

The Hawaii and California-based Pelagic Longline Vessels Annual Report for 1 January-31 December 2021

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 1 January-31 December 2021 period 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_HC20220915_RFMO, representing RFMO data received as of 15 September 2022. 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).

The following tables show fishery statistics for the stated time period, area, and set type, and include effort (number of vessels, trips, sets, and hooks set). 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 1000 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 2000-2021.

Catch and effort summaries in this report were based on RFMO standards and business rules. Longline catch and effort statistics in this report consists of U.S. longline fisheries in the North Pacific Ocean, attributions from CNMI, Guam and American Samoa in the North Pacific Ocean. Longline vessels operating from California were also included in this report to satisfy RFMO data reporting and NOAA confidentiality standards. Some vessels operating in California had Hawaii limited-entry permits.

References:

Pacific Islands Fisheries Science Center, 2022: Hawaii Longline Logbook,
<https://www.fisheries.noaa.gov/inport/item/2721>

Southwest Fisheries Science Center, 2022: California Pelagic Longline Fishery,
<https://www.fisheries.noaa.gov/inport/item/12906>

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). 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, number per 1000 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 2021
 Set Types All sets
 Fishing Area All Areas

Number of vessels active	146
Number of trips (partial or completed)	1,746
Number of sets	22,878
Number of hooks set	66,268,528

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE Number Caught per 1000 Hooks
PMUS				
Billfish PMUS				
Blue marlin	6,338	6,269	69	0.10
Striped marlin	9,838	9,722	116	0.15
Shortbill spearfish	11,676	11,414	262	0.18
Swordfish	10,611	10,319	292	0.16
Other billfishes	699	688	11	0.01
Total	39,162	38,412	750	0.59
Shark PMUS				
Blue shark	105,468	0	105,468	1.59
Mako sharks	4,016	63	3,953	0.06
Thresher sharks	10,011	30	9,981	0.15
Oceanic whitetip shark	487	0	487	0.01
Silky shark	273	0	273	0.00
Total	120,255	93	120,162	1.81
Tuna PMUS				
Albacore	13,158	12,835	323	0.20
Bigeye tuna	187,936	184,436	3,500	2.84
Yellowfin tuna	82,447	79,905	2,542	1.24
Bluefin tuna	9	9	0	0.00
Skipjack tuna	18,049	17,871	178	0.27
Other tunas	1	1	0	0.00
Total	301,600	295,057	6,543	4.55
Other PMUS				
Mahimahi	31,077	30,818	259	0.47
Moonfish	8,356	8,328	28	0.13
Wahoo	32,801	32,676	125	0.49
Oilfish	9,886	7,687	2,199	0.15
Pomfret	34,152	33,719	433	0.52
Total	116,272	113,228	3,044	1.75
Total PMUS	577,289	446,790	130,499	8.71
Non-PMUS Sharks	199	0	199	0.00
Total Non-PMUS	9,424	289	9,135	0.14
Total All Species	586,713	447,079	139,634	8.85

Table 2. Hawaii and California-based pelagic longline vessels annual statistics for fishing within the U.S. EEZ (main Hawaiian Islands, Northwestern Hawaiian Islands, or the Pacific Remote Islands, and with all fishing categories (set types), including effort (number of vessels, trips, sets, and hooks set). 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, number per 1000 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		
Time Period	1 January-31 December 2021	137		
Set Types	All sets	1,067		
Fishing Area	Inside U.S. EEZ	8,281		
		23,900,572		

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE Number Caught per 1000 Hooks
PMUS				
Billfish PMUS				
Blue marlin	2,563	2,538	25	0.11
Striped marlin	4,156	4,122	34	0.17
Shortbill spearfish	5,133	5,113	20	0.21
Swordfish	1,691	1,665	26	0.07
Other billfishes	239	239	0	0.01
Total	13,782	13,677	105	0.58
Shark PMUS				
Blue shark	34,522	0	34,522	1.44
Mako sharks	969	0	969	0.04
Thresher sharks	2,212	5	2,207	0.09
Oceanic whitetip shark	214	0	214	0.01
Silky shark	72	0	72	0.00
Total	37,989	5	37,984	1.59
Tuna PMUS				
Albacore	516	511	5	0.02
Bigeye tuna	58,794	57,625	1,169	2.46
Yellowfin tuna	26,707	25,902	805	1.12
Bluefin tuna	1	1	0	0.00
Skipjack tuna	6,606	6,564	42	0.28
Other tunas	0	0	0	0.00
Total	92,624	90,603	2,021	3.88
Other PMUS				
Mahimahi	6,483	6,427	56	0.27
Moonfish	781	780	1	0.03
Wahoo	11,033	11,013	20	0.46
Oilfish	3,372	2,694	678	0.14
Pomfret	9,524	9,416	108	0.40
Total	31,193	30,330	863	1.31
Total PMUS	175,588	134,615	40,973	7.35
Non-PMUS Sharks	57	0	57	0.00
Total Non-PMUS	2,078	131	1,947	0.09
Total All Species	177,666	134,746	42,920	7.43

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). 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, number per 1000 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 2021
 Set Types All sets
 Fishing Area Outside U.S. EEZ

Number of vessels active	146
Number of trips (partial or completed)	1,395
Number of sets	14,597
Number of hooks set	42,367,956

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE Number Caught per 1000 Hooks
PMUS				
Billfish PMUS				
Blue marlin	3,775	3,731	44	0.09
Striped marlin	5,682	5,600	82	0.13
Shortbill spearfish	6,543	6,301	242	0.15
Swordfish	8,920	8,654	266	0.21
Other billfishes	460	449	11	0.01
Total	25,380	24,735	645	0.60
Shark PMUS				
Blue shark	70,946	0	70,946	1.67
Mako sharks	3,047	63	2,984	0.07
Thresher sharks	7,799	25	7,774	0.18
Oceanic whitetip shark	273	0	273	0.01
Silky shark	201	0	201	0.00
Total	82,266	88	82,178	1.94
Tuna PMUS				
Albacore	12,642	12,324	318	0.30
Bigeye tuna	129,142	126,811	2,331	3.05
Yellowfin tuna	55,740	54,003	1,737	1.32
Bluefin tuna	8	8	0	0.00
Skipjack tuna	11,443	11,307	136	0.27
Other tunas	1	1	0	0.00
Total	208,976	204,454	4,522	4.93
Other PMUS				
Mahimahi	24,594	24,391	203	0.58
Moonfish	7,575	7,548	27	0.18
Wahoo	21,768	21,663	105	0.51
Oilfish	6,514	4,993	1,521	0.15
Pomfret	24,628	24,303	325	0.58
Total	85,079	82,898	2,181	2.01
Total PMUS	401,701	312,175	89,526	9.48
Non-PMUS Sharks	142	0	142	0.00
Total Non-PMUS	7,346	158	7,188	0.17
Total All Species	409,047	312,333	96,714	9.65

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). 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, number per 1000 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 2021
 Set Types Shallow sets
 Fishing Area All Areas

Number of vessels active	17
Number of trips (partial or completed)	57
Number of sets	703
Number of hooks set	910,411

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE Number Caught per 1000 Hooks
PMUS				
Billfish PMUS				
Blue marlin	91	85	6	0.10
Striped marlin	192	185	7	0.21
Shortbill spearfish	103	101	2	0.11
Swordfish	6,498	6,285	213	7.14
Other billfishes	4	4	0	0.00
Total	6,888	6,660	228	7.57
Shark PMUS				
Blue shark	5,392	0	5,392	5.92
Mako sharks	787	26	761	0.86
Thresher sharks	24	2	22	0.03
Oceanic whitetip shark	9	0	9	0.01
Silky shark	3	0	3	0.00
Total	6,215	28	6,187	6.83
Tuna PMUS				
Albacore	626	604	22	0.69
Bigeye tuna	973	934	39	1.07
Yellowfin tuna	1,161	1,131	30	1.28
Bluefin tuna	2	2	0	0.00
Skipjack tuna	47	46	1	0.05
Other tunas	0	0	0	0.00
Total	2,809	2,717	92	3.09
Other PMUS				
Mahimahi	1,252	1,243	9	1.38
Moonfish	24	23	1	0.03
Wahoo	61	61	0	0.07
Oilfish	185	135	50	0.20
Pomfret	37	33	4	0.04
Total	1,559	1,495	64	1.71
Total PMUS	17,471	10,900	6,571	19.19
Non-PMUS Sharks	5	0	5	0.01
Total Non-PMUS	6	0	6	0.01
Total All Species	17,477	10,900	6,577	19.20

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). 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, number per 1000 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		
Time Period	1 January-31 December 2021	146		
Set Types	Deep sets	Number of trips (partial or completed) 1,689		
Fishing Area	All Areas	Number of sets 22,175		
		Number of hooks set 65,358,117		

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE Number Caught per 1000 Hooks
PMUS				
Billfish PMUS				
Blue marlin	6,247	6,184	63	0.10
Striped marlin	9,646	9,537	109	0.15
Shortbill spearfish	11,573	11,313	260	0.18
Swordfish	4,113	4,034	79	0.06
Other billfishes	695	684	11	0.01
Total	32,274	31,752	522	0.49
Shark PMUS				
Blue shark	100,076	0	100,076	1.53
Mako sharks	3,229	37	3,192	0.05
Thresher sharks	9,987	28	9,959	0.15
Oceanic whitetip shark	478	0	478	0.01
Silky shark	270	0	270	0.00
Total	114,040	65	113,975	1.74
Tuna PMUS				
Albacore	12,532	12,231	301	0.19
Bigeye tuna	186,963	183,502	3,461	2.86
Yellowfin tuna	81,286	78,774	2,512	1.24
Bluefin tuna	7	7	0	0.00
Skipjack tuna	18,002	17,825	177	0.28
Other tunas	1	1	0	0.00
Total	298,791	292,340	6,451	4.57
Other PMUS				
Mahimahi	29,825	29,575	250	0.46
Moonfish	8,332	8,305	27	0.13
Wahoo	32,740	32,615	125	0.50
Oilfish	9,701	7,552	2,149	0.15
Pomfret	34,115	33,686	429	0.52
Total	114,713	111,733	2,980	1.76
Total PMUS	559,818	435,890	123,928	8.57
Non-PMUS Sharks	194	0	194	0.00
Total Non-PMUS	9,418	289	9,129	0.14
Total All Species	569,236	436,179	133,057	8.71

Active Vessels

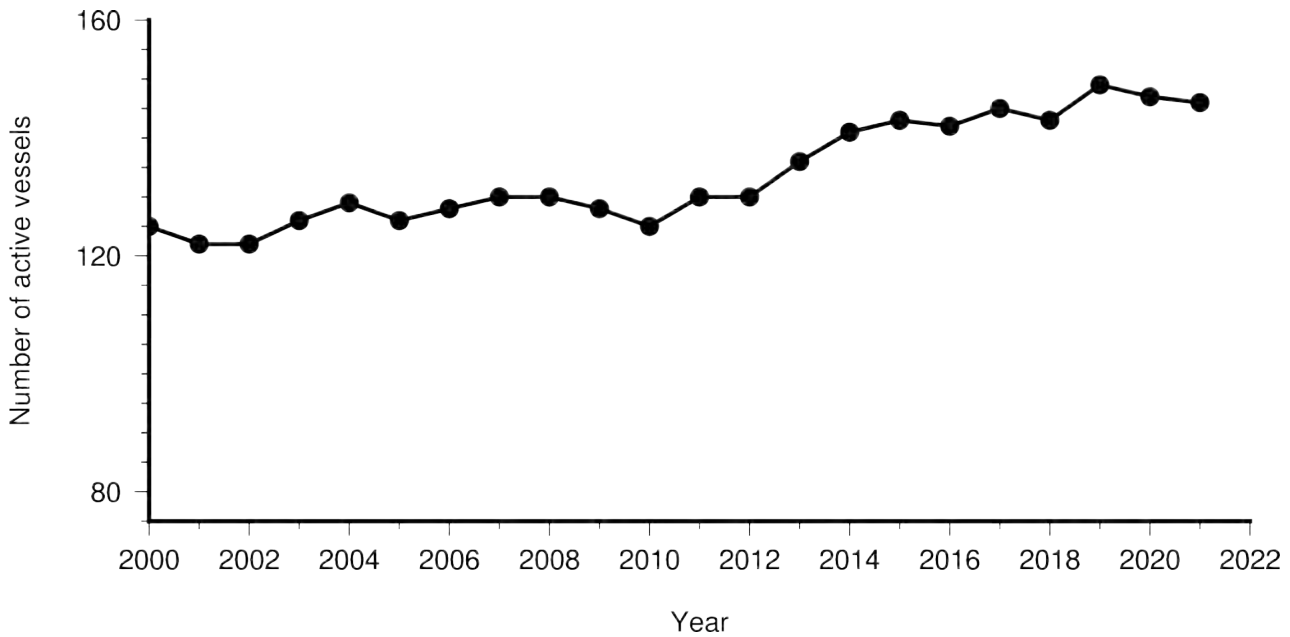


Figure 1: Number of active longline vessels based in Hawaii and California, by year for haul years 2000-2021.

Trips

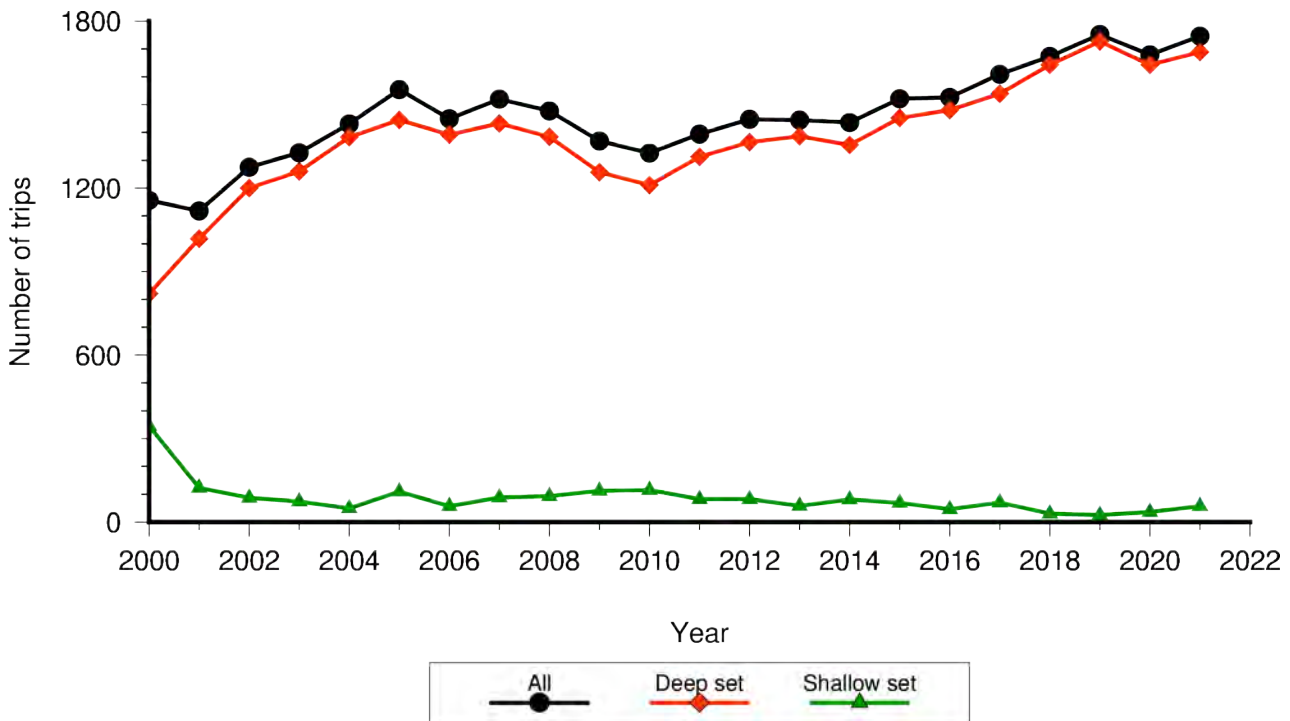


Figure 2: Number of longline trips based in Hawaii and California, by year for haul years 2000-2021.

Sets

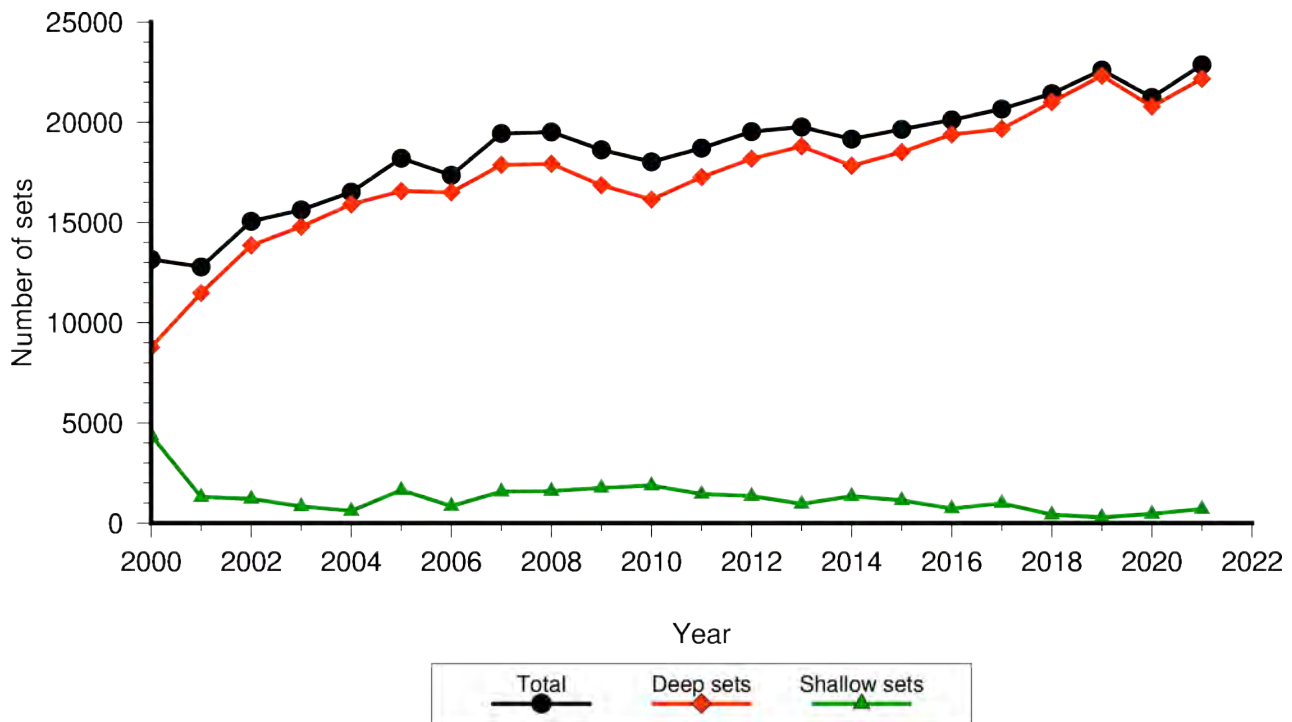


Figure 3: Number of fishing sets by vessels based in Hawaii and California, by year for haul years 2000-2021.

Hooks Set

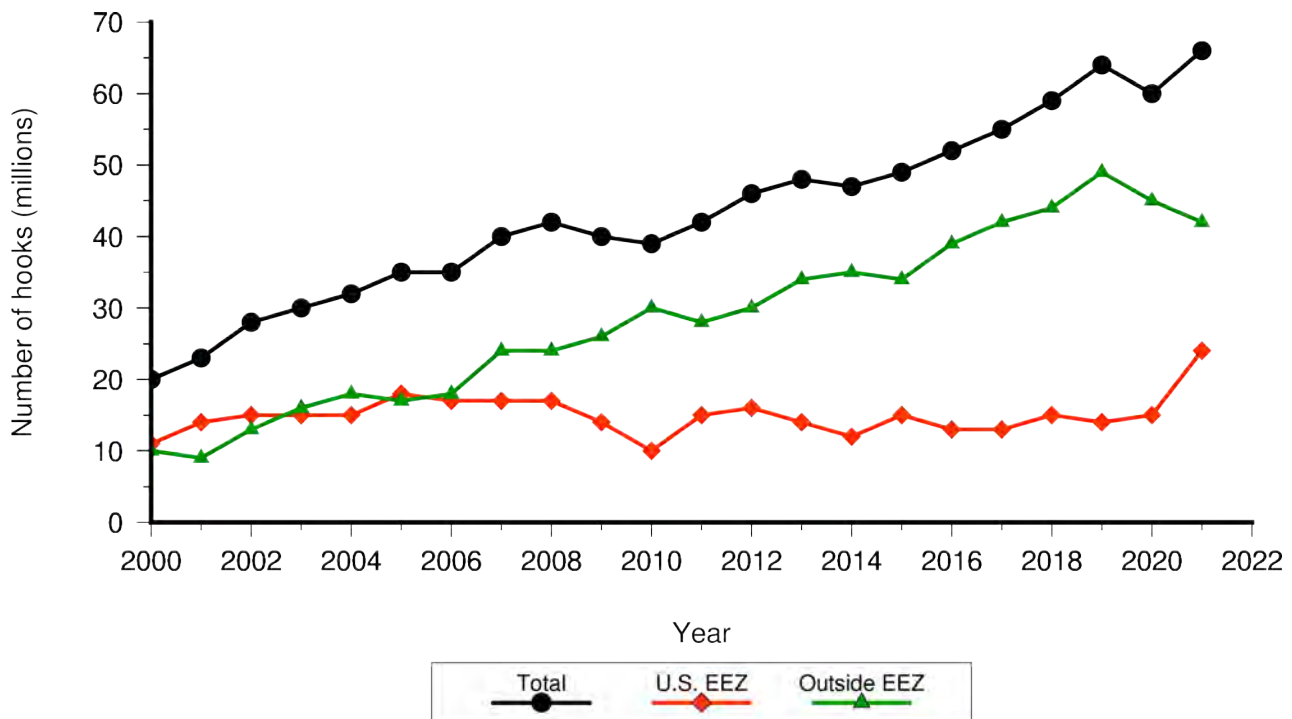


Figure 4: Number of hooks in millions, set by vessels based in Hawaii and California by year, 2000-2021.

Tuna Catch

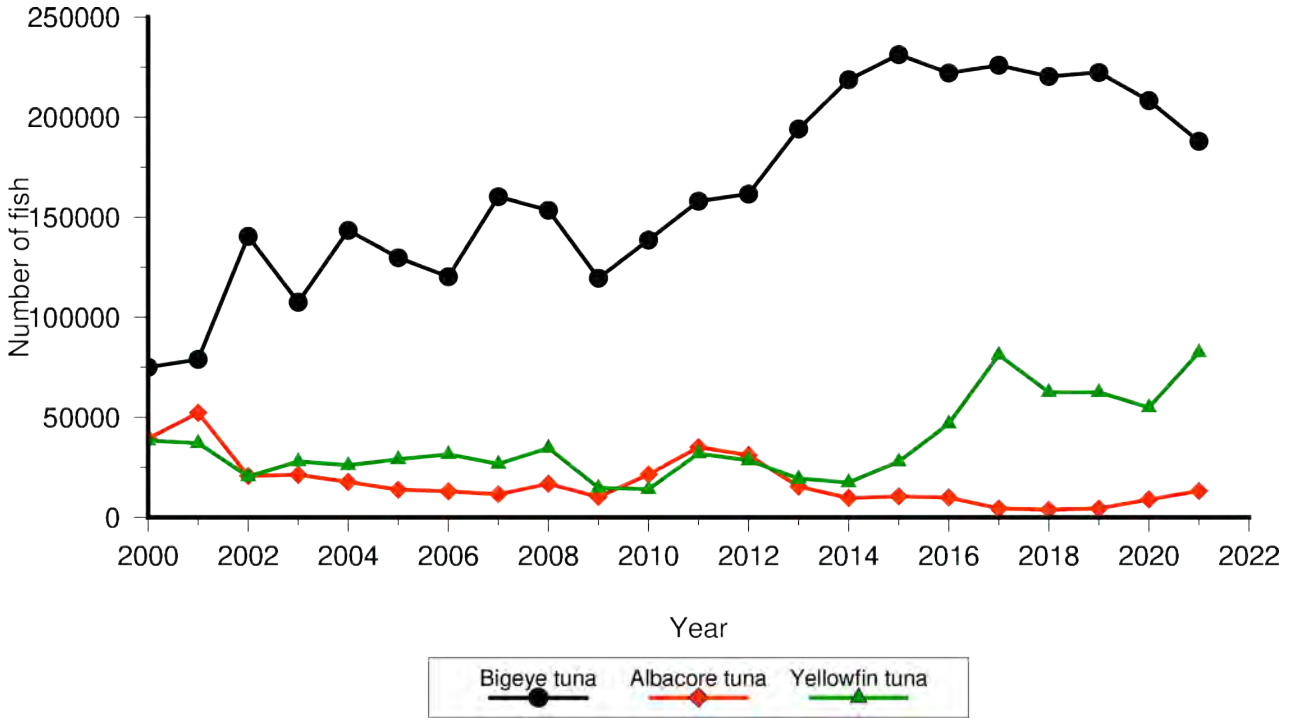


Figure 5: Annual catch (kept + released) of albacore tuna, bigeye tuna, and yellowfin tuna by longline vessels based in Hawaii and California by year, 2000-2021.

Billfish Catch

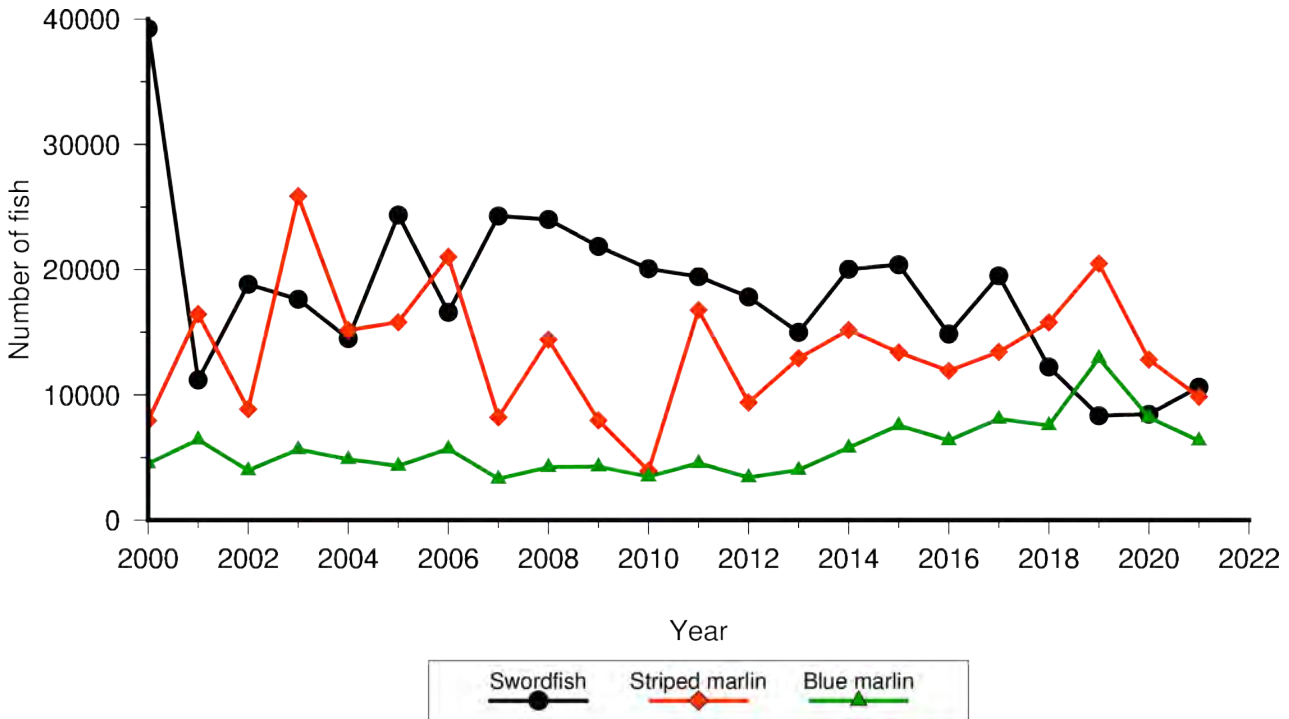


Figure 6: Annual catch (kept + released) of swordfish, striped marlin, and blue marlin by longline vessels based in Hawaii and California by year, 2000-2021.

Shark Catch

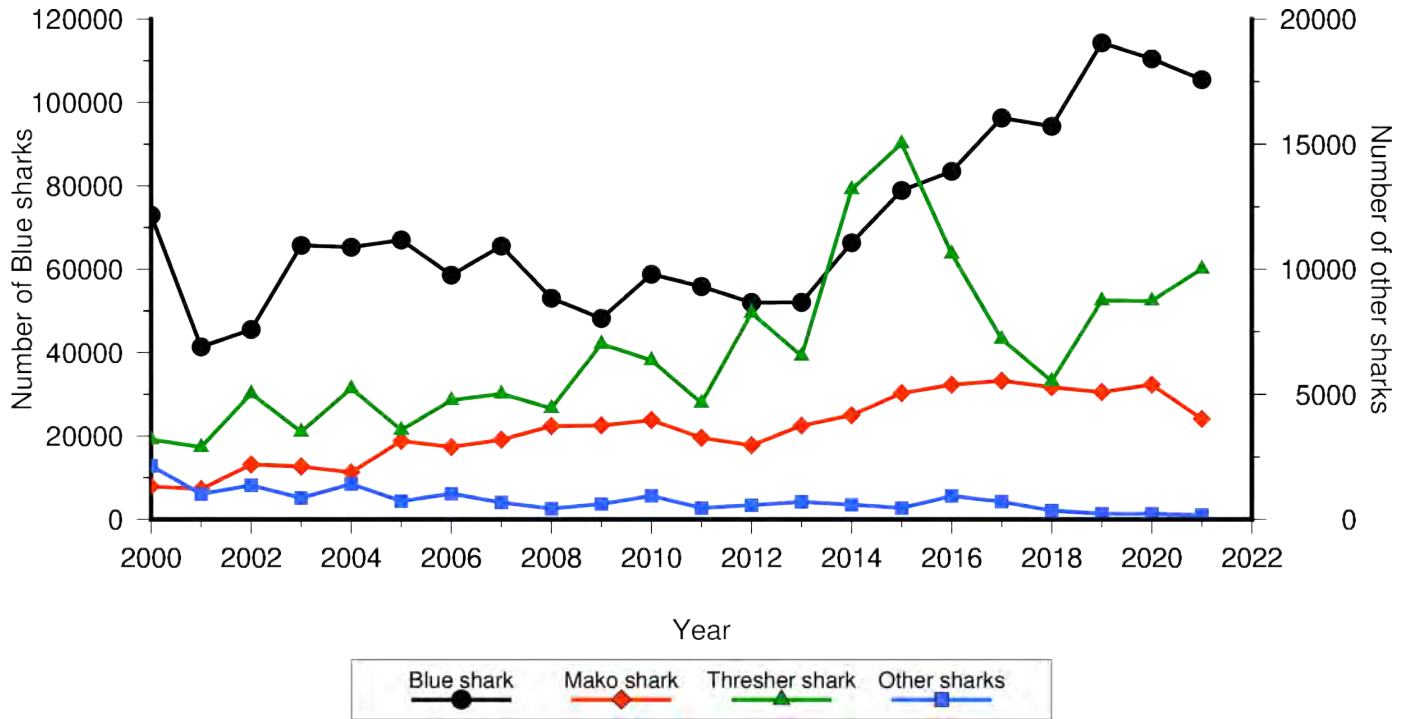


Figure 7: Annual catch (kept + released) of blue shark, mako shark, thresher shark, and other sharks by longline vessels based in Hawaii and California by year, 2000-2021.

Other PMUS Catch

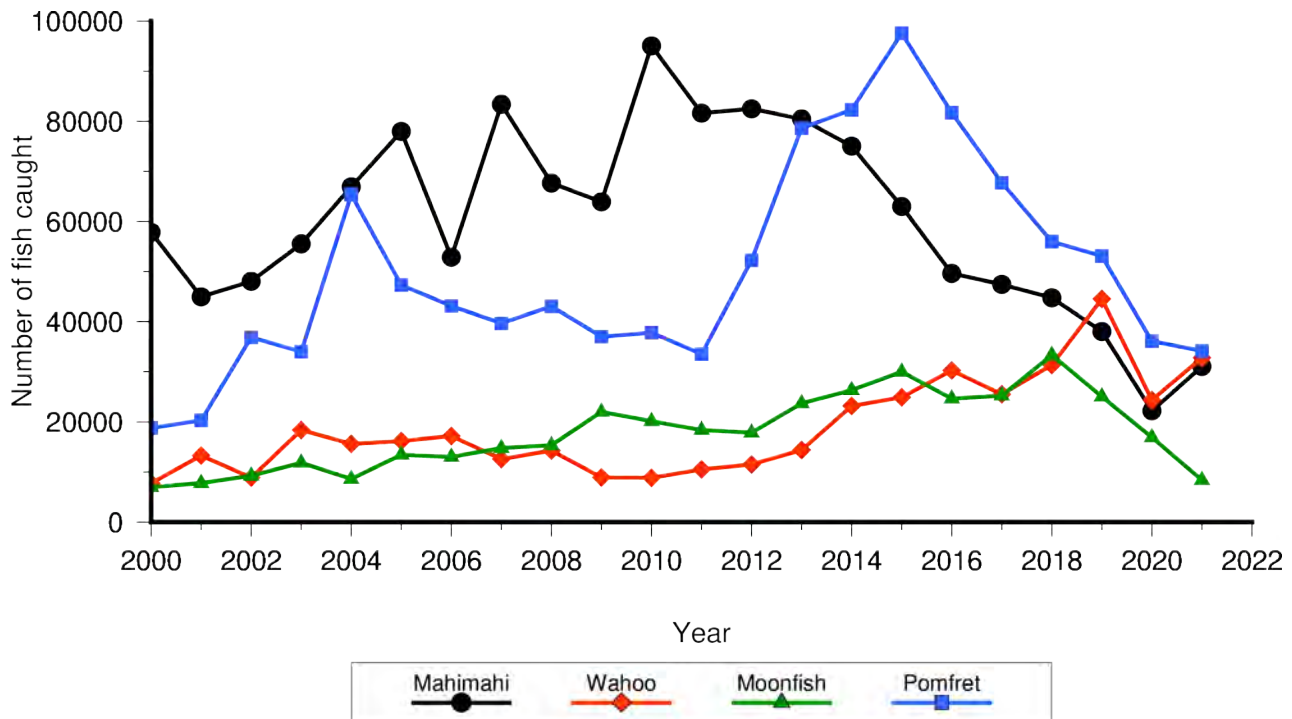


Figure 8: Annual catch (kept + released) of mahimahi, wahoo, moonfish, and pomfret by longline vessels based in Hawaii and California by year 2000-2021.

Sets

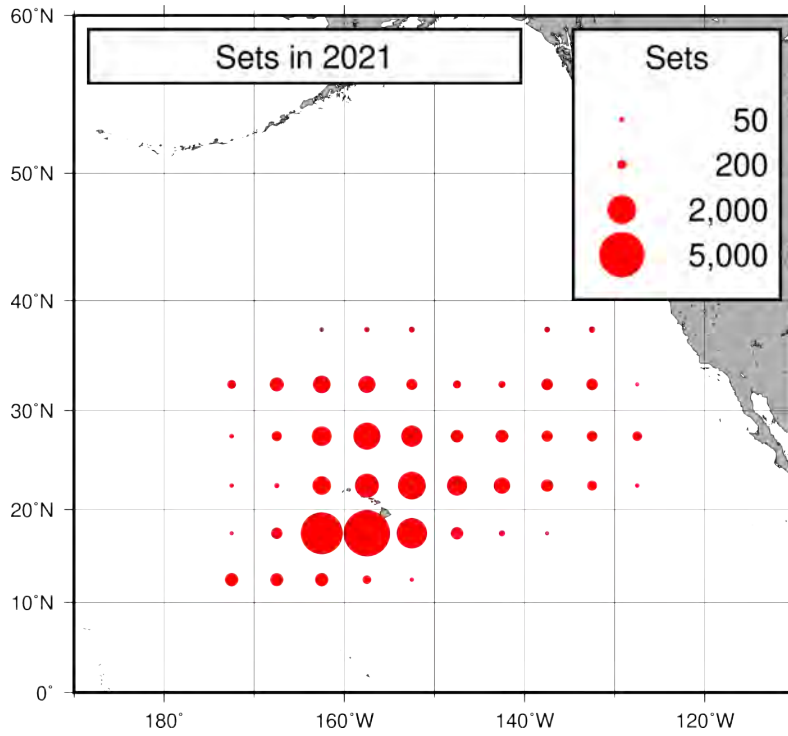


Figure 9: Spatial distribution of the total number of sets by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2021 (provisional data).

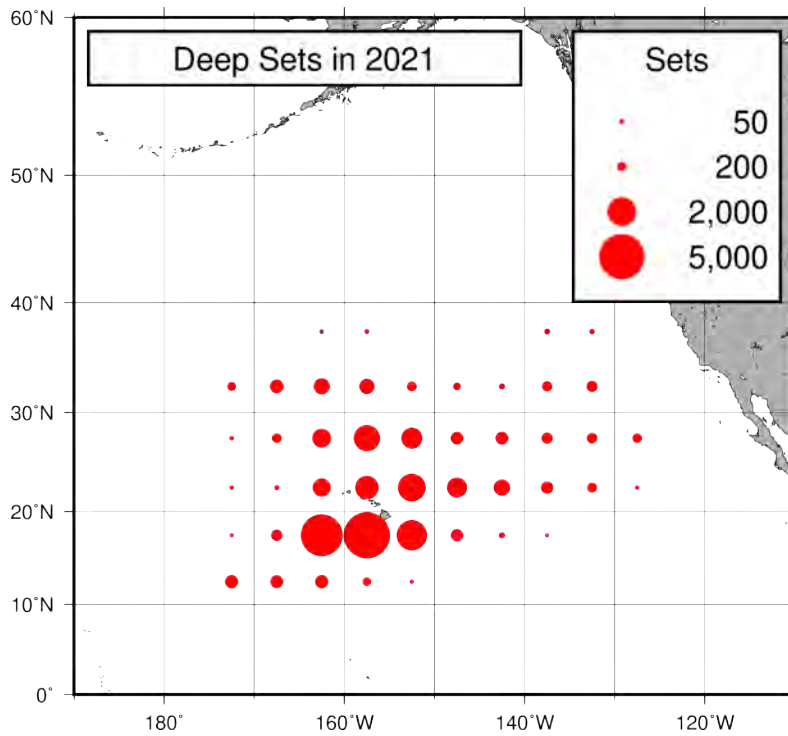


Figure 10: Spatial distribution of the number of deep-set sets by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2021 (provisional data).

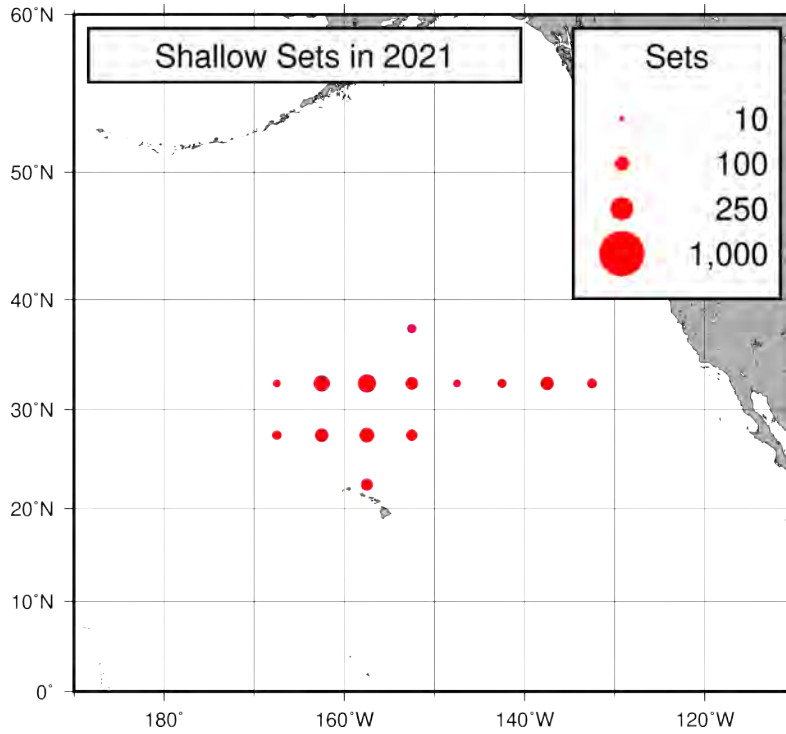


Figure 11: Spatial distribution of the number of shallow-set sets by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2021 (provisional data).

Total Effort

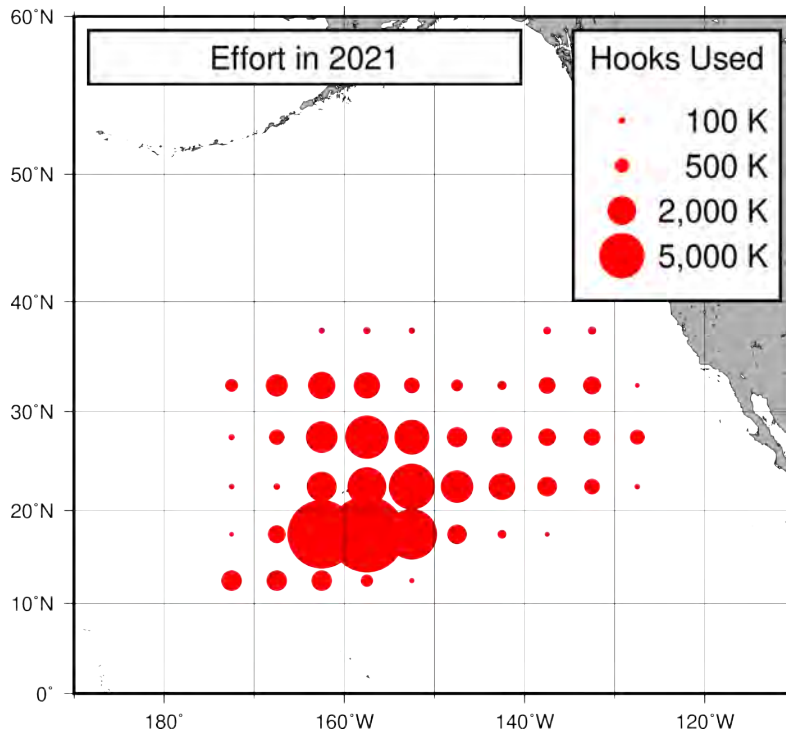


Figure 12: Spatial distribution of the total number of hooks set by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2021 (provisional data).

Deep Effort

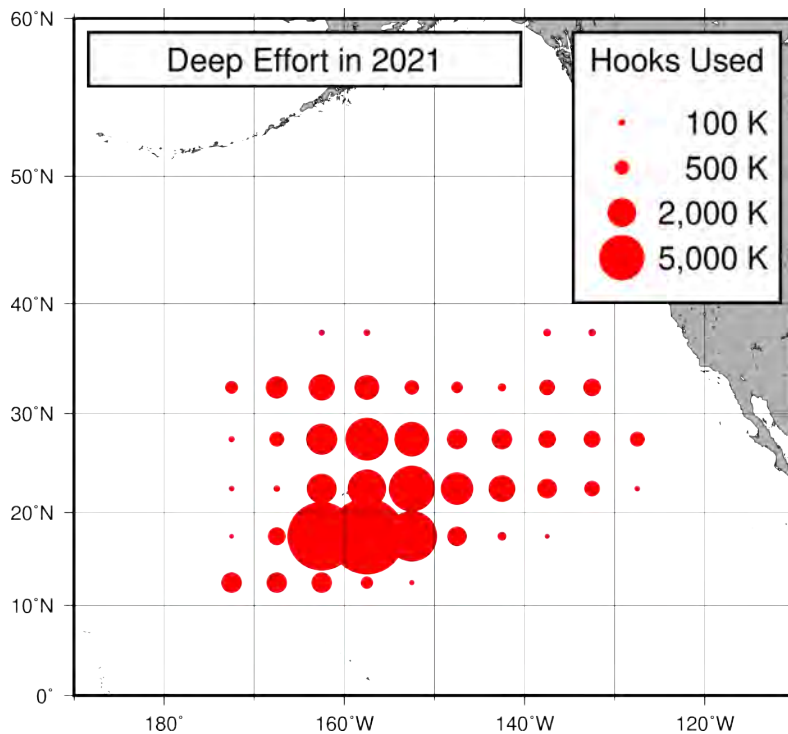


Figure 13: Spatial distribution of the number of deep-set hooks set by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2021 (provisional data).

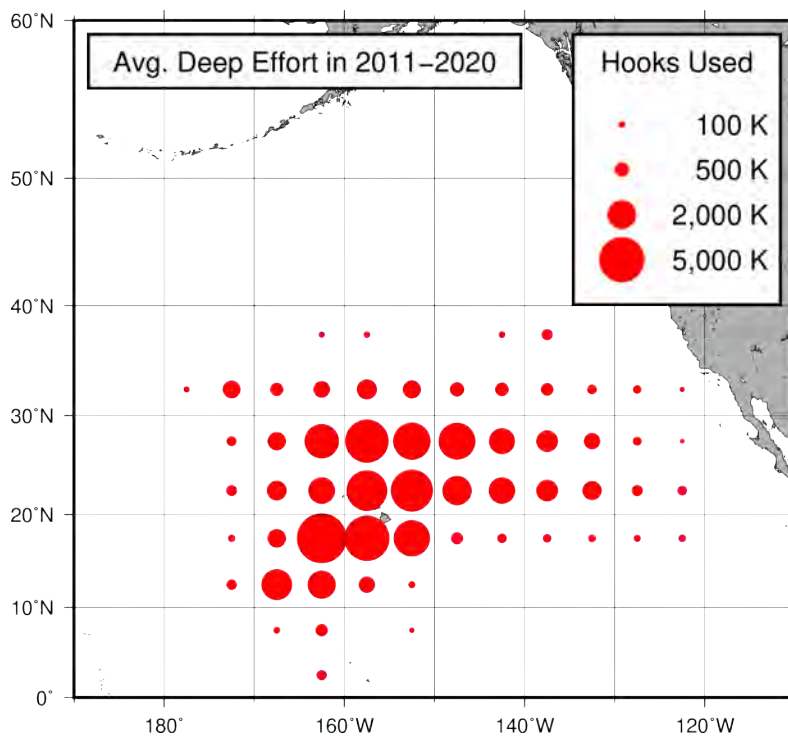


Figure 14: Spatial distribution of the average number of deep-set hooks set by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2011-2020 .

Shallow Effort

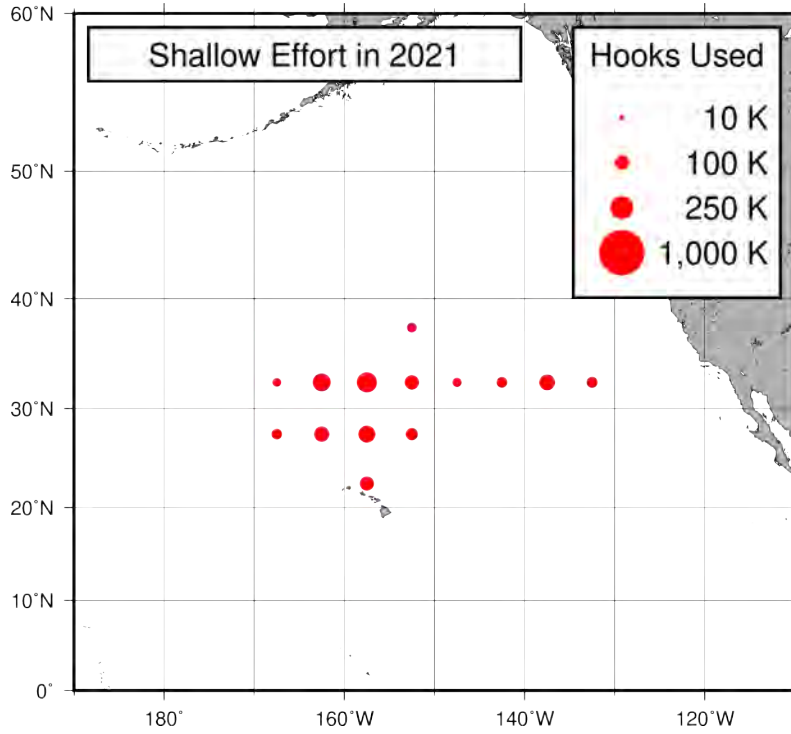


Figure 15: Spatial distribution of the number of shallow-set hooks set by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2021 (provisional data).

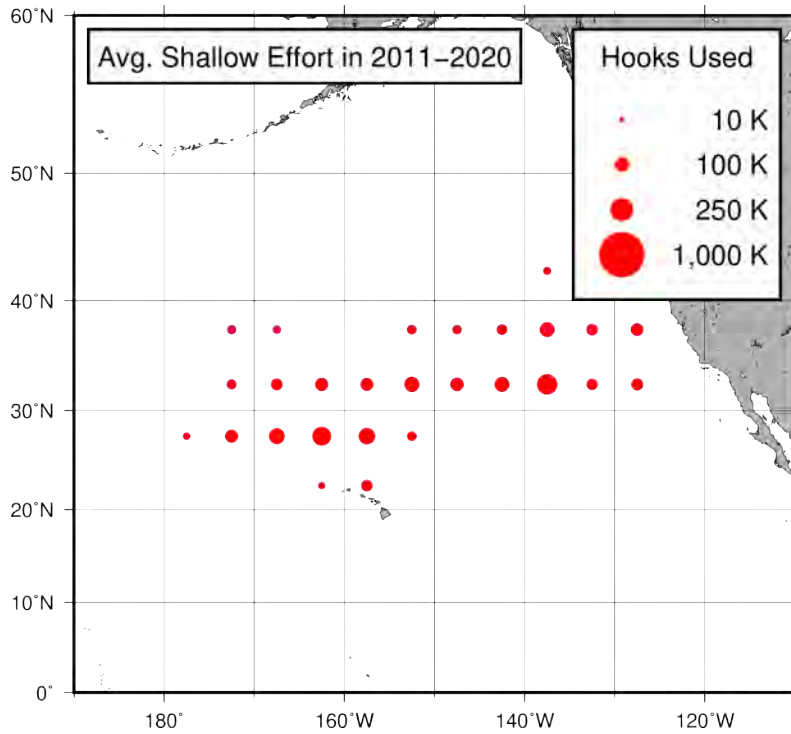


Figure 16: Spatial distribution of the average number of shallow-set hooks set by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2011-2020 .

Bigeye Catch

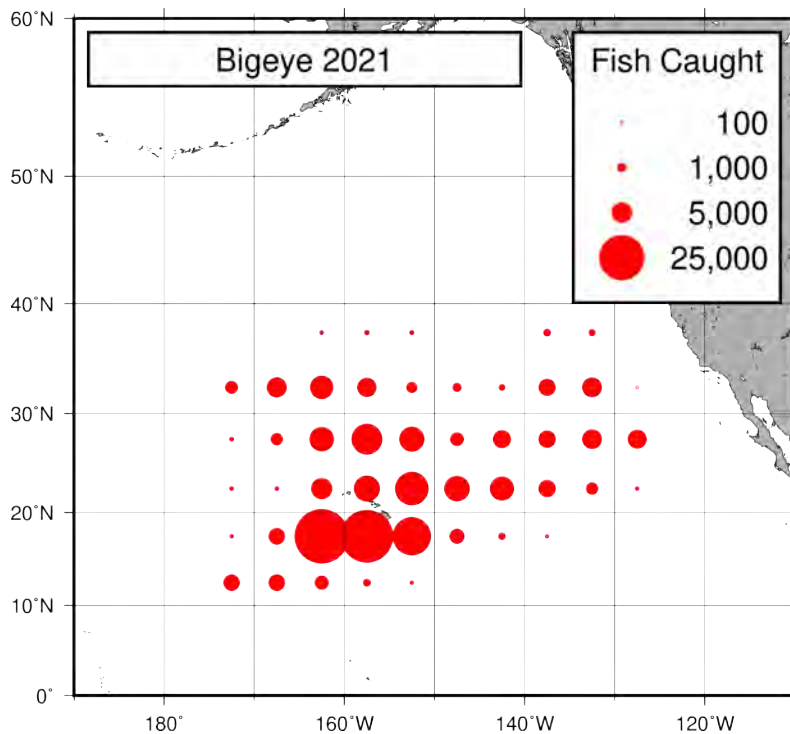


Figure 17: Spatial distribution of the total number of bigeye tuna caught by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2021 (provisional data).

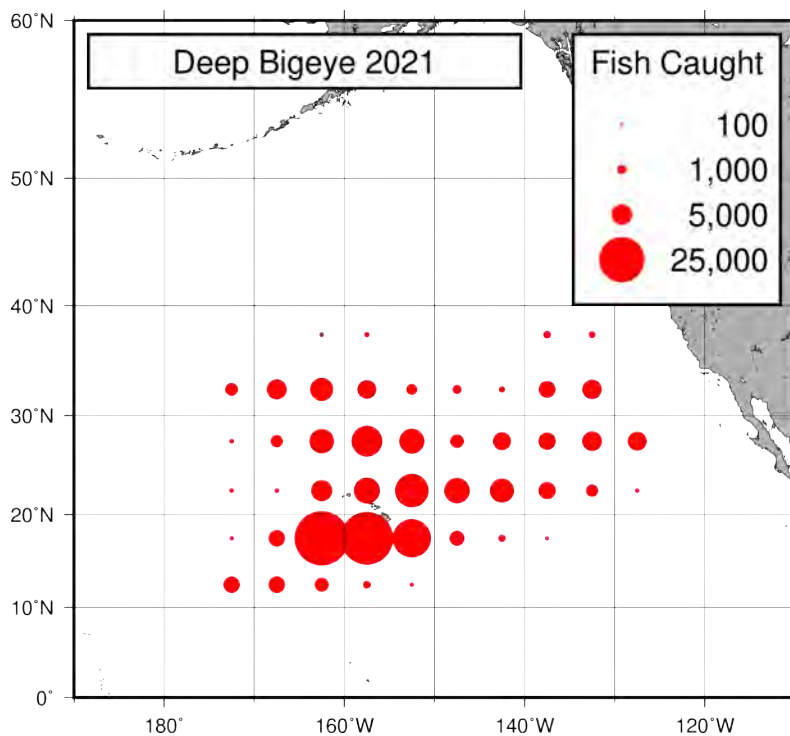


Figure 18: Spatial distribution of the number of deep-set bigeye tuna caught by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2021 (provisional data).

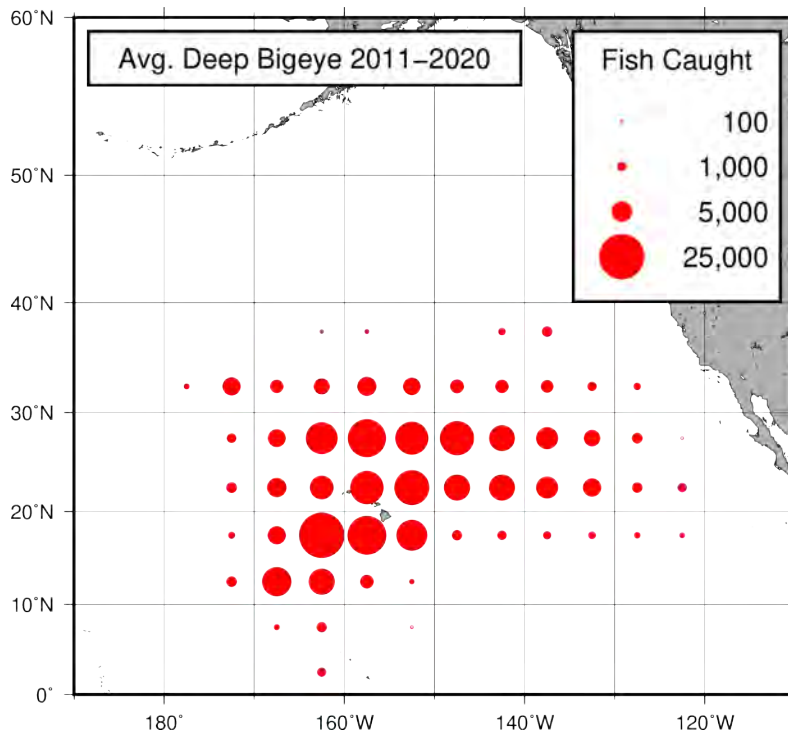


Figure 19: Spatial distribution of the average number of deep-set bigeye tuna caught by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2011-2020.

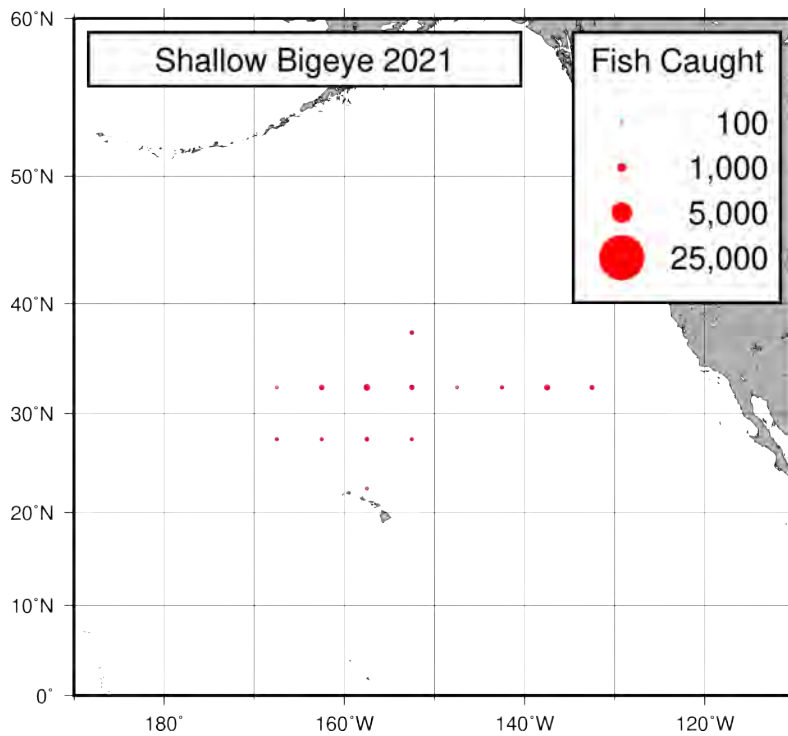


Figure 20: Spatial distribution of the number of shallow-set bigeye tuna caught by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2021 (provisional data).

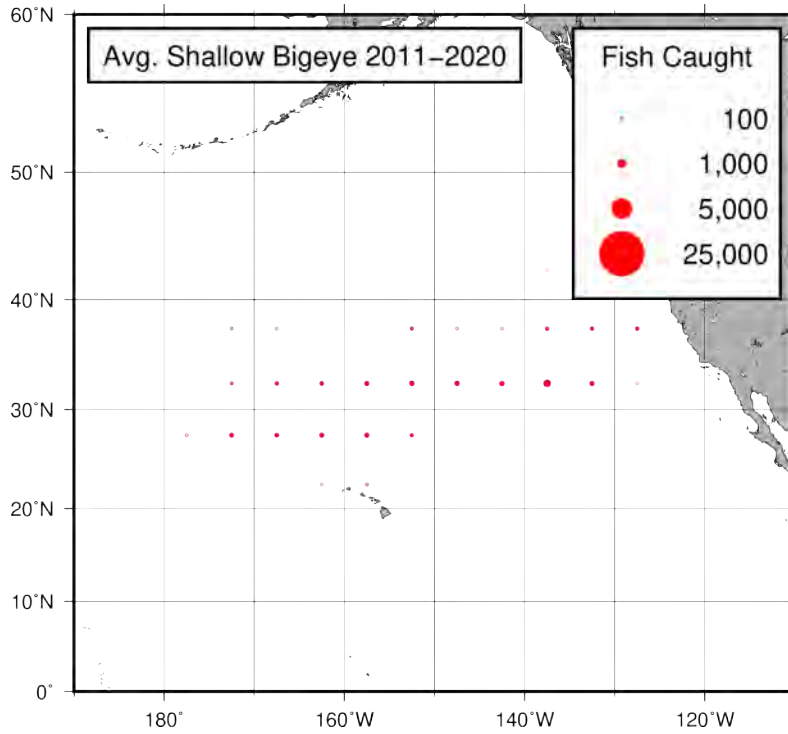


Figure 21: Spatial distribution of the average number of shallow-set bigeye tuna caught by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2011-2020.

Swordfish

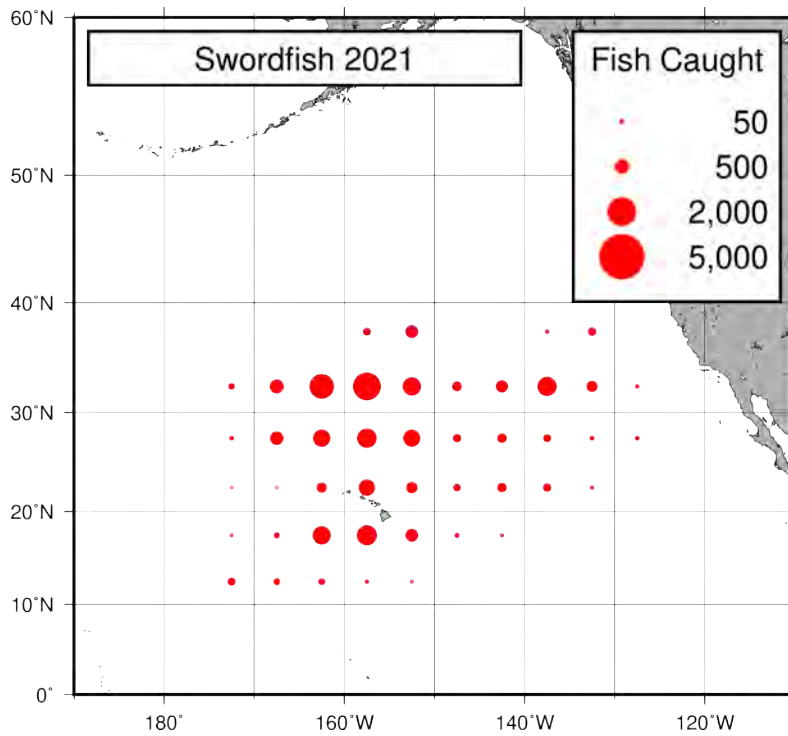


Figure 22: Spatial distribution of the total number of swordfish caught, by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2021 (provisional data).

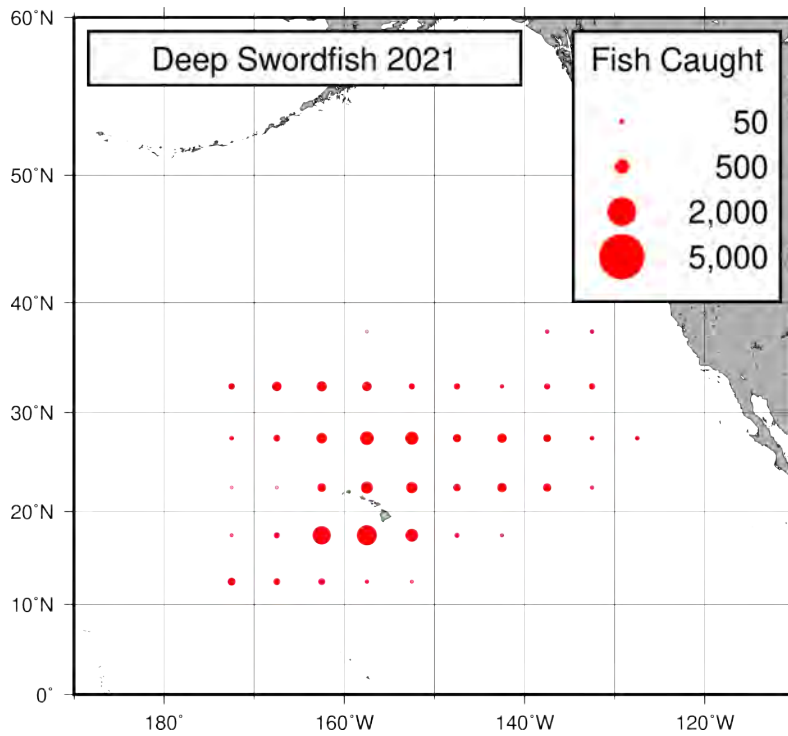


Figure 23: Spatial distribution of the number of deep-set swordfish caught, by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2021 (provisional data).

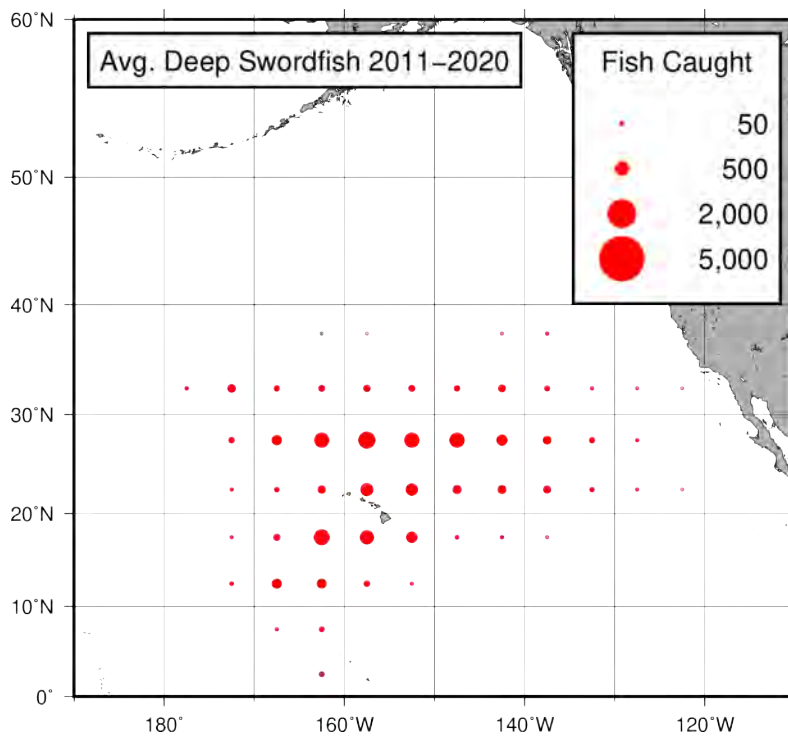


Figure 24: Spatial distribution of the average number of deep-set swordfish caught, by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2011-2020.

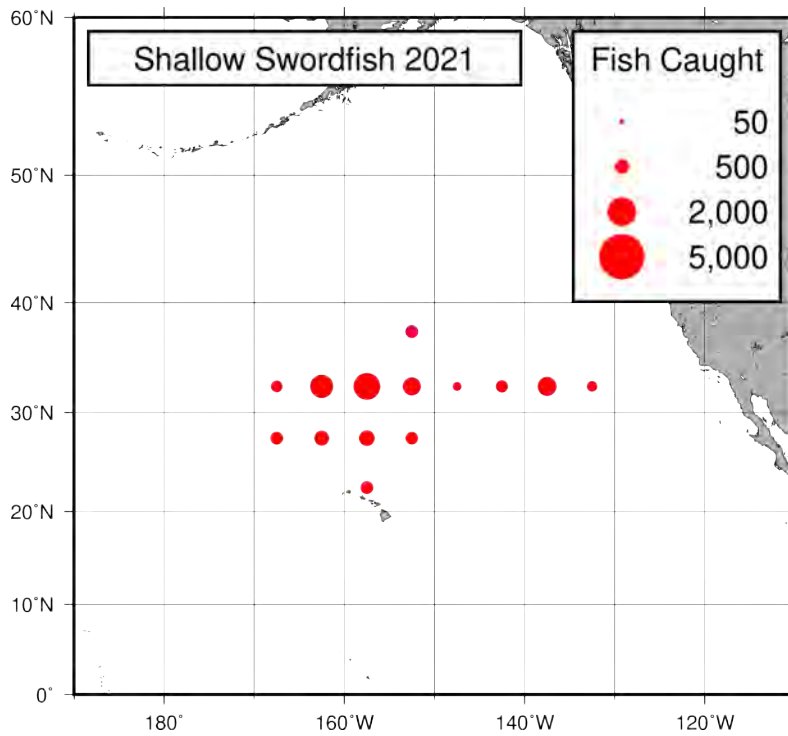


Figure 25: Spatial distribution of the number of shallow-set swordfish caught, by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2021 (provisional data).

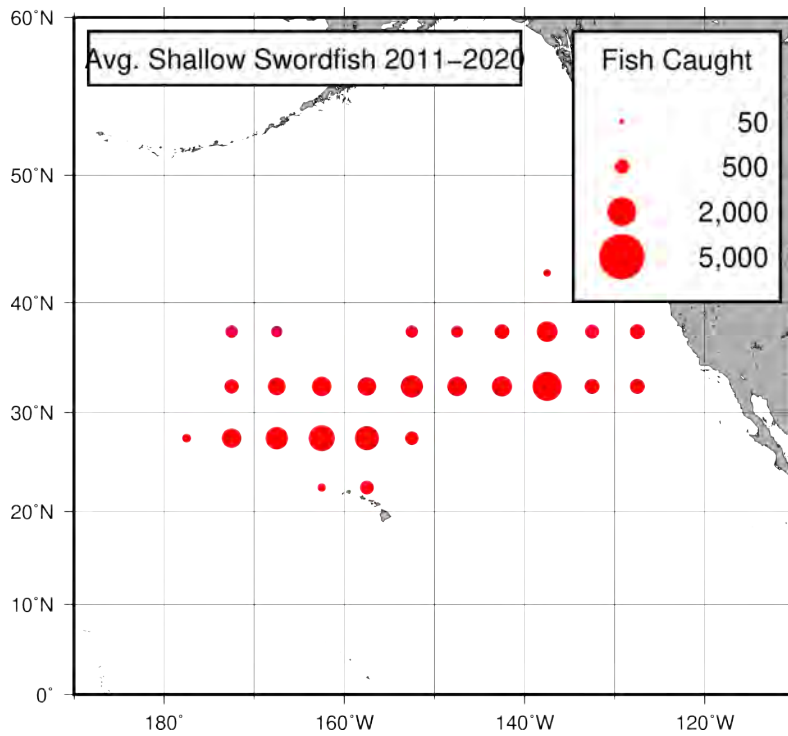


Figure 26: Spatial distribution of the average number of shallow-set swordfish caught, by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2011-2020.