

**The Hawaii and California-based Pelagic Longline Vessels
Annual Report for 1 January-31 December 2020¹**

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 2020 contains summary data of fishing effort and catch statistics as reported from longline logbook data for Hawaii and California-based pelagic longline vessels. Data in this report originate from the PIFSC Information Management System (Oracle) table LLDS_RPT_STATS_HC20210219_PRELIM, representing preliminary data received as of 19 February 2021. 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 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 2000-2020.

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, 2020: Hawaii Longline Logbook,
<https://www.fisheries.noaa.gov/inport/item/2721>

Southwest Fisheries Science Center, 2020: California Pelagic Longline Fishery,
<https://www.fisheries.noaa.gov/inport/item/12906>

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). 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 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		
Time Period	1 January-31 December 2020	147		
Set Types	All sets	Number of trips (partial or completed) 1,676		
Fishing Area	All Areas	Number of sets 21,226		
		Number of hooks set 60,228,294		

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE Number Caught per 1000 Hooks
PMUS				
Billfish PMUS				
Blue marlin	8,199	8,138	61	0.14
Striped marlin	12,808	12,643	165	0.21
Shortbill spearfish	9,992	9,709	283	0.17
Swordfish	8,357	8,082	275	0.14
Other billfishes	479	469	10	0.01
Total	39,835	39,041	794	0.66
Shark PMUS				
Blue shark	110,106	1	110,105	1.83
Mako sharks	5,289	198	5,091	0.09
Thresher sharks	8,744	31	8,713	0.15
Oceanic whitetip shark	464	0	464	0.01
Silky shark	234	0	234	0.00
Total	124,837	230	124,607	2.07
Tuna PMUS				
Albacore	8,872	8,413	459	0.15
Bigeye tuna	208,349	203,750	4,599	3.46
Yellowfin tuna	54,825	53,627	1,198	0.91
Bluefin tuna	15	15	0	0.00
Skipjack tuna	20,696	20,531	165	0.34
Other tunas	0	0	0	0.00
Total	292,757	286,336	6,421	4.86
Other PMUS				
Mahimahi	22,089	21,902	187	0.37
Moonfish	16,716	16,268	448	0.28
Wahoo	24,362	24,246	116	0.40
Oilfish	11,136	8,060	3,076	0.18
Pomfret	36,100	35,771	329	0.60
Total	110,403	106,247	4,156	1.83
Total PMUS	567,832	431,854	135,978	9.43
Non-PMUS Sharks	260	1	259	0.00
Total Non-PMUS	6,852	178	6,674	0.11
Total All Species	574,684	432,032	142,652	9.54

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 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 2020
 Set Types All sets
 Fishing Area Inside U.S. EEZ

Number of vessels active	132
Number of trips (partial or completed)	771
Number of sets	5,333
Number of hooks set	14,938,670

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE Number Caught per 1000 Hooks
PMUS				
Billfish PMUS				
Blue marlin	2,402	2,386	16	0.16
Striped marlin	3,185	3,162	23	0.21
Shortbill spearfish	2,600	2,580	20	0.17
Swordfish	969	943	26	0.06
Other billfishes	103	101	2	0.01
Total	9,259	9,172	87	0.62
Shark PMUS				
Blue shark	28,195	0	28,195	1.89
Mako sharks	840	4	836	0.06
Thresher sharks	1,586	5	1,581	0.11
Oceanic whitetip shark	90	0	90	0.01
Silky shark	75	0	75	0.01
Total	30,786	9	30,777	2.06
Tuna PMUS				
Albacore	75	75	0	0.01
Bigeye tuna	41,847	41,133	714	2.80
Yellowfin tuna	13,835	13,667	168	0.93
Bluefin tuna	0	0	0	0.00
Skipjack tuna	4,785	4,771	14	0.32
Other tunas	0	0	0	0.00
Total	60,542	59,646	896	4.05
Other PMUS				
Mahimahi	4,695	4,663	32	0.31
Moonfish	1,234	1,233	1	0.08
Wahoo	5,247	5,224	23	0.35
Oilfish	2,085	1,710	375	0.14
Pomfret	9,547	9,459	88	0.64
Total	22,808	22,289	519	1.53
Total PMUS	123,395	91,116	32,279	8.26
Non-PMUS Sharks	61	1	60	0.00
Total Non-PMUS	970	46	924	0.06
Total All Species	124,365	91,162	33,203	8.33

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 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 2020
 Set Types All sets
 Fishing Area Outside U.S. EEZ

Number of vessels active	146
Number of trips (partial or completed)	1,435
Number of sets	15,891
Number of hooks set	45,287,901

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE Number Caught per 1000 Hooks
PMUS				
Billfish PMUS				
Blue marlin	5,797	5,752	45	0.13
Striped marlin	9,623	9,481	142	0.21
Shortbill spearfish	7,392	7,129	263	0.16
Swordfish	7,376	7,127	249	0.16
Other billfishes	376	368	8	0.01
Total	30,564	29,857	707	0.67
Shark PMUS				
Blue shark	81,883	1	81,882	1.81
Mako sharks	4,442	187	4,255	0.10
Thresher sharks	7,158	26	7,132	0.16
Oceanic whitetip shark	374	0	374	0.01
Silky shark	159	0	159	0.00
Total	94,016	214	93,802	2.08
Tuna PMUS				
Albacore	8,797	8,338	459	0.19
Bigeye tuna	166,501	162,616	3,885	3.68
Yellowfin tuna	40,990	39,960	1,030	0.91
Bluefin tuna	15	15	0	0.00
Skipjack tuna	15,911	15,760	151	0.35
Other tunas	0	0	0	0.00
Total	232,214	226,689	5,525	5.13
Other PMUS				
Mahimahi	17,391	17,236	155	0.38
Moonfish	15,480	15,033	447	0.34
Wahoo	19,115	19,022	93	0.42
Oilfish	9,051	6,350	2,701	0.20
Pomfret	26,553	26,312	241	0.59
Total	87,590	83,953	3,637	1.93
Total PMUS	444,384	340,713	103,671	9.81
Non-PMUS Sharks	199	0	199	0.00
Total Non-PMUS	5,882	132	5,750	0.13
Total All Species	450,266	340,845	109,421	9.94

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 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 2020
 Set Types Shallow sets
 Fishing Area All Areas

Number of vessels active	15
Number of trips (partial or completed)	33
Number of sets	441
Number of hooks set	559,851

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE Number Caught per 1000 Hooks
PMUS				
Billfish PMUS				
Blue marlin	23	21	2	0.04
Striped marlin	34	23	11	0.06
Shortbill spearfish	40	27	13	0.07
Swordfish	4,491	4,363	128	8.02
Other billfishes	0	0	0	0.00
Total	4,588	4,434	154	8.20
Shark PMUS				
Blue shark	5,782	0	5,782	10.33
Mako sharks	833	159	674	1.49
Thresher sharks	56	8	48	0.10
Oceanic whitetip shark	1	0	1	0.00
Silky shark	0	0	0	0.00
Total	6,672	167	6,505	11.92
Tuna PMUS				
Albacore	355	306	49	0.63
Bigeye tuna	1,074	1,017	57	1.92
Yellowfin tuna	497	462	35	0.89
Bluefin tuna	4	4	0	0.01
Skipjack tuna	8	8	0	0.01
Other tunas	0	0	0	0.00
Total	1,938	1,797	141	3.46
Other PMUS				
Mahimahi	179	174	5	0.32
Moonfish	297	273	24	0.53
Wahoo	14	12	2	0.03
Oilfish	217	120	97	0.39
Pomfret	15	15	0	0.03
Total	722	594	128	1.29
Total PMUS	13,920	6,992	6,928	24.86
Non-PMUS Sharks	2	0	2	0.00
Total Non-PMUS	5	2	3	0.01
Total All Species	13,925	6,994	6,931	24.87

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 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		
Time Period	1 January-31 December 2020	146		
Set Types	Deep sets	Number of trips (partial or completed) 1,645		
Fishing Area	All Areas	Number of sets 20,785		
		Number of hooks set 59,668,443		

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE Number Caught per 1000 Hooks
PMUS				
Billfish PMUS				
Blue marlin	8,176	8,117	59	0.14
Striped marlin	12,774	12,620	154	0.21
Shortbill spearfish	9,952	9,682	270	0.17
Swordfish	3,866	3,719	147	0.06
Other billfishes	479	469	10	0.01
Total	35,247	34,607	640	0.59
Shark PMUS				
Blue shark	104,324	1	104,323	1.75
Mako sharks	4,456	39	4,417	0.07
Thresher sharks	8,688	23	8,665	0.15
Oceanic whitetip shark	463	0	463	0.01
Silky shark	234	0	234	0.00
Total	118,165	63	118,102	1.98
Tuna PMUS				
Albacore	8,517	8,107	410	0.14
Bigeye tuna	207,275	202,733	4,542	3.47
Yellowfin tuna	54,328	53,165	1,163	0.91
Bluefin tuna	11	11	0	0.00
Skipjack tuna	20,688	20,523	165	0.35
Other tunas	0	0	0	0.00
Total	290,819	284,539	6,280	4.87
Other PMUS				
Mahimahi	21,910	21,728	182	0.37
Moonfish	16,419	15,995	424	0.28
Wahoo	24,348	24,234	114	0.41
Oilfish	10,919	7,940	2,979	0.18
Pomfret	36,085	35,756	329	0.60
Total	109,681	105,653	4,028	1.84
Total PMUS	553,912	424,862	129,050	9.28
Non-PMUS Sharks	258	1	257	0.00
Total Non-PMUS	6,847	176	6,671	0.11
Total All Species	560,759	425,038	135,721	9.40

Active Vessels

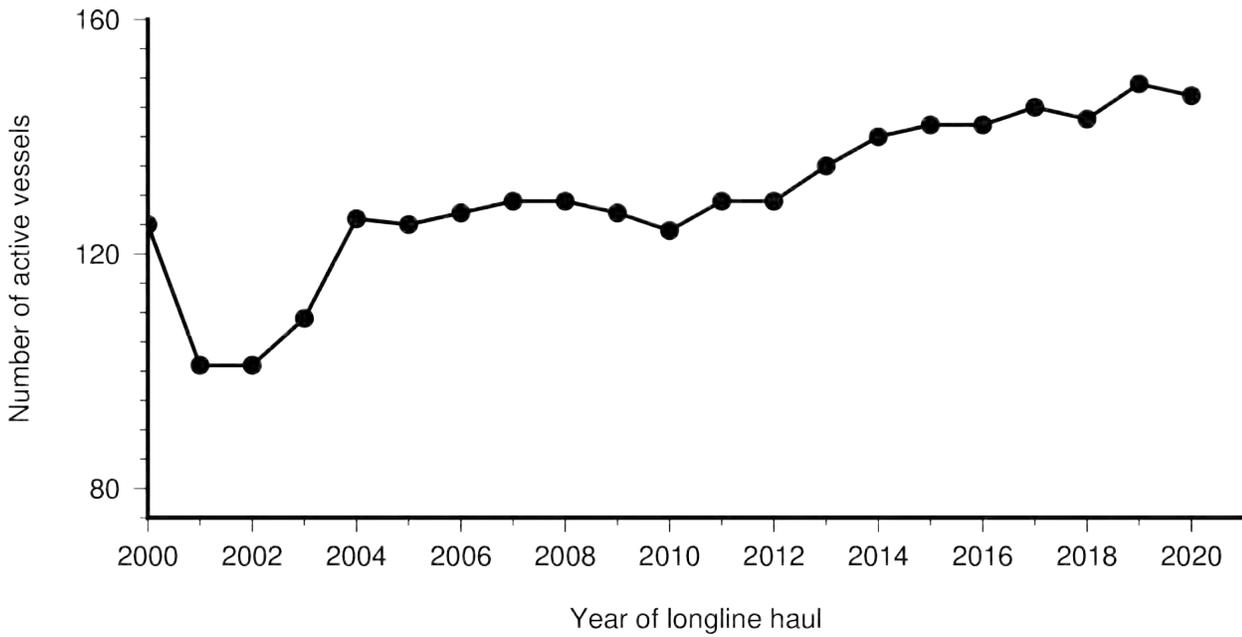


Figure 1: Number of active longline vessels based in Hawaii and California, by year for haul years 2000-2020.

Trips

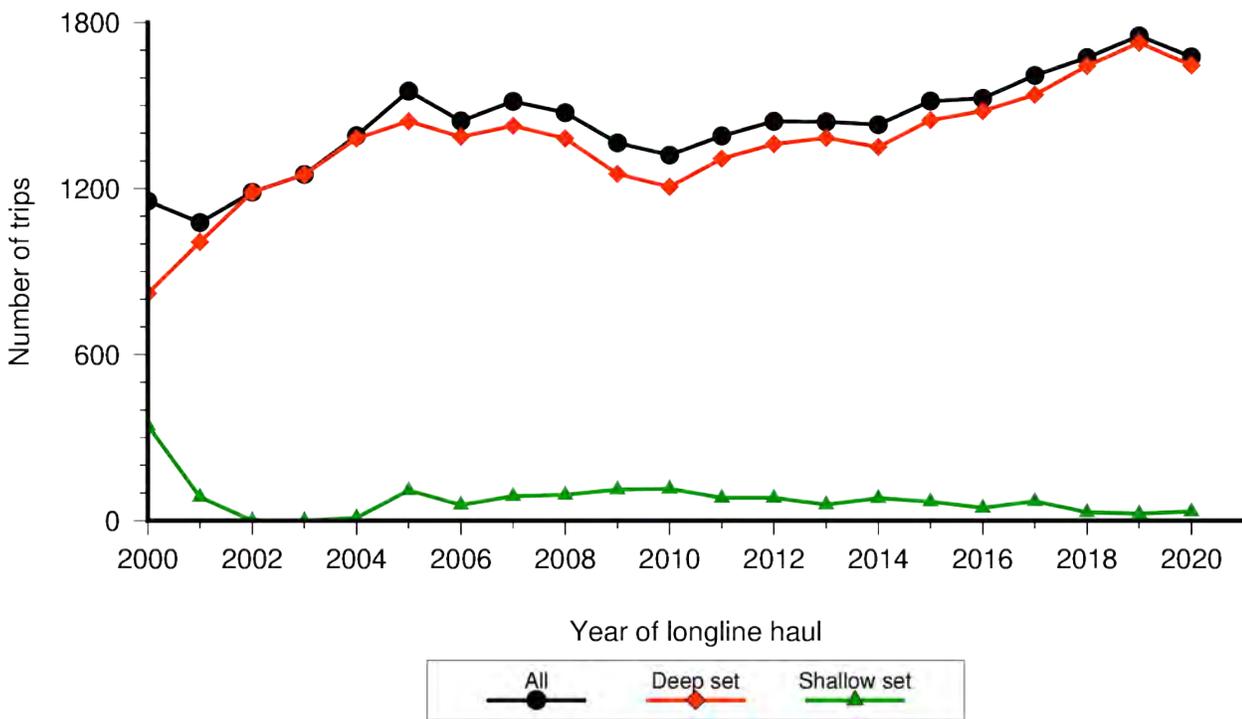


Figure 2: Number of longline trips based in Hawaii and California, by year for haul years 2000-2020.

Sets

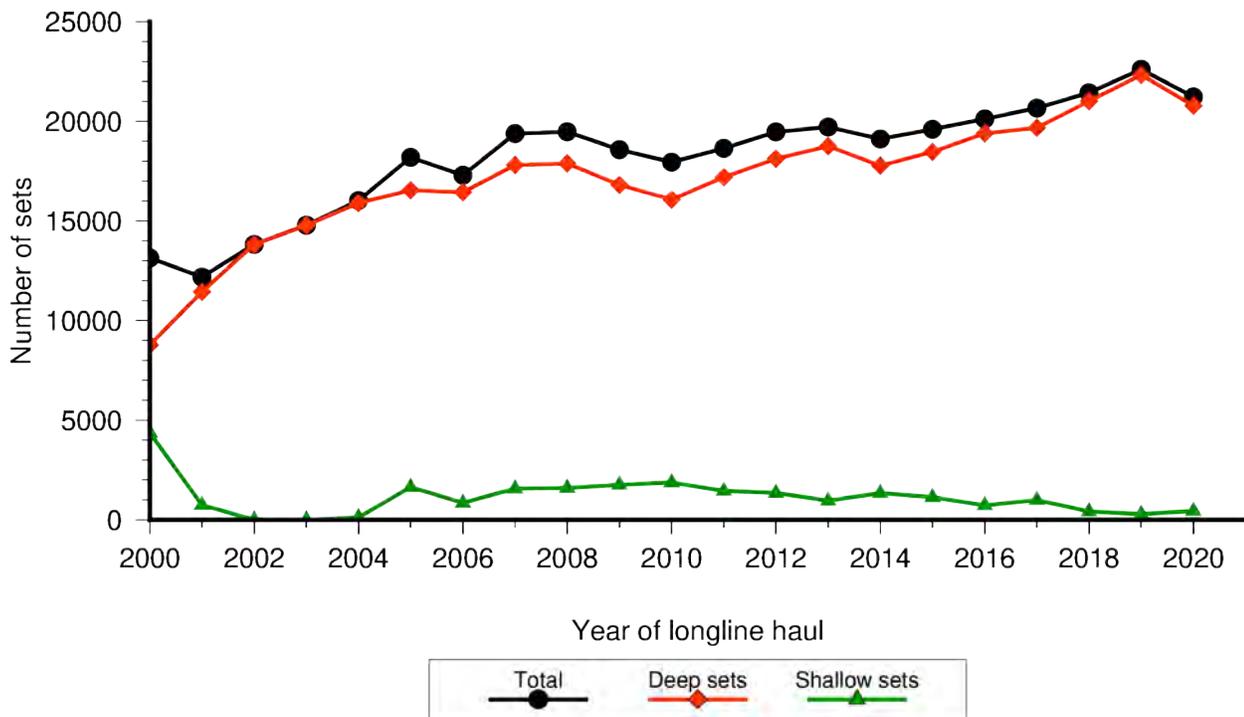


Figure 3: Number of fishing sets by vessels based in Hawaii and California, by year for haul years 2000-2020.

Hooks Set

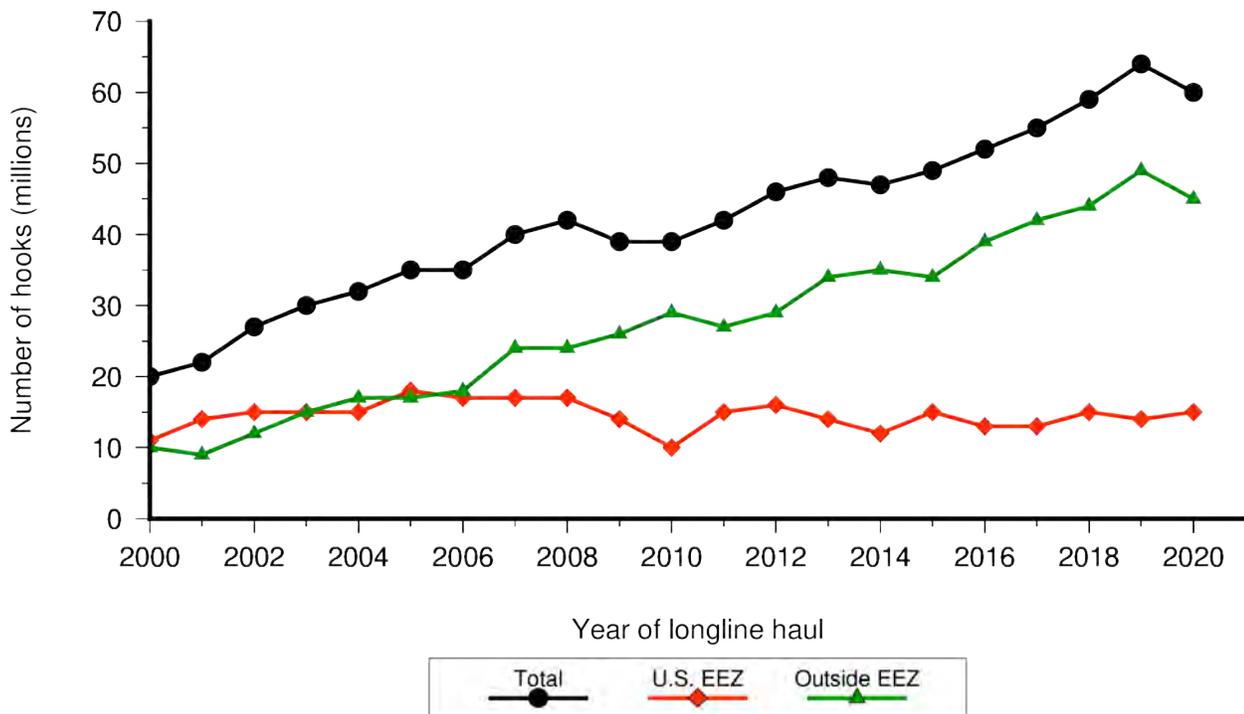


Figure 4: Number of hooks in millions, set by vessels based in Hawaii and California by year, 2000-2020.

Tuna Catch

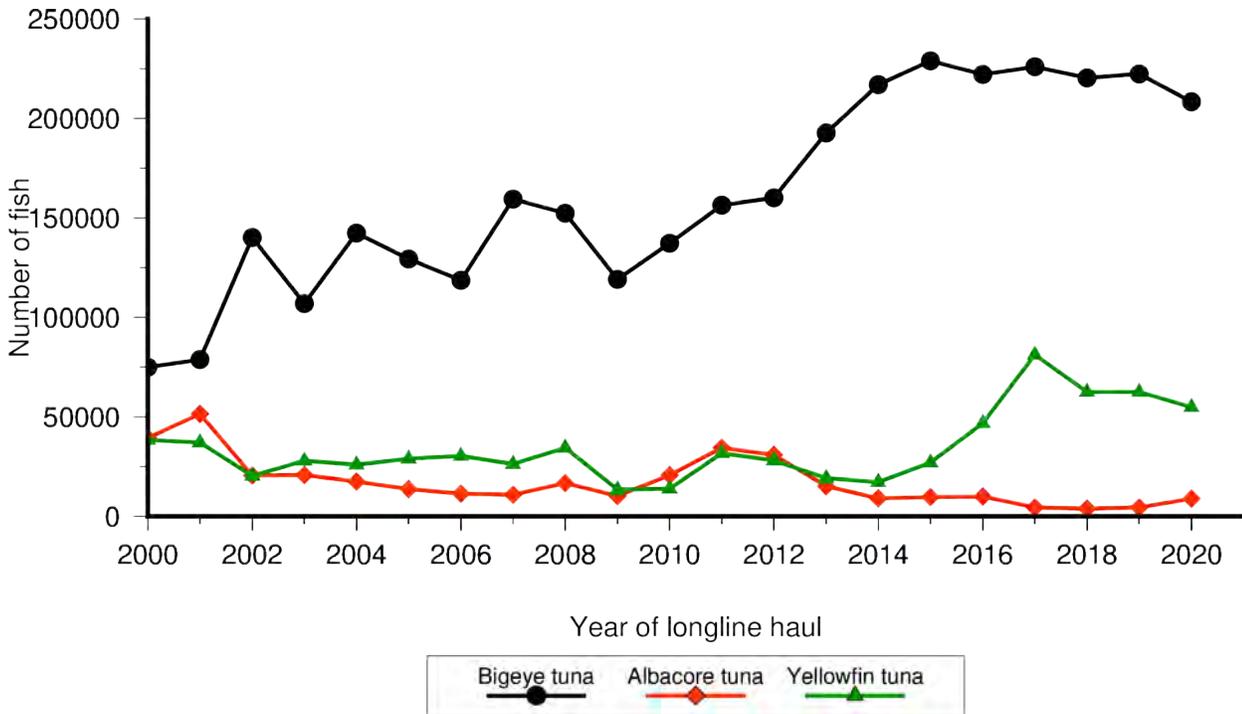


Figure 5: Annual catch (kept + released) of albacore tuna, bigeye tuna, and yellowfin tuna by longline vessels based in Hawaii and California by year, 2000-2020.

Billfish Catch

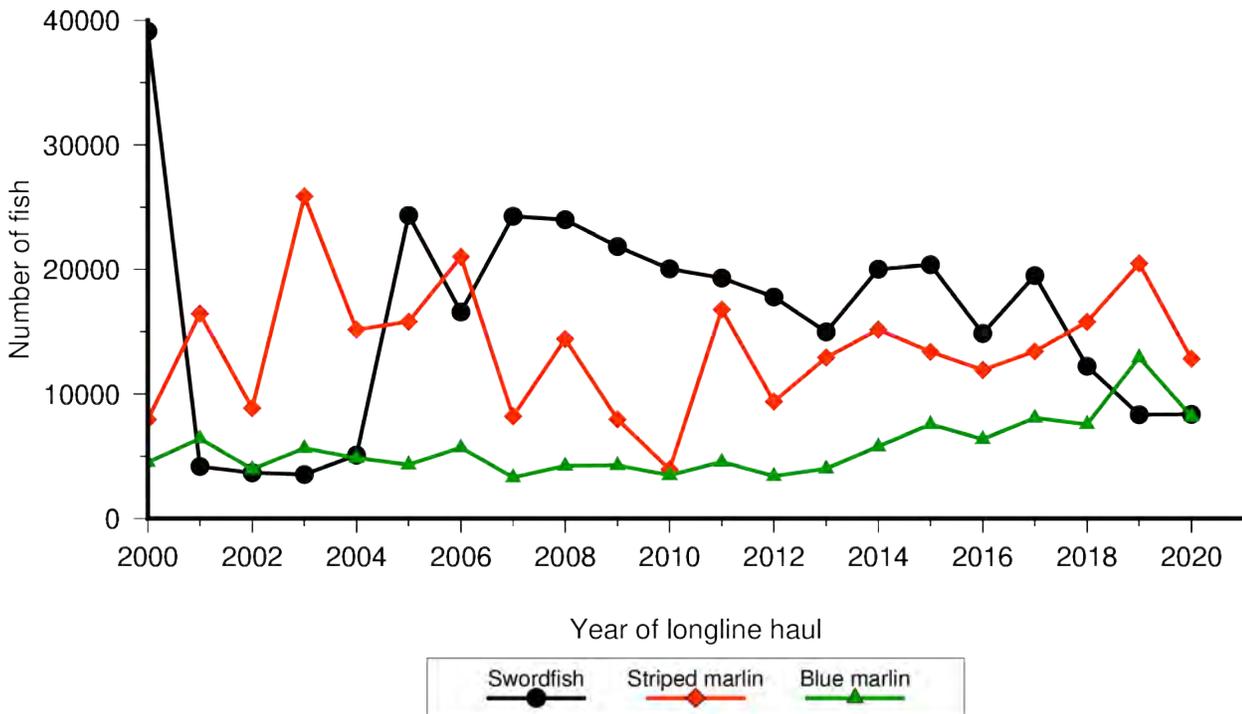


Figure 6: Annual catch (kept + released) of swordfish, striped marlin, and blue marlin by longline vessels based in Hawaii and California by year, 2000-2020.

Shark Catch

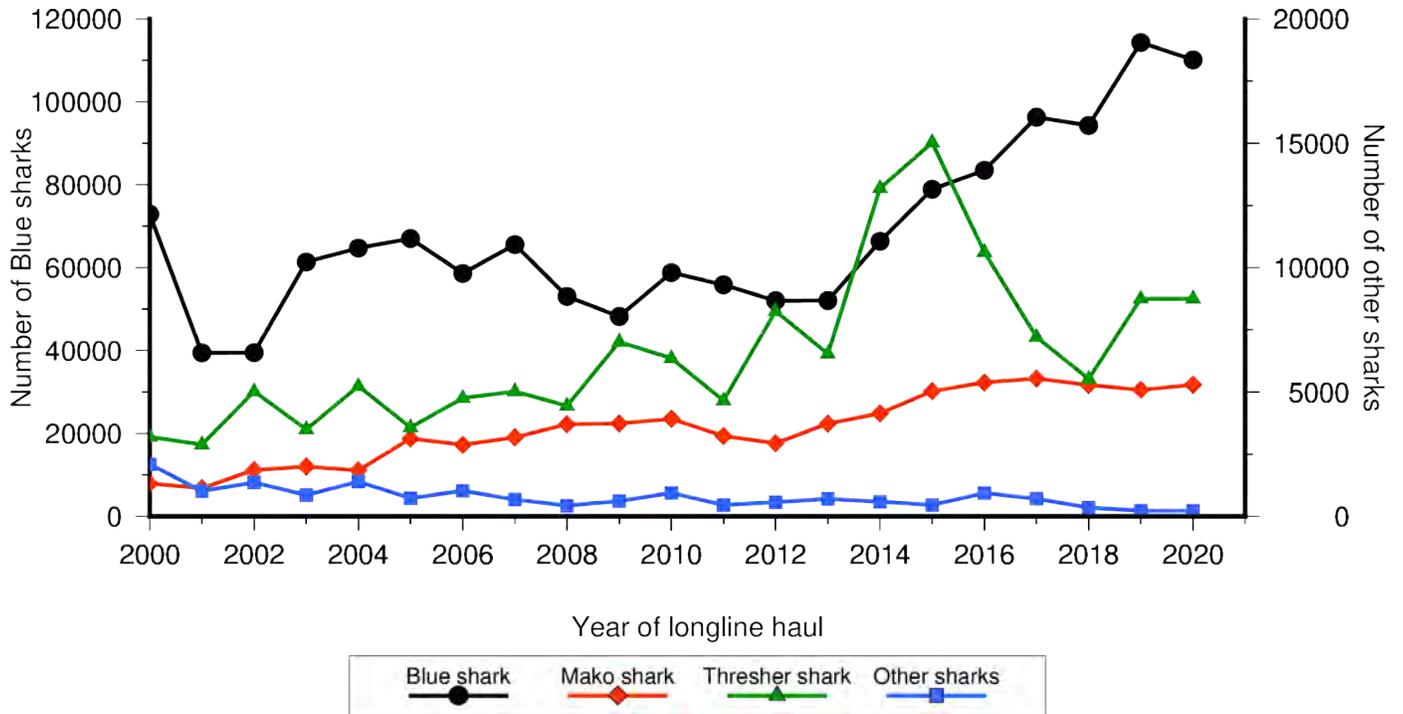


Figure 7: Annual catch (kept + released) of blue shark, mako shark, thresher shark, and other sharks by longline vessels based in Hawaii and California by year, 2000-2020.

Other PMUS Catch

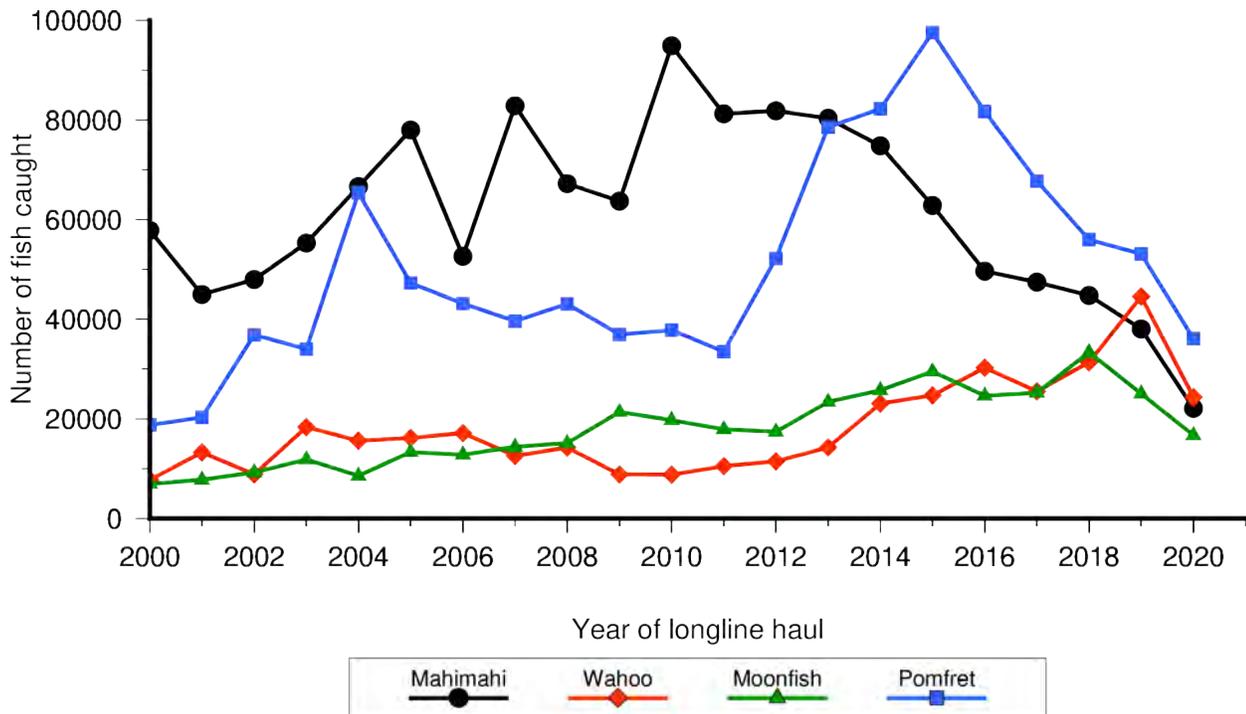


Figure 8: Annual catch (kept + released) of mahimahi, wahoo, moonfish, and pomfret by longline vessels based in Hawaii and California by year 2000-2020.

Sets

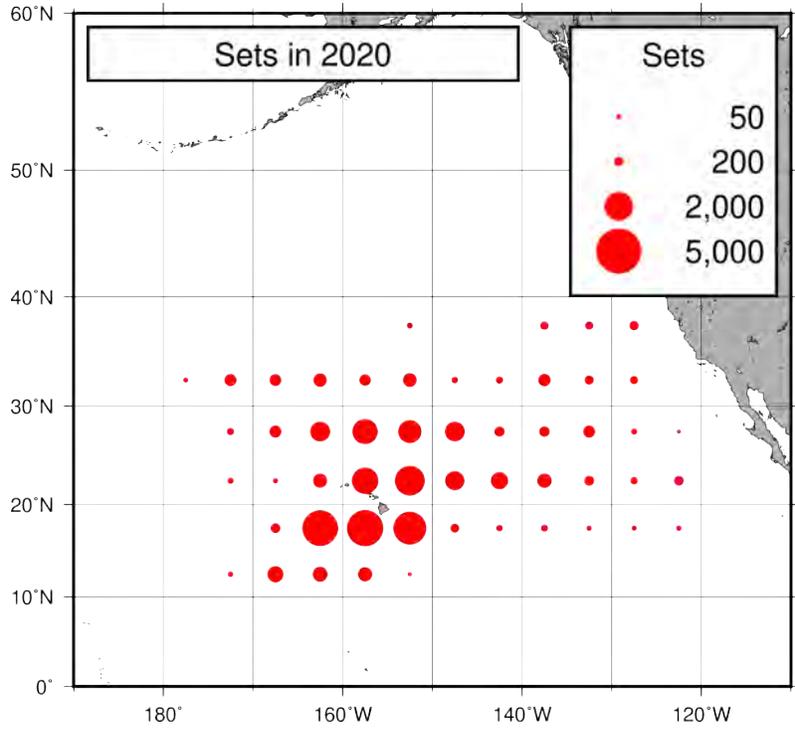


Figure 9: Spatial distribution of the total number of sets by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2020 (provisional data).

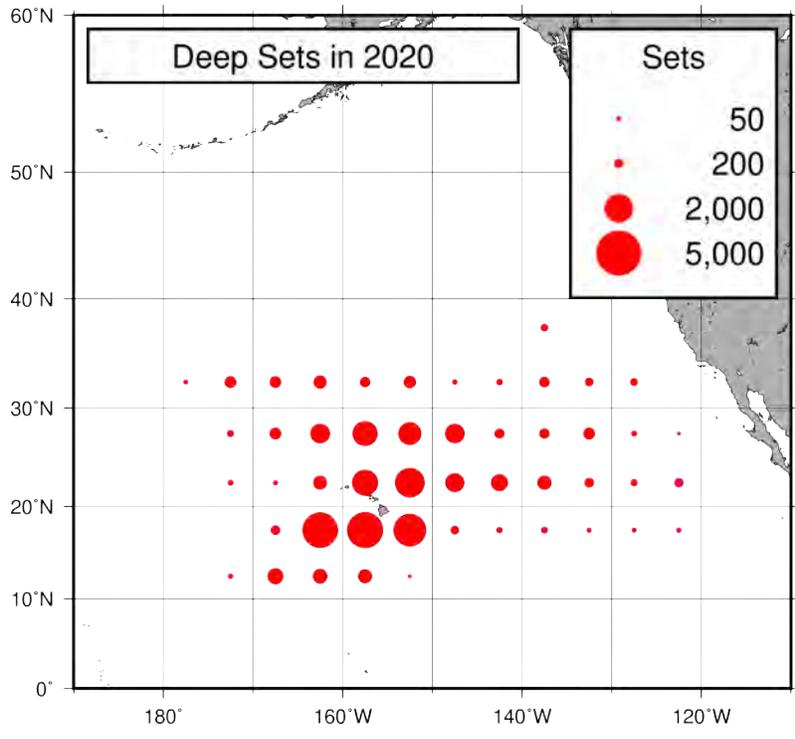


Figure 10: Spatial distribution of the number of deep-set sets by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2020 (provisional data).

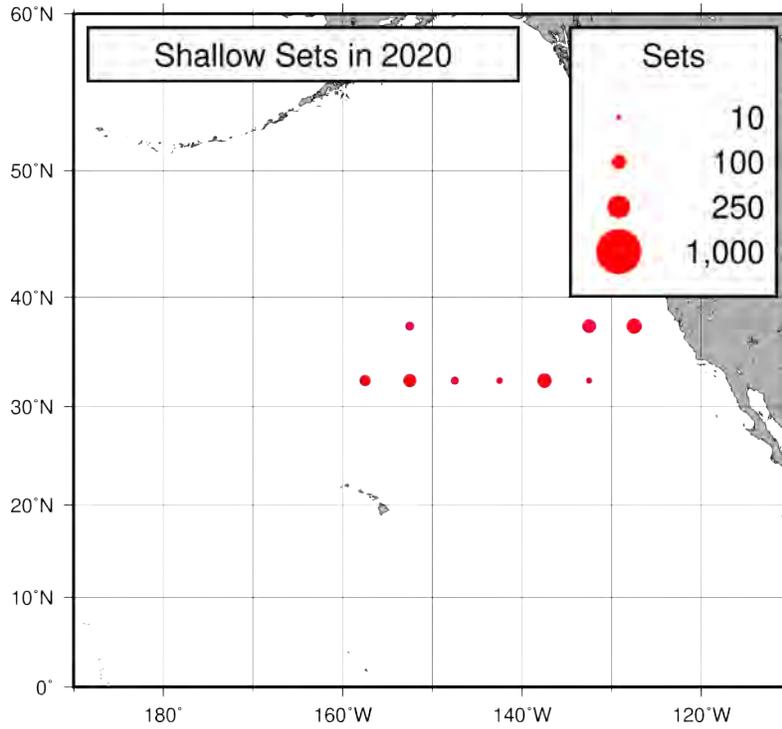


Figure 11: Spatial distribution of the number of shallow-set sets by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2020 (provisional data).

Total Effort

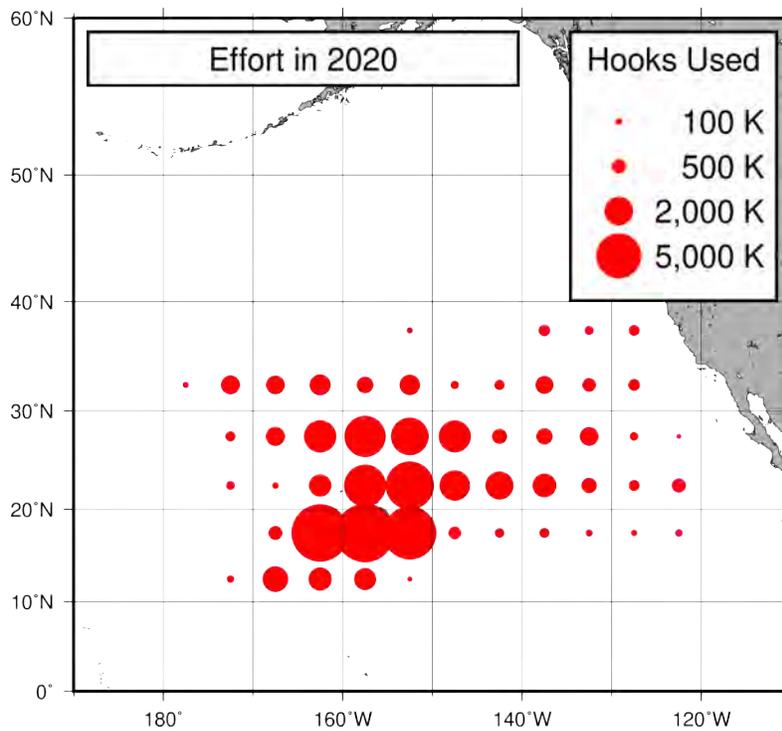


Figure 12: Spatial distribution of the total number of hooks set by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2020 (provisional data).

Deep Effort

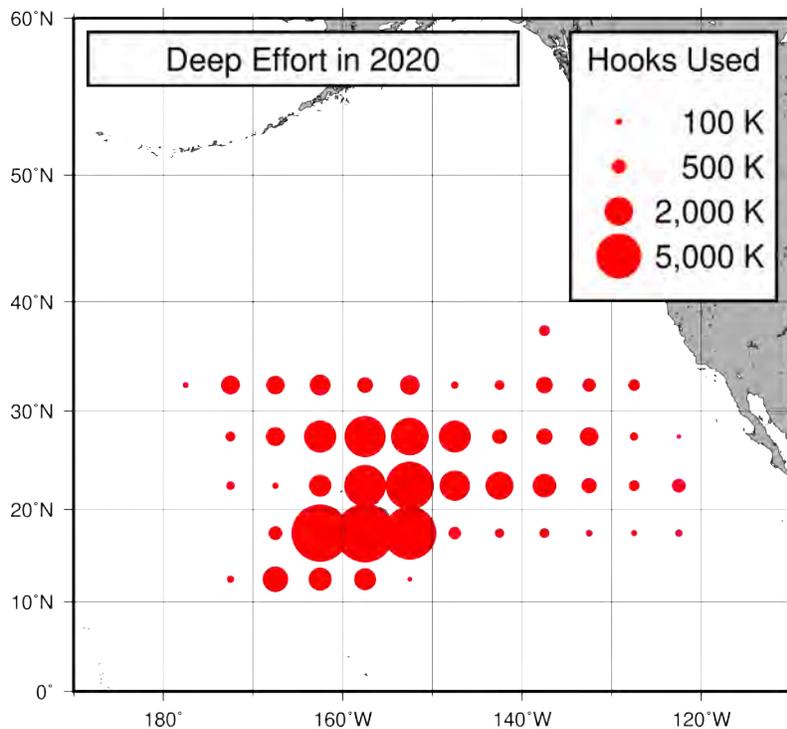


Figure 13: Spatial distribution of the number of deep-set hooks set by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2020 (provisional data).

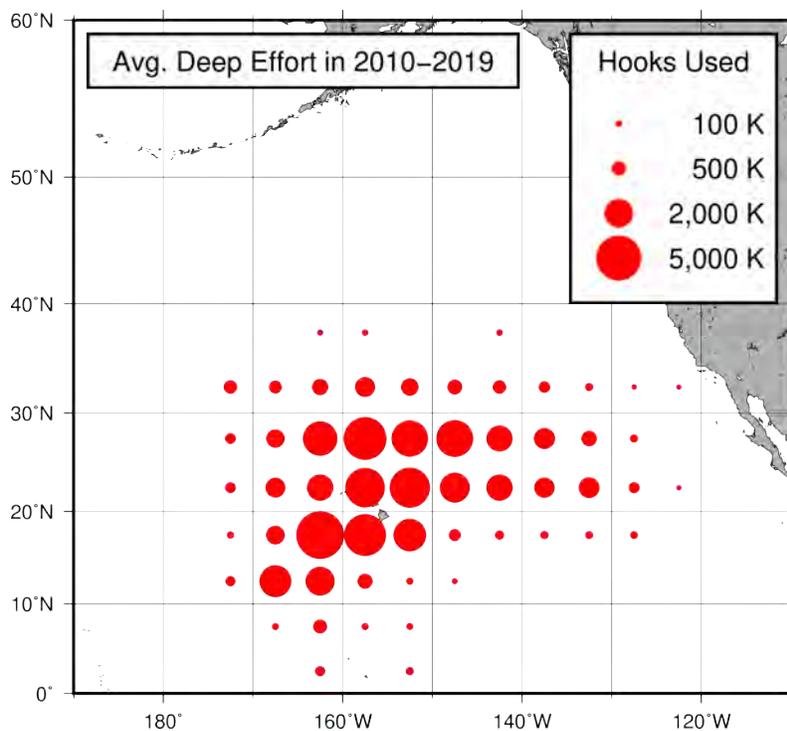


Figure 14: Spatial distribution of the average number of deep-set hooks set by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2010-2019 .

Shallow Effort

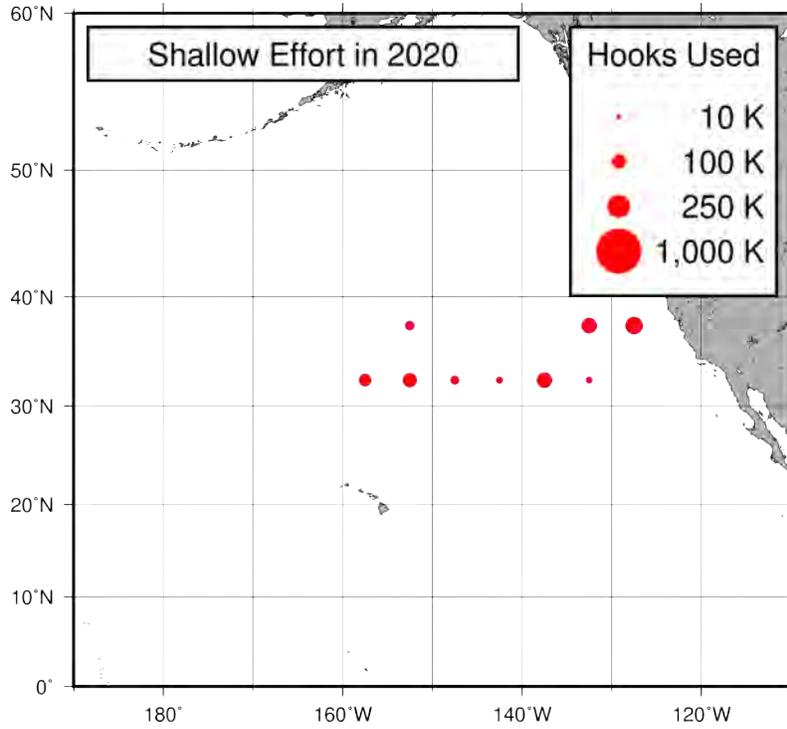


Figure 15: Spatial distribution of the number of shallow-set hooks set by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2020 (provisional data).

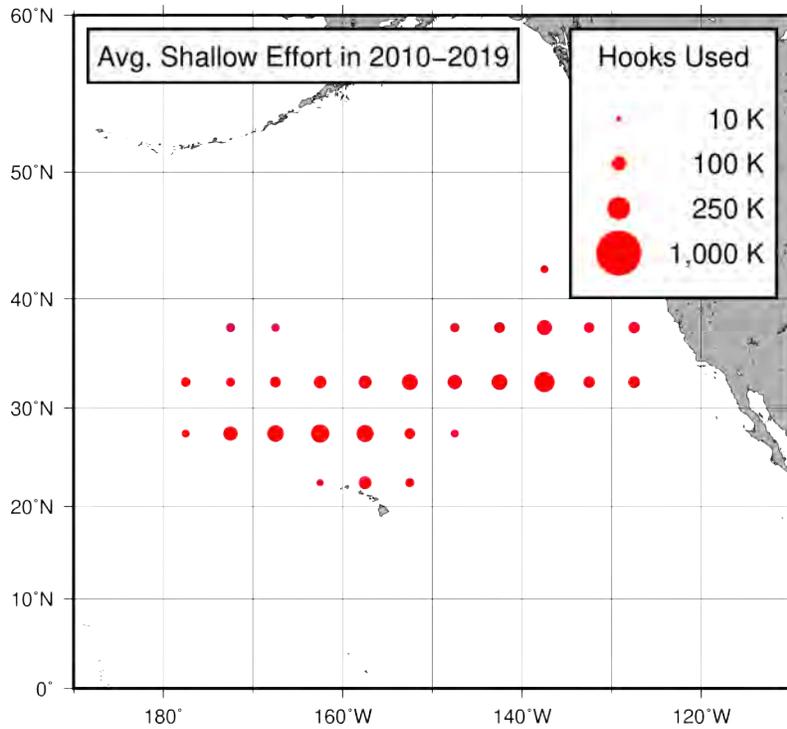


Figure 16: Spatial distribution of the average number of shallow-set hooks set by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2010-2019 .

Bigeye Catch

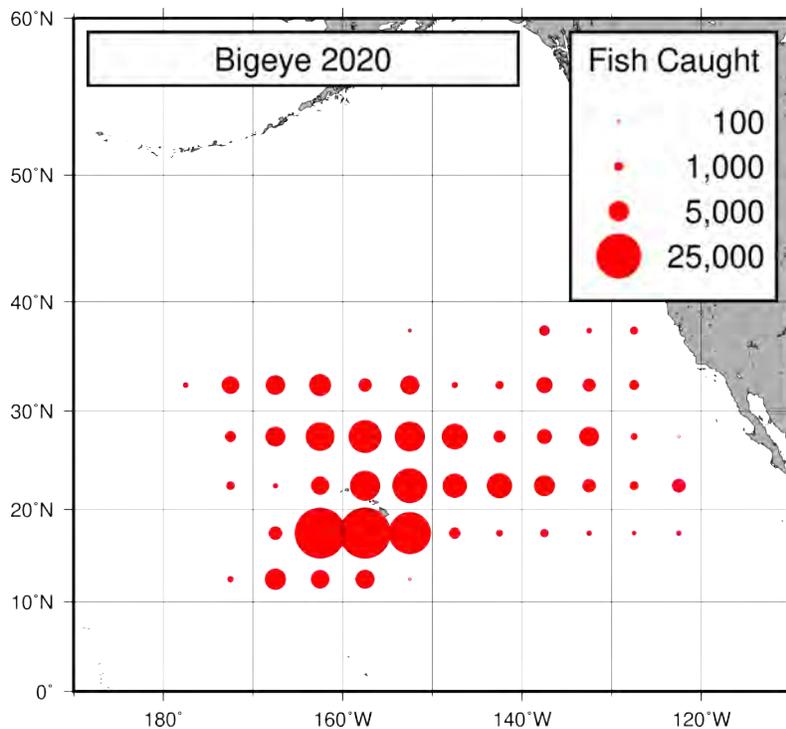


Figure 17: Spatial distribution of the total number of bigeye tuna caught by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2020 (provisional data).

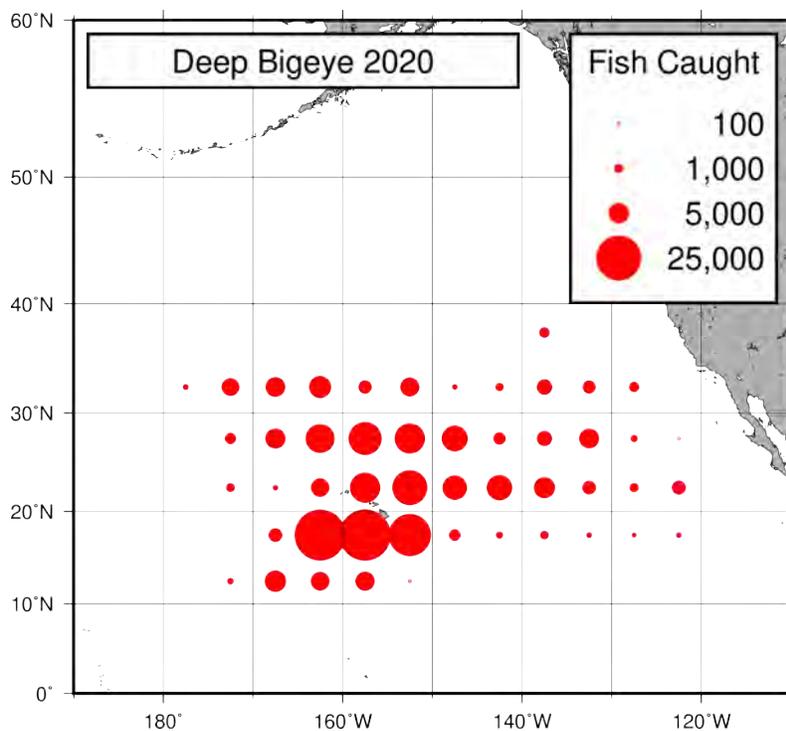


Figure 18: Spatial distribution of the number of deep-set bigeye tuna caught by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2020 (provisional data).

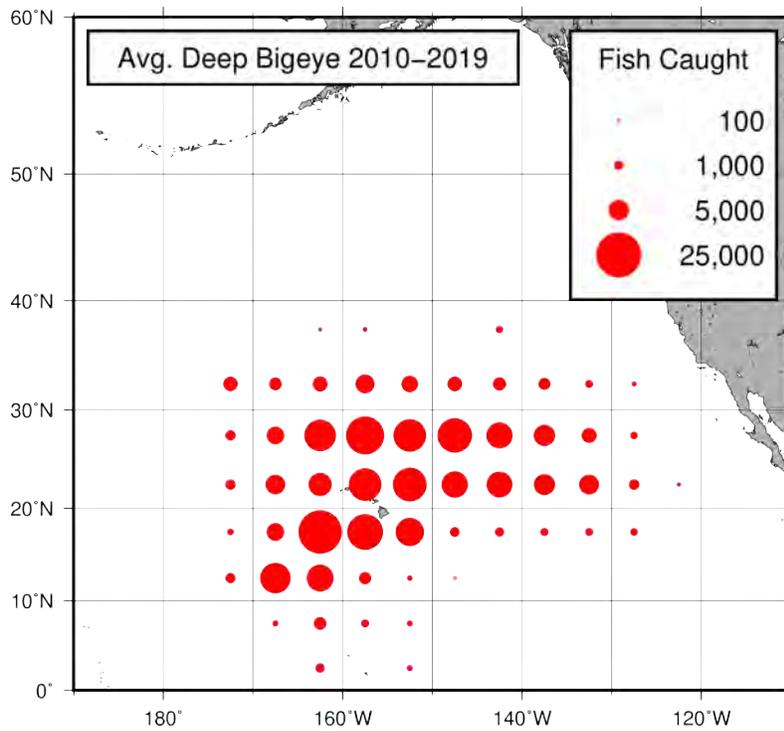


Figure 19: Spatial distribution of the average number of deep-set bigeye tuna caught by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2010-2019.

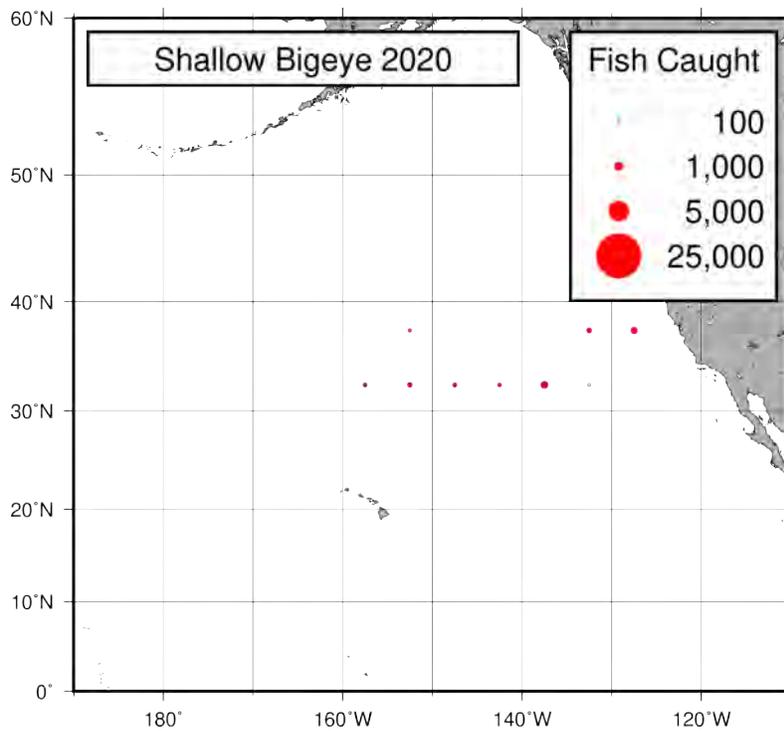


Figure 20: Spatial distribution of the number of shallow-set bigeye tuna caught by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2020 (provisional data).

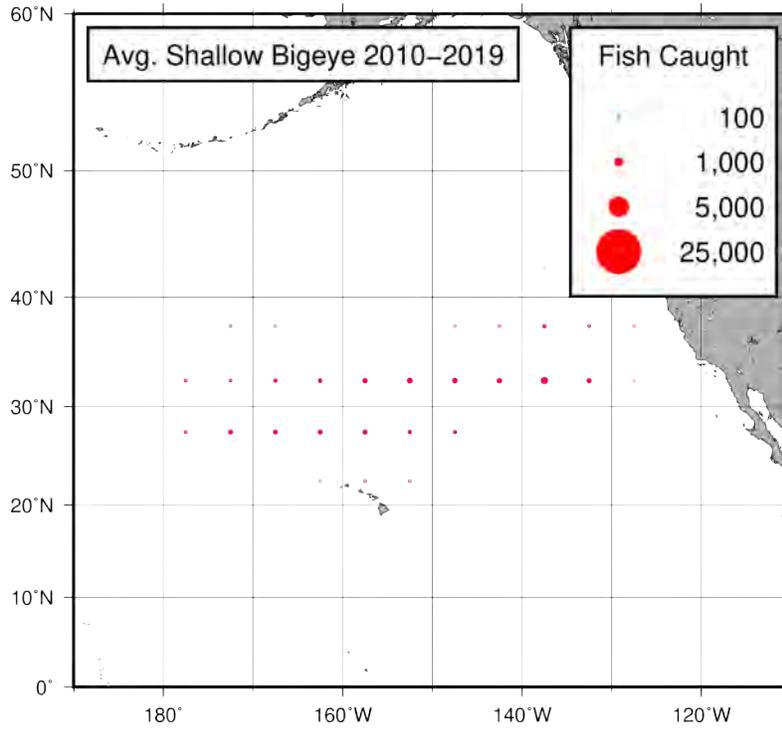


Figure 21: Spatial distribution of the average number of shallow-set bigeye tuna caught by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2010-2019.

Swordfish

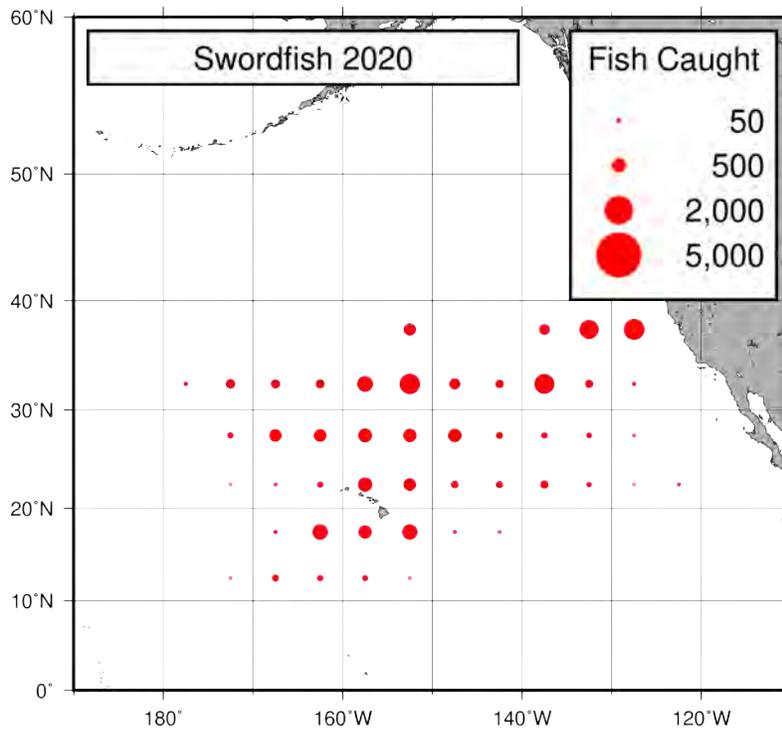


Figure 22: Spatial distribution of the total number of swordfish caught, by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2020 (provisional data).

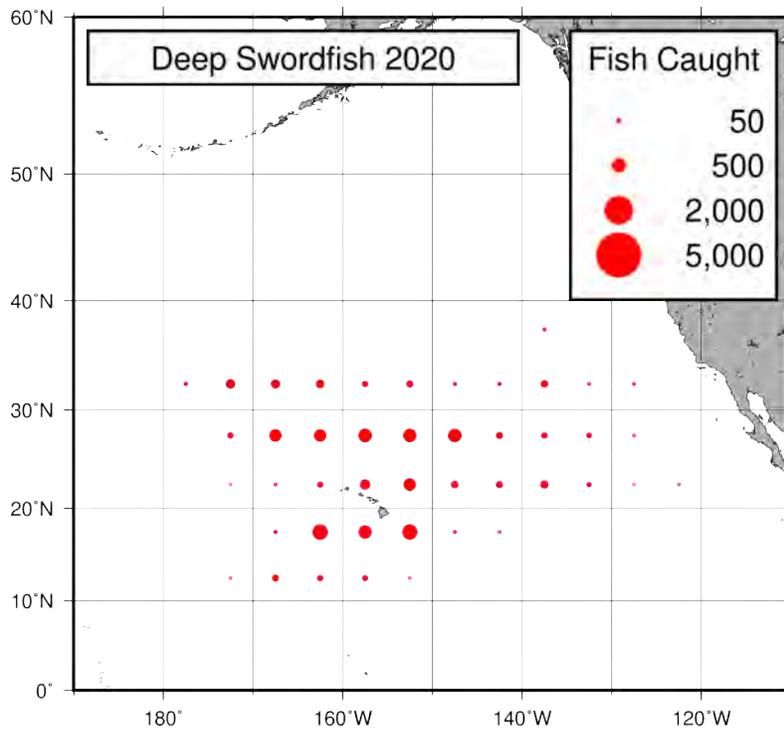


Figure 23: Spatial distribution of the number of deep-set swordfish caught, by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2020 (provisional data).

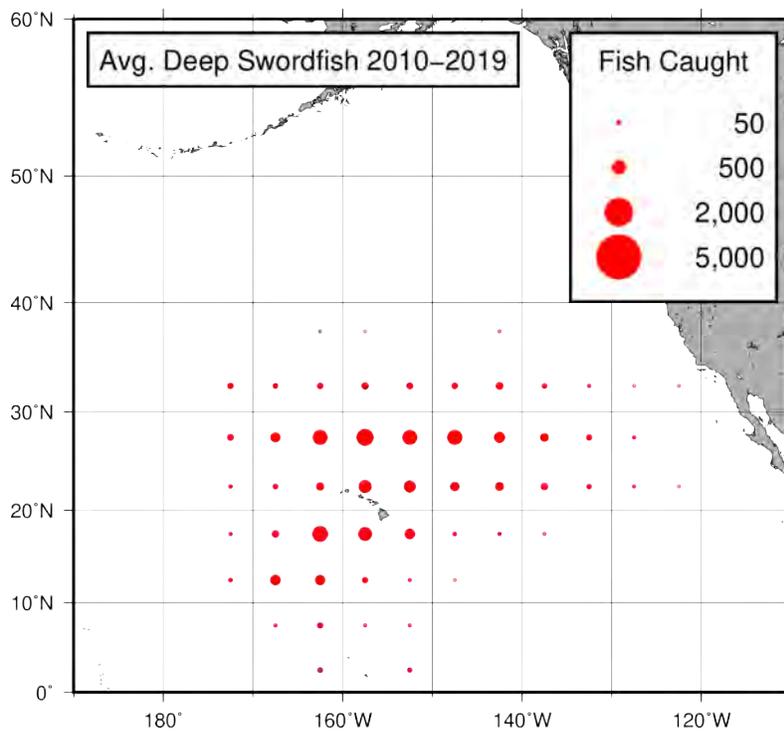


Figure 24: Spatial distribution of the average number of deep-set swordfish caught, by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2010-2019.

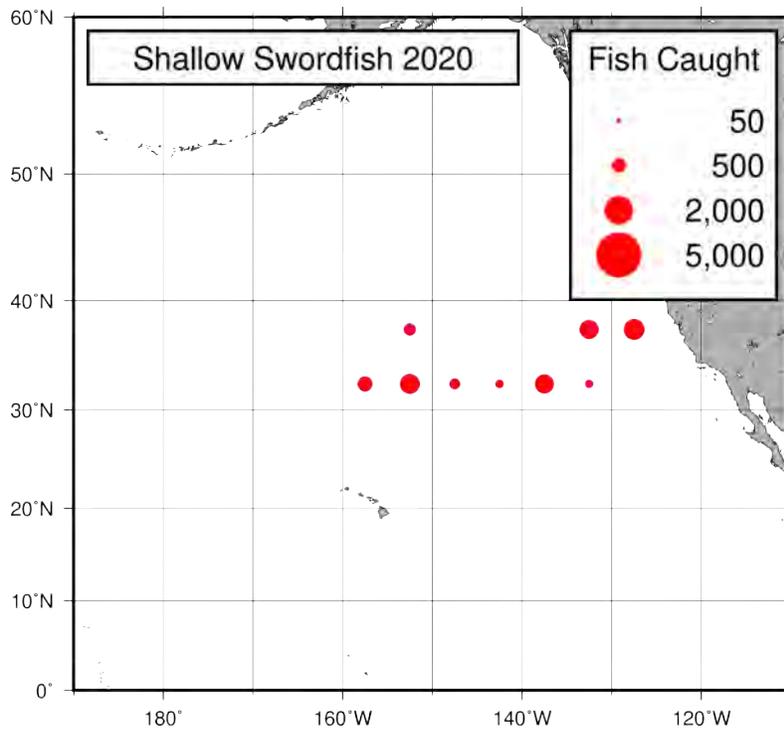


Figure 25: Spatial distribution of the number of shallow-set swordfish caught, by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2020 (provisional data).

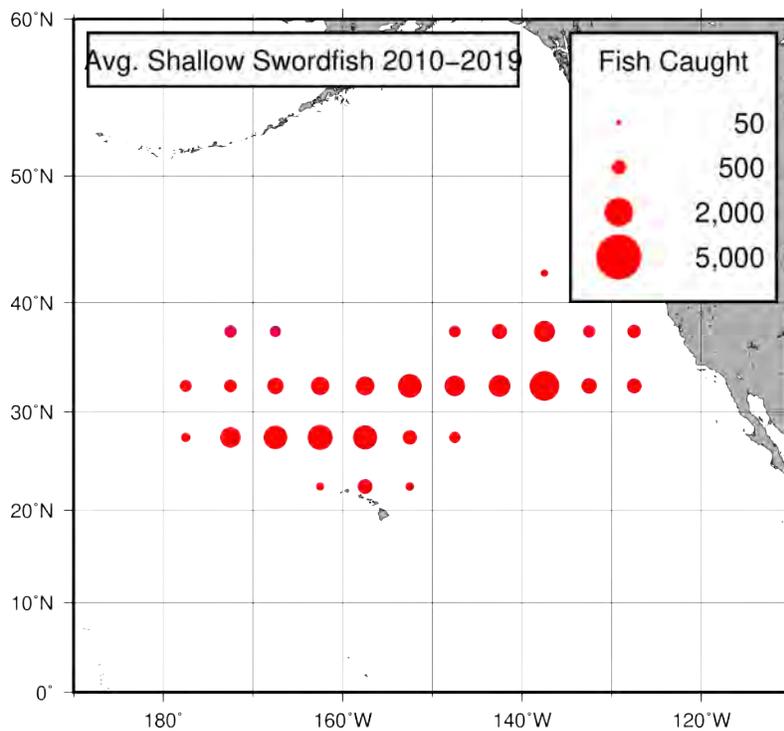


Figure 26: Spatial distribution of the average number of shallow-set swordfish caught, by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2010-2019.