

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

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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_HC20220201_RFMO, representing preliminary data received as of 1 February 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)	1,734
Number of sets	22,739
Number of hooks set	63,533,231

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE Number Caught per 1000 Hooks
PMUS				
Billfish PMUS				
Blue marlin	6,028	5,960	68	0.09
Striped marlin	9,750	9,637	113	0.15
Shortbill spearfish	11,209	10,947	262	0.18
Swordfish	9,870	9,594	276	0.16
Other billfishes	662	651	11	0.01
Total	37,519	36,789	730	0.59
Shark PMUS				
Blue shark	102,078	0	102,078	1.61
Mako sharks	3,658	52	3,606	0.06
Thresher sharks	9,818	29	9,789	0.15
Oceanic whitetip shark	475	0	475	0.01
Silky shark	270	0	270	0.00
Total	116,299	81	116,218	1.83
Tuna PMUS				
Albacore	12,274	11,952	322	0.19
Bigeye tuna	187,045	183,572	3,473	2.94
Yellowfin tuna	78,341	75,955	2,386	1.23
Bluefin tuna	9	9	0	0.00
Skipjack tuna	17,866	17,688	178	0.28
Other tunas	1	1	0	0.00
Total	295,536	289,177	6,359	4.65
Other PMUS				
Mahimahi	30,471	30,220	251	0.48
Moonfish	7,802	7,774	28	0.12
Wahoo	31,641	31,518	123	0.50
Oilfish	9,421	7,274	2,147	0.15
Pomfret	33,191	32,768	423	0.52
Total	112,526	109,554	2,972	1.77
Total PMUS	561,880	435,601	126,279	8.84
Non-PMUS Sharks	198	0	198	0.00
Total Non-PMUS	9,417	283	9,134	0.15
Total All Species	571,297	435,884	135,413	8.99

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				
Time Period	1 January-31 December 2021	Number of vessels active	137	
Set Types	All sets	Number of trips (partial or completed)	1,067	
Fishing Area	Inside U.S. EEZ	Number of sets	8,252	
		Number of hooks set	22,867,376	

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE Number Caught per 1000 Hooks
PMUS				
Billfish PMUS				
Blue marlin	2,392	2,367	25	0.10
Striped marlin	4,077	4,046	31	0.18
Shortbill spearfish	4,876	4,856	20	0.21
Swordfish	1,649	1,623	26	0.07
Other billfishes	219	219	0	0.01
Total	13,213	13,111	102	0.58
Shark PMUS				
Blue shark	33,364	0	33,364	1.46
Mako sharks	909	0	909	0.04
Thresher sharks	2,154	5	2,149	0.09
Oceanic whitetip shark	203	0	203	0.01
Silky shark	72	0	72	0.00
Total	36,702	5	36,697	1.60
Tuna PMUS				
Albacore	511	506	5	0.02
Bigeye tuna	58,642	57,500	1,142	2.56
Yellowfin tuna	25,249	24,525	724	1.10
Bluefin tuna	1	1	0	0.00
Skipjack tuna	6,520	6,478	42	0.29
Other tunas	0	0	0	0.00
Total	90,923	89,010	1,913	3.98
Other PMUS				
Mahimahi	6,205	6,157	48	0.27
Moonfish	755	754	1	0.03
Wahoo	10,748	10,729	19	0.47
Oilfish	3,122	2,496	626	0.14
Pomfret	9,176	9,069	107	0.40
Total	30,006	29,205	801	1.31
Total PMUS	170,844	131,331	39,513	7.47
Non-PMUS Sharks	56	0	56	0.00
Total Non-PMUS	2,076	130	1,946	0.09
Total All Species	172,920	131,461	41,459	7.56

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)	1,386
Number of sets	14,487
Number of hooks set	40,665,855

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE Number Caught per 1000 Hooks
PMUS				
Billfish PMUS				
Blue marlin	3,636	3,593	43	0.09
Striped marlin	5,673	5,591	82	0.14
Shortbill spearfish	6,333	6,091	242	0.16
Swordfish	8,221	7,971	250	0.20
Other billfishes	443	432	11	0.01
Total	24,306	23,678	628	0.60
Shark PMUS				
Blue shark	68,714	0	68,714	1.69
Mako sharks	2,749	52	2,697	0.07
Thresher sharks	7,664	24	7,640	0.19
Oceanic whitetip shark	272	0	272	0.01
Silky shark	198	0	198	0.00
Total	79,597	76	79,521	1.96
Tuna PMUS				
Albacore	11,763	11,446	317	0.29
Bigeye tuna	128,403	126,072	2,331	3.16
Yellowfin tuna	53,092	51,430	1,662	1.31
Bluefin tuna	8	8	0	0.00
Skipjack tuna	11,346	11,210	136	0.28
Other tunas	1	1	0	0.00
Total	204,613	200,167	4,446	5.03
Other PMUS				
Mahimahi	24,266	24,063	203	0.60
Moonfish	7,047	7,020	27	0.17
Wahoo	20,893	20,789	104	0.51
Oilfish	6,299	4,778	1,521	0.15
Pomfret	24,015	23,699	316	0.59
Total	82,520	80,349	2,171	2.03
Total PMUS	391,036	304,270	86,766	9.62
Non-PMUS Sharks	142	0	142	0.00
Total Non-PMUS	7,341	153	7,188	0.18
Total All Species	398,377	304,423	93,954	9.80

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	18
Number of trips (partial or completed)	55
Number of sets	665
Number of hooks set	827,636

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	0.11
Striped marlin	191	184	7	0.23
Shortbill spearfish	102	100	2	0.12
Swordfish	5,902	5,705	197	7.13
Other billfishes	4	4	0	0.00
Total	6,290	6,078	212	7.60
Shark PMUS				
Blue shark	4,570	0	4,570	5.52
Mako sharks	581	26	555	0.70
Thresher sharks	24	2	22	0.03
Oceanic whitetip shark	9	0	9	0.01
Silky shark	3	0	3	0.00
Total	5,187	28	5,159	6.27
Tuna PMUS				
Albacore	448	426	22	0.54
Bigeye tuna	955	916	39	1.15
Yellowfin tuna	1,121	1,095	26	1.35
Bluefin tuna	2	2	0	0.00
Skipjack tuna	47	46	1	0.06
Other tunas	0	0	0	0.00
Total	2,573	2,485	88	3.11
Other PMUS				
Mahimahi	1,249	1,240	9	1.51
Moonfish	21	20	1	0.03
Wahoo	61	61	0	0.07
Oilfish	184	134	50	0.22
Pomfret	37	33	4	0.04
Total	1,552	1,488	64	1.88
Total PMUS	15,602	10,079	5,523	18.85
Non-PMUS Sharks	5	0	5	0.01
Total Non-PMUS	6	0	6	0.01
Total All Species	15,608	10,079	5,529	18.86

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

Time Period 1 January-31 December 2021
Set Types Deep sets
Fishing Area All Areas

Number of vessels active	146
Number of trips (partial or completed)	1,679
Number of sets	22,074
Number of hooks set	62,705,595

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE Number Caught per 1000 Hooks
PMUS				
Billfish PMUS				
Blue marlin	5,937	5,875	62	0.09
Striped marlin	9,559	9,453	106	0.15
Shortbill spearfish	11,107	10,847	260	0.18
Swordfish	3,968	3,889	79	0.06
Other billfishes	658	647	11	0.01
Total	31,229	30,711	518	0.50
Shark PMUS				
Blue shark	97,508	0	97,508	1.56
Mako sharks	3,077	26	3,051	0.05
Thresher sharks	9,794	27	9,767	0.16
Oceanic whitetip shark	466	0	466	0.01
Silky shark	267	0	267	0.00
Total	111,112	53	111,059	1.77
Tuna PMUS				
Albacore	11,826	11,526	300	0.19
Bigeye tuna	186,090	182,656	3,434	2.97
Yellowfin tuna	77,220	74,860	2,360	1.23
Bluefin tuna	7	7	0	0.00
Skipjack tuna	17,819	17,642	177	0.28
Other tunas	1	1	0	0.00
Total	292,963	286,692	6,271	4.67
Other PMUS				
Mahimahi	29,222	28,980	242	0.47
Moonfish	7,781	7,754	27	0.12
Wahoo	31,580	31,457	123	0.50
Oilfish	9,237	7,140	2,097	0.15
Pomfret	33,154	32,735	419	0.53
Total	110,974	108,066	2,908	1.77
Total PMUS	546,278	425,522	120,756	8.71
Non-PMUS Sharks	193	0	193	0.00
Total Non-PMUS	9,411	283	9,128	0.15
Total All Species	555,689	425,805	129,884	8.86

Active Vessels

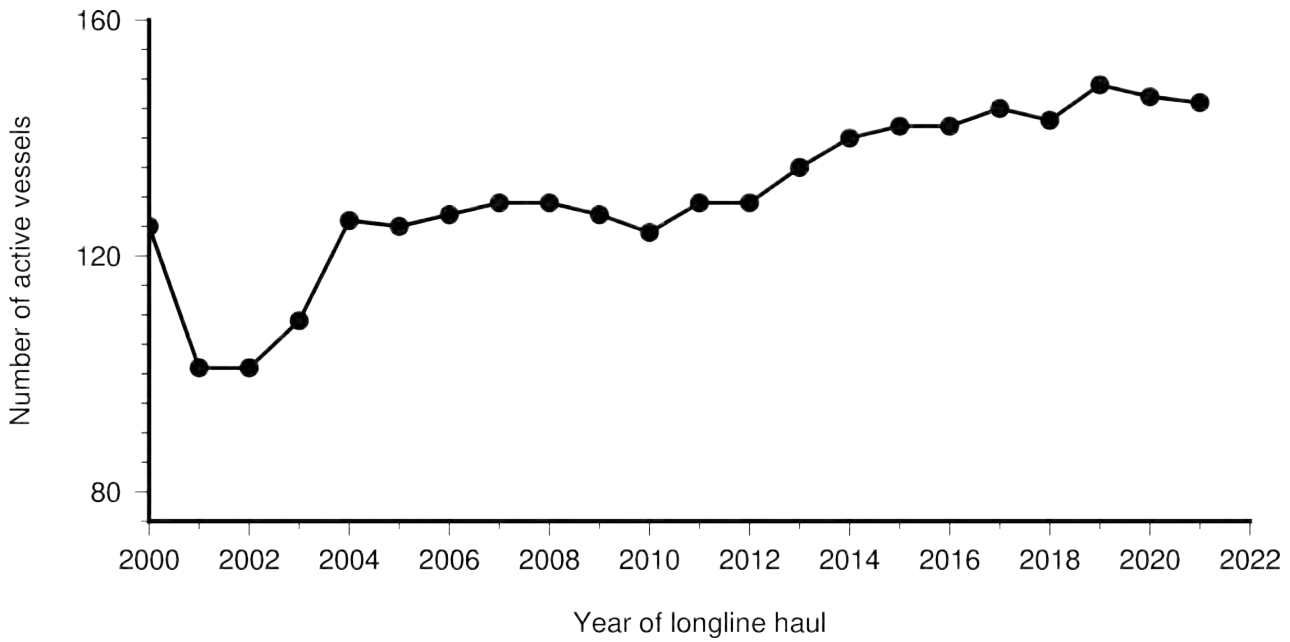


Figure 1: Number of active longline vessels based in Hawaii and California, by year for haul years 2000-2021.

Trips

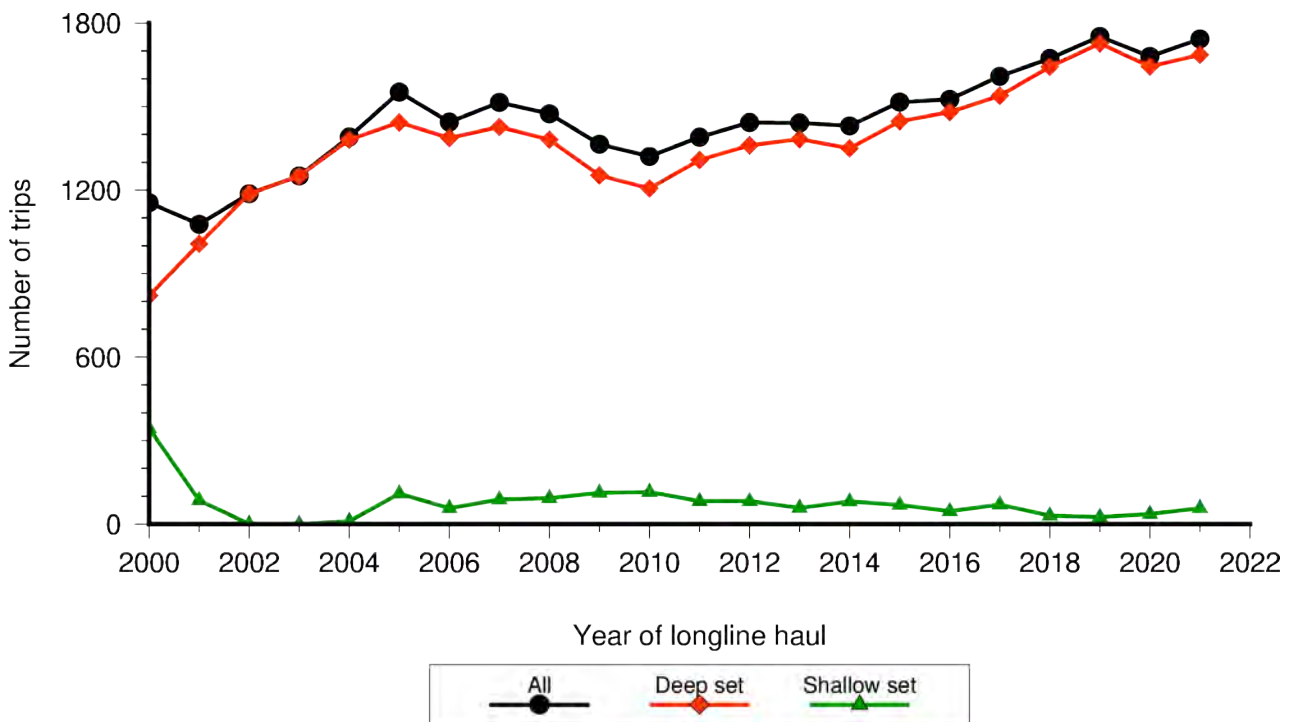


Figure 2: Number of longline trips based in Hawaii and California, by year for haul years 2000-2021.

Sets

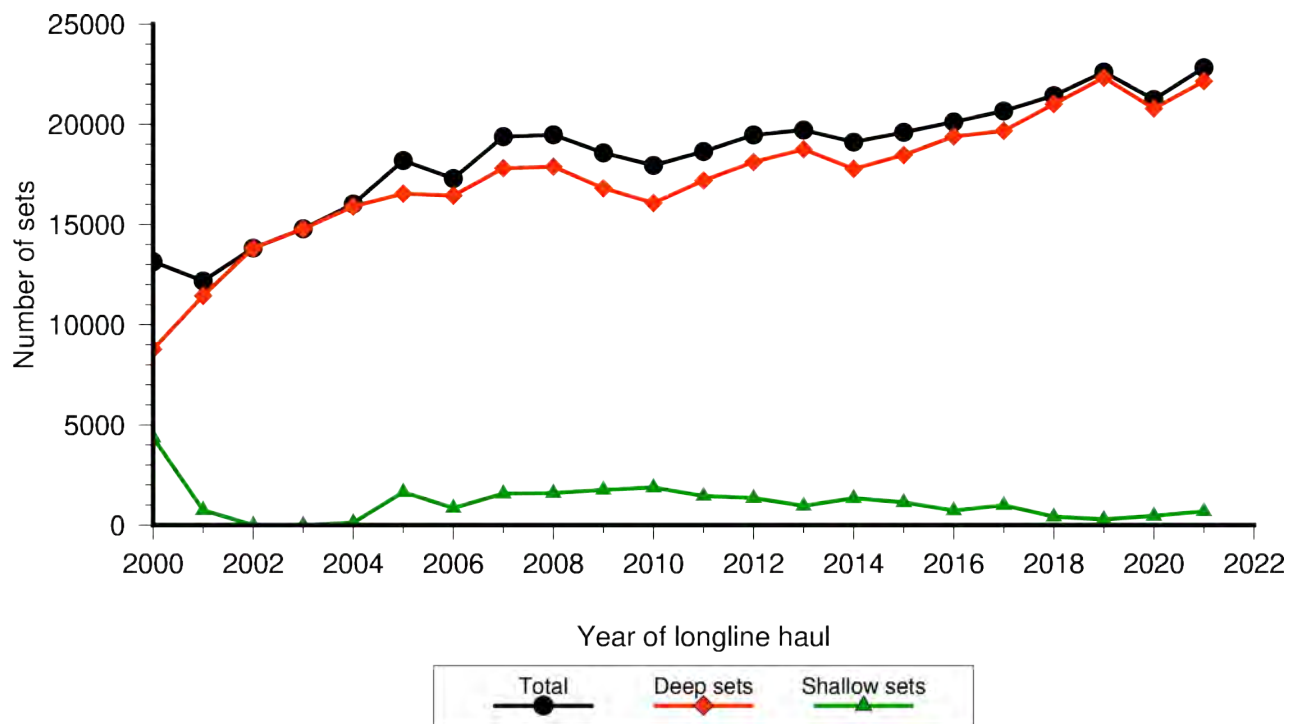


Figure 3: Number of fishing sets by vessels based in Hawaii and California, by year for haul years 2000-2021.

Hooks Set

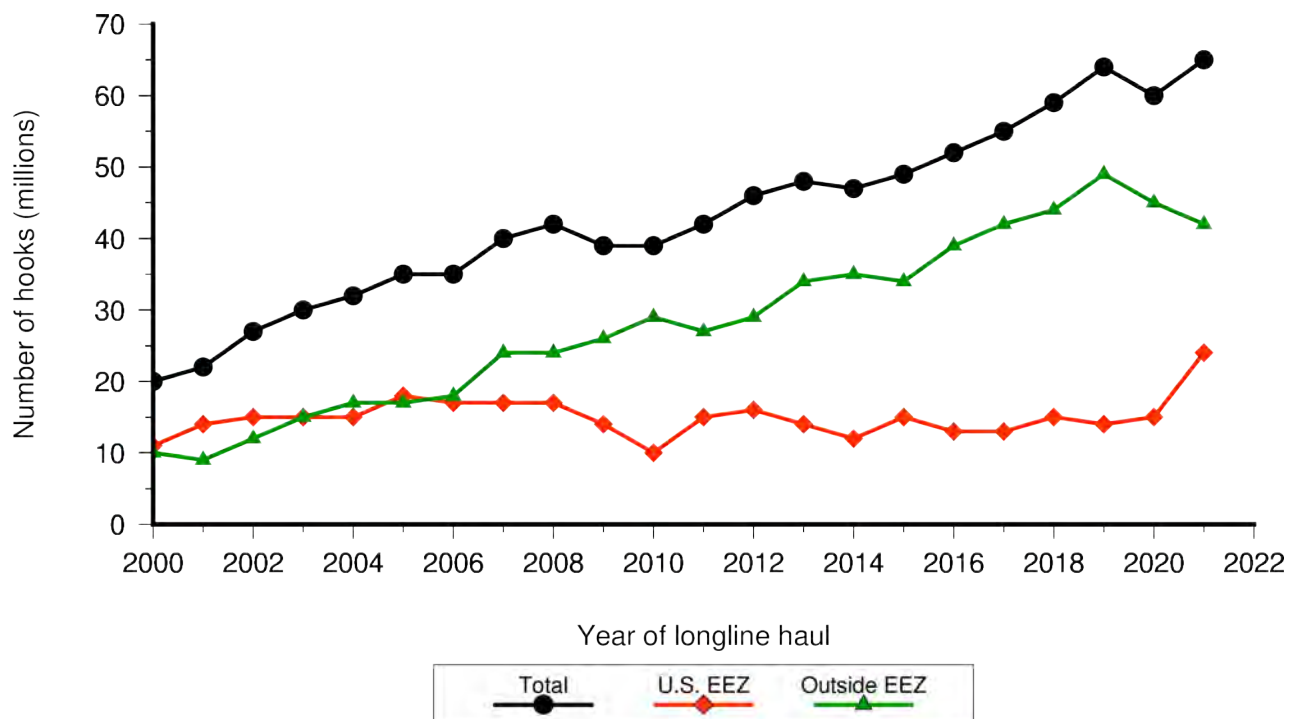


Figure 4: Number of hooks in millions, set by vessels based in Hawaii and California by year, 2000-2021.

Tuna Catch

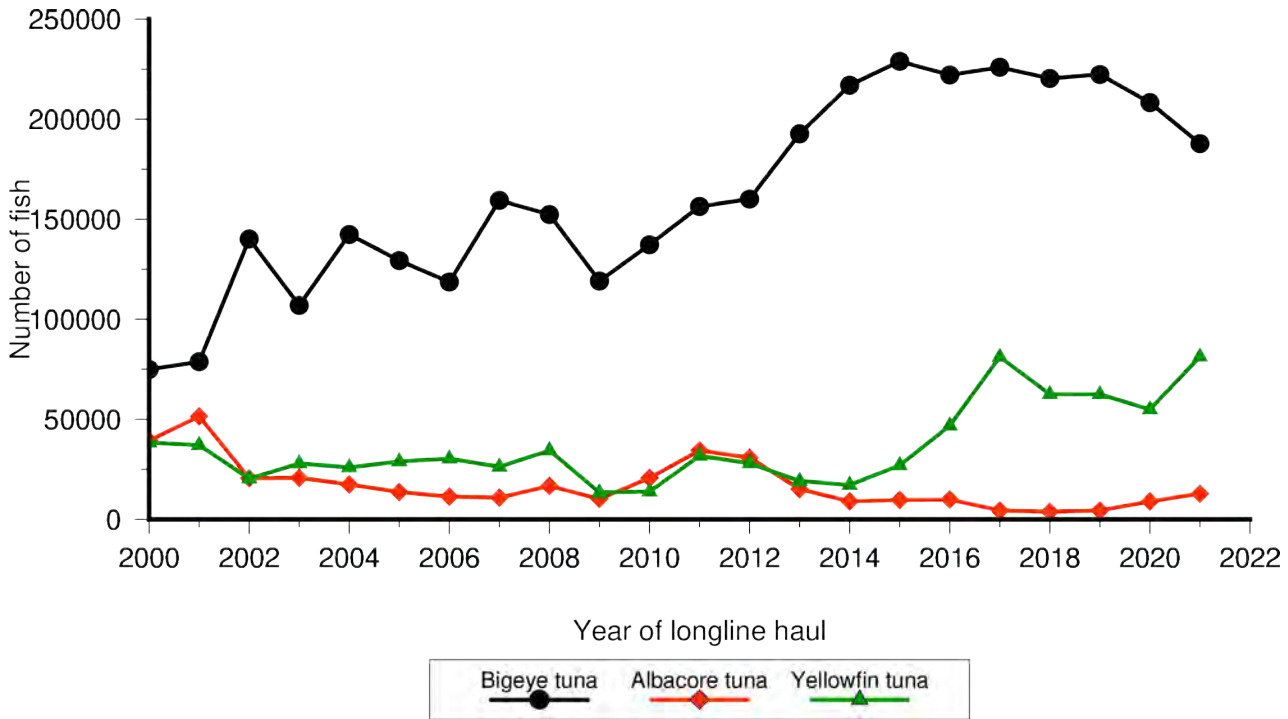


Figure 5: Annual catch (kept + released) of albacore tuna, bigeye tuna, and yellowfin tuna by longline vessels based in Hawaii and California by year, 2000-2021.

Billfish Catch

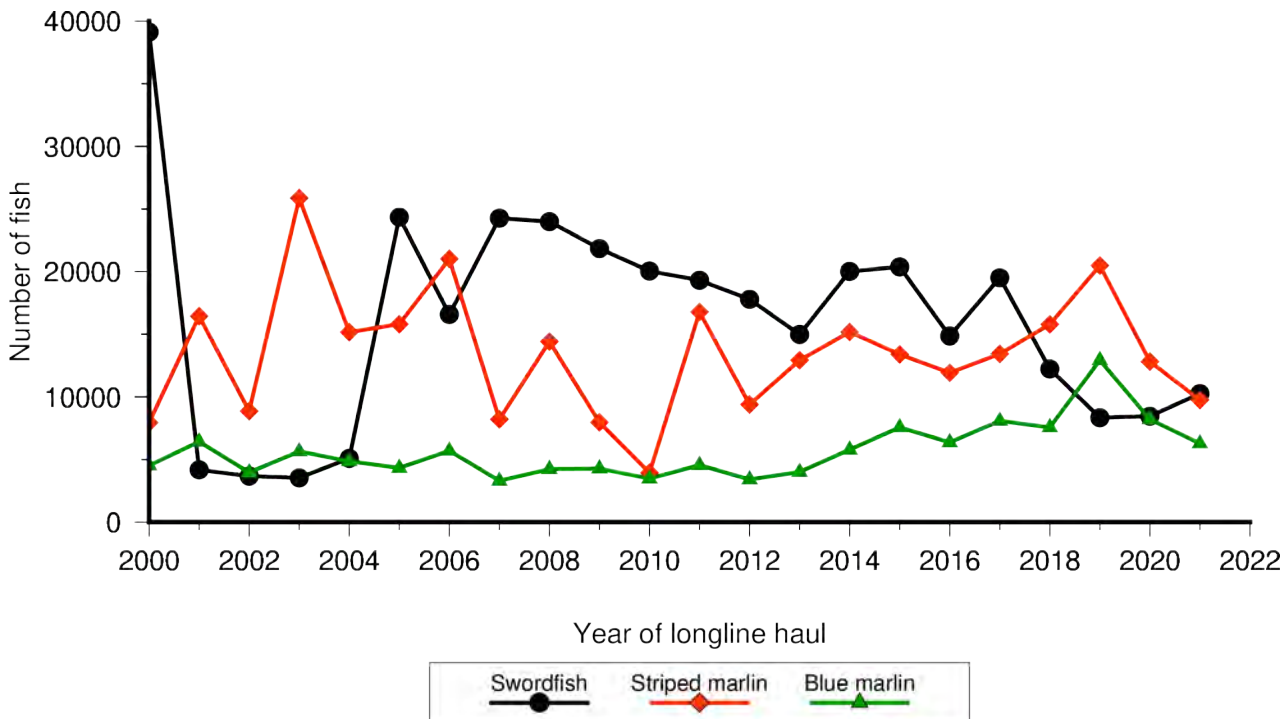


Figure 6: Annual catch (kept + released) of swordfish, striped marlin, and blue marlin by longline vessels based in Hawaii and California by year, 2000-2021.

Shark Catch

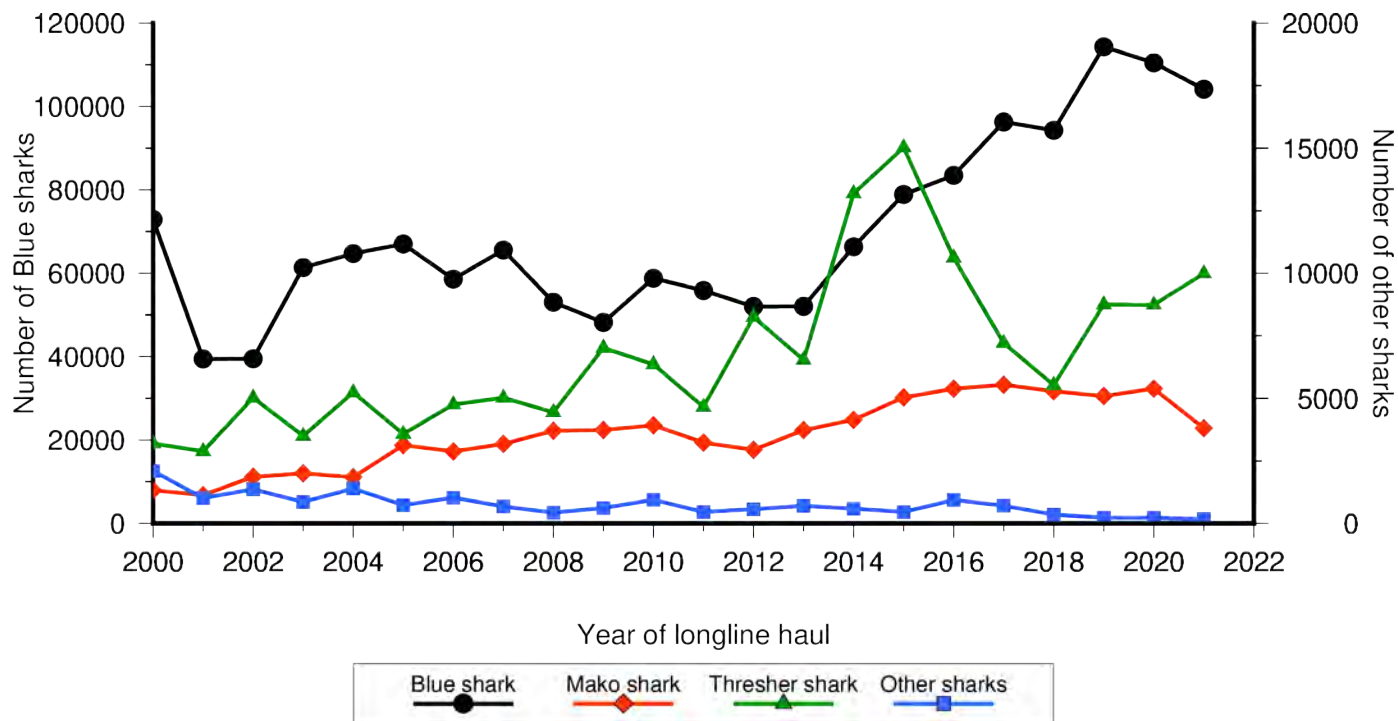


Figure 7: Annual catch (kept + released) of blue shark, mako shark, thresher shark, and other sharks by longline vessels based in Hawaii and California by year, 2000-2021.

Other PMUS Catch

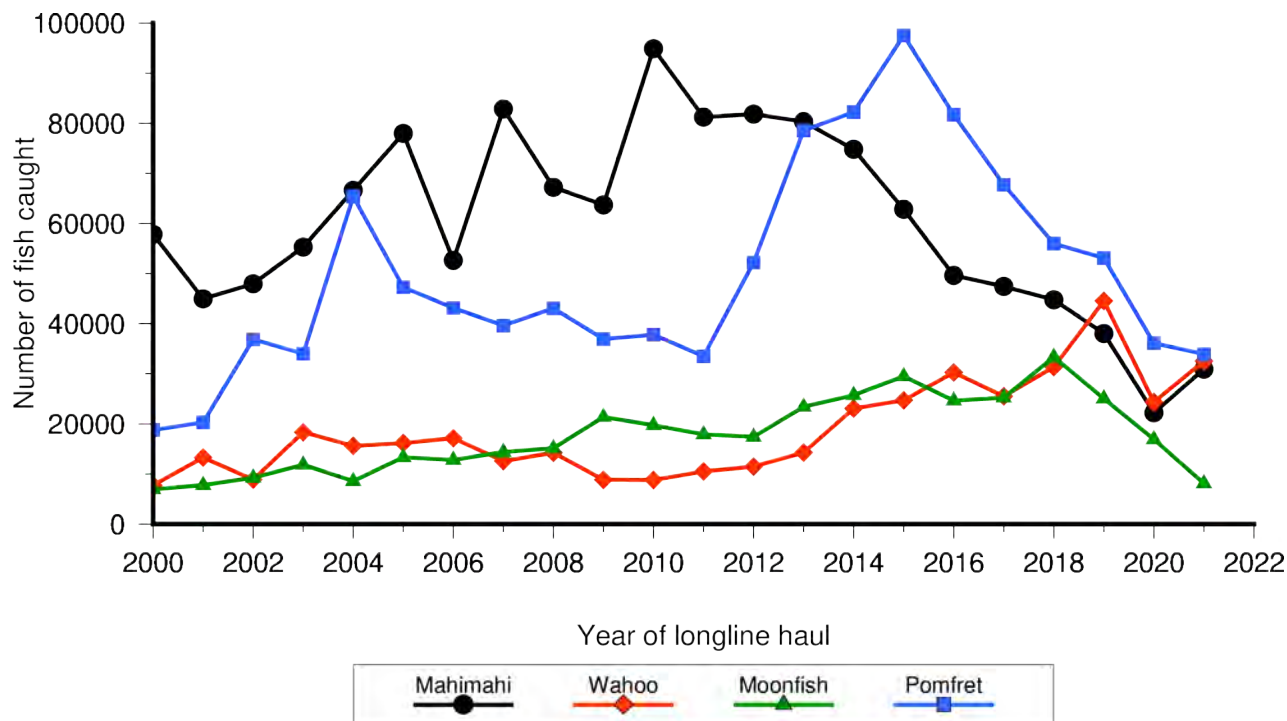


Figure 8: Annual catch (kept + released) of mahimahi, wahoo, moonfish, and pomfret by longline vessels based in Hawaii and California by year 2000-2021.

Sets

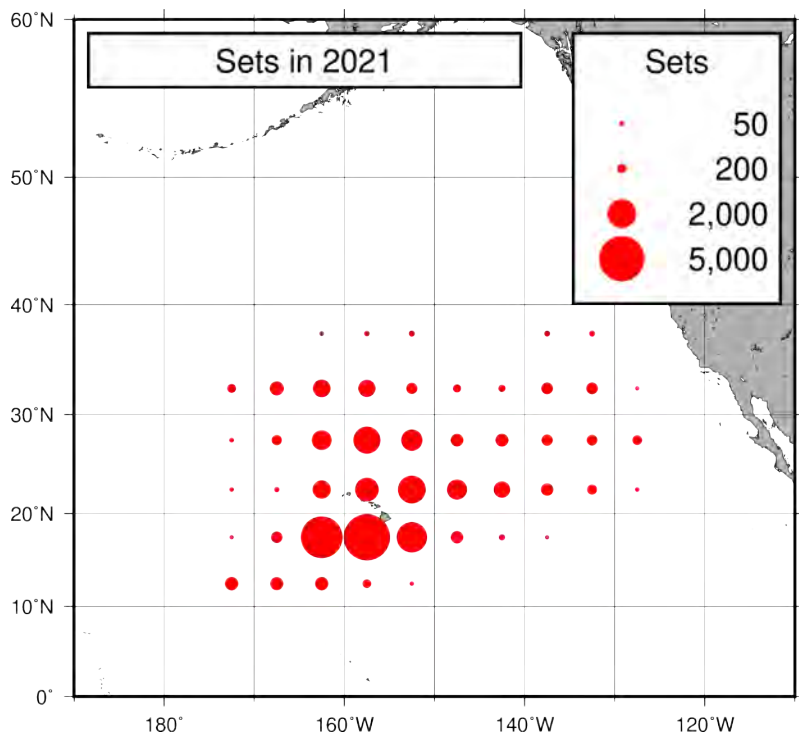


Figure 9: Spatial distribution of the total number of sets by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2021 (provisional data).

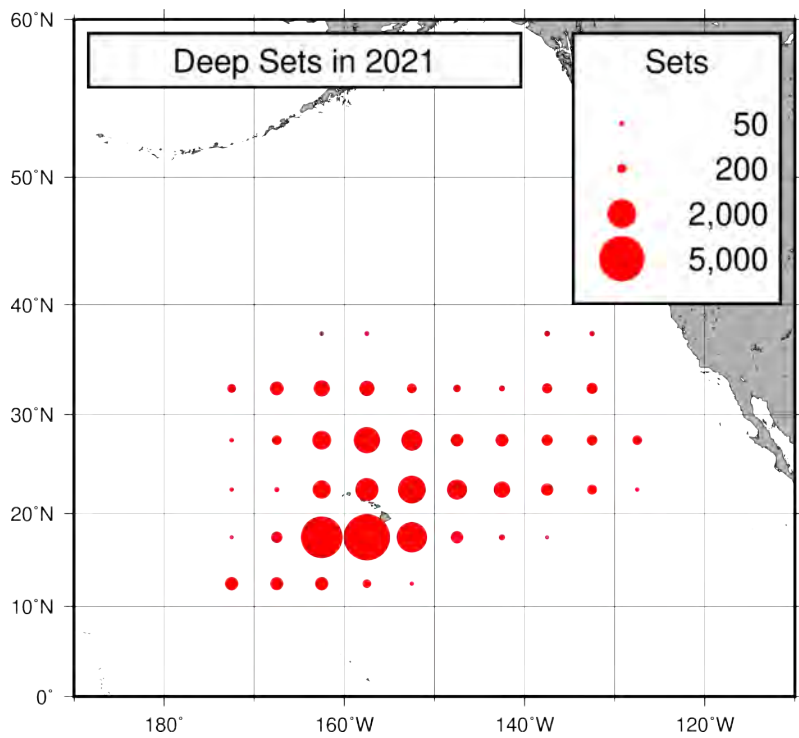


Figure 10: Spatial distribution of the number of deep-set sets by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2021 (provisional data).

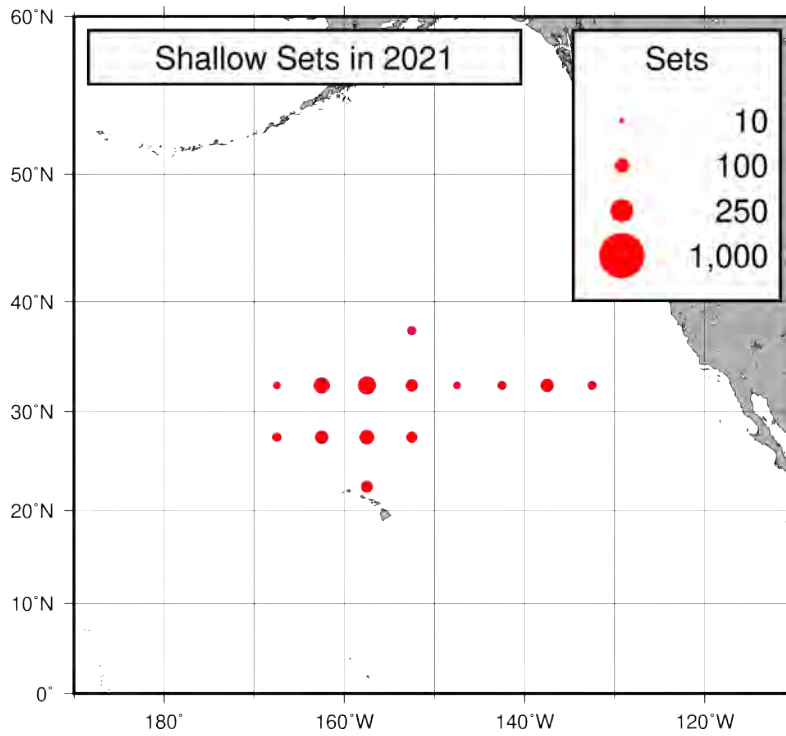


Figure 11: Spatial distribution of the number of shallow-set sets by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2021 (provisional data).

Total Effort

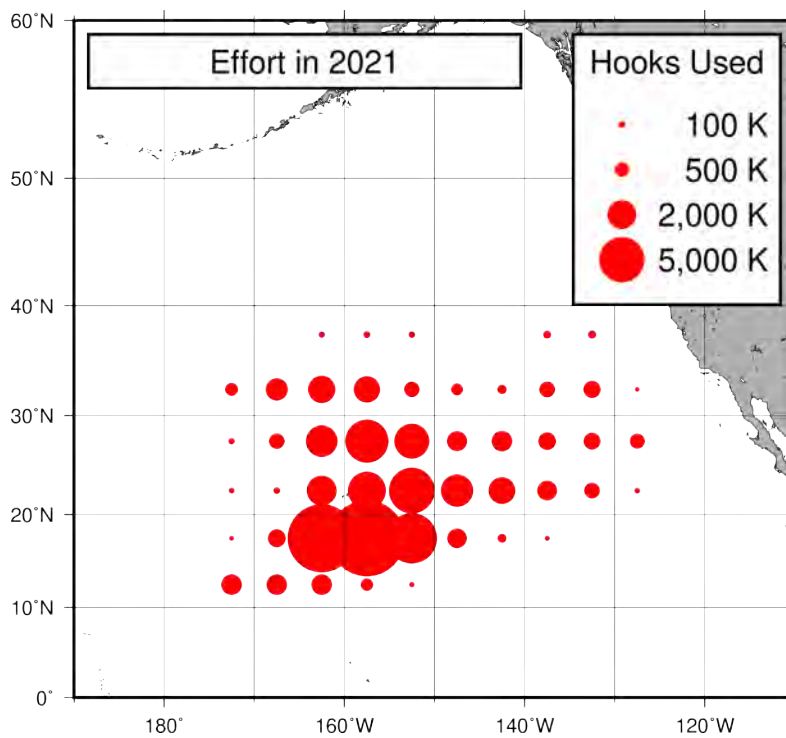


Figure 12: Spatial distribution of the total number of hooks set by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2021 (provisional data).

Deep Effort

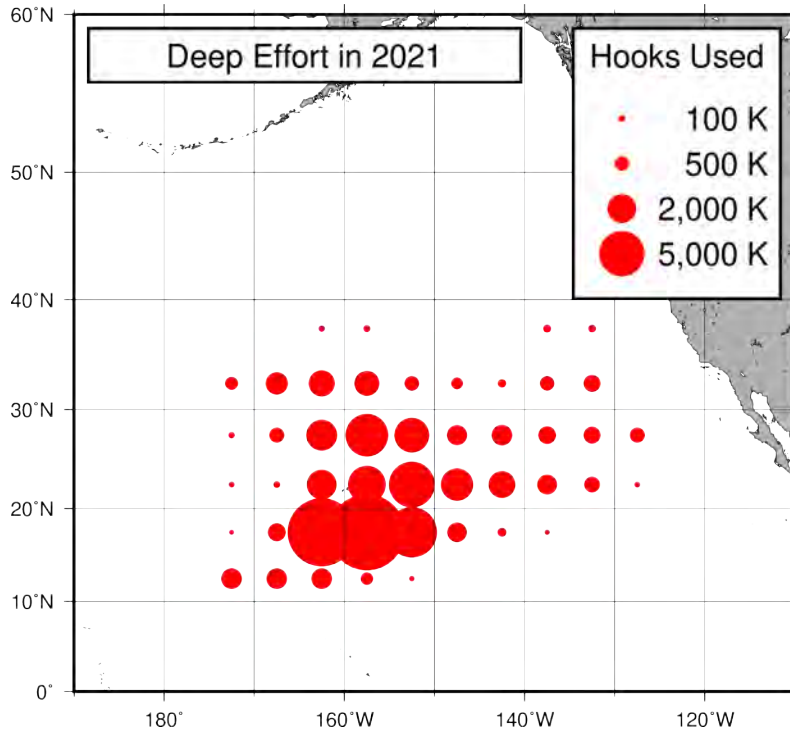


Figure 13: Spatial distribution of the number of deep-set hooks set by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2021 (provisional data).

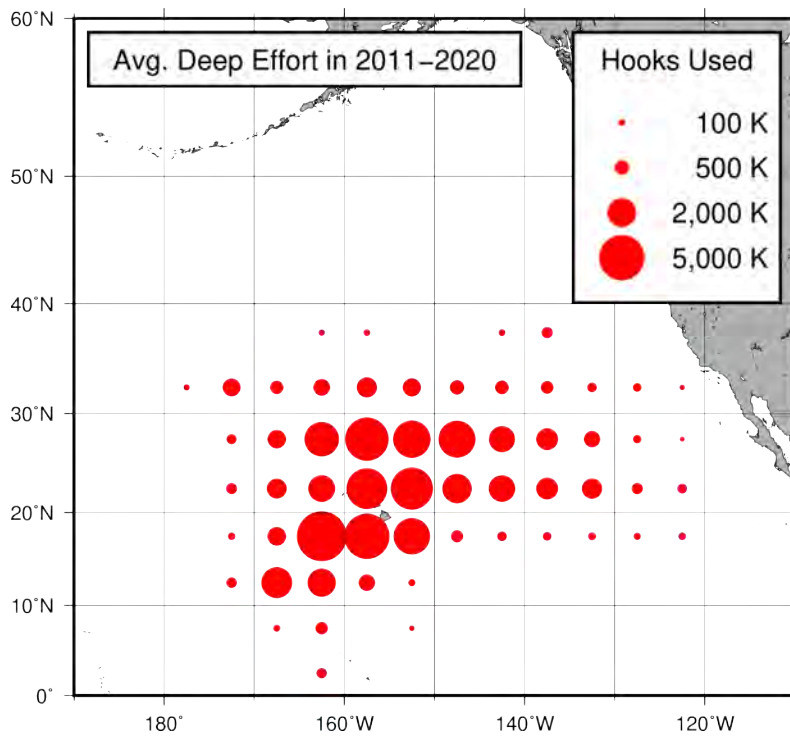


Figure 14: Spatial distribution of the average number of deep-set hooks set by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2011-2020 .

Shallow Effort

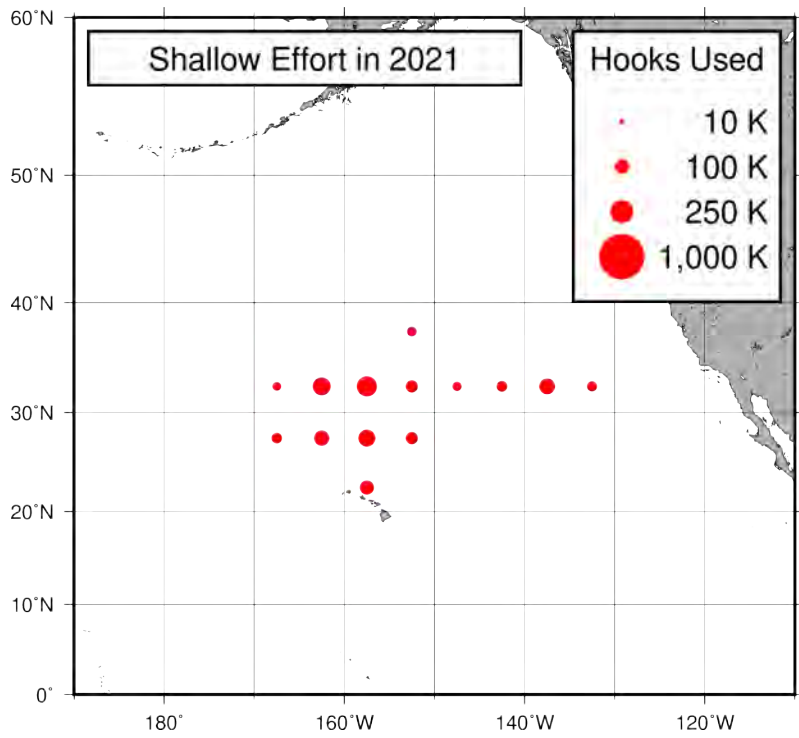


Figure 15: Spatial distribution of the number of shallow-set hooks set by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2021 (provisional data).

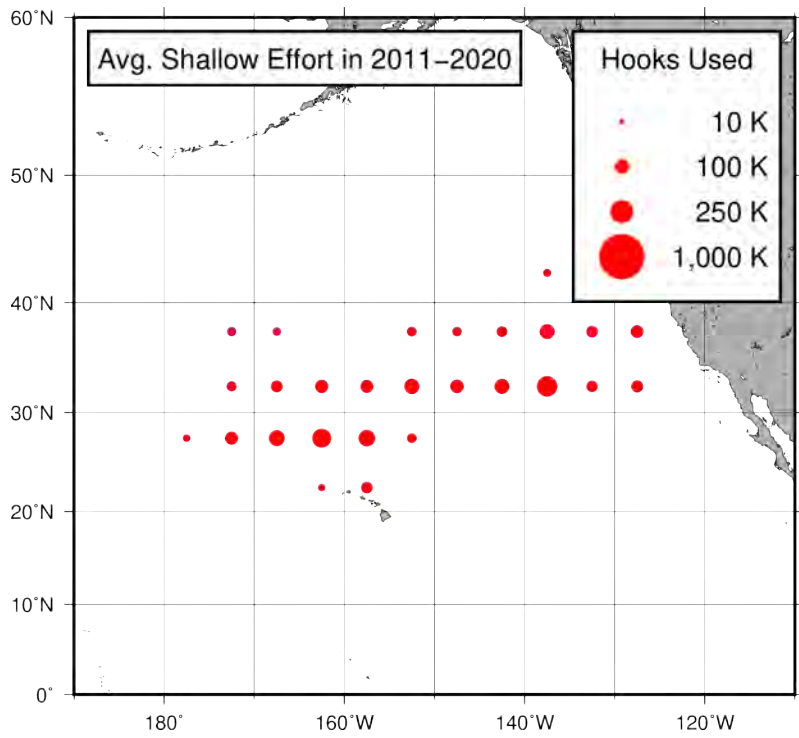


Figure 16: Spatial distribution of the average number of shallow-set hooks set by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2011-2020 .

Bigeye Catch

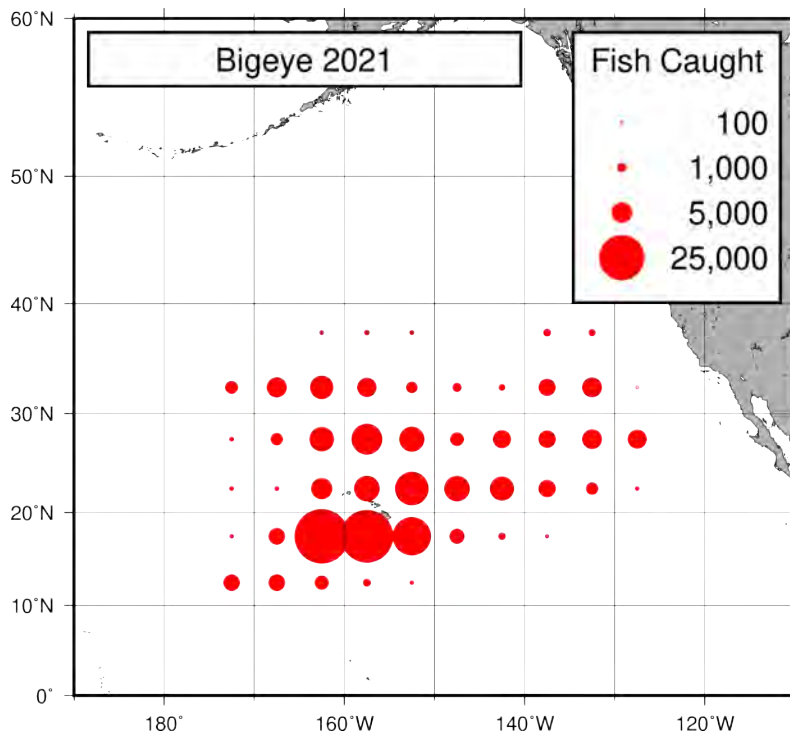


Figure 17: Spatial distribution of the total number of bigeye tuna caught by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2021 (provisional data).

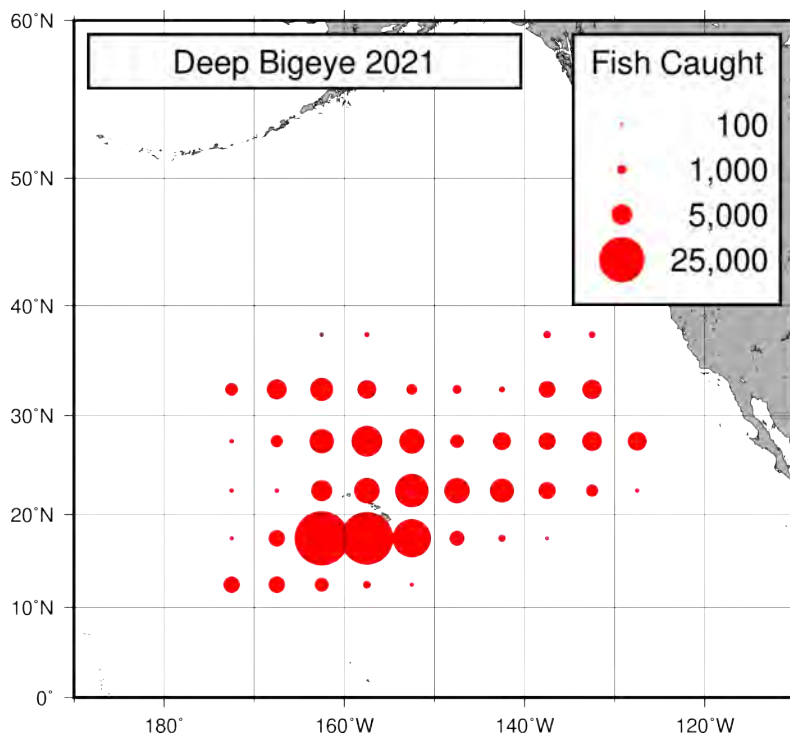


Figure 18: Spatial distribution of the number of deep-set bigeye tuna caught by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2021 (provisional data).

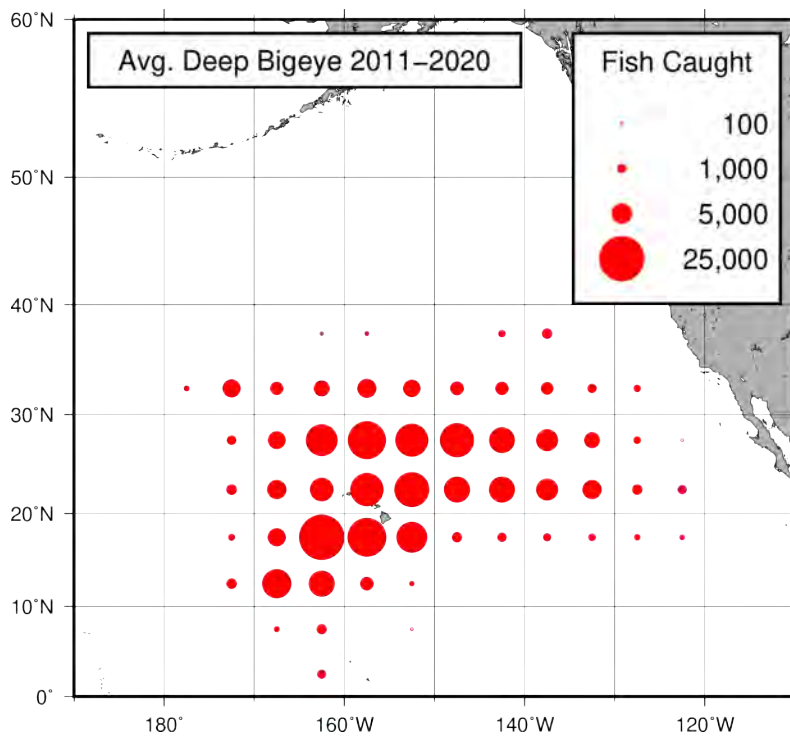


Figure 19: Spatial distribution of the average number of deep-set bigeye tuna caught by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2011-2020.

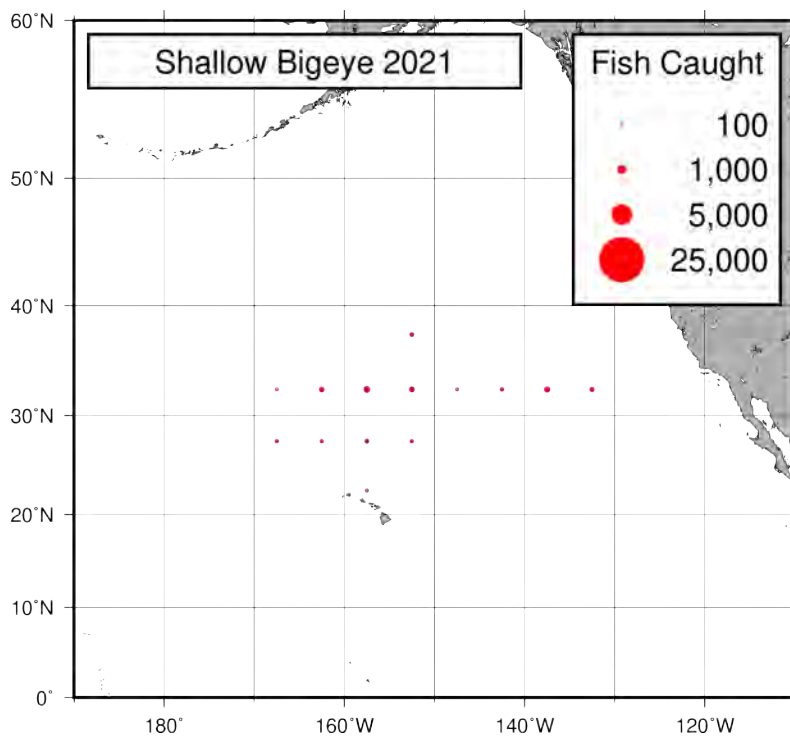


Figure 20: Spatial distribution of the number of shallow-set bigeye tuna caught by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2021 (provisional data).

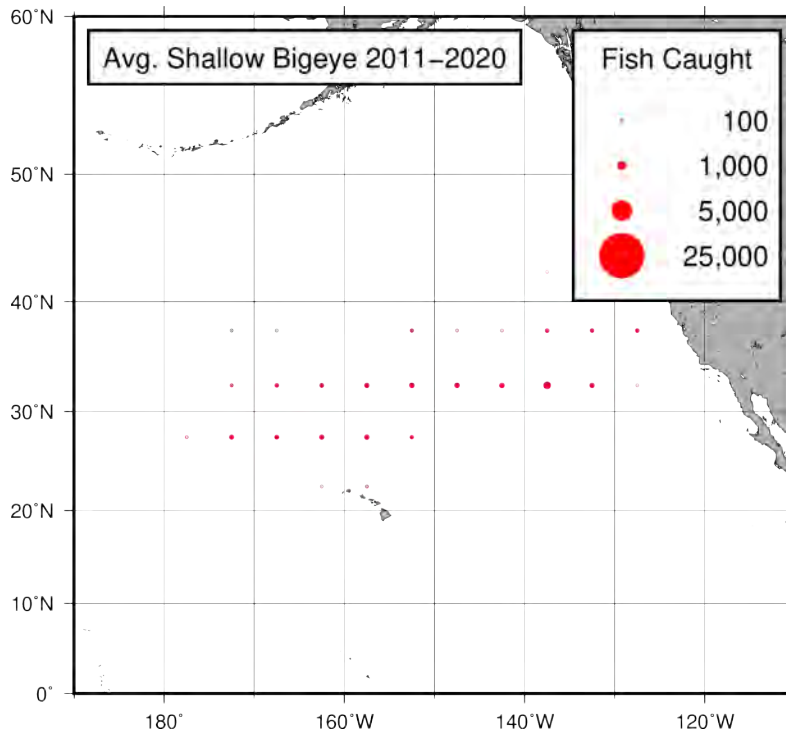


Figure 21: Spatial distribution of the average number of shallow-set bigeye tuna caught by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2011-2020.

Swordfish

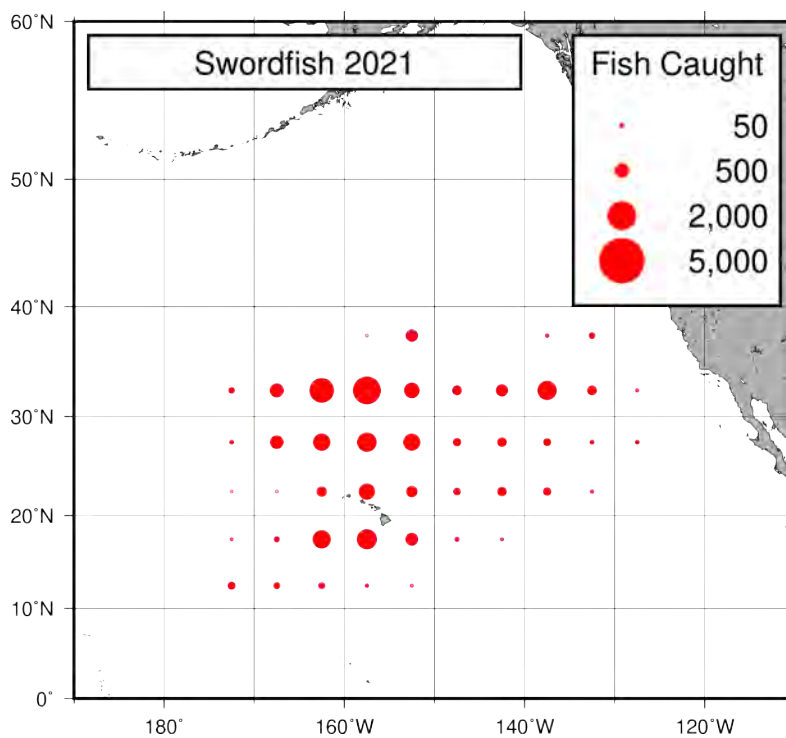


Figure 22: Spatial distribution of the total number of swordfish caught, by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2021 (provisional data).

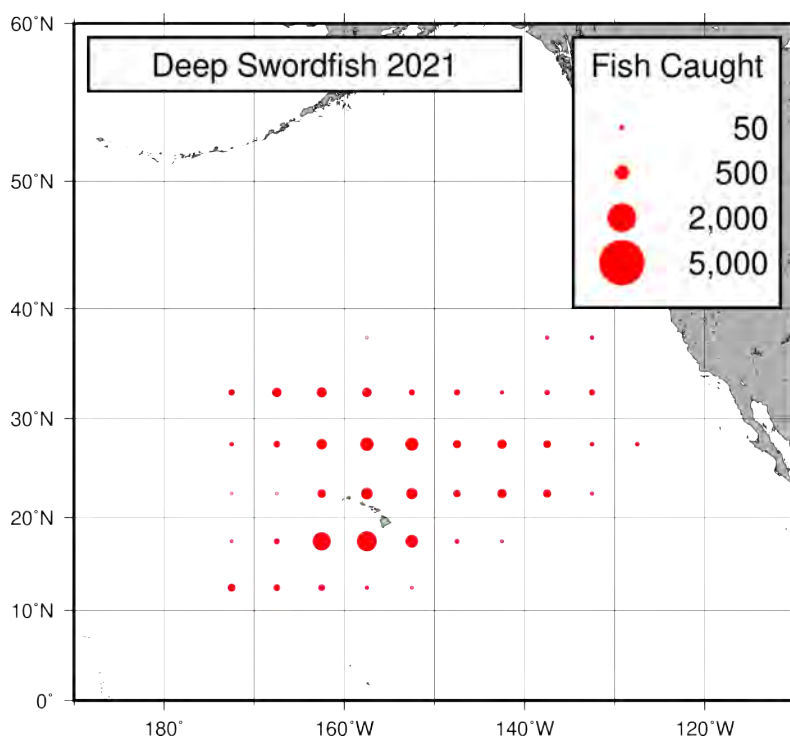


Figure 23: Spatial distribution of the number of deep-set swordfish caught, by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2021 (provisional data).

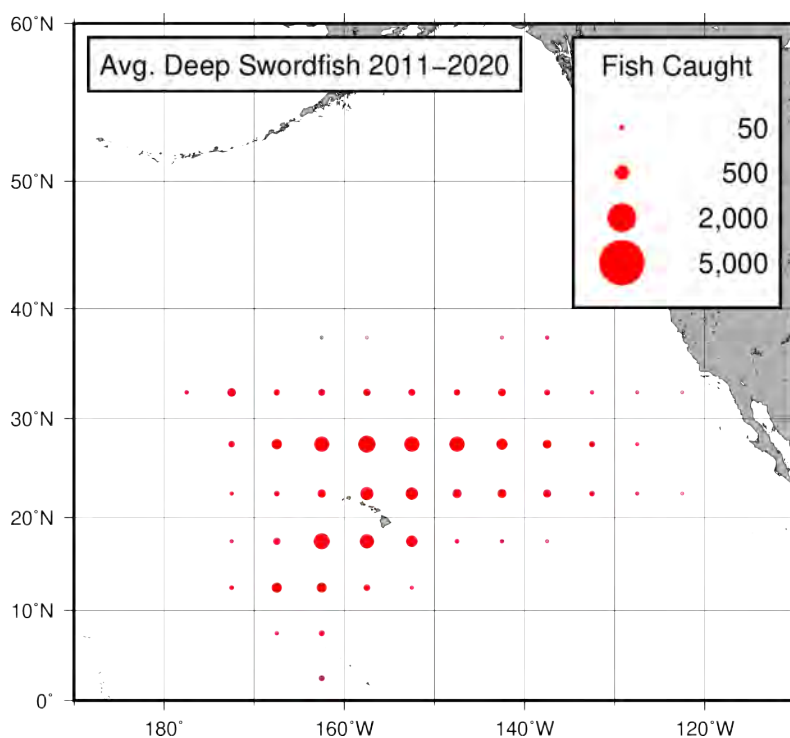


Figure 24: Spatial distribution of the average number of deep-set swordfish caught, by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2011-2020.

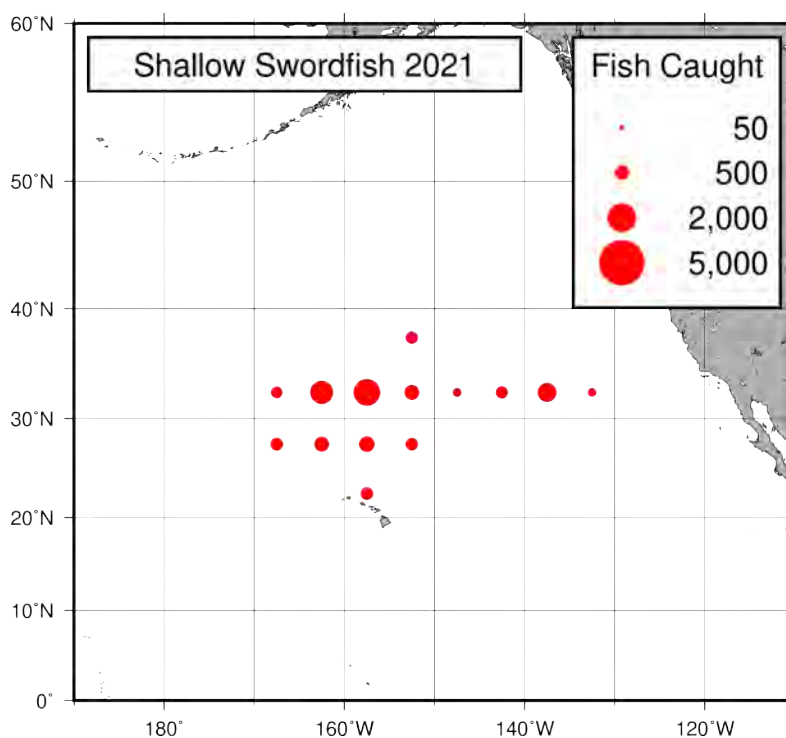


Figure 25: Spatial distribution of the number of shallow-set swordfish caught, by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2021 (provisional data).

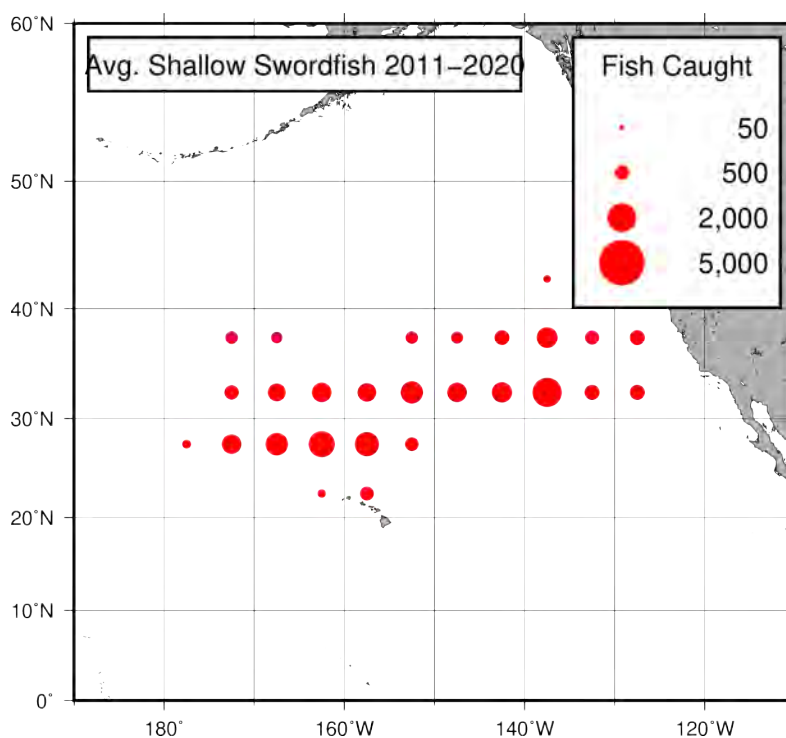


Figure 26: Spatial distribution of the average number of shallow-set swordfish caught, by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2011-2020.