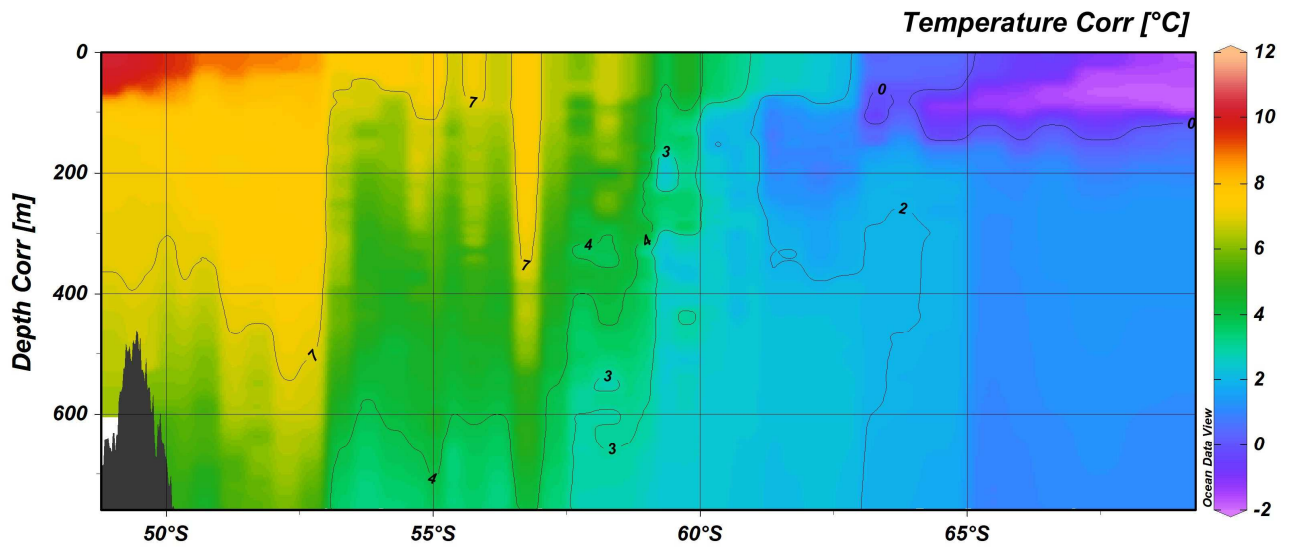
PNRAXIII second leg conducted from 09 January 1998 to 12 January 1998.



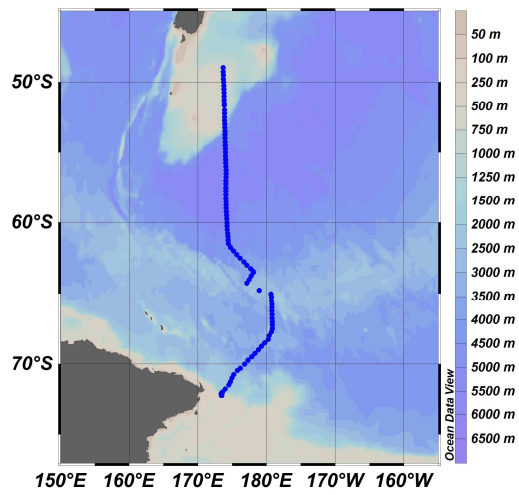
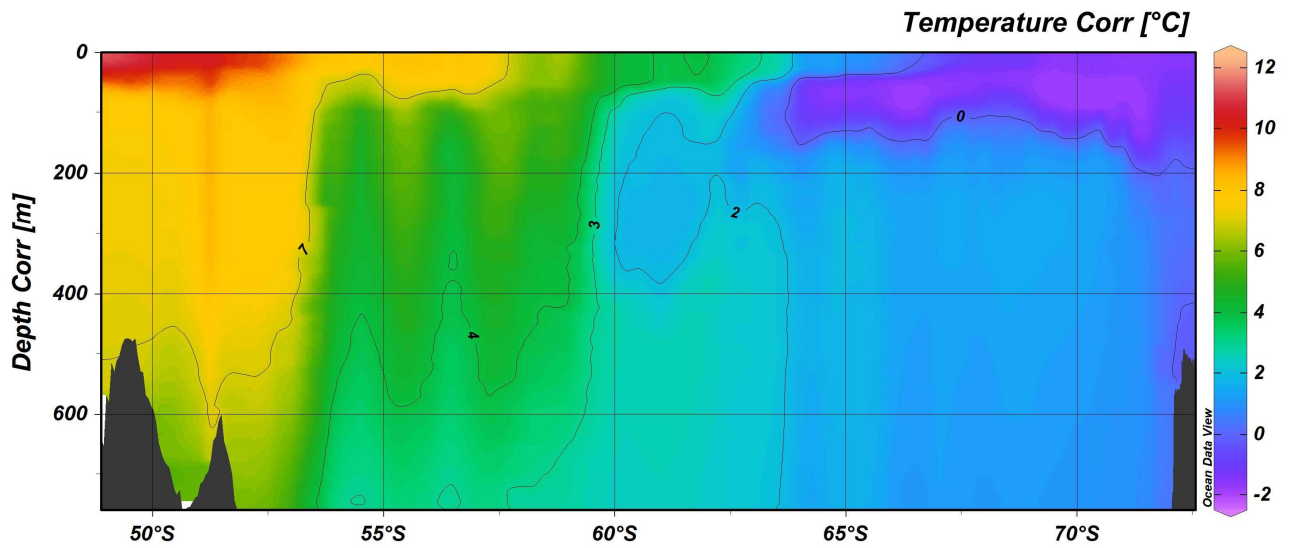
PNRAXIII third leg conducted from 28 February 1998 to 06 March 1998.



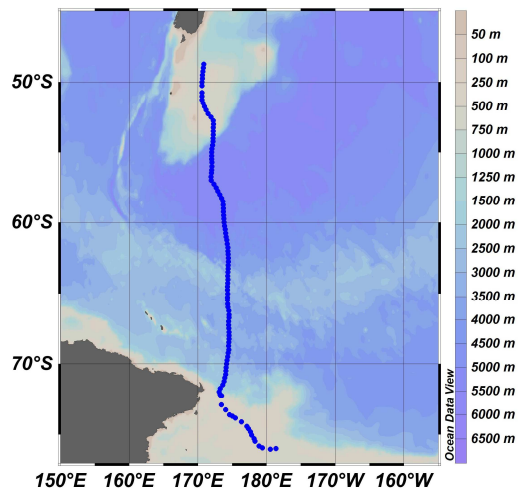
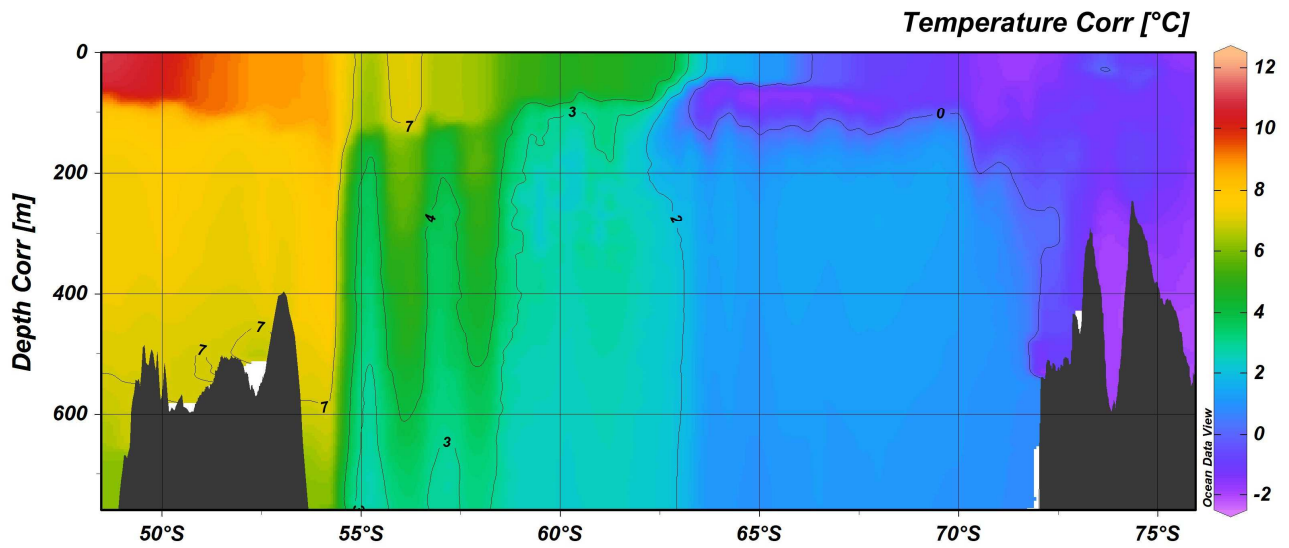
PNRAXIV conducted from 05 January 1999 to 11 January 1999.



PNRAXV conducted from 07 January 2000 to 12 January 2000.

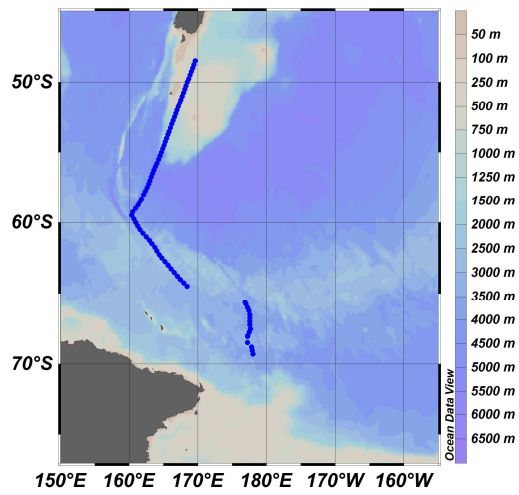
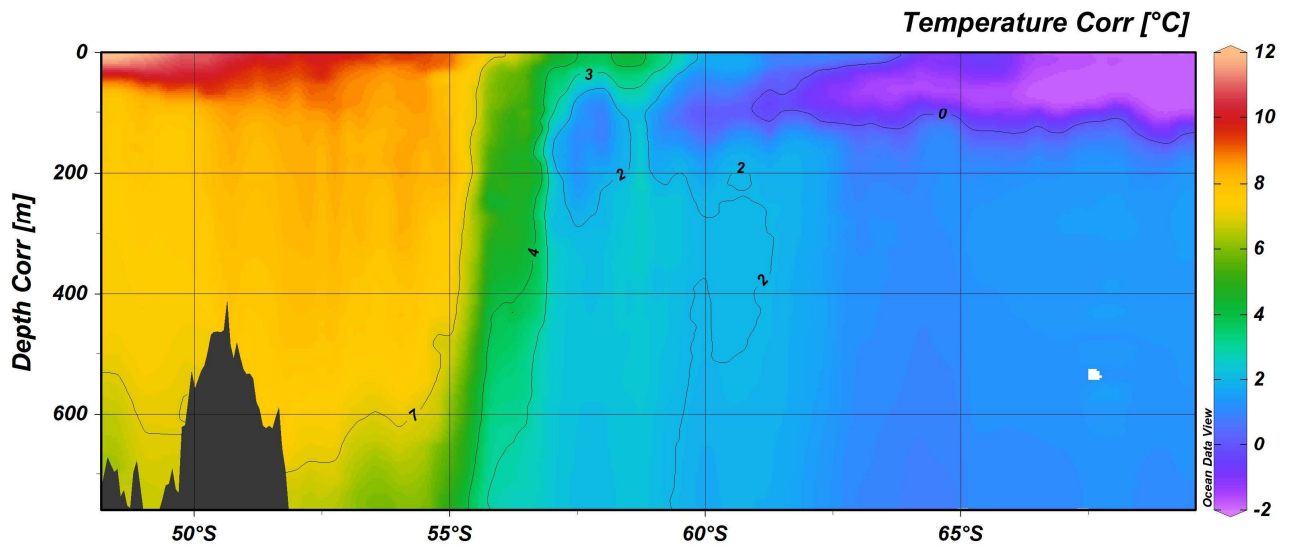


PNRAXVI first leg conducted from 06 January 2001 to 10 January 2001.

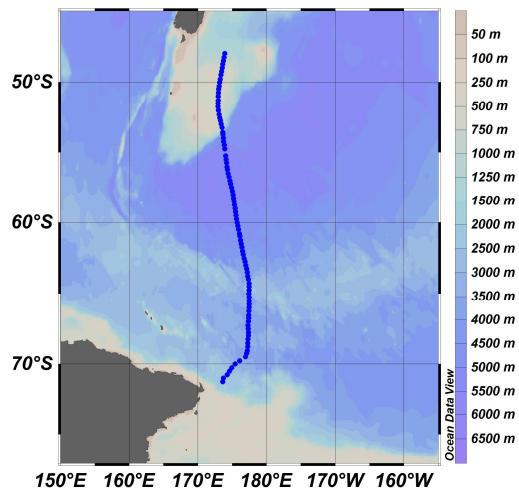
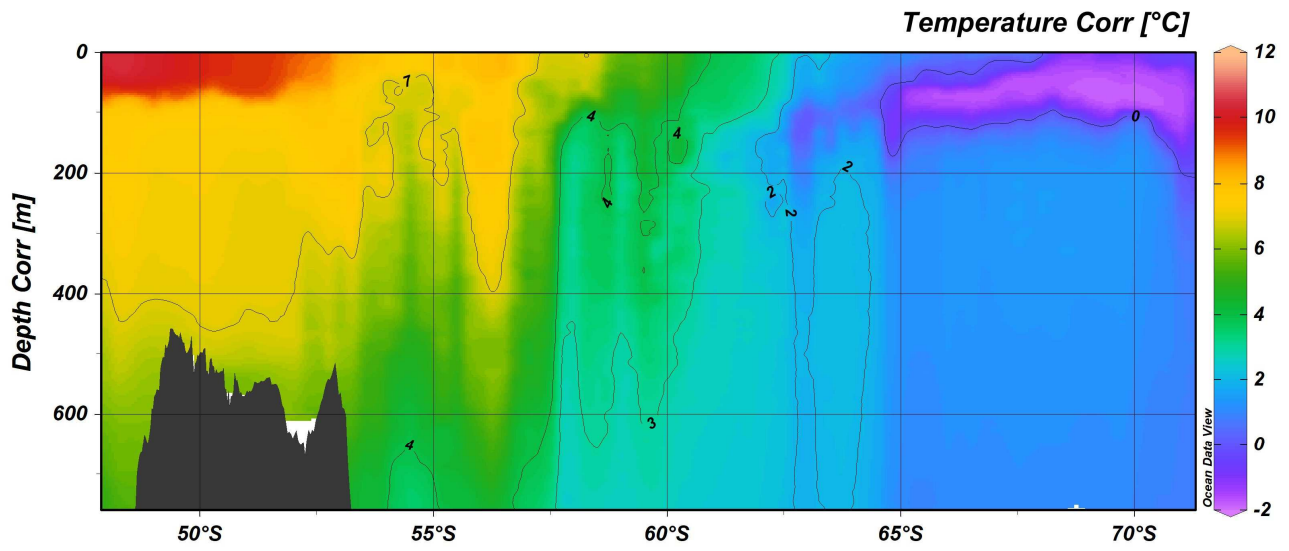


PNRAXVI second leg conducted from 21 February 2001 to 26 February 2001.

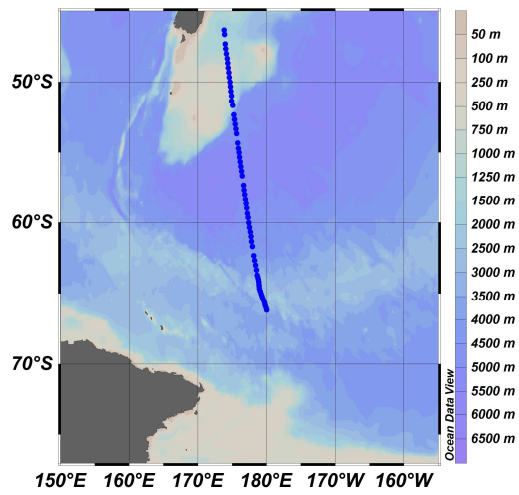
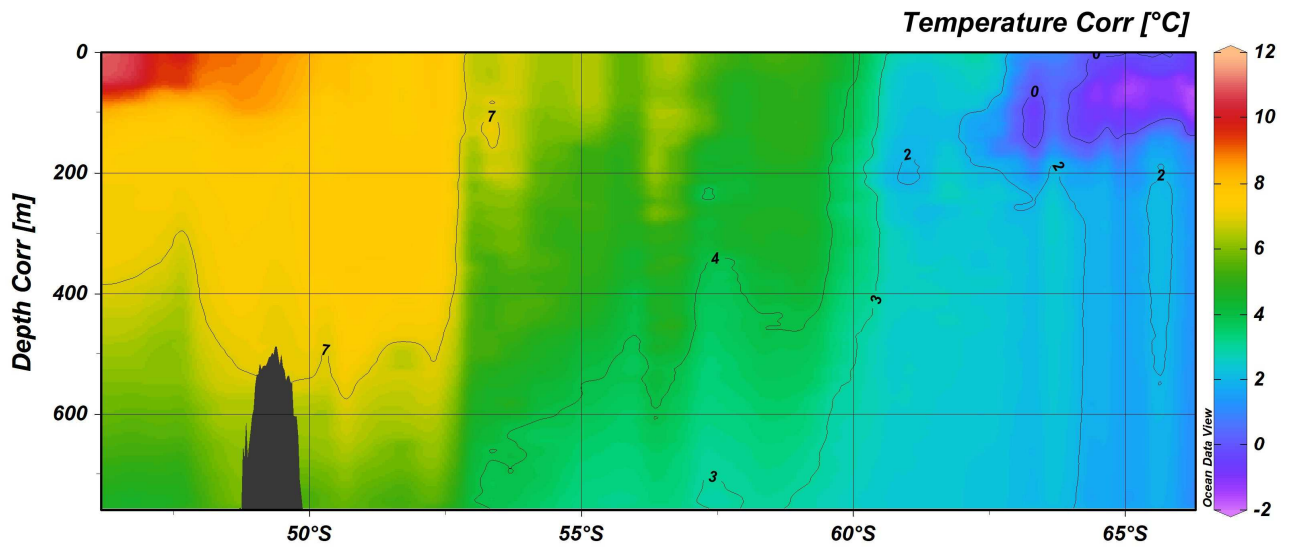




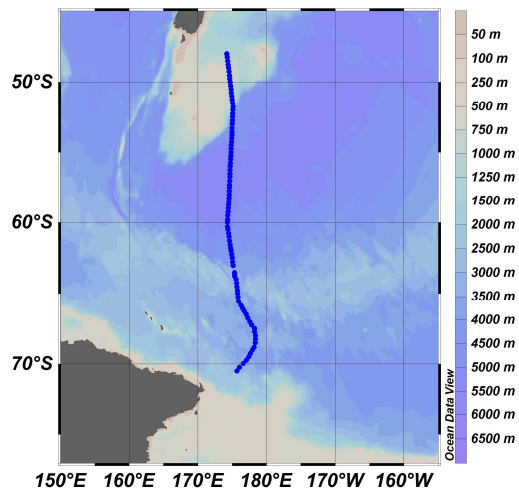
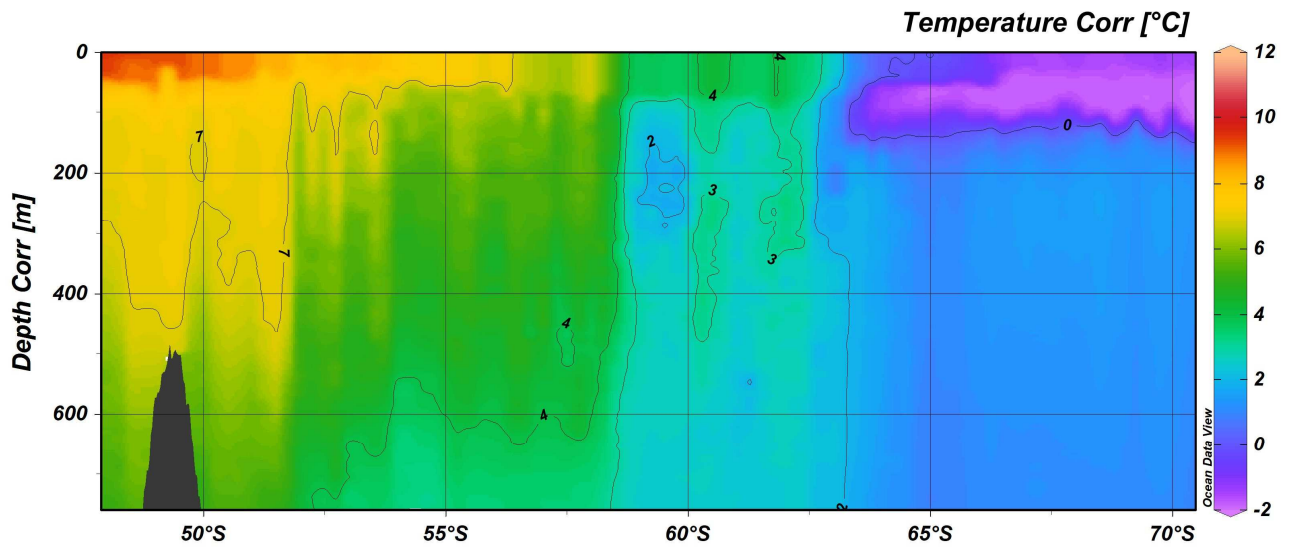
PNRAXVII conducted from 24 December 2001 to 28 December 2001.



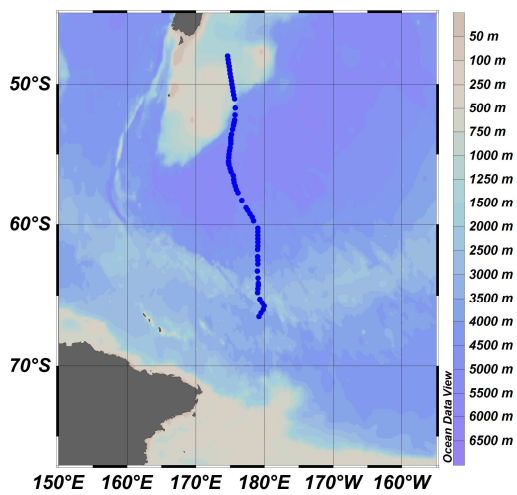
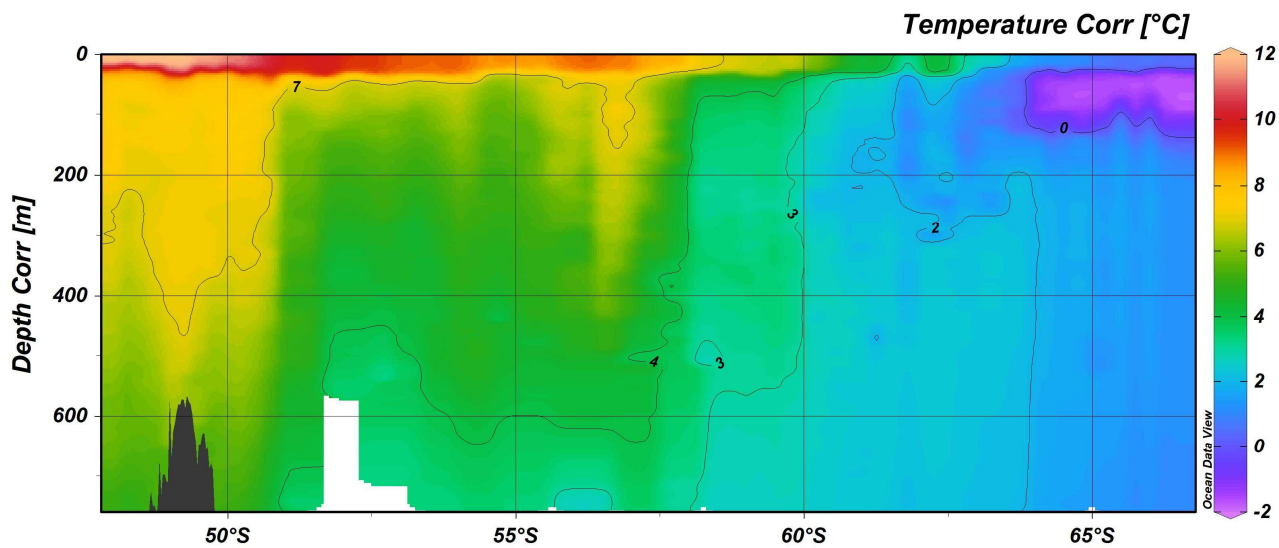
PNRAXVIII conducted from 06 January 2003 to 11 January 2003.



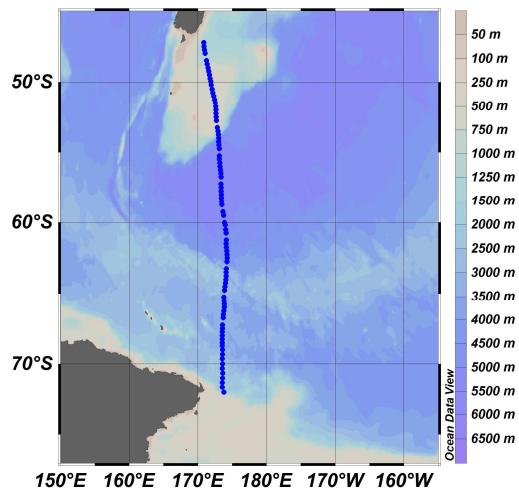
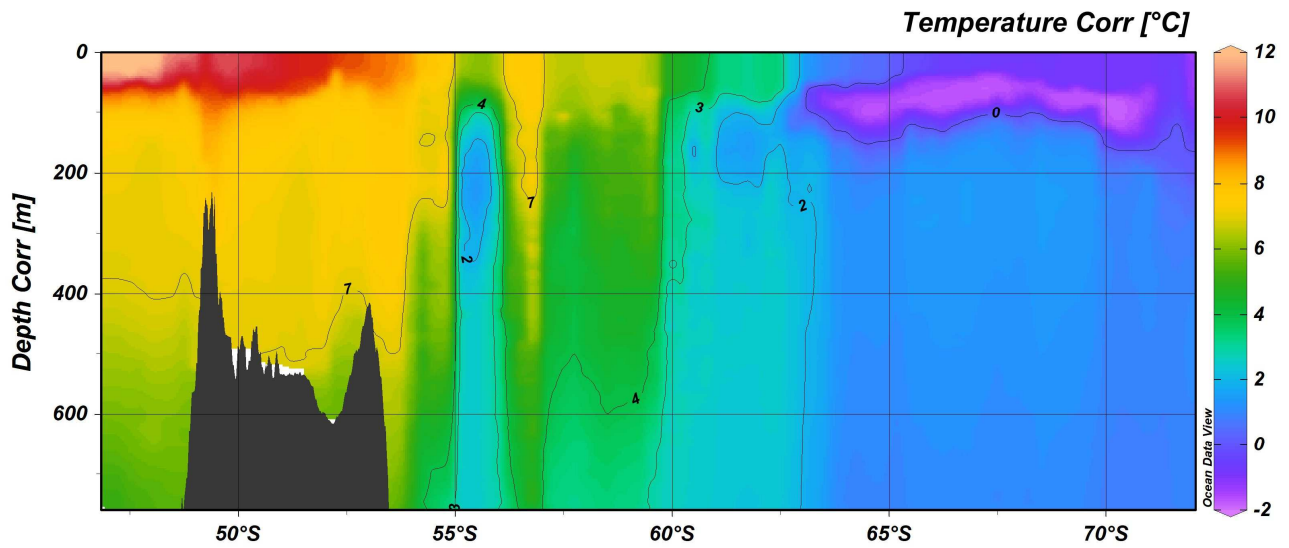
PNRAXIX conducted from 24 December 2003 to 28 December 2003.



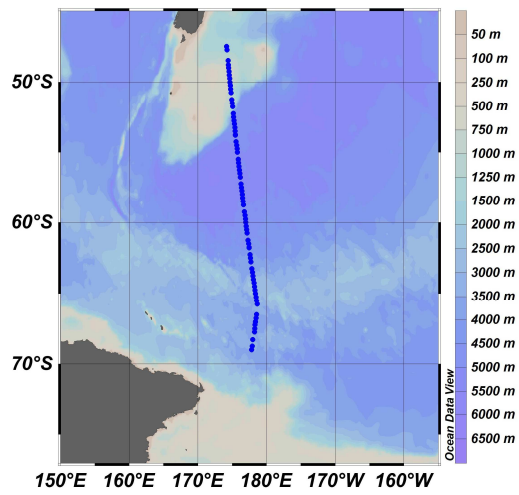
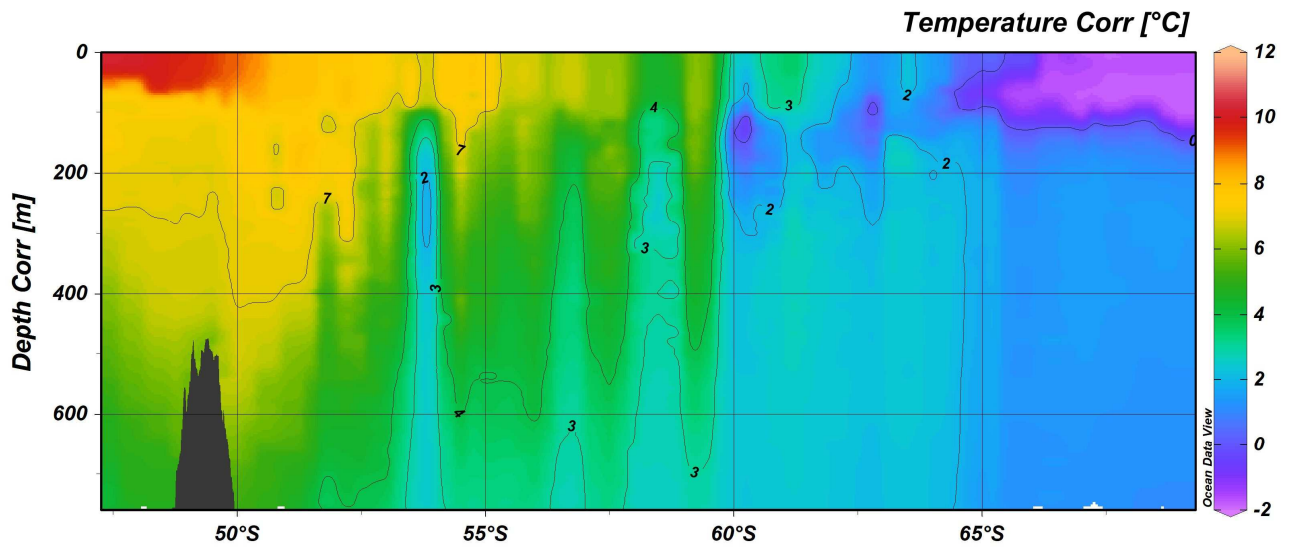
PNRAXX conducted from 01 January 2005 to 06 January 2005.



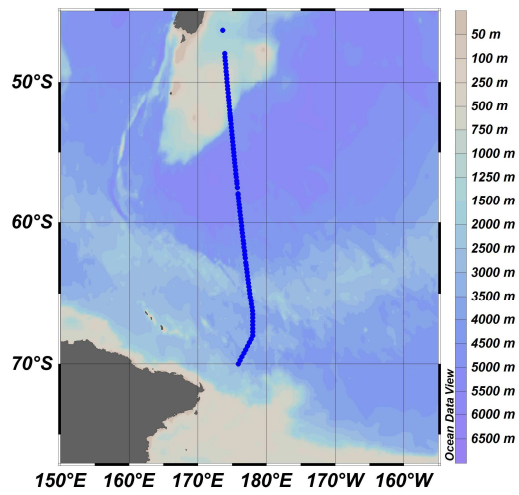
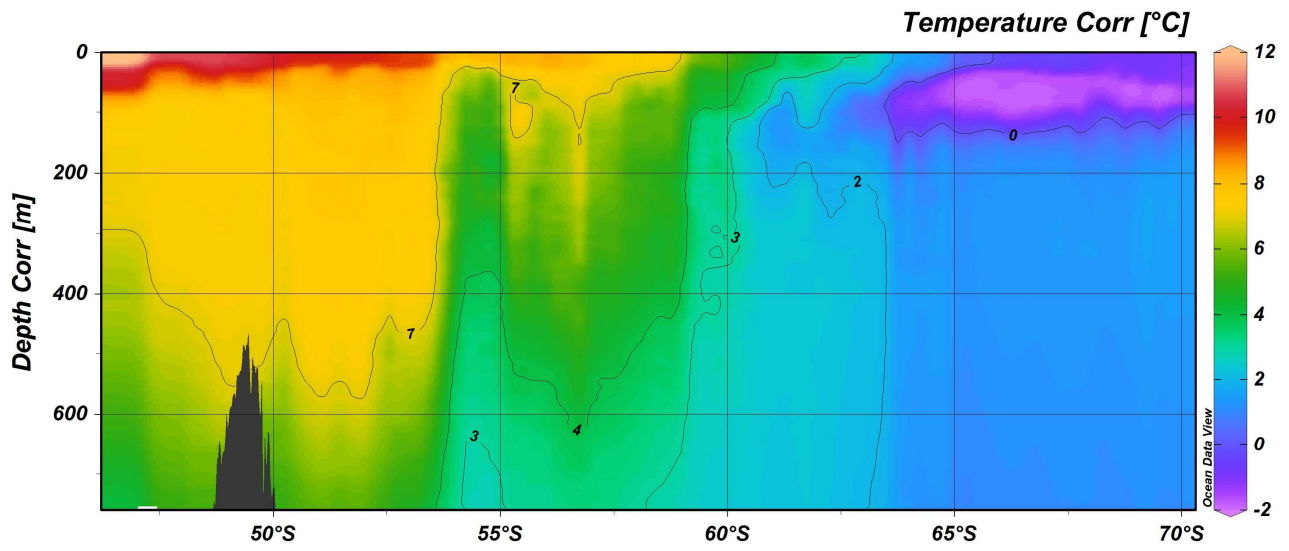
PNRAXXI conducted from 01 January 2006 to 04 January 2006.



PNRAXXII conducted from 05 February 2007 to 10 February 2007.

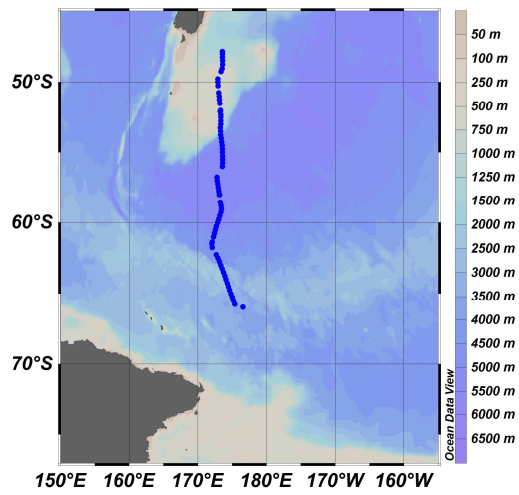
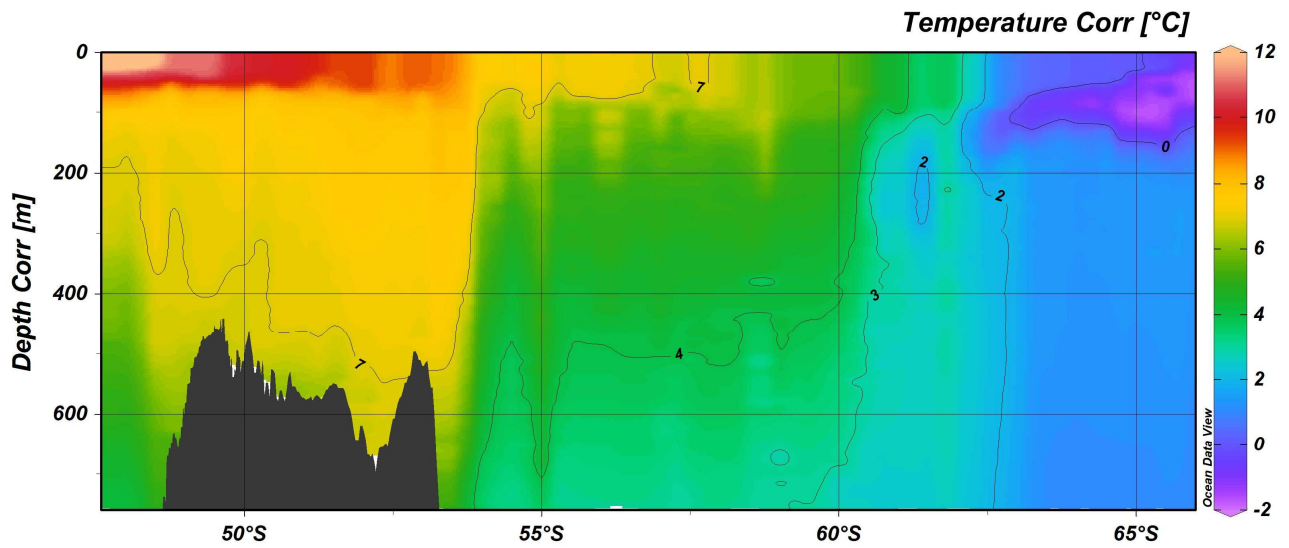


PNRAXXIII conducted from 16 January 2008 to 21 January 2008.

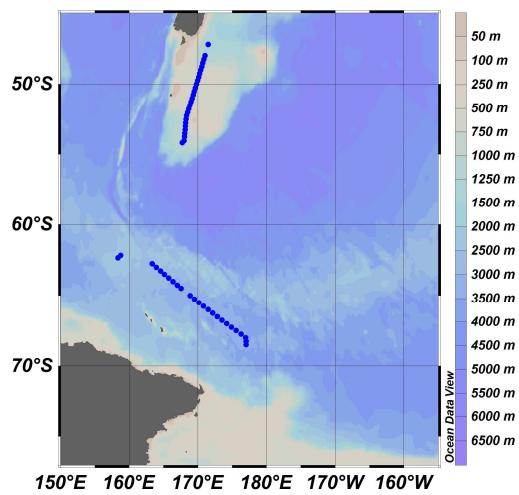
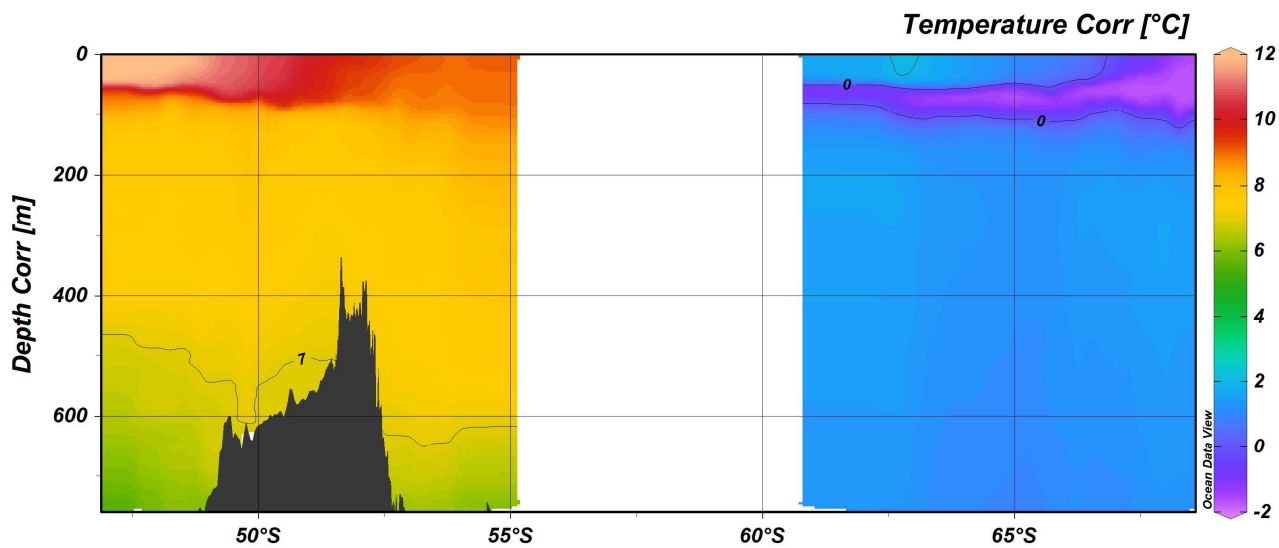


PNRAXXV conducted from 25 January 2010 to 29 January 2010.

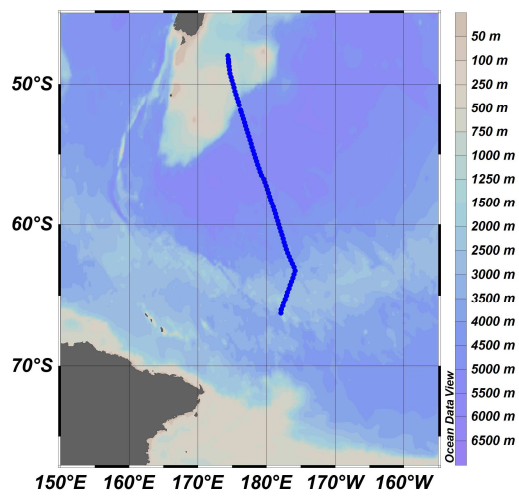
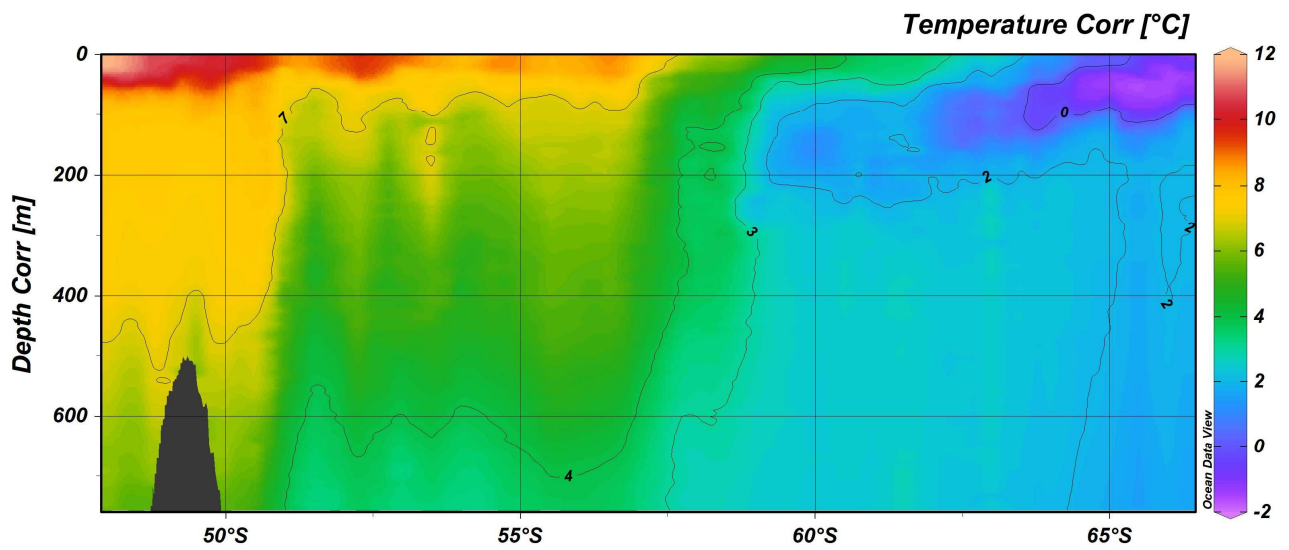




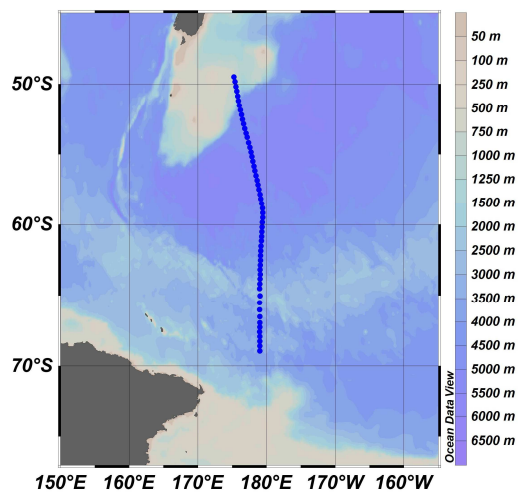
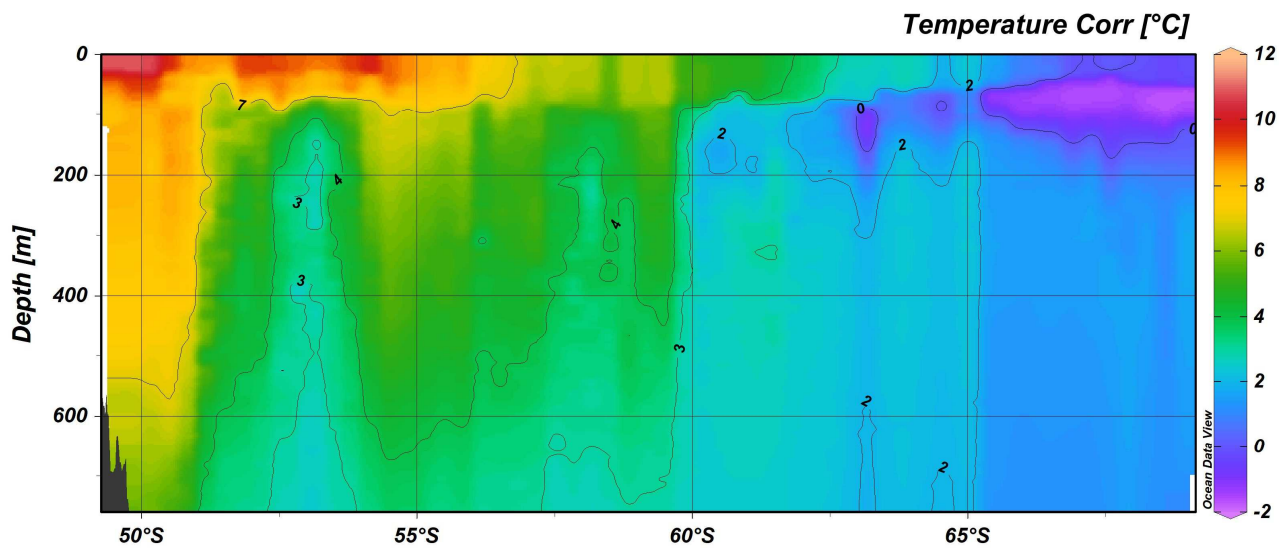
PNRAXXVII conducted from 13 January 2012 to 19 January 2012.



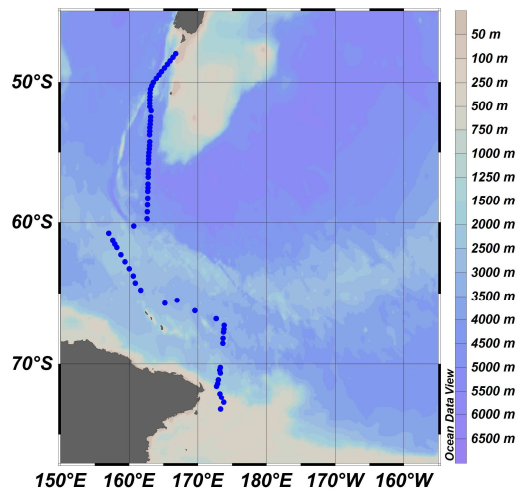
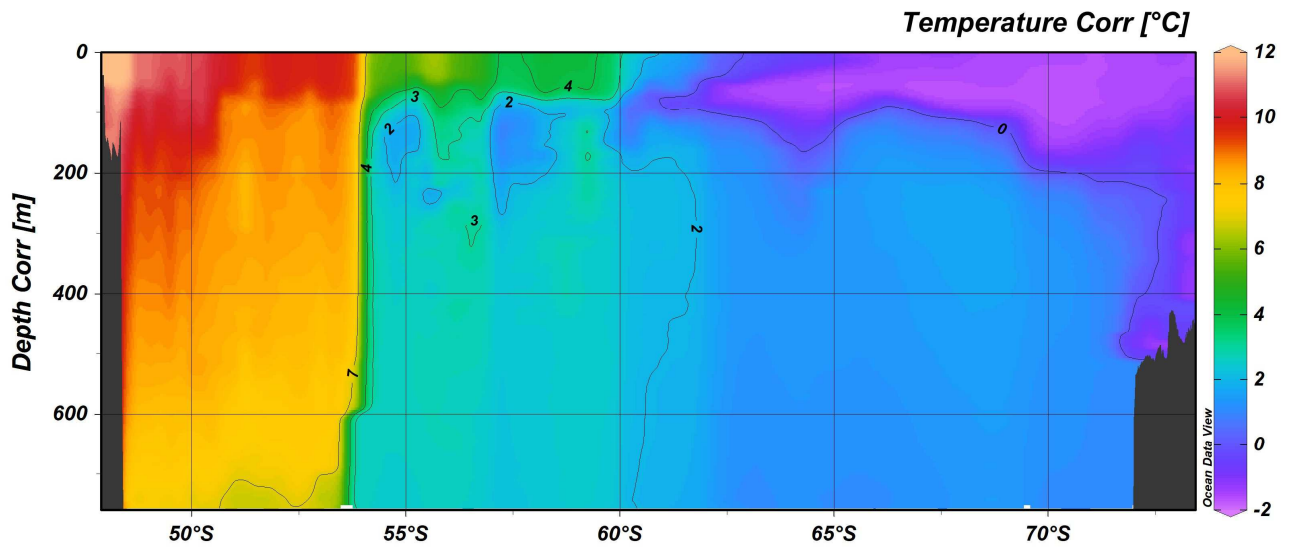
PNRAXXVIII conducted from 24 January 2013 to 06 February 2013.



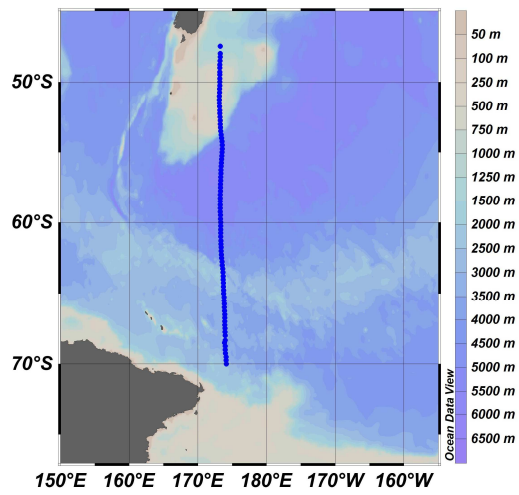
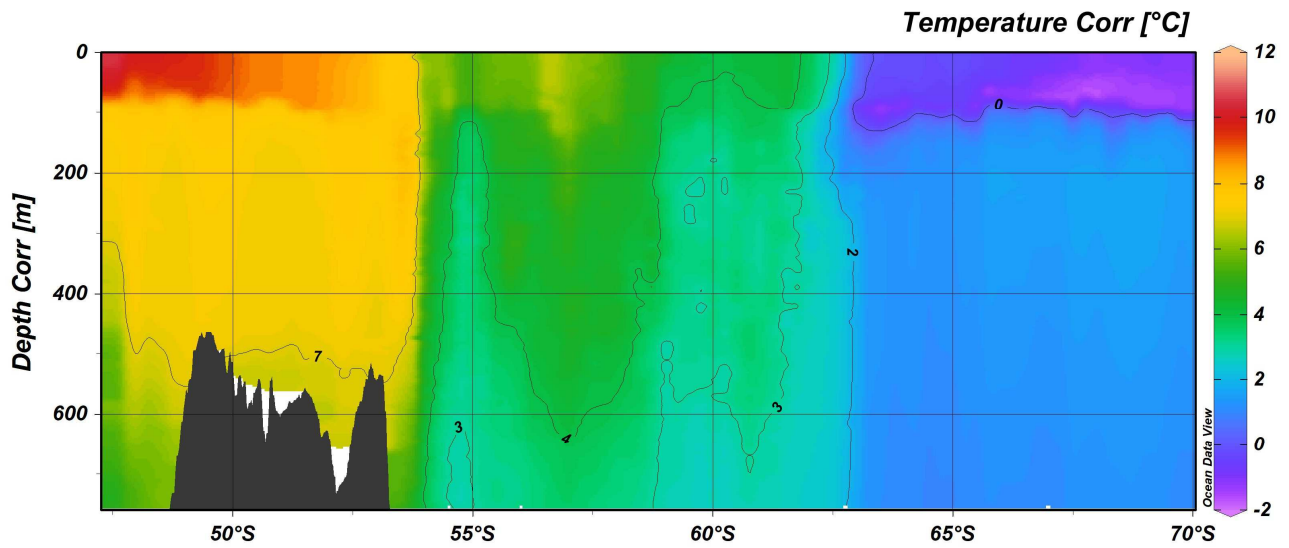
PNRAXXIX first leg conducted from 30 December 2013 to 03 January 2014.



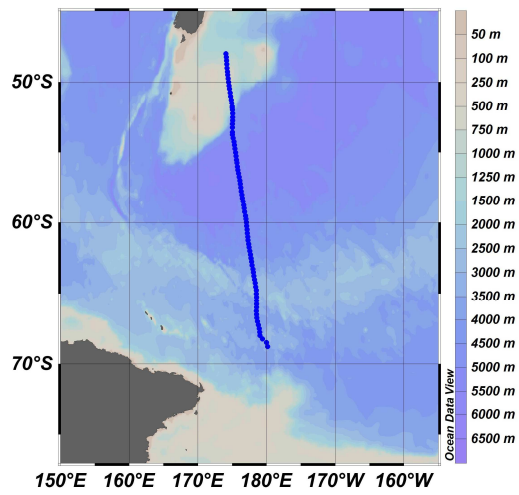
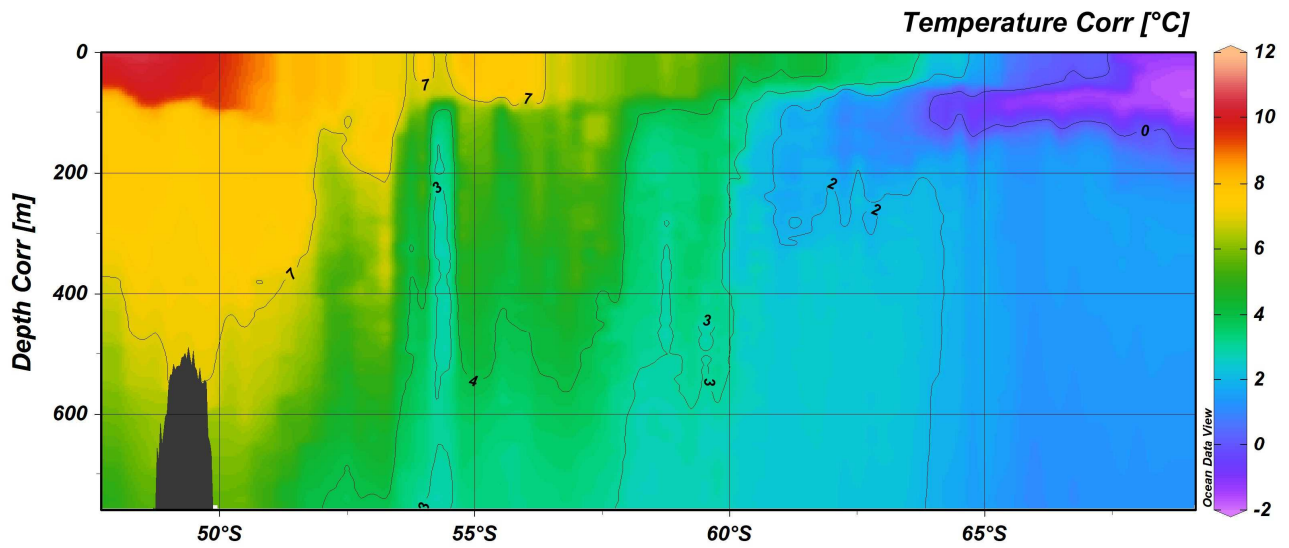
PNRAXXIX second leg conducted from 14 February 2014 to 18 February 2014.



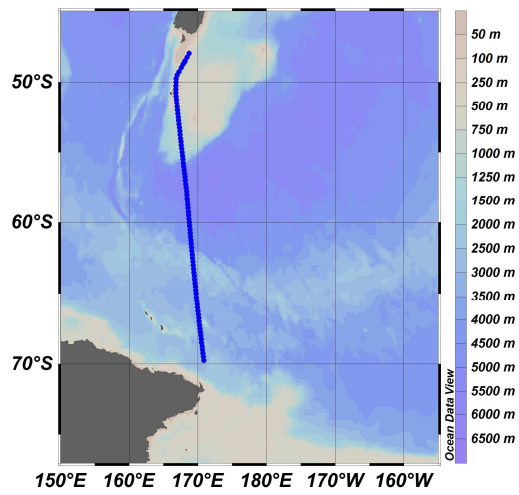
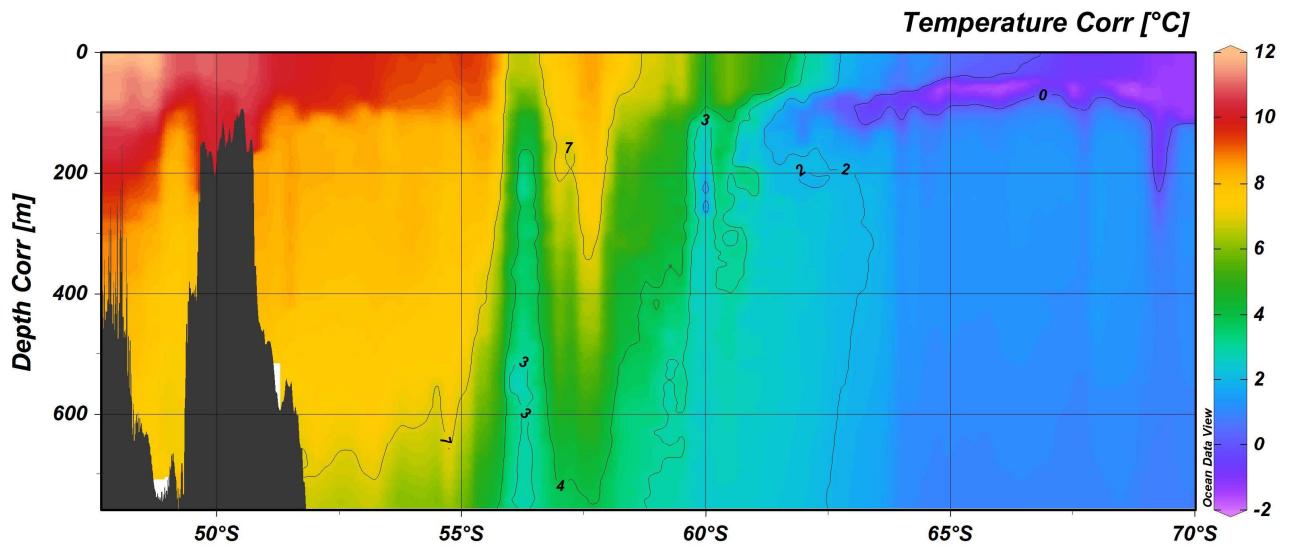
PNRAXXX conducted from 02 January 2015 to 07 January 2015.



PNRAXXI conducted from 16 January 2016 to 21 January 2016.

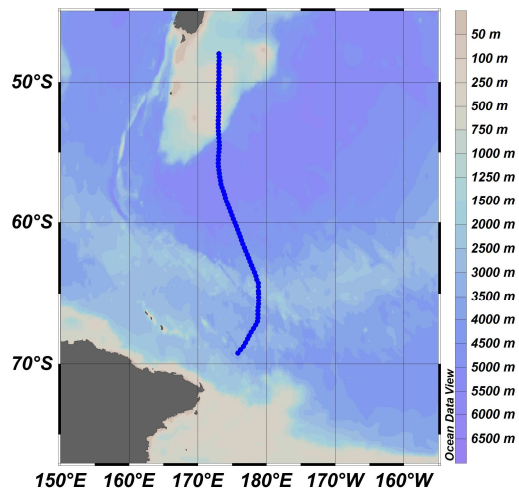
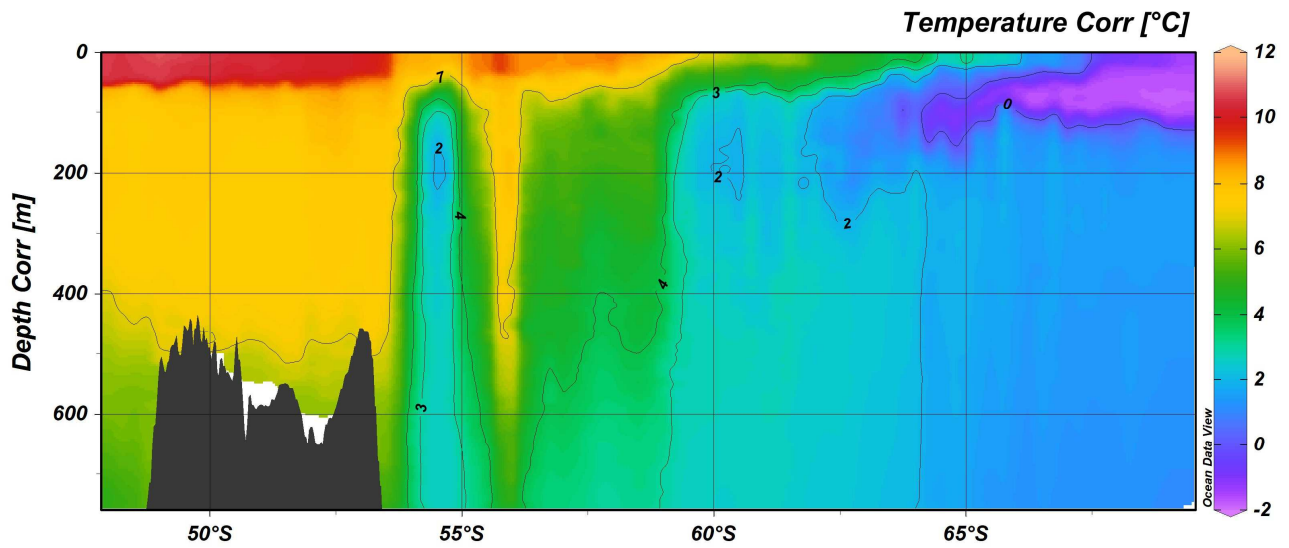


PNRAXXXII conducted from 31 December 2016 to 05 January 2017.

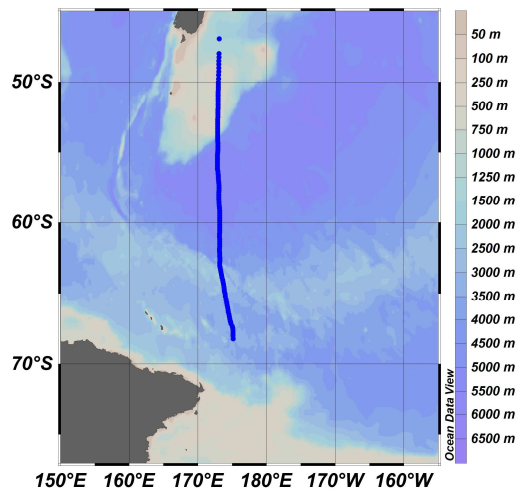
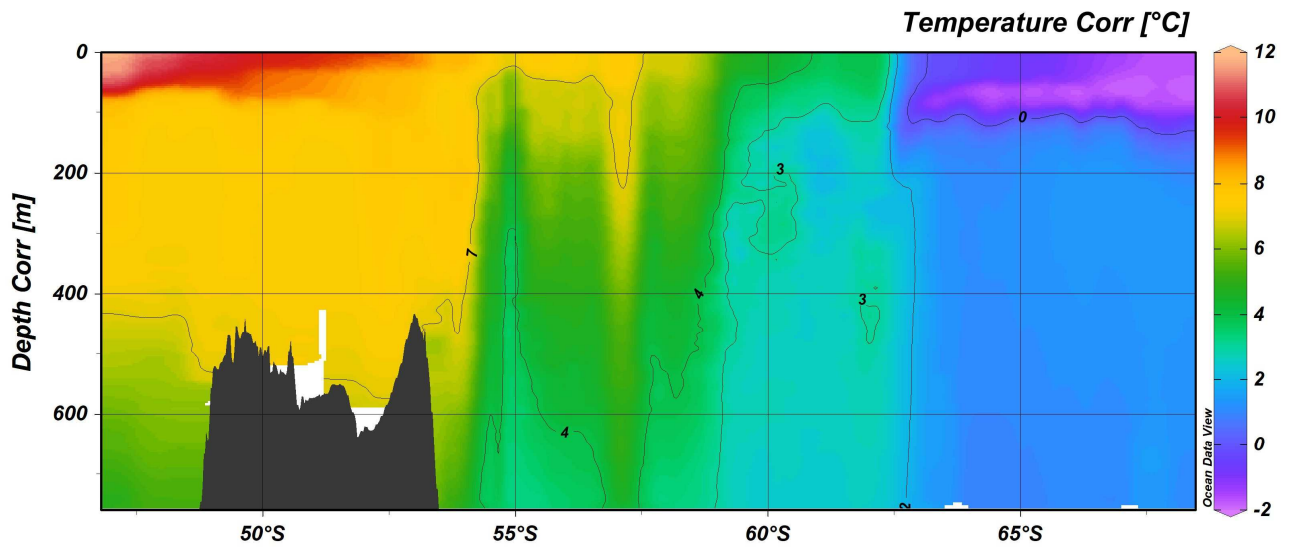


PNRAXXIV conducted from 08 February 2019 to 12 February 2019.

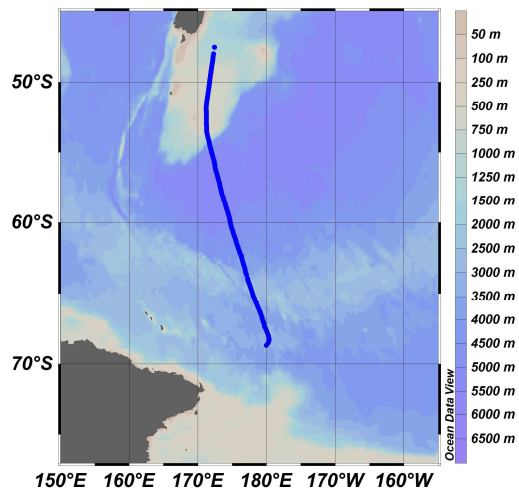
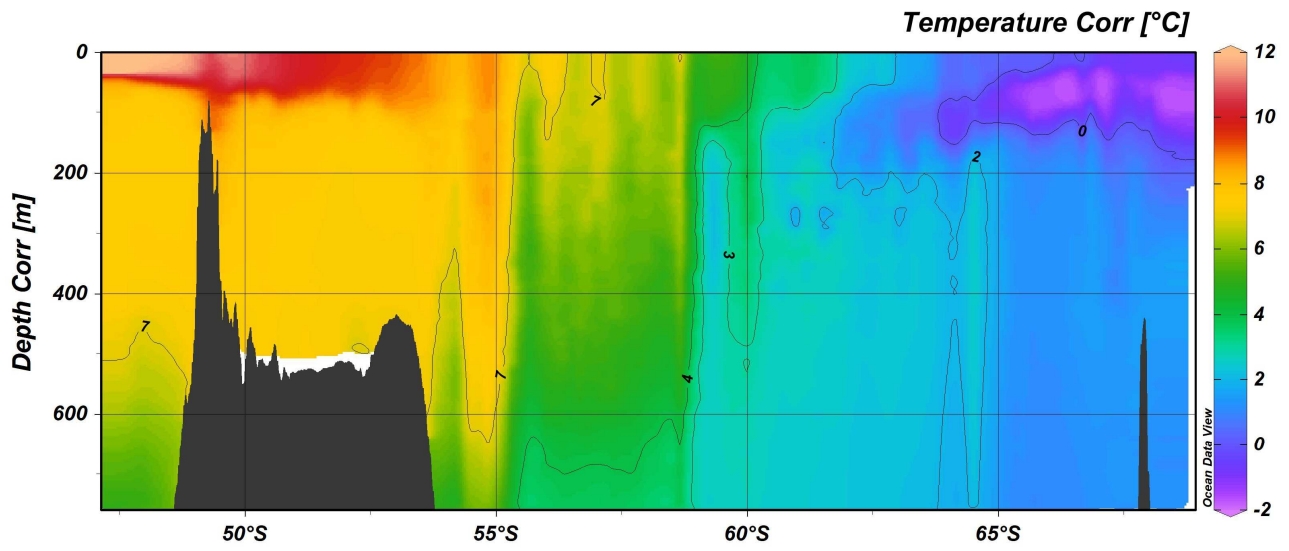




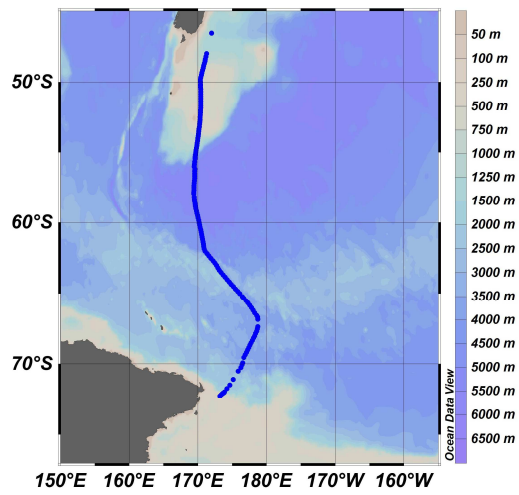
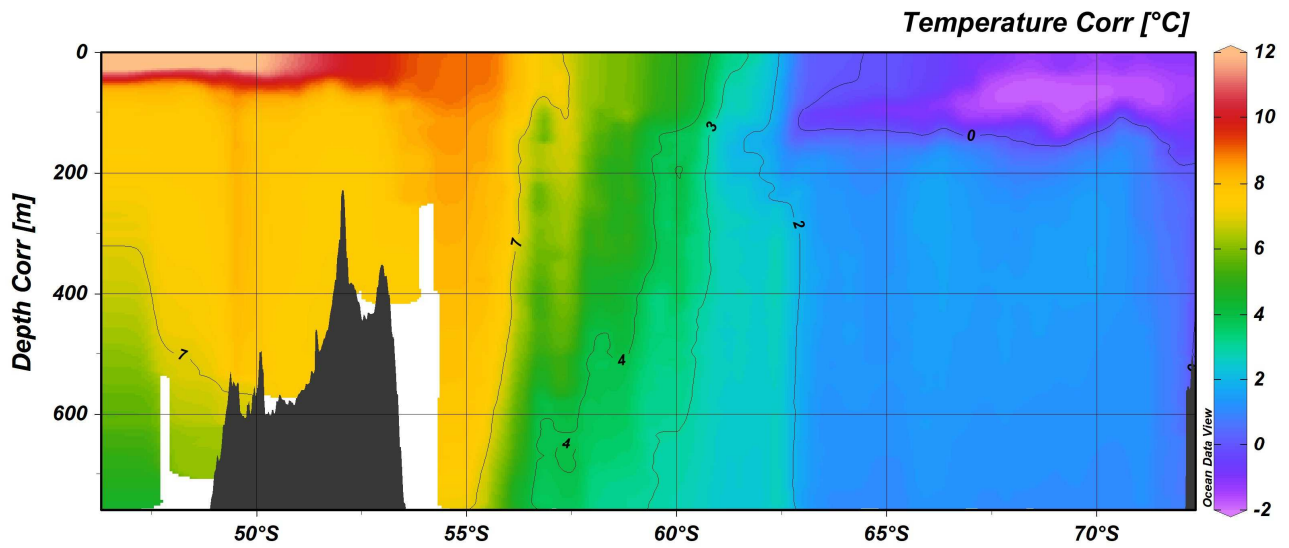
PNRAXXXV conducted from 07 January 2020 to 12 January 2020.



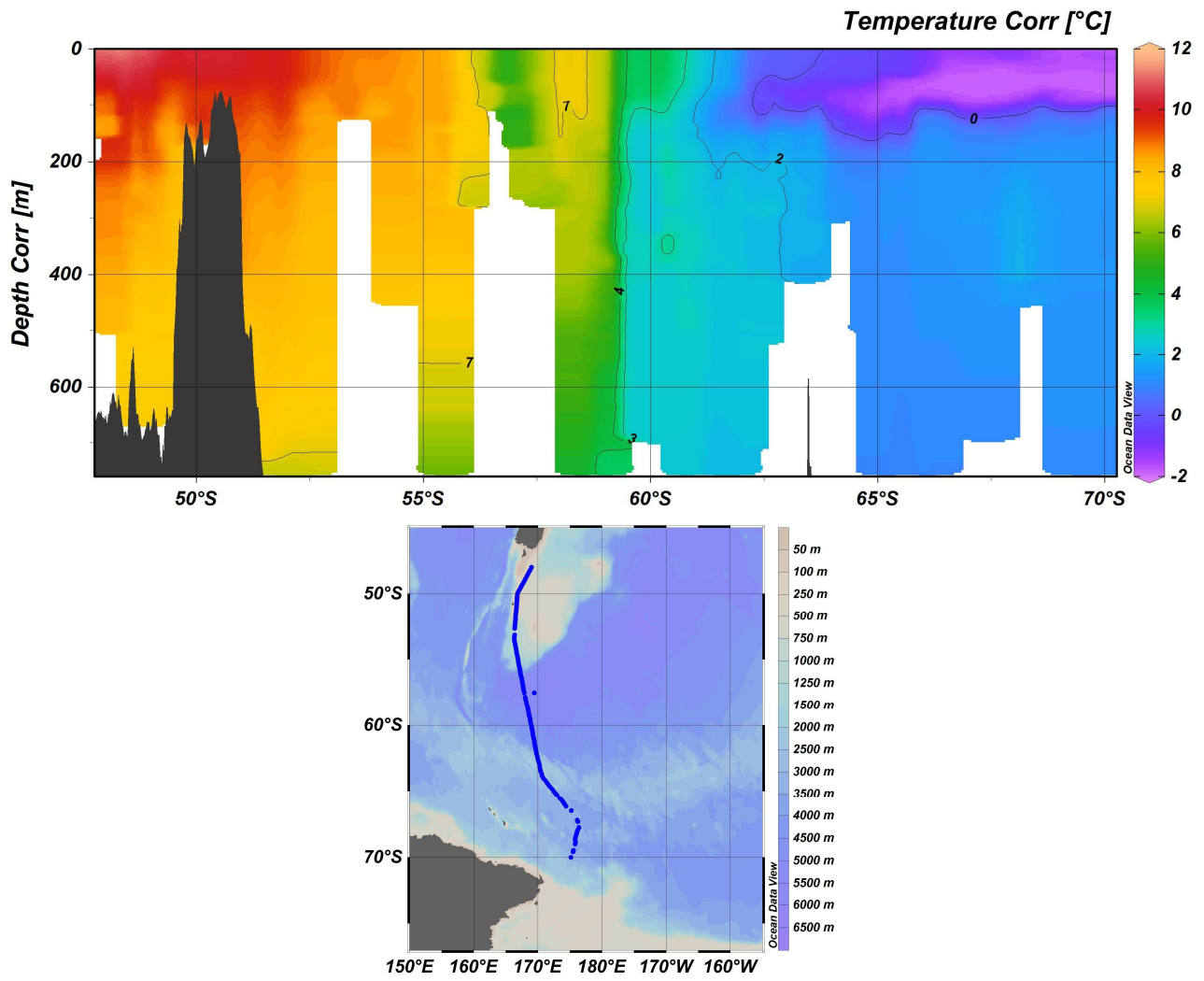
PNRAXXXVI conducted from 25 December 2020 to 02 January 2021.



PNRAXXVII conducted from 08 January 2022 to 13 January 2022.



PNRAXXVIII conducted from 06 January 2023 to 12 January 2023.



PNRAXXXIX conducted from 07 January 2024 to 12 January 2024.