

**The Hawaii and California-based Pelagic Longline Vessels
annual Report for 1 January - 31 December, 2019¹**

Fisheries Research and Monitoring Division (FRMD)
Pacific Islands Fisheries Science Center (PIFSC), NOAA Fisheries
NOAA Inouye Regional Center
1845 Wasp Boulevard, Building 176, Honolulu, HI 96818

This annual report for the period 1 January - 31 December, 2019, contains summary data of fishing effort and catch statistics as reported on longline log sheets for Hawaii and California-based pelagic longline vessels. Data in this report originate from the PIFSC Information Management System (Oracle) table LLDS_RPT_STATS_HC20200207_RFMO, representing preliminary data received as of 07 February 2020. Catch and effort statistics are based on date of longline haul. When a statistic (number of vessels, trips) involves dates of haul in two summary periods (i.e., years, semi-annual, quarters), the item is counted in both summary periods. Thus, a trip total is for “partial and completed” trips. As such, these statistics are not additive (i.e., sum of four quarters is not the total for the year, etc.).

The following tables show fishery statistics for the stated time period, area, and set type, and includes effort (number of vessels, trips, sets, and hooks set), and for each listed species, organized by pelagic management unit species (PMUS) groups of billfish, shark, tuna, and other, the table includes the number of fish caught, kept, and released, and the catch per unit effort (CPUE), measured as the number of fish caught per 1,000 hooks.

Additional figures show catch numbers, effort, and spatial distributions for important species for important species for the stated time period, area, and set type, for years 2000-2019.

¹PIFSC Data Report DR-xx-xxx. Issued dd mmm yyyy

Table 1. Hawaii and California-based pelagic longline vessels annual statistics for all fishing areas and all fishing categories (set types), including effort (number of vessels, trips, sets, and hooks set), and for each listed species, organized by pelagic management unit species (PMUS) groups of billfish, shark, tuna, and other, along with the number of fish caught, kept, and released, and the catch per unit effort (CPUE, number per 1,000 hooks, calculated as the sum of fish caught divided by the sum of hooks set). Data Source: PIFSC Information Management System, Longline Logbook Data.

Report Coverage

Time Period 1 January - 31 December, 2019
Set Types All sets
Fishing Area All Areas

Number of vessels active	150
Number of trips (partial or completed)	1,744
Number of sets	22,762
Number of hooks set	63,461,618

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE Number Caught per 1000 Hooks
PMUS				
Billfish PMUS				
Blue marlin	12,918	12,765	153	0.20
Striped marlin	20,520	19,889	631	0.32
Shortbill spearfish	16,314	15,899	415	0.26
Swordfish	8,325	8,052	273	0.13
Other billfishes	1,426	1,400	26	0.02
Total	59,503	58,005	1,498	0.94
Shark PMUS				
Blue shark	114,292	2	114,290	1.80
Mako sharks	5,076	560	4,516	0.08
Thresher sharks	8,748	53	8,695	0.14
Oceanic whitetip shark	493	0	493	0.01
Silky shark	363	0	363	0.01
Total	128,972	615	128,357	2.03
Tuna PMUS				
Albacore	4,425	4,334	91	0.07
Bigeye tuna	223,624	217,639	5,985	3.52
Yellowfin tuna	62,288	60,434	1,854	0.98
Bluefin tuna	14	14	0	0.00
Skipjack tuna	32,946	32,568	378	0.52
Other tunas	0	0	0	0.00
Total	323,297	314,989	8,308	5.09
Other PMUS				
Mahimahi	37,744	37,318	426	0.59
Moonfish	24,557	24,320	237	0.39
Wahoo	44,296	44,074	222	0.70
Oilfish	16,529	13,914	2,615	0.26
Pomfret	52,979	52,540	439	0.83
Total	176,105	172,166	3,939	2.77
Total PMUS	687,877	545,775	142,102	10.84
Non-PMUS Sharks	272	0	272	0.00
Total Non-PMUS	6,015	185	5,830	0.09
Total All Species	693,892	545,960	147,932	10.93

Table 2. Hawaii and California-based pelagic longline vessels annual statistics for fishing within the U.S. EEZ (Main Hawaiian Islands, Northwest Hawaiian Islands, or the Pacific Remote Islands, and with all fishing categories (set types), including effort (number of vessels, trips, sets, and hooks set), and for each listed species, organized by pelagic management unit species (PMUS) groups of billfish, shark, tuna, and other, along with the number of fish caught, kept, and released, and the catch per unit effort (CPUE, number per 1,000 hooks, calculated as the sum of fish caught divided by the sum of hooks set). Data Source: PIFSC Information Management System, Longline Logbook Data.

Report Coverage

Time Period 1 January - 31 December, 2019
Set Types All sets
Fishing Area Inside U.S. EEZ

Number of vessels active	136
Number of trips (partial or completed)	802
Number of sets	5,204
Number of hooks set	14,315,121

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE Number Caught per 1000 Hooks
PMUS				
Billfish PMUS				
Blue marlin	3,851	3,796	55	0.27
Striped marlin	5,758	5,712	46	0.40
Shortbill spearfish	3,738	3,692	46	0.26
Swordfish	1,125	1,093	32	0.08
Other billfishes	286	283	3	0.02
Total	14,758	14,576	182	1.03
Shark PMUS				
Blue shark	27,724	0	27,724	1.94
Mako sharks	985	125	860	0.07
Thresher sharks	1,224	3	1,221	0.09
Oceanic whitetip shark	169	0	169	0.01
Silky shark	128	0	128	0.01
Total	30,230	128	30,102	2.11
Tuna PMUS				
Albacore	167	167	0	0.01
Bigeye tuna	40,027	39,251	776	2.80
Yellowfin tuna	12,159	11,935	224	0.85
Bluefin tuna	0	0	0	0.00
Skipjack tuna	7,741	7,655	86	0.54
Other tunas	0	0	0	0.00
Total	60,094	59,008	1,086	4.20
Other PMUS				
Mahimahi	6,060	6,011	49	0.42
Moonfish	2,140	2,137	3	0.15
Wahoo	8,229	8,208	21	0.57
Oilfish	3,248	2,747	501	0.23
Pomfret	13,195	13,083	112	0.92
Total	32,872	32,186	686	2.30
Total PMUS	137,954	105,898	32,056	9.64
Non-PMUS Sharks	67	0	67	0.00
Total Non-PMUS	475	31	444	0.03
Total All Species	138,429	105,929	32,500	9.67

Table 3. Hawaii and California-based pelagic longline vessels annual statistics for fishing outside the U.S. EEZ and with all fishing categories (set types), including effort (number of vessels, trips, sets, and hooks set), and for each listed species, organized by pelagic management unit species (PMUS) groups of billfish, shark, tuna, and other, along with the number of fish caught, kept, and released, and the catch per unit effort (CPUE, number per 1,000 hooks, calculated as the sum of fish caught divided by the sum of hooks set). Data Source: PIFSC Information Management System, Longline Logbook Data.

Report Coverage

Time Period 1 January - 31 December, 2019
Set Types All sets
Fishing Area Outside U.S. EEZ

Number of vessels active	149
Number of trips (partial or completed)	1,555
Number of sets	17,558
Number of hooks set	49,146,497

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE Number Caught per 1000 Hooks
PMUS				
Billfish PMUS				
Blue marlin	9,067	8,969	98	0.18
Striped marlin	14,762	14,177	585	0.30
Shortbill spearfish	12,576	12,207	369	0.26
Swordfish	7,200	6,959	241	0.15
Other billfishes	1,140	1,117	23	0.02
Total	44,745	43,429	1,316	0.91
Shark PMUS				
Blue shark	86,568	2	86,566	1.76
Mako sharks	4,091	435	3,656	0.08
Thresher sharks	7,524	50	7,474	0.15
Oceanic whitetip shark	324	0	324	0.01
Silky shark	235	0	235	0.00
Total	98,742	487	98,255	2.01
Tuna PMUS				
Albacore	4,258	4,167	91	0.09
Bigeye tuna	183,597	178,388	5,209	3.74
Yellowfin tuna	50,129	48,499	1,630	1.02
Bluefin tuna	14	14	0	0.00
Skipjack tuna	25,205	24,913	292	0.51
Other tunas	0	0	0	0.00
Total	263,203	255,981	7,222	5.36
Other PMUS				
Mahimahi	31,684	31,307	377	0.64
Moonfish	22,417	22,183	234	0.46
Wahoo	36,067	35,866	201	0.73
Oilfish	13,281	11,167	2,114	0.27
Pomfret	39,784	39,457	327	0.81
Total	143,233	139,980	3,253	2.91
Total PMUS	549,923	439,877	110,046	11.19
Non-PMUS Sharks	205	0	205	0.00
Total Non-PMUS	5,540	154	5,386	0.11
Total All Species	555,463	440,031	115,432	11.30

Table 4. Hawaii and California-based pelagic longline vessels annual statistics for all fishing areas and with shallow set type, including effort (number of vessels, trips, sets, and hooks set), and for each listed species, organized by pelagic management unit species (PMUS) groups of billfish, shark, tuna, and other, along with the number of fish caught, kept, and released, and the catch per unit effort (CPUE, number per 1,000 hooks, calculated as the sum of fish caught divided by the sum of hooks set). Data Source: PIFSC Information Management System, Longline Logbook Data.

Report Coverage

Time Period 1 January - 31 December, 2019
Set Types Shallow sets
Fishing Area All Areas

Number of vessels active	14
Number of trips (partial or completed)	25
Number of sets	284
Number of hooks set	351,059

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE Number Caught per 1000 Hooks
PMUS				
Billfish PMUS				
Blue marlin	0	0	0	0.00
Striped marlin	12	9	3	0.03
Shortbill spearfish	18	13	5	0.05
Swordfish	3,435	3,317	118	9.78
Other billfishes	3	3	0	0.01
Total	3,468	3,342	126	9.88
Shark PMUS				
Blue shark	2,993	0	2,993	8.53
Mako sharks	197	98	99	0.56
Thresher sharks	5	0	5	0.01
Oceanic whitetip shark	0	0	0	0.00
Silky shark	0	0	0	0.00
Total	3,195	98	3,097	9.10
Tuna PMUS				
Albacore	81	81	0	0.23
Bigeye tuna	874	838	36	2.49
Yellowfin tuna	331	327	4	0.94
Bluefin tuna	0	0	0	0.00
Skipjack tuna	20	16	4	0.06
Other tunas	0	0	0	0.00
Total	1,306	1,262	44	3.72
Other PMUS				
Mahimahi	247	246	1	0.70
Moonfish	31	31	0	0.09
Wahoo	3	3	0	0.01
Oilfish	56	38	18	0.16
Pomfret	5	5	0	0.01
Total	342	323	19	0.97
Total PMUS	8,311	5,025	3,286	23.67
Non-PMUS Sharks	0	0	0	0.00
Total Non-PMUS	0	0	0	0.00
Total All Species	8,311	5,025	3,286	23.67

Table 5. Hawaii and California-based pelagic longline vessels annual statistics for all fishing areas and with deep set type, including effort (number of vessels, trips, sets, and hooks set), and for each listed species, organized by pelagic management unit species (PMUS) groups of billfish, shark, tuna, and other, along with the number of fish caught, kept, and released, and the catch per unit effort (CPUE, number per 1,000 hooks, calculated as the sum of fish caught divided by the sum of hooks set). Data Source: PIFSC Information Management System, Longline Logbook Data.

Report Coverage					Number of vessels active		150
Time Period	1 January - 31 December, 2019				Number of trips (partial or completed)		1,719
Set Types	Deep sets				Number of sets		22,478
Fishing Area	All Areas				Number of hooks set		63,110,559

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE Number Caught per 1000 Hooks
PMUS				
Billfish PMUS				
Blue marlin	12,918	12,765	153	0.20
Striped marlin	20,508	19,880	628	0.32
Shortbill spearfish	16,296	15,886	410	0.26
Swordfish	4,890	4,735	155	0.08
Other billfishes	1,423	1,397	26	0.02
Total	56,035	54,663	1,372	0.89
Shark PMUS				
Blue shark	111,299	2	111,297	1.76
Mako sharks	4,879	462	4,417	0.08
Thresher sharks	8,743	53	8,690	0.14
Oceanic whitetip shark	493	0	493	0.01
Silky shark	363	0	363	0.01
Total	125,777	517	125,260	1.99
Tuna PMUS				
Albacore	4,344	4,253	91	0.07
Bigeye tuna	222,750	216,801	5,949	3.53
Yellowfin tuna	61,957	60,107	1,850	0.98
Bluefin tuna	14	14	0	0.00
Skipjack tuna	32,926	32,552	374	0.52
Other tunas	0	0	0	0.00
Total	321,991	313,727	8,264	5.10
Other PMUS				
Mahimahi	37,497	37,072	425	0.59
Moonfish	24,526	24,289	237	0.39
Wahoo	44,293	44,071	222	0.70
Oilfish	16,473	13,876	2,597	0.26
Pomfret	52,974	52,535	439	0.84
Total	175,763	171,843	3,920	2.79
Total PMUS	679,566	540,750	138,816	10.77
Non-PMUS Sharks	272	0	272	0.00
Total Non-PMUS	6,015	185	5,830	0.10
Total All Species	685,581	540,935	144,646	10.86

Table 7. Hawaii and California-based pelagic longline vessels annual statistics for fishing within the U.S. EEZ (Main Hawaiian Islands, Northwest Hawaiian Islands, or the Pacific Remote Islands, and with deep sets, including effort (number of vessels, trips, sets, and hooks set), and for each listed species, organized by pelagic management unit species (PMUS) groups of billfish, shark, tuna, and other, along with the number of fish caught, kept, and released, and the catch per unit effort (CPUE, number per 1,000 hooks, calculated as the sum of fish caught divided by the sum of hooks set). Data Source: PIFSC Information Management System, Longline Logbook Data.

Report Coverage				
Time Period	1 January - 31 December, 2019	Number of vessels active	136	
Set Types	Deep sets	Number of trips (partial or completed)	802	
Fishing Area	Inside U.S. EEZ	Number of sets	5,204	
		Number of hooks set	14,315,121	

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE Number Caught per 1000 Hooks
PMUS				
Billfish PMUS				
Blue marlin	3,851	3,796	55	0.27
Striped marlin	5,758	5,712	46	0.40
Shortbill spearfish	3,738	3,692	46	0.26
Swordfish	1,125	1,093	32	0.08
Other billfishes	286	283	3	0.02
Total	14,758	14,576	182	1.03
Shark PMUS				
Blue shark	27,724	0	27,724	1.94
Mako sharks	985	125	860	0.07
Thresher sharks	1,224	3	1,221	0.09
Oceanic whitetip shark	169	0	169	0.01
Silky shark	128	0	128	0.01
Total	30,230	128	30,102	2.11
Tuna PMUS				
Albacore	167	167	0	0.01
Bigeye tuna	40,027	39,251	776	2.80
Yellowfin tuna	12,159	11,935	224	0.85
Bluefin tuna	0	0	0	0.00
Skipjack tuna	7,741	7,655	86	0.54
Other tunas	0	0	0	0.00
Total	60,094	59,008	1,086	4.20
Other PMUS				
Mahimahi	6,060	6,011	49	0.42
Moonfish	2,140	2,137	3	0.15
Wahoo	8,229	8,208	21	0.57
Oilfish	3,248	2,747	501	0.23
Pomfret	13,195	13,083	112	0.92
Total	32,872	32,186	686	2.30
Total PMUS	137,954	105,898	32,056	9.64
Non-PMUS Sharks	67	0	67	0.00
Total Non-PMUS	475	31	444	0.03
Total All Species	138,429	105,929	32,500	9.67

Table 8. Hawaii and California-based pelagic longline vessels annual statistics for fishing outside the U.S. EEZ and with deep sets, including effort (number of vessels, trips, sets, and hooks set), and for each listed species, organized by pelagic management unit species (PMUS) groups of billfish, shark, tuna, and other, along with the number of fish caught, kept, and released, and the catch per unit effort (CPUE, number per 1,000 hooks, calculated as the sum of fish caught divided by the sum of hooks set). Data Source: PIFSC Information Management System, Longline Logbook Data.

Report Coverage					Number of vessels active		149
Time Period	1 January - 31 December, 2019				Number of trips (partial or completed)		1,530
Set Types	Deep sets				Number of sets		17,274
Fishing Area	Outside U.S. EEZ				Number of hooks set		48,795,438

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE Number Caught per 1000 Hooks
PMUS				
Billfish PMUS				
Blue marlin	9,067	8,969	98	0.19
Striped marlin	14,750	14,168	582	0.30
Shortbill spearfish	12,558	12,194	364	0.26
Swordfish	3,765	3,642	123	0.08
Other billfishes	1,137	1,114	23	0.02
Total	41,277	40,087	1,190	0.85
Shark PMUS				
Blue shark	83,575	2	83,573	1.71
Mako sharks	3,894	337	3,557	0.08
Thresher sharks	7,519	50	7,469	0.15
Oceanic whitetip shark	324	0	324	0.01
Silky shark	235	0	235	0.00
Total	95,547	389	95,158	1.96
Tuna PMUS				
Albacore	4,177	4,086	91	0.09
Bigeye tuna	182,723	177,550	5,173	3.74
Yellowfin tuna	49,798	48,172	1,626	1.02
Bluefin tuna	14	14	0	0.00
Skipjack tuna	25,185	24,897	288	0.52
Other tunas	0	0	0	0.00
Total	261,897	254,719	7,178	5.37
Other PMUS				
Mahimahi	31,437	31,061	376	0.64
Moonfish	22,386	22,152	234	0.46
Wahoo	36,064	35,863	201	0.74
Oilfish	13,225	11,129	2,096	0.27
Pomfret	39,779	39,452	327	0.82
Total	142,891	139,657	3,234	2.93
Total PMUS	541,612	434,852	106,760	11.10
Non-PMUS Sharks	205	0	205	0.00
Total Non-PMUS	5,540	154	5,386	0.11
Total All Species	547,152	435,006	112,146	11.21

Active Vessels

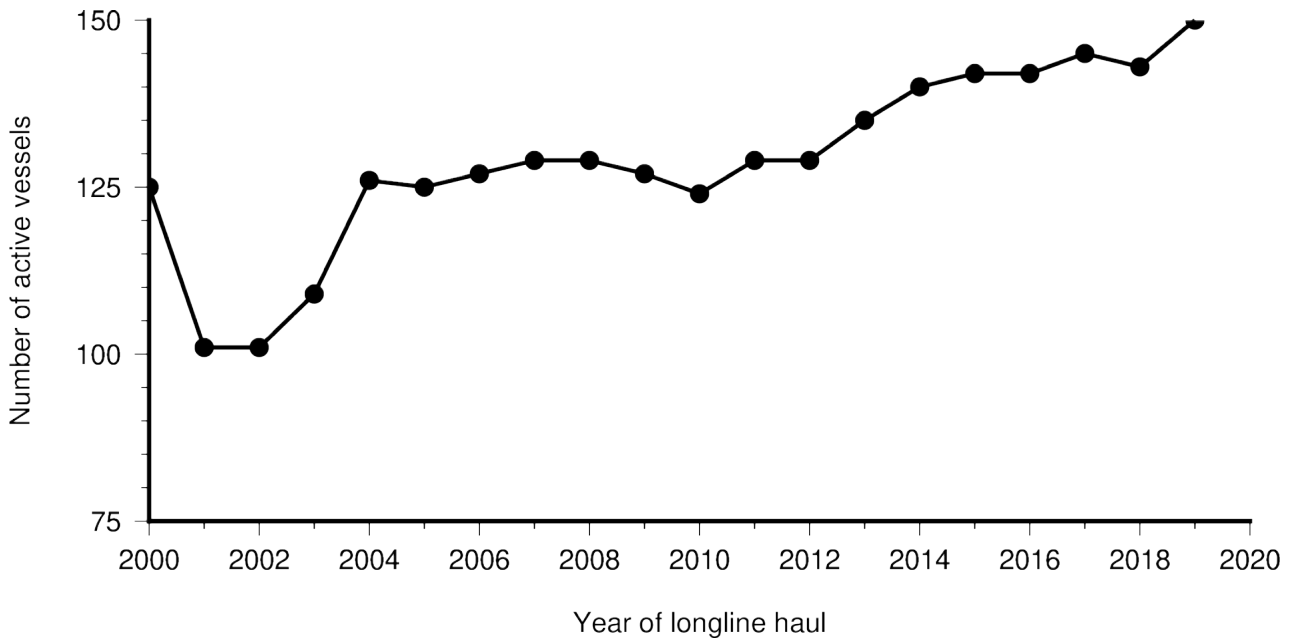


Figure 1: Number of active longline vessels based in Hawaii and California, by year for haul years 2000-2019.

Trips

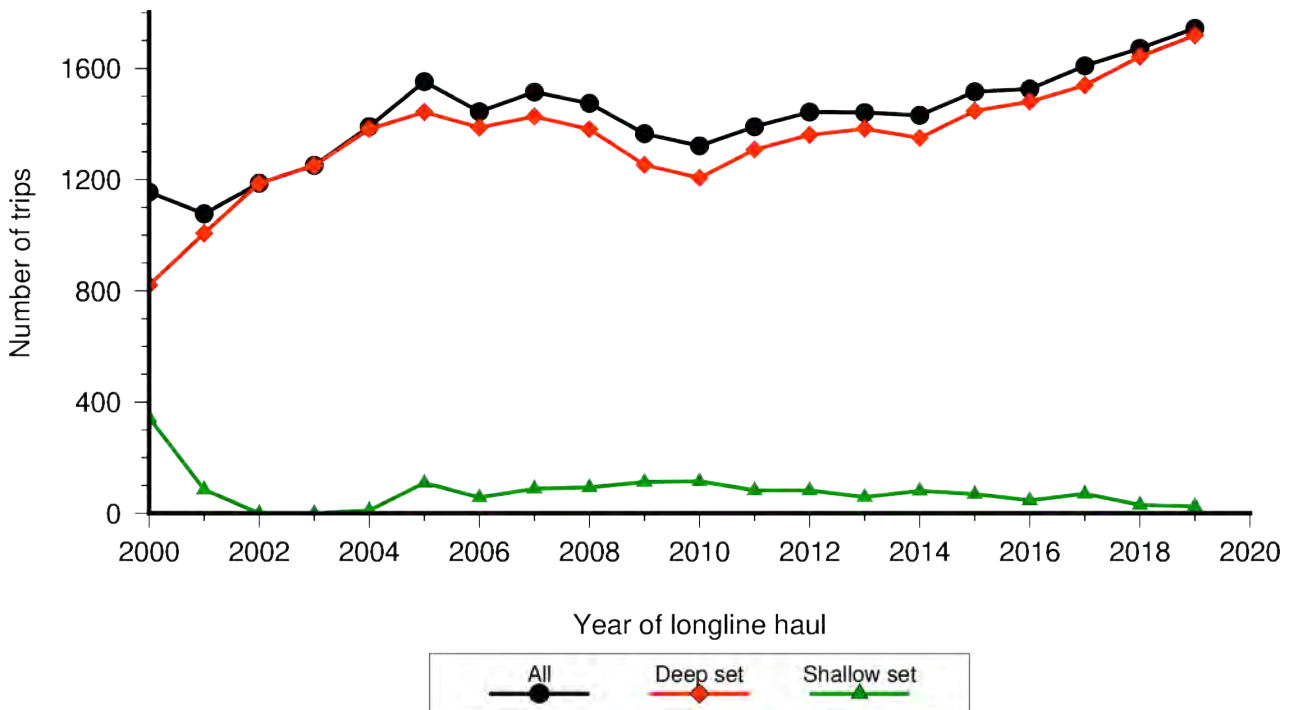


Figure 2: Number of longline trips based in Hawaii and California, by year for haul years 2000-2019.

Sets

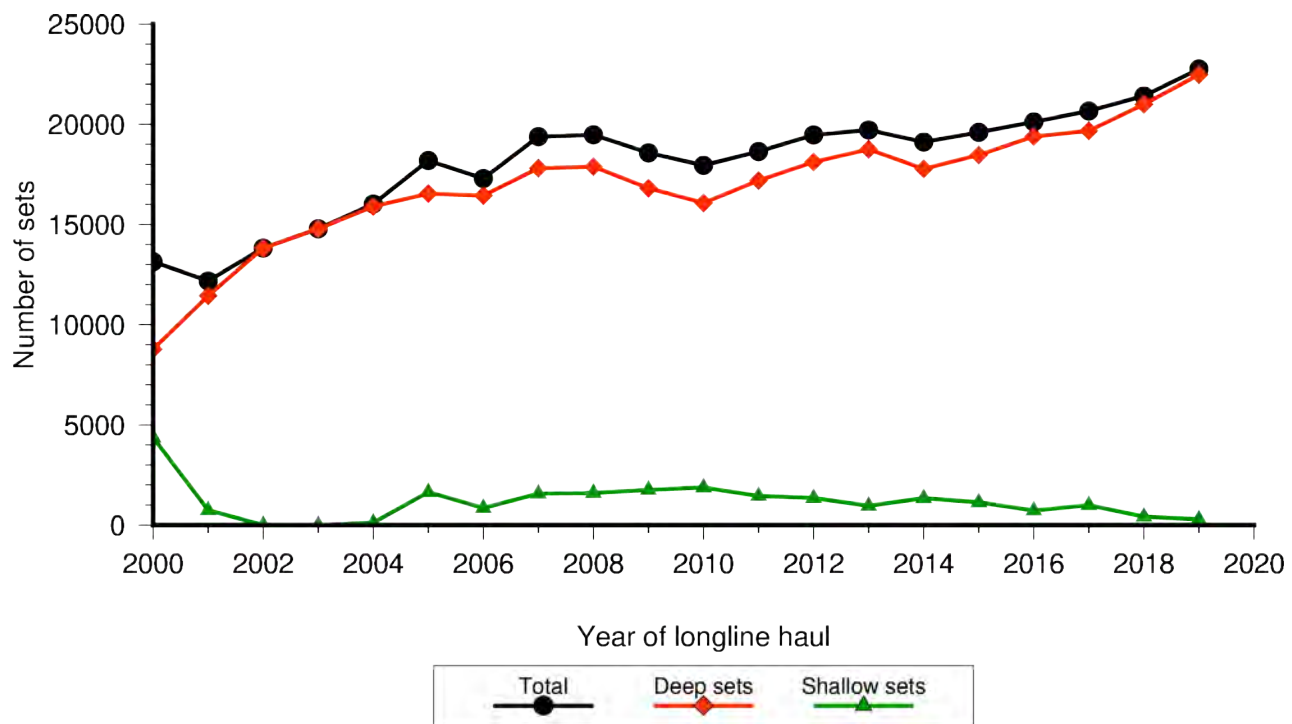


Figure 3: Number of fishing sets by vessels based in Hawaii and California, by year for haul years 2000-2019.

Hooks Set

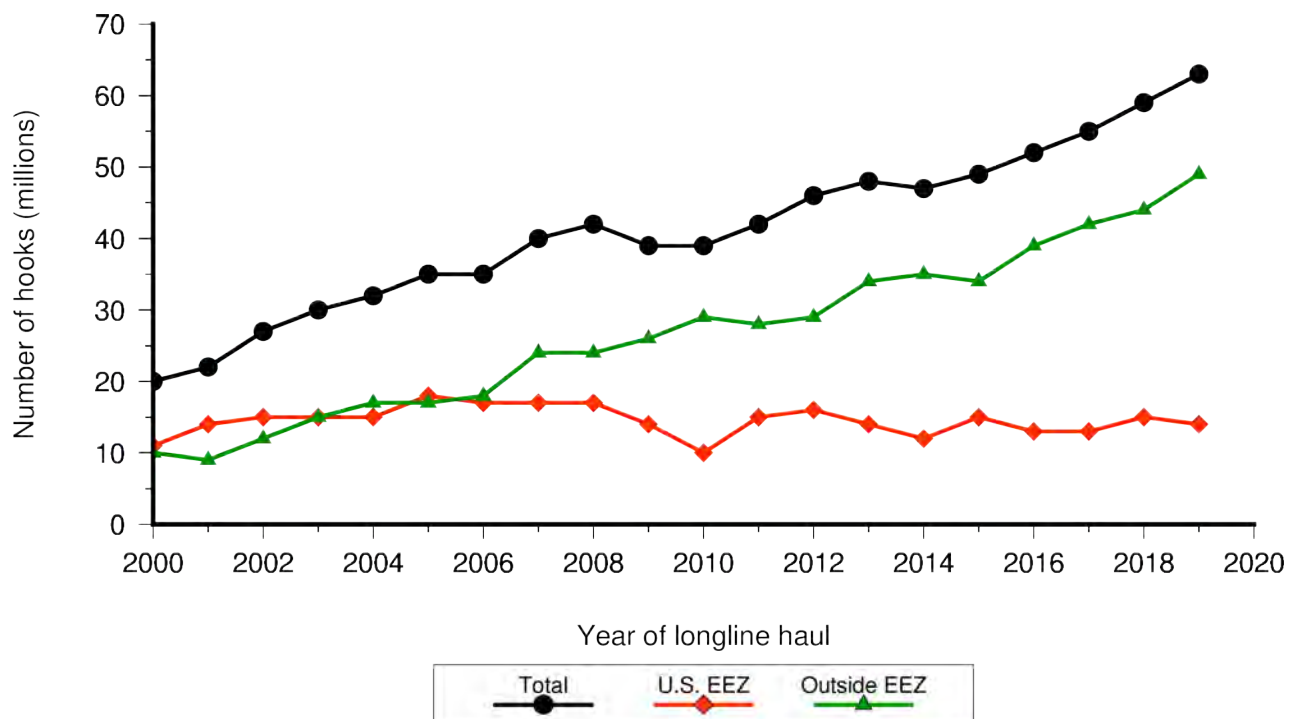


Figure 4: Number of hooks in millions, set by vessels based in Hawaii and California, by year, 2000-2019.

Tuna Catch

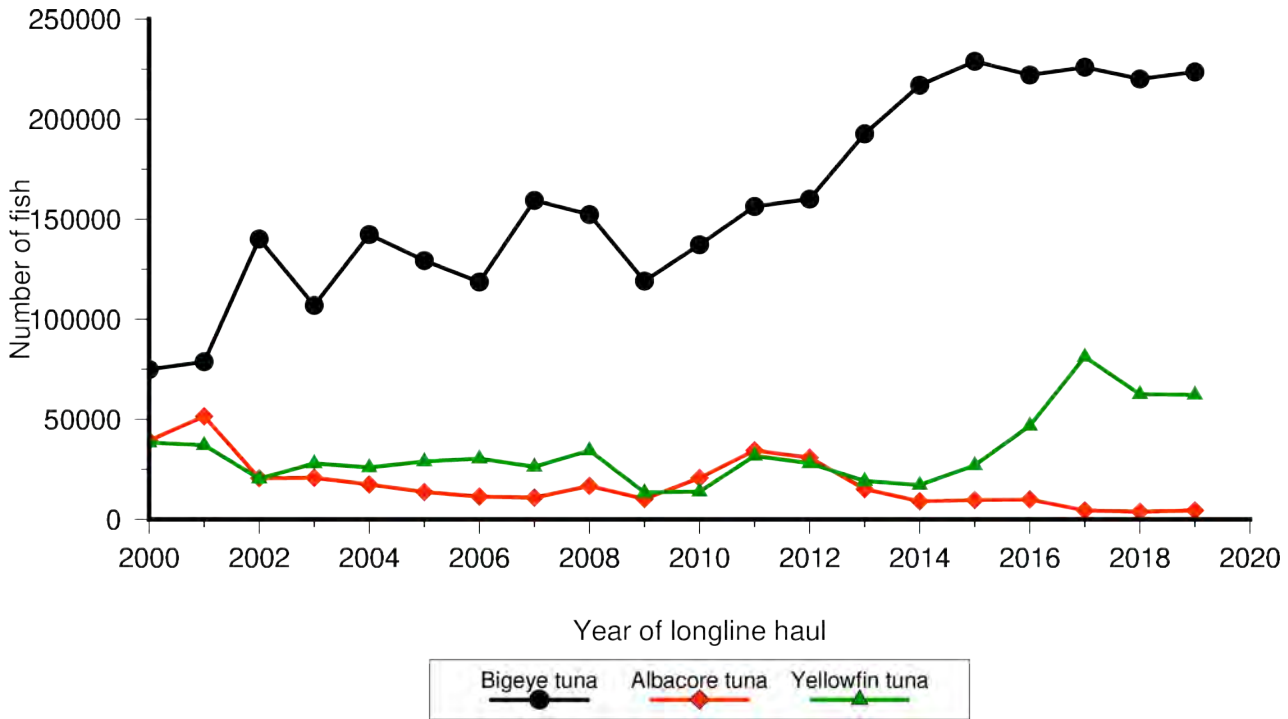


Figure 5: Annual catch (kept + released) of albacore tuna, bigeye tuna, and yellowfin tuna by longline vessels based in Hawaii and California, by year, 2000-2019.

Billfish Catch

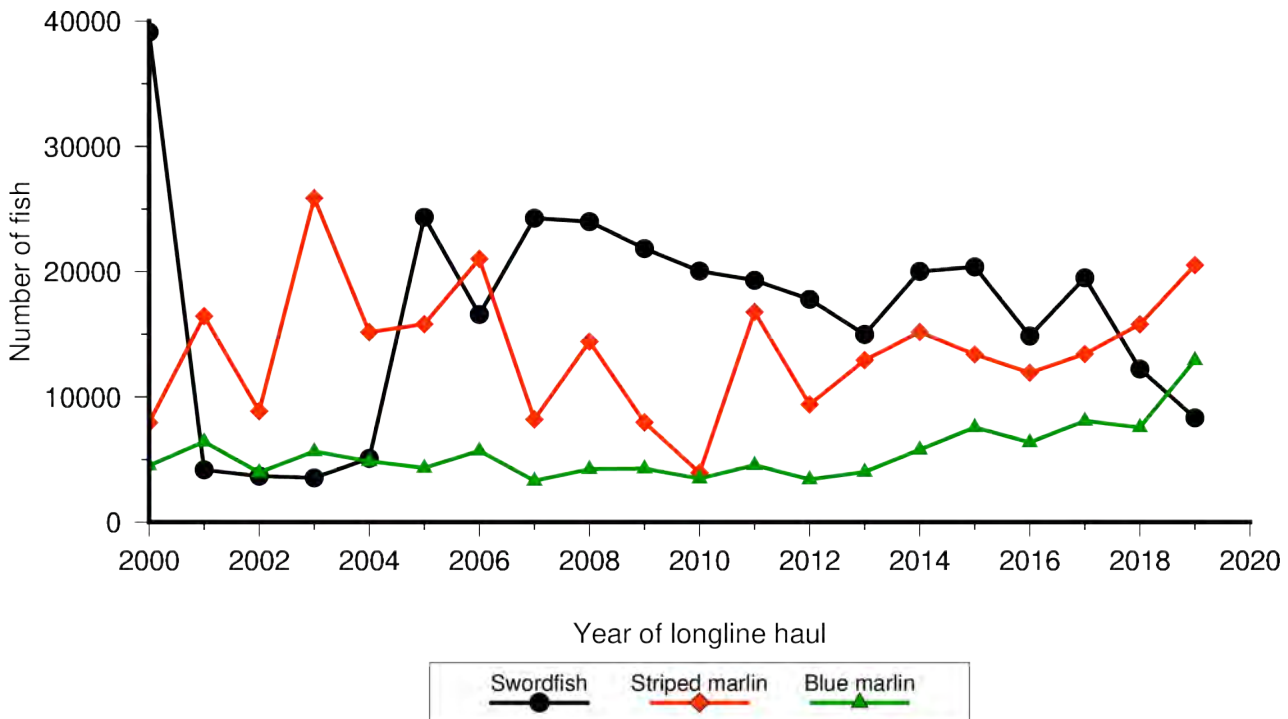


Figure 6: Annual catch (kept + released) of swordfish, striped marlin, and blue marlin by longline vessels based in Hawaii and California, by year, 2000-2019.

Shark Catch

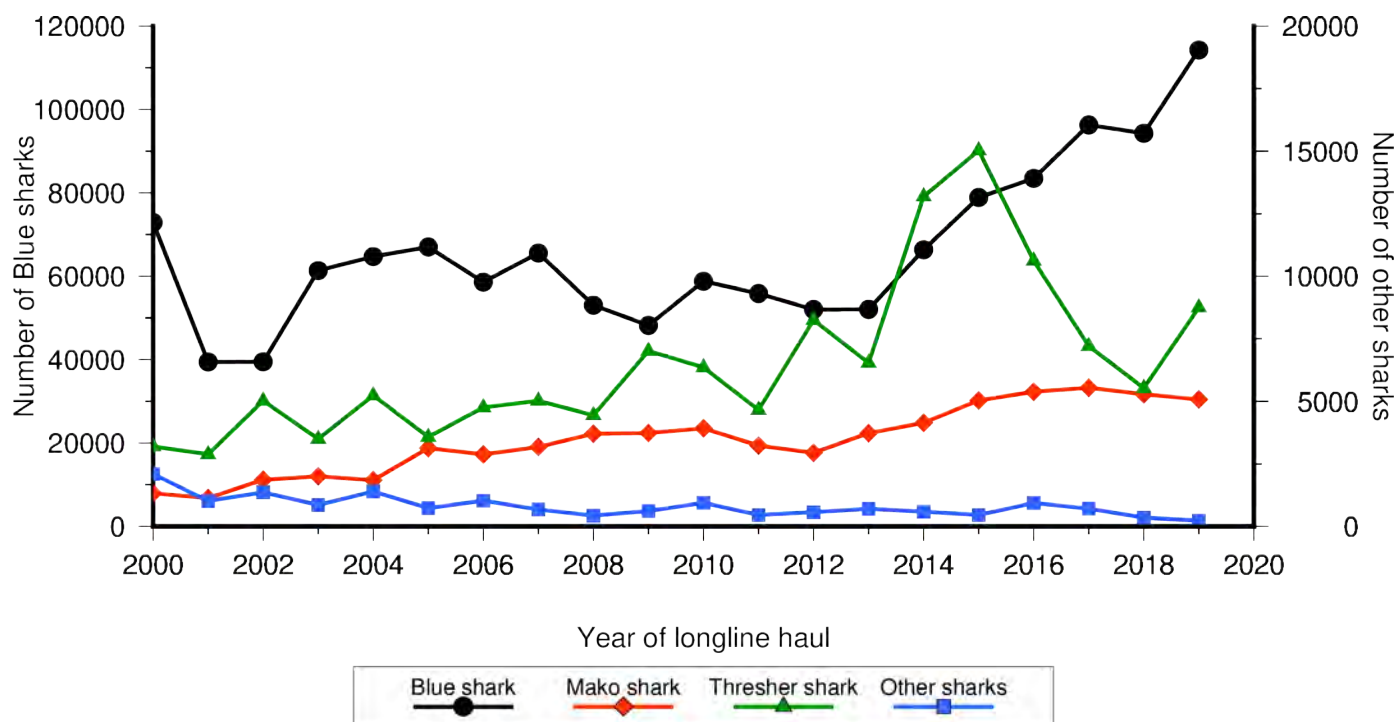


Figure 7: Annual catch (kept + released) of blue shark, mako shark, thresher shark, and other sharks by longline vessels based in Hawaii and California, by year, 2000-2019.

Other PMUS Catch

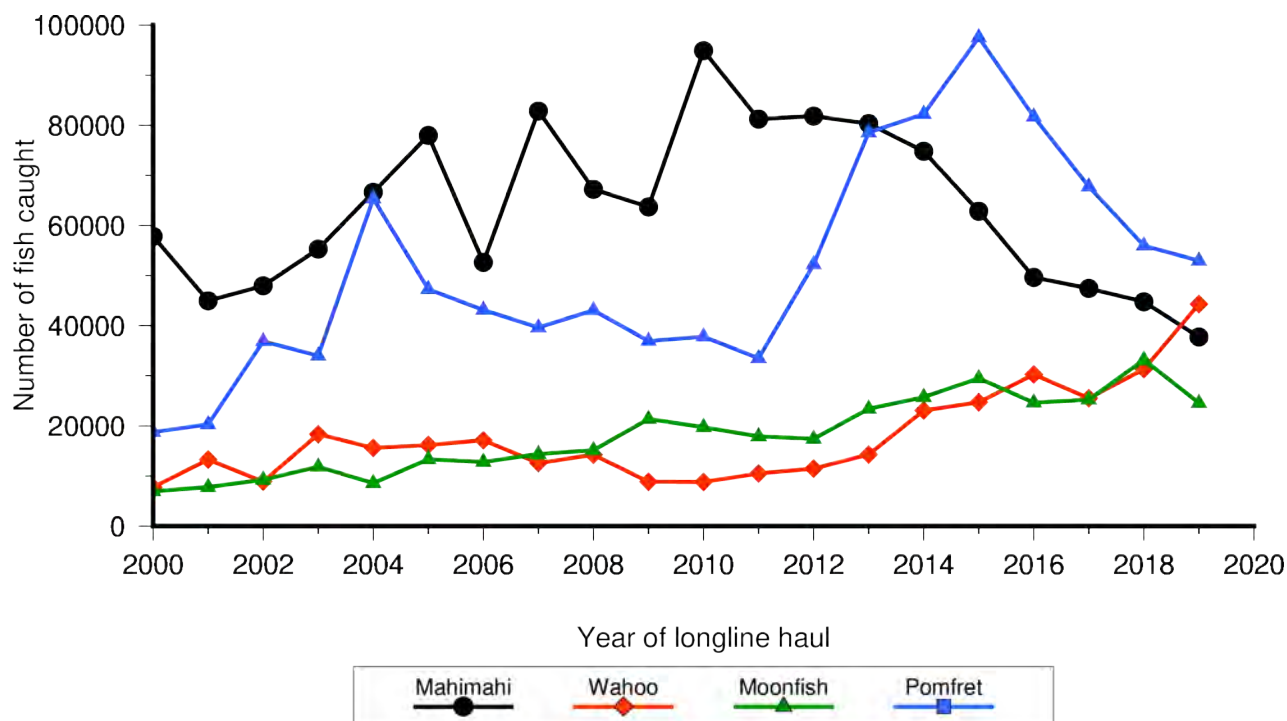


Figure 8: Annual catch (kept + released) of mahimahi, wahoo, moonfish, and pomfret by longline vessels based in Hawaii and California, by year, 2000-2019.

Sets

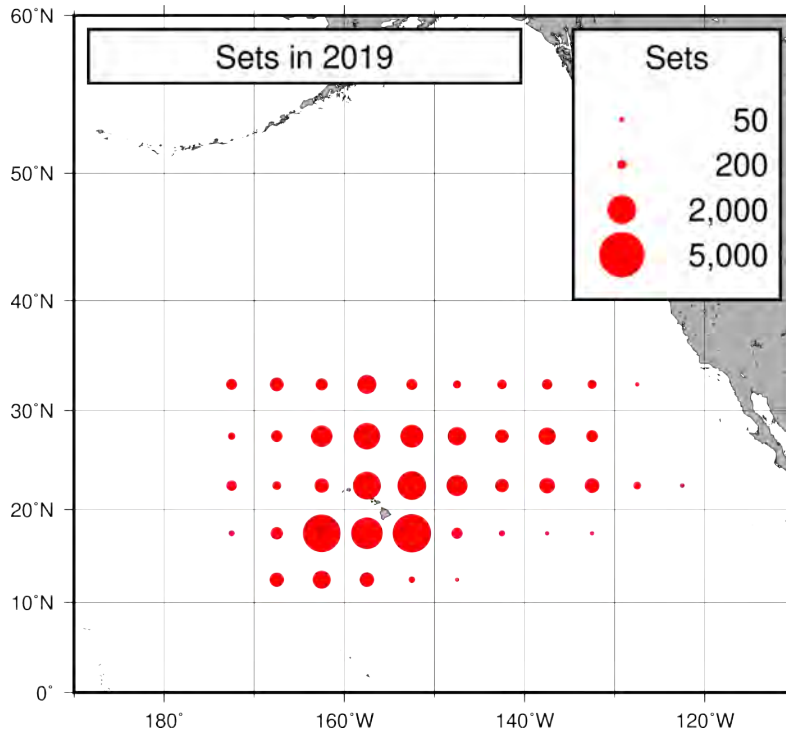


Figure 9: Spatial distribution of the total number of sets by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2019 (provisional data).

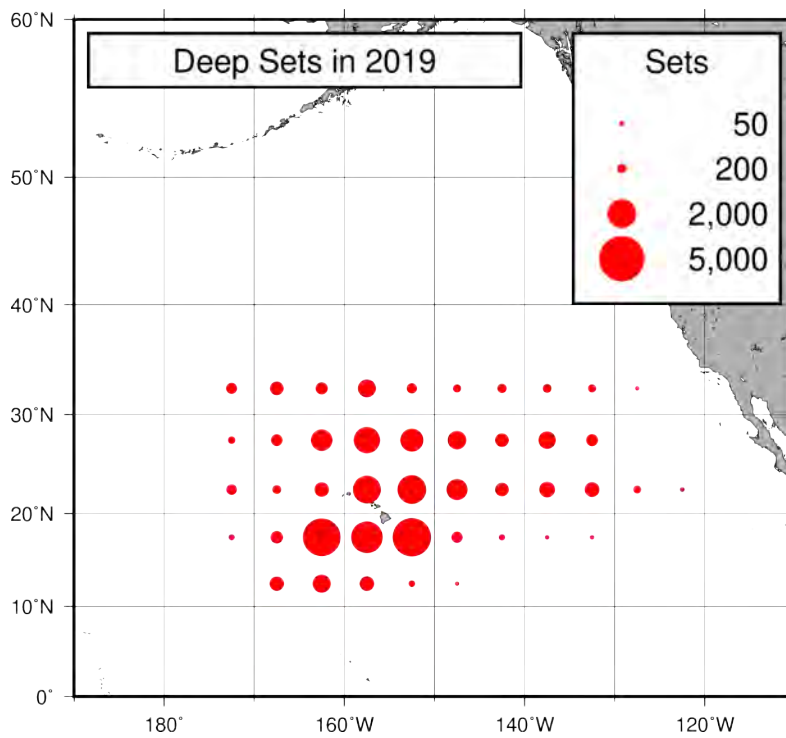


Figure 10: Spatial distribution of the number of deep-set sets by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2019 (provisional data).

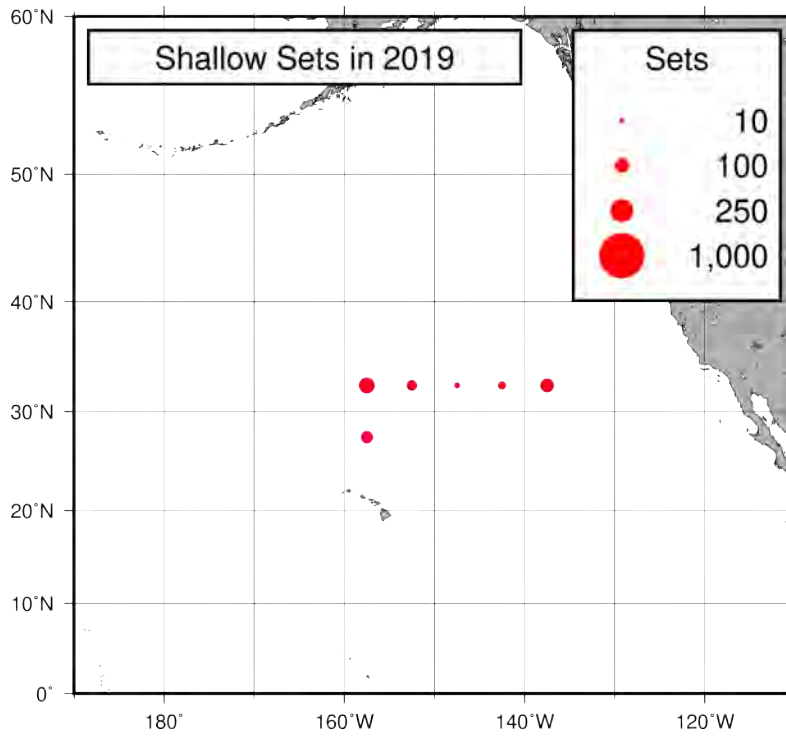


Figure 11: Spatial distribution of the number of shallow-set sets by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2019 (provisional data).

Total Effort

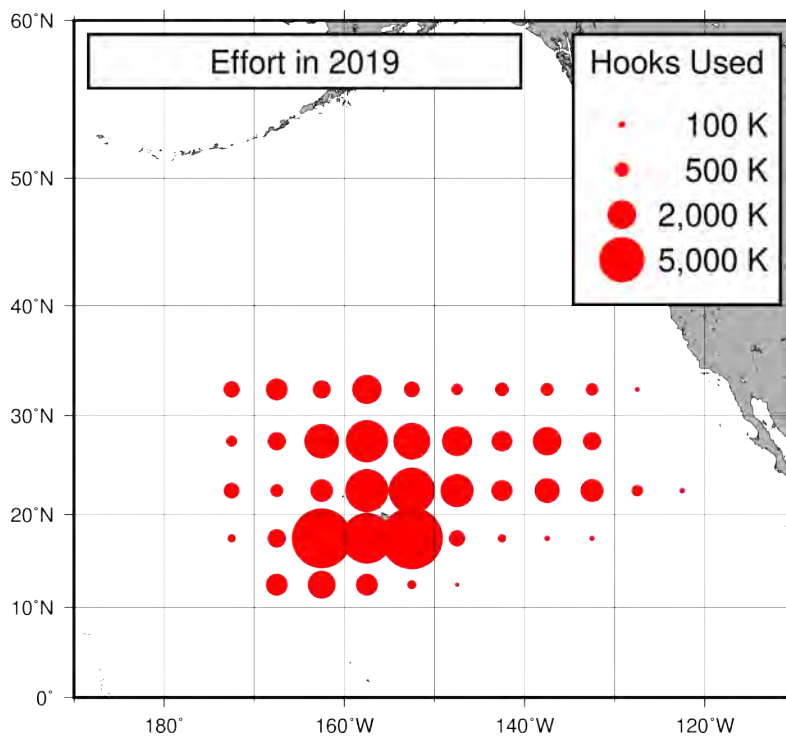


Figure 12: Spatial distribution of the total number of hooks set by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2019 (provisional data).

Deep Effort

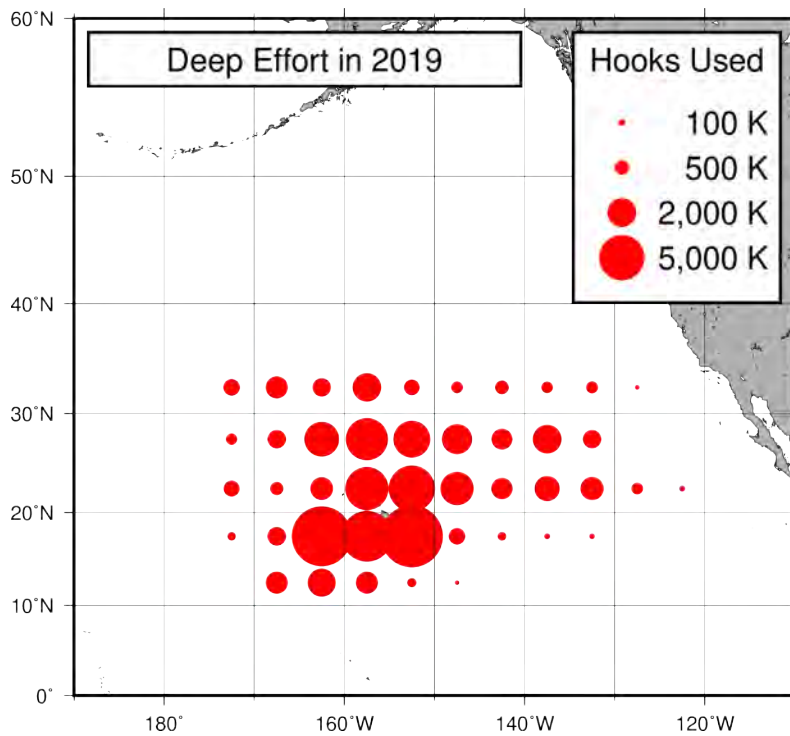


Figure 13: Spatial distribution of the number of deep-set hooks set by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2019 (provisional data).

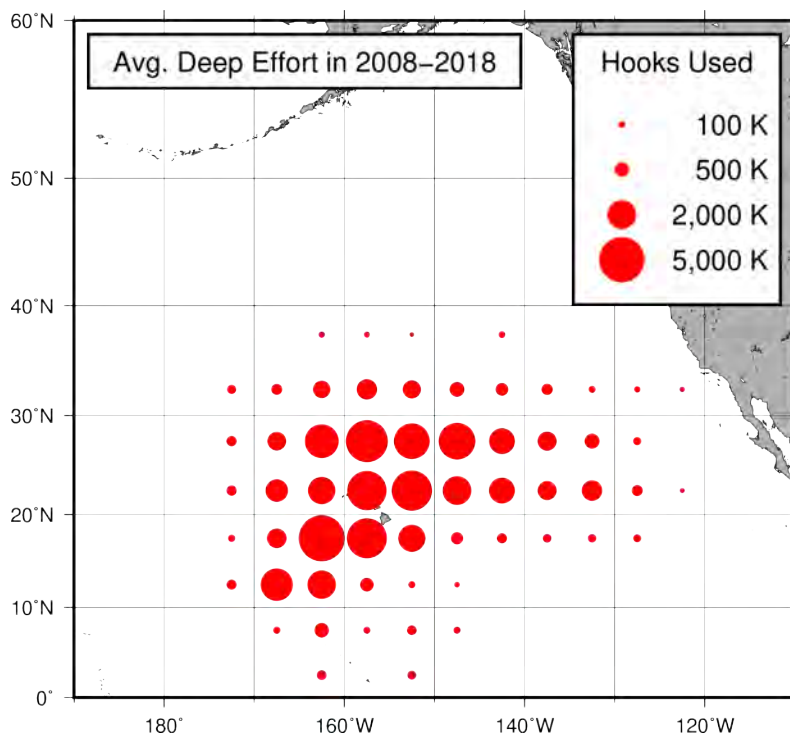


Figure 14: Spatial distribution of the average number of deep-set hooks set by longline vessels based in hc fishing within the North Pacific Ocean, 2008-2018 .

Shallow Effort

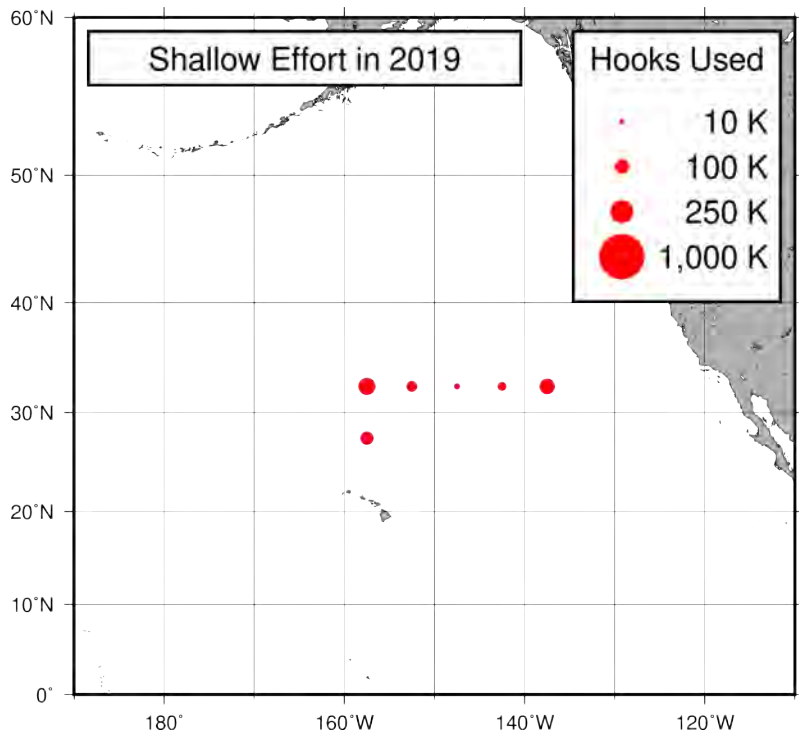


Figure 15: Spatial distribution of the number of shallow-set hooks set by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2019 (provisional data).

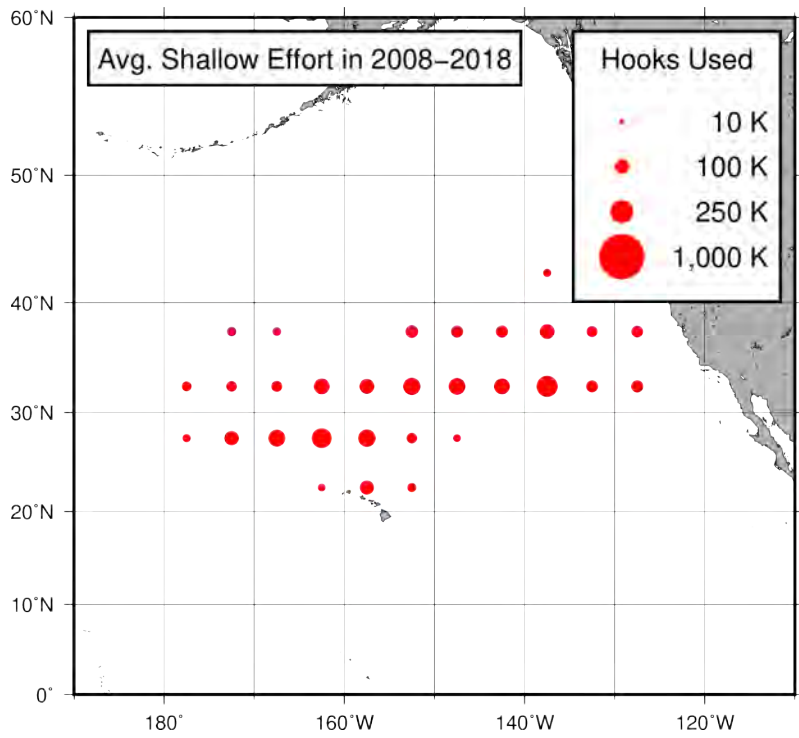


Figure 16: Spatial distribution of the average number of shallow-set hooks set by longline vessels based in hc fishing within the North Pacific Ocean, 2008-2018 .

Bigeye Catch

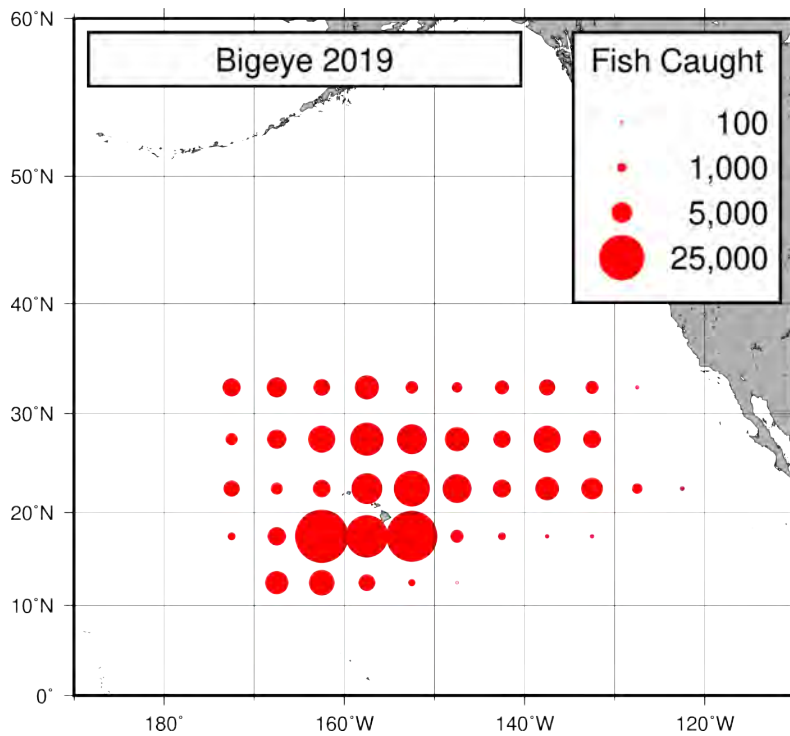


Figure 17: Spatial distribution of the total number of bigeye tuna caught by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2019 (provisional data).

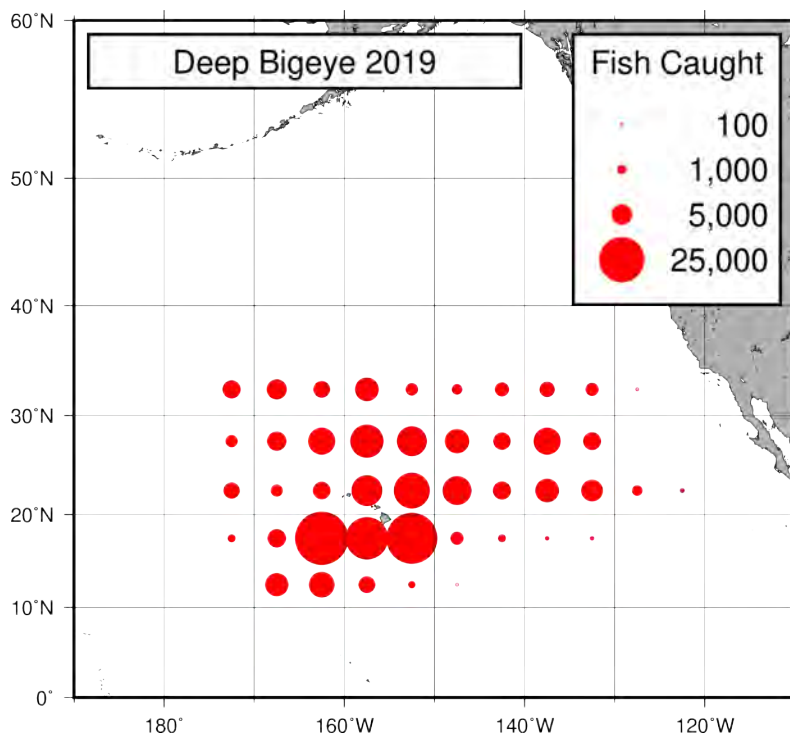


Figure 18: Spatial distribution of the number of deep-set bigeye tuna caught by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2019 (provisional data).

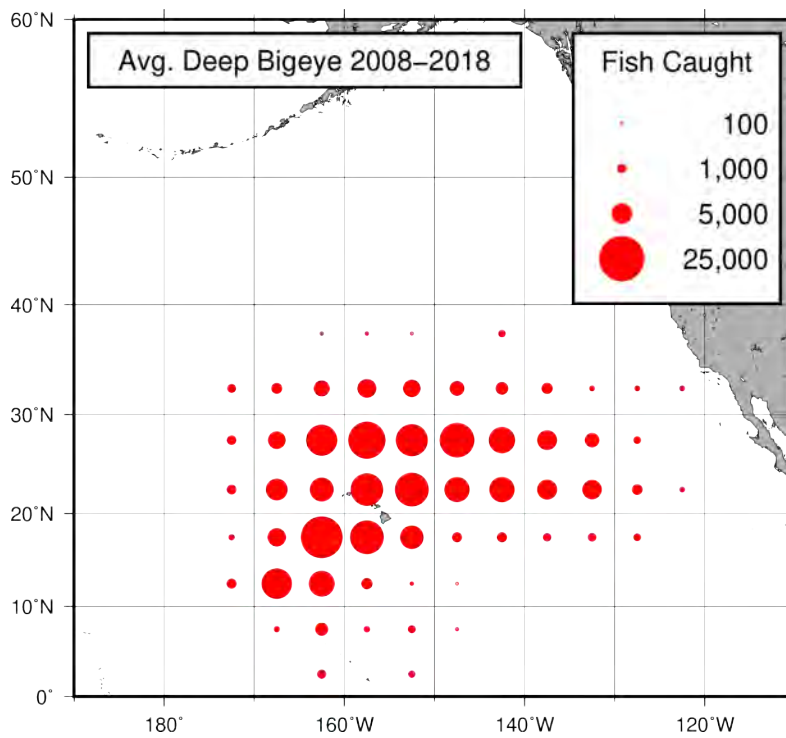


Figure 19: Spatial distribution of the average number of deep-set bigeye tuna caught by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2008-2018.

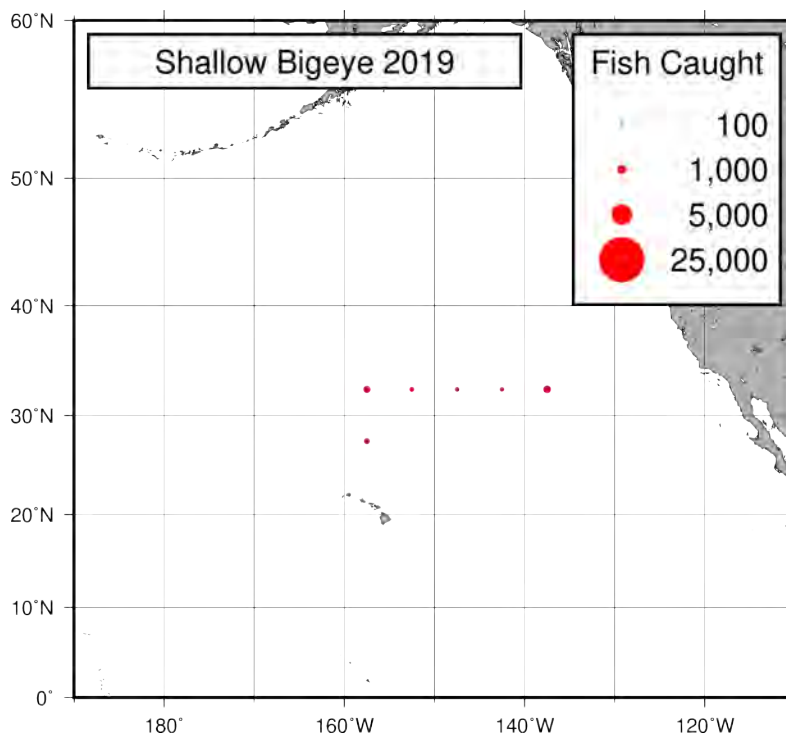


Figure 20: Spatial distribution of the number of shallow-set bigeye tuna caught by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2019 (provisional data).

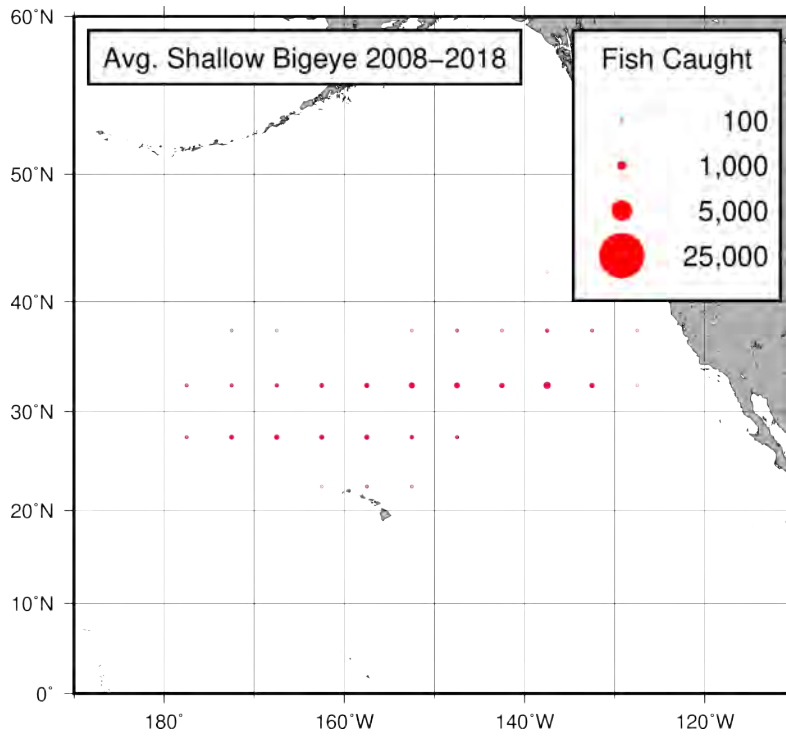


Figure 21: Spatial distribution of the average number of shallow-set bigeye tuna caught by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2008-2018.

Swordfish

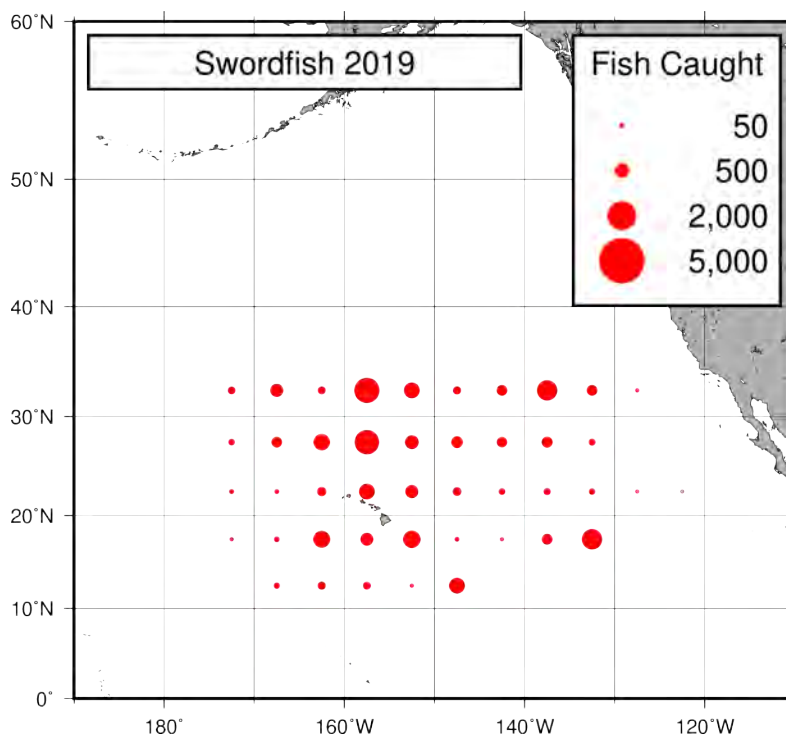


Figure 22: Spatial distribution of the total number of swordfish caught, by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2019 (provisional data).

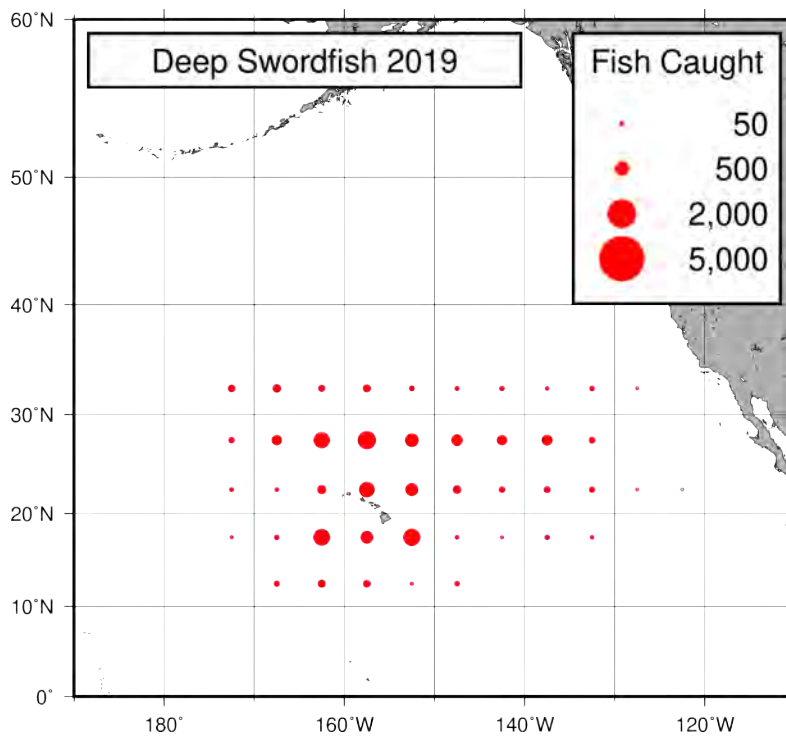


Figure 23: Spatial distribution of the number of deep-set swordfish caught, by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2019 (provisional data).

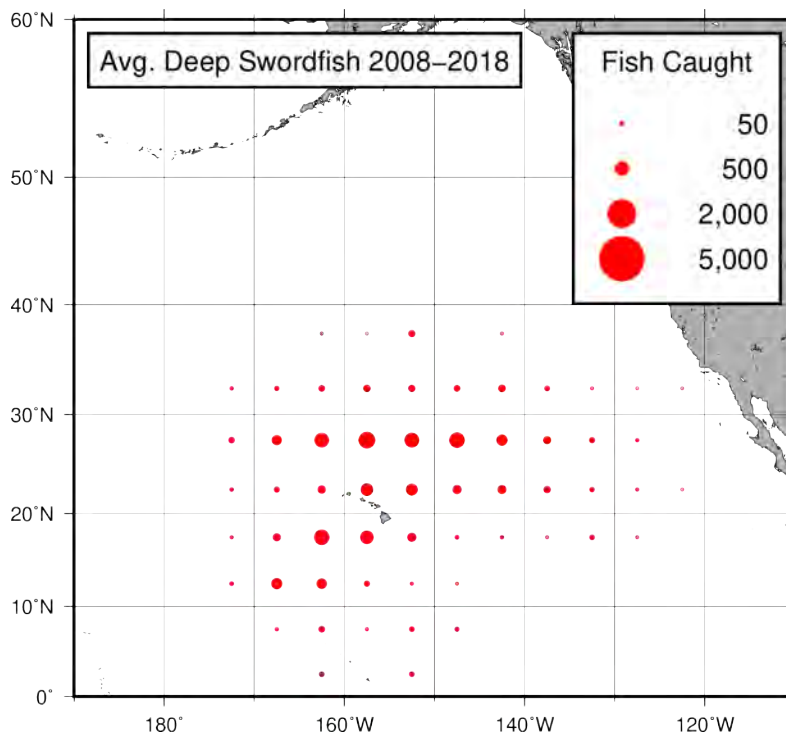


Figure 24: Spatial distribution of the average number of deep-set swordfish caught, by longline vessels based in hc fishing within the North Pacific Ocean, 2008-2018.

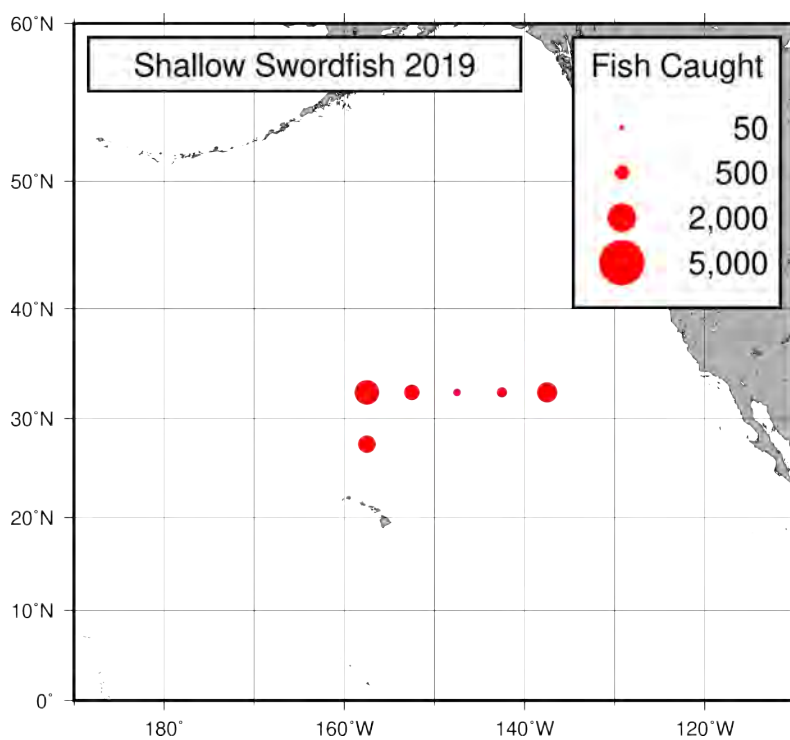


Figure 25: Spatial distribution of the number of shallow-set swordfish caught, by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2019 (provisional data).

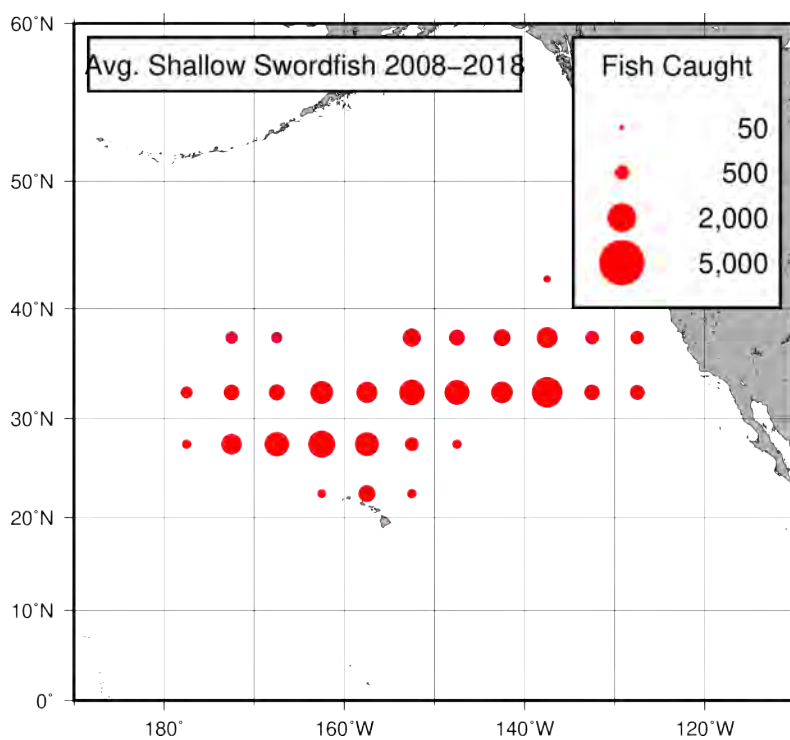


Figure 26: Spatial distribution of the average number of shallow-set swordfish caught, by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2008-2018.