The Hawaii and California-based Pelagic Longline Vessels Annual Report for 1 January-31 December 2020

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This annual report for the period 1 January-31 December 2020 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_HC20210915_RFMO, representing RFMO data received as of 15 September 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 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, 2021: Hawaii Longline Logbook, https://www.fisheries.noaa.gov/inport/item/2721

Southwest Fisheries Science Center, 2021: California Pelagic Longline Fishery, https://www.fisheries.noaa.gov/inport/item/12906

PIFSC Data Report DR-22-008. Issued 16 March 2022.
https://doi.org/10.25923/p4yg-k757

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

Time Period	1 January-31 December 2020
Set Types	All sets
Fishing Area	All Areas

Number of vessels active	147
Number of trips (partial or completed)	1,679
Number of sets	21,227
Number of hooks set	60,306,187

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE Number Caught per 1000 Hooks
PMUS				
Billfish PMUS				
Blue marlin	8,200	8,139	61	0.14
Striped marlin	12,808	12,642	166	0.21
Shortbill spearfish	10,001	9,718	283	0.17
Swordfish	8,457	8,180	277	0.14
Other billfishes	479	469	10	0.01
Total	**39,945**	**39,148**	**797**	**0.66**
Shark PMUS				
Blue shark	110,469	1	110,468	1.83
Mako sharks	5,390	204	5,186	0.09
Thresher sharks	8,742	31	8,711	0.14
Oceanic whitetip shark	464	0	464	0.01
Silky shark	234	0	234	0.00
Total	**125,299**	**236**	**125,063**	**2.08**
Tuna PMUS				
Albacore	8,892	8,433	459	0.15
Bigeye tuna	208,124	203,525	4,599	3.45
Yellowfin tuna	54,892	53,694	1,198	0.91
Bluefin tuna	15	15	0	0.00
Skipjack tuna	20,716	20,551	165	0.34
Other tunas	0	0	0	0.00
Total	**292,639**	**286,218**	**6,421**	**4.85**
Other PMUS				
Mahimahi	22,190	21,999	191	0.37
Moonfish	16,908	16,460	448	0.28
Wahoo	24,373	24,257	116	0.40
Oilfish	11,154	8,054	3,100	0.18
Pomfret	36,089	35,760	329	0.60
Total	**110,714**	**106,530**	**4,184**	**1.84**
Total PMUS	**568,597**	**432,132**	**136,465**	**9.43**
Non-PMUS Sharks	260	1	259	0.00
Total Non-PMUS	**6,853**	**178**	**6,675**	**0.11**
Total All Species	**575,450**	**432,310**	**143,140**	**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)	770
Number of sets	5,332
Number of hooks set	14,945,870

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE Number Caught per 1000 Hooks
PMUS				
Billfish PMUS				
Blue marlin	2,403	2,387	16	0.16
Striped marlin	3,185	3,162	23	0.21
Shortbill spearfish	2,605	2,585	20	0.17
Swordfish	969	943	26	0.06
Other billfishes	103	101	2	0.01
Total	**9,265**	**9,178**	**87**	**0.62**
Shark PMUS				
Blue shark	28,224	0	28,224	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	**30,815**	**9**	**30,806**	**2.06**
Tuna PMUS				
Albacore	75	75	0	0.01
Bigeye tuna	41,844	41,130	714	2.80
Yellowfin tuna	13,842	13,674	168	0.93
Bluefin tuna	0	0	0	0.00
Skipjack tuna	4,789	4,775	14	0.32
Other tunas	0	0	0	0.00
Total	**60,550**	**59,654**	**896**	**4.05**
Other PMUS				
Mahimahi	4,700	4,668	32	0.31
Moonfish	1,234	1,233	1	0.08
Wahoo	5,246	5,223	23	0.35
Oilfish	2,084	1,709	375	0.14
Pomfret	9,548	9,460	88	0.64
Total	**22,812**	**22,293**	**519**	**1.53**
Total PMUS	**123,442**	**91,134**	**32,308**	**8.26**
Non-PMUS Sharks	61	1	60	0.00
Total Non-PMUS	**970**	**46**	**924**	**0.06**
Total All Species	**124,412**	**91,180**	**33,232**	**8.32**

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)	1,438
Number of sets	15,895
Number of hooks set	45,360,317

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	9,480	143	0.21
Shortbill spearfish	7,396	7,133	263	0.16
Swordfish	7,488	7,237	251	0.17
Other billfishes	376	368	8	0.01
Total	**30,680**	**29,970**	**710**	**0.68**
Shark PMUS				
Blue shark	82,245	1	82,244	1.81
Mako sharks	4,550	200	4,350	0.10
Thresher sharks	7,156	26	7,130	0.16
Oceanic whitetip shark	374	0	374	0.01
Silky shark	159	0	159	0.00
Total	**94,484**	**227**	**94,257**	**2.08**
Tuna PMUS				
Albacore	8,817	8,358	459	0.19
Bigeye tuna	166,280	162,395	3,885	3.67
Yellowfin tuna	41,050	40,020	1,030	0.90
Bluefin tuna	15	15	0	0.00
Skipjack tuna	15,927	15,776	151	0.35
Other tunas	0	0	0	0.00
Total	**232,089**	**226,564**	**5,525**	**5.12**
Other PMUS				
Mahimahi	17,490	17,331	159	0.39
Moonfish	15,674	15,227	447	0.35
Wahoo	19,127	19,034	93	0.42
Oilfish	9,070	6,345	2,725	0.20
Pomfret	26,541	26,300	241	0.59
Total	**87,902**	**84,237**	**3,665**	**1.94**
Total PMUS	**445,155**	**340,998**	**104,157**	**9.81**
Non-PMUS Sharks	199	0	199	0.00
Total Non-PMUS	**5,883**	**132**	**5,751**	**0.13**
Total All Species	**451,038**	**341,130**	**109,908**	**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	14
Number of trips (partial or completed)	36
Number of sets	461
Number of hooks set	578,654

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	30	21	9	0.05
Shortbill spearfish	26	22	4	0.04
Swordfish	4,594	4,464	130	7.94
Other billfishes	0	0	0	0.00
Total	**4,673**	**4,528**	**145**	**8.08**
Shark PMUS				
Blue shark	6,041	0	6,041	10.44
Mako sharks	929	165	764	1.61
Thresher sharks	41	8	33	0.07
Oceanic whitetip shark	1	0	1	0.00
Silky shark	0	0	0	0.00
Total	**7,012**	**173**	**6,839**	**12.12**
Tuna PMUS				
Albacore	356	307	49	0.62
Bigeye tuna	1,114	1,057	57	1.93
Yellowfin tuna	497	463	34	0.86
Bluefin tuna	4	4	0	0.01
Skipjack tuna	7	7	0	0.01
Other tunas	0	0	0	0.00
Total	**1,978**	**1,838**	**140**	**3.42**
Other PMUS				
Mahimahi	241	232	9	0.42
Moonfish	302	278	24	0.52
Wahoo	12	11	1	0.02
Oilfish	222	123	99	0.38
Pomfret	12	12	0	0.02
Total	**789**	**656**	**133**	**1.36**
Total PMUS	**14,452**	**7,195**	**7,257**	**24.98**
Non-PMUS Sharks	2	0	2	0.00
Total Non-PMUS	**6**	**2**	**4**	**0.01**
Total All Species	**14,458**	**7,197**	**7,261**	**24.99**

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

Time Period	1 January-31 December 2020
Set Types	Deep sets
Fishing Area	All Areas

Number of vessels active	146
Number of trips (partial or completed)	1,643
Number of sets	20,766
Number of hooks set	59,727,533

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE Number Caught per 1000 Hooks
PMUS				
Billfish PMUS				
Blue marlin	8,177	8,118	59	0.14
Striped marlin	12,778	12,621	157	0.21
Shortbill spearfish	9,975	9,696	279	0.17
Swordfish	3,863	3,716	147	0.06
Other billfishes	479	469	10	0.01
Total	**35,272**	**34,620**	**652**	**0.59**
Shark PMUS				
Blue shark	104,428	1	104,427	1.75
Mako sharks	4,461	39	4,422	0.07
Thresher sharks	8,701	23	8,678	0.15
Oceanic whitetip shark	463	0	463	0.01
Silky shark	234	0	234	0.00
Total	**118,287**	**63**	**118,224**	**1.98**
Tuna PMUS				
Albacore	8,536	8,126	410	0.14
Bigeye tuna	207,010	202,468	4,542	3.47
Yellowfin tuna	54,395	53,231	1,164	0.91
Bluefin tuna	11	11	0	0.00
Skipjack tuna	20,709	20,544	165	0.35
Other tunas	0	0	0	0.00
Total	**290,661**	**284,380**	**6,281**	**4.87**
Other PMUS				
Mahimahi	21,949	21,767	182	0.37
Moonfish	16,606	16,182	424	0.28
Wahoo	24,361	24,246	115	0.41
Oilfish	10,932	7,931	3,001	0.18
Pomfret	36,077	35,748	329	0.60
Total	**109,925**	**105,874**	**4,051**	**1.84**
Total PMUS	**554,145**	**424,937**	**129,208**	**9.28**
Non-PMUS Sharks	258	1	257	0.00
Total Non-PMUS	**6,847**	**176**	**6,671**	**0.11**
Total All Species	**560,992**	**425,113**	**135,879**	**9.39**

Active Vessels

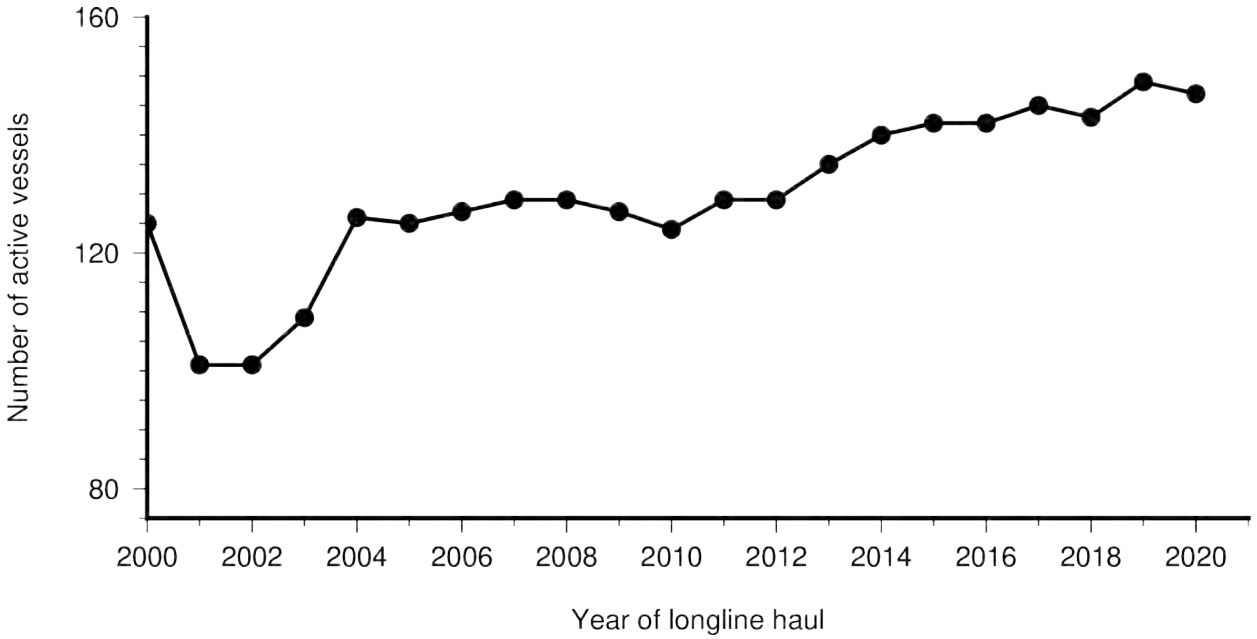

Figure 1: Number of active longline vessels based in Hawaii and California, by year for haul years 2000-2020.

Trips

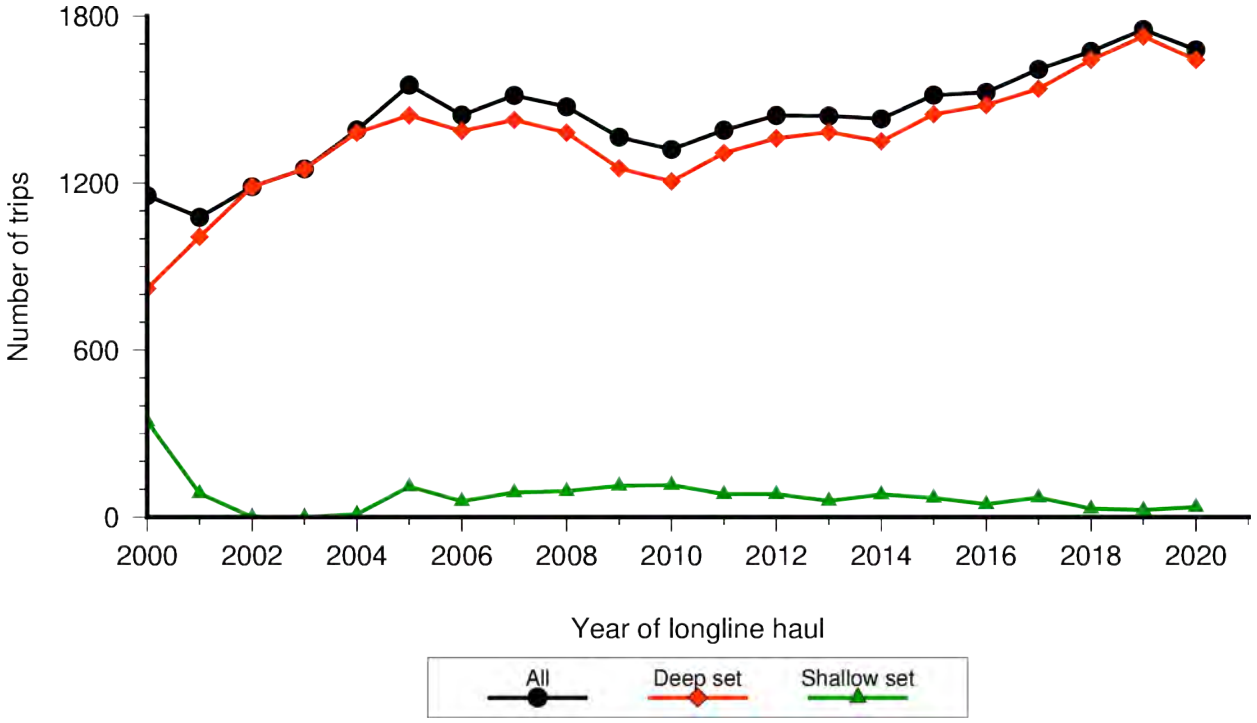

Figure 2: Number of longline trips based in Hawaii and California, by year for haul years 2000-2020.

Sets

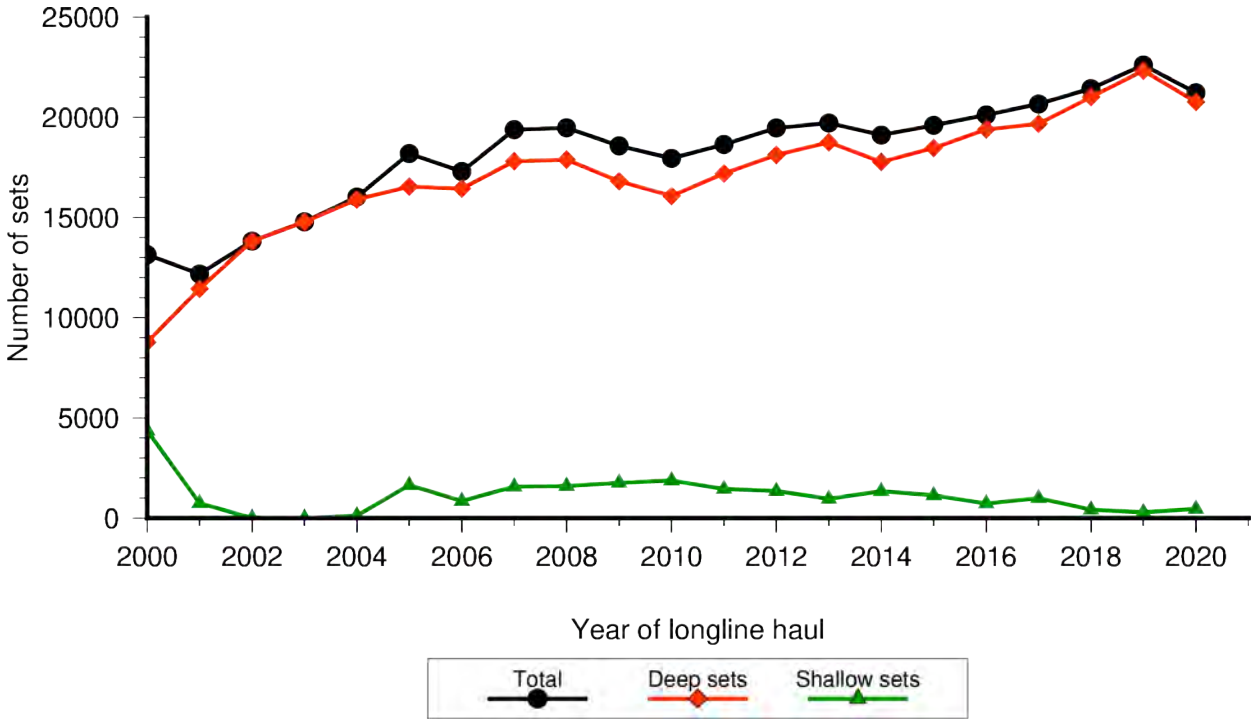

Figure 3: Number of fishing sets by vessels based in Hawaii and California, by year for haul years 2000-2020.

Hooks Set

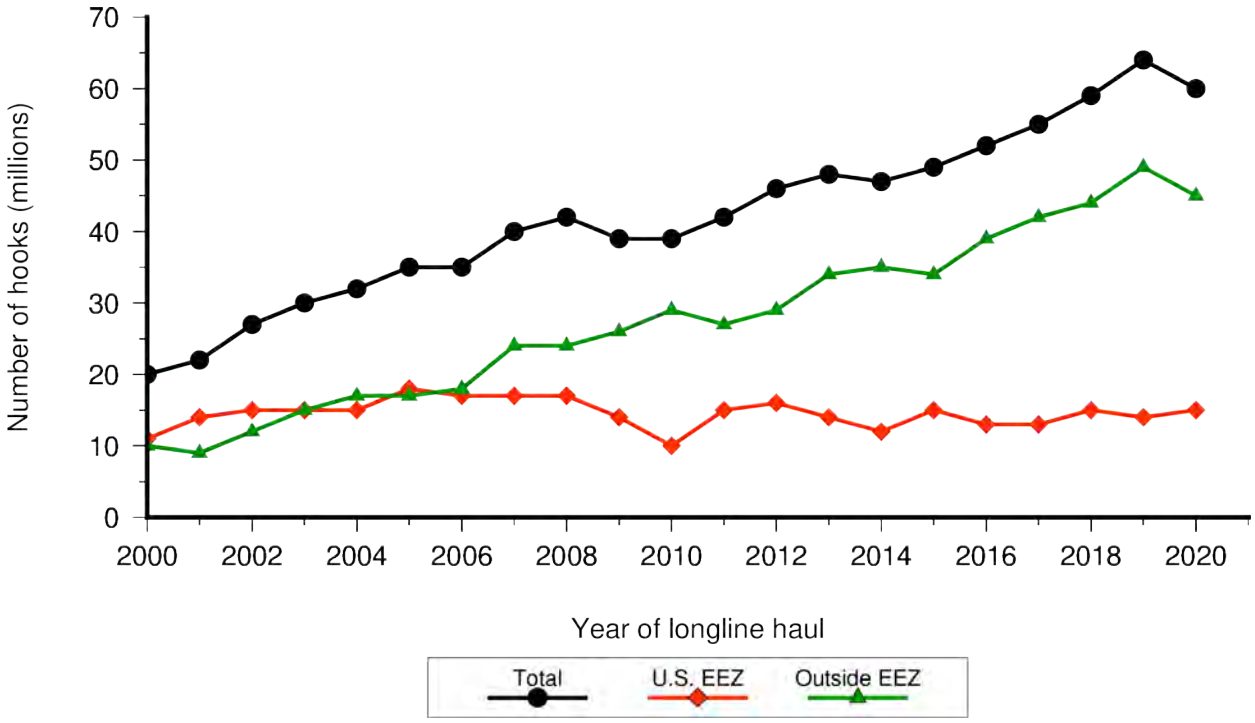

Figure 4: Number of hooks in millions, set by vessels based in Hawaii and California by year, 2000-2020.

Tuna Catch

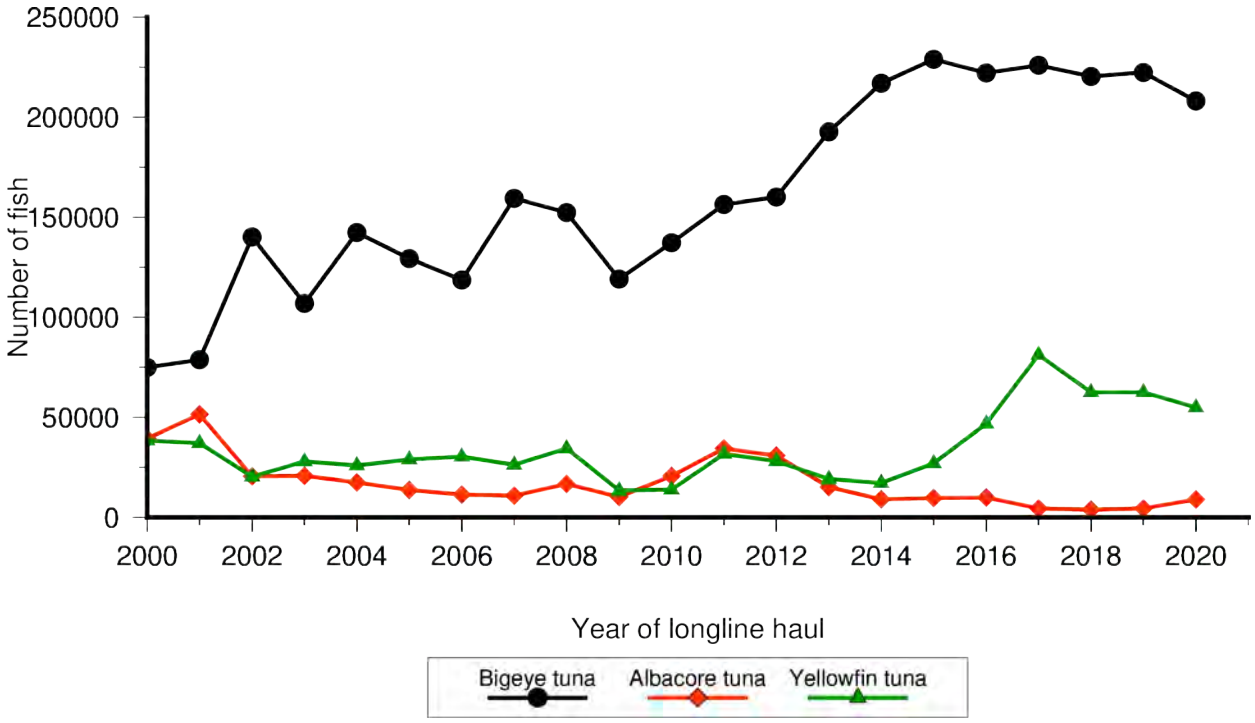

Figure 5: Annual catch (kept + released) of albacore tuna, bigeye tuna, and yellowfin tuna by longline vessels based in Hawaii and California by year, 2000-2020.

Billfish Catch

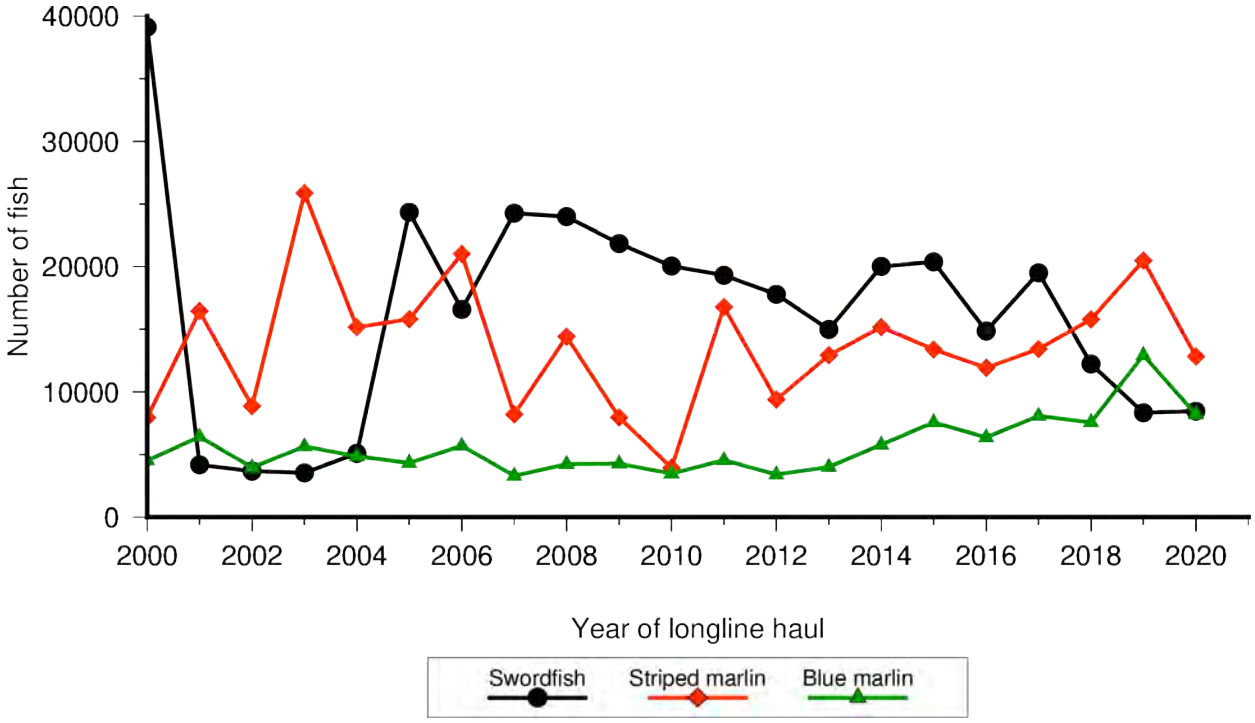

Figure 6: Annual catch (kept + released) of swordfish, striped marlin, and blue marlin by longline vessels based in Hawaii and California by year, 2000-2020.

Shark Catch

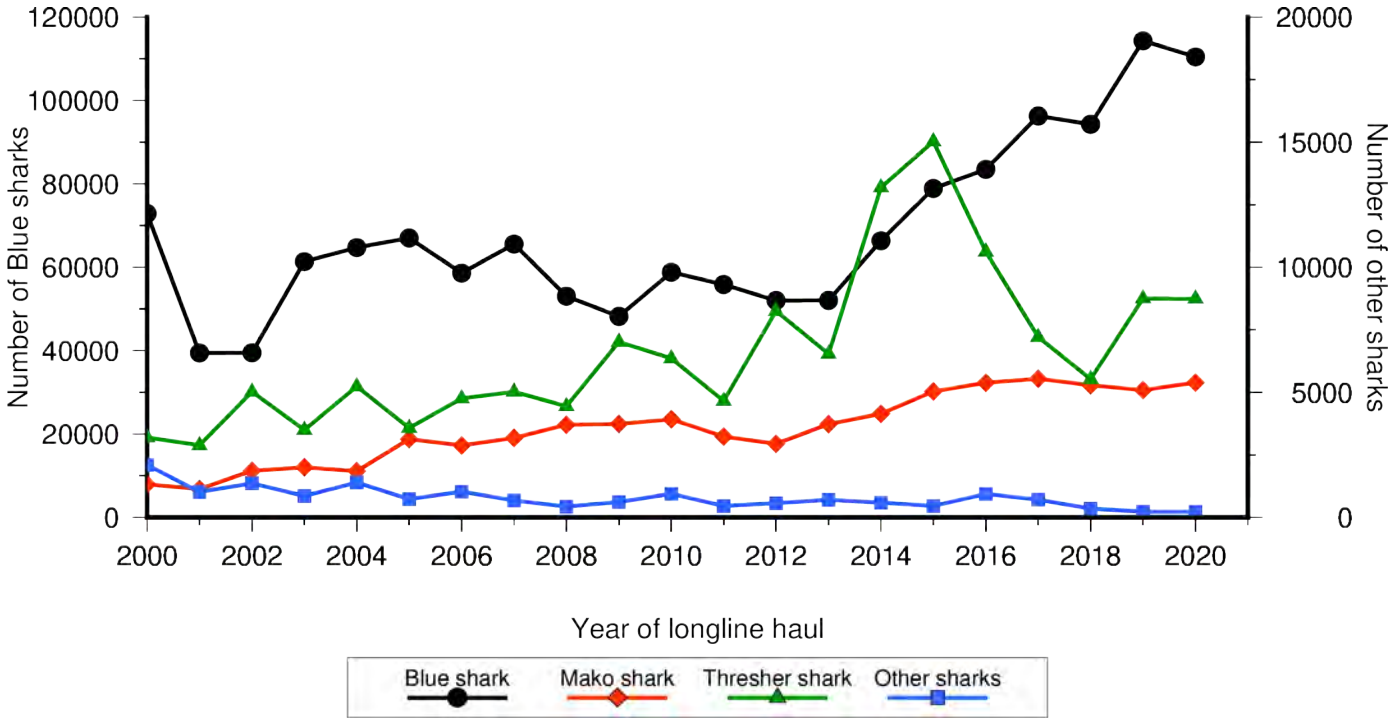

Figure 7: Annual catch (kept + released) of blue shark, mako shark, thresher shark, and other sharks by longline vessels based in Hawaii and California by year, 2000-2020.

Other PMUS Catch

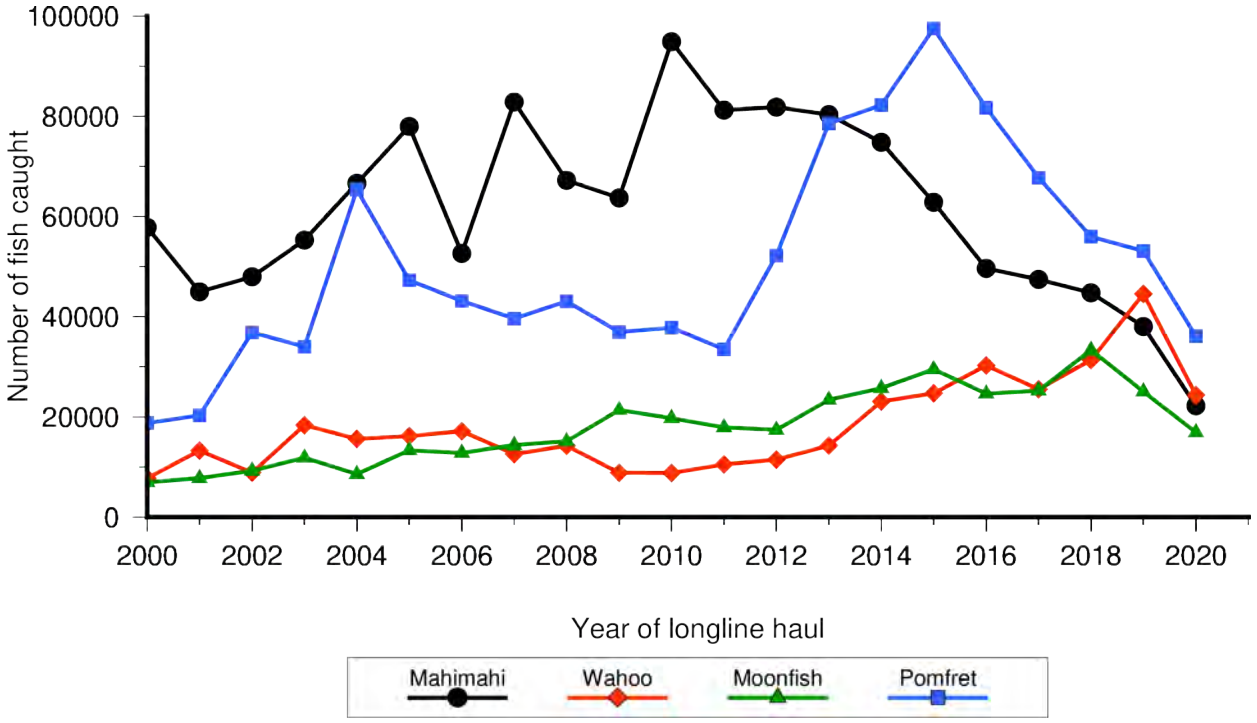

Figure 8: Annual catch (kept + released) of mahimahi, wahoo, moonfish, and pomfret by longline vessels based in Hawaii and California by year 2000-2020.

Sets

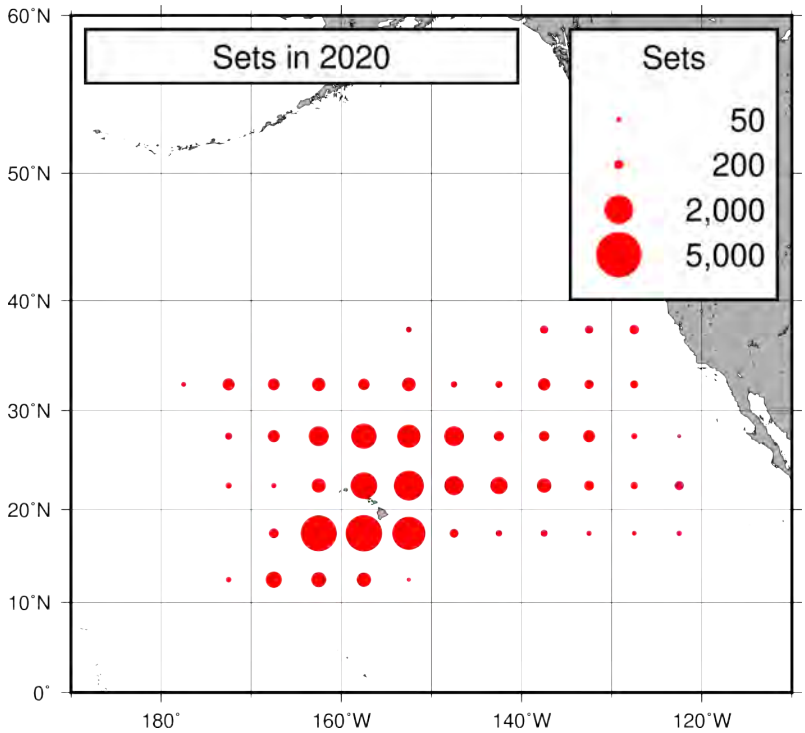

Figure 9: Spatial distribution of the total number of sets by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2020 (provisional data).

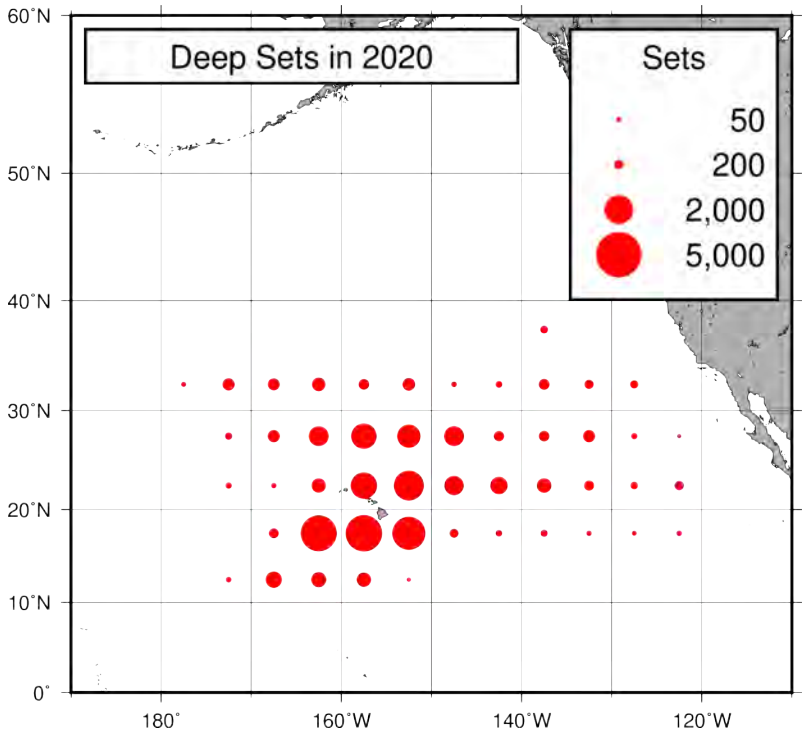

Figure 10: Spatial distribution of the number of deep-set sets by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2020 (provisional data).

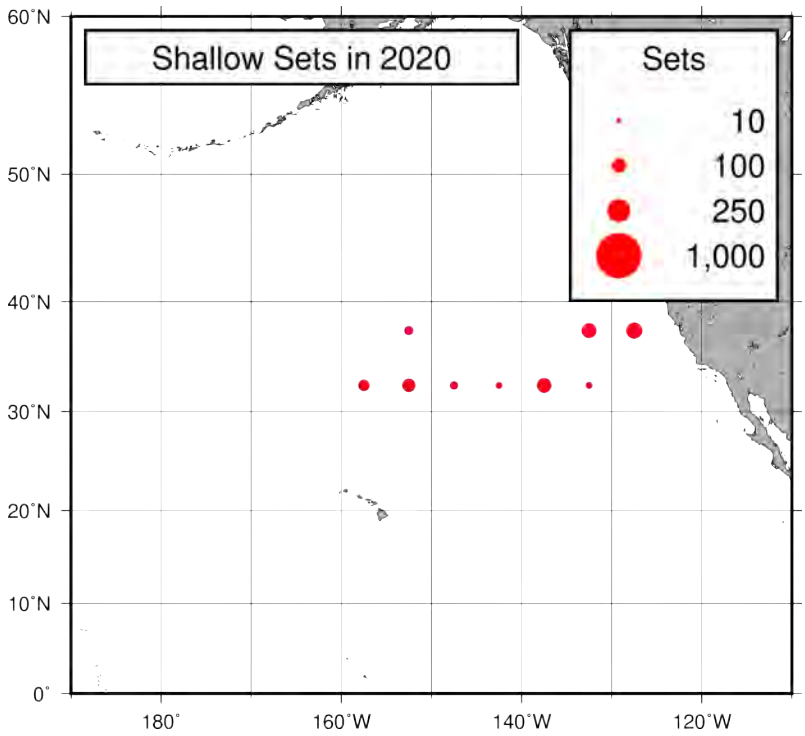

Figure 11: Spatial distribution of the number of shallow-set sets by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2020 (provisional data).

Total Effort

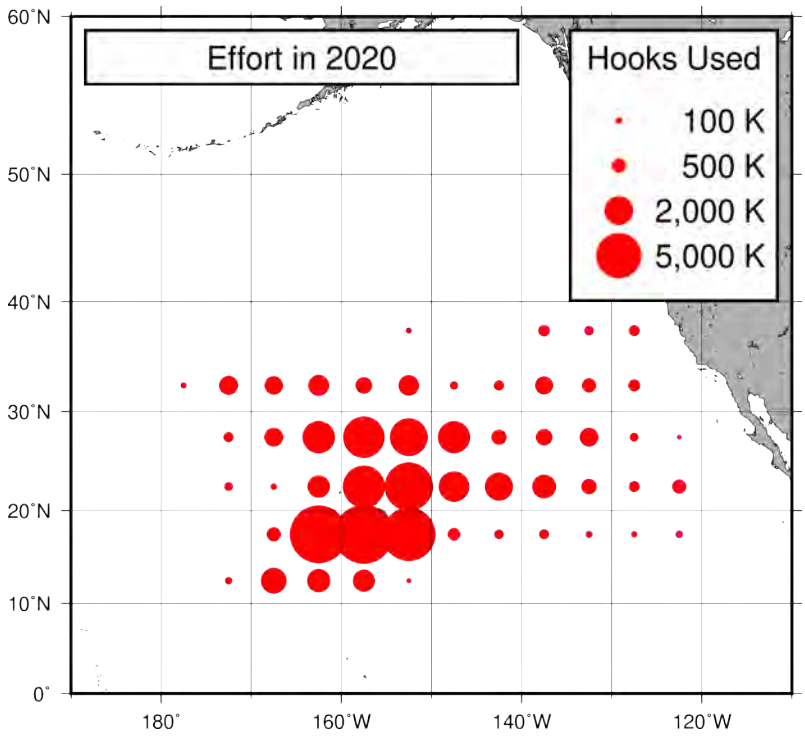

Figure 12: Spatial distribution of the total number of hooks set by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2020 (provisional data).

Deep Effort

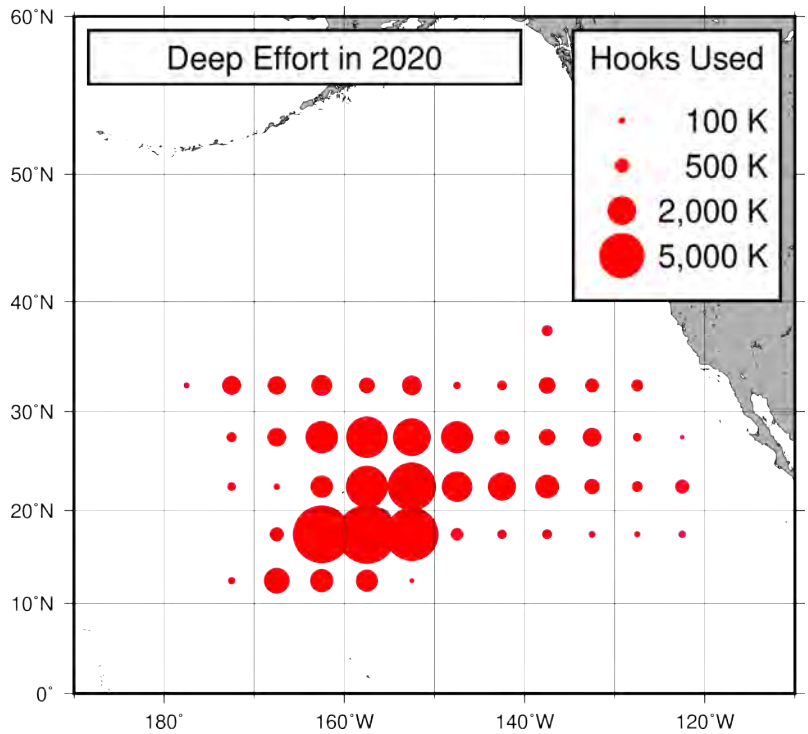

Figure 13: Spatial distribution of the number of deep-set hooks set by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2020 (provisional data).

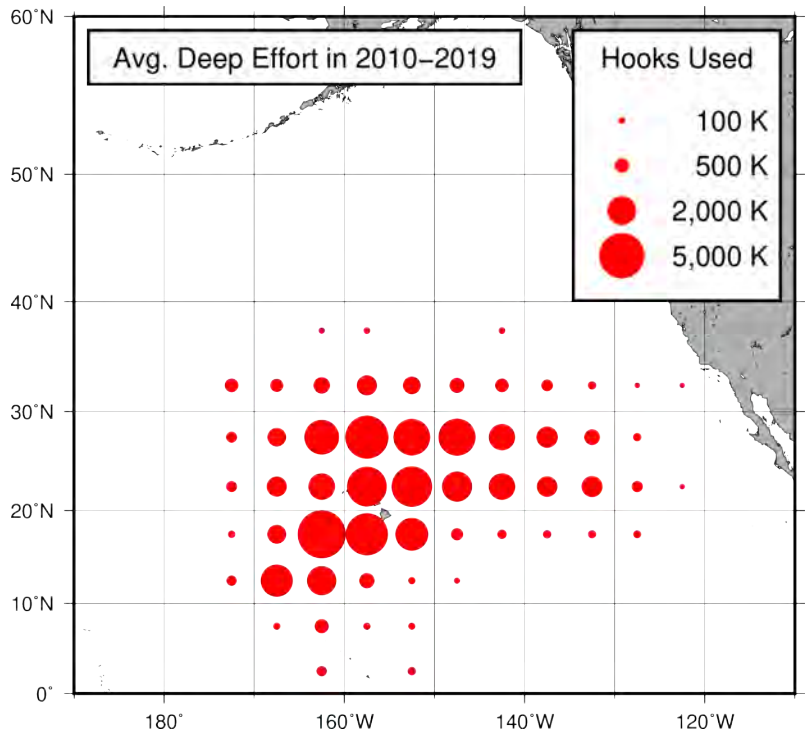

Figure 14: Spatial distribution of the average number of deep-set hooks set by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2010-2019 .

Shallow Effort

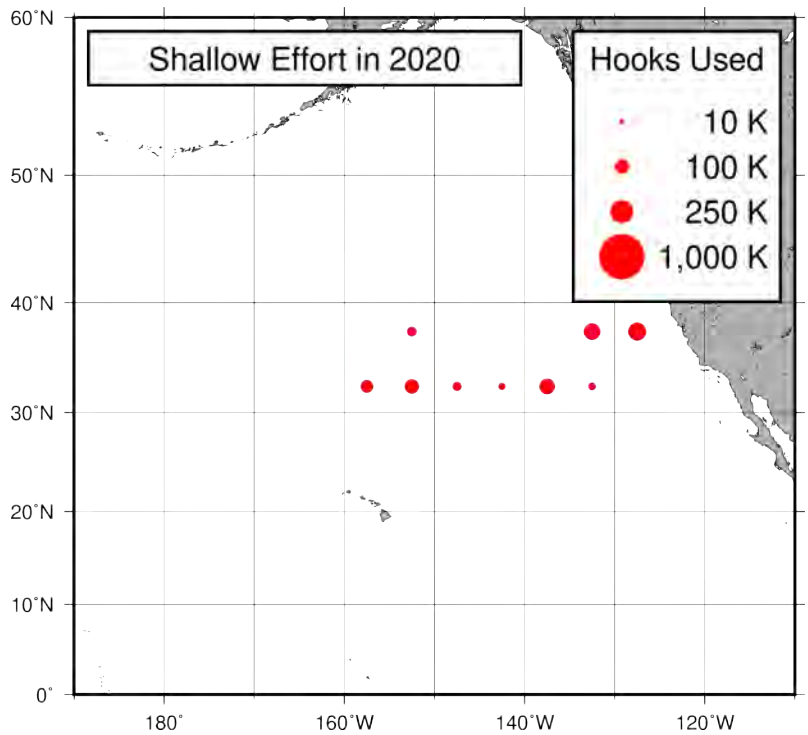

Figure 15: Spatial distribution of the number of shallow-set hooks set by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2020 (provisional data).

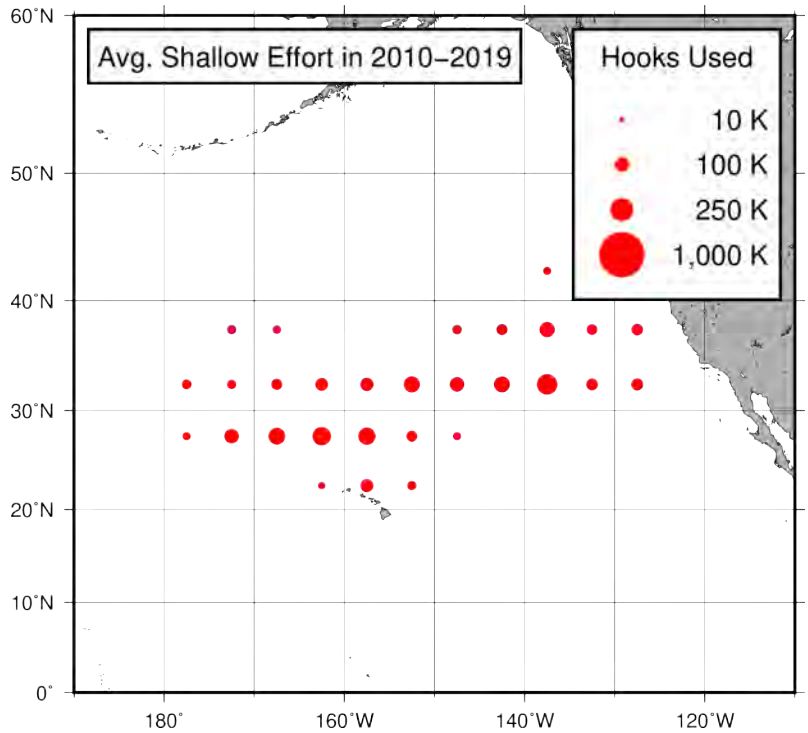

Figure 16: Spatial distribution of the average number of shallow-set hooks set by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2010-2019 .

Bigeye Catch

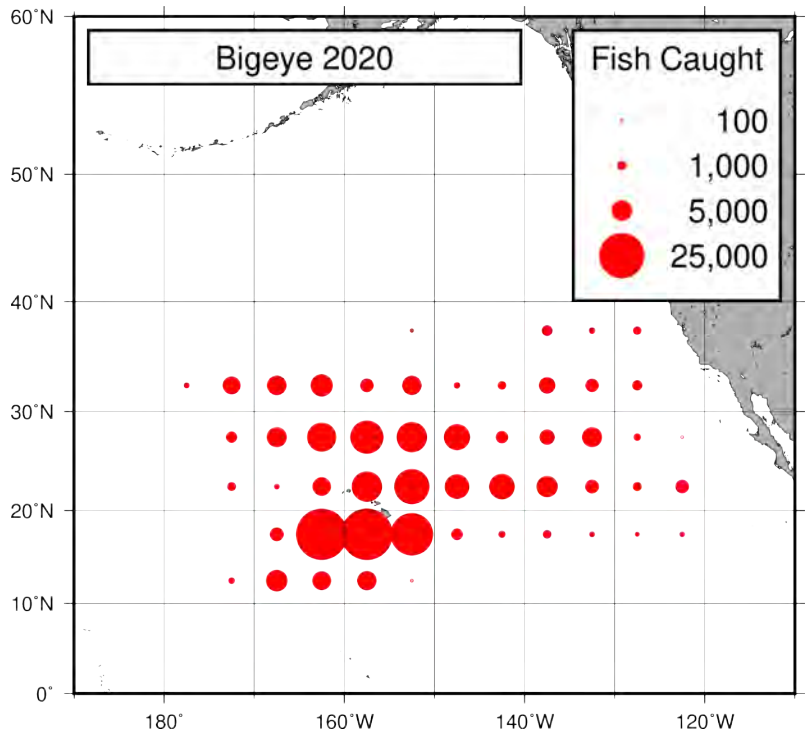

Figure 17: Spatial distribution of the total number of bigeye tuna caught by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2020 (provisional data).

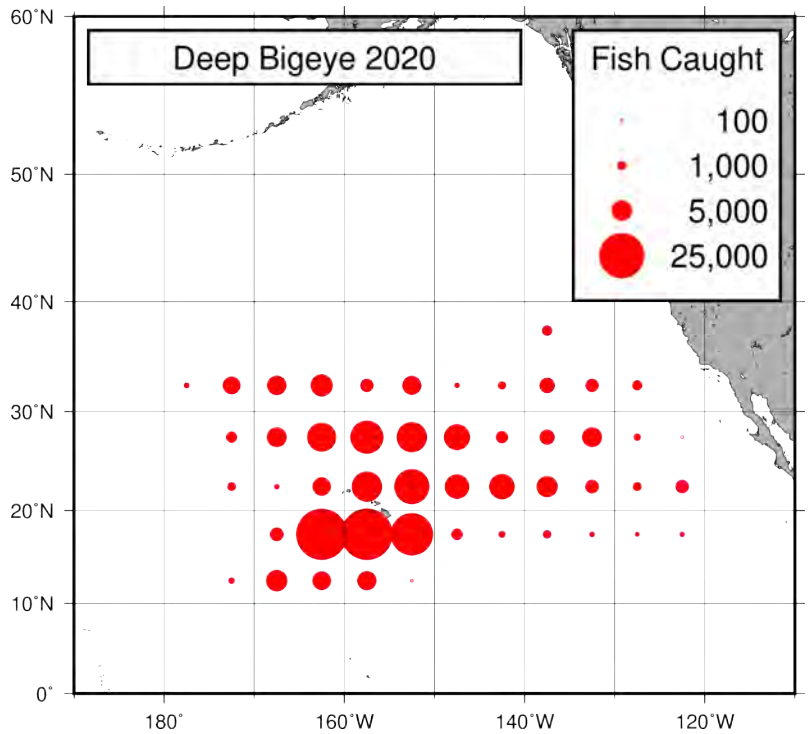

Figure 18: Spatial distribution of the number of deep-set bigeye tuna caught by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2020 (provisional data).

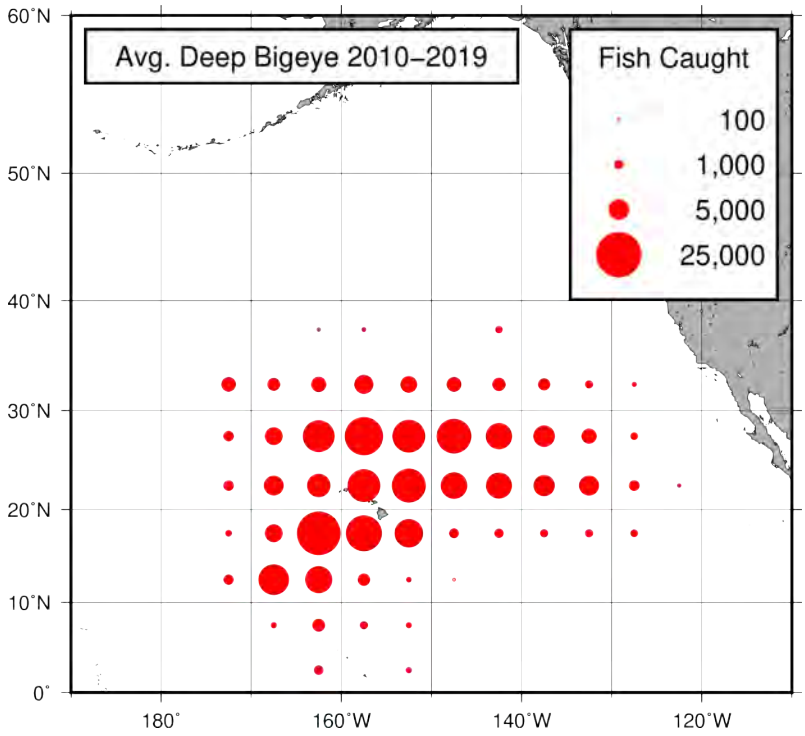

Figure 19: Spatial distribution of the average number of deep-set bigeye tuna caught by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2010-2019.

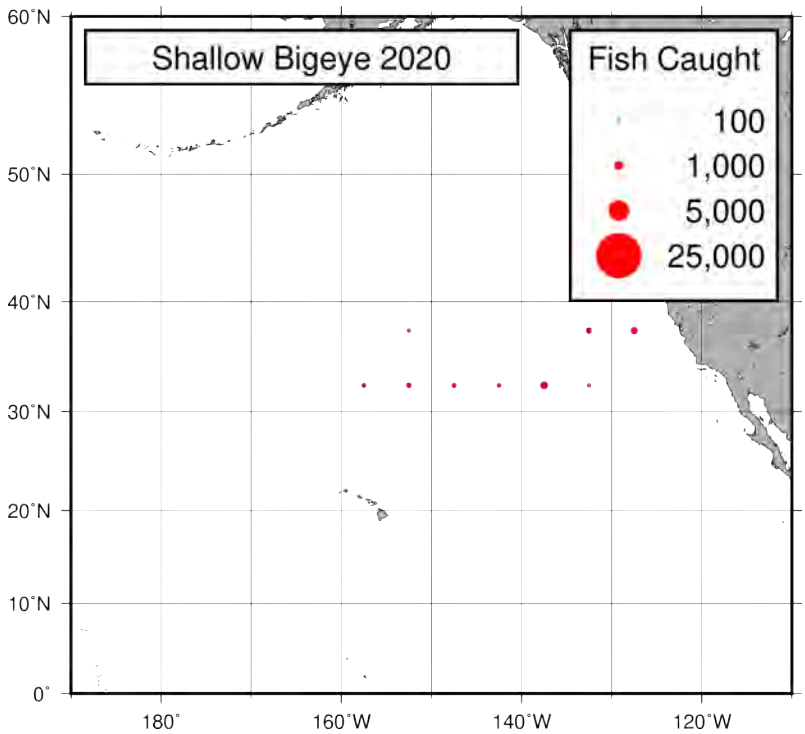

Figure 20: Spatial distribution of the number of shallow-set bigeye tuna caught by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2020 (provisional data).

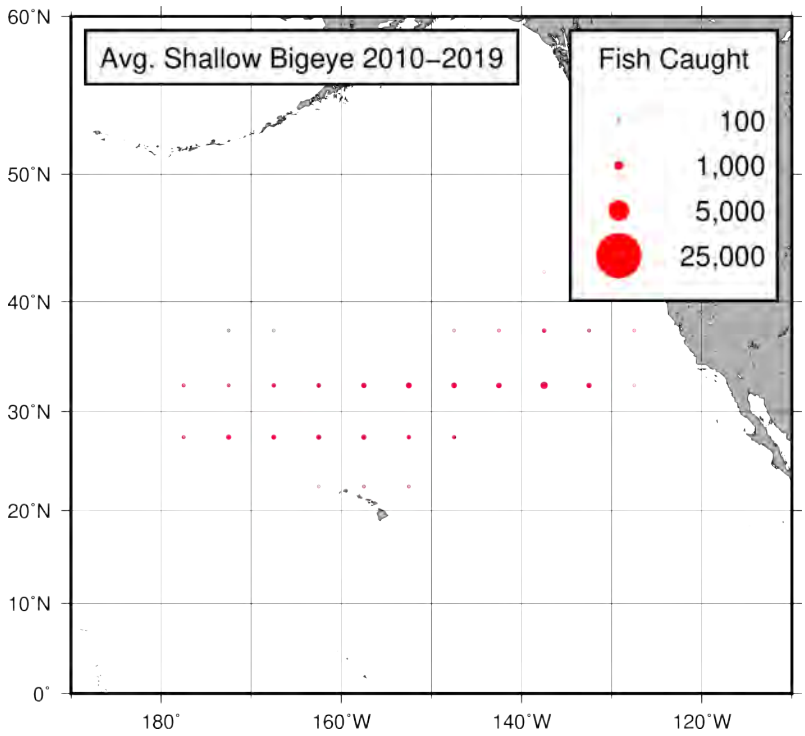

Figure 21: Spatial distribution of the average number of shallow-set bigeye tuna caught by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2010-2019.

Swordfish

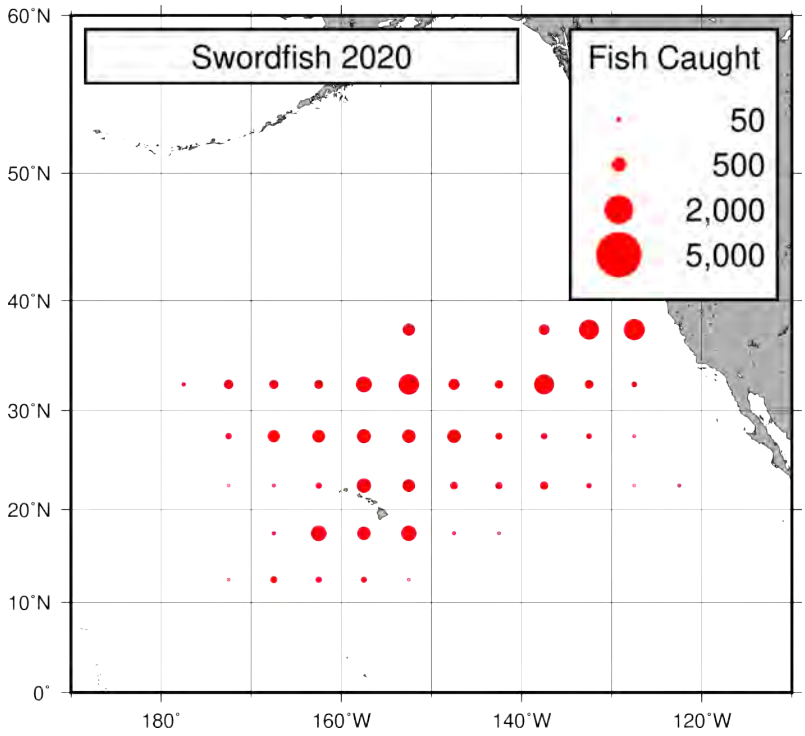

Figure 22: Spatial distribution of the total number of swordfish caught, by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2020 (provisional data).

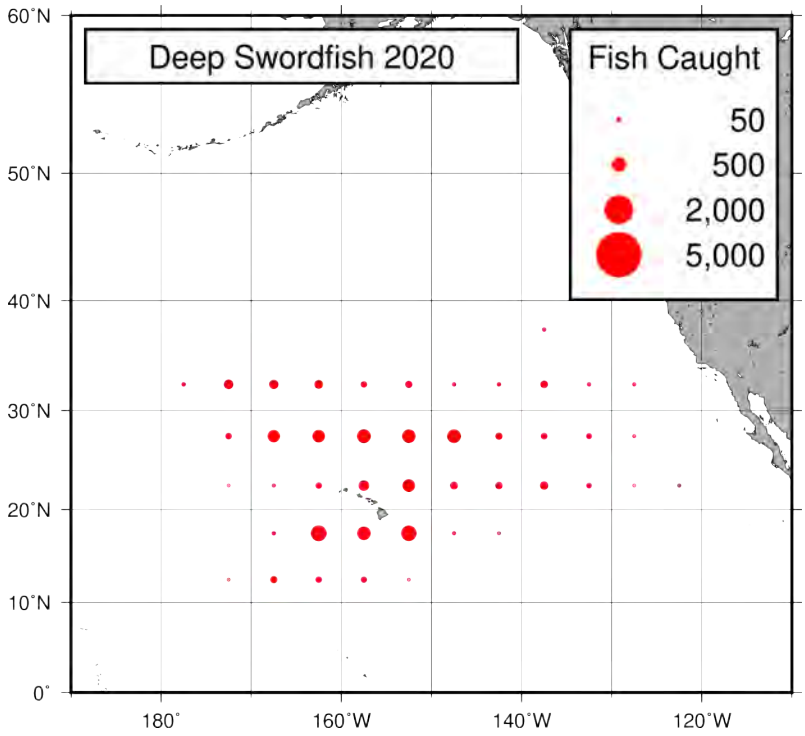

Figure 23: Spatial distribution of the number of deep-set swordfish caught, by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2020 (provisional data).

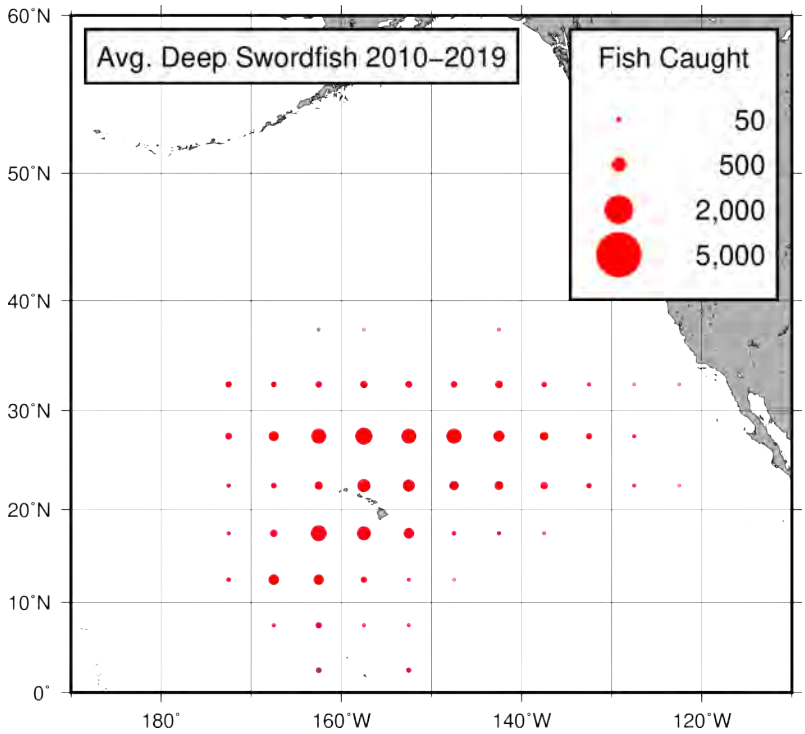

Figure 24: Spatial distribution of the average number of deep-set swordfish caught, by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2010-2019.

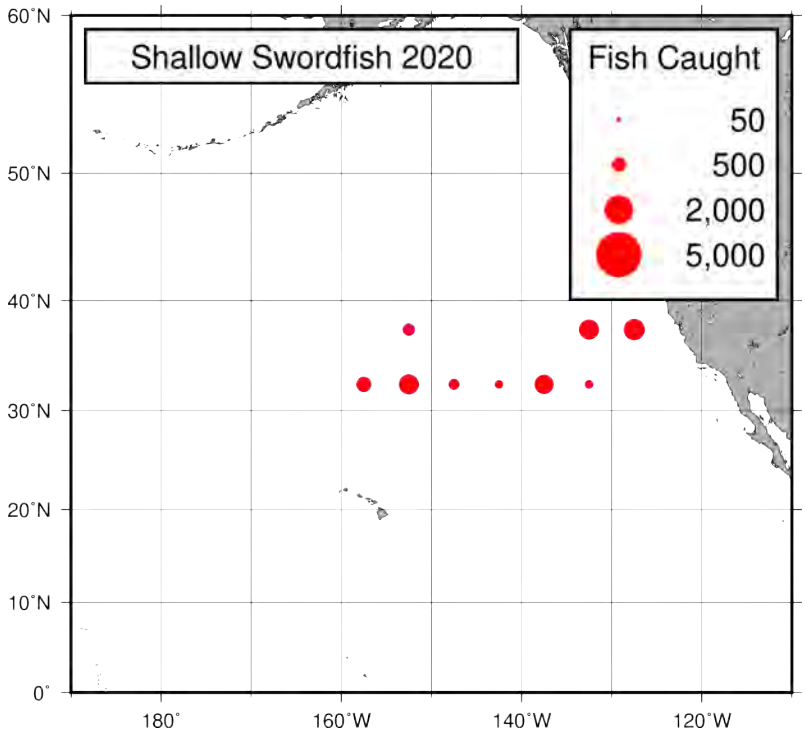

Figure 25: Spatial distribution of the number of shallow-set swordfish caught, by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2020 (provisional data).

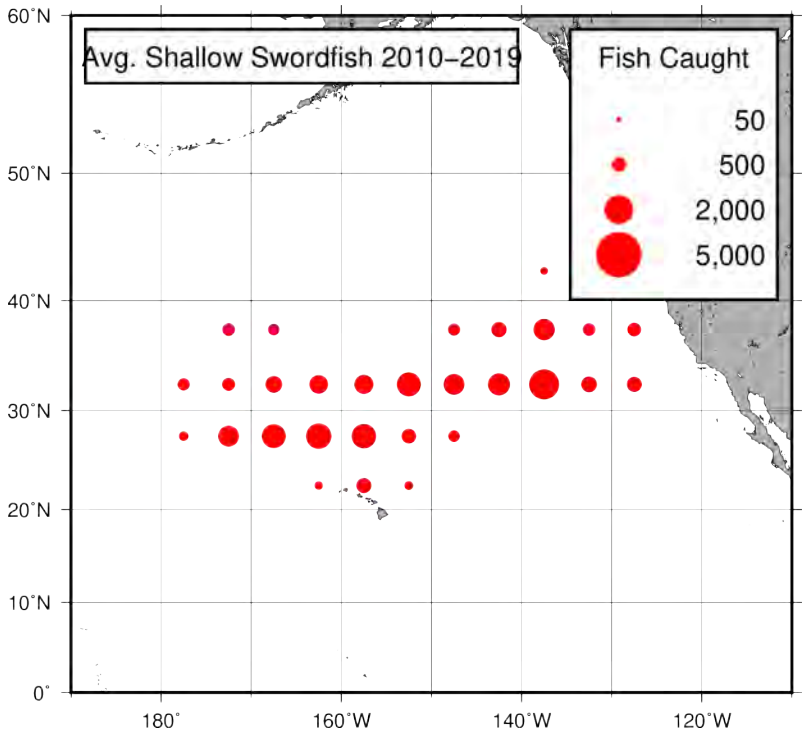

Figure 26: Spatial distribution of the average number of shallow-set swordfish caught, by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2010-2019.