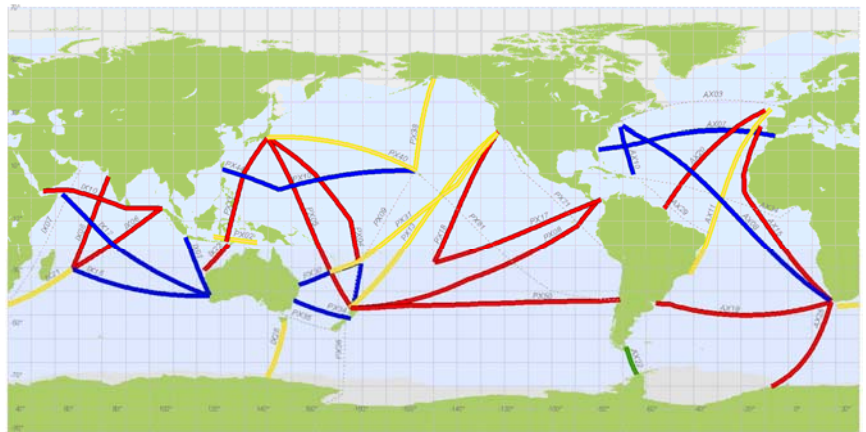
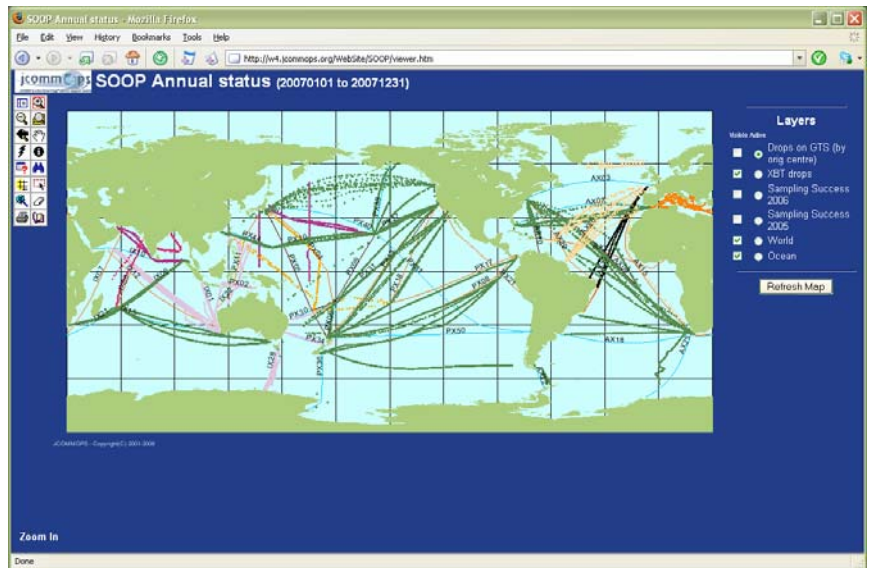


SOOP Annual Report

January to December 2007



SOOP Annual Report. January - December 2007
 UOT Review lines only — Well Sampled (11) — Oversampled (1) — 50% Sampled (8) — Undersampled (15) — Not Sampled (10)



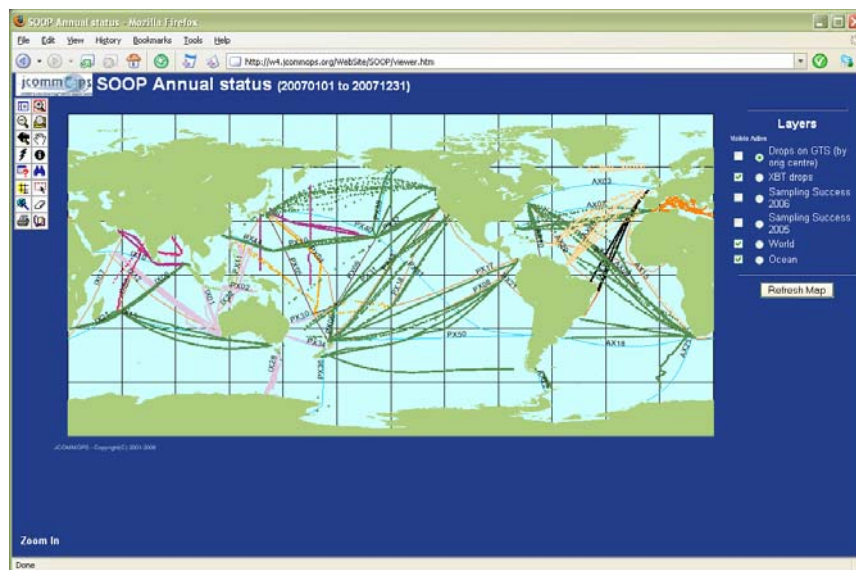
This report is based upon input provided by Ship of Opportunity Programme (SOOP) operators.

Information about SOOP Sampling can be found on the following web pages:

- http://www.jcommops.org/soop/soop_report.html
(web page dedicated to the SOOP Annual Report)
- <http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators>
(Charts and tables of sampling for the SOOP Programs and Lines, including computation of Space vs. Time 2D tables for each line)
- <http://wo.jcommops.org/cgi-bin/WebObjects/JCOMMOPS.woa/wa/soopLine>
(definition of SOOP lines)

View SOOP maps with the following tools:

- <http://wo.jcommops.org/cgi-bin/WebObjects/JCOMMOPS.woa/wa/map?prog=SOOP>
(static maps from JCOMMOPS database)
- <http://w4.jcommops.org/WebSite/SOOP>
(annual interactive map)



- <http://w4.jcommops.org/WebSite/SOOPM>
(monthly interactive, dynamic map for GTS data)
- <http://www.jcommops.org/FTPRoot/SOT/SOOP/Maps>
(static maps in high resolution)

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PX52	Japan – Fiji (LDX)	30
PX53	Taiwan/Mindanao – Fiji (LDX)	30
PX81	Honolulu - Coronel (Chile) (HDX, Thermal review HDX)	30
PX83	Melbourne – Auckland (LDX)	30
XX01	No specific line assigned	30

1) Summary

This report is based upon input provided by SOOP operators.

During the period January to December 2007, 18108 drops were committed to SOOP by the participants (other drops for which information was not provided to the SOOP Coordinator are not counted here). The number of probes committed to the programme is lower than the same period last year (i.e. about 18285 probes for January-December 2006).

Of those, 14251 were assigned to Upper Ocean Thermal (UOT) review lines (figure 7). Based on UOT recommended lines and proposed sampling, it is estimated that about 25500 probes are required per year in order to sample all UOT lines properly. 2771 Argo floats were operational on 31 December 2007 for a target of 3000 floats.

This review ignores national requirements, which sometimes lead to over sampling of certain lines when compared to global SOOP requirements. Considering that the Argo is now fully implemented, the UOT goals should be reviewed.

For a total of 45 FRX and HDX UOT lines (some of them operated in both modes) we had the following summarised results for the period (which represent a slight improvement on 2005):

- Well Sampled: 11
- Oversampled: 1
- 50% Sampled: 8
- Undersampled: 15
- Not Sampled: 10

Description of Figures and Tables:

Figure 1 shows JAF00S density maps corresponding to analysis error for 150m depth-average temperature (plus normalized and observation analysis error) for December 2007. It takes into account different observing systems such as TAO, Argo, and SOOP.

Figure 2 shows MEDS density map for January to December 2007 (number of months with required observations in each box) for profile temperature data.

Figure 3 shows all observations reporting profile data onto the GTS during December 2007, including buoys, profiling floats, and XBTs.

Figures 1, 2, and 3 provide information on the broadcast mode. It appears that (i) SOOPIP helped in achieving relatively good coverage globally although this is not the aim of SOOP considering that 90% of the Argo array is implemented, and (ii) SOOPIP can potentially enhance the situation in the Southern Ocean where there is still a lack of data. A review of the UOT goals may highlight this fact.

Figure 4 shows SOOP status by country for the period January to December 2007. As of 2007, efforts remain to be made in the Indian Ocean (all except IX01, IX12 &

IX15) and on lines AX03, AX15, AX18, AX20, AX25, AX29, AX34, PX04, PX05, PX09, PX11, PX17, PX18, PX21, PX35, PX36, PX50, PX81 where little or no sampling was made over the whole year, which is a similar pattern to the year before. This highlights the need to reassess sampling requirements realistically against the resources available. This will be a challenge for SOOP and the wider Oceanographic and Climate communities in 2008-2009.

Figure 5 shows all the XBT profiles that were distributed on GTS during the period January to December 2007. It includes profiles that were made available to the GTS but not necessarily to SOOP (or the SOOP coordinator for the purpose of this report).

Figure 6 shows position of all SOOP lines.

Figure 7 shows position of all SOOP UOT lines.

Figure 8 shows the distribution of XBT drops by Ocean Basin and SOOP operator.

Figure 9 shows the analysis performed based on this SOOP Annual Report for 2007 along each SOOP line – indicating if the line was **Well Sampled**, **Oversampled**, **50% sampled** or **Undersampled** (those lines not sampled appear as dashed grey lines).

Figure 10 shows the analysis performed based on this SOOP Annual Report for 2007 along each SOOP UOT Review line – indicating if the line was **Well Sampled**, **Oversampled**, **50% sampled** or **Undersampled** (those lines not sampled appear as dashed grey lines) based on Upper Ocean Thermal Review requirements.

Table 1 shows the number of drops made by SOOP operators in each ocean basin.

Table 2 shows SOOP lines that were sampled during the period January to December 2007, and the number of drops made by each operator.

Table 3 shows Comments for relative level of sampling of UOT lines during the period January to December 2007.

Table 4 shows Comments for all sampling of all lines during the period January to December 2007.

Figure 1: JAF00S density maps, December 2007.
(<http://www.bom.gov.au/bmrc/ocean/JAFOOS/UOT.html>)

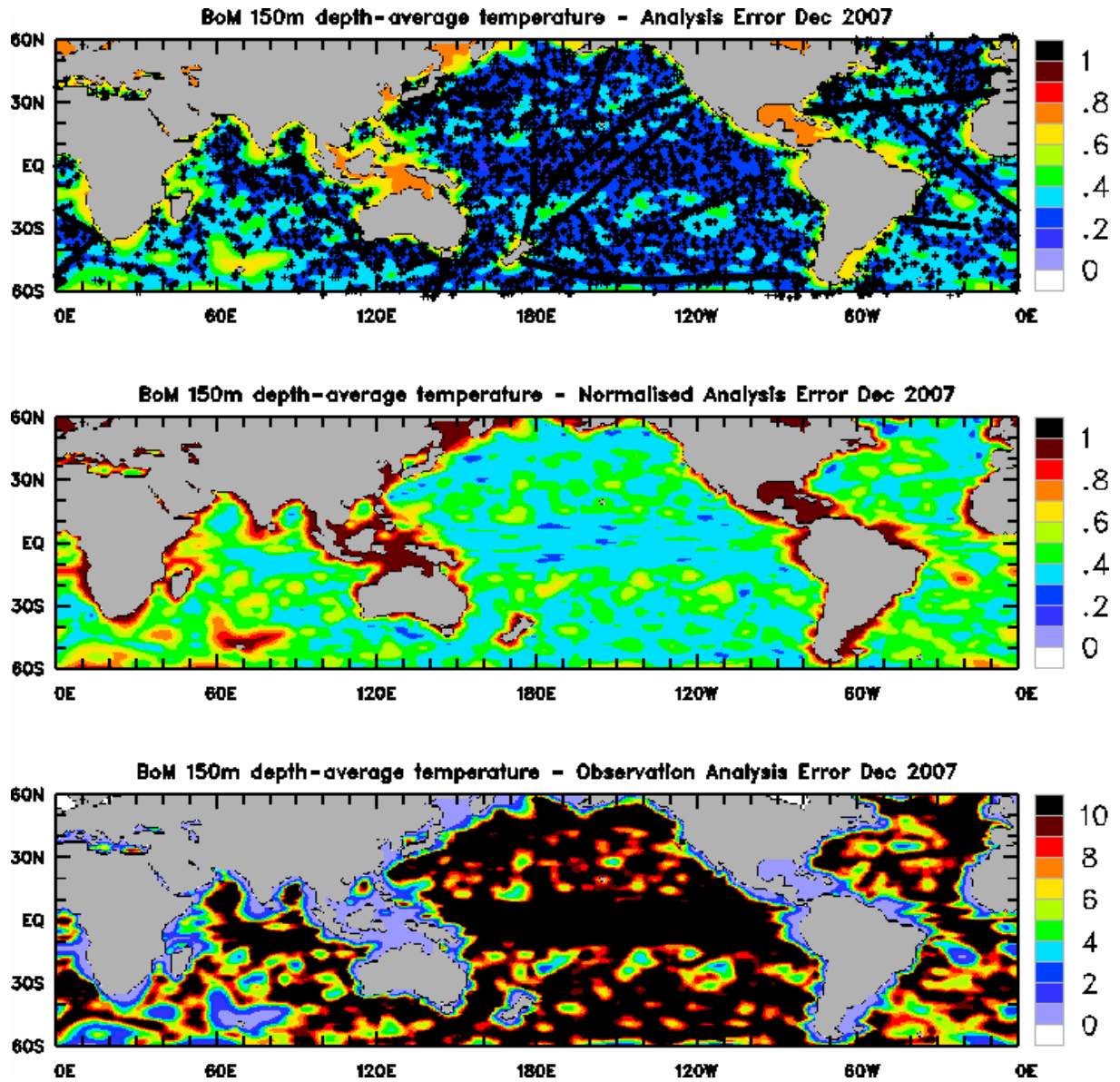


Figure 2: MEDS density map, January – December 2007.

(http://www.meds-sdmm.dfo-mpo.gc.ca/meds/Prog_Int/SOOPIP/SOOPIP_e.htm)

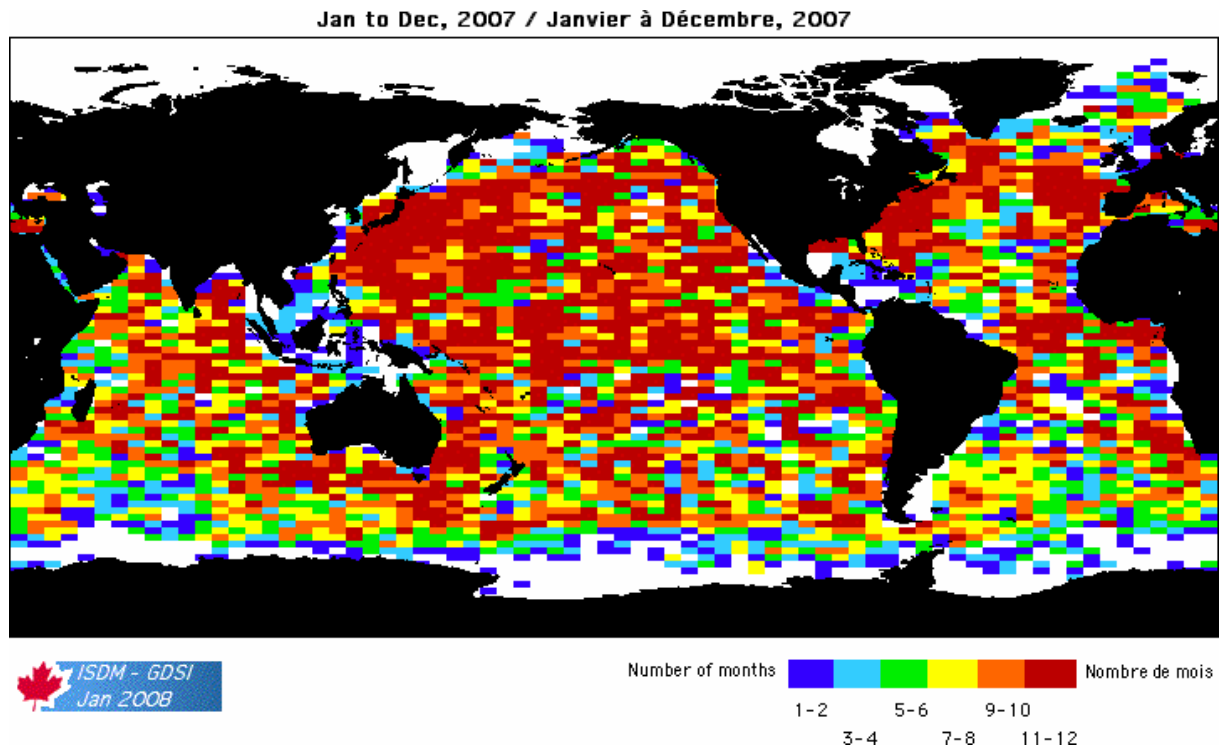


Figure 3: Main in-situ observing systems providing temperature profiles in December 2007.

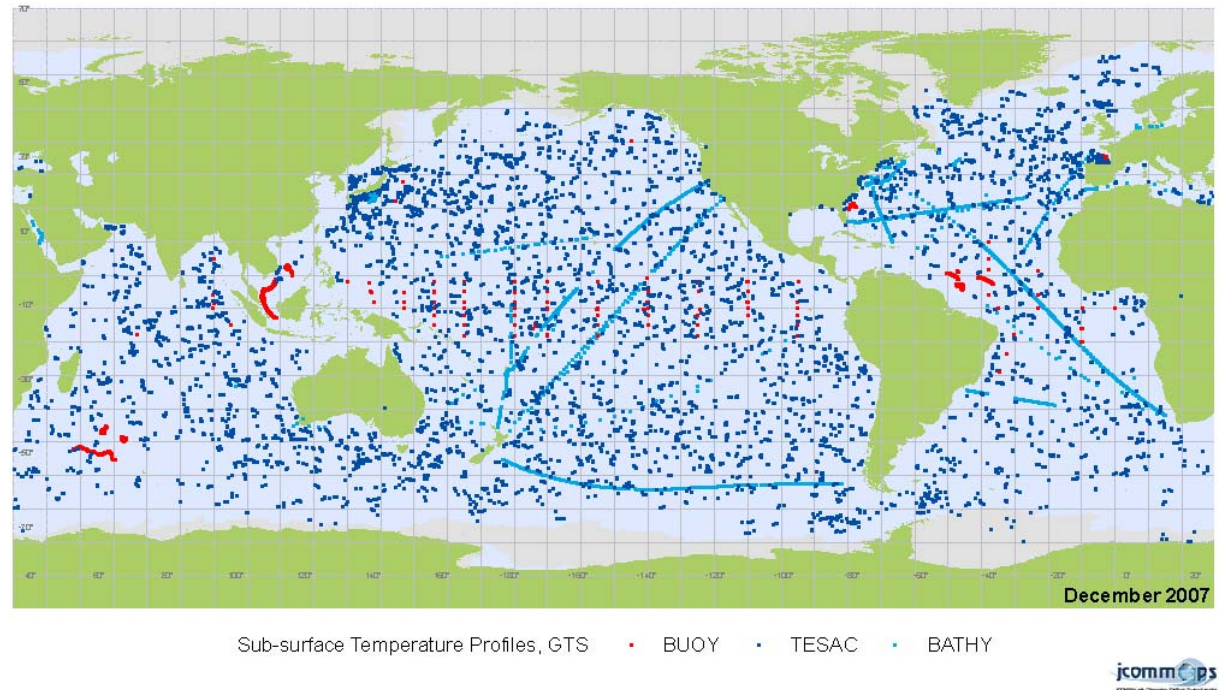


Figure 4: XBT drops by country for the period January to December 2007.

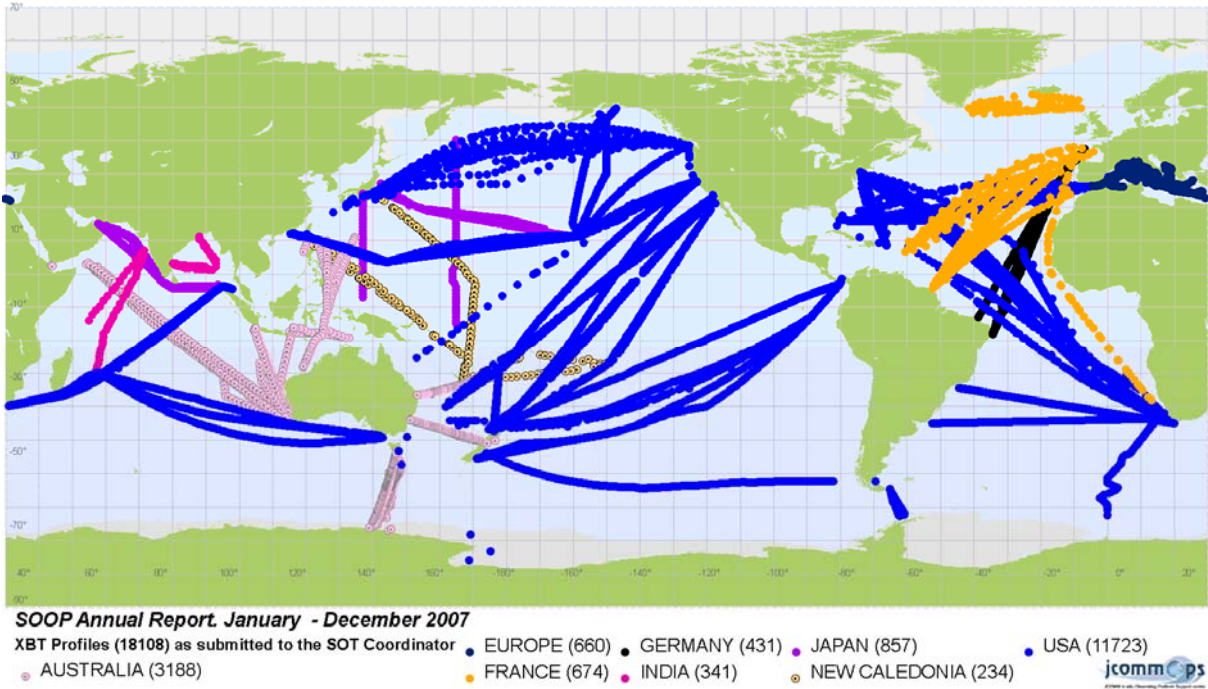


Figure 5: XBT reports distributed on GTS during January to December 2007 (by originating centre)

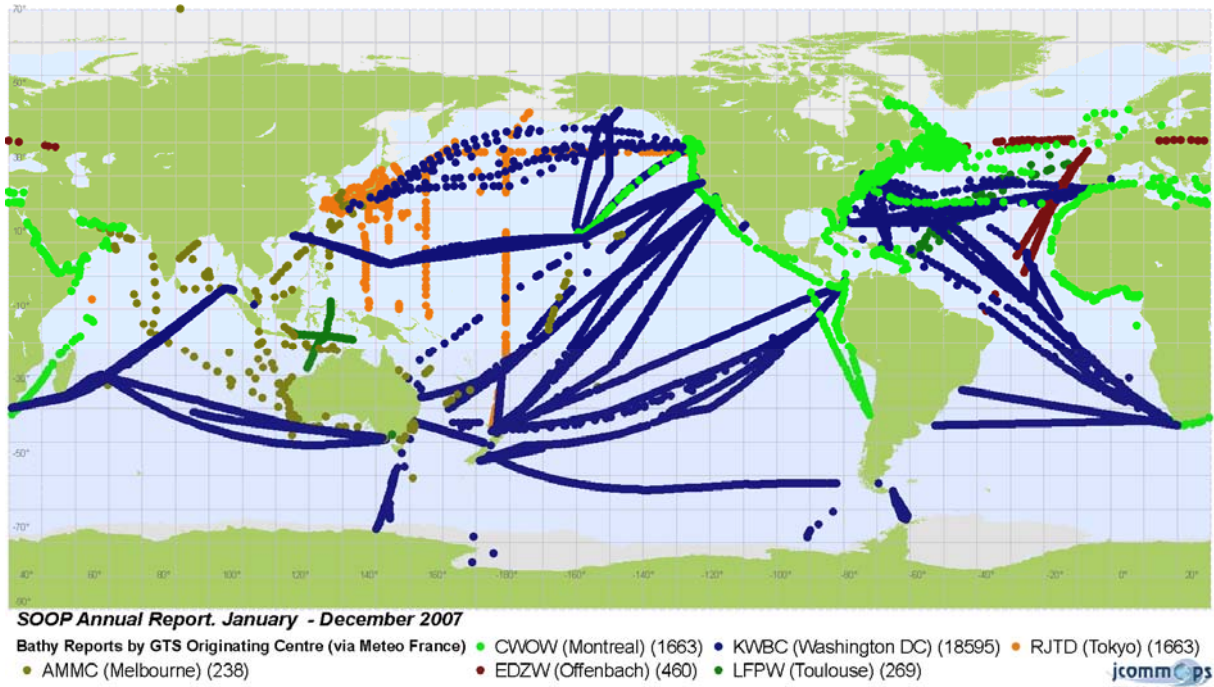


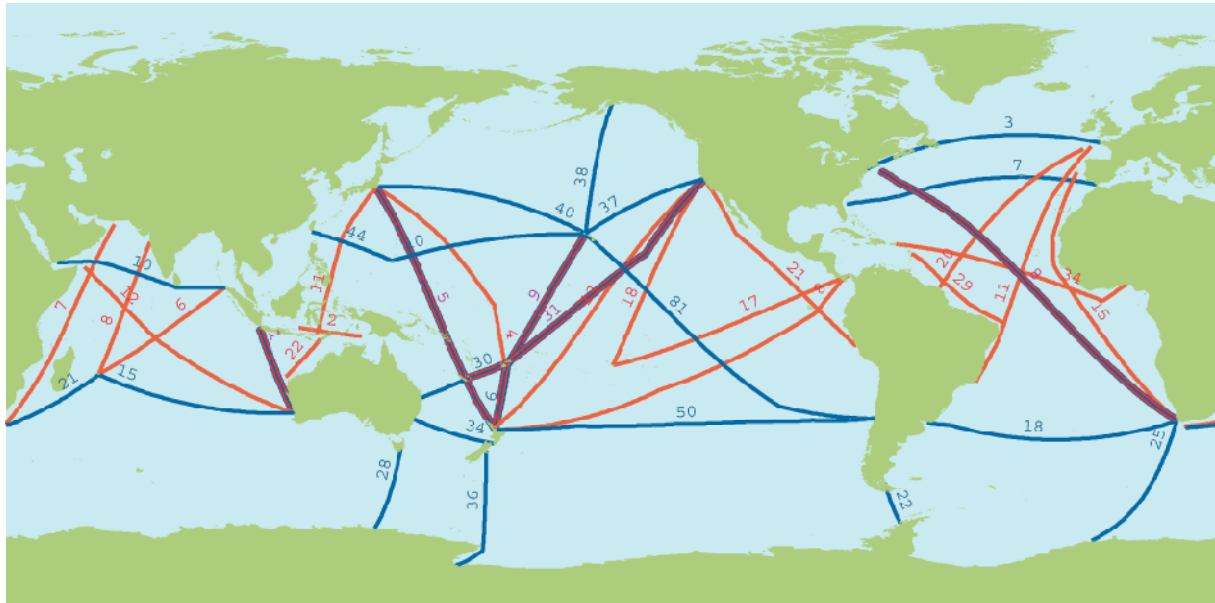
Figure 6: SOOP lines



Ship Of Opportunity Programme (SOOP) lines

- High density lines (HDX)
- Frequently Repeated lines (FRX)
- Low density lines (LDX)

Figure 7: Upper Ocean Thermal Review lines



Upper Ocean Thermal Review SOOP lines



Figure 8: Total number of drops during the period by SOOP operator and ocean basin.

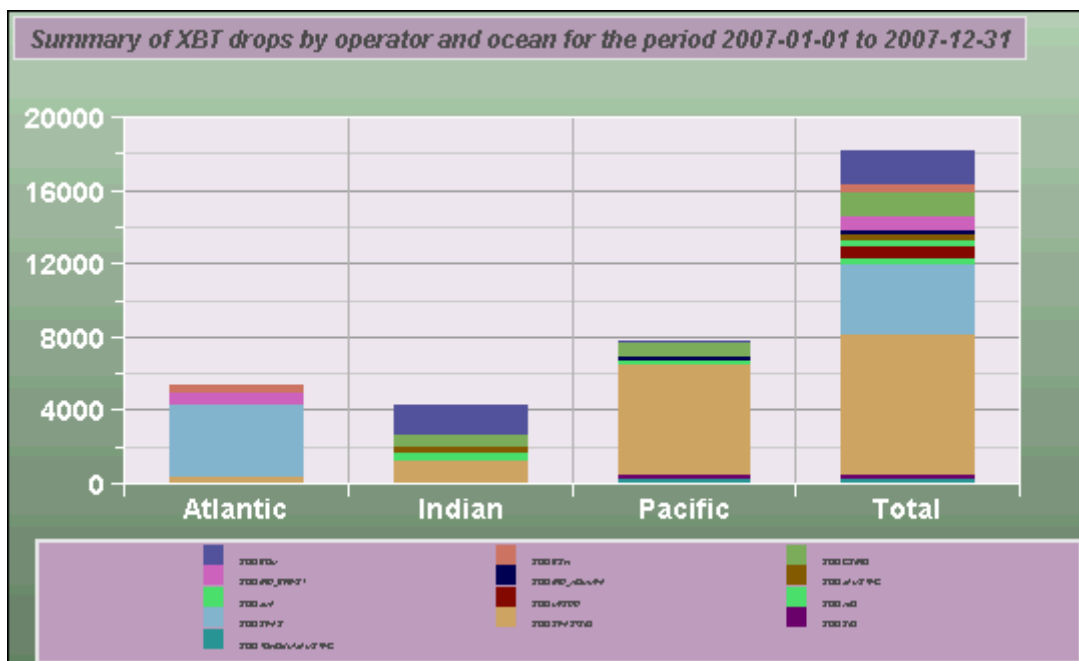
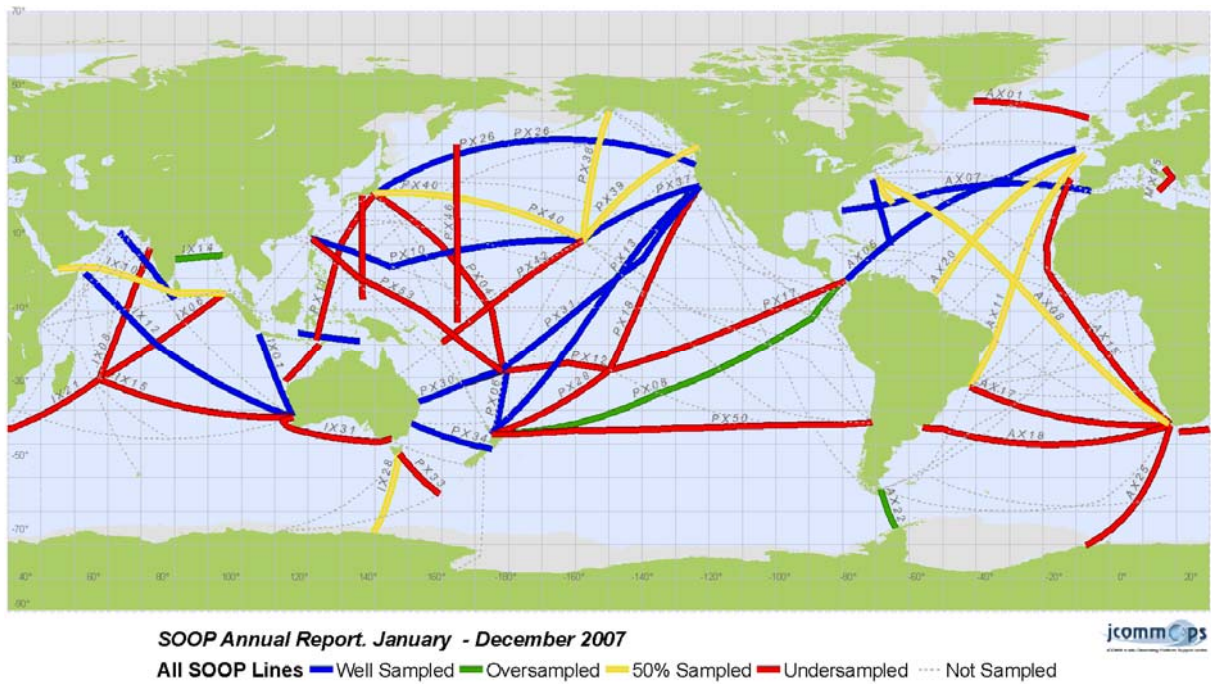
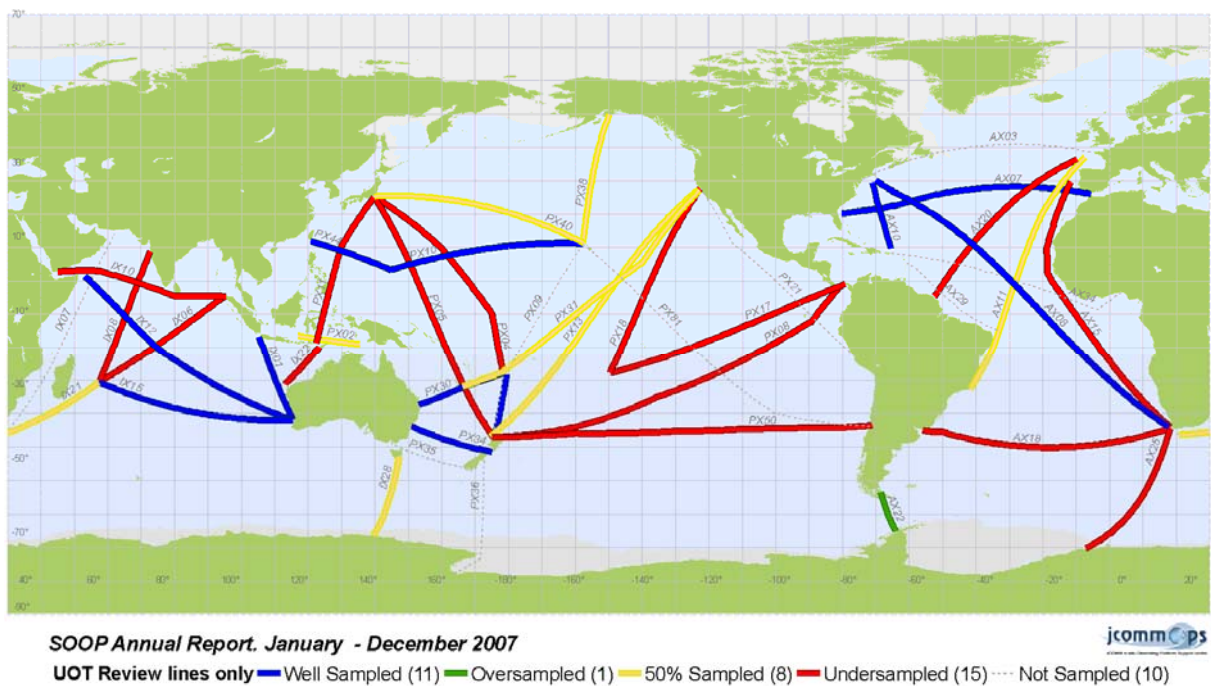


Figure 9. Results of analysis (comments) for January to December 2007 along all SOOP Lines



See: <http://www.jcommops.org/FTPRoot/SOT/SOOP/Maps/2007-SOOP-COMMENT.png>

Figure 10. Results of analysis (comments) for January to December 2007 along only UOT Review SOOP Lines



See: <http://www.jcommops.org/FTPRoot/SOT/SOOP/Maps/2007-SOOP-COMMENT-UOT.png>

Table 1: Total number of drops during the period January to December 2007 by SOOP operator and ocean basin.

Total number of drops during the period by SOOP operator and ocean basin.

	Atlantic	Indian	Pacific	Mediterranean	Global	Total
BOM		1665	117			1782
BSH	431					431
CSIRO		640	766			1406
IRD (Brest)	674					674
IRD (Nouméa)			234			234
JMA			245			245
JMA/JAMSTEC			406			406
MFSP/NOON				116	544	660
NIO		341				341
SEAS	3877					3877
SEAS/SIO	378	1251	6024			7653
SIO			193			193
TOHOKU-U/JAMSTEC			206			206
Total	5360	3897	8191	116	544	18108

Table 2: SOOP lines that were sampled during the period January to December 2007 and number of drops made by each operator.

Line	Type	Thermal Type	End points	Program	Drops	Transects
AX01	LDX	///	Greenland - Iceland - Ireland/Scotland/Denmark	SOO IRD_BREST	72	6
AX05	LDX	///	Europe - Panama Canal	SOO IRD_BREST	281	24
AX07	HDX	HDX	Florida Straits - Gibraltar	SOO SEAS	867	10
AX08	FRX	FHD	New York - Cape Town	SOO SEAS	1411	12
AX10	HDX	FHD	New York - Puerto Rico	SOO SEAS	751	42
AX11	FRX	FRX	Europe - Brazil	SOO BSH	431	9
AX15	FRX	FRX	Europe - Cape of Good Hope	SOO IRD_BREST	77	6
AX17	LDX	///	Rio de Janeiro - Cape of Good Hope	SOO SEAS	351	2
AX18	LDX	HDX	Buenos Aires - Cape of Good hope	SOO SEAS	171	1
AX20	LDX	FRX	Europe - French Guyana	SOO IRD_BREST	244	10
AX22	HDX	HDX	Drake Passage	SOO SEAS	46	2
AX22	HDX	HDX	Drake Passage	SOO SEAS/SIO	378	6
AX25	LDX	HDX	Cape of Good Hope - Antarctica	SOO SEAS	125	1
AX32	LDX	///	New York - Bermuda	SOO SEAS	155	13
IX01	FRX	FHD	Fremantle - Sunda Straits	SOO BOM	504	23
IX06	FRX	FRX	Mauritius/La Réunion - Malacca Strait	SOO SEAS/SIO	233	3
IX08	LDX	FRX	Mauritius - Bombay	SOO NIO	53	2
IX09N	FRX	///	Sri Lanka - Persian Gulf (IX09 North)	SOO JAMSTEC	228	16
IX10	LDX	HDX	Red Sea - Malacca Strait/Singapore	SOO JAMSTEC	178	17
IX12	FRX	FRX	Fremantle - Red Sea	SOO BOM	810	13
IX14	LDX	///	Bay of Bengal	SOO NIO	288	25
IX15	LDX	HDX	Mauritius - Fremantle	SOO SEAS/SIO	416	4
IX21	LDX	HDX	Cape of Good Hope - Mauritius	SOO SEAS/SIO	369	7
IX22	FRX	FRX	Shark Bay - Timor Strait/Banda Sea	SOO BOM	351	8
IX28	HDX	HDX	Hobart, Tasmania - Dumont d'Urville	SOO CSIRO	640	10
IX31	LDX	///	Melbourne - Point Leeuwin (Australia)	SOO SEAS/SIO	233	3
MX01	HDX	///	Haifa-Gibraltar	SOO MFSP	22	1
MX05	HDX	///	Ploce-Malta	SOO MFSP	94	4
PX02	LDX	FRX	Flores Sea - Torres Strait	SOO BOM	117	7
PX04	FRX	FRX	Japan - Kiribati - Fiji/Samoa	SOO IRD_NOUMEA	112	3
PX06	HDX	HDX	Suva, Fiji - Auckland, New Zealand	SOO SEAS/SIO	219	4
PX08	LDX	FRX	Auckland, New Zealand - Panama	SOO SEAS/SIO	1160	11
PX10	HDX	HDX	Hawaii - Guam/Saipan	SOO SEAS/SIO	876	18
PX12	LDX	///	Tahiti - Nouméa	SOO IRD_NOUMEA	45	3
PX13	LDX	FRX	New Zealand - California	SOO SEAS/SIO	744	11
PX18	FRX	FRX	Tahiti - California	SOO SEAS/SIO	170	6

PX26	TRANSPAC	///	TRANSPAC	SOO SEAS/SIO	452	16
PX28	LDX	///	Tahiti - Sydney/Auckland	SOO SEAS/SIO	116	6
PX30	HDX	HDX	Brisbane/Sydney - Noumea -Fiji	SOO CSIRO	492	4
PX31	LDX	FHD	Nouméa/Suva, Fiji - California	SOO SEAS/SIO	876	8
PX33	LDX	///	Hobart - Macquarie Island (is also IX30)	SOO SEAS/SIO	6	1
PX34	HDX	HDX	Sydney - Wellington	SOO CSIRO	274	4
PX37	HDX	HDX	Hawaii - California	SOO SEAS/SIO	512	19
PX38	HDX	HDX	Hawaii - Alaska	SOO SIO	193	2
PX39	LDX	///	Hawaii - Seattle/Vancouver	SOO SEAS/SIO	102	8
PX40	HDX	HDX	Hawaii - Japan	SOO TOHOKU/JAMSTEC	206	2
PX42	LDX	///	Hawaii - New Guinea/Solomon Islands	SOO SEAS/SIO	19	1
PX44	HDX	HDX	Guam - HongKong/Taiwan	SOO SEAS/SIO	523	17
PX45	LDX	///	(3N, 137E) - (34N,137E)	SOO JMA	155	4
PX46	LDX	///	(3S, 165E) - (50N, 165E)	SOO JMA	90	2
PX50	HDX	HDX	Valparaiso - Auckland	SOO SEAS/SIO	234	1
PX53	LDX	///	Taiwan/Mindanao - Fiji	SOO IRD_NOUMEA	77	3
PX83	LDX	///	Melbourne - Auckland	SOO SEAS/SIO	15	6
XX01	///	///	No specific line assigned	SOO MFSP	544	10
Total					18108	457

Table 3: Sampling of UOT lines

UOT lines (comments in relation to UOT requirements).

Color codes: **Blue- Well Sampled, Green – Oversampled, Yellow - 50% sampled, Red – Undersampled**

Line	End points	UOT type	Drops	Transects	Comments on UOT type
AX03	Europe - New York	HDX	-	-	Not Sampled
AX07	Florida Straits - Gibraltar	HDX	867	10	Well Sampled
AX08	New York - Cape Town	FHD	1411	12	Well Sampled
AX10	New York - Puerto Rico	FHD	751	42	Well Sampled
AX11	Europe - Brazil	FRX	431	9	50% Sampled
AX15	Europe - Cape of Good Hope	FRX	77	6	Undersampled
AX18	Buenos Aires - Cape of Good hope	HDX	171	1	Undersampled
AX20	Europe - French Guyana	FRX	244	10	Undersampled
AX22	Drake Passage	HDX	424	8	Oversampled
AX25	Cape of Good Hope - Antarctica	HDX	125	1	Undersampled
AX29	Antigua - Cabo de Sao Roque, Brazil	FRX	-	-	Not Sampled
AX34	Gulf of Guinea - Caribbean	FRX	-	-	Not Sampled
IX01	Fremantle - Sunda Straits	FHD	504	23	Well Sampled
IX06	Mauritius/La Réunion - Malacca Strait	FRX	233	3	Undersampled
IX07	Cape of Good Hope - Persian Gulf	FRX	-	-	Not Sampled
IX08	Mauritius - Bombay	FRX	53	2	Undersampled
IX09S	Fremantle - Sri Lanka	FRX	-	-	Not Sampled
IX10	Red Sea - Malacca Strait/Singapore	HDX	178	17	Undersampled
IX12	Fremantle - Red Sea	FRX	810	13	Well Sampled
IX15	Mauritius - Fremantle	HDX	416	3	Well Sampled
IX21	Cape of Good Hope - Mauritius	HDX	369	5	50% Sampled
IX22	Shark Bay - Timor Strait/Banda Sea	FRX	351	8	Undersampled
IX28	Hobart, Tasmania - Dumont d'Urville	HDX	640	10	50% Sampled
PX02	Flores Sea - Torres Strait	FRX	117	7	50% Sampled
PX04	Japan - Kiribati - Fiji/Samoa	FRX	112	3	Undersampled
PX05	Japan - New Zealand	FHD	-	-	Undersampled
PX06	Suva, Fiji - Auckland, New Zealand	HDX	219	4	Well Sampled
PX08	Auckland, New Zealand - Panama	FRX	1160	9	Undersampled
PX09	Hawaii - Fiji/Auckland	FHD	-	-	Not Sampled
PX10	Hawaii - Guam/Saipan	HDX	876	18	Well Sampled
PX11	Flores Sea - Japan	FRX	-	-	Undersampled
PX13	New Zealand - California	FRX	744	11	50% Sampled
PX17	Tahiti/Maruroa - Panama	FRX	-	-	Undersampled
PX18	Tahiti - California	FRX	170	6	Undersampled
PX21	California - Chile	FRX	-	-	Not Sampled
PX30	Brisbane/Sydney - Noumea -Fiji	HDX	492	4	Well Sampled
PX31	Noumea/Suva, Fiji - California	FHD	876	8	50% Sampled
PX34	Sydney - Wellington	HDX	274	4	Well Sampled

Line	End points	UOT type	Drops	Transects	Comments on UOT type
PX35	Melbourne - Dunedin	HDX	-	-	Not Sampled
PX36	Christchurch - McMurdo	HDX	-	-	Not Sampled
PX38	Hawaii - Alaska	HDX	193	2	50% Sampled
PX40	Hawaii - Japan	HDX	206	2	50% Sampled
PX44	Guam - HongKong/Taiwan	HDX	523	16	Well Sampled
PX50	Valparaiso - Auckland	HDX	234	1	Undersampled
PX81	Honolulu - Coronel (Chile)	HDX	-	-	Not Sampled
			14251	278	

Table 4 : Sampling of all SOOP Lines

All SOOP lines (comments in relation to standard sampling mode).

Color codes: Blue- Well Sampled, Green – Oversampled, Yellow - 50% sampled, Red – Undersampled

Line	End points	Standard Line Sampling Mode	Drops	Transects	Comment on standard sampling mode
AX01	Greenland - Iceland - UK/Denmark	LDX	72	6	Undersampled
AX02	Newfoundland - Iceland	LDX	-	-	Not Sampled
AX03	Europe - New York	HDX	-	-	Not Sampled
AX04	New York - Gibraltar	LDX	-	-	Not Sampled
AX05	Europe - Panama Canal	LDX	281	24	Well Sampled
AX06	New York - Abidjan	LDX	-	-	Not Sampled
AX07	Florida Straits - Gibraltar	HDX	867	10	Well Sampled
AX08	New York - Cape Town	FRX	1411	12	50% Sampled
AX09	Trinidad/Caracas - Gibraltar	LDX	-	-	Not Sampled
AX10	New York - Puerto Rico	HDX	751	42	Well Sampled
AX11	Europe - Brazil	FRX	431	9	50% Sampled
AX12	Europe - Antarctica	LDX	-	-	Not Sampled
AX13	Rio de Janeiro - Monrovia (Liberia)	LDX	-	-	Not Sampled
AX14	Rio de Janeiro - Lagos (Nigeria)	LDX	-	-	Not Sampled
AX15	Europe - Cape of Good Hope	FRX	77	6	Undersampled
AX16	Rio de Janeiro - Walvis Bay	LDX	-	-	Not Sampled
AX17	Rio de Janeiro - Cape of Good Hope	LDX	351	2	Undersampled
AX18	Buenos Aires - Cape of Good hope	LDX	171	1	Undersampled
AX19	Cape Horn - Cape of Good Hope	LDX	-	-	Not Sampled
AX20	Europe - French Guyana	LDX	244	10	50% Sampled
AX20b	Cape Verde - Belem (Brazil)	LDX	-	-	Not Sampled
AX21	Rio de Janeiro - Pointe Noire/Luanda	LDX	-	-	Not Sampled
AX22	Drake Passage	HDX	424	8	Oversampled
AX23	Gulf of Mexico	LDX	-	-	Not Sampled
AX25	Cape of Good Hope - Antarctica	LDX	125	1	Undersampled
AX26	Cape of Good Hope - Lagos (Nigeria)	LDX	-	-	Not Sampled
AX27	Brazil - Cape Horn	LDX	-	-	Not Sampled
AX29	Antigua - Cabo de Sao Roque, Brazil	FRX	-	-	Not Sampled
AX32	New York - Bermuda	LDX	155	13	50% Sampled
AX33	Boston - Halifax/Nova Scotia	LDX	-	-	Not Sampled
AX34	Gulf of Guinea - Caribbean	LDX	-	-	Not Sampled
AX35	Cape of Good Hope - Recife	LDX	-	-	Not Sampled
AX36	Cape Horn - Gulf of Guinea	LDX	-	-	Not Sampled
AX98	Norwegian Sea	///	-	-	Not Sampled
AX99	S. Ocean	///	-	-	Not Sampled
IX01	Fremantle - Sunda Straits	FRX	504	23	Well Sampled
IX02	Cape of Good Hope - Fremantle	LDX	-	-	Not Sampled
IX03	Red Sea - Mauritius/La Reunion	FRX	-	-	Not Sampled
IX06	Mauritius/La Reunion - Malacca Strait	FRX	233	3	Undersampled
IX07	Cape of Good Hope - Persian Gulf	LDX	-	-	Not Sampled
IX08	Mauritius - Bombay	LDX	53	2	Undersampled
IX09	Fremantle - Persian Gulf	FRX	-	-	Not Sampled
IX09N	Sri Lanka - Persian Gulf (IX09 North)	FRX	228	16	Well Sampled

IX09S	Fremantle - Sri Lanka	FRX	-	-	Not Sampled
IX10	Red Sea - Malacca Strait/Singapore	LDX	178	17	50% Sampled
IX11	Calcuta - Java Sea	LDX	-	-	Not Sampled
IX12	Fremantle - Red Sea	FRX	810	13	Well Sampled
IX14	Bay of Bengal	LDX	288	25	Oversampled
IX15	Mauritius - Fremantle	LDX	416	3	Undersampled
IX16	Mombassa - Singapore	LDX	-	-	Not Sampled
IX17	Mombassa - Karachi	LDX	-	-	Not Sampled
IX18	Mombassa - Bombay	LDX	-	-	Not Sampled
IX19	La Renion/Mauritius - Kerguelen	LDX	-	-	Not Sampled
IX19b	La Reunion/Mauritius - Amsterdam	LDX	-	-	Not Sampled
IX20	Mauritius - Rodriguez	LDX	-	-	Not Sampled
IX21	Cape of Good Hope - Mauritius	LDX	369	5	Undersampled
IX22	Shark Bay - Timor Strait/Banda Sea	FRX	351	8	Undersampled
IX23	Hobart - Casey Station	LDX	-	-	Not Sampled
IX25	Mauritius - Karachi	LDX	-	-	Not Sampled
IX26	Red Sea - Karachi	LDX	-	-	Not Sampled
IX27	Mombassa - La Reunion	LDX	-	-	Not Sampled
IX28	Hobart, Tasmania - Dumont d'Urville	HDX	640	10	50% Sampled
IX29	Macquarie Island - Casey Station	LDX	-	-	Not Sampled
IX30	Hobart - Macquarie Island (is also PX33)	LDX	-	-	Not Sampled
IX31	Melbourne - Point Leeuwin (Australia)	LDX	233	3	Undersampled
MX01	Haifa-Gibraltar	HDX	22	1	Undersampled
MX01a	Haifa-Messina	HDX	-	-	Not Sampled
MX01b	Palermo-Gibraltar	HDX	-	-	Not Sampled
MX02a	Barcelona-Arzew	HDX	-	-	Not Sampled
MX02b	Barcelona-Skikda	HDX	-	-	Not Sampled
MX02c	Barcelona-Mersa El Brega	LDX	-	-	Not Sampled
MX03	Sete-Tunis	HDX	-	-	Not Sampled
MX04	Genova-Palermo	HDX	-	-	Not Sampled
MX05	Ploce-Malta	HDX	94	4	Undersampled
MX06	Pireus-Crete-Alessandria	HDX	-	-	Not Sampled
MX07	P.Said-Limassol	HDX	-	-	Not Sampled
MX09		LDX	-	-	Not Sampled
PX01	Seattle/Vancouver - Indonesia	LDX	-	-	Not Sampled
PX02	Flores Sea - Torres Strait	LDX	117	7	Well Sampled
PX03	Coral Sea	LDX	-	-	Not Sampled
PX04	Japan - Kiribati - Fiji/Samoa	FRX	112	3	Undersampled
PX05	Japan - New Zealand	FRX	-	-	Not Sampled
PX06	Suva, Fiji - Auckland, New Zealand	HDX	219	4	Well Sampled
PX07	Auckland - Seattle/Vancouver,B.C.	LDX	-	-	Not Sampled
PX08	Auckland, New Zealand - Panama	LDX	1160	9	Oversampled
PX09	Hawaii - Fiji/Auckland	FHD	-	-	Not Sampled
PX10	Hawaii - Guam/Saipan	HDX	876	18	Well Sampled
PX11	Flores Sea - Japan	FRX	-	-	Undersampled
PX12	Tahiti - Noumea	LDX	45	3	Undersampled
PX13	New Zealand - California	LDX	744	11	Well Sampled
PX14	Alaska - Cape Horn	FRX	-	-	Not Sampled
PX15	Ecuador - Japan	LDX	-	-	Not Sampled
PX16	Peru - Hawaii	LDX	-	-	Not Sampled
PX17	Tahiti/Maruroa - Panama	FRX	-	-	Undersampled
PX18	Tahiti - California	FRX	170	6	Undersampled
PX20	California - Panama	LDX	-	-	Not Sampled
PX21	California - Chile	LDX	-	-	Not Sampled
PX22	Panama - Valpariso	LDX	-	-	Not Sampled
PX23	Panama - 115W	LDX	-	-	Not Sampled

PX24	Panama - Indonesia	LDX	-	-	Not Sampled
PX25	Coronel, Chile - Japan	LDX	-	-	Not Sampled
PX26	TRANSPAC	TRANSPAC	452	16	Well Sampled
PX27	Guayaquil - Galapagos	LDX	-	-	Not Sampled
PX28	Tahiti - Sydney/Auckland	LDX	116	6	Undersampled
PX29	Tahiti - Valparaiso	LDX	-	-	Not Sampled
PX30	Brisbane/Sydney - Noumea -Fiji	HDX	492	4	Well Sampled
PX31	Noumea/Suva, Fiji - California	LDX	876	8	50% Sampled
PX32	Sydney - Auckland	LDX	-	-	Not Sampled
PX33	Hobart - Macquarie Island (is also IX30)	LDX	6	1	Undersampled
PX34	Sydney - Wellington	HDX	274	4	Well Sampled
PX35	Melbourne - Dunedin	LDX	-	-	Not Sampled
PX36	Christchurch - McMurdo	FRX	-	-	Not Sampled
PX37	Hawaii - California	HDX	512	19	Well Sampled
PX38	Hawaii - Alaska	HDX	193	2	50% Sampled
PX39	Hawaii - Seattle/Vancouver	LDX	102	8	50% Sampled
PX40	Hawaii - Japan	HDX	206	2	50% Sampled
PX41	Hawaii - Taiwan/Hong Kong	LDX	-	-	Not Sampled
PX42	Hawaii - New Guinea/Solomon Islands	LDX	19	1	Undersampled
PX43	Hawaii - Marshall Islands - Guam	LDX	-	-	Not Sampled
PX44	Guam - HongKong/Taiwan	HDX	523	16	Well Sampled
PX45	(3N, 137E) - (34N,137E)	LDX	155	4	Undersampled
PX46	(3S, 165E) - (50N, 165E)	LDX	90	2	Undersampled
PX47	Alaska - California	LDX	-	-	Not Sampled
PX49	Japan/Taiwan - Singapore	LDX	-	-	Not Sampled
PX50	Valparaiso - Auckland	HDX	234	1	Undersampled
PX51	Hong Kong - Auckland	LDX	-	-	Not Sampled
PX52	Japan - Fiji	LDX	-	-	Not Sampled
PX53	Taiwan/Mindanao - Fiji	LDX	77	3	Undersampled
PX81	Honolulu - Coronel (Chile)	HDX	-	-	Not Sampled
PX83	Melbourne - Auckland	LDX	15	6	Undersampled
XX01	No specific line assigned	///	544	10	-
			18108	451	

2) Sampling for SOOP lines

For comments on sampling success, see Tables 3 & 4.

The following website links summarise each line's sampling.

The website includes charts and tables of sampling for the SOOP Programs on the selected line, including computation of Space vs. Time 2D diagrams, with maps and graphs of coverage.

N.B. Where more than one link is present for a line, that is because there are two different modes of sampling – the standard mode and the Upper Ocean Thermal Review mode. This also applies to those lines sampled in FHD – Frequent High Density mode, where the line sampling is assessed against both High Density Mode HDX and Frequently Repeated Mode FRX.

AX01 Greenland - Iceland - Ireland/Scotland/Denmark (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=AX01&year=2007&month=12>

AX02 Newfoundland – Iceland (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=AX02&year=2007&month=12>

AX03 Europe - New York (HDX, Thermal review HDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=AX03&year=2007&month=12>

AX04 New York – Gibraltar (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=AX04&year=2007&month=12>

AX05 Europe - Panama Canal (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=AX05&year=2007&month=12>

AX06 New York – Abidjan (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=AX06&year=2007&month=12>

AX07 Florida Straits – Gibraltar (HDX, Thermal review HDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=AX07&year=2007&month=12>

AX08 New York - Cape Town (FRX, Thermal review FHD)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=AX08&year=2007&month=12>

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=AX08&year=2007&month=12&TYPE=HDX>

AX09 Trinidad/Caracas – Gibraltar (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=AX09&year=2007&month=12>

AX10 New York - Puerto Rico (HDX, Thermal review FHD)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=AX10&year=2007&month=12>

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=AX10&year=2007&month=12&TYPE=FRX>

AX11 Europe – Brazil (FRX, Thermal review FRX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=AX11&year=2007&month=12>

AX12 Europe – Antarctica (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=AX12&year=2007&month=12>

AX13 Rio de Janeiro - Monrovia (Liberia) (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=AX13&year=2007&month=12>

AX14 Rio de Janeiro - Lagos (Nigeria) (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=AX14&year=2007&month=12>

- AX15 Europe - Cape of Good Hope (FRX, Thermal review FRX)**
<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=AX15&year=2007&month=12>
- AX16 Rio de Janeiro - Walvis Bay (LDX)**
<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=AX16&year=2007&month=12>
- AX17 Rio de Janeiro - Cape of Good Hope (LDX)**
<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=AX17&year=2007&month=12>
- AX18 Buenos Aires - Cape of Good hope (LDX, Thermal review HDX)**
<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=AX18&year=2007&month=12>
<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=AX18&year=2007&month=12&TYPE=HDX>
- AX19 Cape Horn - Cape of Good Hope (LDX)**
<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=AX19&year=2007&month=12>
- AX20 Europe - French Guyana (LDX, Thermal review FRX)**
<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=AX20&year=2007&month=12>
<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=AX20&year=2007&month=12&TYPE=FRX>
- AX20b Cape Verde - Belem (Brazil) (LDX)**
<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=AX20b&year=2007&month=12>
- AX21 Rio de Janeiro - Pointe Noire/Luanda (LDX)**
<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=AX21&year=2007&month=12>
- AX22 Drake Passage (HDX, Thermal review HDX)**
<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=AX22&year=2007&month=12>
- AX23 Gulf of Mexico (LDX)**
<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=AX23&year=2007&month=12>
- AX25 Cape of Good Hope – Antarctica (LDX, Thermal review HDX)**
<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=AX25&year=2007&month=12>
<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=AX25&year=2007&month=12&TYPE=HDX>
- AX26 Cape of Good Hope - Lagos (Nigeria) (LDX)**
<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=AX26&year=2007&month=12>
- AX27 Brazil - Cape Horn (LDX)**
<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=AX27&year=2007&month=12>
- AX29 Antigua - Cabo de Sao Roque, Brazil (FRX, Thermal review FRX)**
<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=AX29&year=2007&month=12>
- AX32 New York – Bermuda (LDX)**
<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=AX32&year=2007&month=12>
- AX33 Boston - Halifax/Nova Scotia (LDX)**
<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=AX33&year=2007&month=12>
- AX34 Gulf of Guinea – Caribbean (LDX, Thermal review FRX)**
<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=AX34&year=2007&month=12>
<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=AX34&year=2007&month=12&TYPE=FRX>
- AX35 Cape of Good Hope – Recife (LDX)**
<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=AX35&year=2007&month=12>

AX36 Cape Horn - Gulf of Guinea (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=AX36&year=2007&month=12>

AX98 Norwegian Sea

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=AX98&year=2007&month=12>

AX99 S. Ocean

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=AX99&year=2007&month=12>

IX01 Fremantle - Sunda Straits (FRX, Thermal review FHD)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=IX01&year=2007&month=12>

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=IX01&year=2007&month=12&TYPE=HDX>

IX02 Cape of Good Hope – Fremantle (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=IX02&year=2007&month=12>

IX03 Red Sea - Mauritius/La Reunion (FRX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=IX03&year=2007&month=12>

IX06 Mauritius/La Reunion - Malacca Strait (FRX, Thermal review FRX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=IX06&year=2007&month=12>

IX07 Cape of Good Hope - Persian Gulf (LDX, Thermal review FRX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=IX07&year=2007&month=12>

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=IX07&year=2007&month=12&TYPE=FRX>

IX08 Mauritius – Bombay (LDX, Thermal review FRX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=IX08&year=2007&month=12>

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=IX08&year=2007&month=12&TYPE=FRX>

IX09 Fremantle - Persian Gulf (FRX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=IX09&year=2007&month=12>

IX09N Sri Lanka - Persian Gulf (IX09 North) (FRX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=IX09N&year=2007&month=12>

IX09S Fremantle - Sri Lanka (FRX, Thermal review FRX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=IX09S&year=2007&month=12>

IX10 Red Sea - Malacca Strait/Singapore (LDX, Thermal review HDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=IX10&year=2007&month=12>

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=IX10&year=2007&month=12&TYPE=HDX>

IX11 Calcuta - Java Sea (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=IX11&year=2007&month=12>

IX12 Fremantle - Red Sea (FRX, Thermal review FRX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=IX12&year=2007&month=12>

IX14 Bay of Bengal (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=IX14&year=2007&month=12>

IX15 Mauritius – Fremantle (LDX, Thermal review HDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=IX15&year=2007&month=12>

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=IX15&year=2007&month=12&TYPE=HDX>

IX16 Mombassa – Singapore (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=IX16&year=2007&month=12>

IX17 Mombassa – Karachi (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=IX17&year=2007&month=12>

IX18 Mombassa – Bombay (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=IX18&year=2007&month=12>

IX19 La Renion/Mauritius – Kerguelen (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=IX19&year=2007&month=12>

IX19b La Reunion/Mauritius – Amsterdam (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=IX19b&year=2007&month=12>

IX20 Mauritius – Rodriguez (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=IX20&year=2007&month=12>

IX21 Cape of Good Hope – Mauritius (LDX, Thermal review HDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=IX21&year=2007&month=12>

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=IX21&year=2007&month=12&TYPE=HDX>

IX22 Shark Bay - Timor Strait/Banda Sea (FRX, Thermal review FRX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=IX22&year=2007&month=12>

IX23 Hobart - Casey Station (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=IX23&year=2007&month=12>

IX25 Mauritius – Karachi (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=IX25&year=2007&month=12>

IX26 Red Sea – Karachi (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=IX26&year=2007&month=12>

IX27 Mombassa - La Reunion (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=IX27&year=2007&month=12>

IX28 Hobart, Tasmania - Dumont d'Urville (HDX, Thermal review HDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=IX28&year=2007&month=12>

IX29 Macquarie Island - Casey Station (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=IX29&year=2007&month=12>

IX30 Hobart - Macquarie Island (is also PX33) (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=IX30&year=2007&month=12>

IX31 Melbourne - Point Leeuwin (Australia) (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=IX31&year=2007&month=12>

MX01 Haifa-Gibraltar (HDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=MX01&year=2007&month=12>

MX01a Haifa-Messina (HDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=MX01a&year=2007&month=12>

MX01b Palermo-Gibraltar (HDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=MX01b&year=2007&month=12>

MX02a Barcelona-Arzew (HDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=MX02a&year=2007&month=12>

MX02b Barcelona-Skikda (HDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=MX02b&year=2007&month=12>

MX02c Barcelona-Mersa El Brega (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=MX02c&year=2007&month=12>

MX03 Sete-Tunis (HDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=MX03&year=2007&month=12>

MX04 Genova-Palermo (HDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=MX04&year=2007&month=12>

MX05 Ploce-Malta (HDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=MX05&year=2007&month=12>

MX06 Pireus-Crete-Alessandria (HDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=MX06&year=2007&month=12>

MX07 P.Said-Limassol (HDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=MX07&year=2007&month=12>

MX09 (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=MX09&year=2007&month=12>

PX01 Seattle/Vancouver – Indonesia (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX01&year=2007&month=12>

PX02 Flores Sea - Torres Strait (LDX, Thermal review FRX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX02&year=2007&month=12>

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX02&year=2007&month=12&TYPE=FRX>

PX03 Coral Sea (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX03&year=2007&month=12>

PX04 Japan - Kiribati - Fiji/Samoa (FRX, Thermal review FRX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX04&year=2007&month=12>

PX05 Japan - New Zealand (FRX, Thermal review FHD)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX05&year=2007&month=12>

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX05&year=2007&month=12&TYPE=HDX>

PX06 Suva, Fiji - Auckland, New Zealand (HDX, Thermal review HDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX06&year=2007&month=12>

PX07 Auckland - Seattle/Vancouver, B.C. (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX07&year=2007&month=12>

PX08 Auckland, New Zealand – Panama (LDX, Thermal review FRX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX08&year=2007&month=12>

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX08&year=2007&month=12&TYPE=FRX>

PX09 Hawaii - Fiji/Auckland (FHD, Thermal review FHD)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX09&year=2007&month=12&TYPE=HDX>

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX09&year=2007&month=12&TYPE=FRX>

- PX10 Hawaii - Guam/Saipan (HDX, Thermal review HDX)**
<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX10&year=2007&month=12>
- PX11 Flores Sea – Japan (FRX, Thermal review FRX)**
<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX11&year=2007&month=12>
- PX12 Tahiti – Noumea (LDX)**
<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX12&year=2007&month=12>
- PX13 New Zealand – California (LDX, Thermal review FRX)**
<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX13&year=2007&month=12>
<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX13&year=2007&month=12&TYPE=FRX>
- PX14 Alaska - Cape Horn (FRX)**
<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX14&year=2007&month=12>
- PX15 Ecuador – Japan (LDX)**
<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX15&year=2007&month=12>
- PX16 Peru – Hawaii (LDX)**
<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX16&year=2007&month=12>
- PX17 Tahiti/Maruroa – Panama (FRX, Thermal review FRX)**
<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX17&year=2007&month=12>
- PX18 Tahiti – California (FRX, Thermal review FRX)**
<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX18&year=2007&month=12>
- PX20 California – Panama (LDX)**
<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX20&year=2007&month=12>
- PX21 California – Chile (LDX, Thermal review FRX)**
<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX21&year=2007&month=12>
<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX21&year=2007&month=12&TYPE=FRX>
- PX22 Panama – Valpariso (LDX)**
<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX22&year=2007&month=12>
- PX23 Panama - 115W (LDX)**
<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX23&year=2007&month=12>
- PX24 Panama – Indonesia (LDX)**
<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX24&year=2007&month=12>
- PX25 Coronel, Chile – Japan (LDX)**
<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX25&year=2007&month=12>
- PX26 Trans Pacific (TRANSPAC)**
<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX26&year=2007&month=12>
- PX27 Guayaquil – Galapagos (LDX)**
<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX27&year=2007&month=12>
- PX28 Tahiti - Sydney/Auckland (LDX)**
<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX28&year=2007&month=12>

PX29 Tahiti – Valparaiso (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX29&year=2007&month=12>

PX30 Brisbane/Sydney - Noumea –Fiji (HDX, Thermal review HDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX30&year=2007&month=12>

PX31 Noumea/Suva, Fiji – California (LDX, Thermal review FHD)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX31&year=2007&month=12>

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX31&year=2007&month=12&TYPE=HDX>

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX31&year=2007&month=12&TYPE=FRX>

PX32 Sydney – Auckland (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX32&year=2007&month=12>

PX33 Hobart - Macquarie Island (is also IX30) (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX33&year=2007&month=12>

PX34 Sydney – Wellington (HDX, Thermal review HDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX34&year=2007&month=12>

PX35 Melbourne – Dunedin (LDX, Thermal review HDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX35&year=2007&month=12>

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX35&year=2007&month=12&TYPE=HDX>

PX36 Christchurch – McMurdo (FRX, Thermal review HDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX36&year=2007&month=12>

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX36&year=2007&month=12&TYPE=HDX>

PX37 Hawaii – California (HDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX37&year=2007&month=12>

PX38 Hawaii – Alaska (HDX, Thermal review HDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX38&year=2007&month=12>

PX39 Hawaii - Seattle/Vancouver (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX39&year=2007&month=12>

PX40 Hawaii – Japan (HDX, Thermal review HDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX40&year=2007&month=12>

PX41 Hawaii - Taiwan/Hong Kong (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX41&year=2007&month=12>

PX42 Hawaii - New Guinea/Solomon Islands (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX42&year=2007&month=12>

PX43 Hawaii - Marshall Islands – Guam (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX43&year=2007&month=12>

PX44 Guam - HongKong/Taiwan (HDX, Thermal review HDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX44&year=2007&month=12>

PX45 (3N, 137E) - (34N, 137E) (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX45&year=2007&month=12>

PX46 (3S, 165E) - (50N, 165E) (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX46&year=2007&month=12>

PX47 Alaska – California (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX47&year=2007&month=12>

PX49 Japan/Taiwan – Singapore (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX49&year=2007&month=12>

PX50 Valparaiso – Auckland (HDX, Thermal review HDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX50&year=2007&month=12>

PX51 Hong Kong – Auckland (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX51&year=2007&month=12>

PX52 Japan – Fiji (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX52&year=2007&month=12>

PX53 Taiwan/Mindanao – Fiji (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX53&year=2007&month=12>

PX81 Honolulu - Coronel (Chile) (HDX, Thermal review HDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX81&year=2007&month=12>

PX83 Melbourne – Auckland (LDX)

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=PX83&year=2007&month=12>

XX01 No specific line assigned

<http://wo.jcommops.org/cgi-bin/WebObjects/SOOPIndicators.woa/wa/summary?line=XX01&year=2007&month=12>