

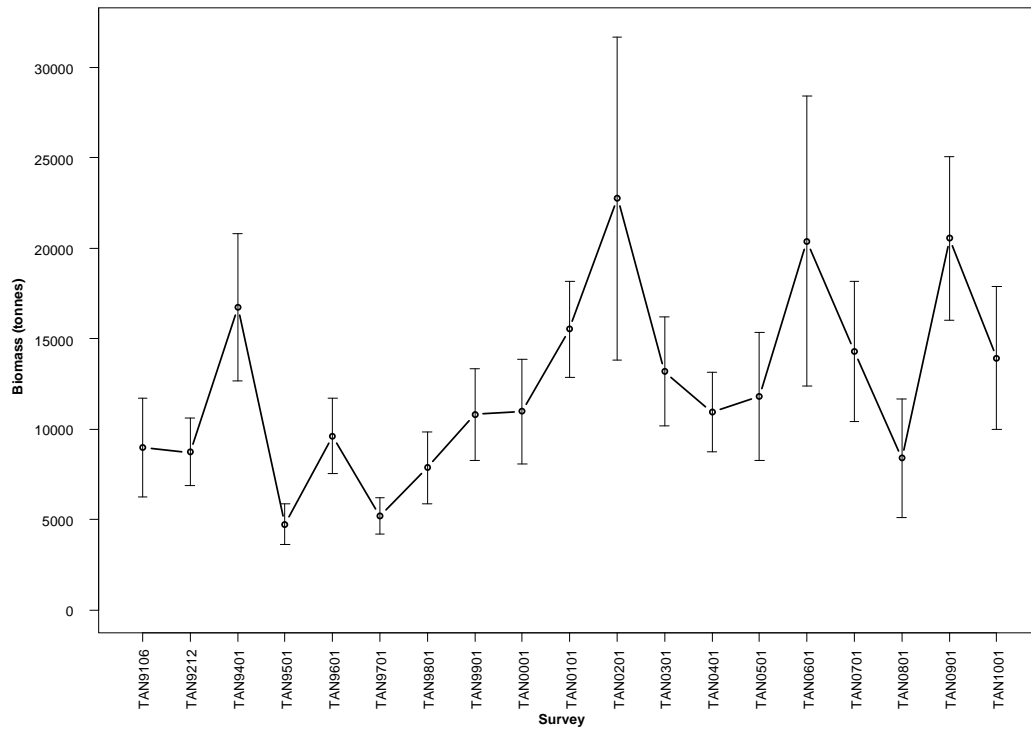


Number of surveys caught 1992–2010 (out of 19):	19
Total catch weight (kg):	119 536.9
Number measured	55 515
Length range (mean) (cm, TL)	9–73 (38.4)
Number weighed	8 621
Length-weight parameters a, b ( $r^2$ )	0.001394, 3.138079 (94.53)

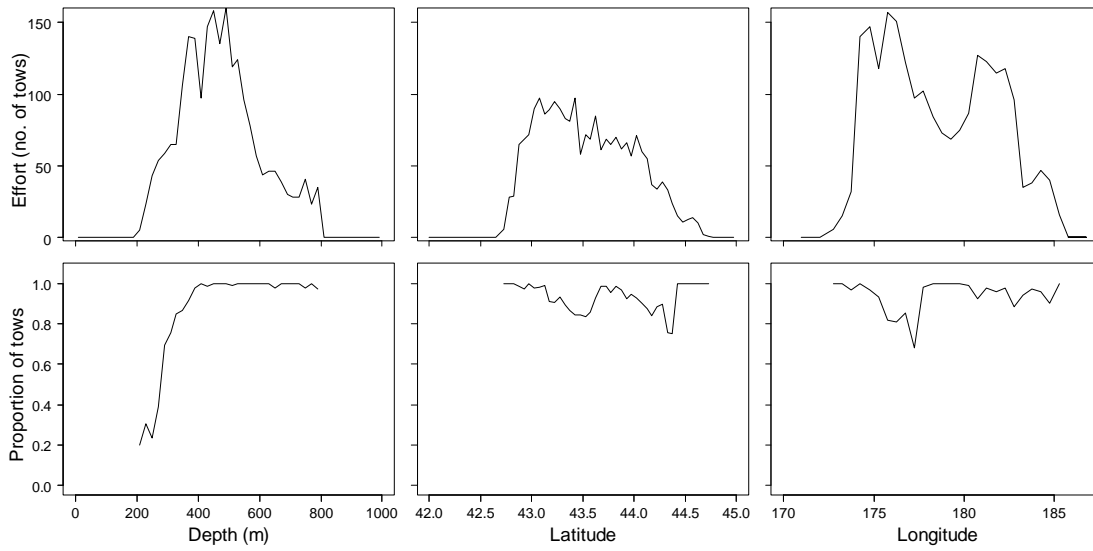
The core survey area and depth range is appropriate for this species. Biomass of this species is **very well** estimated in the core survey area. Biomass has **increased** since the start of the time series. Catch rates are highest in the **west**. Length frequencies are sometimes **bimodal**. Mean length **shows no clear trend** since the start of the time series. Gonad stage data indicate that **most females are immature or resting, while some males are maturing and ripe**.

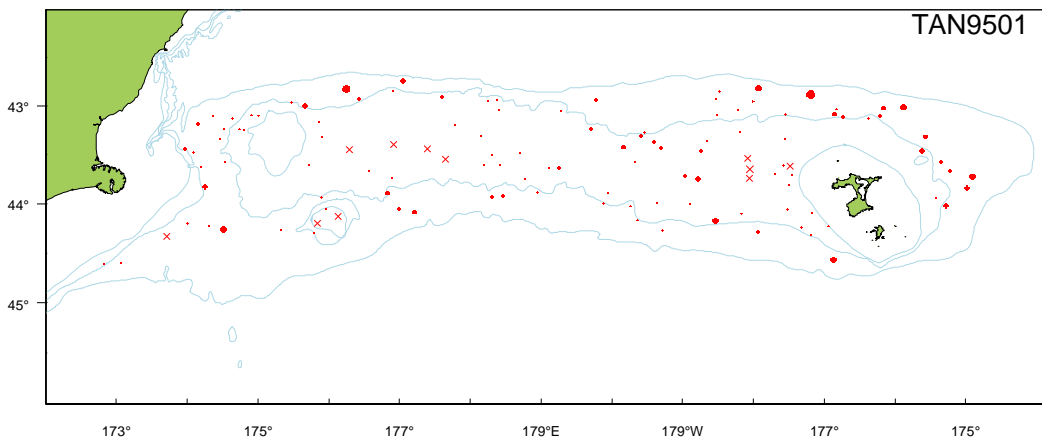
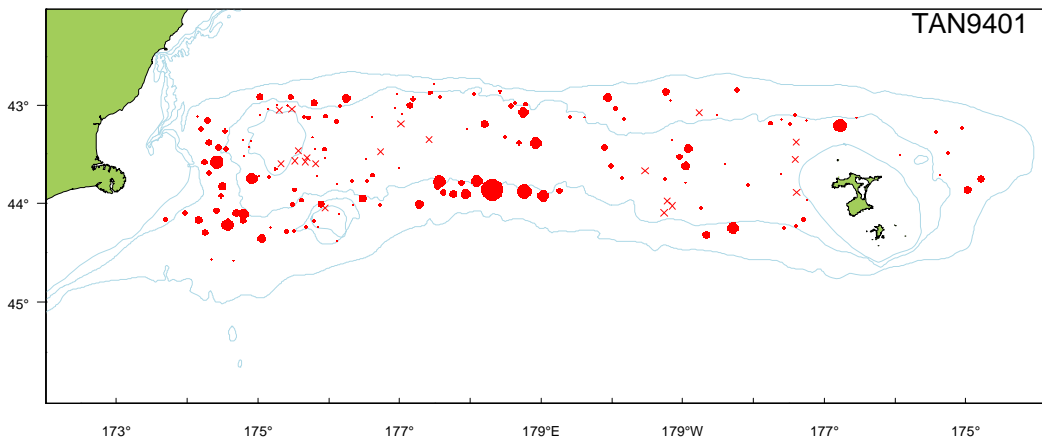
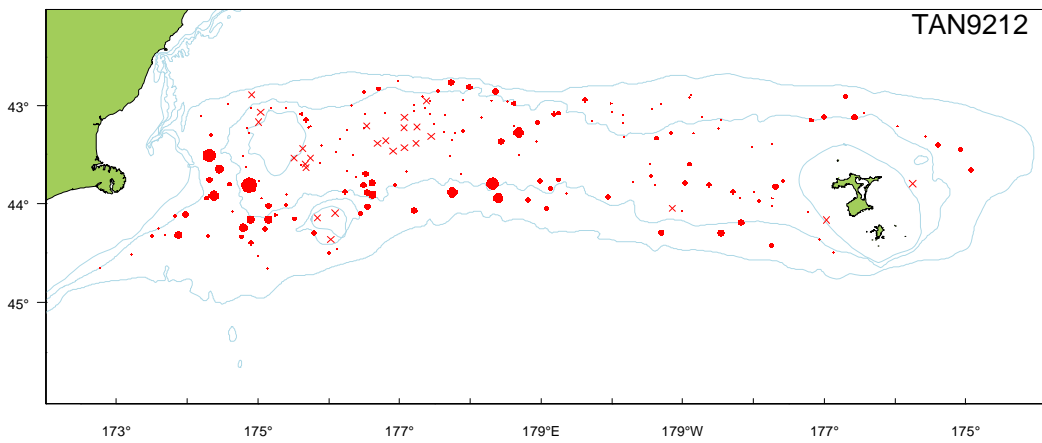
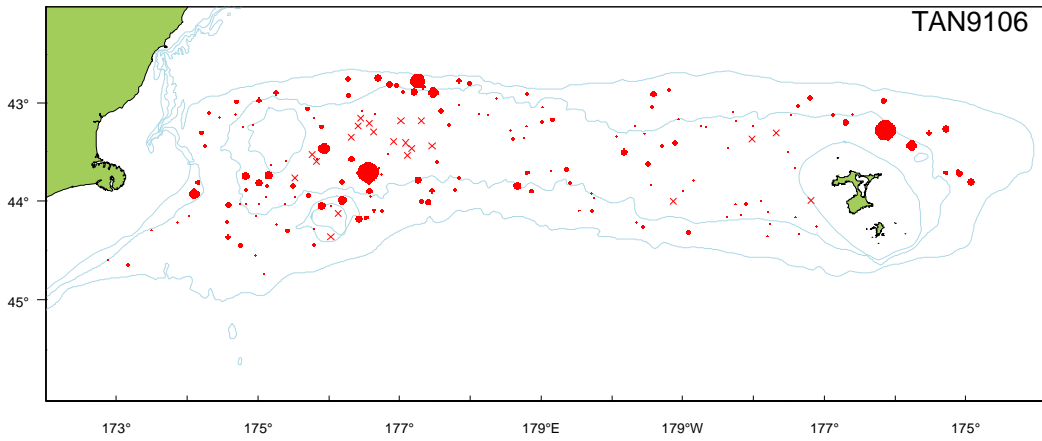
#### Relative biomass estimates and length summary

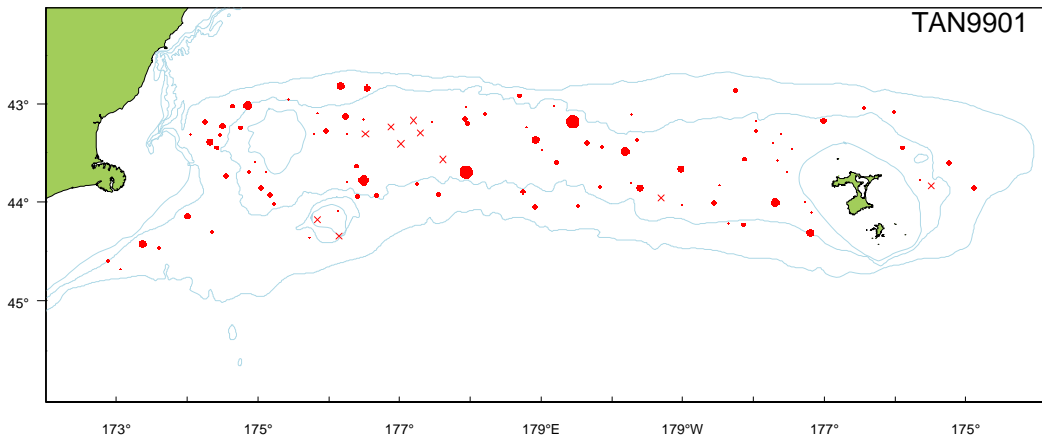
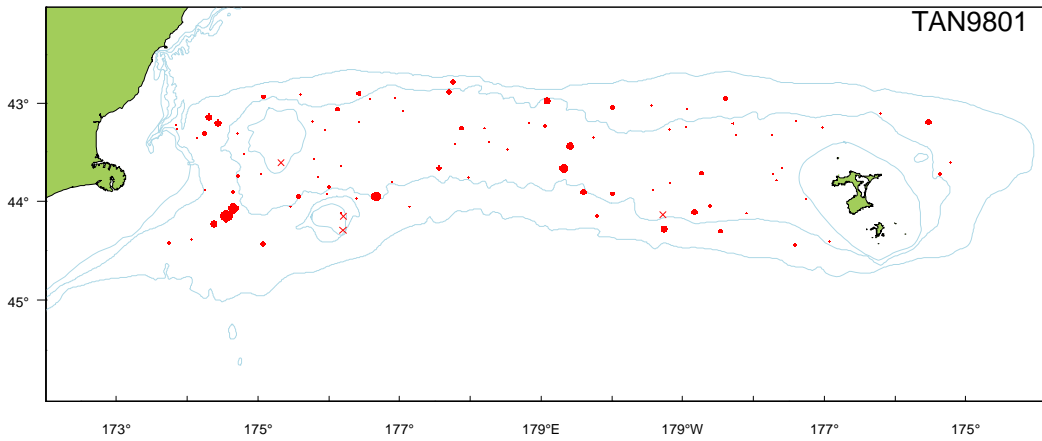
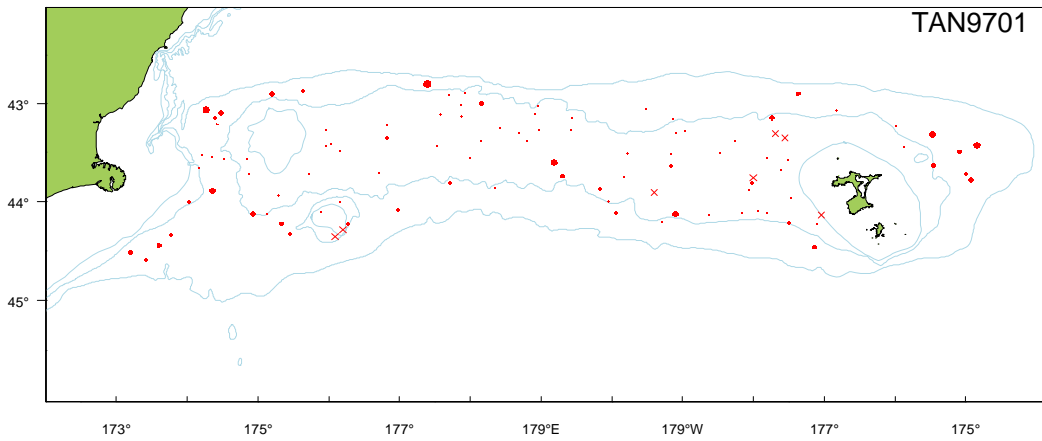
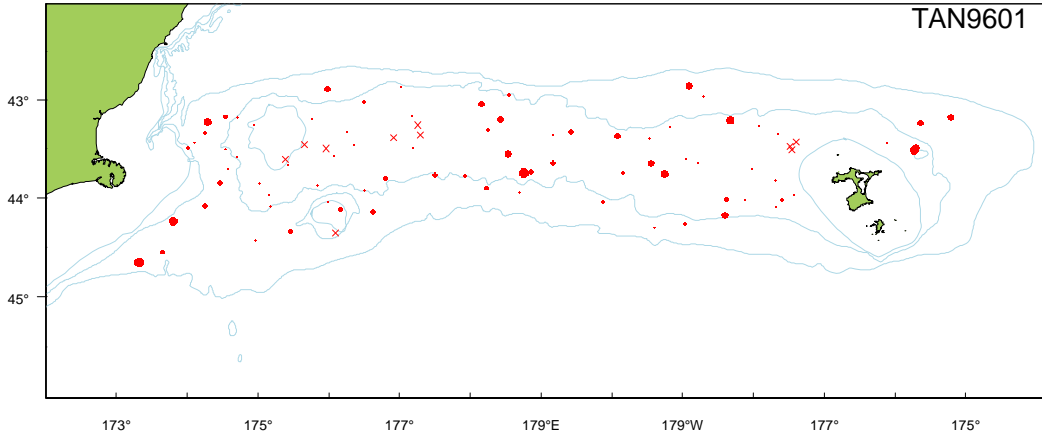
Year	Biomass (t)	cv (%)	Length (cm)			No. measure
			Min.	Max.	Mean	
1992	8 961	15	-	-	-	0
1993	8 716	11	-	-	-	0
1994	16 731	12	-	-	-	0
1995	4 726	12	-	-	-	0
1996	9 616	11	-	-	-	0
1997	5 181	10	-	-	-	0
1998	7 855	13	23	62	39.8	262
1999	10 799	12	24	56	41.2	122
2000	10 966	13	-	-	-	0
2001	15 520	9	-	-	-	0
2002	22 759	20	15	73	38.1	6 208
2003	13 175	12	11	67	36.7	8 245
2004	10 954	10	16	66	40.6	3 414
2005	11 791	15	11	64	39.5	4 237
2006	20 380	20	14	64	37.9	5 134
2007	14 280	14	14	70	38.4	3 879
2008	8 381	20	9	59	38.8	5 775
2009	20 541	11	12	70	38.1	6 154
2010	13 925	14	15	64	39.1	6 800

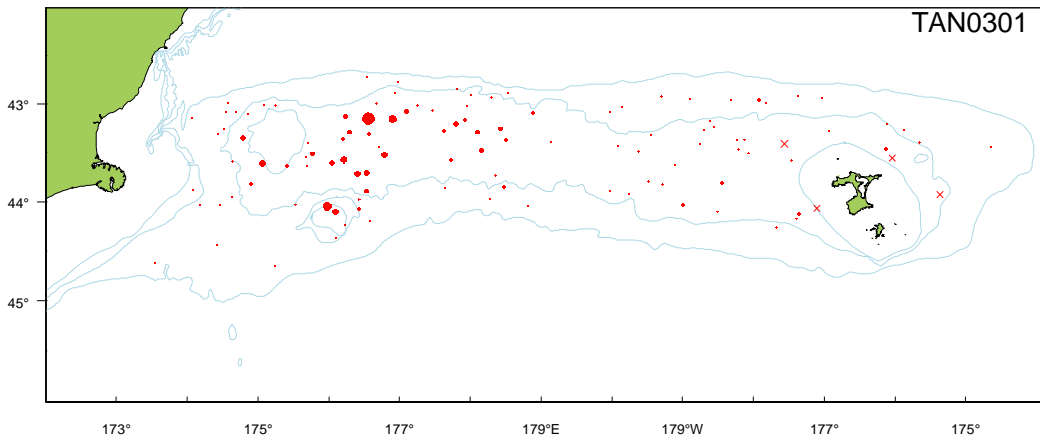
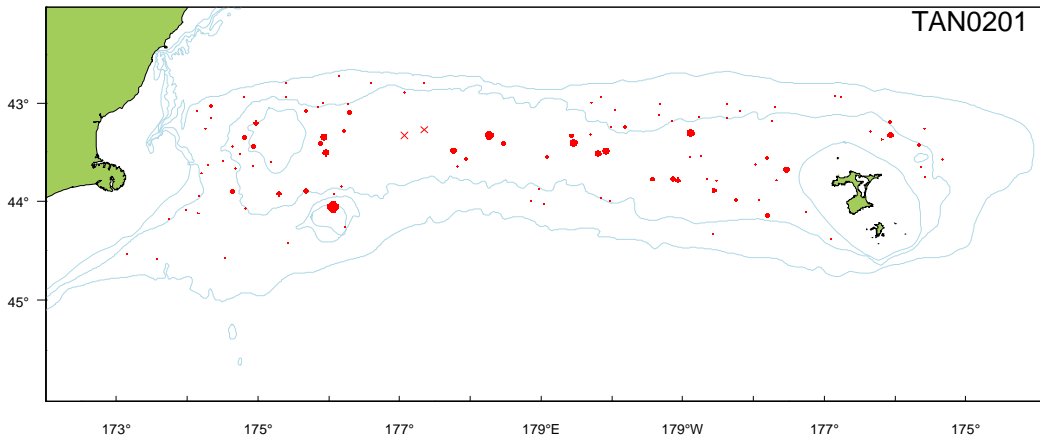
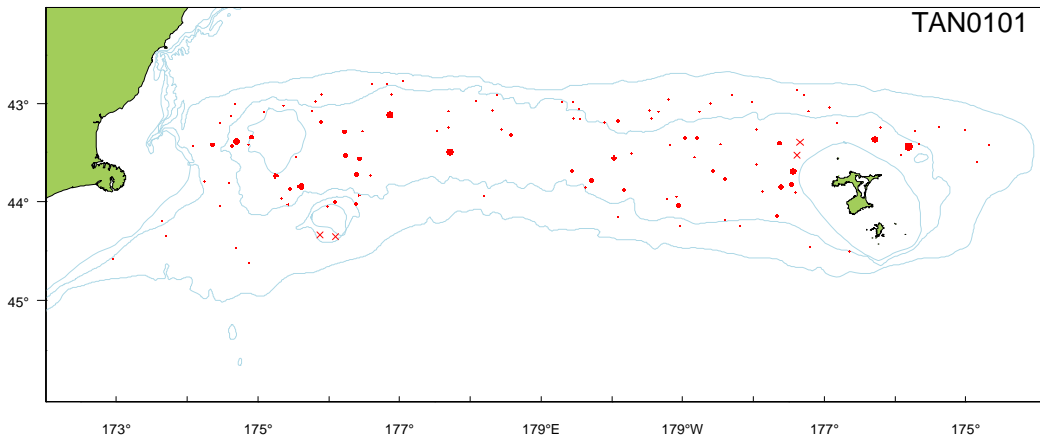
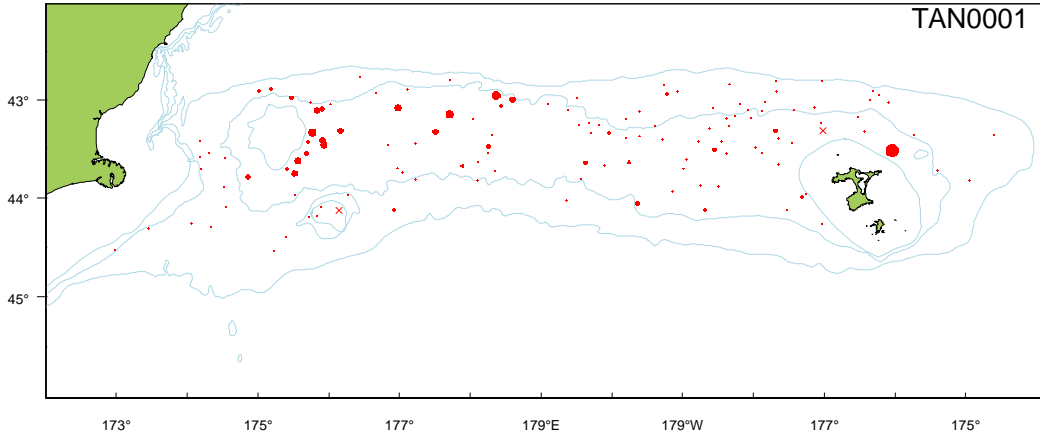


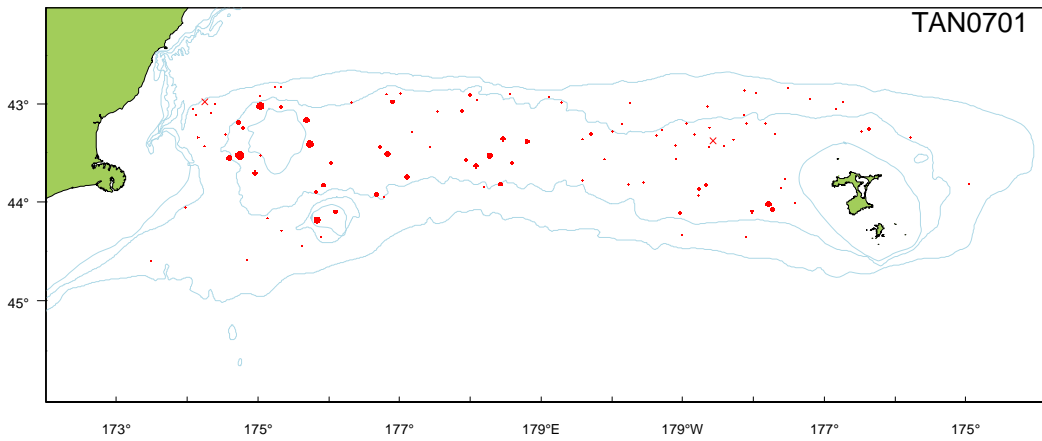
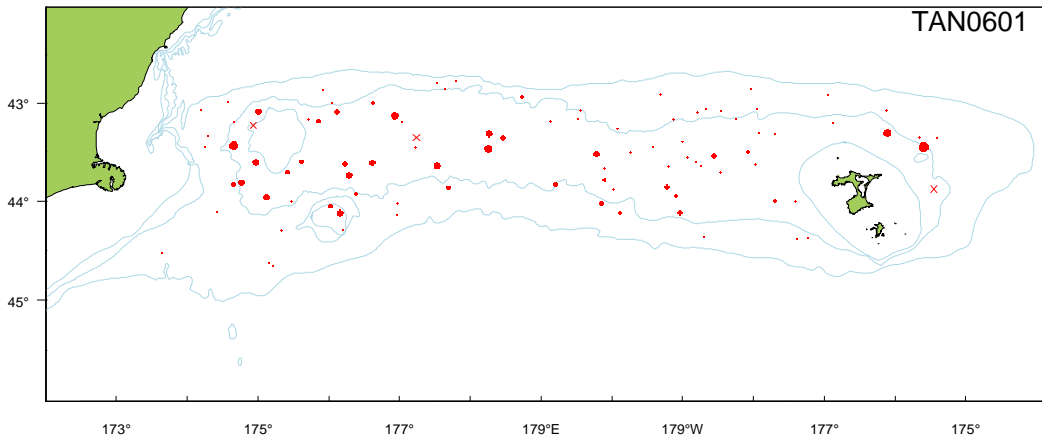
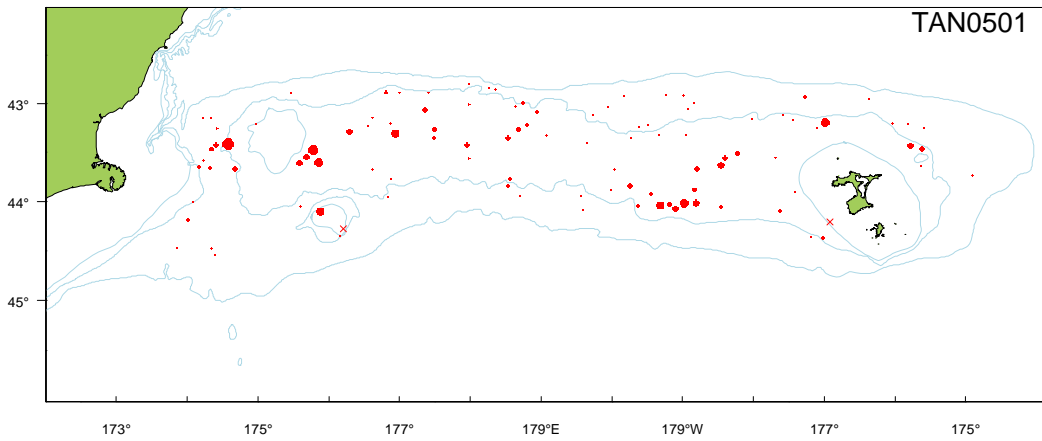
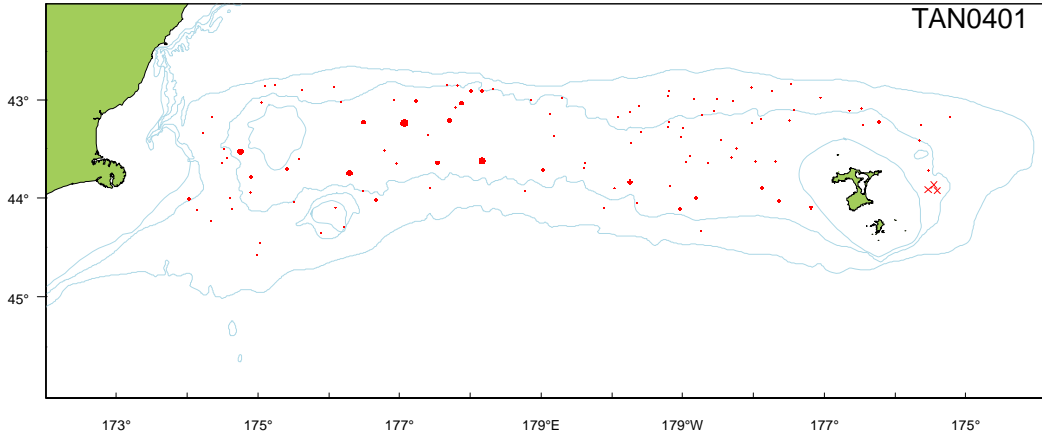
### Distribution

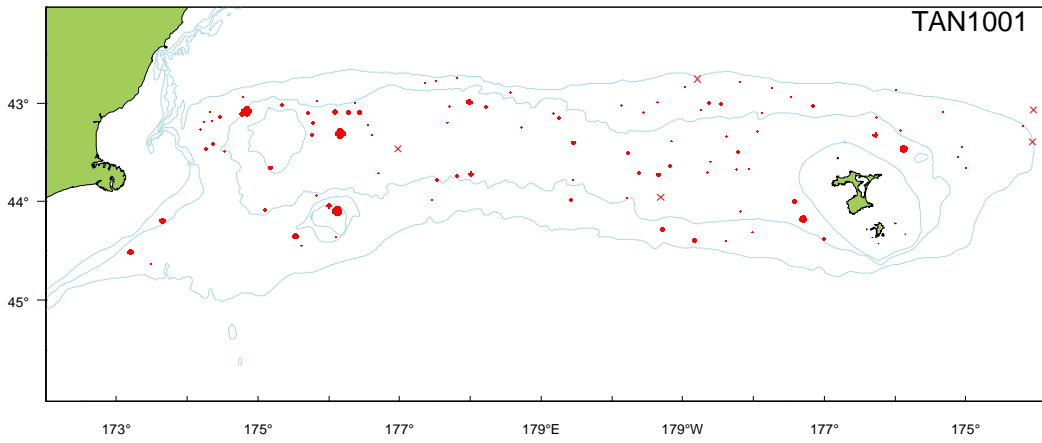
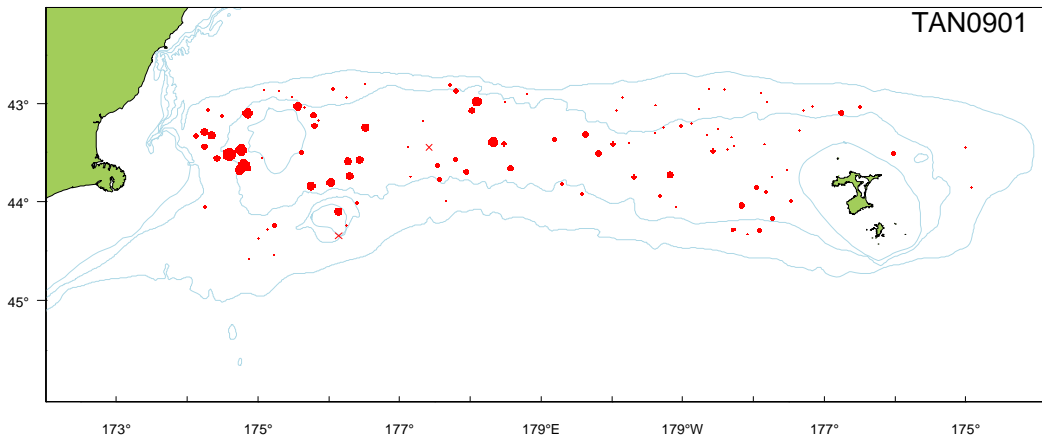
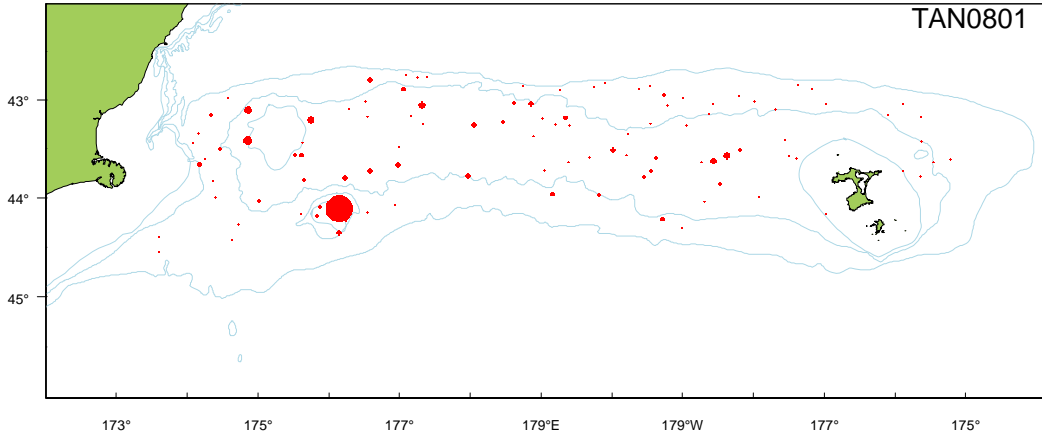




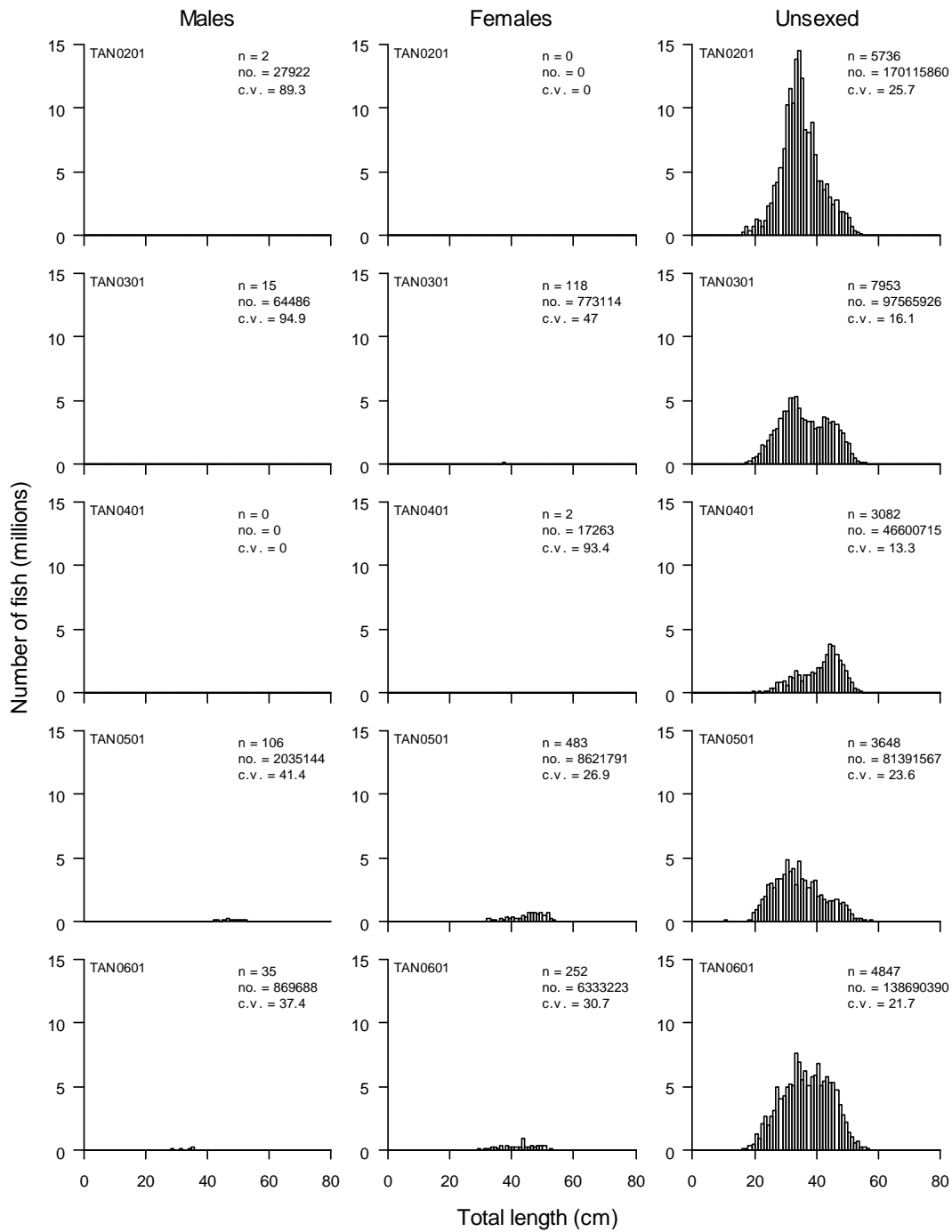




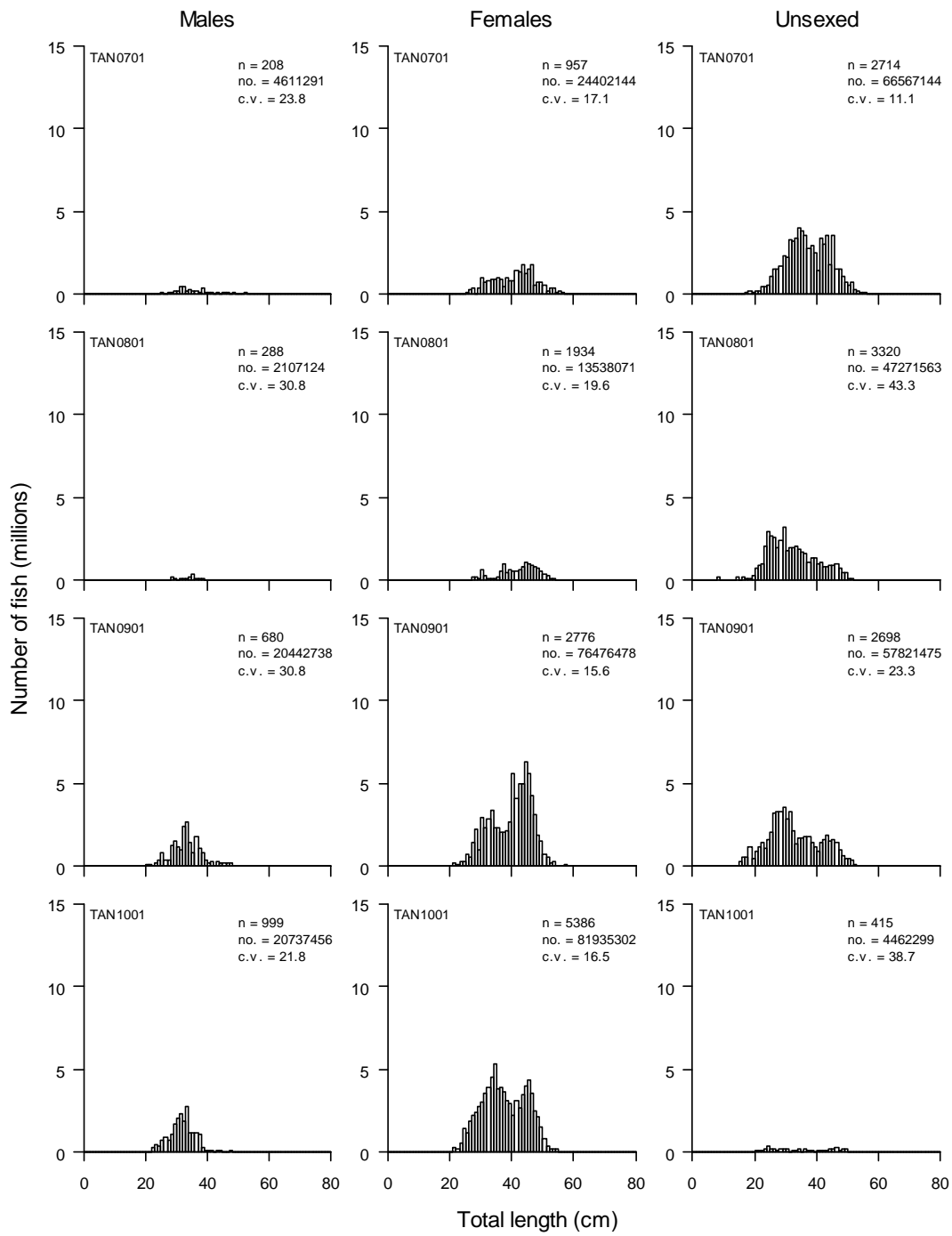




# Length Frequencies







## Gonad Stage Information

### Males

Year	p_M1	p_M2	p_M3	p_M4	p_M5	p_M6	p_M7	n_allM
1992	NA	NA	NA	NA	NA	NA	NA	0
1993	NA	NA	NA	NA	NA	NA	NA	0
1994	NA	NA	NA	NA	NA	NA	NA	0
1995	NA	NA	NA	NA	NA	NA	NA	0
1996	NA	NA	NA	NA	NA	NA	NA	0
1997	NA	NA	NA	NA	NA	NA	NA	0
1998	NA	NA	NA	NA	NA	NA	NA	0
1999	NA	NA	NA	NA	NA	NA	NA	0
2000	NA	NA	NA	NA	NA	NA	NA	0
2001	NA	NA	NA	NA	NA	NA	NA	0
2002	NA	NA	NA	NA	NA	NA	NA	0
2003	NA	NA	NA	NA	NA	NA	NA	0
2004	NA	NA	NA	NA	NA	NA	NA	0
2005	0.33	0.5	0	0.17	0	0	0	6
2006	NA	NA	NA	NA	NA	NA	NA	0
2007	NA	NA	NA	NA	NA	NA	NA	0
2008	NA	NA	NA	NA	NA	NA	NA	0
2009	0.4	0.05	0.22	0.32	0	0	0	40
2010	NA	NA	NA	NA	NA	NA	NA	0
ALL	0.39	0.11	0.2	0.3	0	0	0	46

### Females

Year	p_F1	p_F2	p_F3	p_F4	p_F5	p_F6	p_F7	n_allF
1992	NA	NA	NA	NA	NA	NA	NA	0
1993	NA	NA	NA	NA	NA	NA	NA	0
1994	NA	NA	NA	NA	NA	NA	NA	0
1995	NA	NA	NA	NA	NA	NA	NA	0
1996	NA	NA	NA	NA	NA	NA	NA	0
1997	NA	NA	NA	NA	NA	NA	NA	0
1998	NA	NA	NA	NA	NA	NA	NA	0
1999	NA	NA	NA	NA	NA	NA	NA	0
2000	NA	NA	NA	NA	NA	NA	NA	0
2001	NA	NA	NA	NA	NA	NA	NA	0
2002	NA	NA	NA	NA	NA	NA	NA	0
2003	NA	NA	NA	NA	NA	NA	NA	0
2004	NA	NA	NA	NA	NA	NA	NA	0
2005	0.09	0.91	0	0	0	0	0	87
2006	NA	NA	NA	NA	NA	NA	NA	0
2007	NA	NA	NA	NA	NA	NA	NA	0
2008	NA	NA	NA	NA	NA	NA	NA	0
2009	0.15	0.8	0.04	0	0.01	0	0.01	197
2010	NA	NA	NA	NA	NA	NA	NA	0
ALL	0.13	0.83	0.02	0	0	0	0.01	284

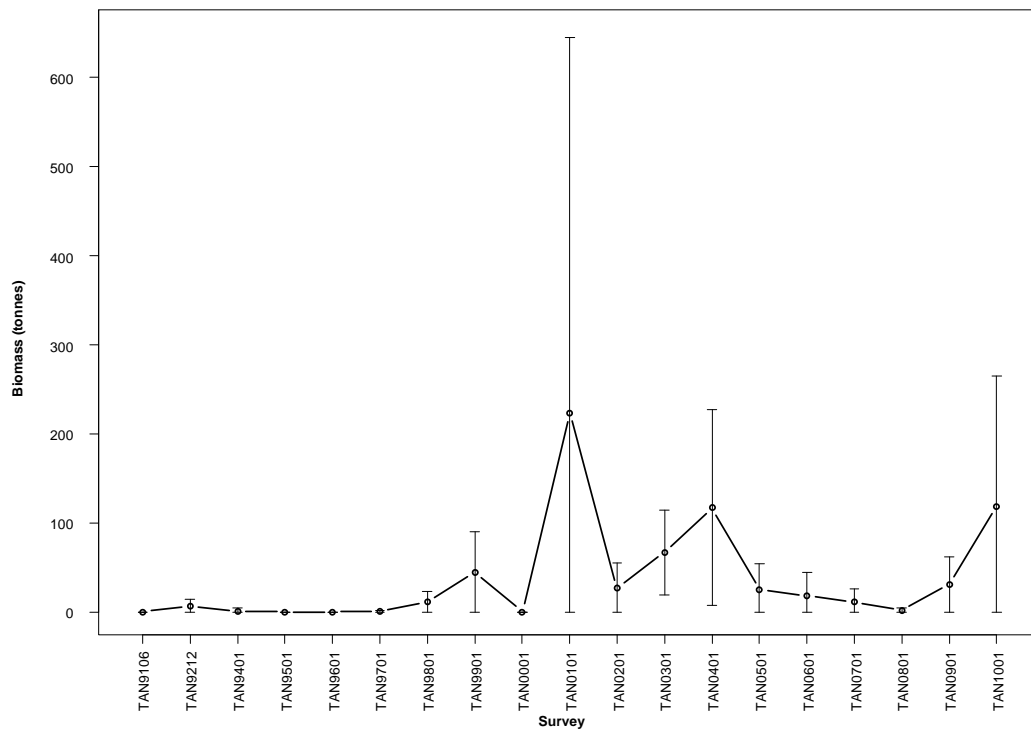


Number of surveys caught 1992–2010 (out of 19):	16
Total catch weight (kg):	502.7
Number measured	0
Length range (mean) (cm)	–
Number weighed	0
Length-weight parameters a, b ( $r^2$ )	–

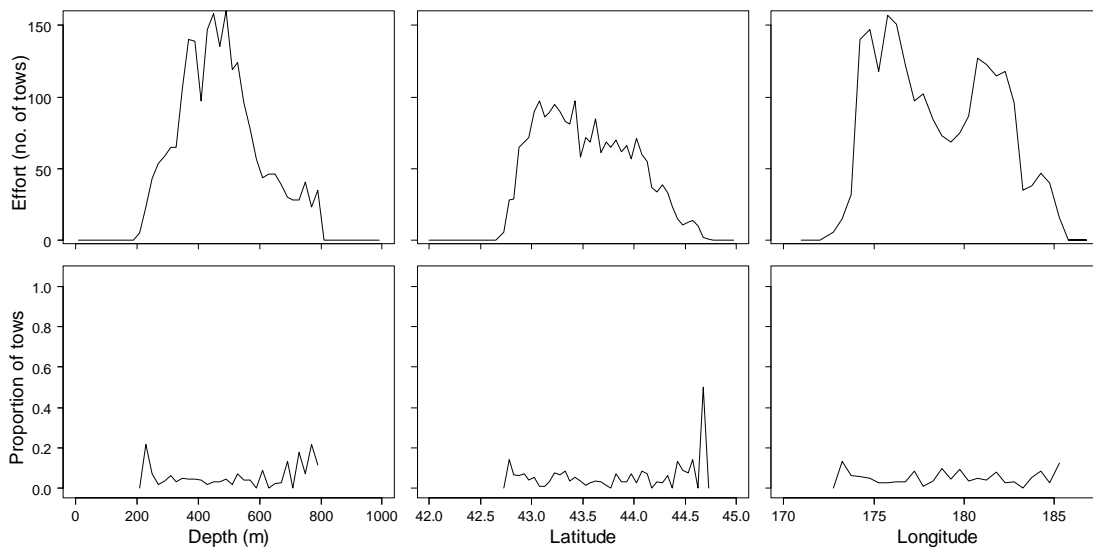
The core survey area and depth range **is not** appropriate for this group. It occurs in midwater. Biomass of this species is **poorly** estimated in the core survey area. Biomass **has increased and then decreased** since the start of the time series, but this may be because this group was **poorly recorded** in some early surveys.

#### Relative biomass estimates

Year	Biomass (t)	cv (%)
1992	0	-
1993	6	66
1994	1	100
1995	0	-
1996	0	-
1997	1	100
1998	11	59
1999	44	52
2000	0	-
2001	223	94
2002	27	53
2003	67	36
2004	117	47
2005	25	57
2006	18	68
2007	11	71
2008	2	59
2009	31	50
2010	118	62



### Distribution



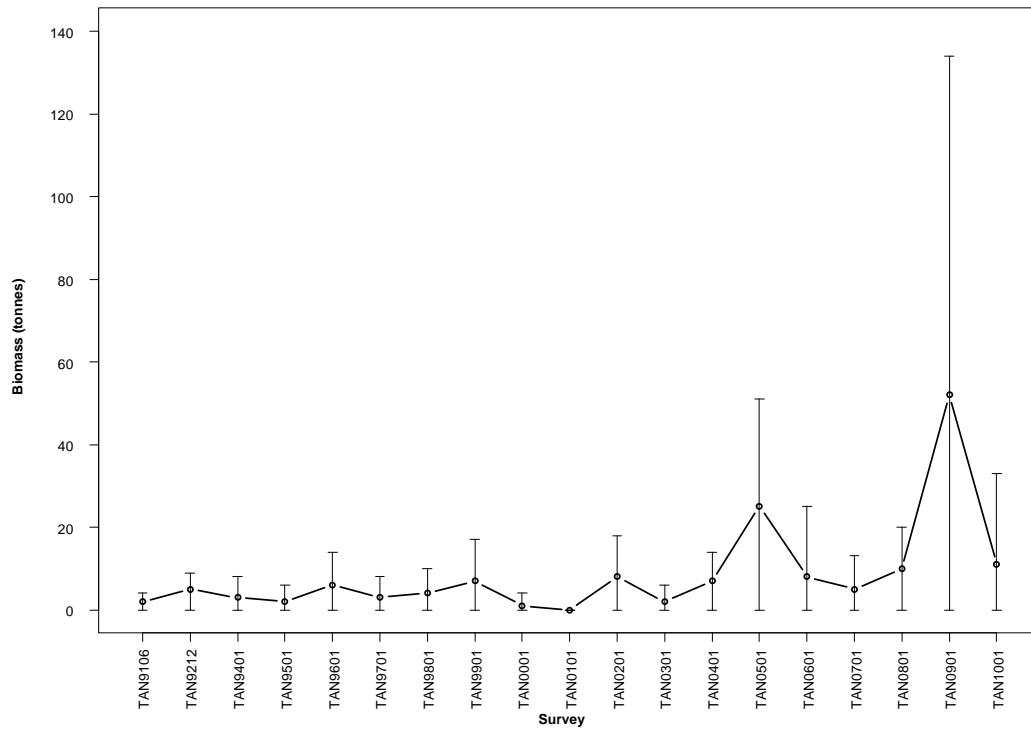


Number of surveys caught 1992–2010 (out of 19):	18
Total catch weight (kg):	147.4
Number measured	87
Length range (mean) (cm, FL)	30–53 (42.5)
Number weighed	36
Length-weight parameters a, b ( $r^2$ )	–

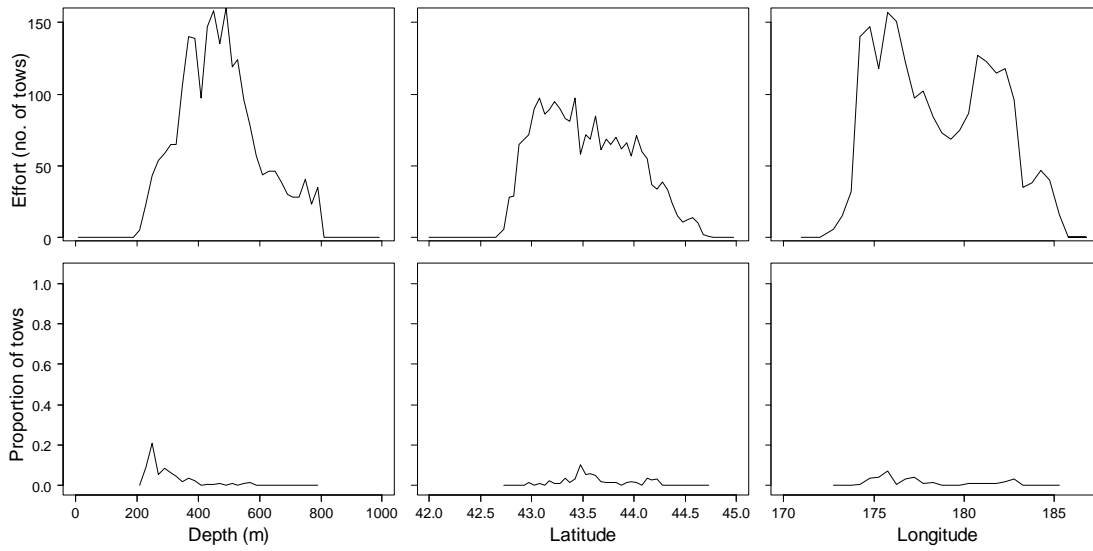
The core survey area and depth range **is not** appropriate for this species. It is found **shallower than 200 m**. Biomass of this species is **poorly** estimated in the core survey area. Biomass has **increased** since the start of the time series.

#### Relative biomass estimates

Year	Biomass (t)	cv (%)
1992	2	71
1993	5	51
1994	3	89
1995	2	100
1996	6	61
1997	3	73
1998	4	73
1999	7	73
2000	1	100
2001	0	-
2002	8	63
2003	2	100
2004	7	50
2005	25	51
2006	8	100
2007	5	72
2008	10	53
2009	52	80
2010	11	100



### Distribution



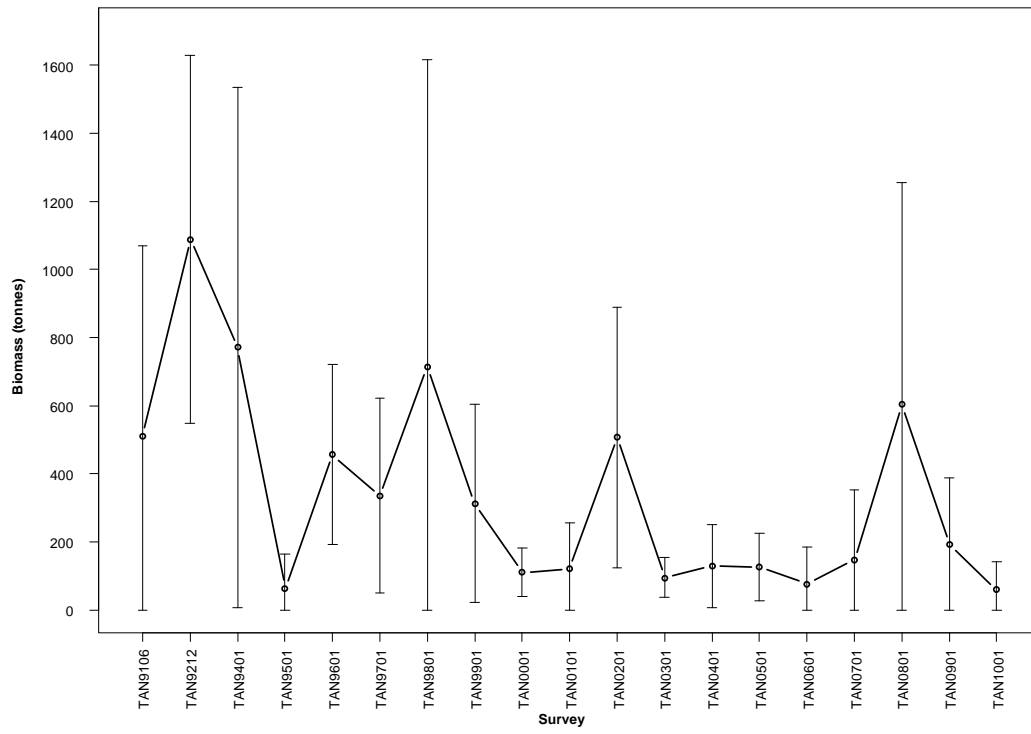


Number of surveys caught 1992–2010 (out of 19):	19
Total catch weight (kg):	5 463.3
Number measured	3 548
Length range (mean) (cm, FL)	29–60 (46.2)
Number weighed	217
Length-weight parameters a, b ( $r^2$ )	0.525937, 1.988148 (55.73)

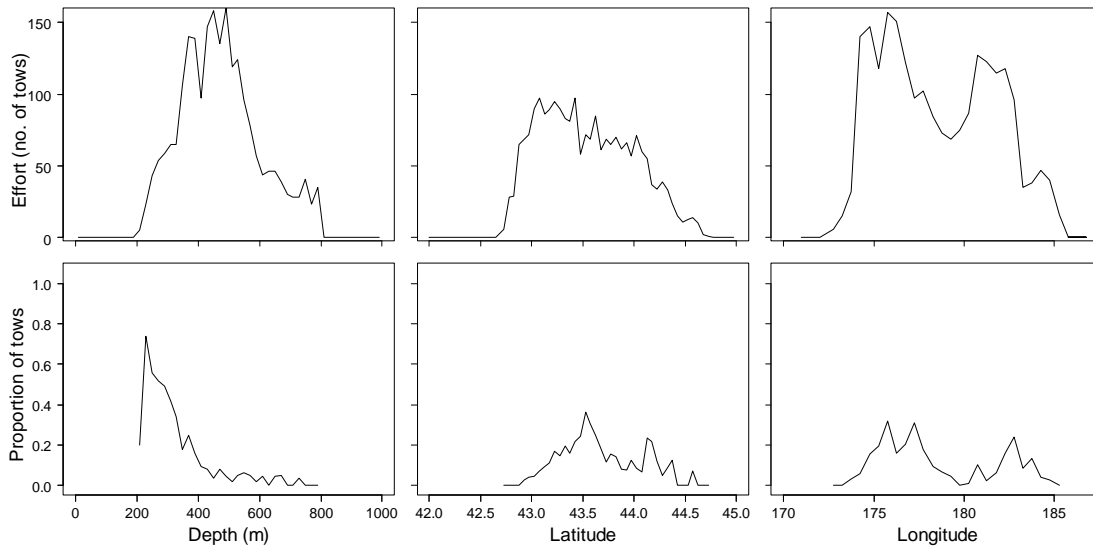
The core survey area and depth range **is** appropriate for this species. Biomass of this species is **poorly** estimated in the core survey area. Biomass has **decreased** since the start of the time series. Length frequencies are usually **unimodal**. Mean length has **increased** since the start of the time series.

#### Relative biomass estimates and length summary

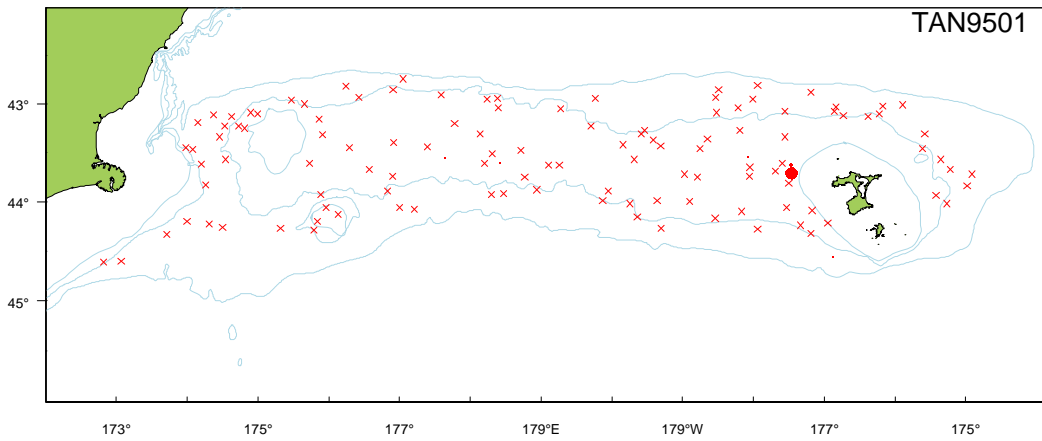
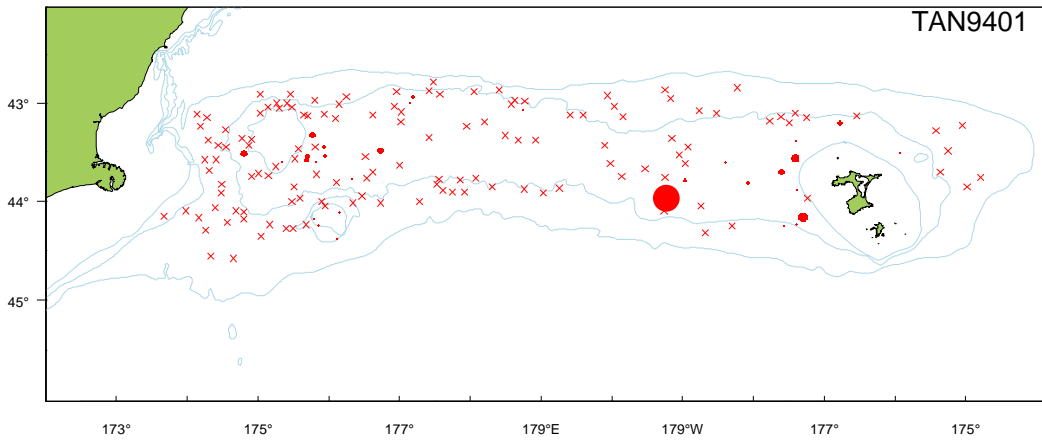
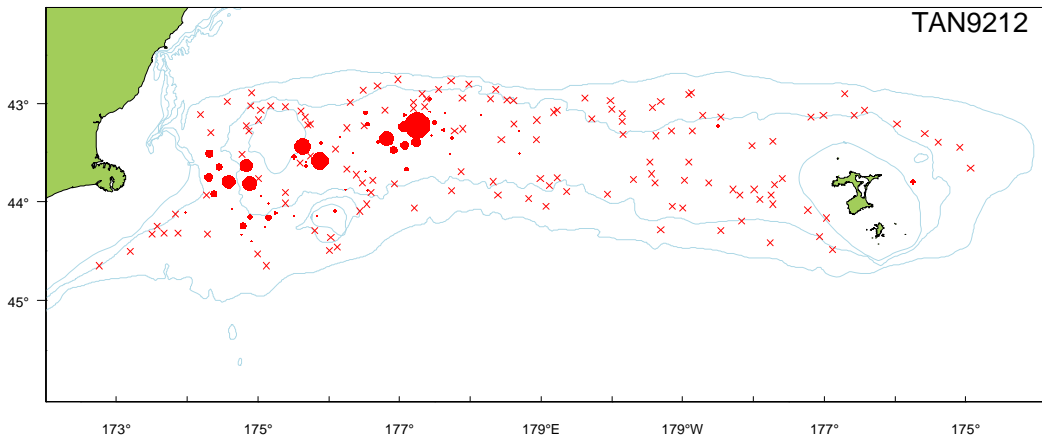
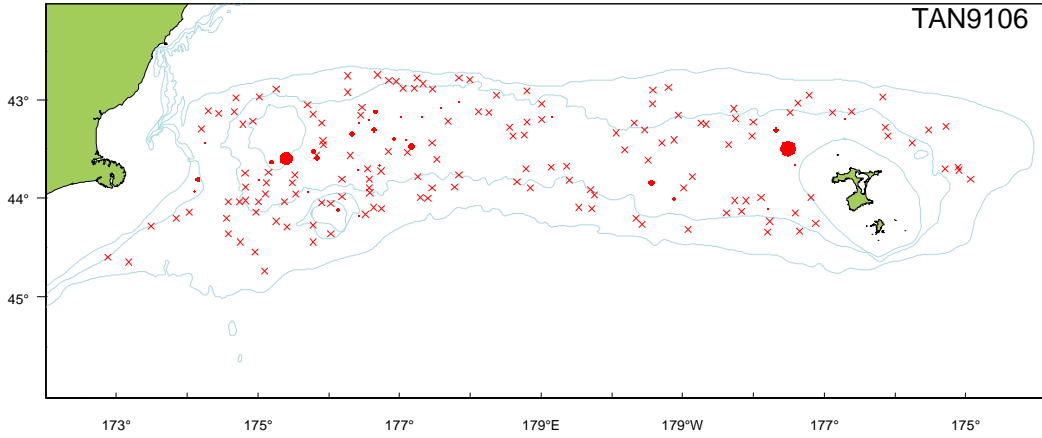
Year	Biomass (t)	cv (%)	Length (cm)			No. measure d
			Min.	Max.	Mean	
1992	511	55	38	59	44.1	349
1993	1 088	25	29	59	44.7	1 036
1994	771	50	39	57	44.2	317
1995	63	80	41	50	44.9	59
1996	456	29	41	56	46.4	246
1997	335	42	43	57	48.3	168
1998	714	63	44	60	49.8	171
1999	312	47	44	55	47.2	190
2000	110	32	44	56	47.4	56
2001	120	57	44	53	48.6	72
2002	507	38	43	54	47.8	268
2003	94	31	44	57	49.6	60
2004	128	48	44	53	48.7	41
2005	127	39	41	55	49.0	54
2006	76	71	45	53	48.6	33
2007	146	70	44	57	50.1	60
2008	603	54	40	54	47.5	172
2009	191	52	41	52	47.8	56
2010	59	70	42	52	48.2	16

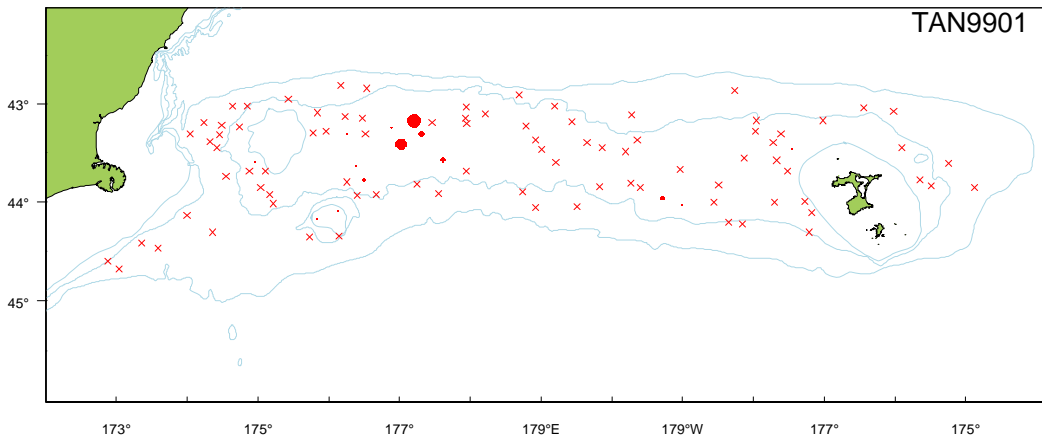
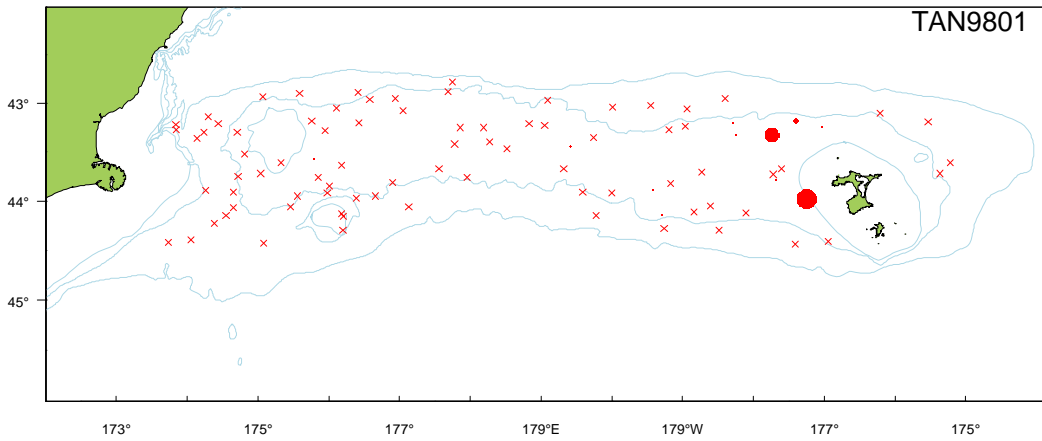
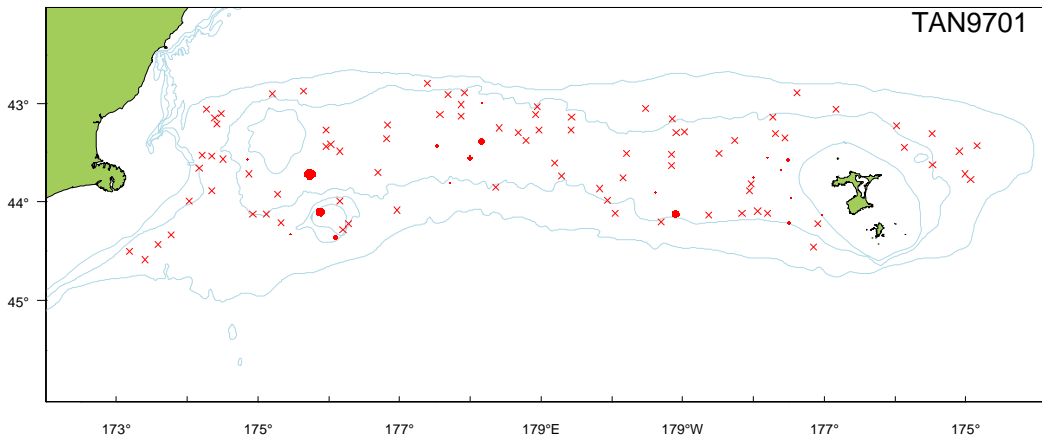
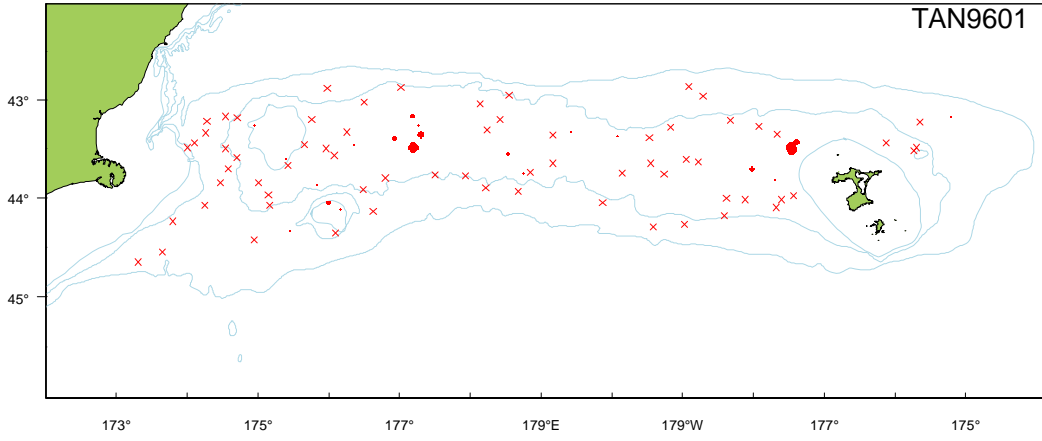


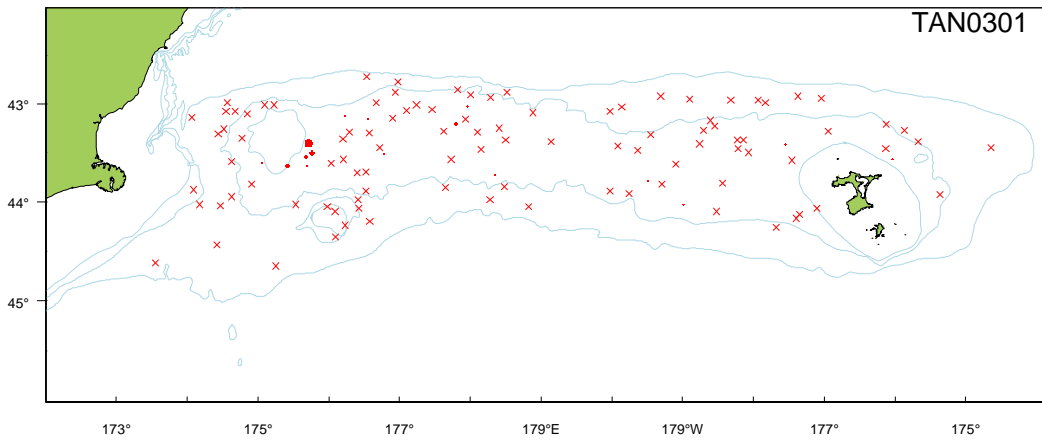
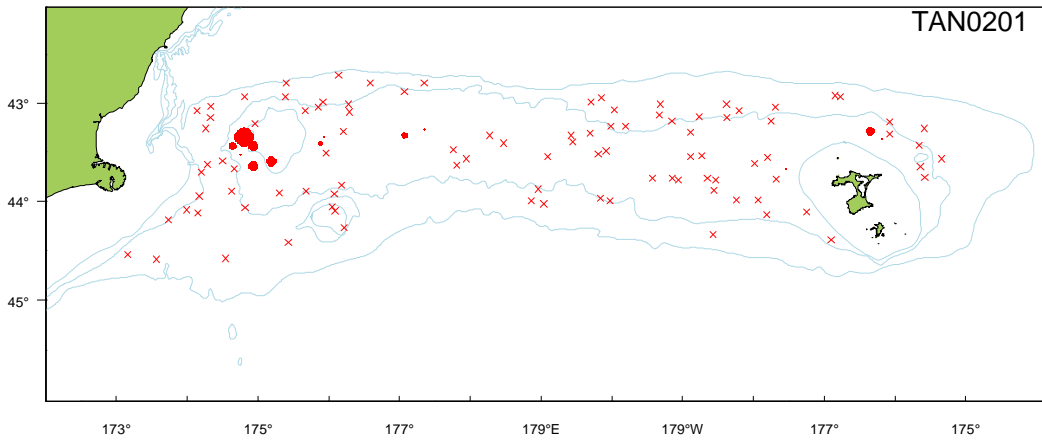
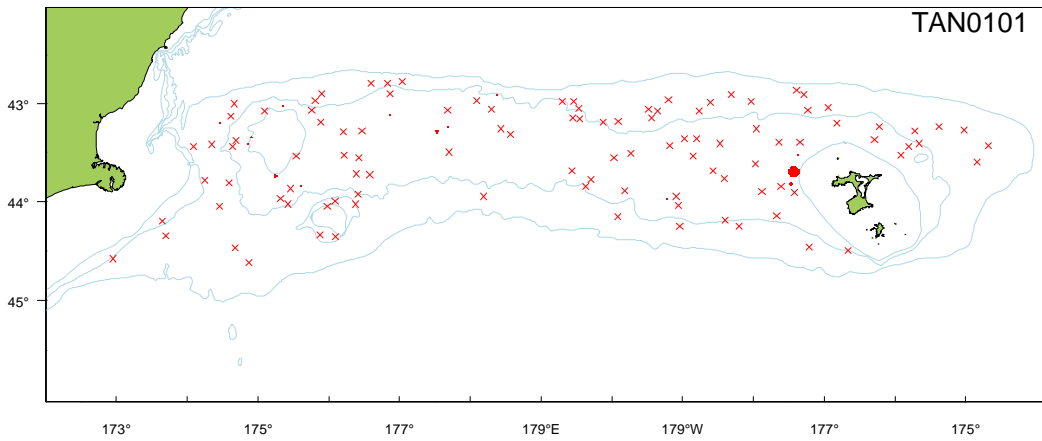
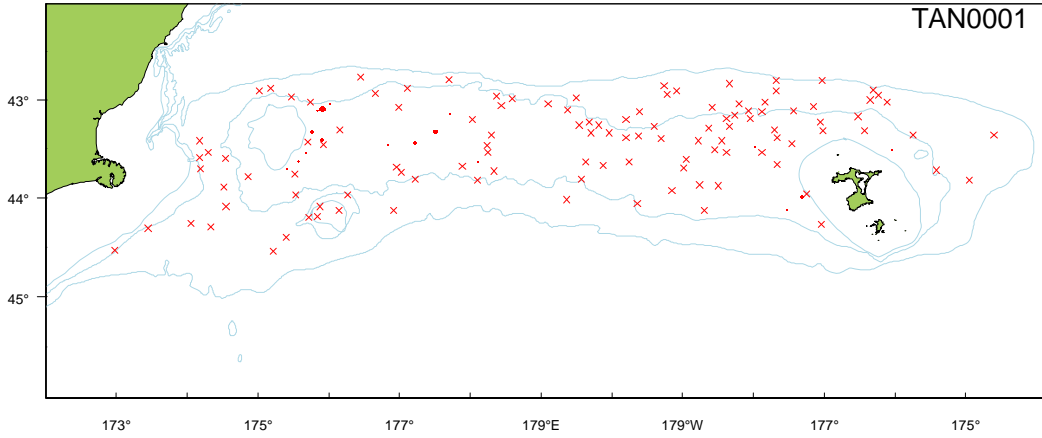
### Distribution

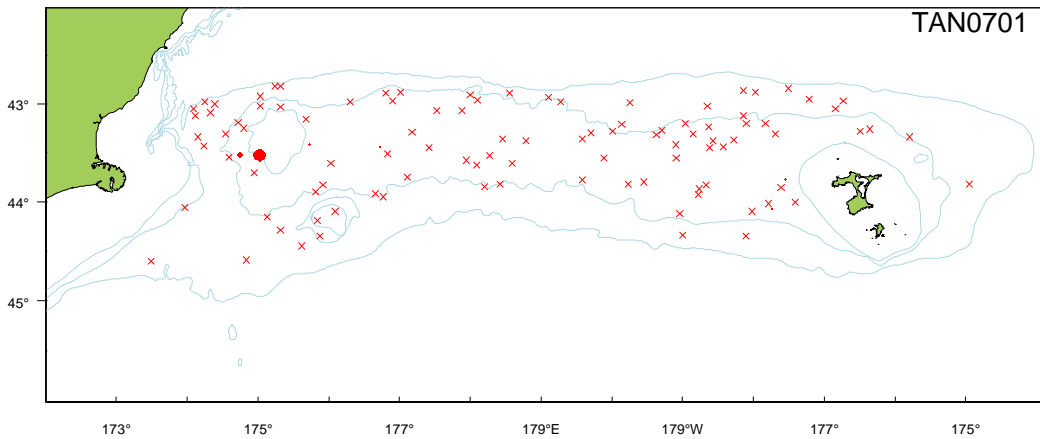
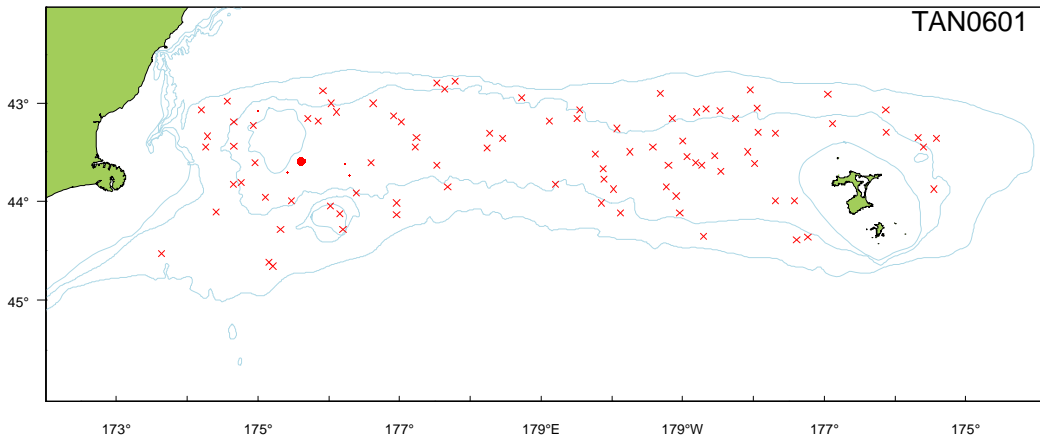
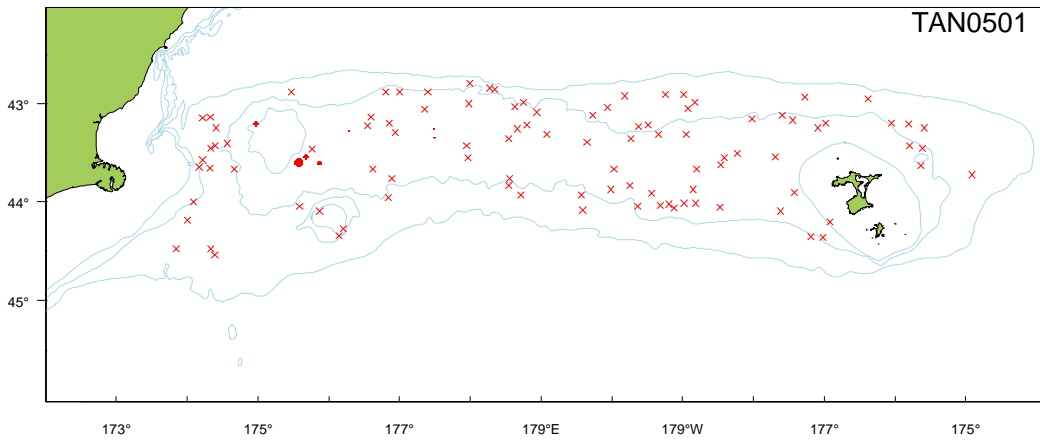
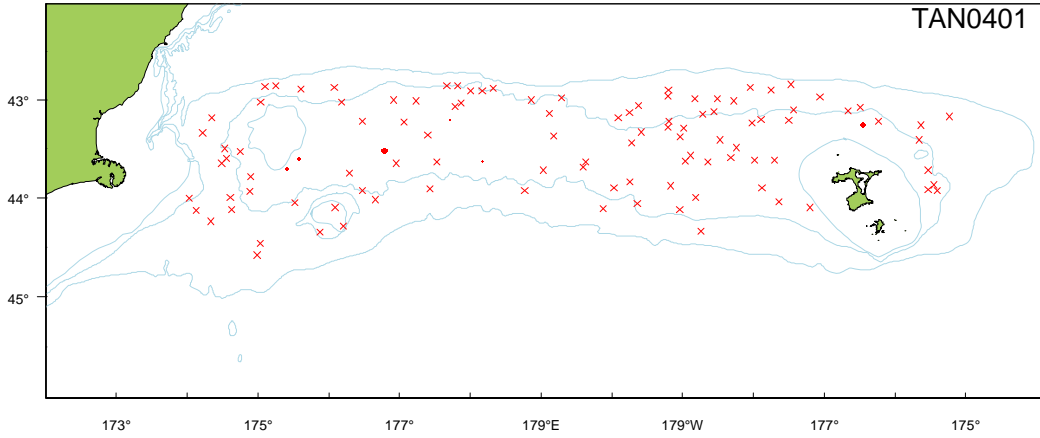


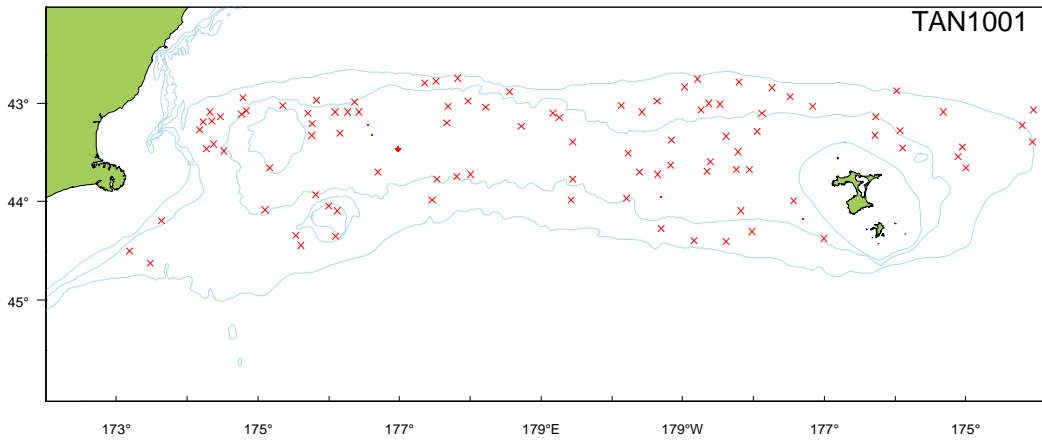
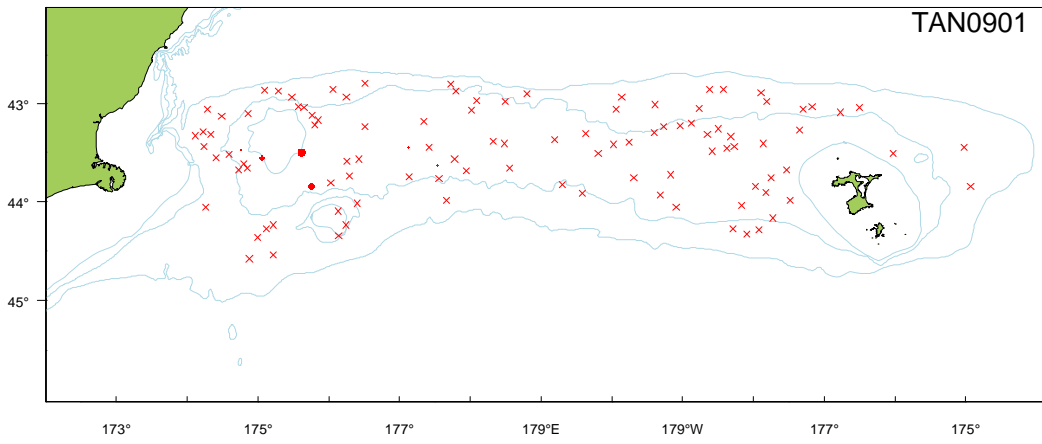
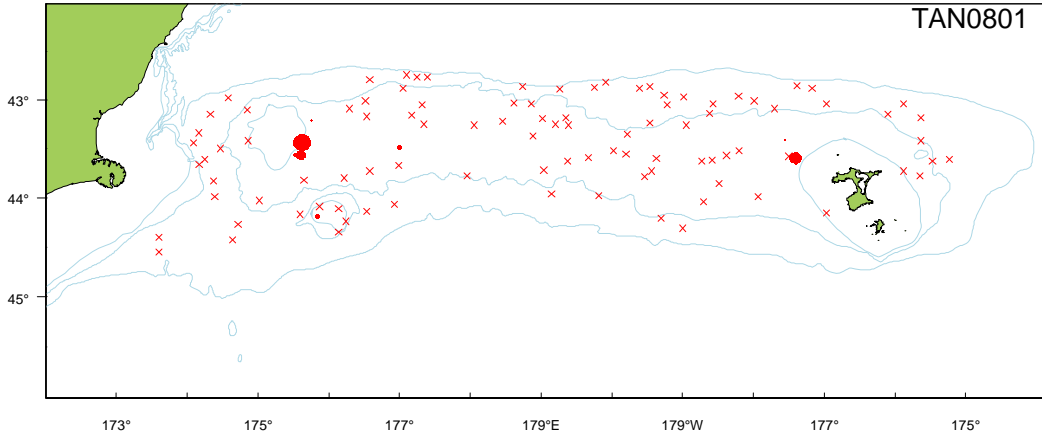




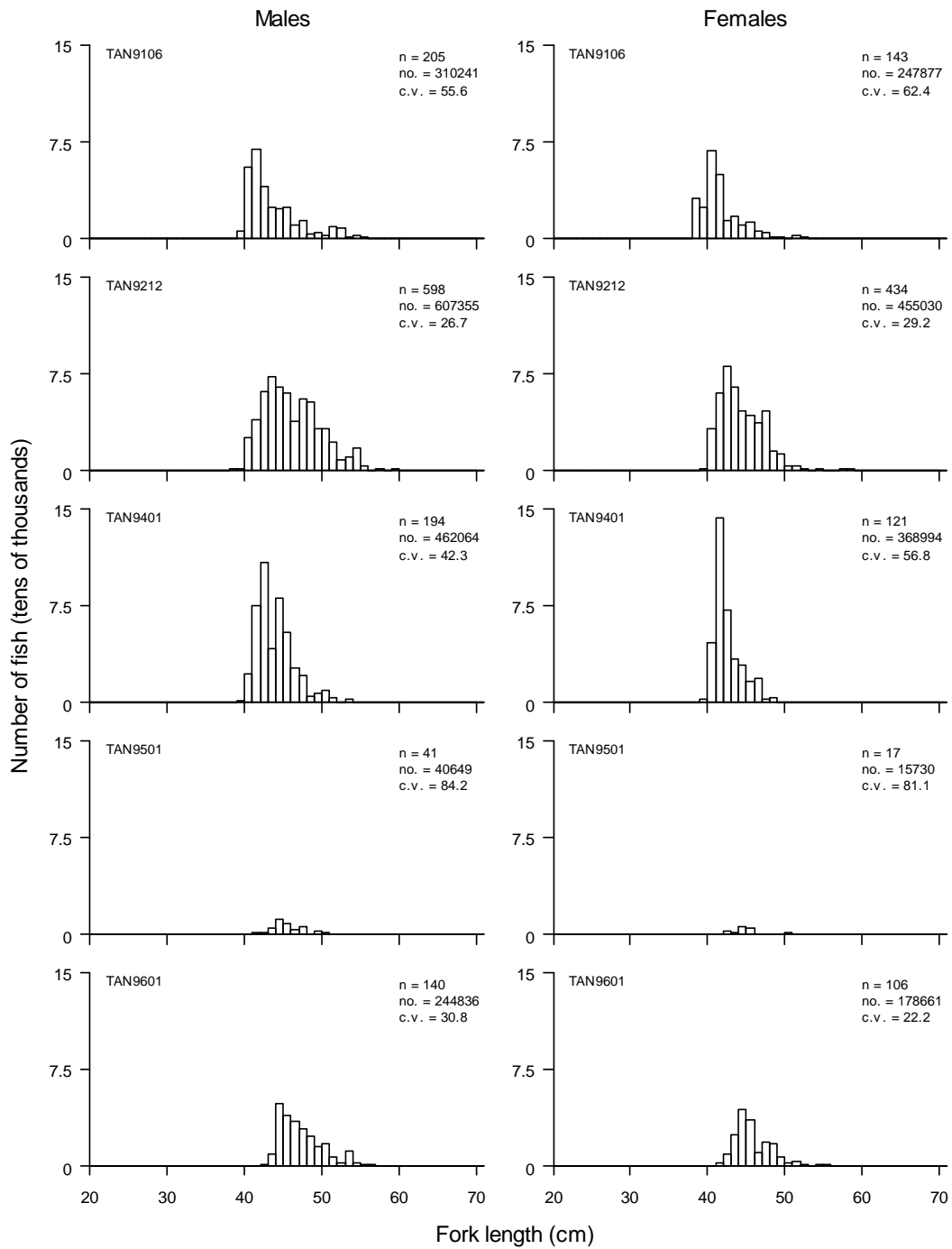


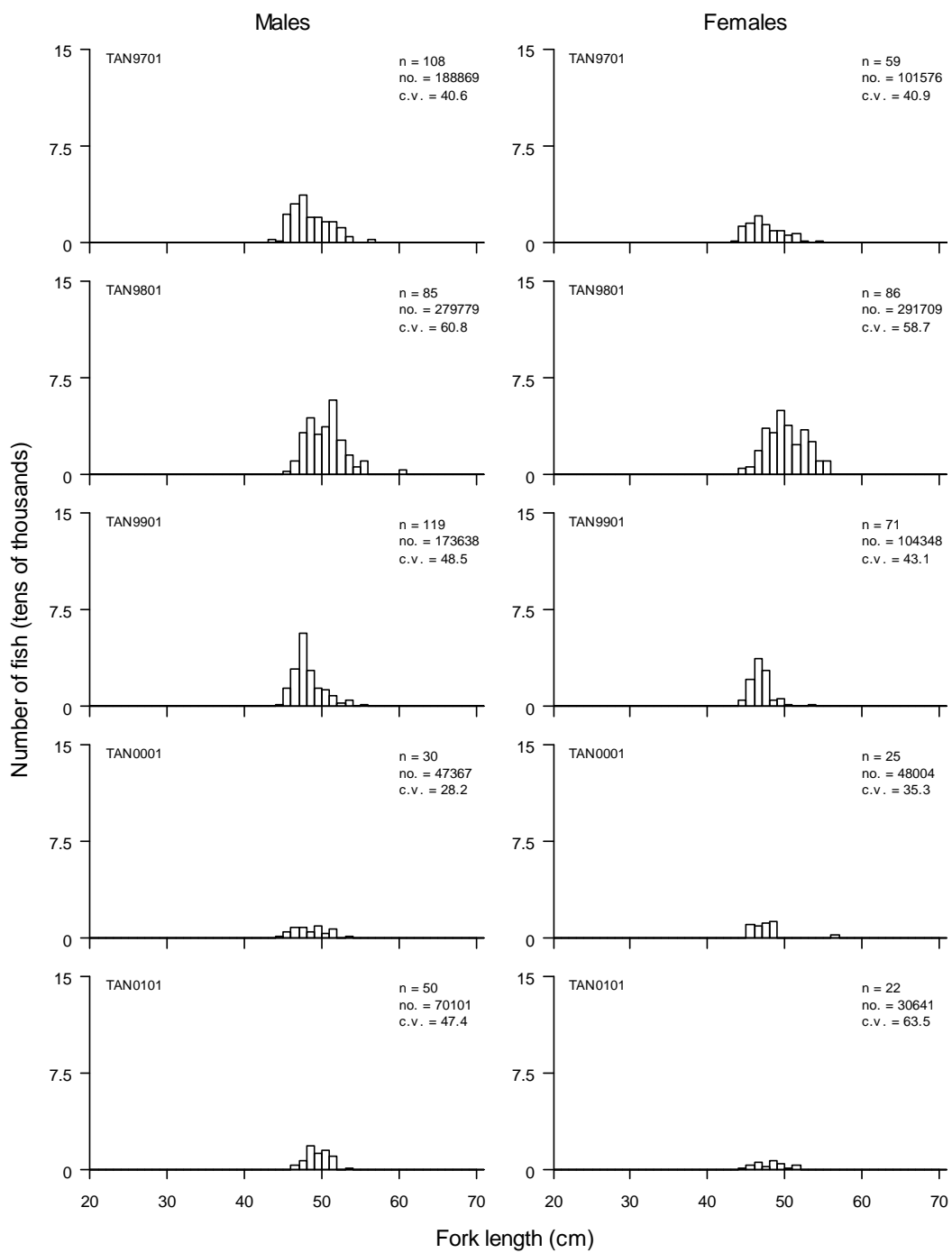


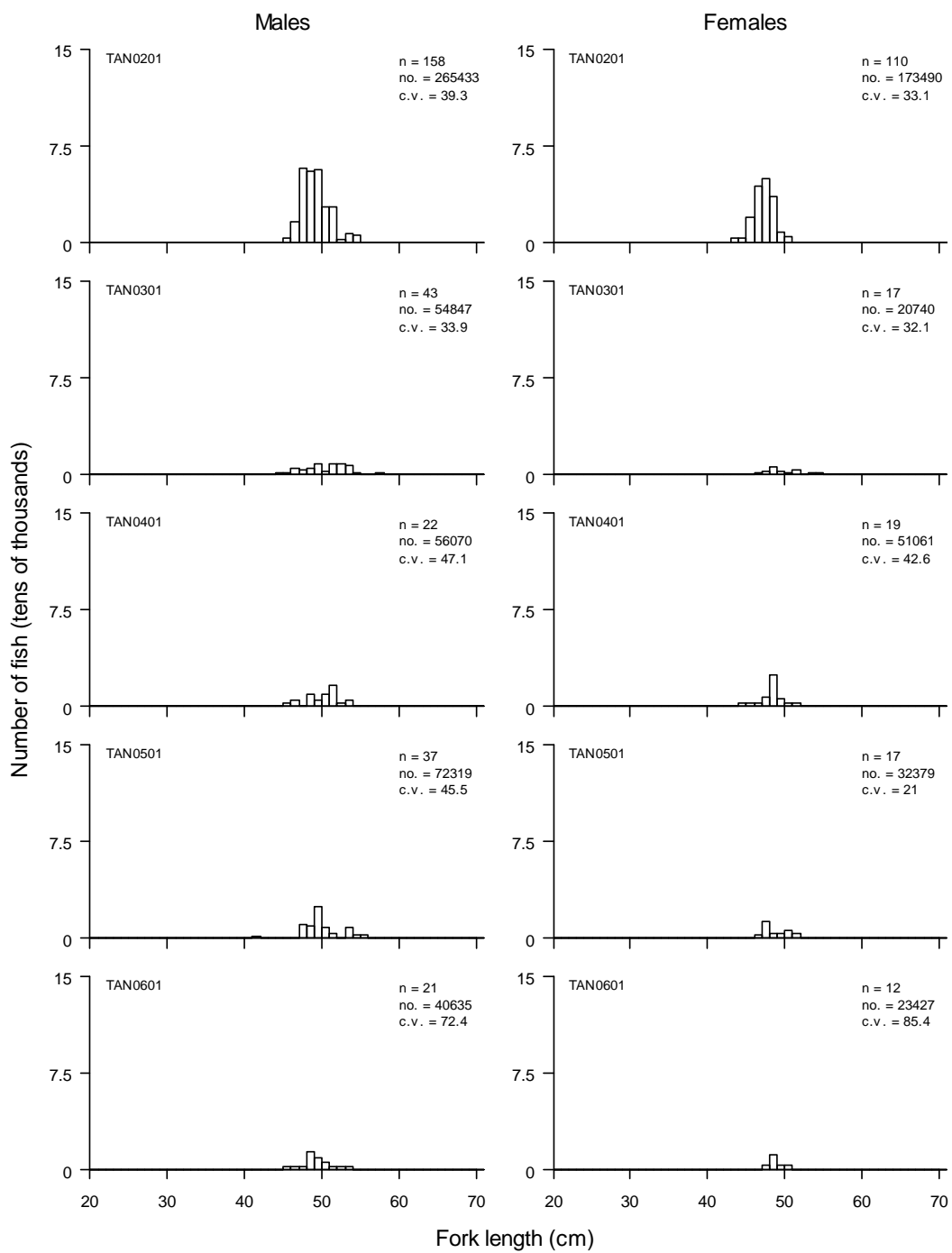




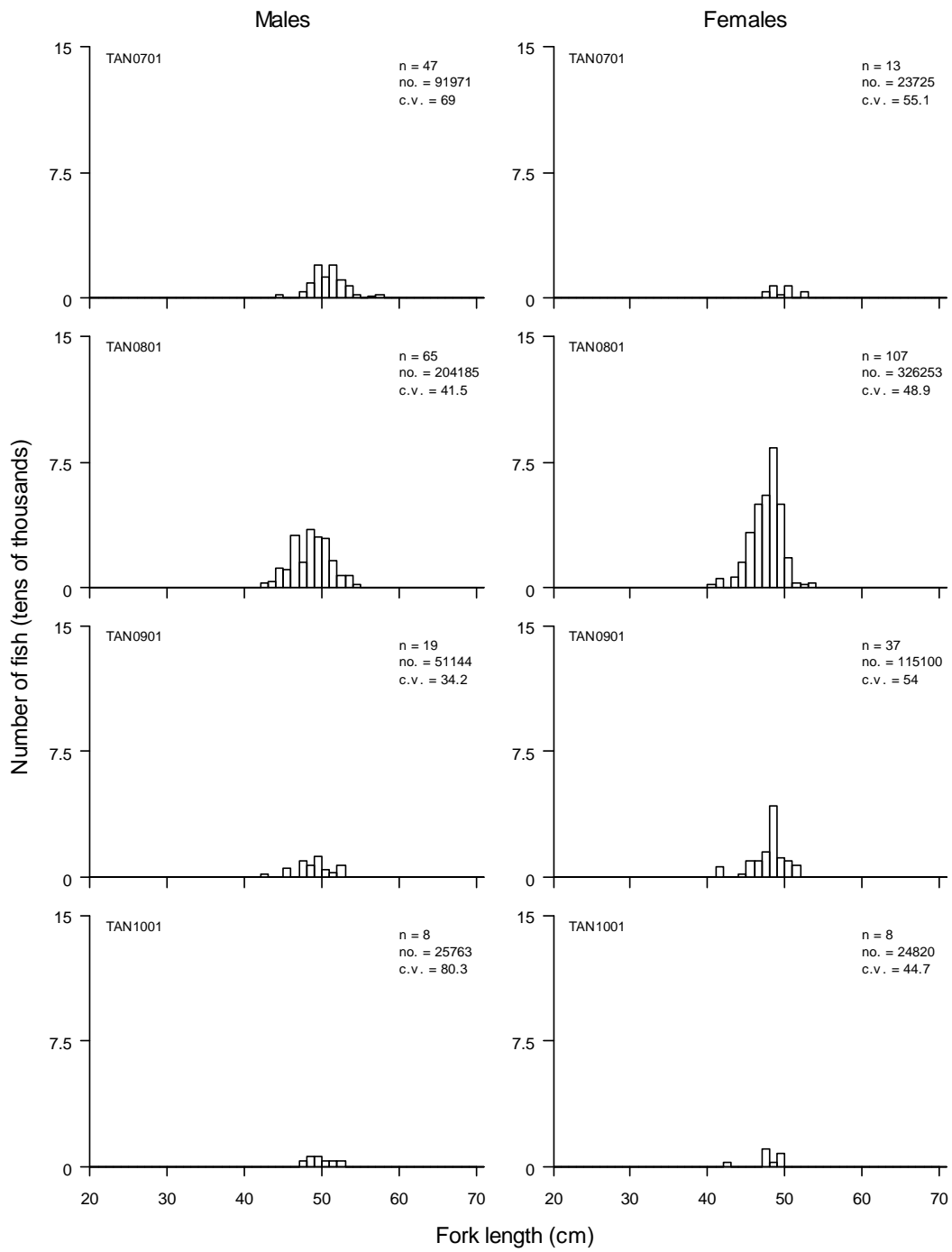
# Length Frequencies











**Coded as DIA**

Number of surveys caught 1992–2010 (out of 19):	4
Total catch weight (kg):	787.1
Number measured	3

**Coded as LAN**

Number of surveys caught 1992–2010 (out of 19):	18
Total catch weight (kg):	146.7
Number measured	1 238

**Coded as LHE**

Number of surveys caught 1992–2010 (out of 19):	5
Total catch weight (kg):	3 980.7
Number measured	5

**Coded as LPA**

Number of surveys caught 1992–2010 (out of 19):	9
Total catch weight (kg):	12
Number measured	0

**Coded as MMU**

Number of surveys caught 1992–2010 (out of 19):	5
Total catch weight (kg):	4 845.2
Number measured	1 022

**Coded as PHO**

Number of surveys caught 1992–2010 (out of 19):	19
Total catch weight (kg):	42
Number measured	1

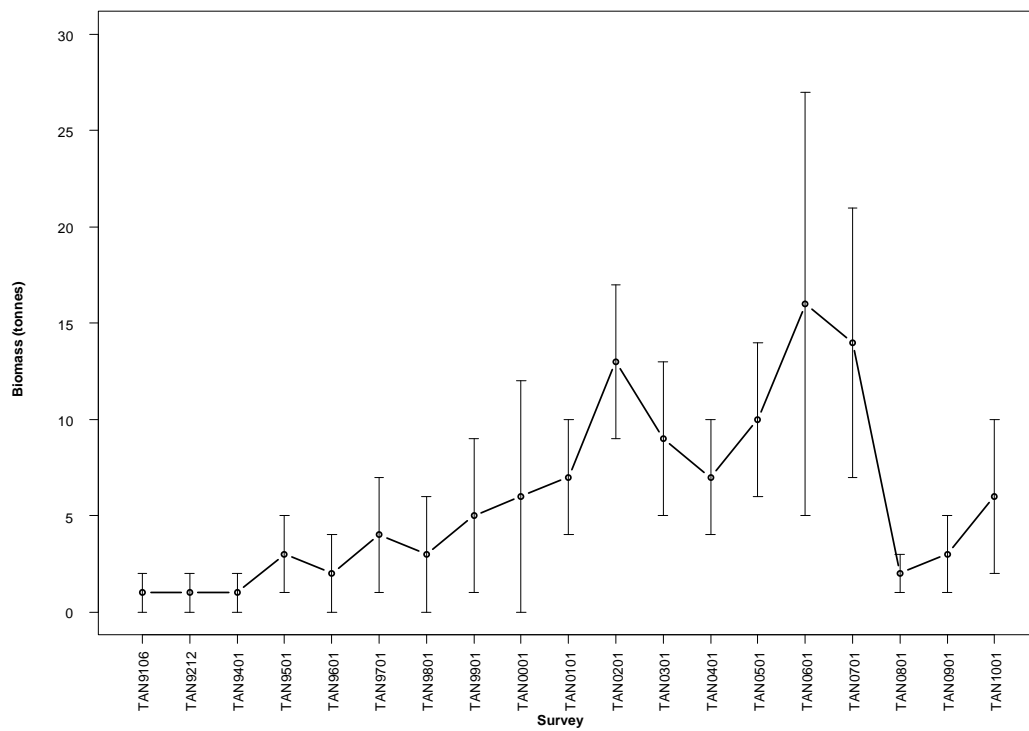
**Coded as SYM**

Number of surveys caught 1992–2010 (out of 19):	3
Total catch weight (kg):	1 020.2
Number measured	0

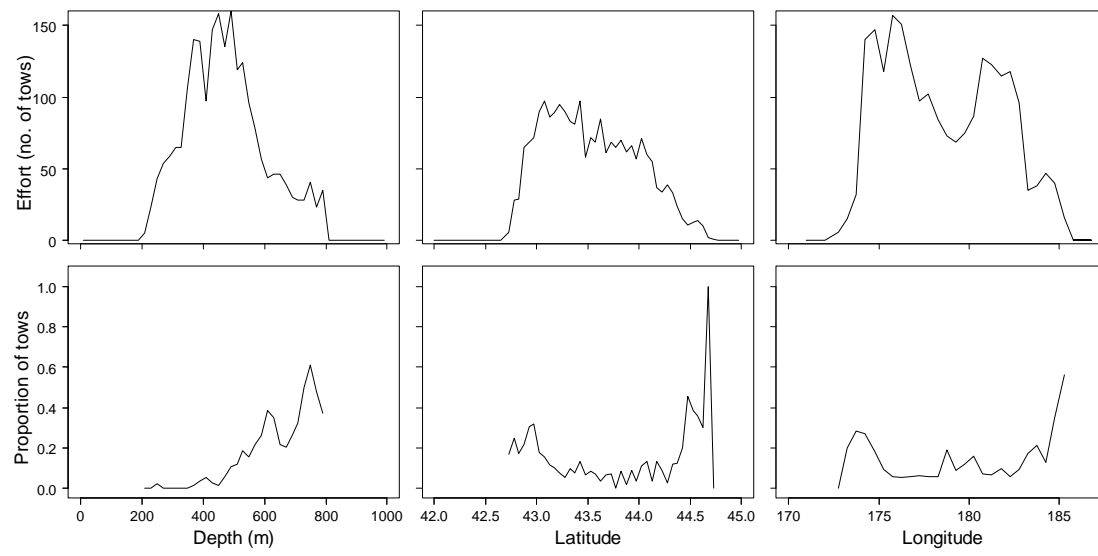
The core survey area and depth range **is not** appropriate for this group. It occurs in midwater and found **deeper than 800 m**. Biomass of this group is **moderately well** estimated in the core survey area. Biomass has **increased** since the start of the time series, but this may be because the group was **poorly recorded** in early surveys. Catch rates are highest in the **southwest**.

### Relative biomass estimates

Year	Biomass (t)	cv (%)
1992	1	44
1993	1	44
1994	1	58
1995	3	27
1996	2	58
1997	4	34
1998	3	47
1999	5	41
2000	6	51
2001	7	25
2002	13	15
2003	9	21
2004	7	24
2005	10	20
2006	16	36
2007	14	24
2008	2	32
2009	3	30
2010	6	33



## Distribution



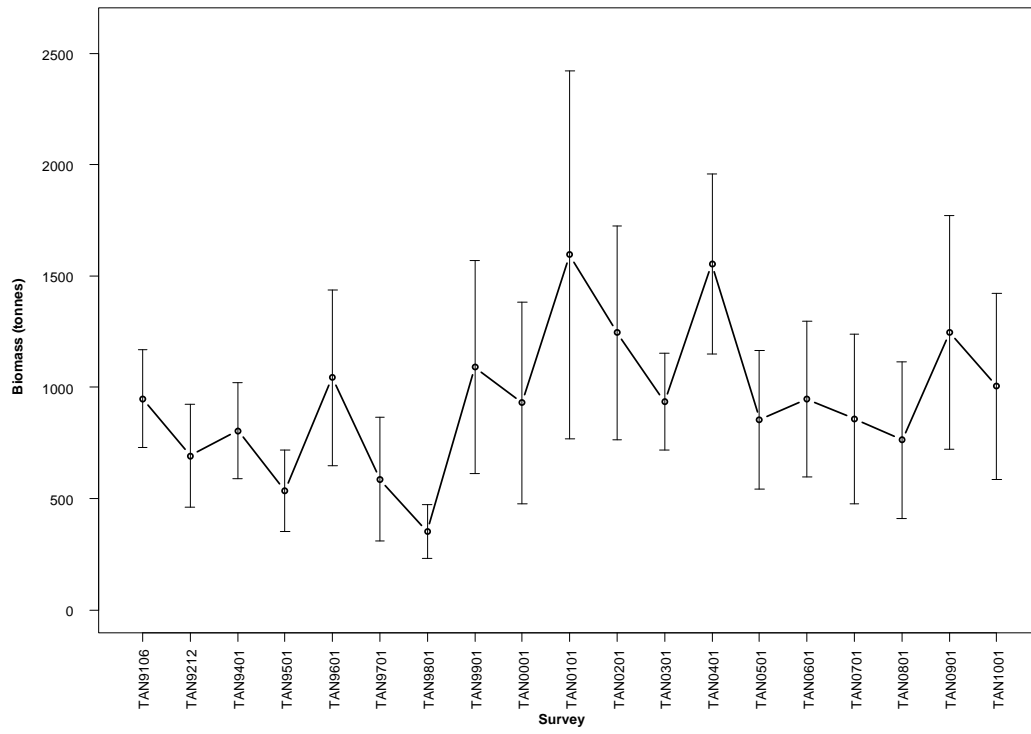


Number of surveys caught 1992–2010 (out of 19):	19
Total catch weight (kg):	8 185.6
Number measured	2 612
Length range (mean) (cm, GL)	13–115 (69.9)
Number weighed	1 977
Length-weight parameters a, b ( $r^2$ )	0.00306, 3.006015 (95.52)

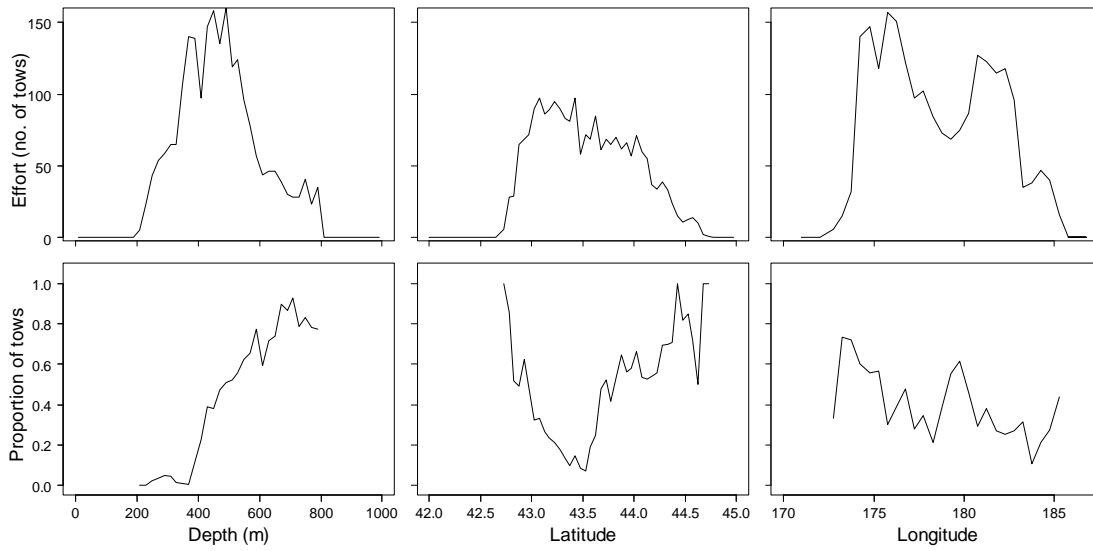
The core survey area and depth range **is not** appropriate for this species. It is found **deeper than 800 m**. Biomass of this species is **very well** estimated in the core survey area. Biomass **shows no clear trend** since the start of the time series. Catch rates are highest in the **south**. Length frequencies **have multiple modes which may contain information about year-class strength**. Mean length **shows no clear trend** since the start of the time series. Gonad stage data indicate that fish **of all stages** are observed in the survey.

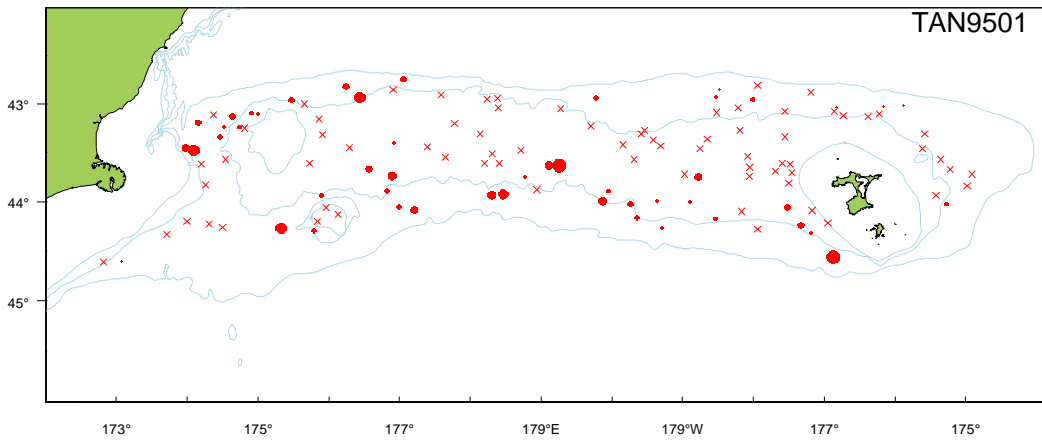
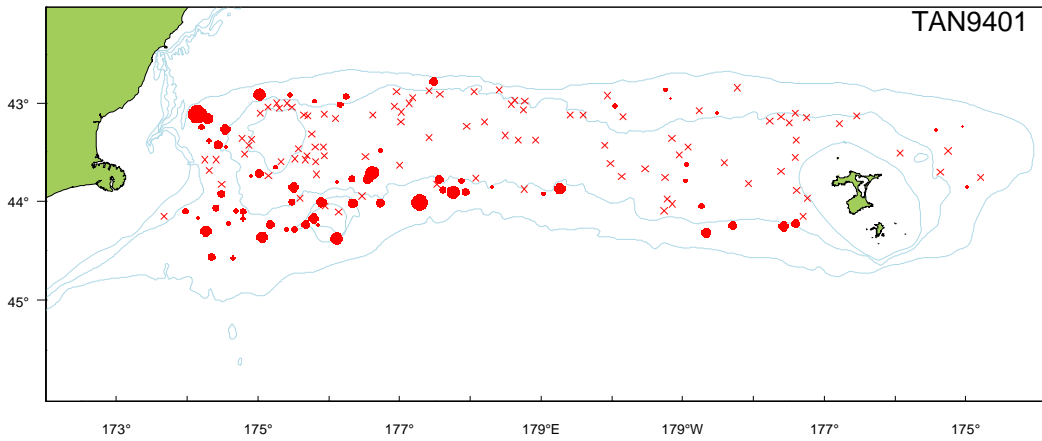
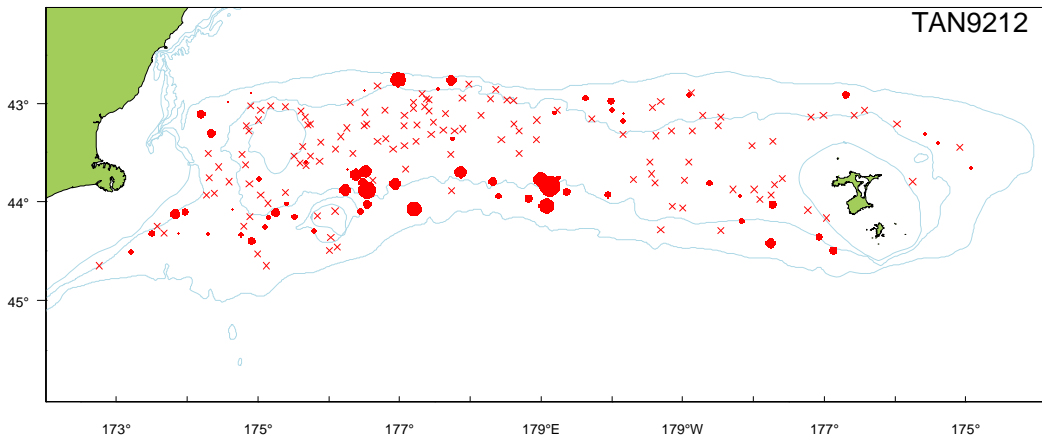
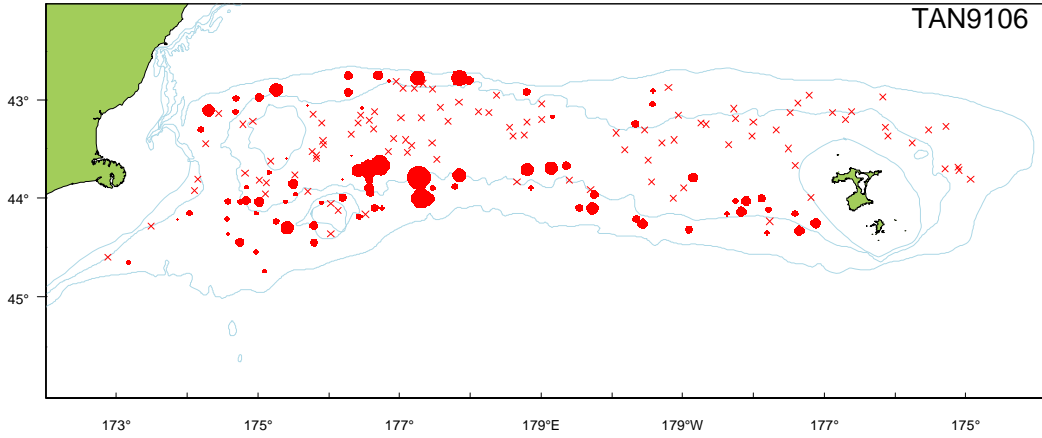
#### Relative biomass estimates and length summary

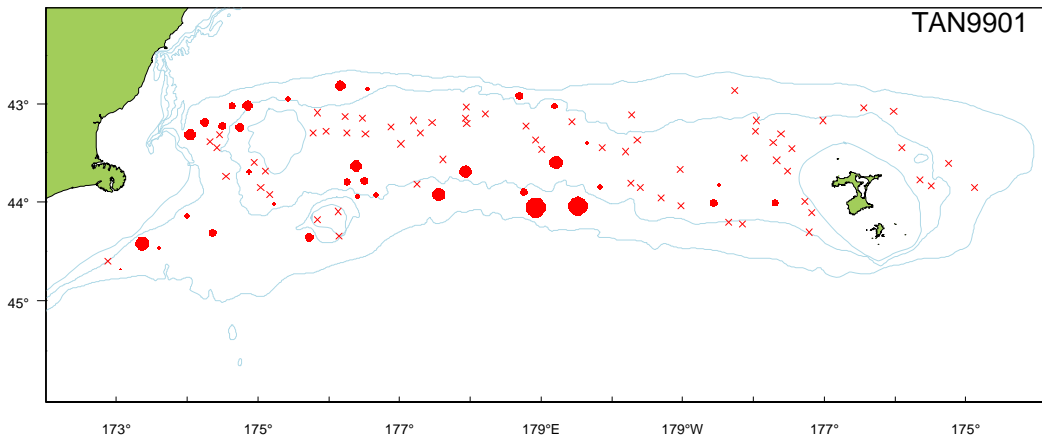
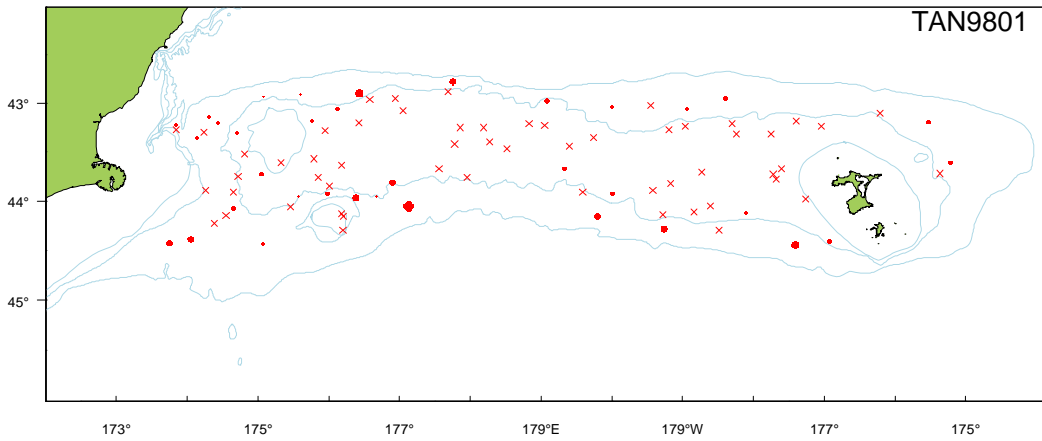
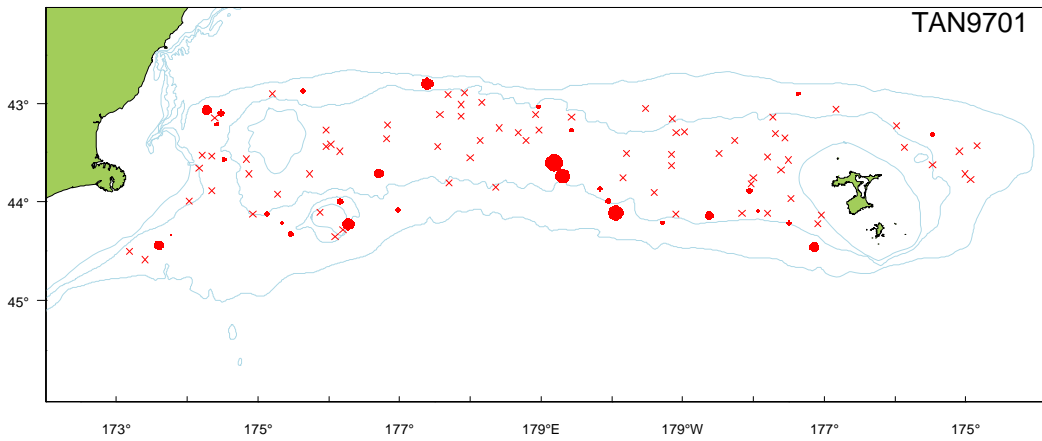
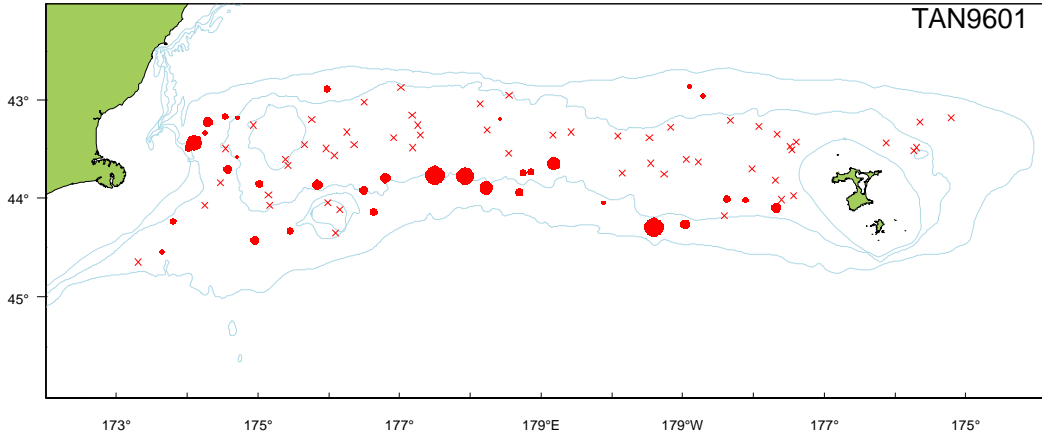
Year	Biomass (t)	cv (%)	Length (cm)			No. measure
			Min.	Max.	Mean	
1992	949	12	-	-	-	0
1993	691	17	-	-	-	0
1994	804	13	-	-	-	0
1995	535	17	-	-	-	0
1996	1 043	19	-	-	-	0
1997	587	24	-	-	-	0
1998	351	17	-	-	-	0
1999	1 091	22	75	85	80.0	2
2000	930	24	-	-	-	0
2001	1 595	26	-	-	-	0
2002	1 246	19	18	90	66.8	150
2003	937	12	21	94	71.5	299
2004	1 554	13	32	89	70.7	363
2005	854	18	33	94	73.9	210
2006	946	18	19	109	67.7	246
2007	858	22	22	115	69.9	225
2008	763	23	13	91	67.6	213
2009	1 246	21	33	89	68.8	304
2010	1 004	21	41	90	70.9	246



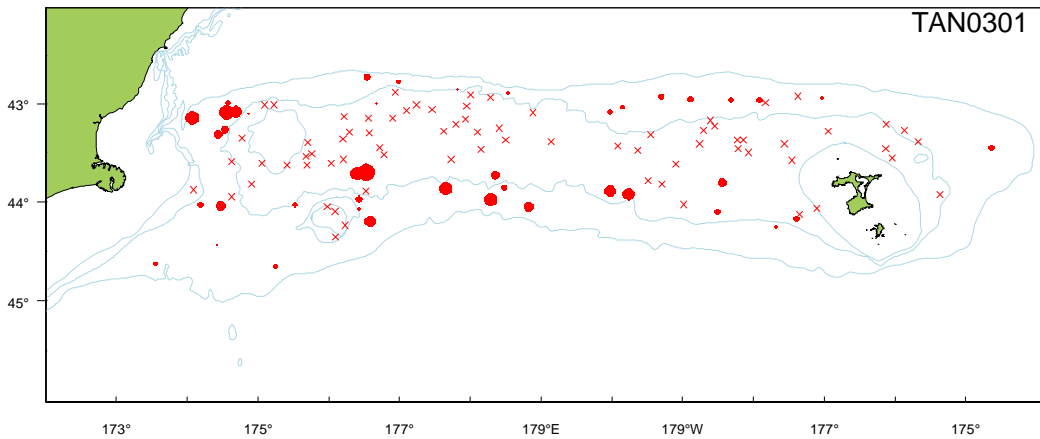
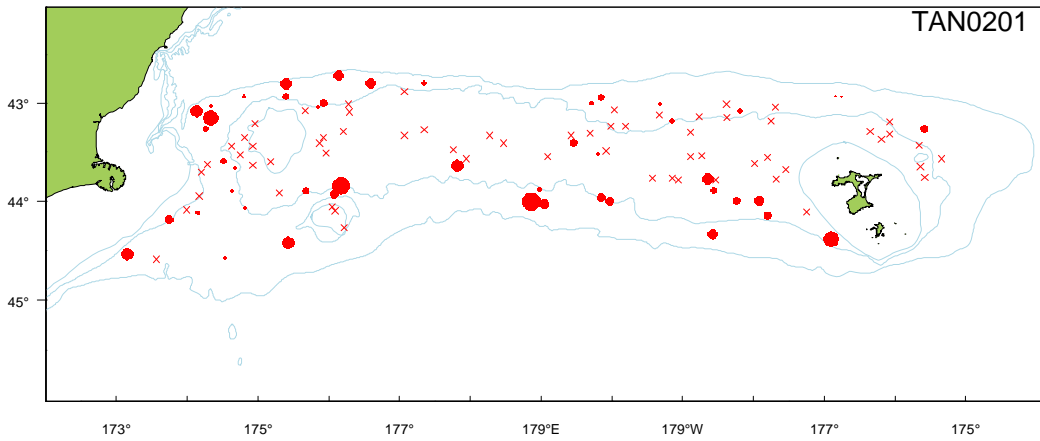
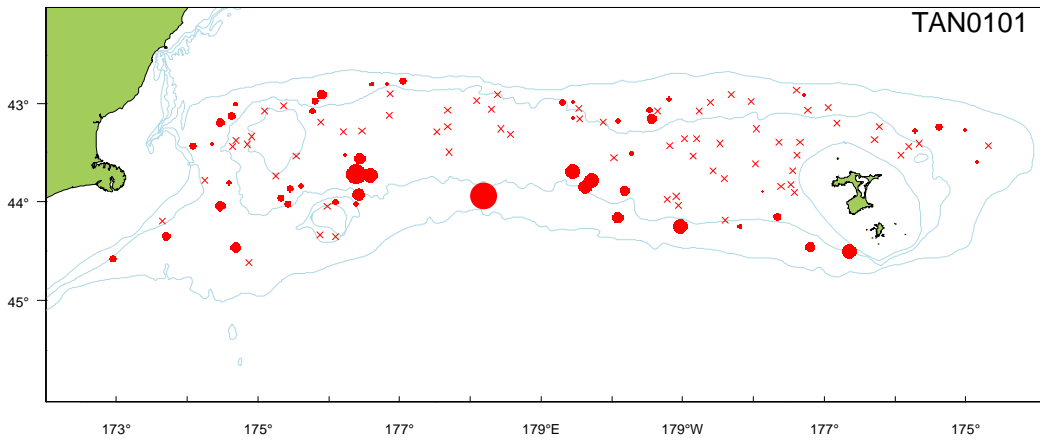
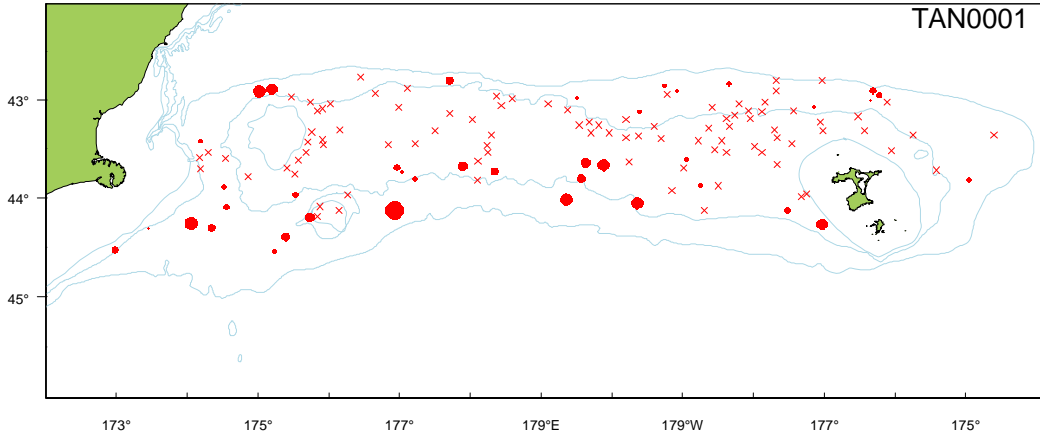
### Distribution

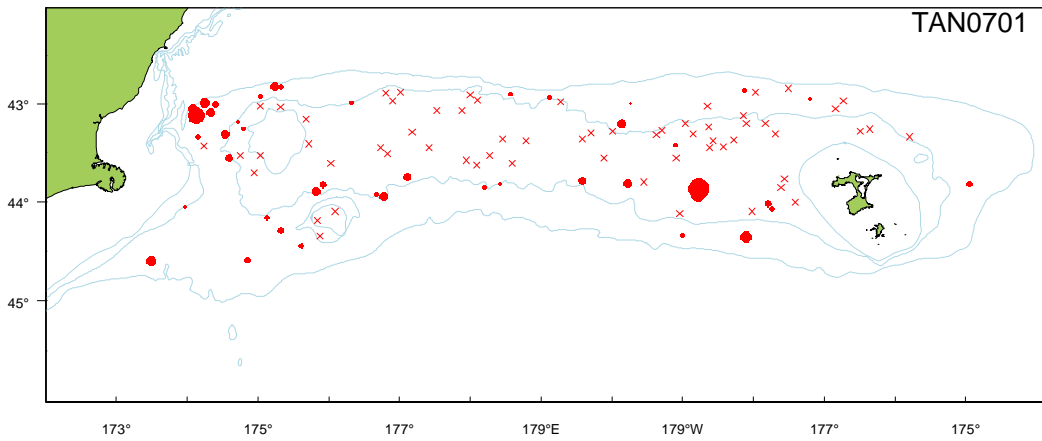
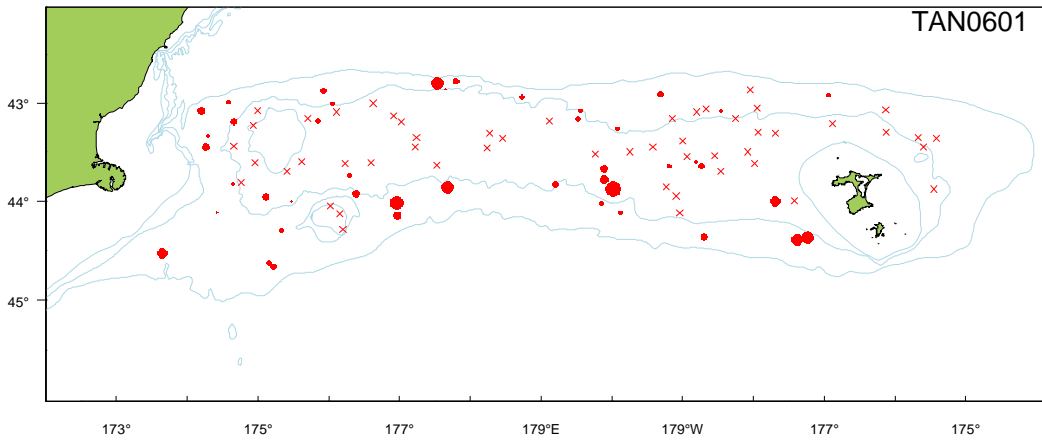
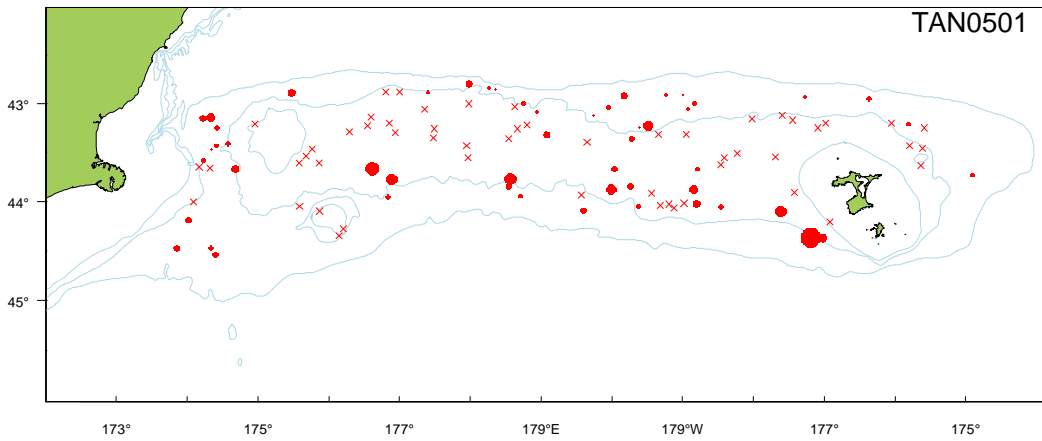
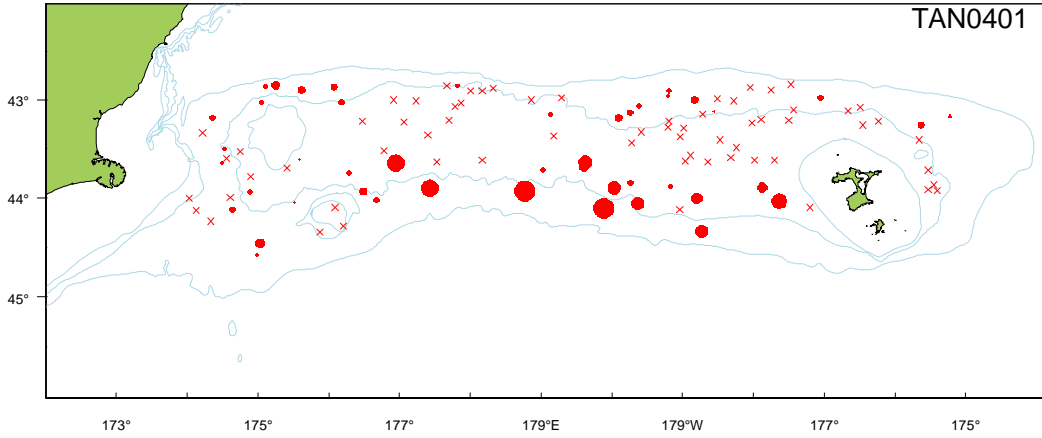


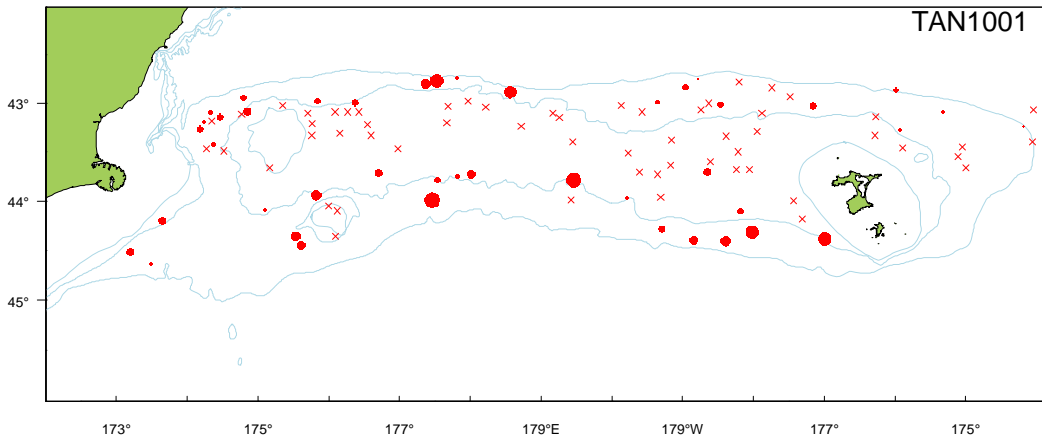
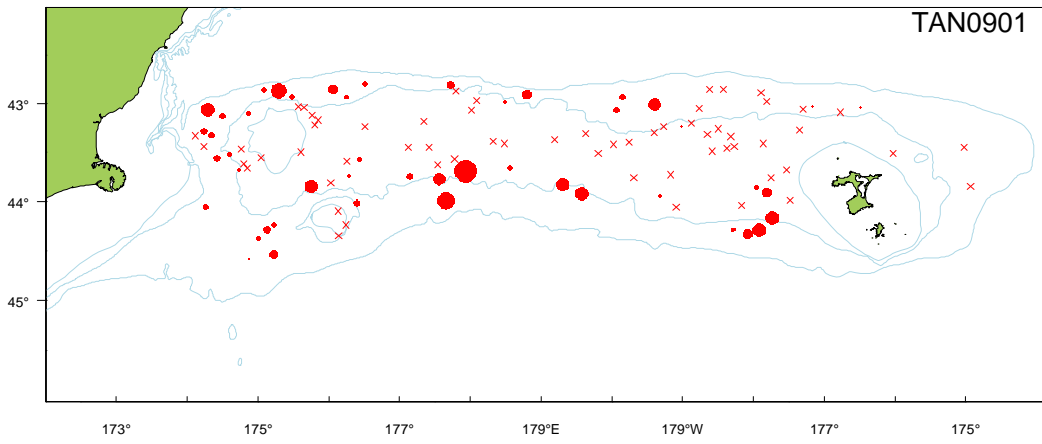
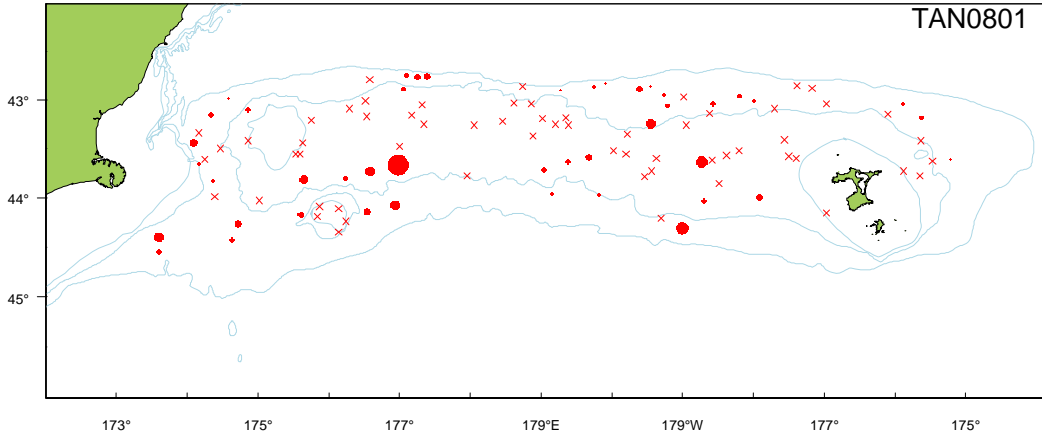




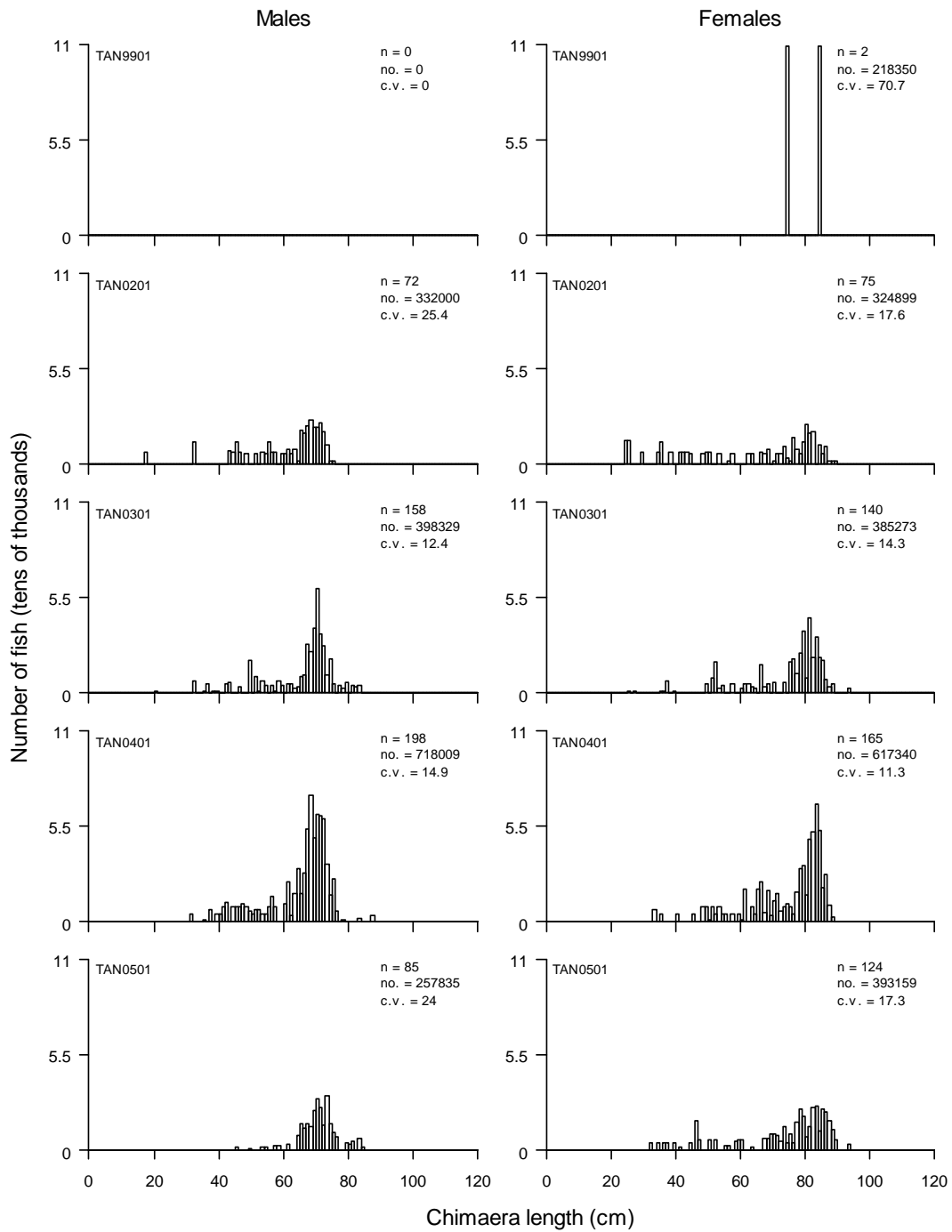


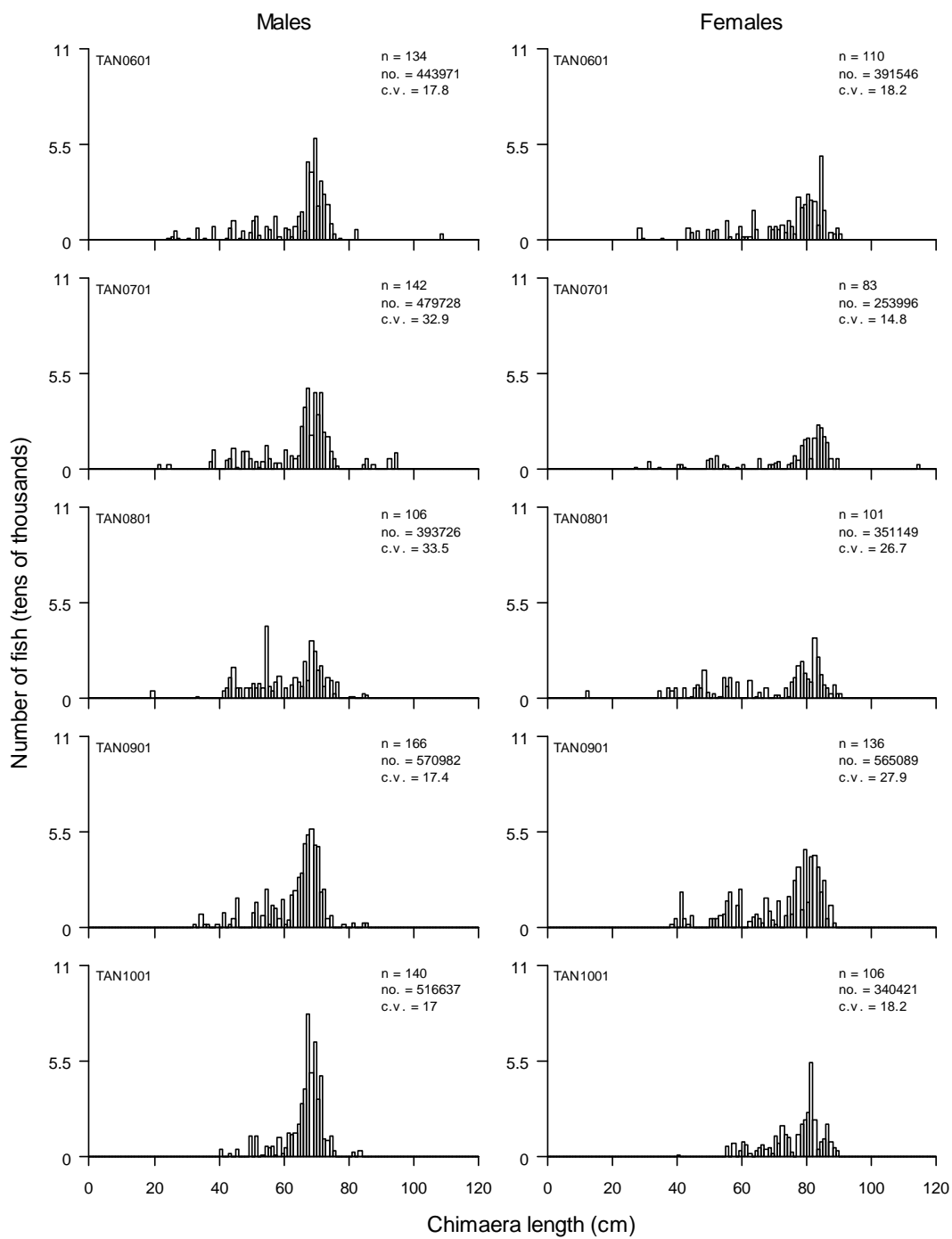






# Length Frequencies





### Gonad Stage Information (Cartilaginous)

#### Males

Year	p_M1	p_M2	p_M3	n_allM
1992	NA	NA	NA	0
1993	NA	NA	NA	0
1994	NA	NA	NA	0
1995	NA	NA	NA	0
1996	NA	NA	NA	0
1997	NA	NA	NA	0
1998	NA	NA	NA	0
1999	NA	NA	NA	0
2000	NA	NA	NA	0
2001	NA	NA	NA	0
2002	NA	NA	NA	0
2003	NA	NA	NA	0
2004	NA	NA	NA	0
2005	NA	NA	NA	0
2006	NA	NA	NA	0
2007	NA	NA	NA	0
2008	NA	NA	NA	0
2009	0.06	0.12	0.81	16
2010	0.07	0.19	0.74	58
ALL	0.07	0.18	0.76	74

#### Females

Year	p_F1	p_F2	p_F3	p_F4	p_F5	p_F6	n_allF
1992	NA	NA	NA	NA	NA	NA	0
1993	NA	NA	NA	NA	NA	NA	0
1994	NA	NA	NA	NA	NA	NA	0
1995	NA	NA	NA	NA	NA	NA	0
1996	NA	NA	NA	NA	NA	NA	0
1997	NA	NA	NA	NA	NA	NA	0
1998	NA	NA	NA	NA	NA	NA	0
1999	NA	NA	NA	NA	NA	NA	0
2000	NA	NA	NA	NA	NA	NA	0
2001	NA	NA	NA	NA	NA	NA	0
2002	NA	NA	NA	NA	NA	NA	0
2003	NA	NA	NA	NA	NA	NA	0
2004	NA	NA	NA	NA	NA	NA	0
2005	NA	NA	NA	NA	NA	NA	0
2006	NA	NA	NA	NA	NA	NA	0
2007	NA	NA	NA	NA	NA	NA	0
2008	NA	NA	NA	NA	NA	NA	0
2009	0.33	0	0.5	0.17	0	0	6
2010	0.17	0.15	0.45	0.23	0	0	47
ALL	0.19	0.13	0.45	0.23	0	0	53

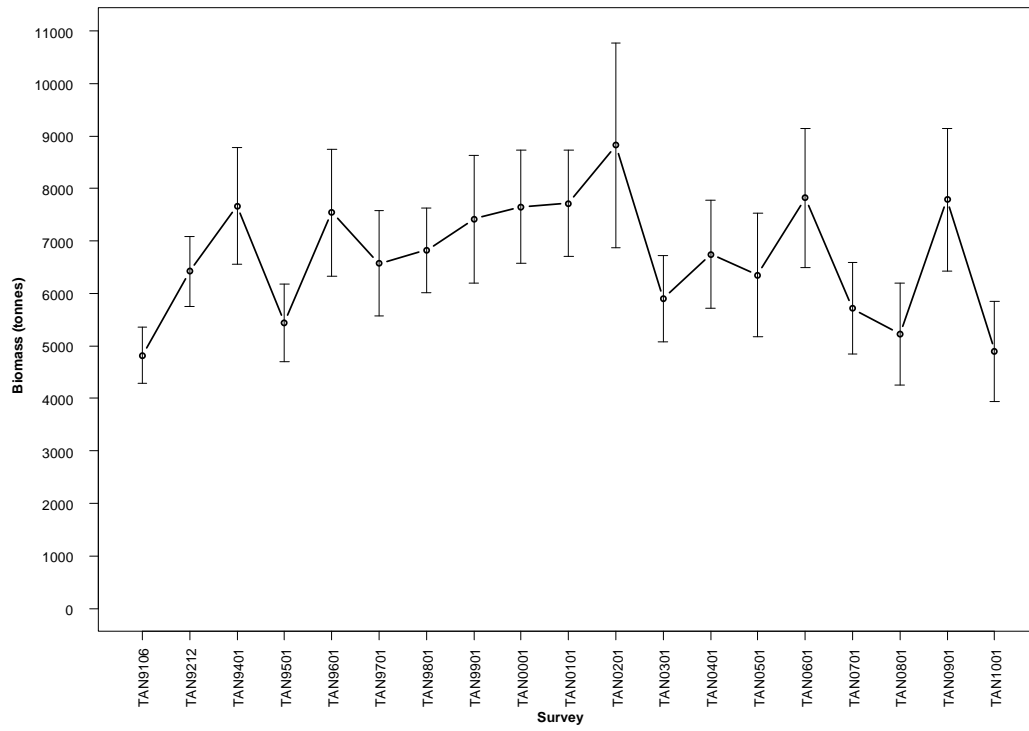


Number of surveys caught 1992–2010 (out of 19):	19
Total catch weight (kg):	70 218.8
Number measured	80 040
Length range (mean) (cm, TL)	9–62 (28.0)
Number weighed	15 416
Length-weight parameters a, b ( $r^2$ )	0.026297, 2.94079 (97.82)

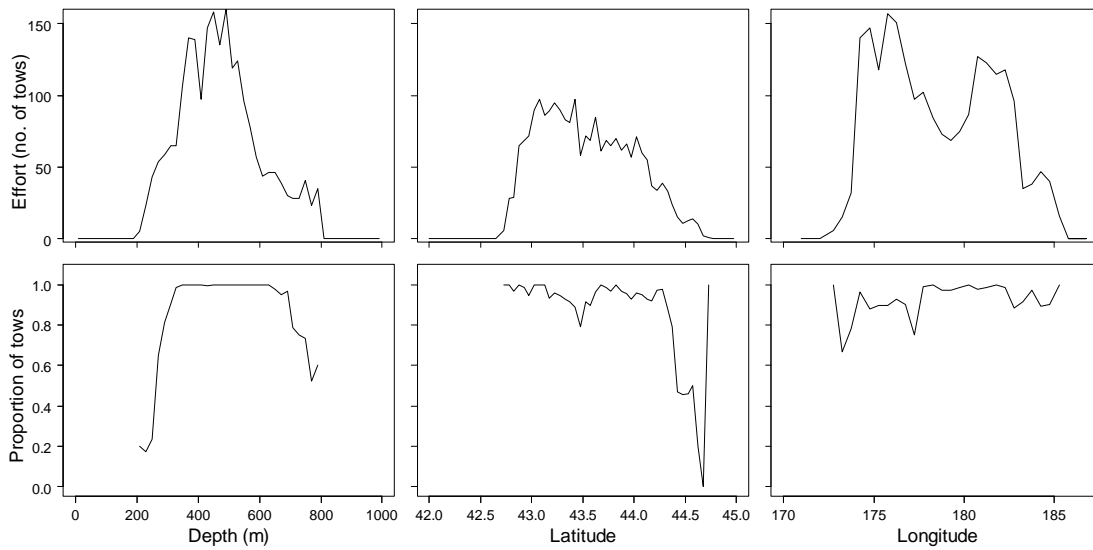
The core survey area and depth range is appropriate for this species. Biomass of this species is **very well** estimated in the core survey area. Biomass **shows no clear trend** since the start of the time series. Length frequencies **have multiple modes which may contain information about year-class strength**. Mean length **has decreased and then increased** since the start of the time series. Gonad stage data indicate that most fish are **immature, resting, or maturing**.

**Relative biomass estimates and length summary**

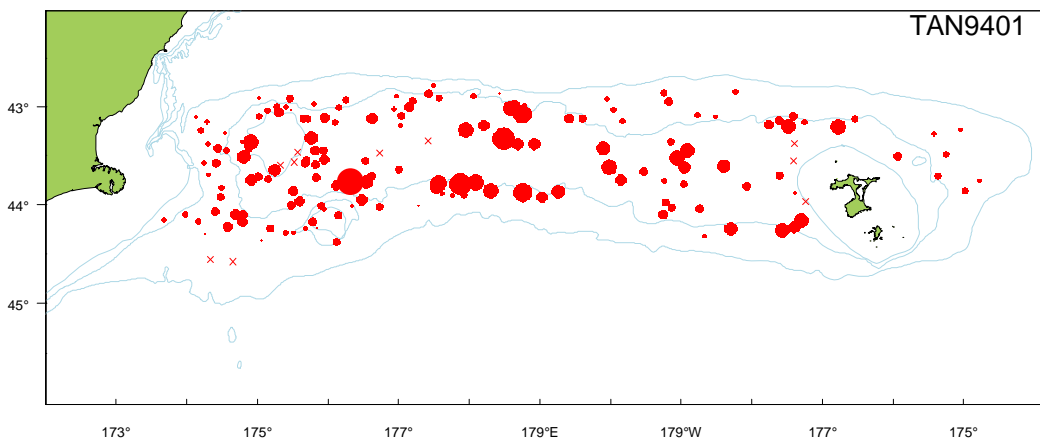
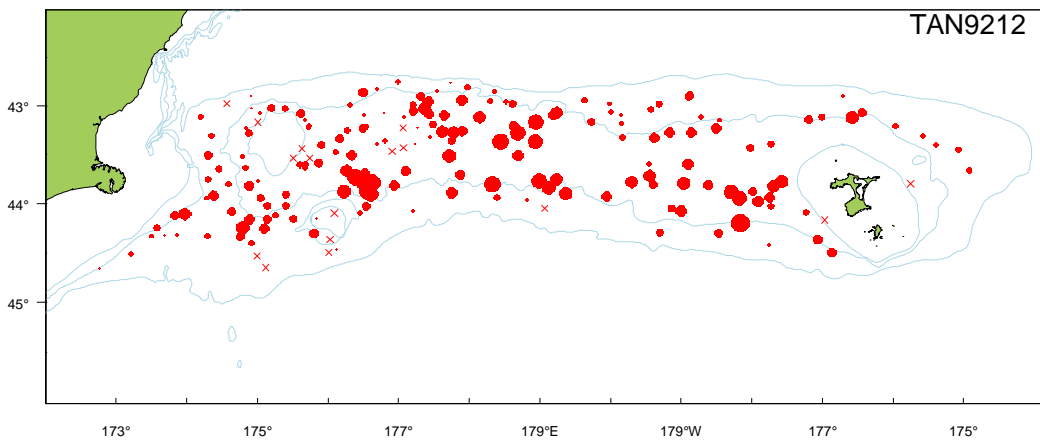
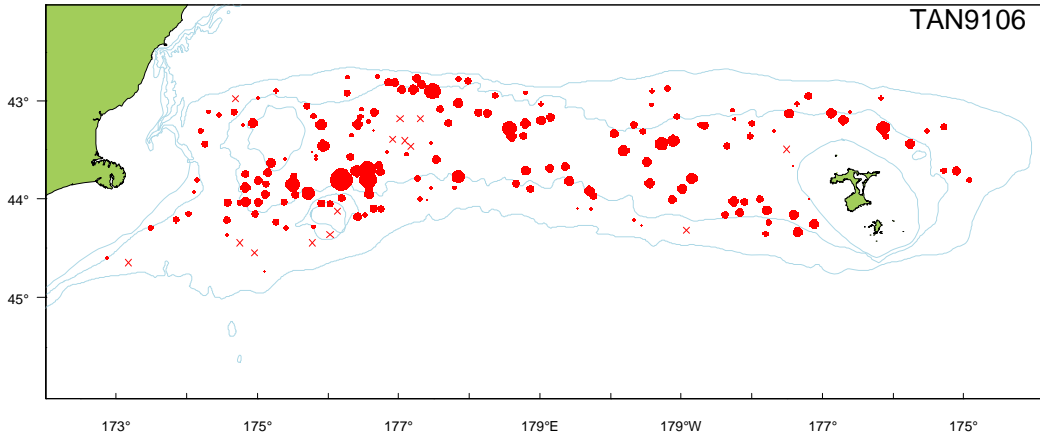
Year	Biomass (t)	cv (%)	Length (cm)			No. measure d
			Min.	Max.	Mean	
1992	4 821	6	9	55	29.9	5 423
1993	6 419	5	11	61	30.4	5 610
1994	7 668	7	9	55	29.5	4 483
1995	5 440	7	11	56	30.3	3 228
1996	7 540	8	11	58	29.4	3 272
1997	6 568	8	11	53	29.2	3 800
1998	6 824	6	10	58	29.3	3 509
1999	7 417	8	10	55	28.1	4 444
2000	7 651	7	10	55	26.5	5 374
2001	7 713	6	10	57	26.7	4 709
2002	8 821	11	10	58	26.4	5 524
2003	5 904	7	10	55	25.4	4 206
2004	6 746	8	10	58	24.9	3 993
2005	6 351	9	10	53	26.8	3 376
2006	7 818	8	11	57	27.1	3 155
2007	5 719	8	10	58	27.0	3 114
2008	5 225	9	11	54	28.4	3 077
2009	7 789	9	11	62	28.9	3 665
2010	4 896	10	10	54	28.6	2 923

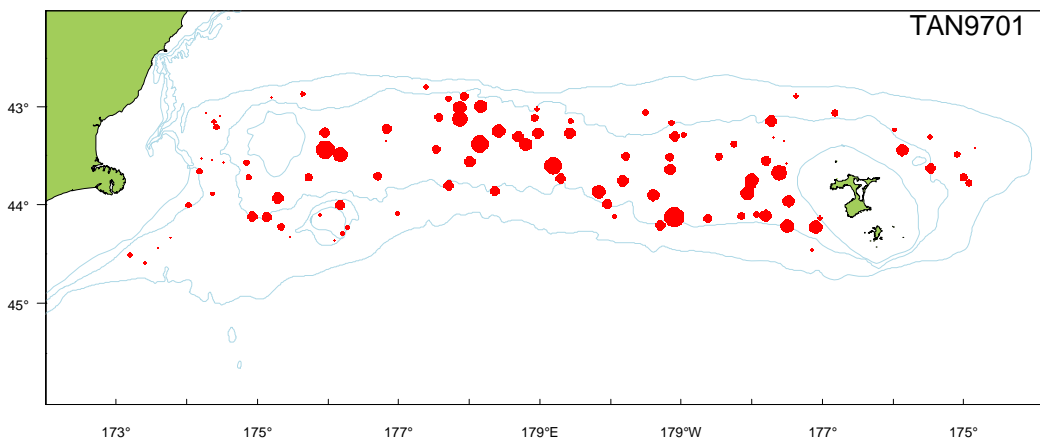
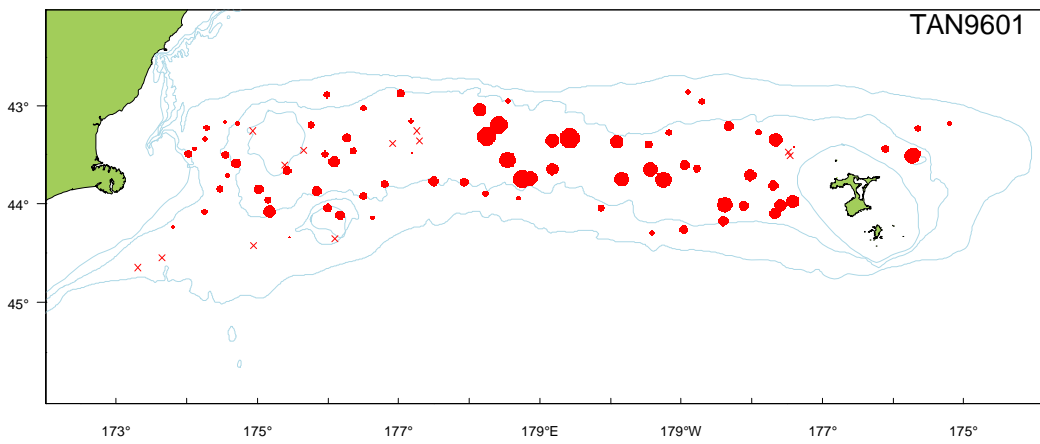
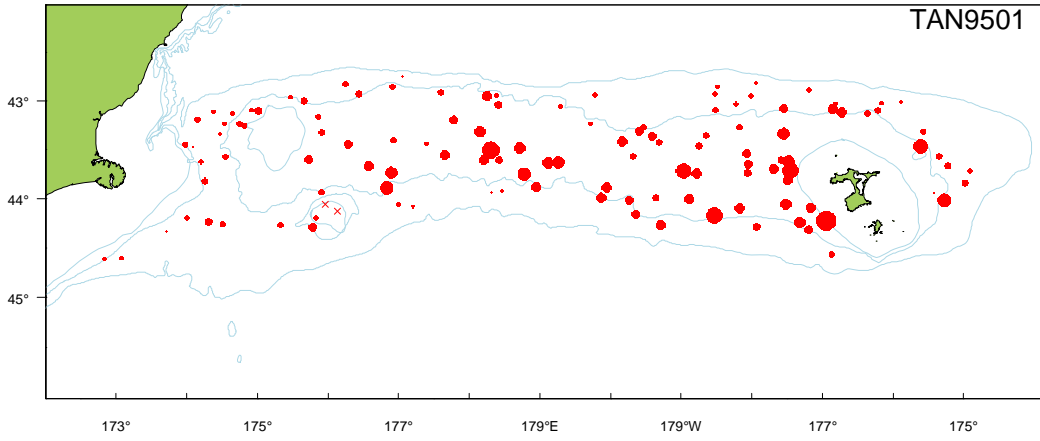


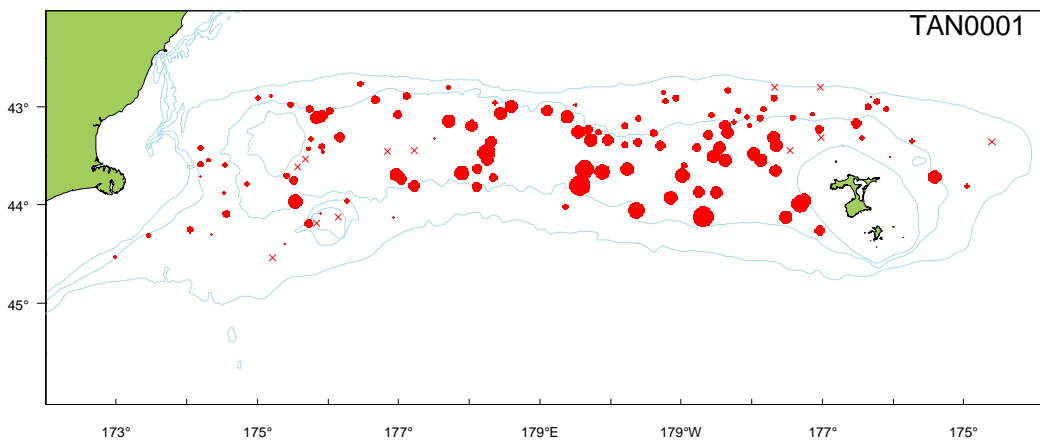
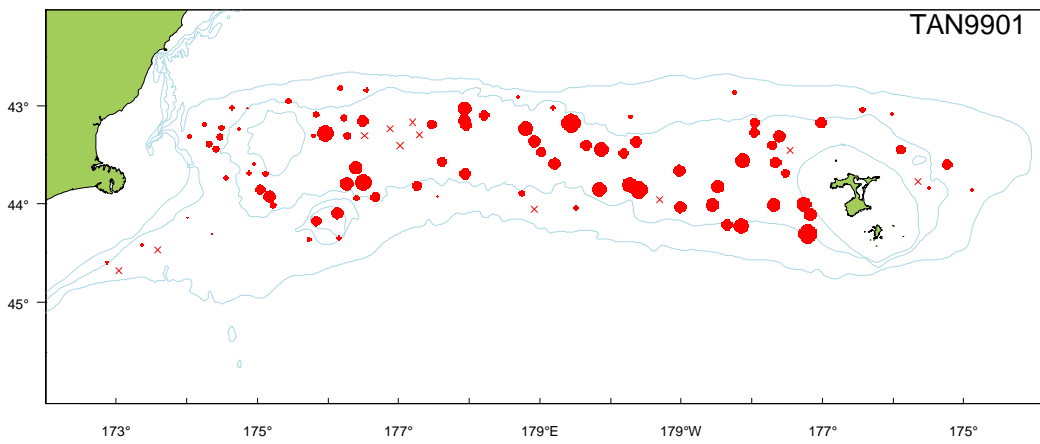
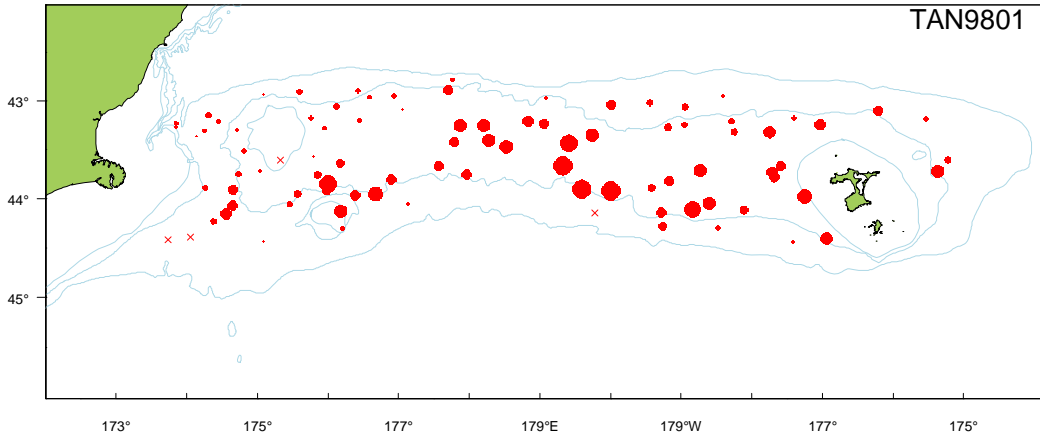
### Distribution

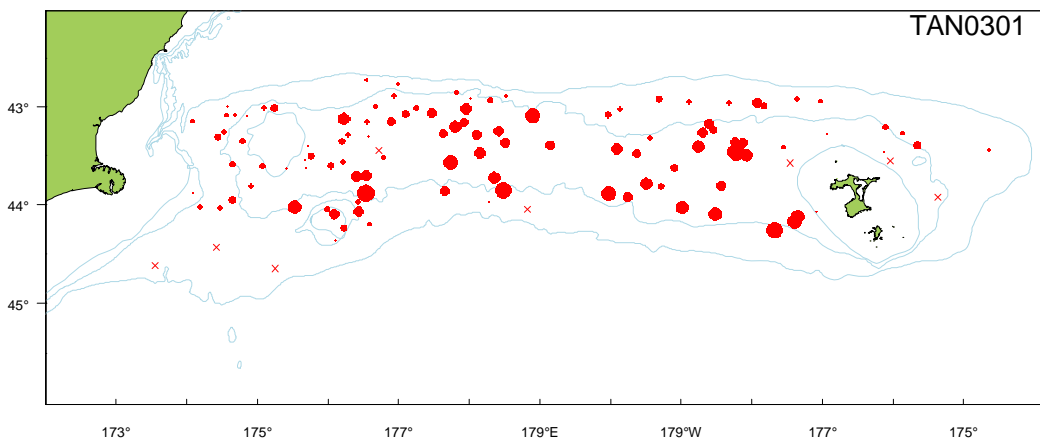
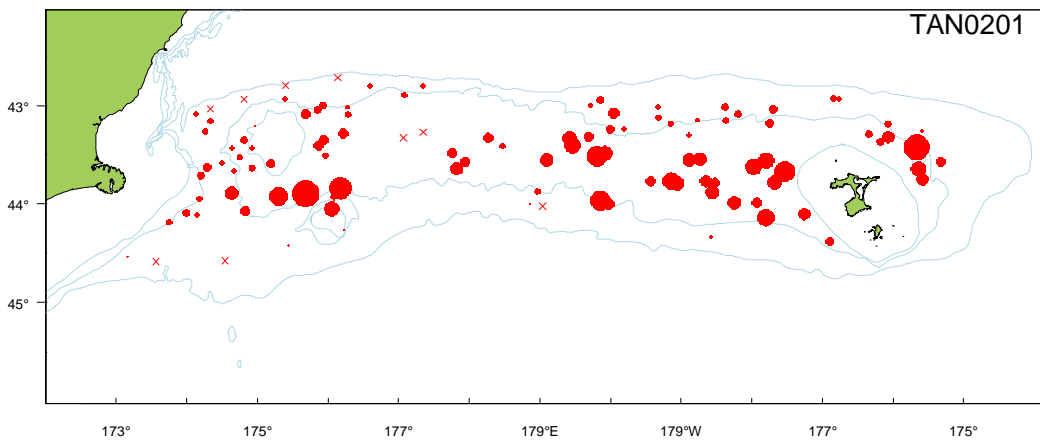
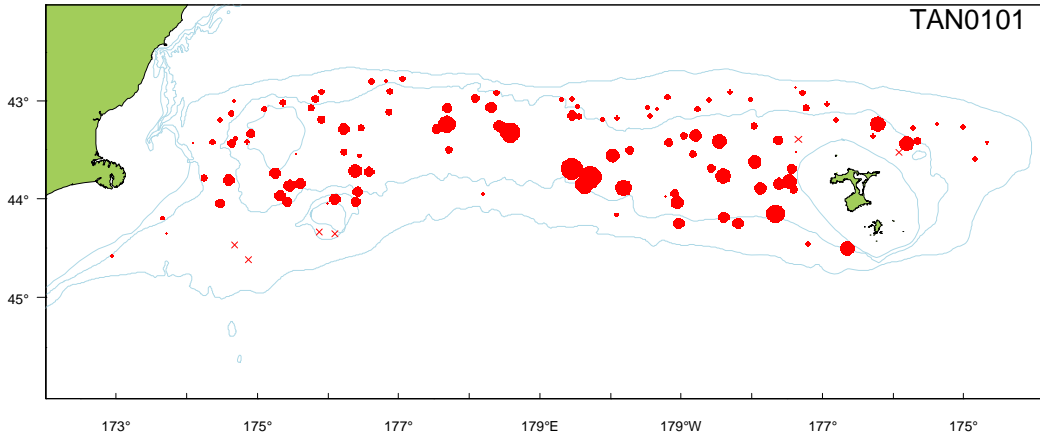


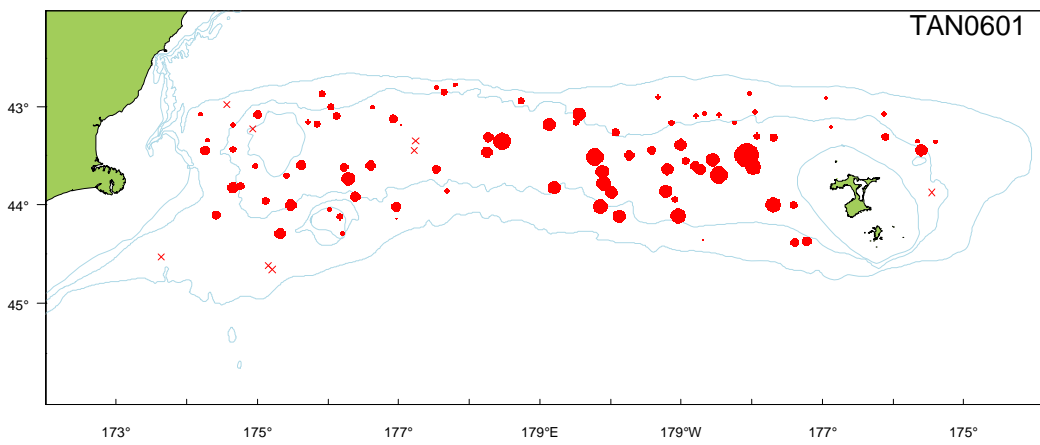
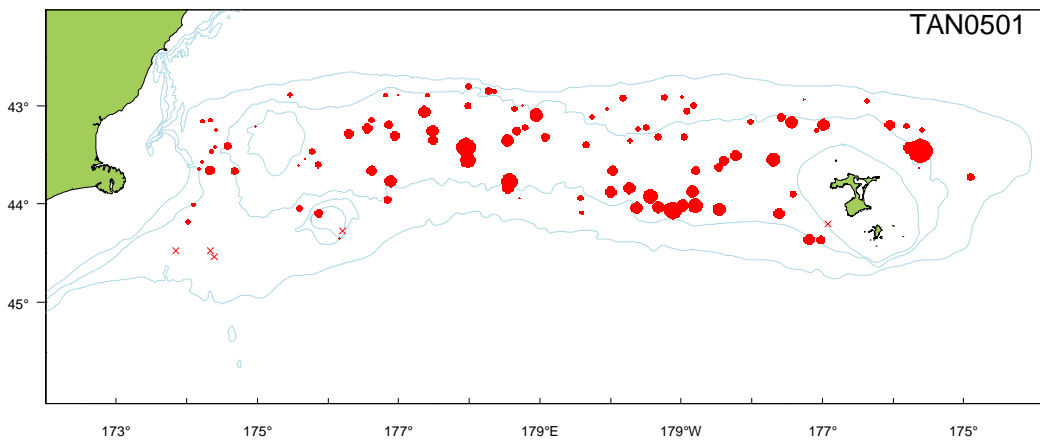
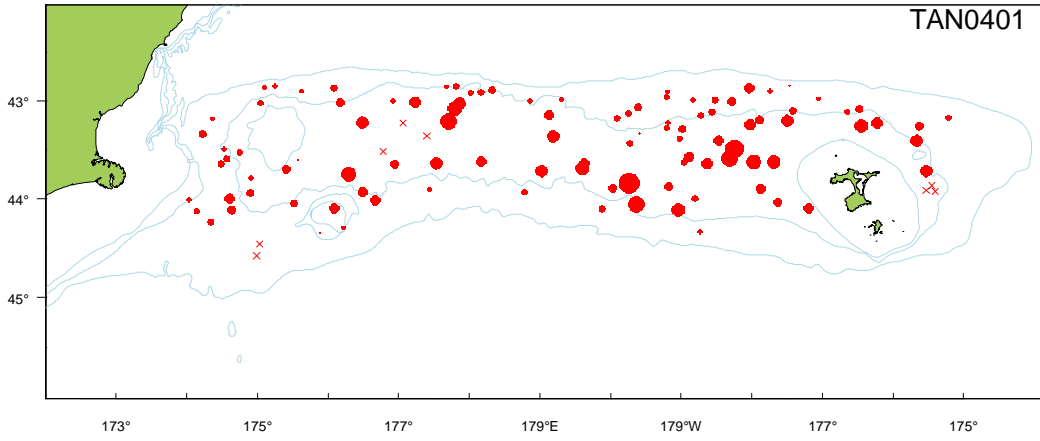


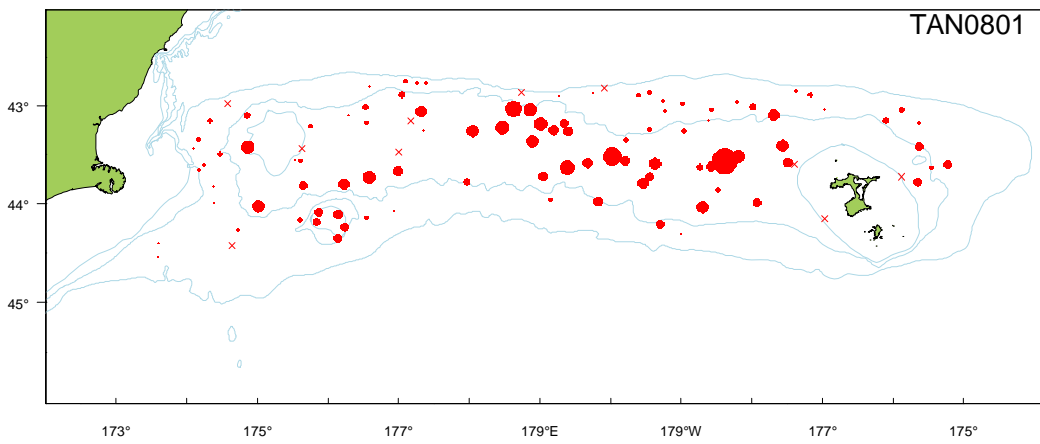
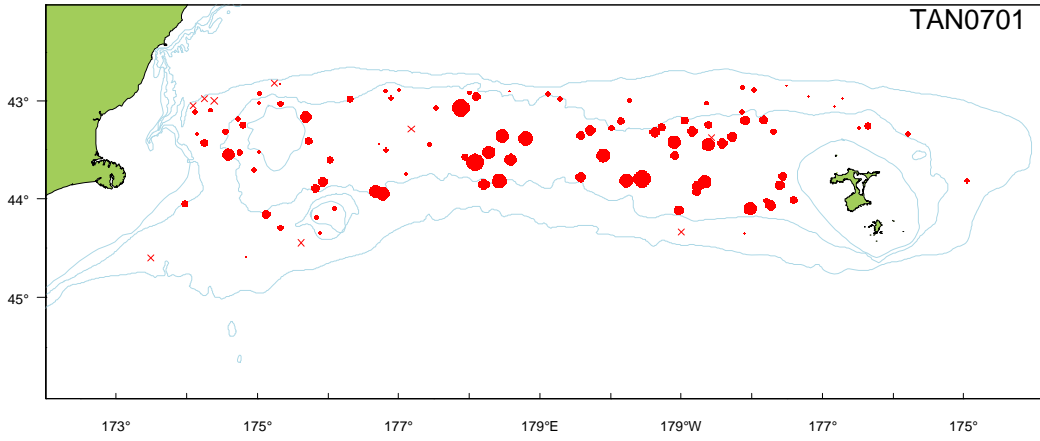


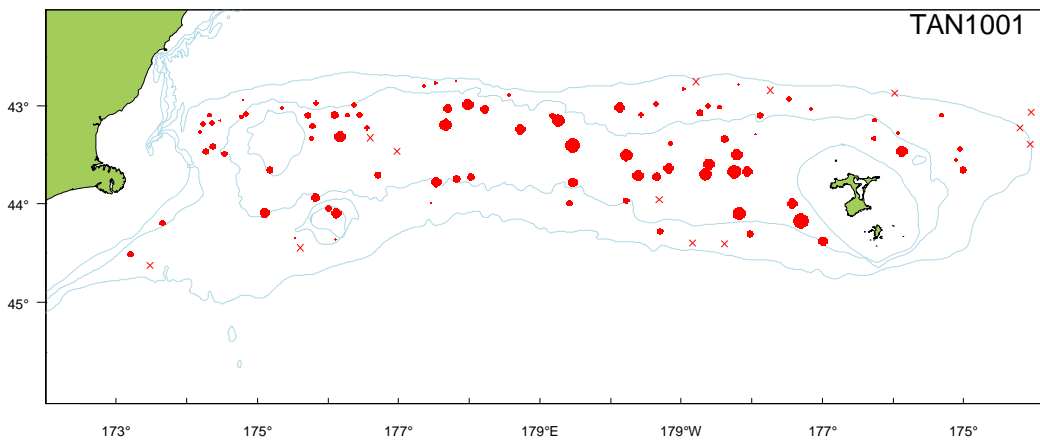
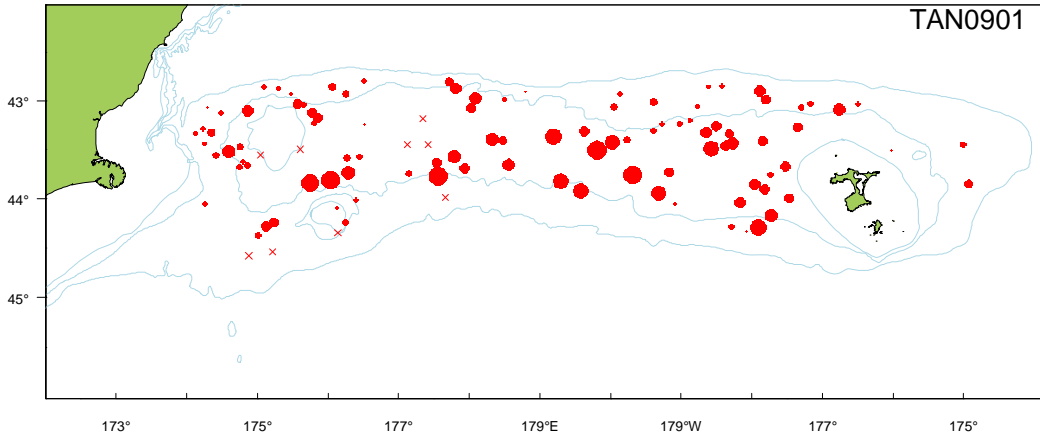




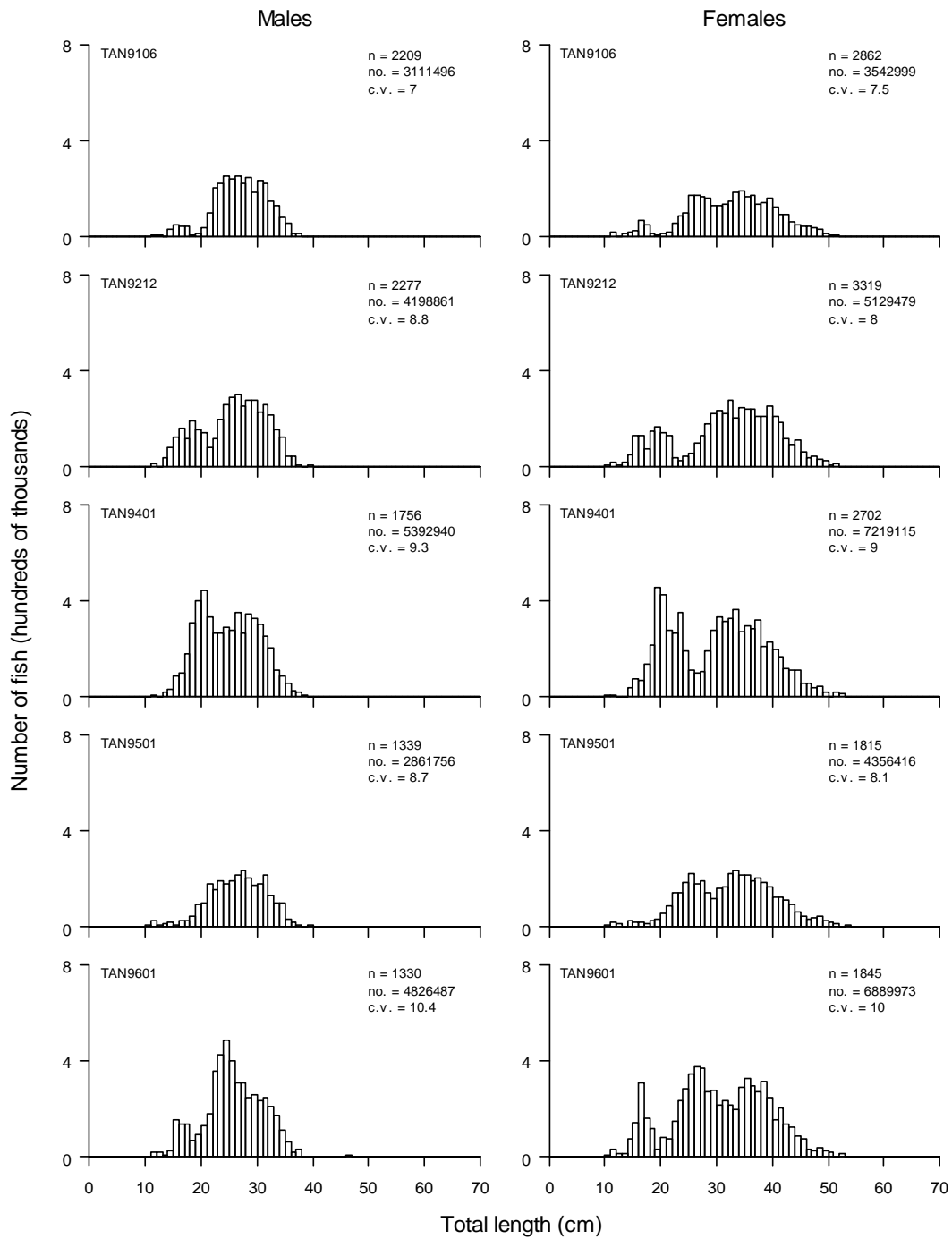




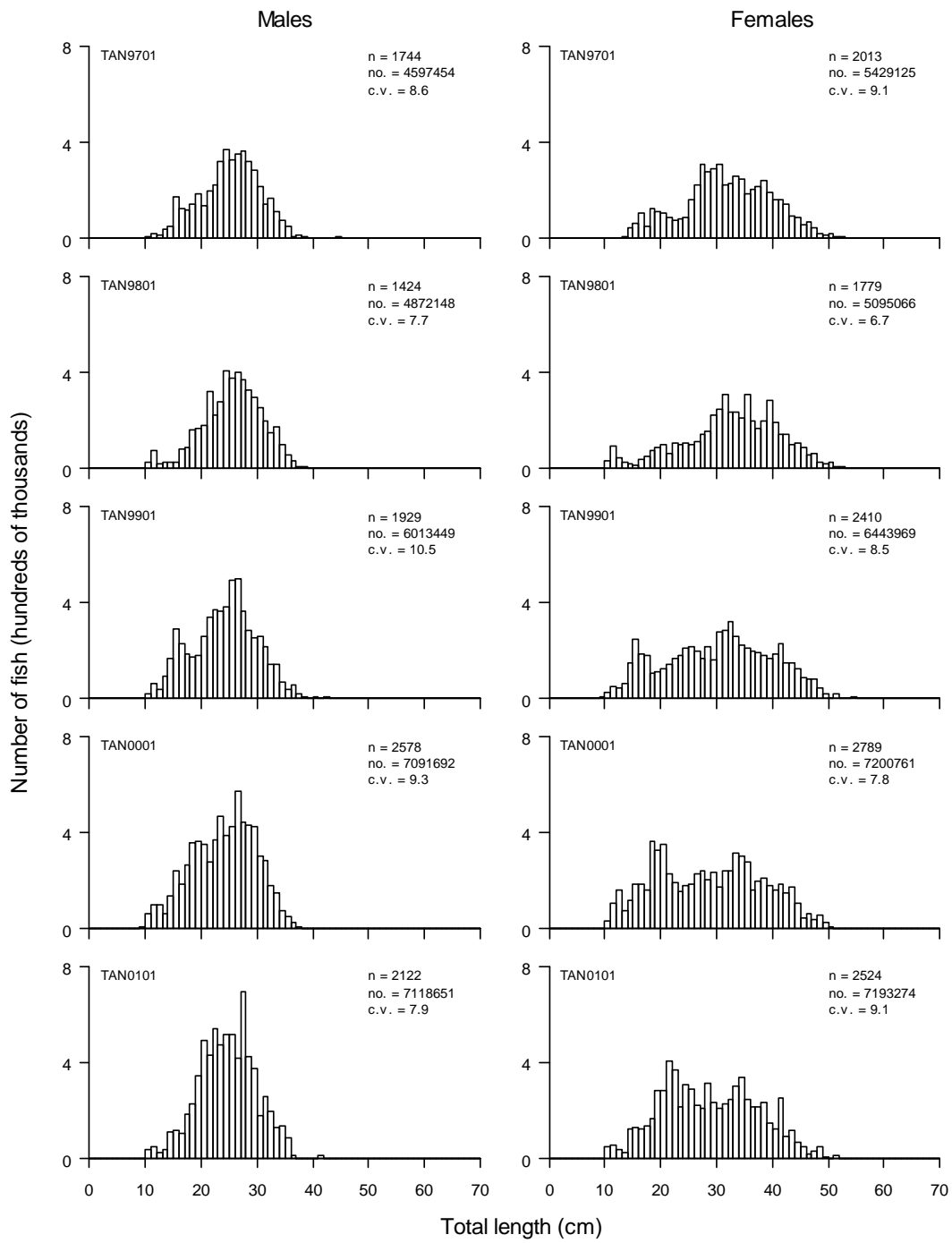


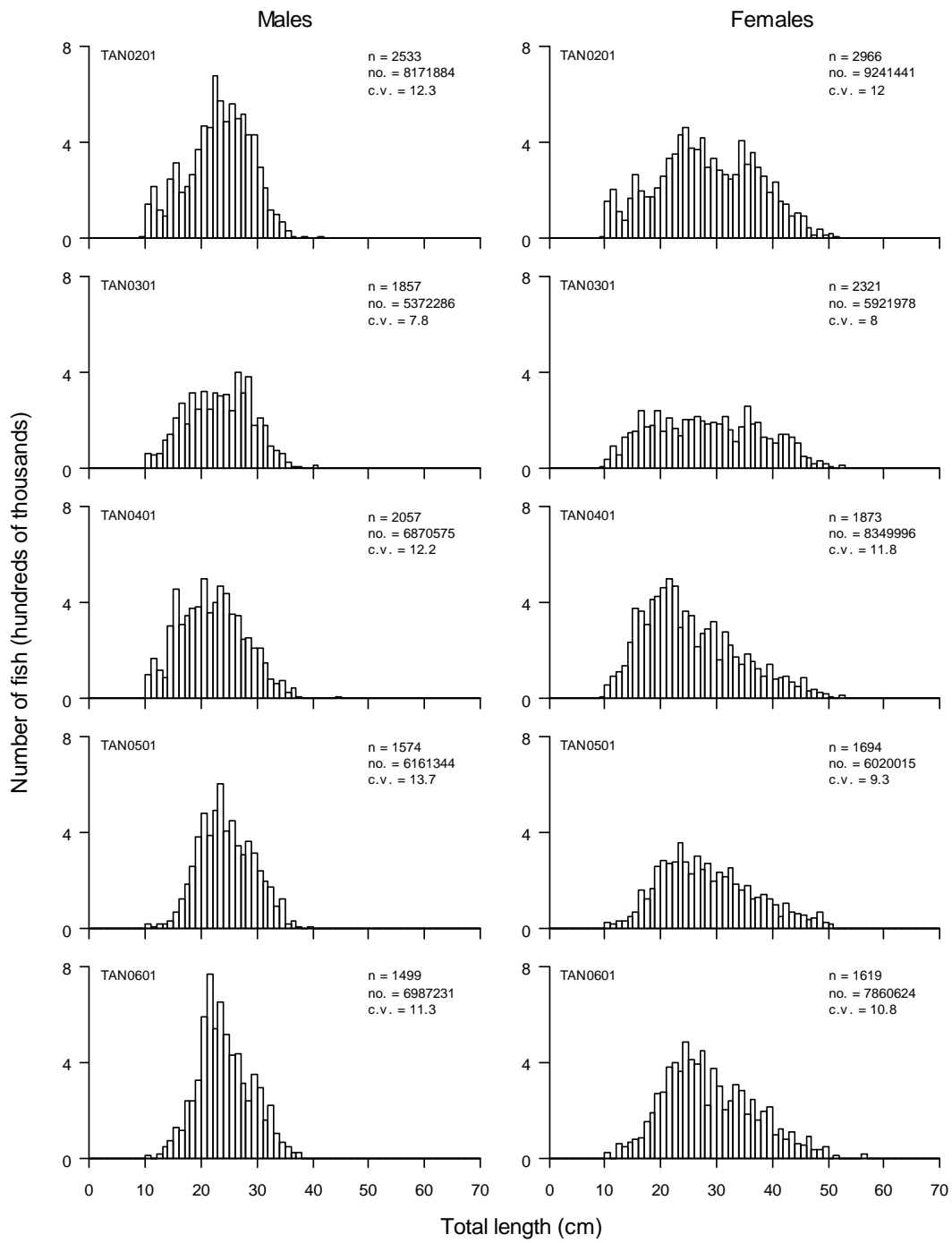


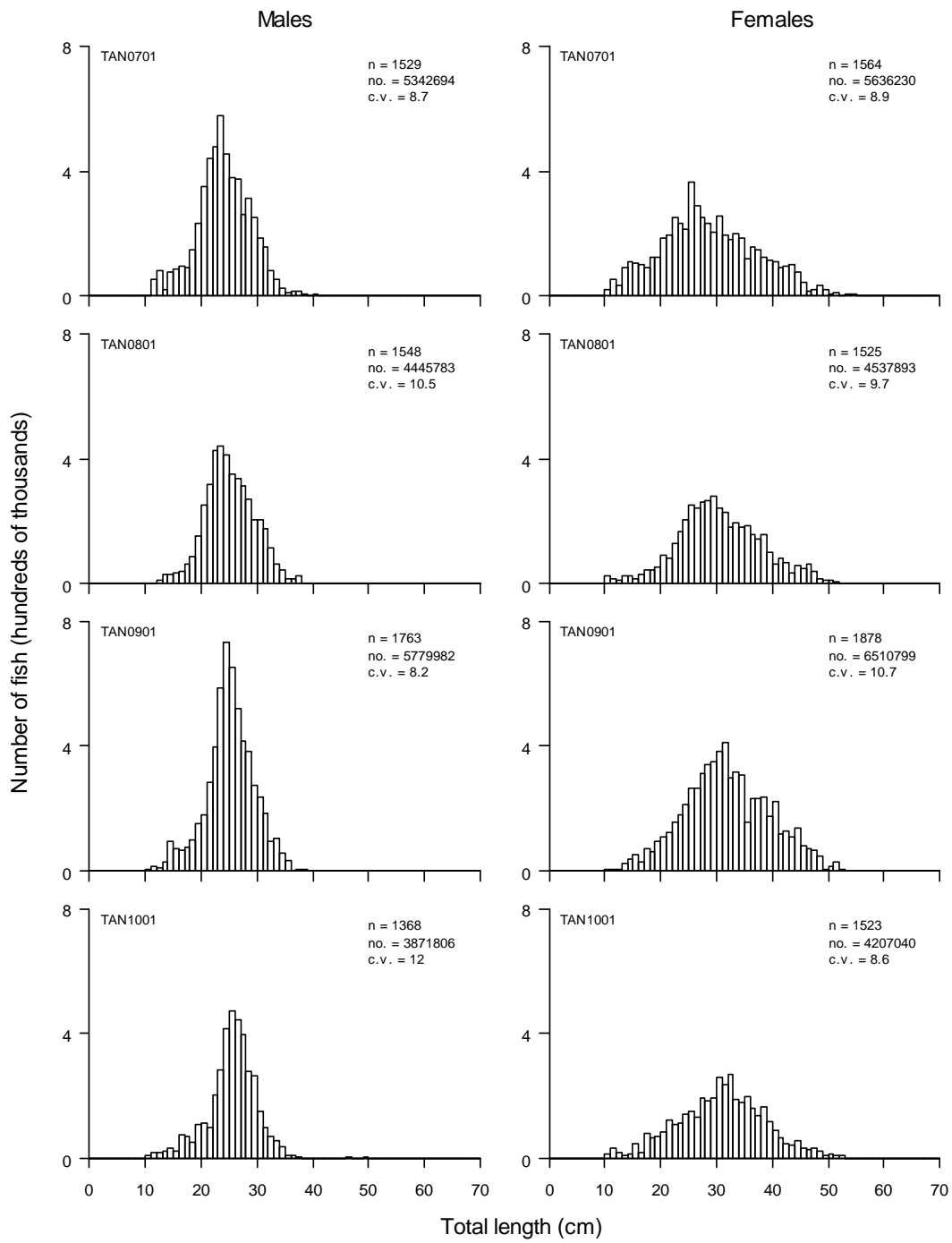
# Length Frequencies











## Gonad Stage Information

### Males

Year	p_M1	p_M2	p_M3	p_M4	p_M5	p_M6	p_M7	n_allM
1992	NA	NA	NA	NA	NA	NA	NA	0
1993	NA	NA	NA	NA	NA	NA	NA	0
1994	NA	NA	NA	NA	NA	NA	NA	0
1995	NA	NA	NA	NA	NA	NA	NA	0
1996	0	1	0	0	0	0	0	6
1997	0.83	0.16	0.01	0	0	0	0	86
1998	0.6	0.4	0	0	0	0	0	25
1999	NA	NA	NA	NA	NA	NA	NA	0
2000	NA	NA	NA	NA	NA	NA	NA	0
2001	0	0	0.43	0.57	0	0	0	14
2002	NA	NA	NA	NA	NA	NA	NA	0
2003	NA	NA	NA	NA	NA	NA	NA	0
2004	0.28	0.45	0.08	0.19	0	0	0	170
2005	0.05	0.38	0.16	0.41	0	0	0	194
2006	0.09	0.14	0.46	0.31	0	0	0	35
2007	0.3	0.4	0.3	0	0	0	0	20
2008	NA	NA	NA	NA	NA	NA	NA	0
2009	0.23	0.48	0.06	0.04	0	0.19	0	52
2010	0.17	0.37	0.19	0.26	0	0	0	149
ALL	0.25	0.36	0.14	0.23	0	0.01	0	751

### Females

Year	p_F1	p_F2	p_F3	p_F4	p_F5	p_F6	p_F7	n_allF
1992	NA	NA	NA	NA	NA	NA	NA	0
1993	NA	NA	NA	NA	NA	NA	NA	0
1994	NA	NA	NA	NA	NA	NA	NA	0
1995	NA	NA	NA	NA	NA	NA	NA	0
1996	0	0.18	0.82	0	0	0	0	17
1997	0.37	0.21	0.33	0.05	0	0.01	0.03	127
1998	0.49	0.07	0.34	0	0	0	0.1	68
1999	NA	NA	NA	NA	NA	NA	NA	0
2000	NA	NA	NA	NA	NA	NA	NA	0
2001	0	0	0.67	0.33	0	0	0	3
2002	0	1	0	0	0	0	0	1
2003	NA	NA	NA	NA	NA	NA	NA	0
2004	0.2	0.46	0.23	0.01	0	0.06	0.03	95
2005	0.14	0.42	0.34	0.07	0	0	0.02	310
2006	0.03	0.55	0.26	0.15	0	0	0	65
2007	0.28	0.51	0.19	0	0	0	0.02	47
2008	NA	NA	NA	NA	NA	NA	NA	0
2009	0.23	0.4	0.27	0.02	0	0	0.07	94
2010	0.24	0.36	0.34	0.01	0	0	0.04	151
ALL	0.22	0.37	0.32	0.05	0	0.01	0.04	978

Omega prawn (*Lipkius holthuisi*)

LHO

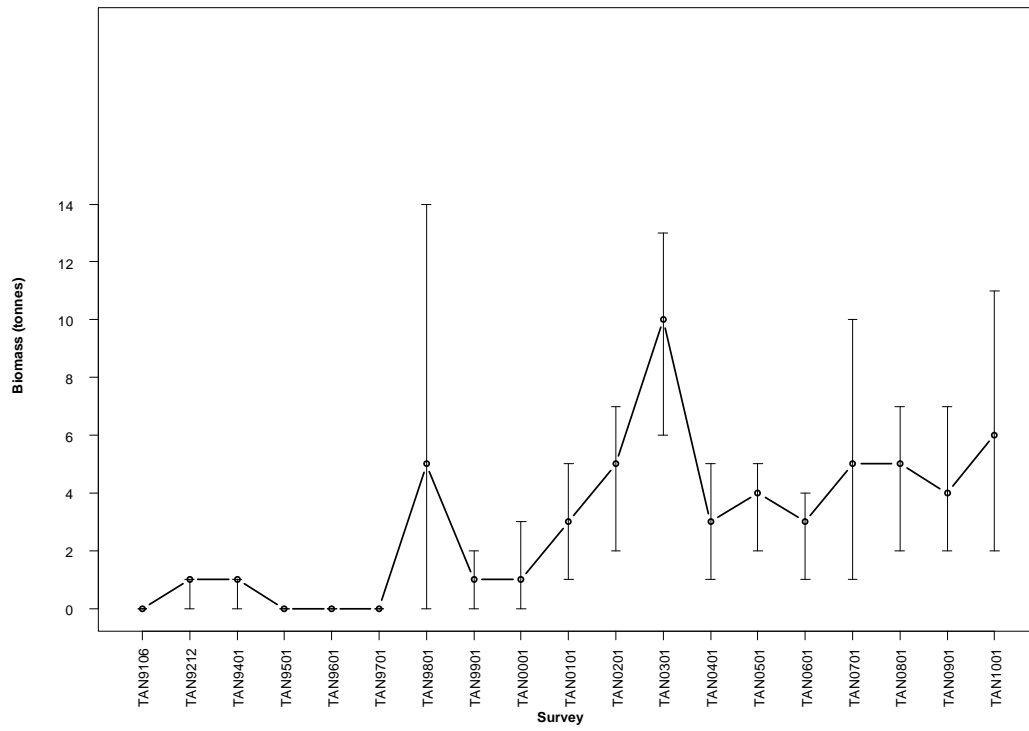


Number of surveys caught 1992–2010 (out of 19):	15
Total catch weight (kg):	34.9
Number measured	0
Length range (mean) (cm)	–
Number weighed	0
Length-weight parameters a, b (r <sup>2</sup> )	–

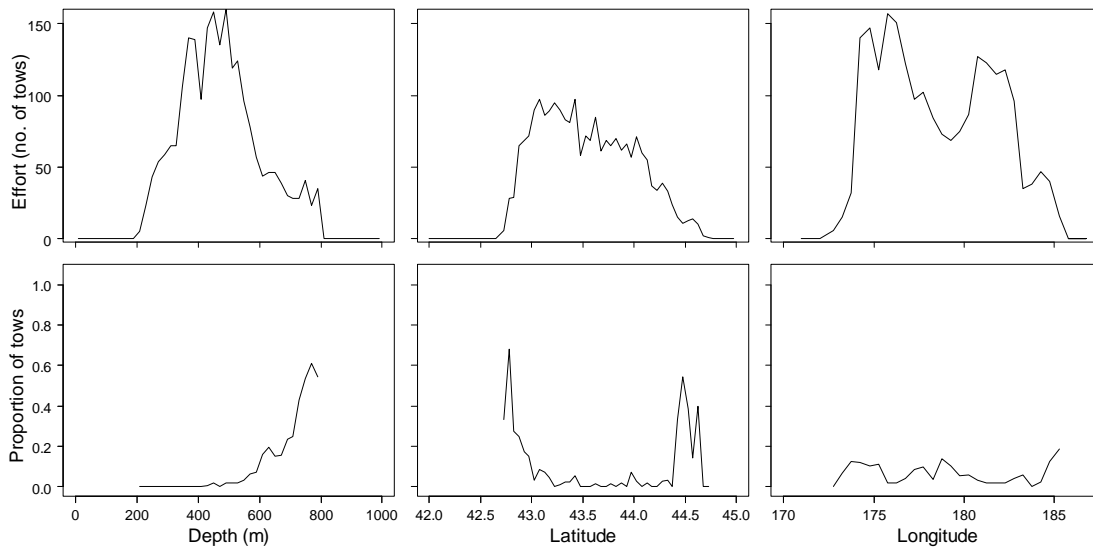
The core survey area and depth range **is not** appropriate for this species. It is found **deeper than 800 m**. Biomass of this species is **moderately well** estimated in the core survey area. Biomass has **increased** since the start of the time series, but this may be because this group was **poorly recorded** in some early surveys.

#### Relative biomass estimates

Year	Biomass (t)	cv (%)
1992	0	-
1993	1	59
1994	1	66
1995	0	-
1996	0	-
1997	0	-
1998	5	81
1999	1	65
2000	1	43
2001	3	28
2002	5	26
2003	10	18
2004	3	36
2005	4	20
2006	3	27
2007	5	38
2008	5	24
2009	4	27
2010	6	36



### Distribution



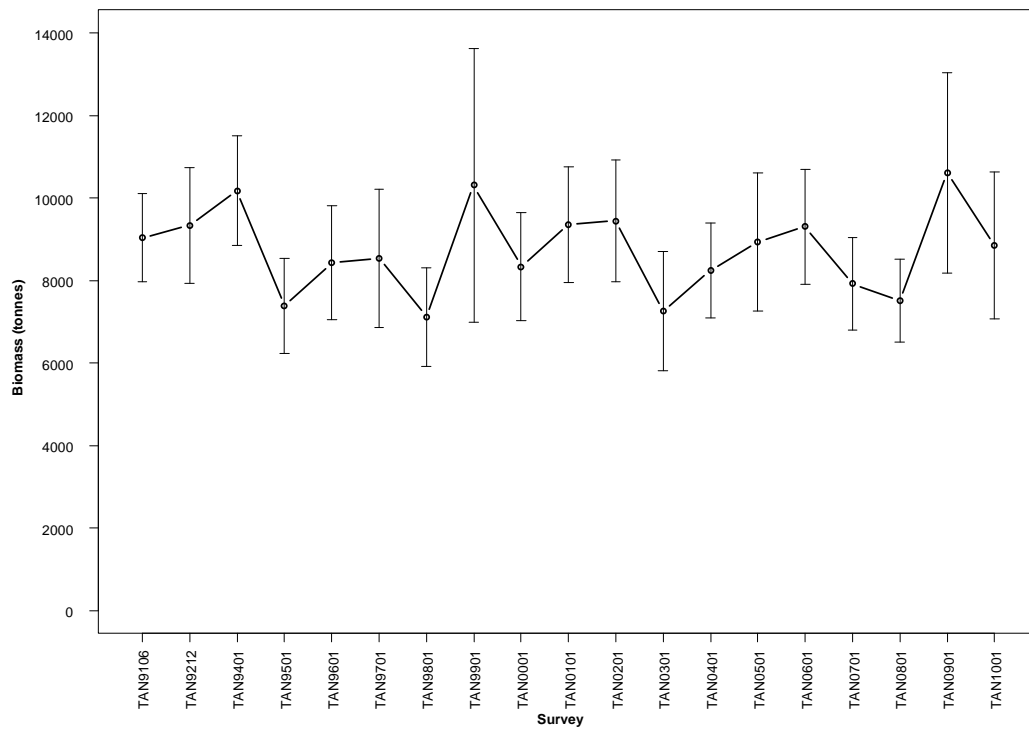


Number of surveys caught 1992–2010 (out of 19):	19
Total catch weight (kg):	98 116.9
Number measured	34 641
Length range (mean) (cm, TL)	14–170 (76.1)
Number weighed	23 307
Length-weight parameters a, b ( $r^2$ )	0.001267, 3.29298 (98.91)

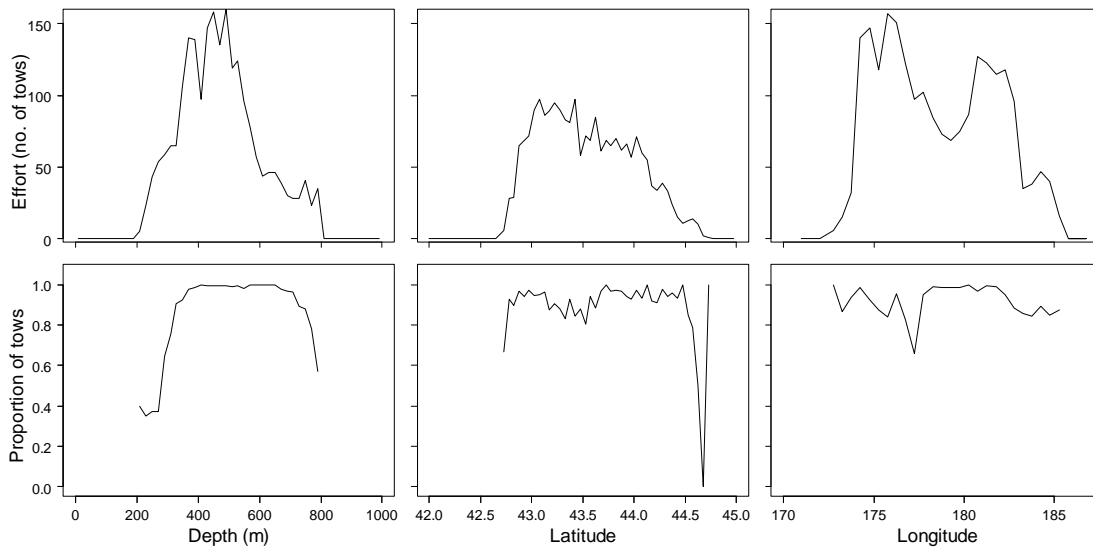
The core survey area and depth range is appropriate for this species. Biomass of this species is **very well** estimated in the core survey area. Biomass **shows no clear trend** since the start of the time series. Length frequencies **have multiple modes which contain information about year-class strength**. Mean length has **decreased and then increased** since the start of the time series. Age frequencies show **reduction in the proportion of old fish**. Gonad stage data indicate that most fish are **immature or resting**.

#### Relative biomass estimates and length summary

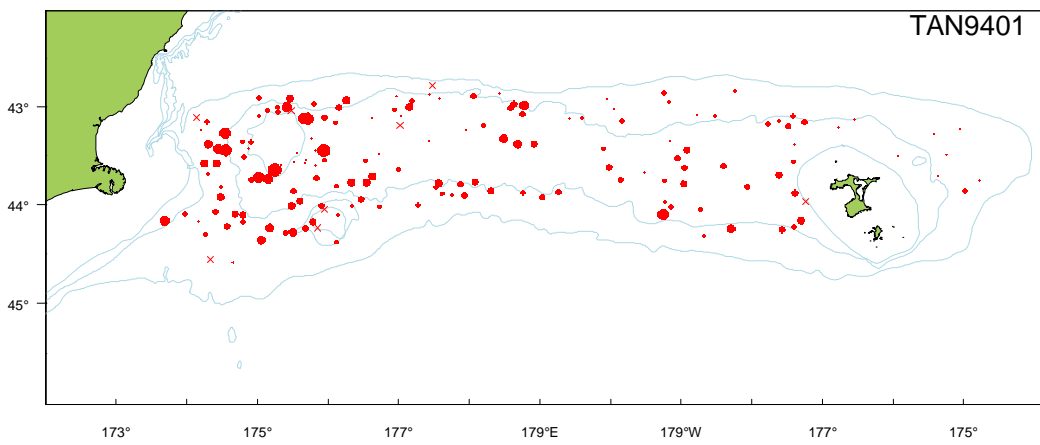
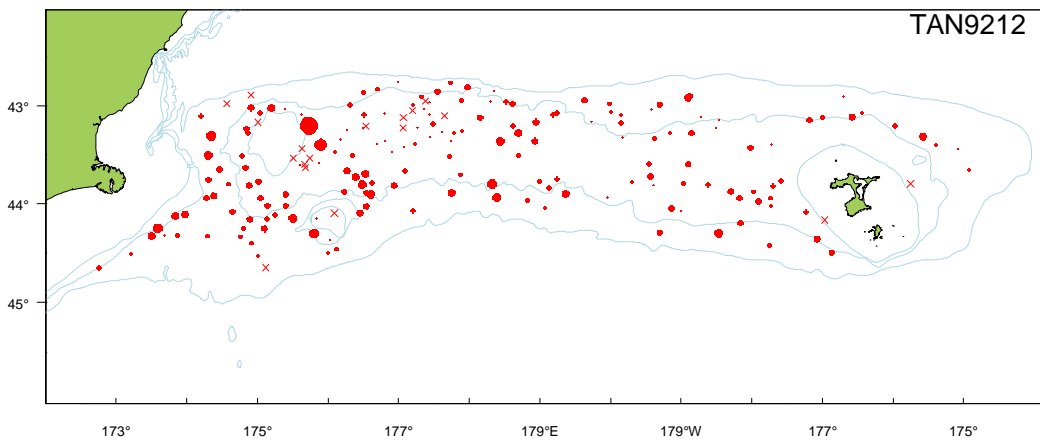
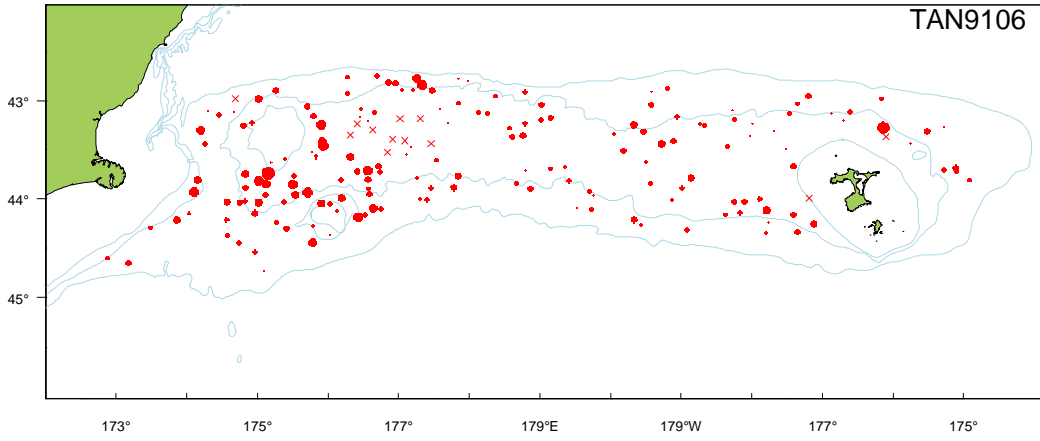
Year	Biomass (t)	cv (%)	Length (cm)			No. measured
			Min.	Max.	Mean	
1992	9 039	6	28	166	83.3	2 401
1993	9 329	8	33	161	80.2	2 341
1994	10 174	6	32	162	77.4	2 890
1995	7 380	8	32	163	83.0	1 162
1996	8 424	8	39	168	80.9	1 067
1997	8 543	10	30	157	78.9	1 440
1998	7 120	8	35	156	76.7	1 159
1999	10 309	16	25	164	74.9	1 920
2000	8 330	8	31	160	70.7	2 055
2001	9 352	8	30	164	70.7	2 229
2002	9 442	8	25	151	72.8	2 224
2003	7 261	10	14	153	72.6	1 624
2004	8 248	7	28	170	74.0	1 619
2005	8 929	9	33	163	74.6	1 648
2006	9 301	8	32	149	72.3	1 880
2007	7 920	7	31	157	75.7	1 465
2008	7 504	7	28	163	74.7	1 263
2009	10 615	12	31	169	77.7	1 826
2010	8 846	10	27	155	77.0	1 230

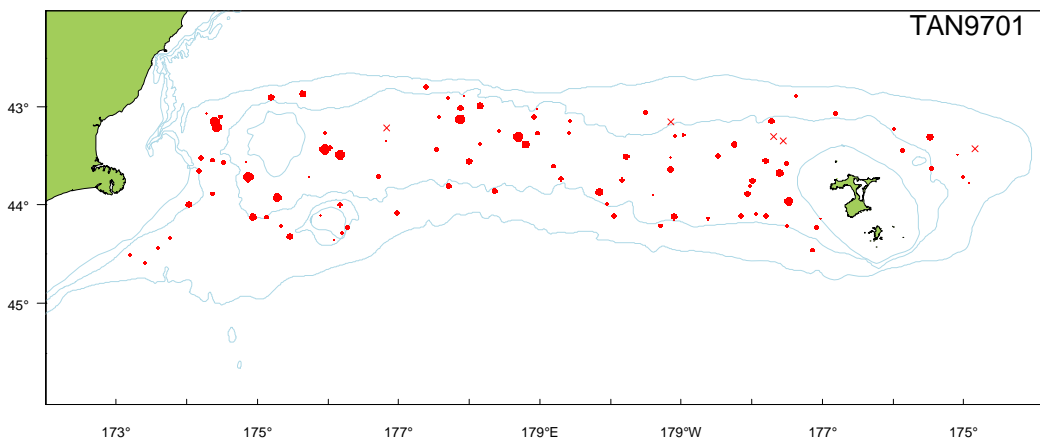
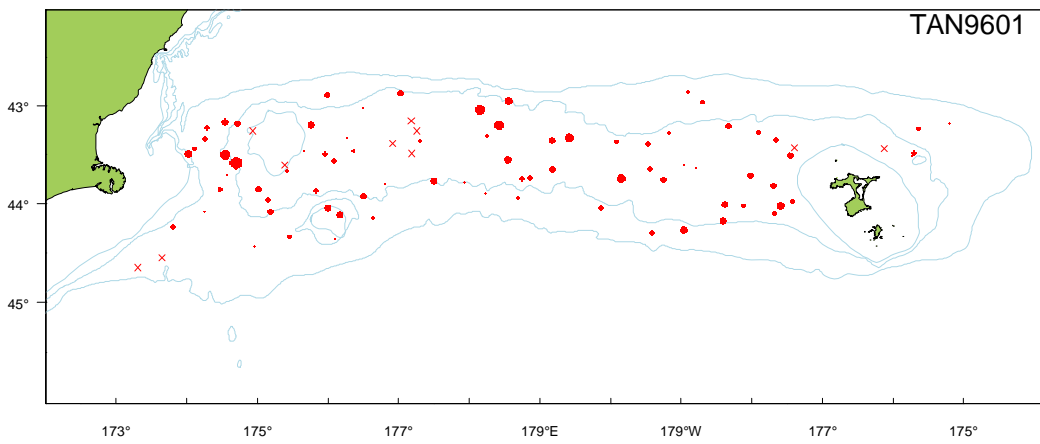
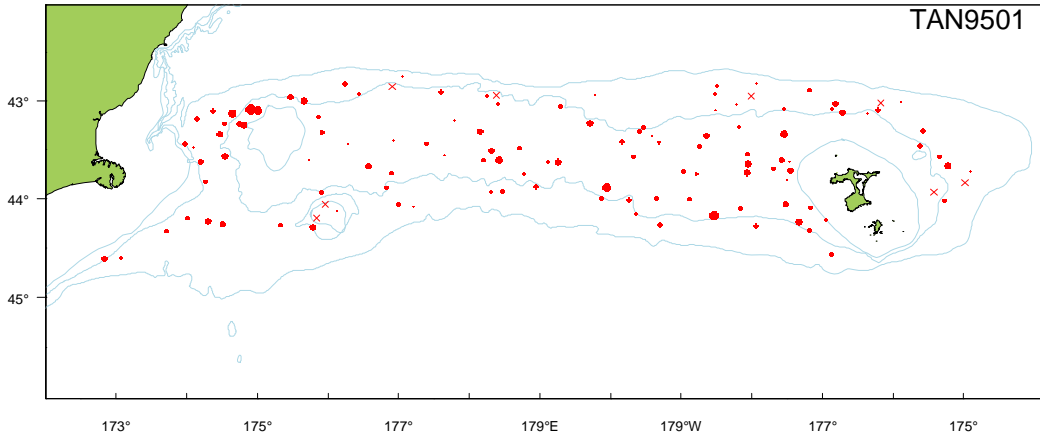


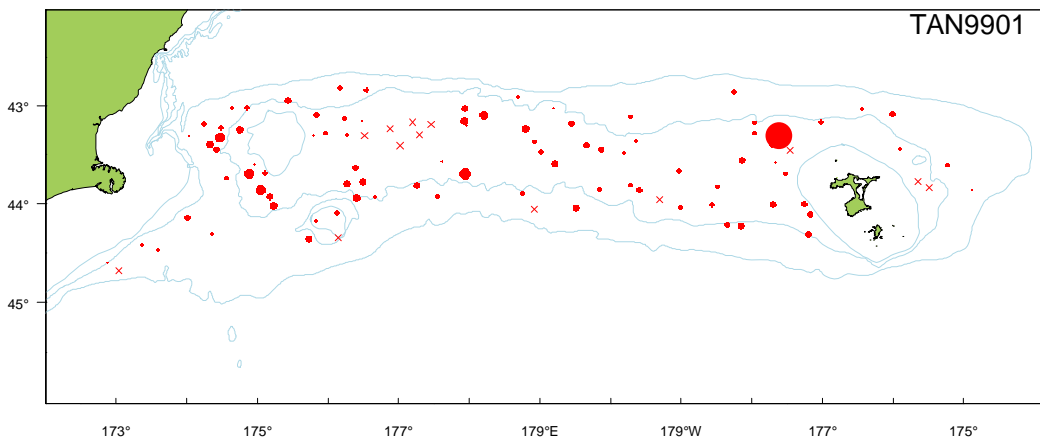
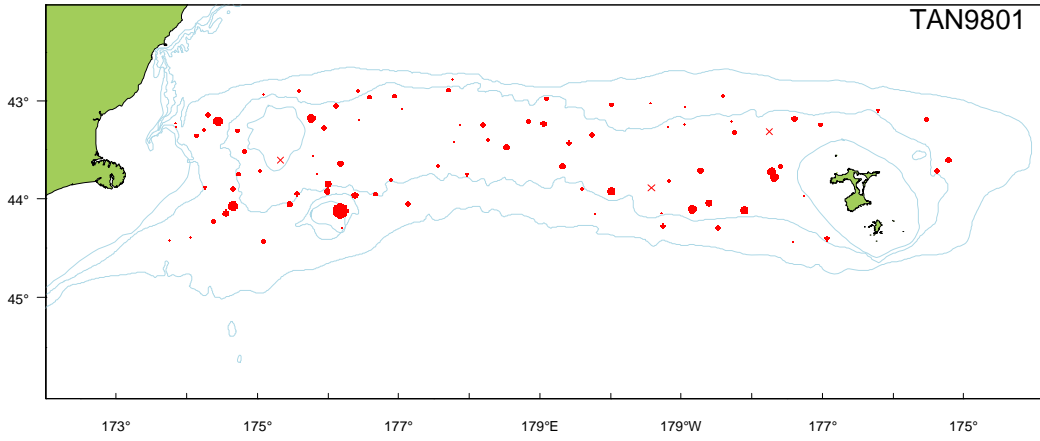
### Distribution

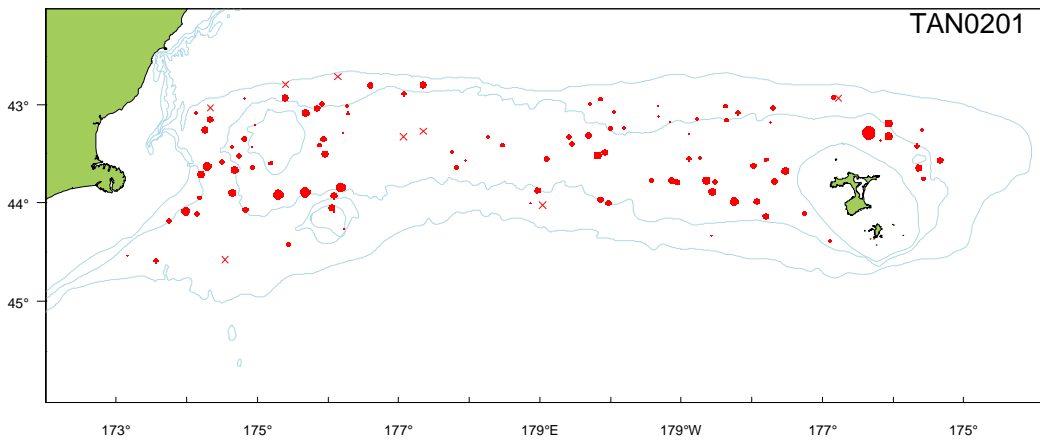
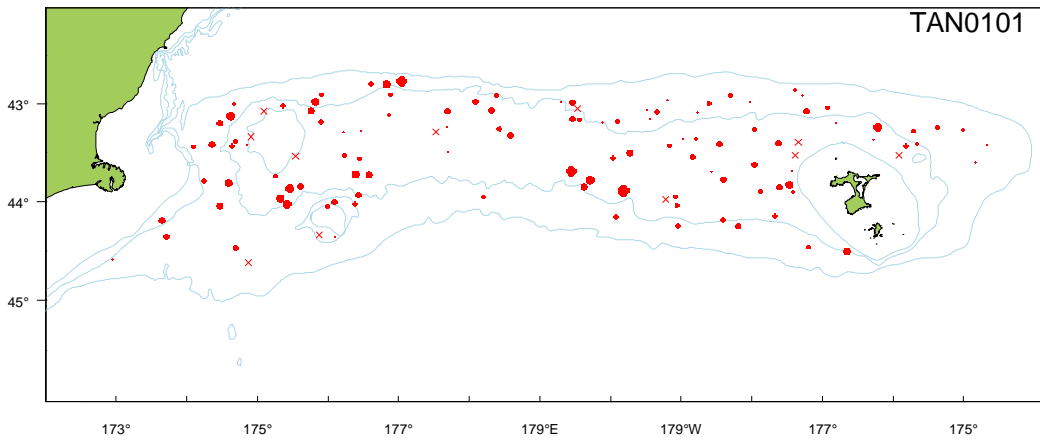
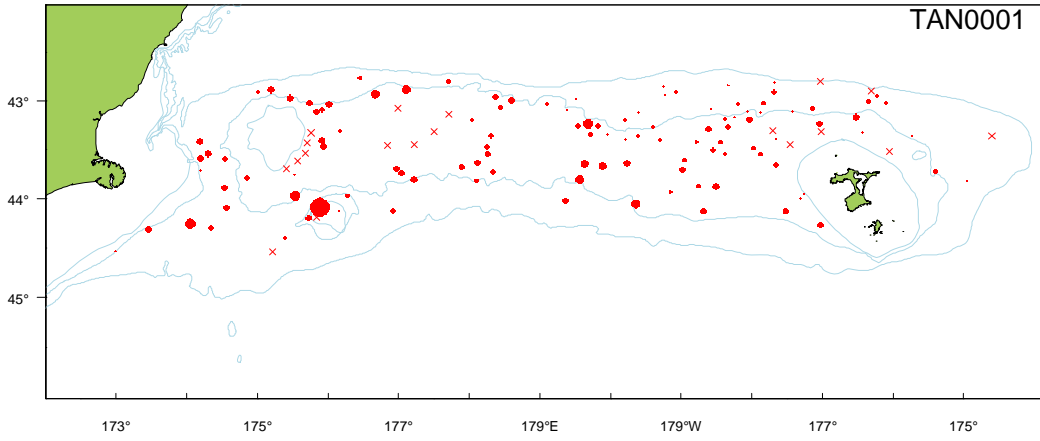


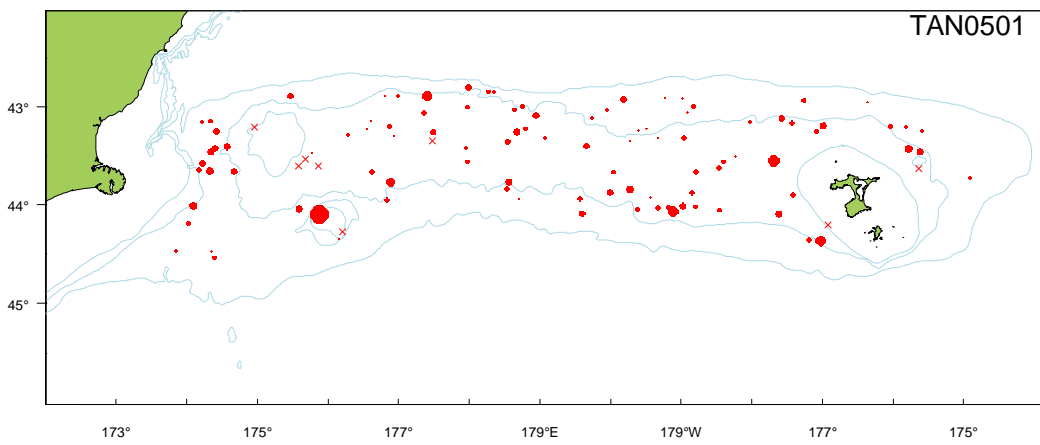
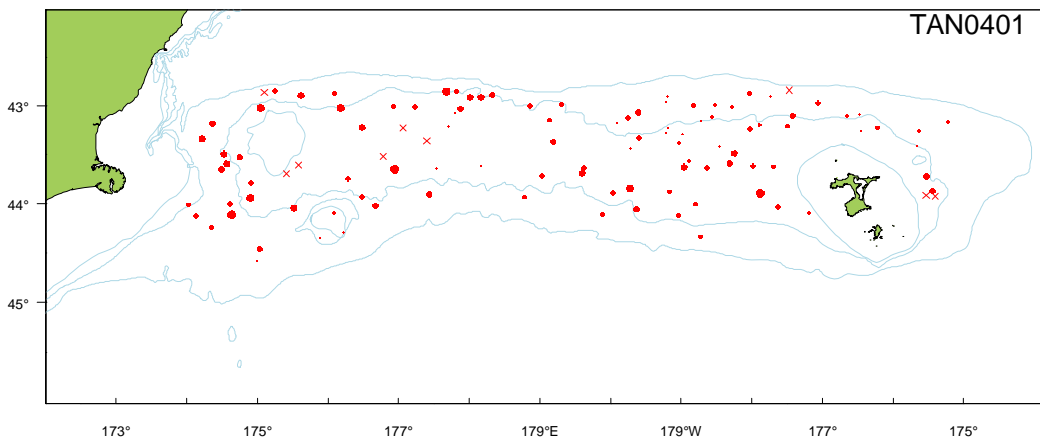
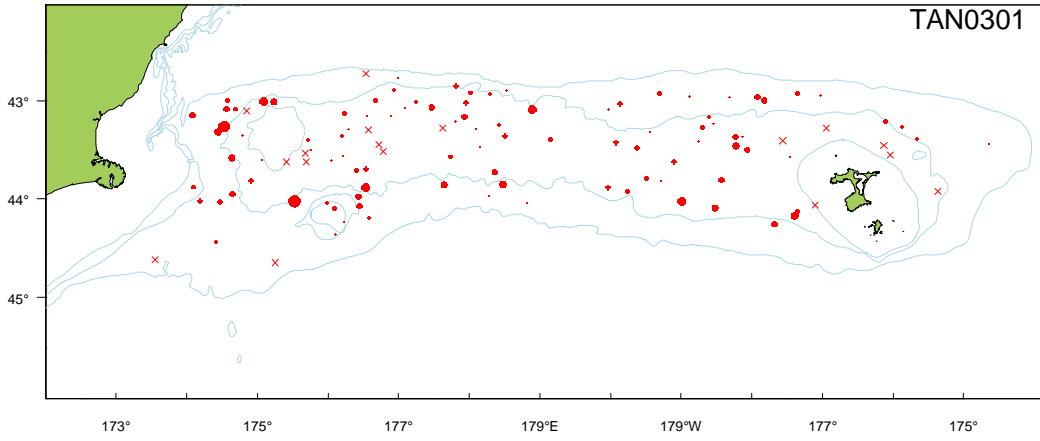


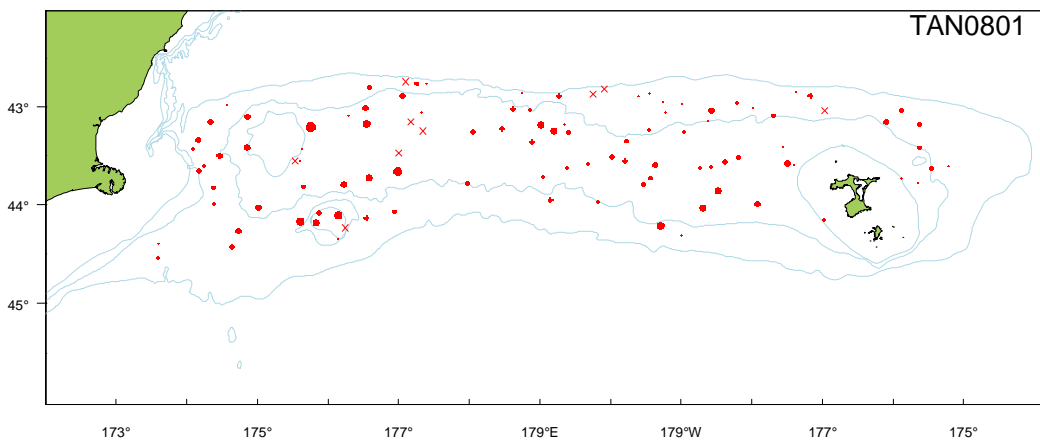
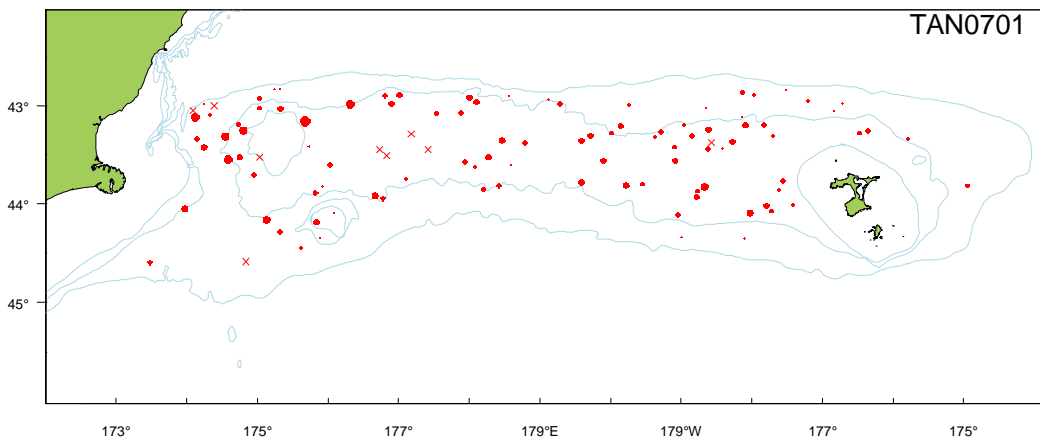
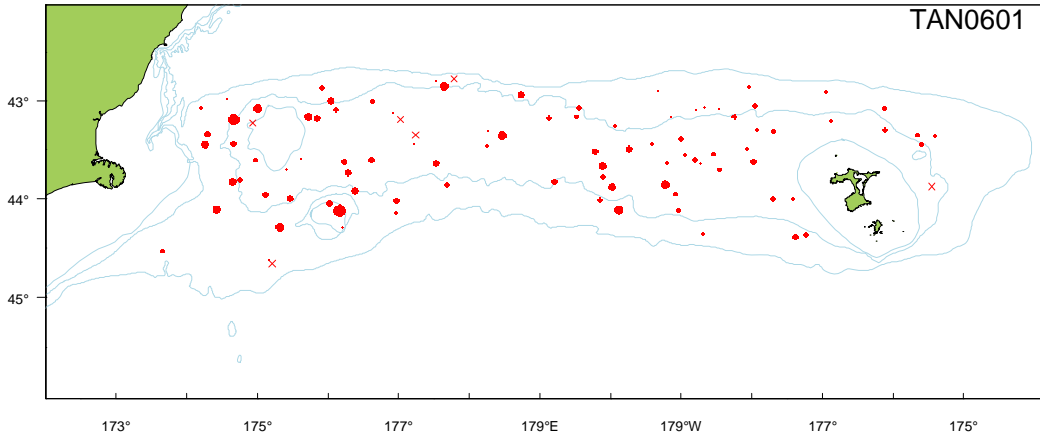


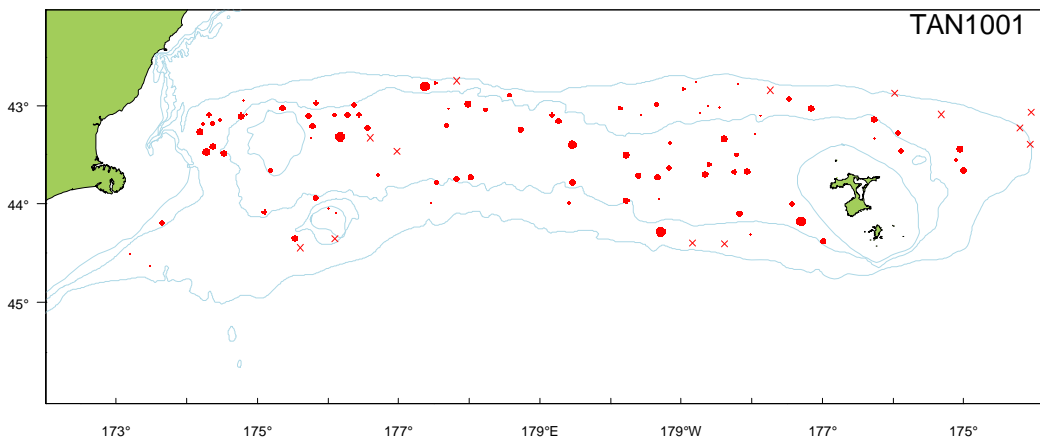
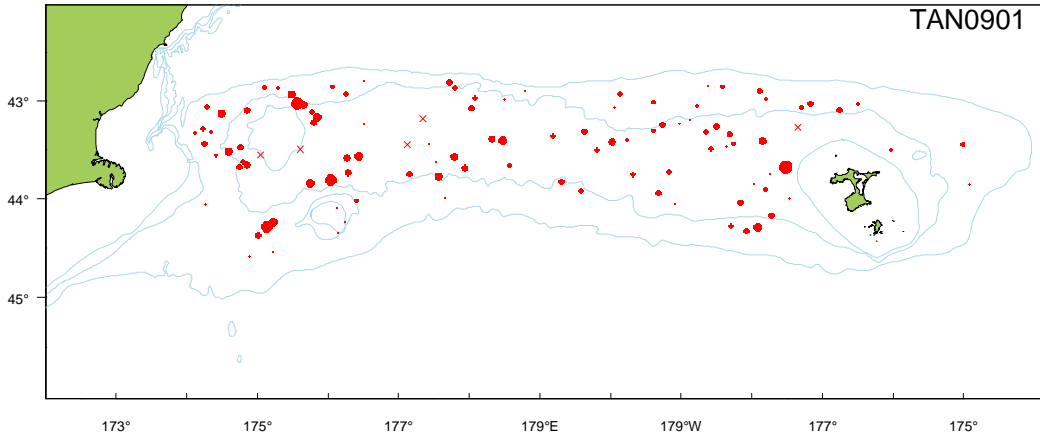




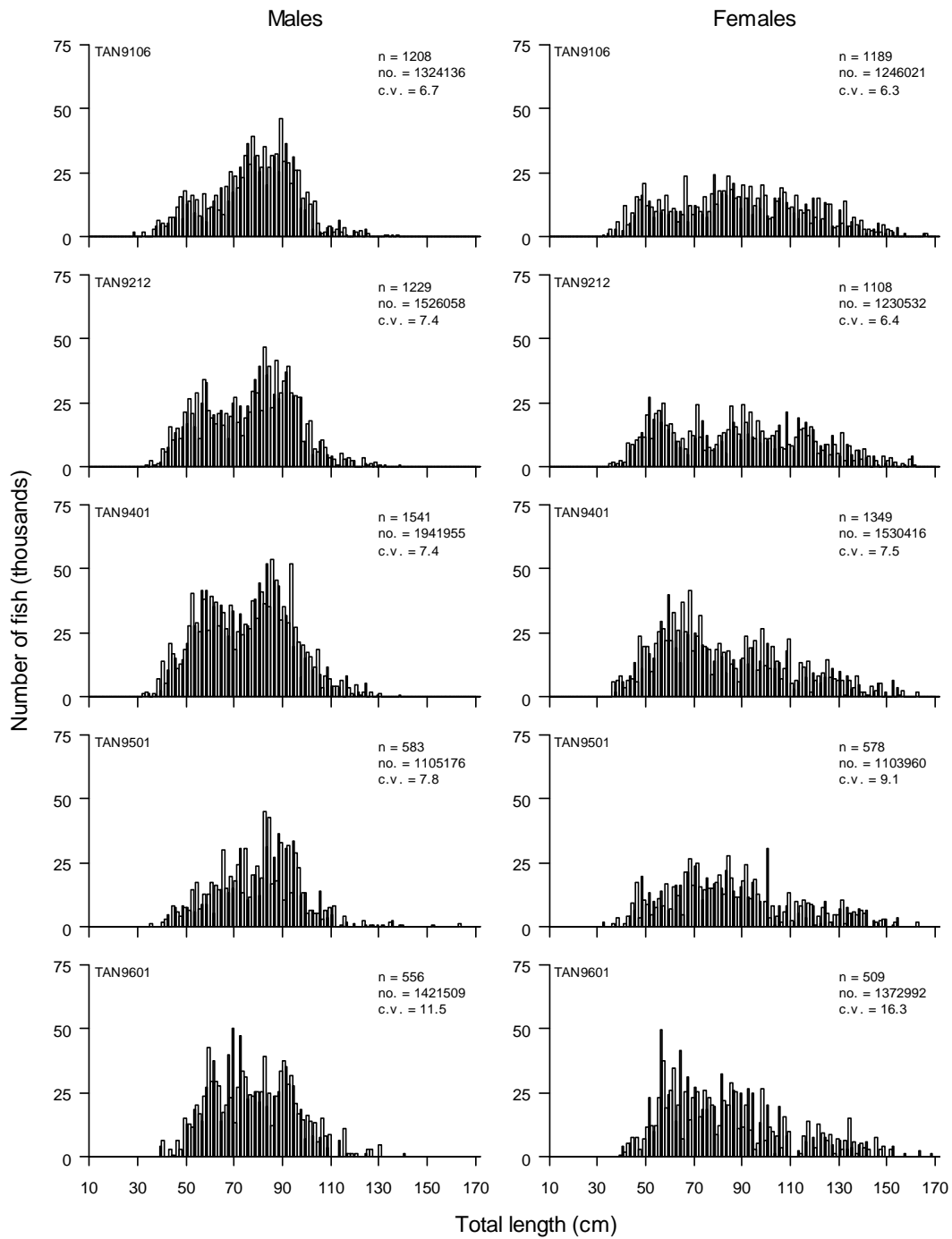




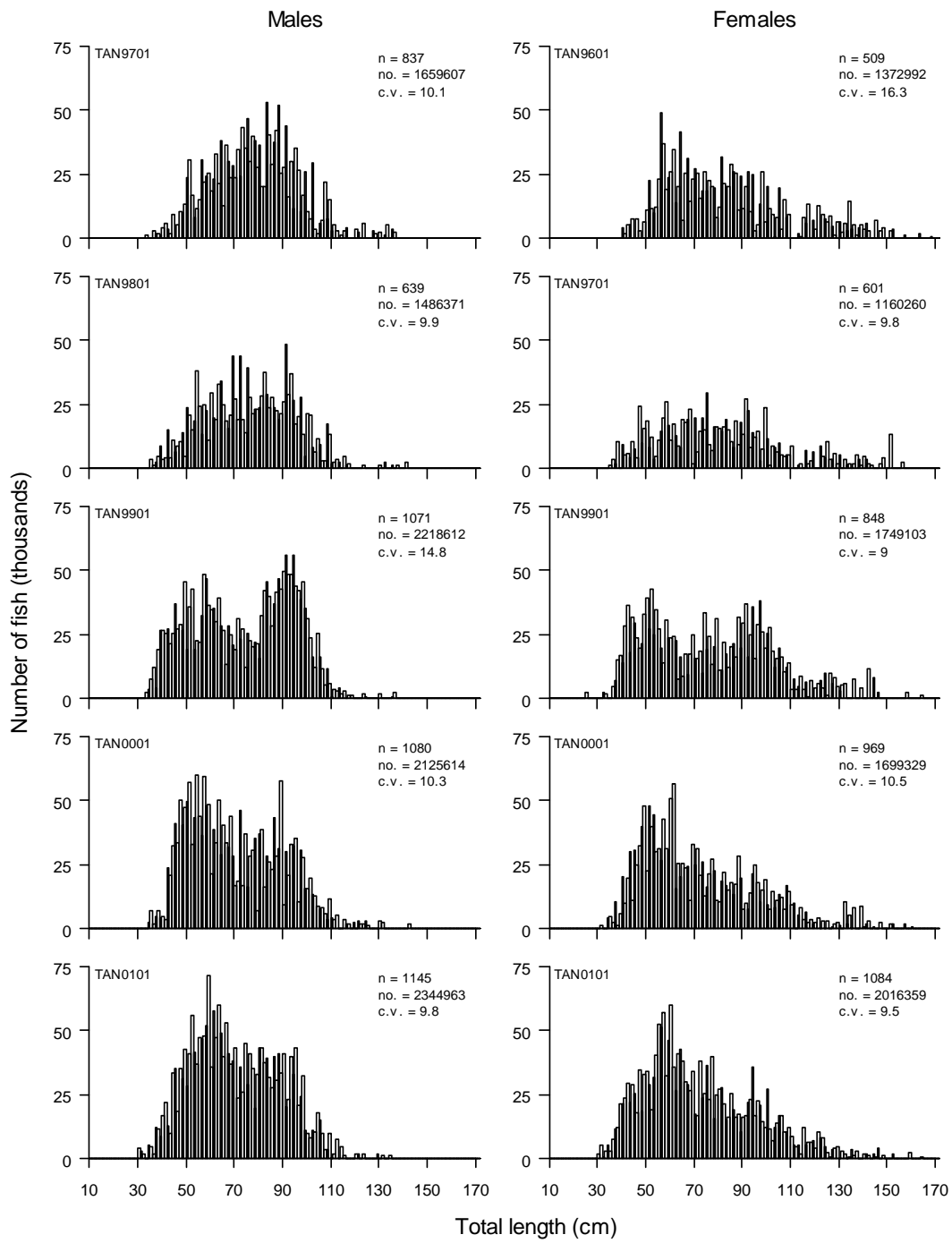


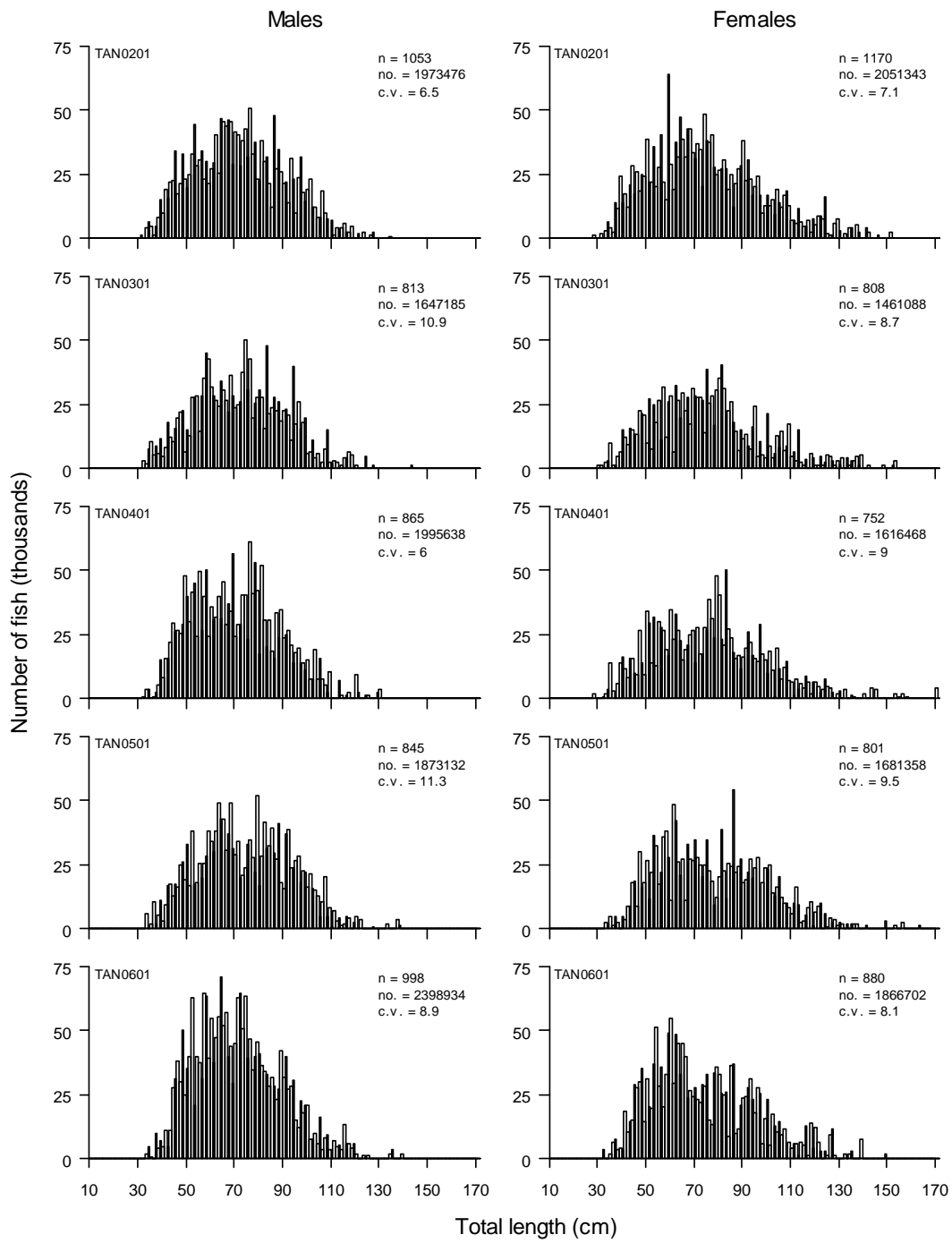


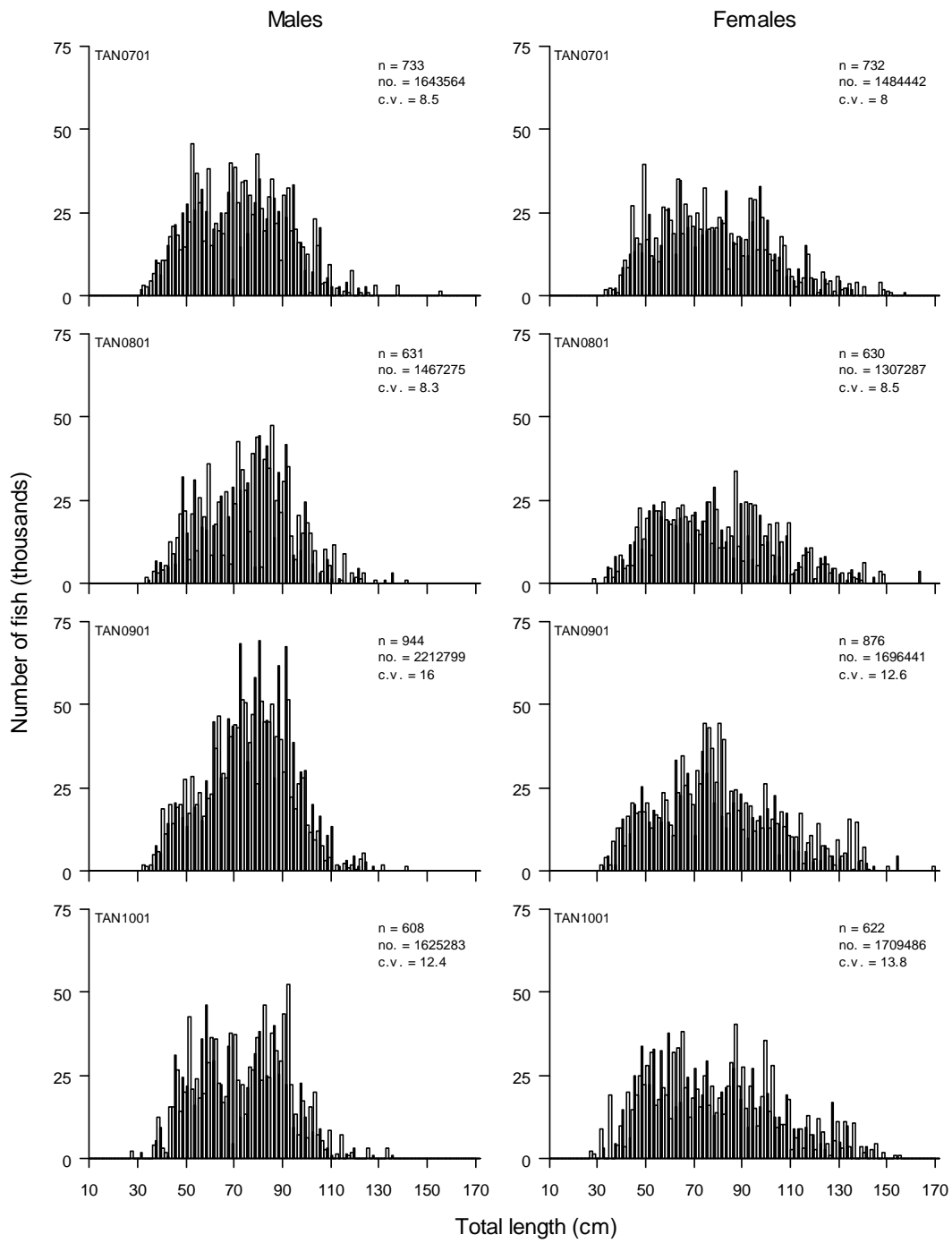
# Length Frequencies



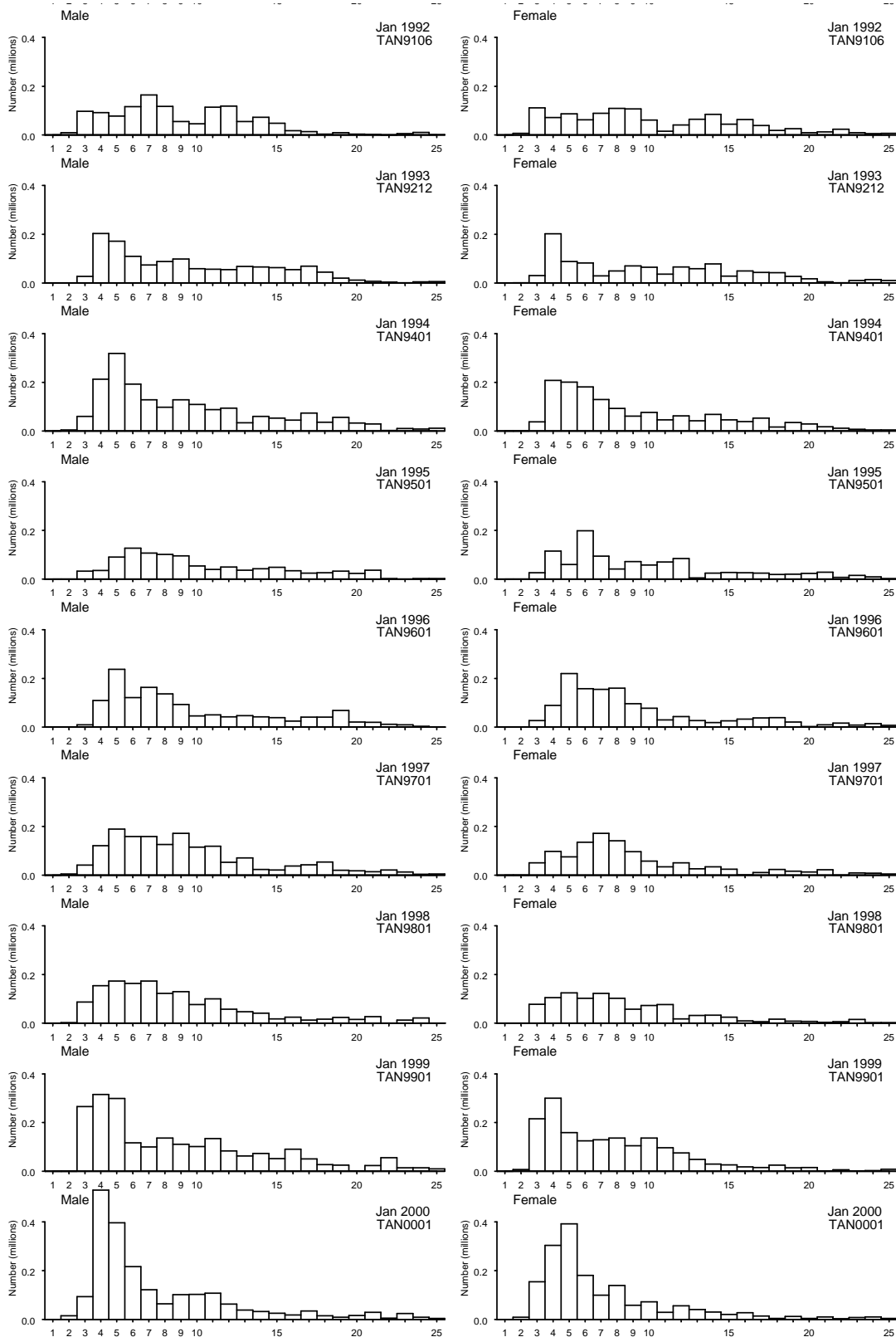


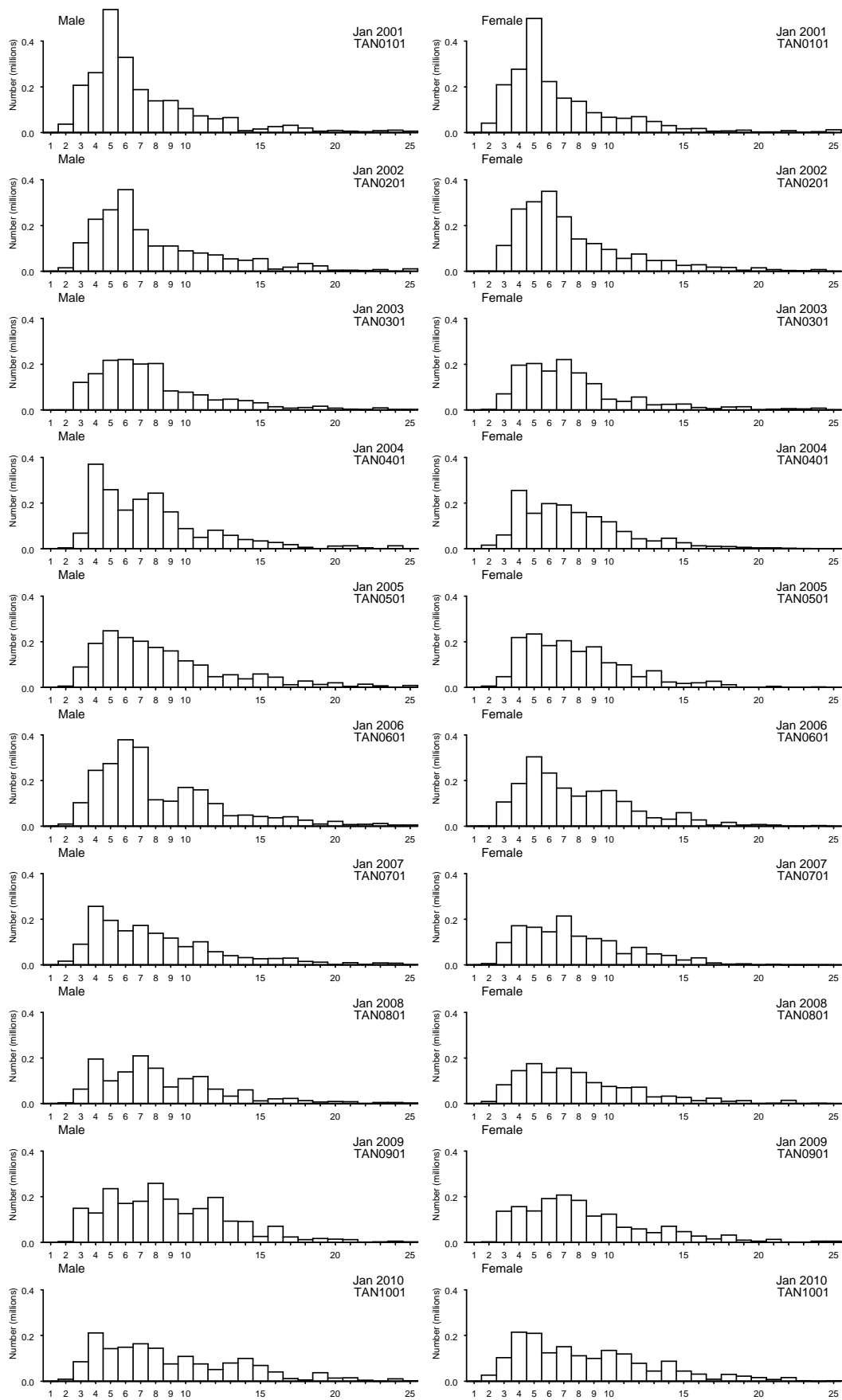






# Age Frequencies





## Gonad Stage Information

### Males

Year	p_M1	p_M2	p_M3	p_M4	p_M5	p_M6	p_M7	n_allM
1992	0.16	0.37	0.18	0.25	0	0.04	0	539
1993	0.23	0.3	0.14	0.22	0	0.1	0.01	467
1994	0.34	0.33	0.13	0.1	0	0.08	0.02	483
1995	0.28	0.53	0.18	0.01	0	0	0	236
1996	0.33	0.61	0.06	0.01	0	0	0	391
1997	0.31	0.32	0.19	0.16	0	0.02	0	336
1998	0.27	0.42	0.11	0.19	0	0	0	366
1999	0.39	0.19	0.07	0.35	0.01	0	0	532
2000	0.53	0.37	0.1	0.01	0	0	0	856
2001	0.32	0.36	0.03	0.29	0	0	0	984
2002	0.15	0.36	0.05	0.44	0	0	0	720
2003	0.36	0.26	0.06	0.25	0.01	0.07	0	658
2004	0.34	0.36	0.03	0.27	0.01	0	0	836
2005	0.32	0.28	0.06	0.33	0.01	0	0	765
2006	0.43	0.21	0.08	0.28	0	0	0	934
2007	0.31	0.26	0.08	0.34	0.01	0	0	674
2008	0.27	0.36	0.15	0.2	0.01	0.01	0	499
2009	0.37	0.16	0.1	0.35	0.01	0	0	920
2010	0.38	0.3	0.2	0.11	0.01	0	0	607
ALL	0.33	0.32	0.09	0.24	0	0.01	0	11 803

### Females

Year	p_F1	p_F2	p_F3	p_F4	p_F5	p_F6	p_F7	n_allF
1992	0.14	0.81	0.01	0.01	0	0.02	0	498
1993	0.19	0.67	0.13	0	0	0	0.01	424
1994	0.23	0.67	0.08	0	0	0	0.01	407
1995	0.36	0.58	0.05	0	0	0	0	214
1996	0.34	0.66	0	0	0	0	0.01	363
1997	0.3	0.59	0.11	0	0	0	0	247
1998	0.18	0.79	0.03	0	0	0	0	271
1999	0.52	0.47	0	0.01	0	0	0	456
2000	0.63	0.37	0	0	0	0	0	786
2001	0.38	0.61	0.01	0	0	0	0	949
2002	0.17	0.82	0.01	0.01	0	0	0	776
2003	0.28	0.7	0	0	0	0	0	618
2004	0.27	0.7	0.02	0	0	0	0	721
2005	0.33	0.66	0	0	0	0	0	719
2006	0.42	0.57	0.01	0	0	0	0	824
2007	0.31	0.66	0.01	0.01	0	0	0	662
2008	0.3	0.68	0.01	0	0	0	0	500
2009	0.38	0.59	0.03	0.01	0	0	0	839
2010	0.39	0.61	0	0	0	0	0	618
ALL	0.34	0.64	0.02	0	0	0	0	10 892

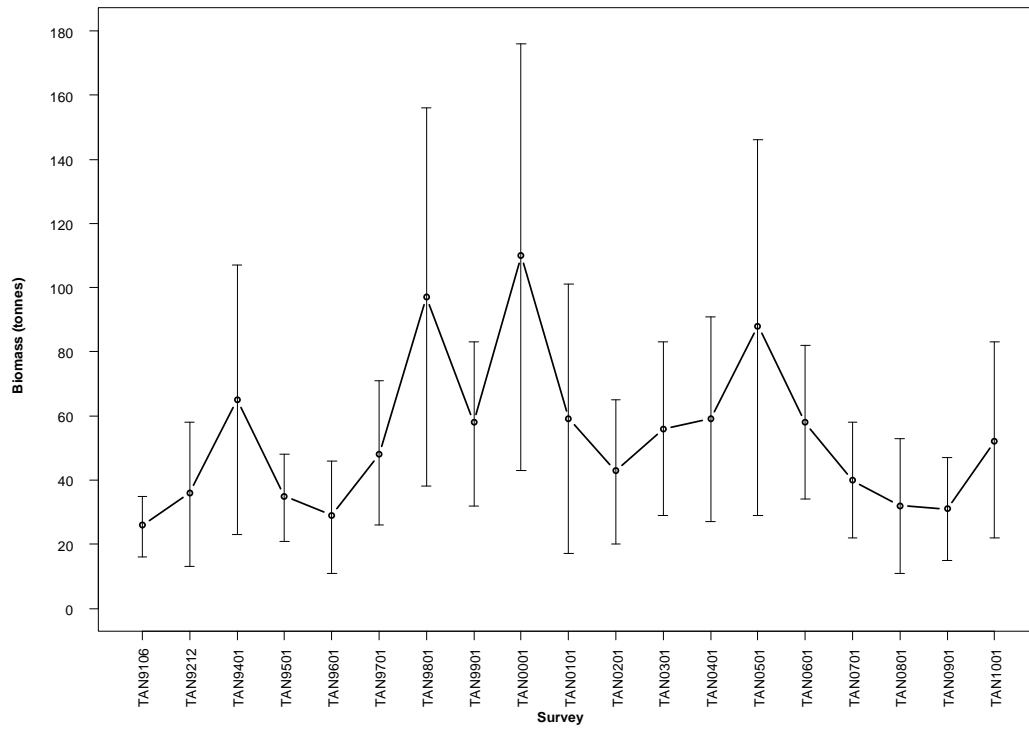


Number of surveys caught 1992–2010 (out of 19):	19
Total catch weight (kg):	692.2
Number measured	1 256
Length range (mean) (cm, TL)	21–48 (32.6)
Number weighed	221
Length-weight parameters a, b ( $r^2$ )	0.006405, 3.182003 (90.83)

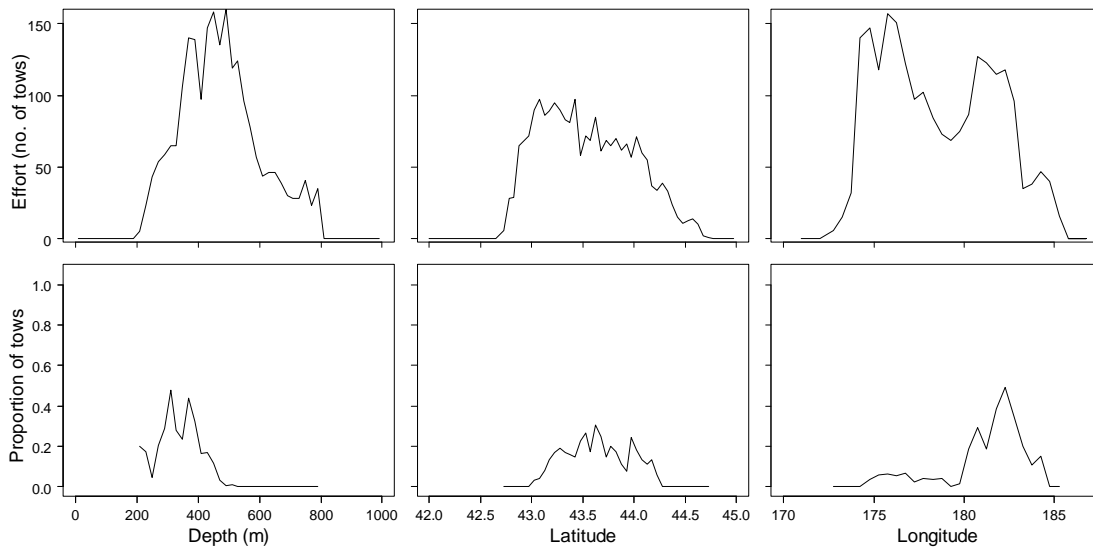
The core survey area and depth range **is not** appropriate for this species. It is found **shallower than 200 m**. Biomass of this species is **well** estimated in the core survey area. Biomass has **increased and then decreased** since the start of the time series. Catch rates are highest in the **east**. Length frequencies are usually **unimodal**. Mean length has **decreased** since the start of the time series.

#### Relative biomass estimates and length summary

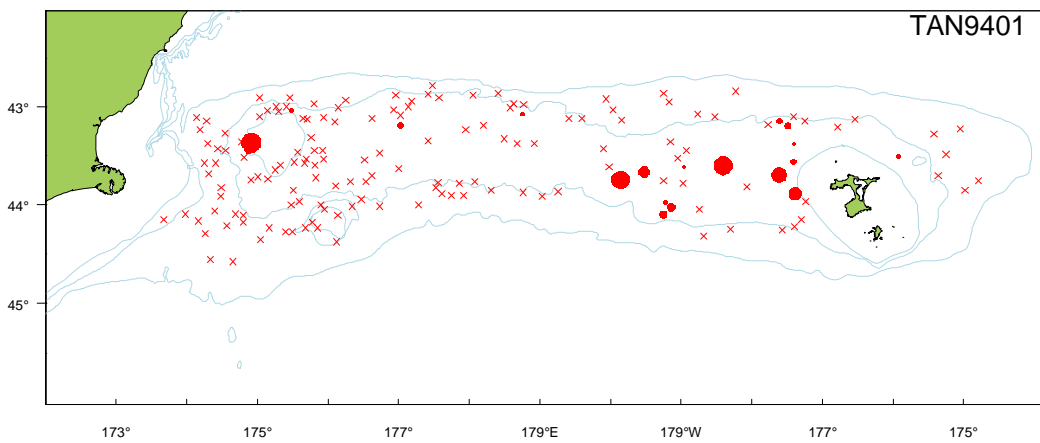
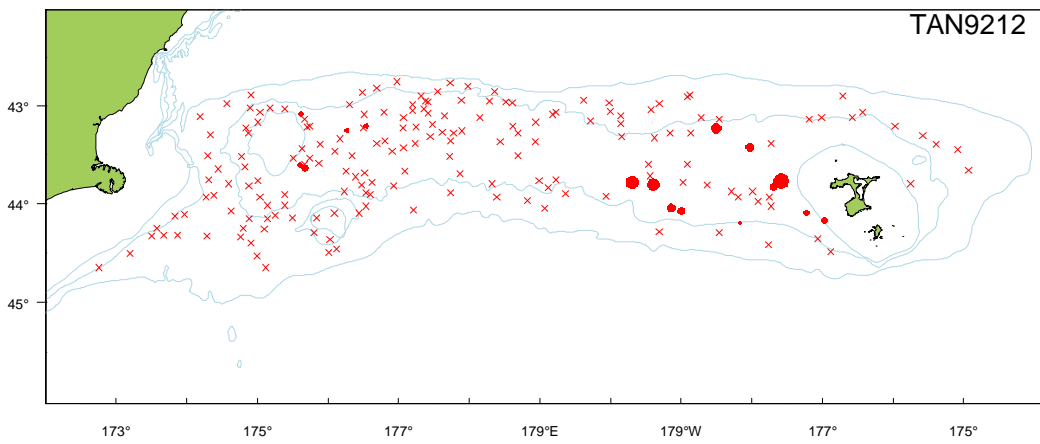
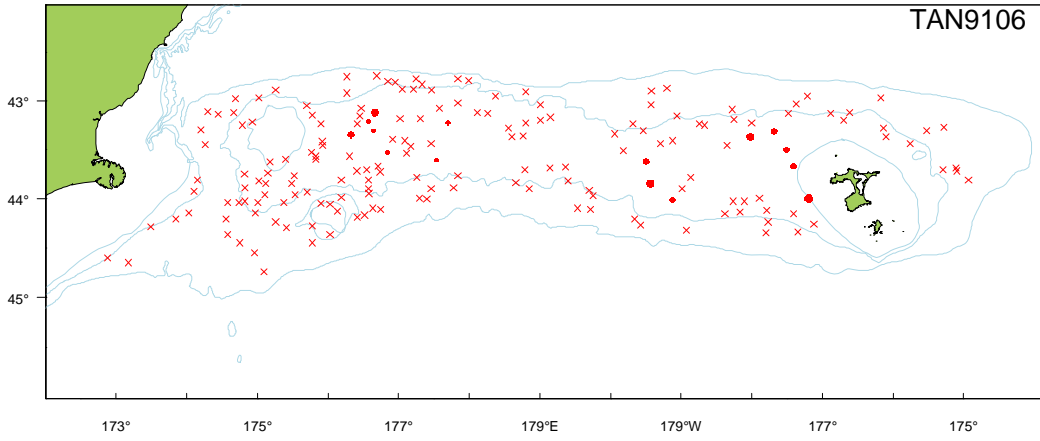
Year	Biomass (t)	cv (%)	Length (cm)			No. measure d
			Min.	Max.	Mean	
1992	26	18	25	42	32.7	30
1993	36	32	25	39	33.7	53
1994	65	32	30	48	34.7	41
1995	35	20	26	38	32.9	51
1996	29	30	27	41	33.4	30
1997	48	23	28	37	32.6	80
1998	97	30	27	40	33.3	110
1999	58	22	24	41	33.3	79
2000	110	30	24	39	33.1	159
2001	59	36	24	38	31.5	116
2002	43	27	25	40	32.4	68
2003	56	24	24	39	32.9	77
2004	59	27	29	37	33.3	20
2005	88	33	23	38	32.0	102
2006	58	21	21	37	31.1	68
2007	40	23	26	39	32.1	44
2008	32	33	23	39	31.0	22
2009	31	25	24	38	32.6	35
2010	52	29	23	37	32.0	54

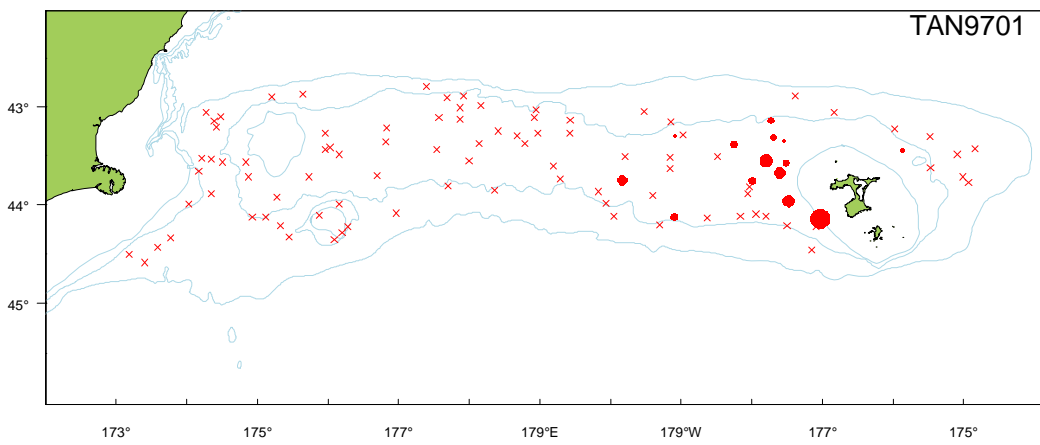
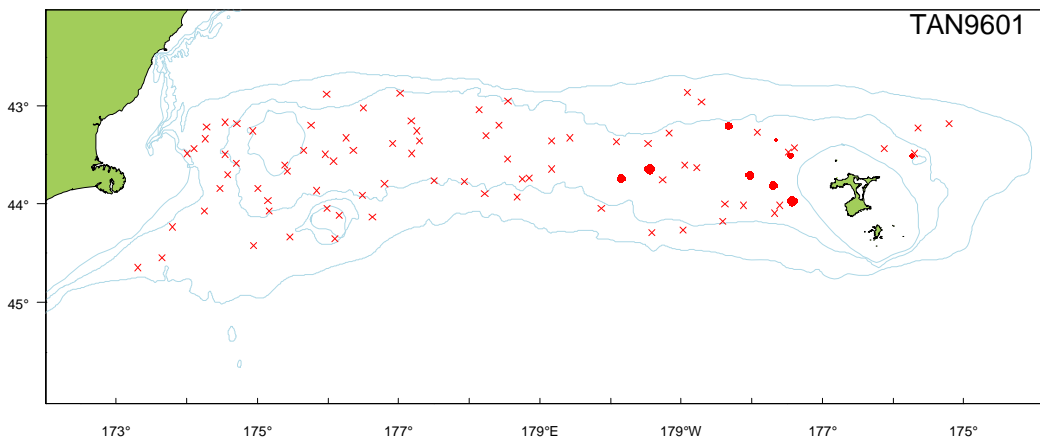
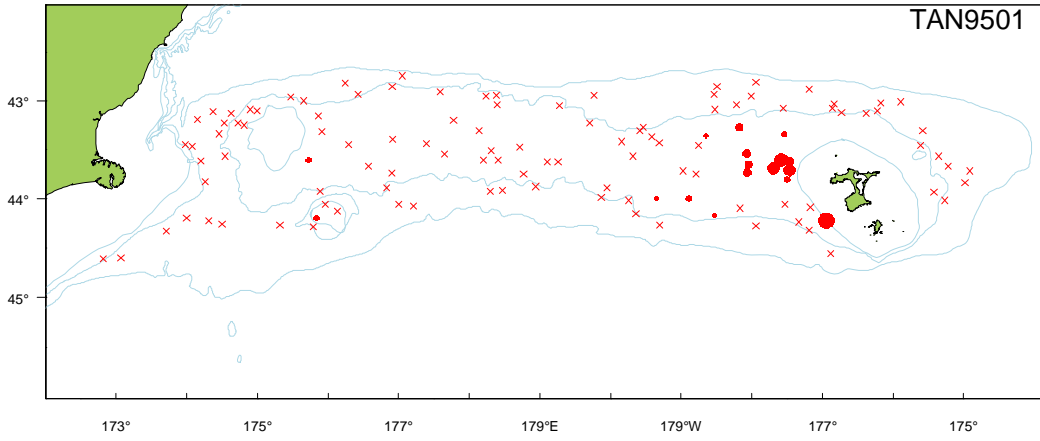


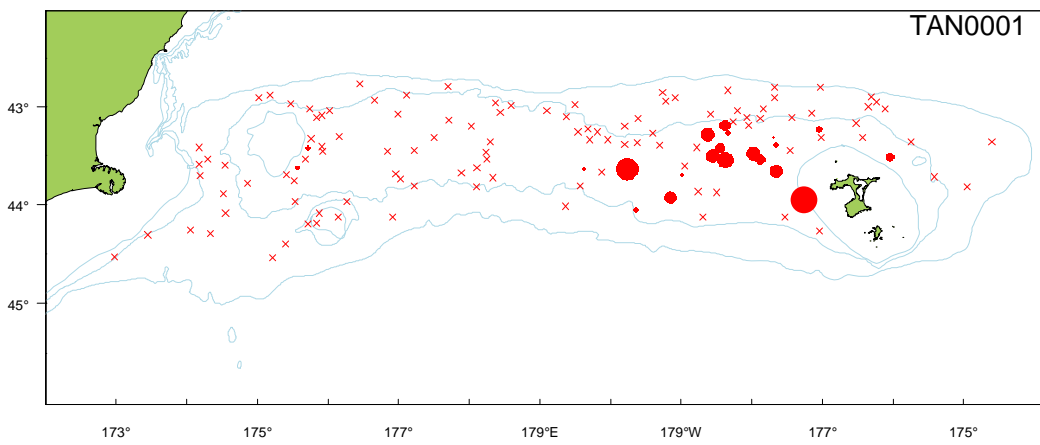
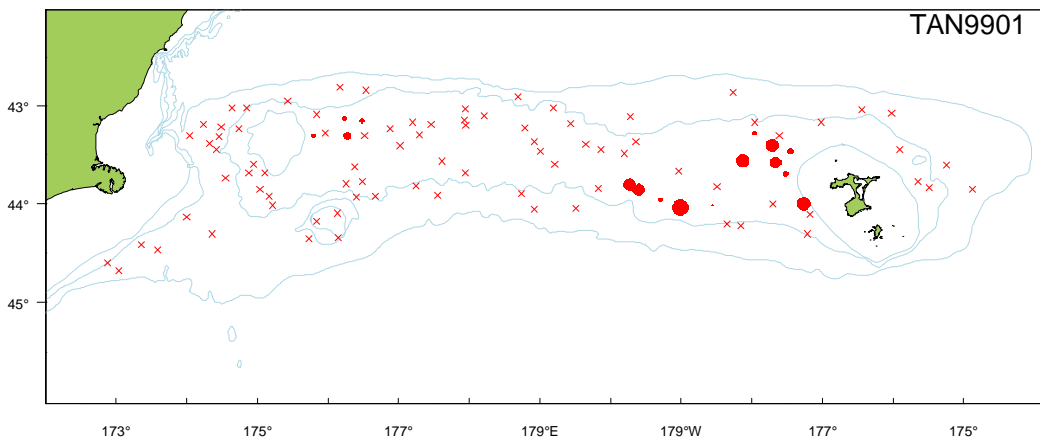
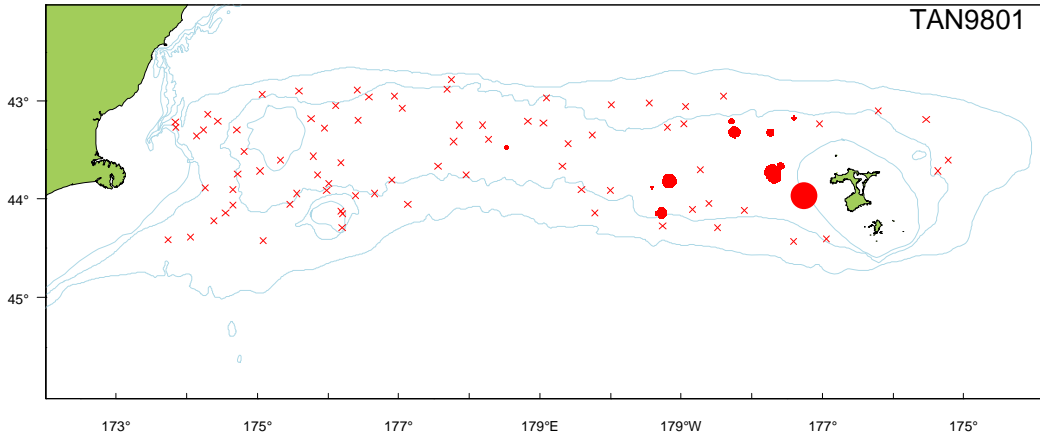
**Distribution**

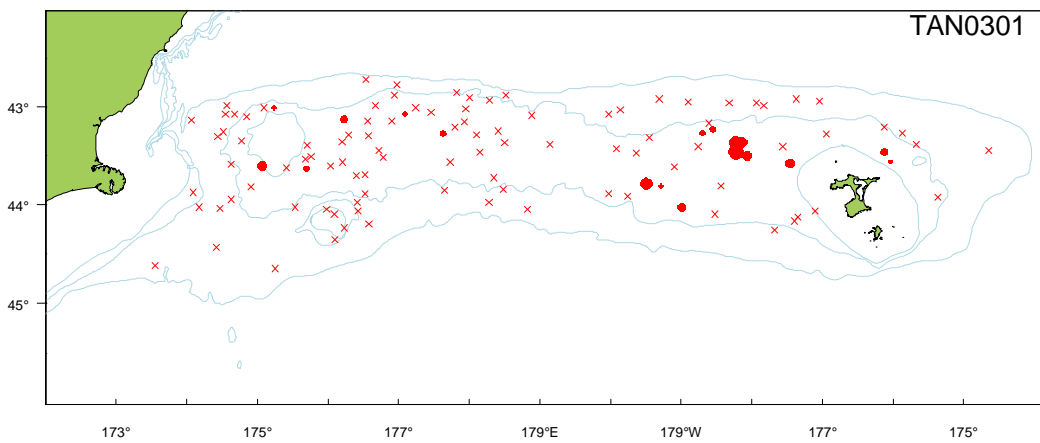
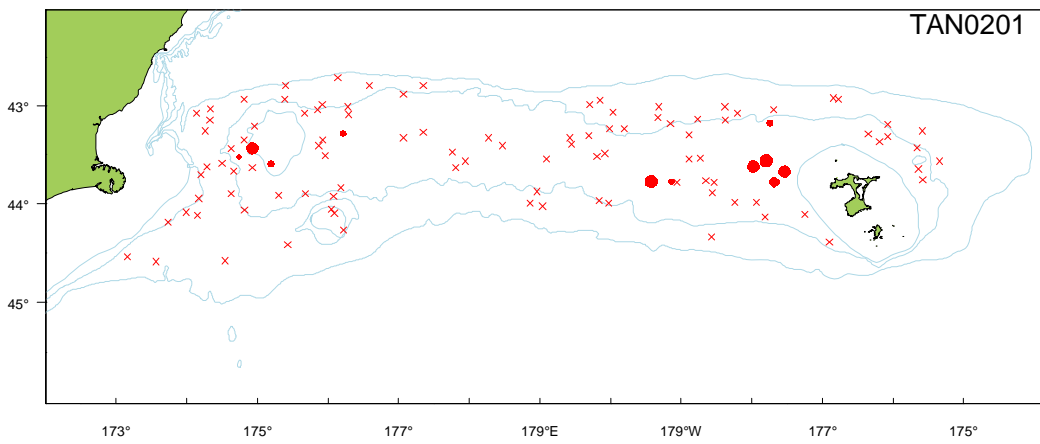
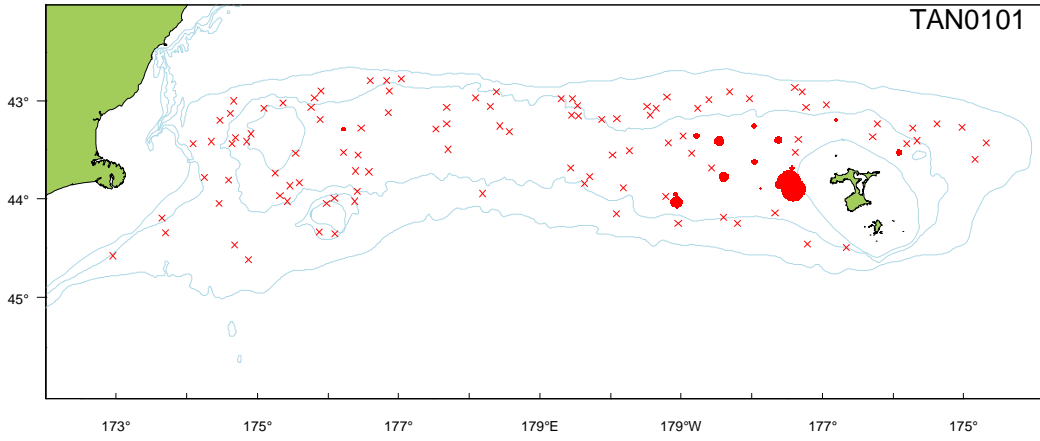


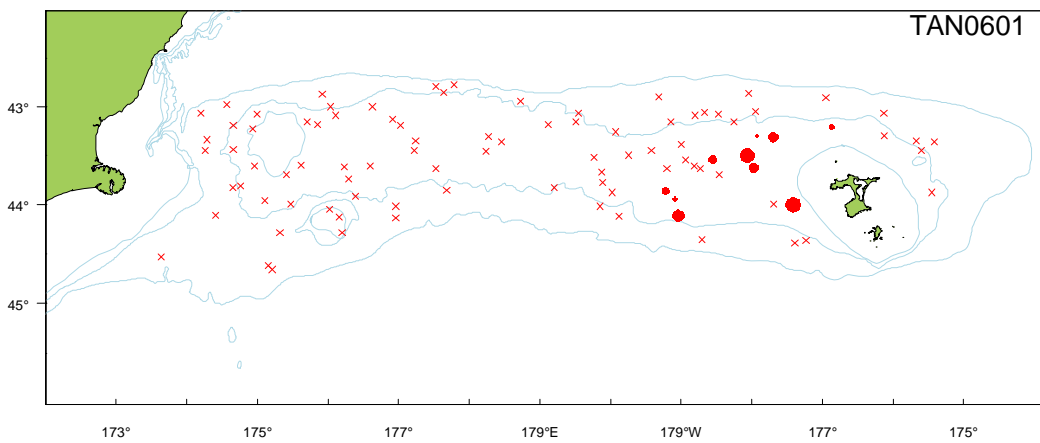
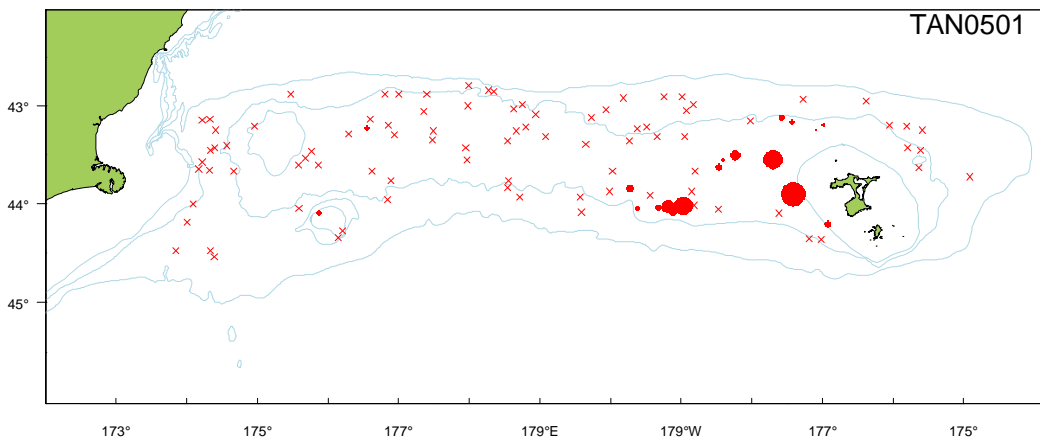
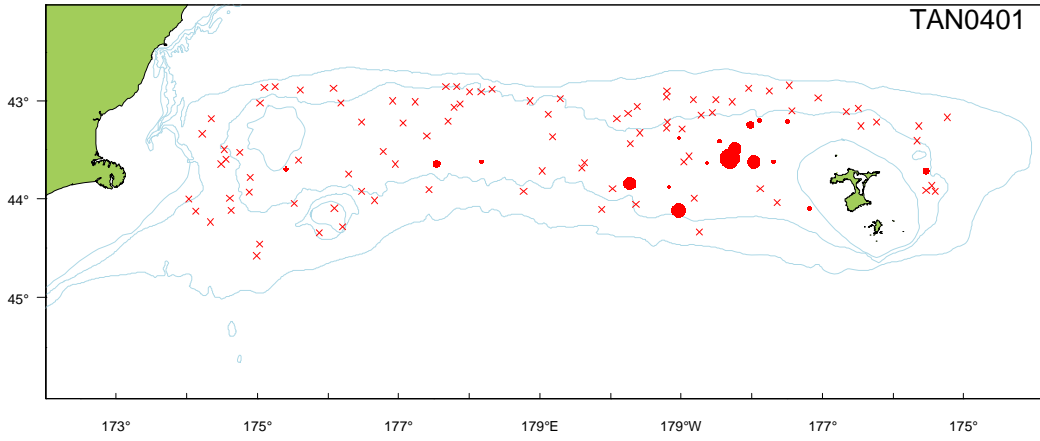


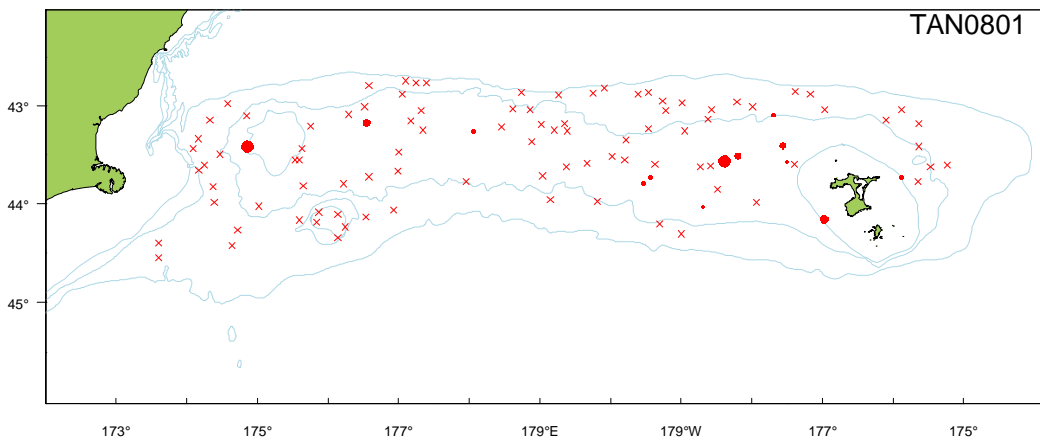
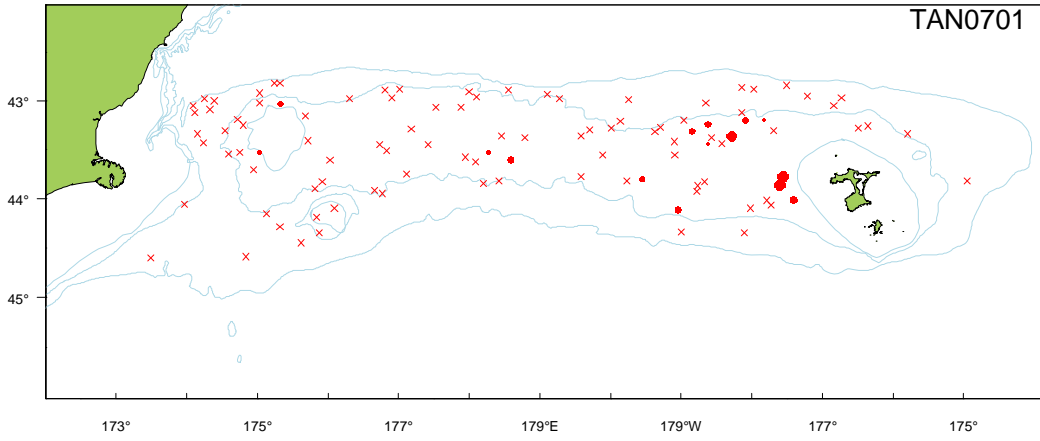


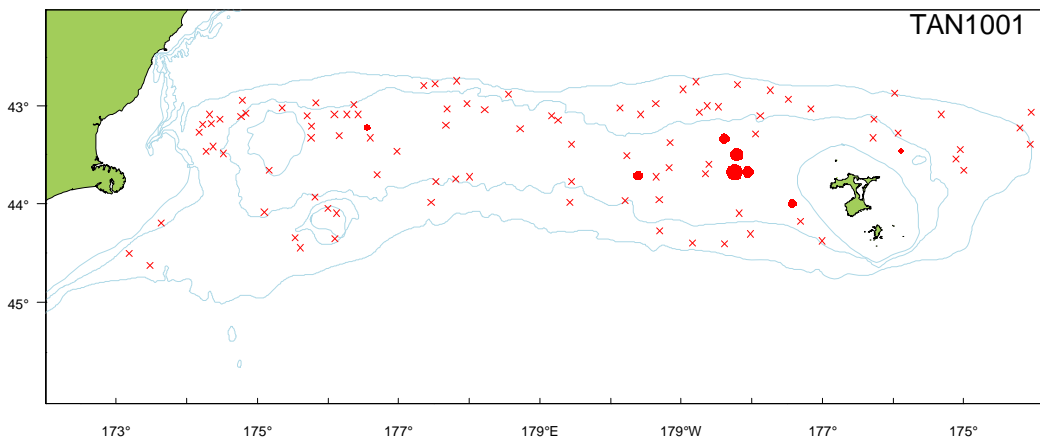
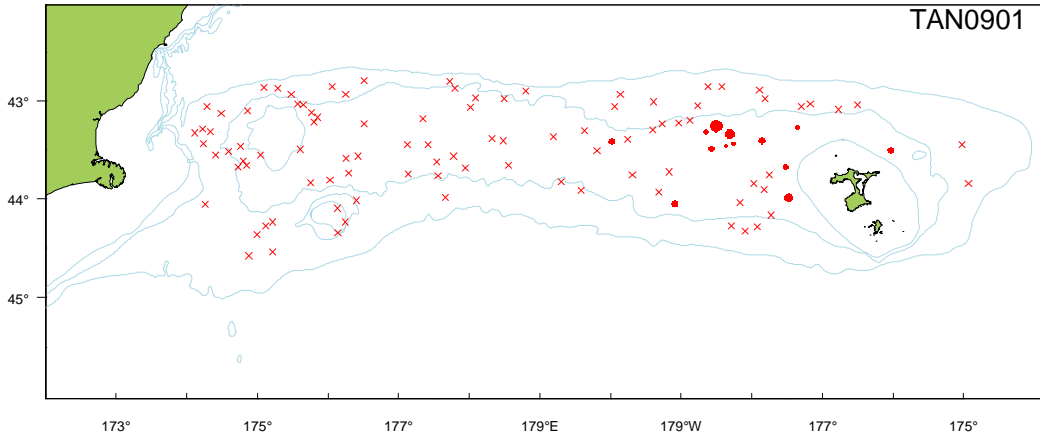












## Length Frequencies

