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

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

[1]PIFSC 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**

| | |
|---|---|
| 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) | 1,676 |
| 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**

| | |
|---|---|
| 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) | 1,645 |
| 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

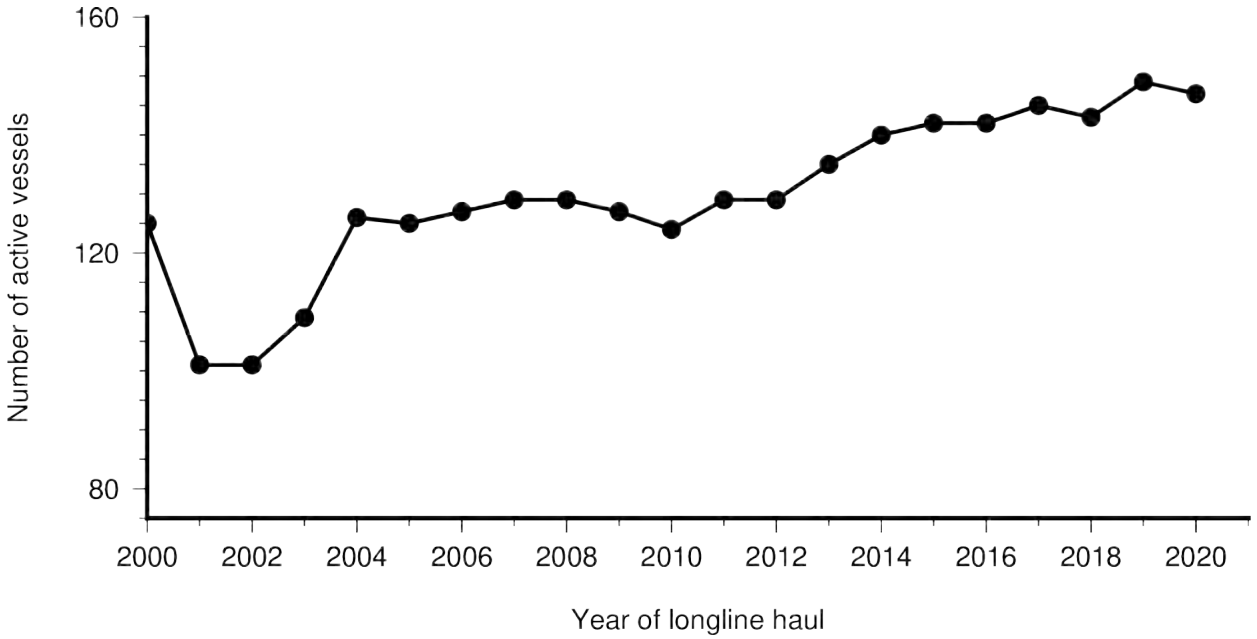


Figure 1: Number of active longline vessels based in Hawaii and California, by year for haul years 2000-2020.

## Trips

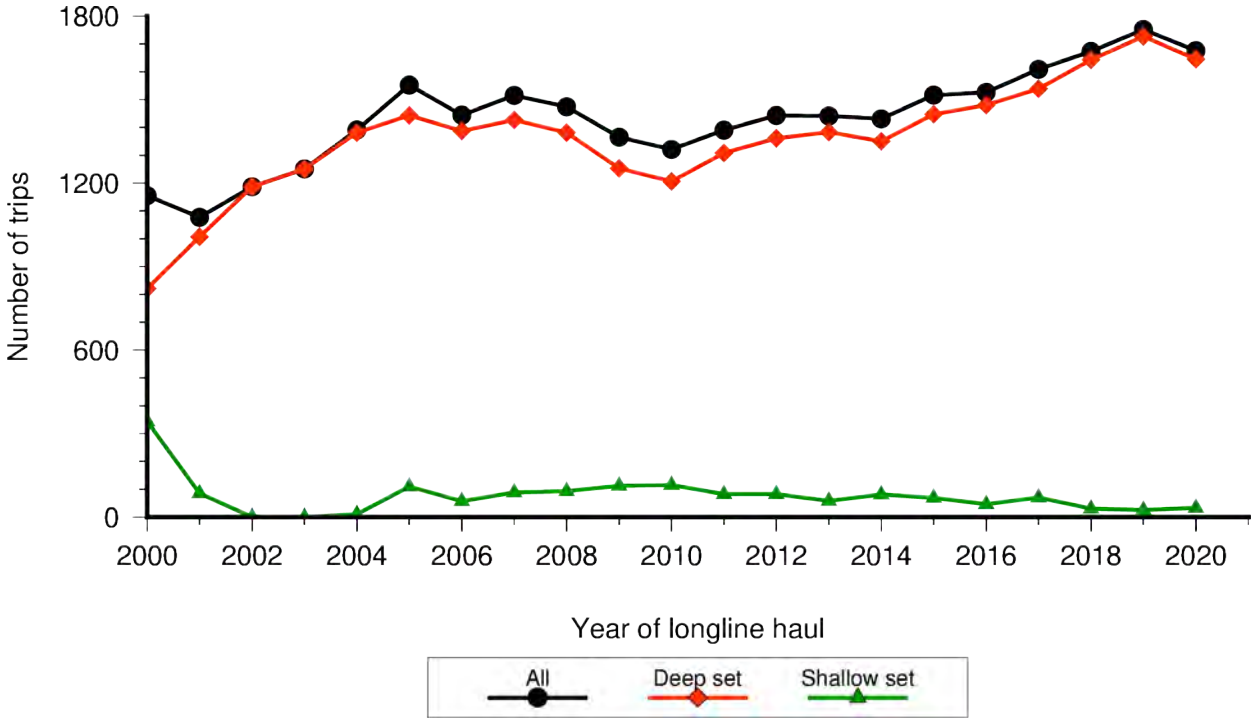


Figure 2: Number of longline trips based in Hawaii and California, by year for haul years 2000-2020.

## Sets

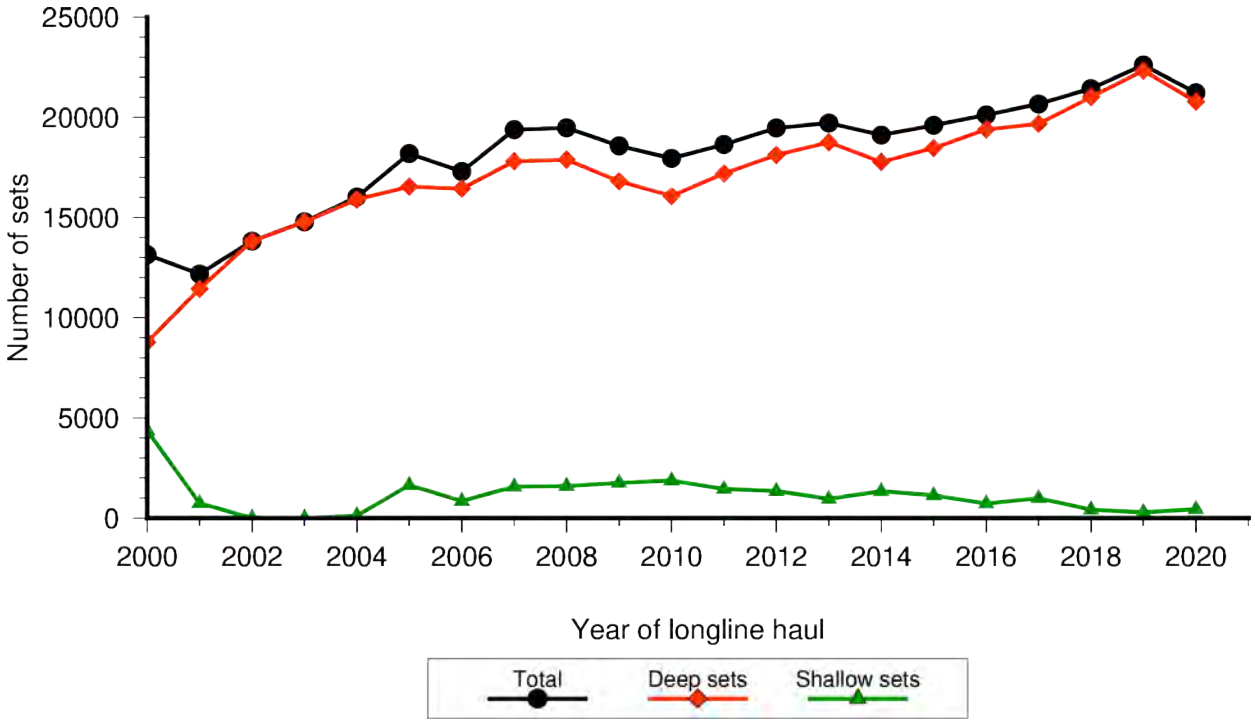


Figure 3: Number of fishing sets by vessels based in Hawaii and California, by year for haul years 2000-2020.

## Hooks Set

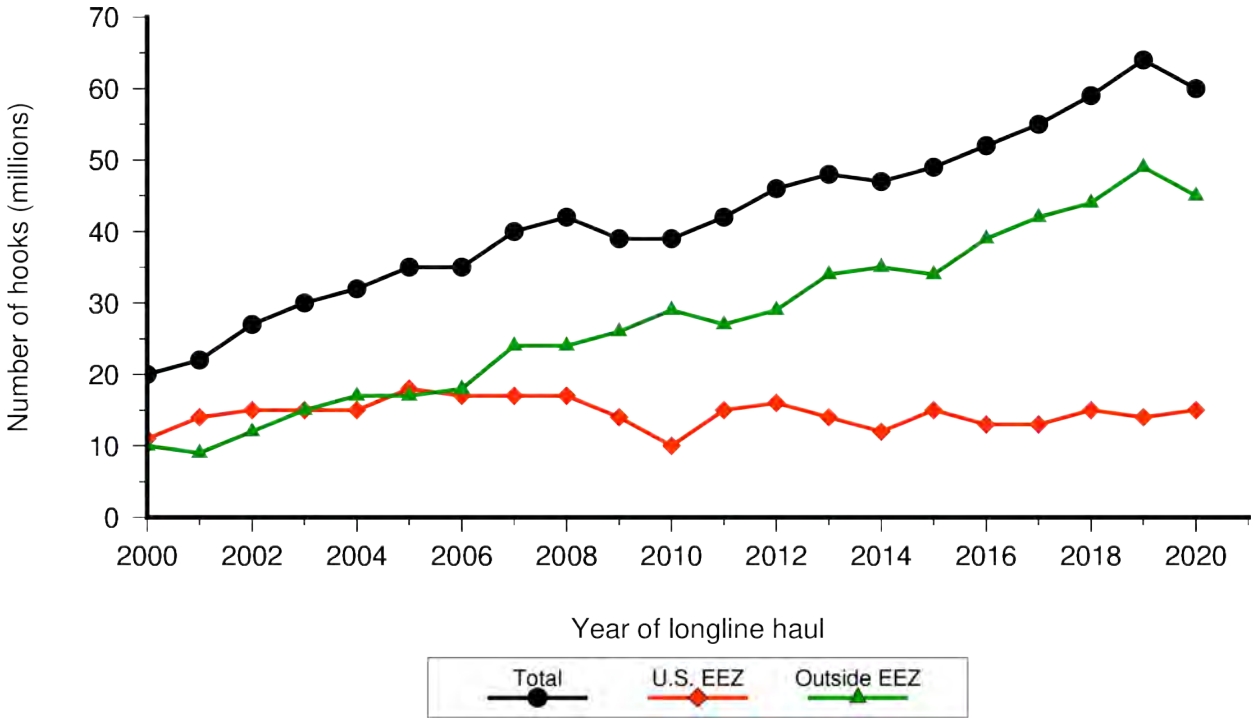


Figure 4: Number of hooks in millions, set by vessels based in Hawaii and California by year, 2000-2020.

## Tuna Catch

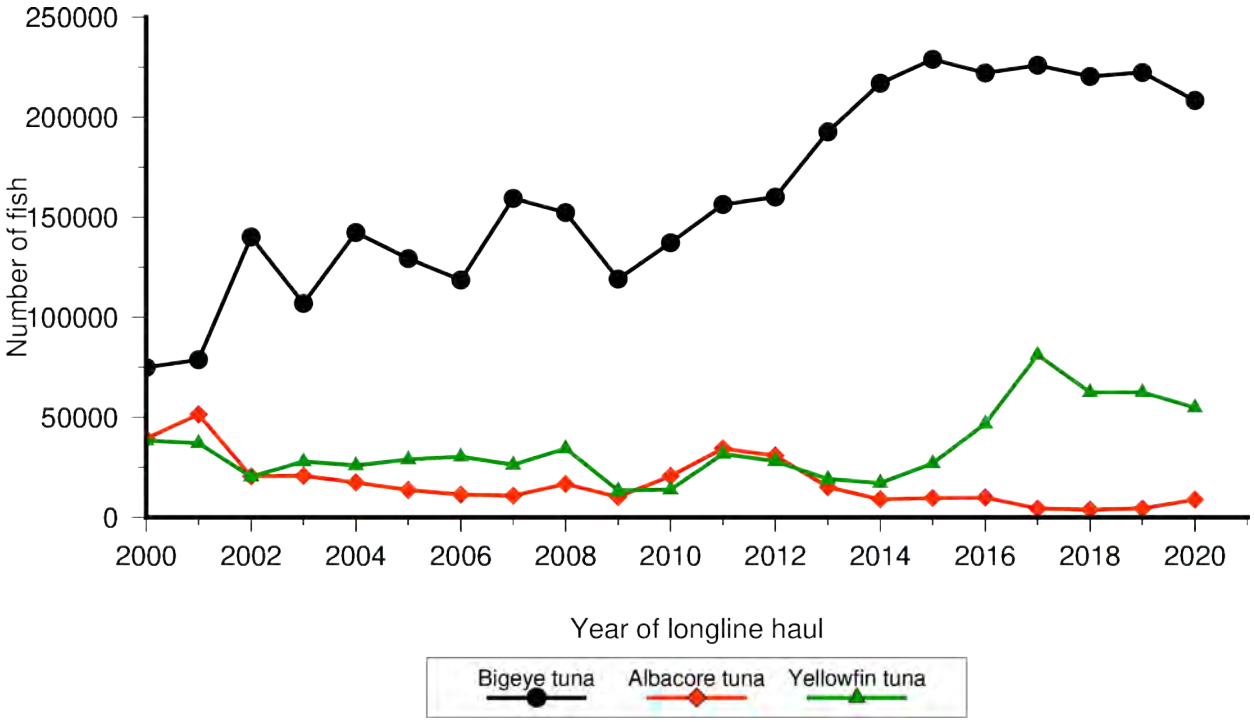


Figure 5: Annual catch (kept + released) of albacore tuna, bigeye tuna, and yellowfin tuna by longline vessels based in Hawaii and California by year, 2000-2020.

## Billfish Catch

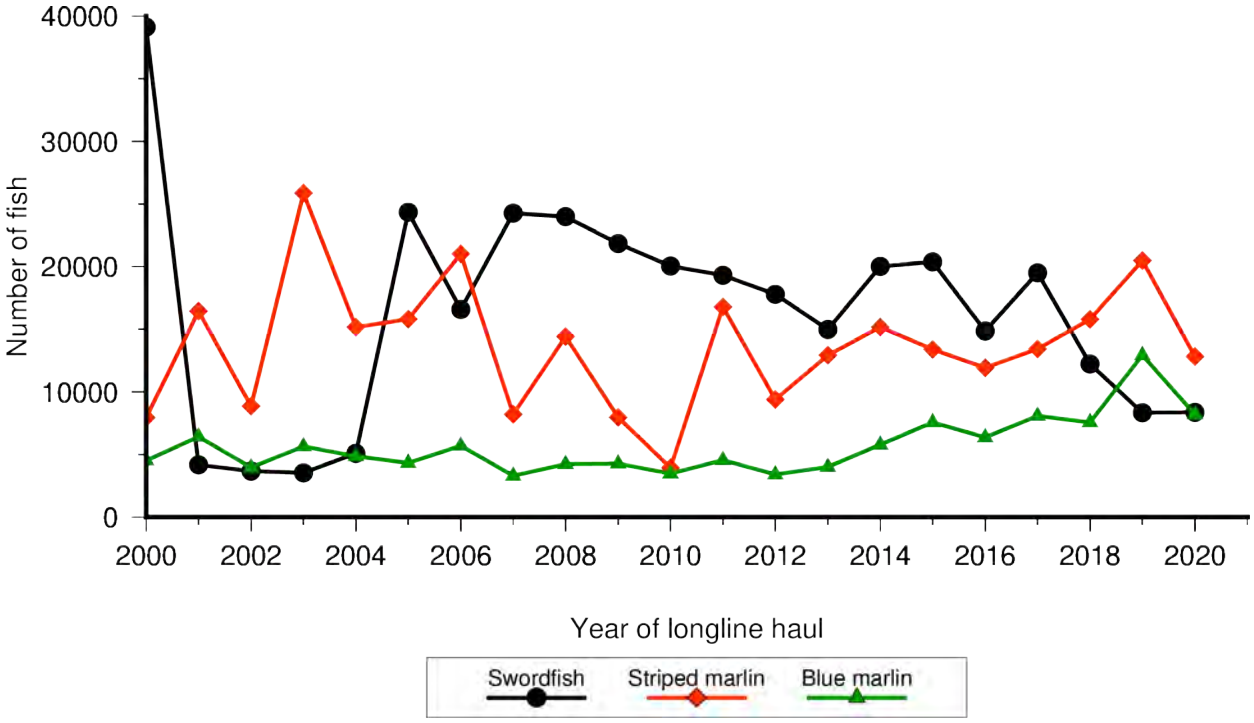


Figure 6: Annual catch (kept + released) of swordfish, striped marlin, and blue marlin by longline vessels based in Hawaii and California by year, 2000-2020.

## Shark Catch

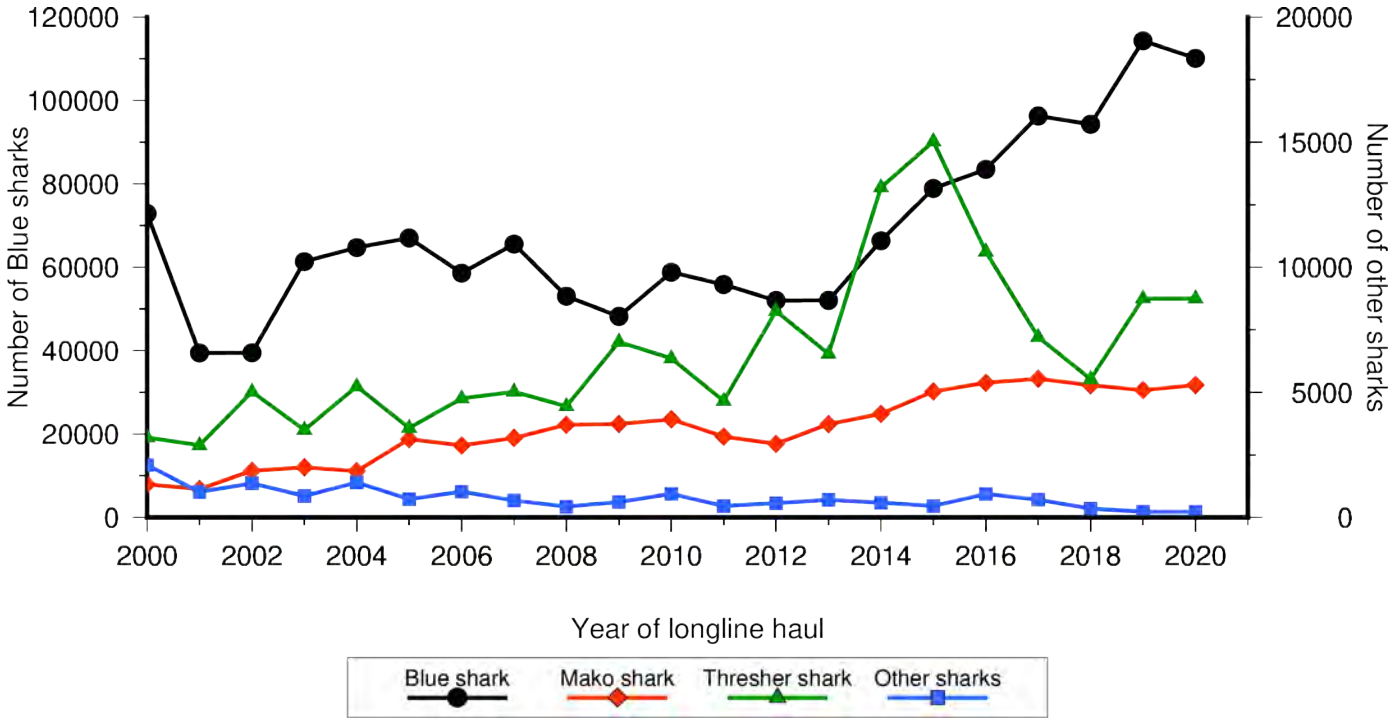


Figure 7: Annual catch (kept + released) of blue shark, mako shark, thresher shark, and other sharks by longline vessels based in Hawaii and California by year, 2000-2020.

## Other PMUS Catch

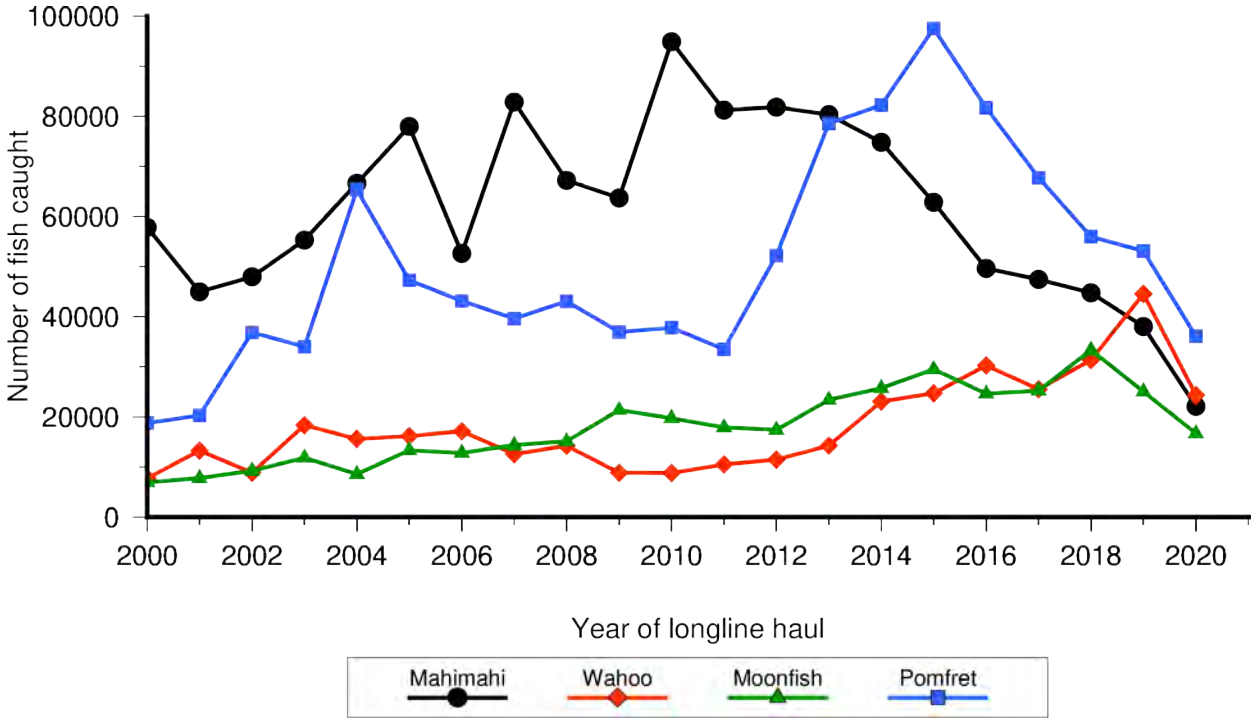


Figure 8: Annual catch (kept + released) of mahimahi, wahoo, moonfish, and pomfret by longline vessels based in Hawaii and California by year 2000-2020.

## Sets

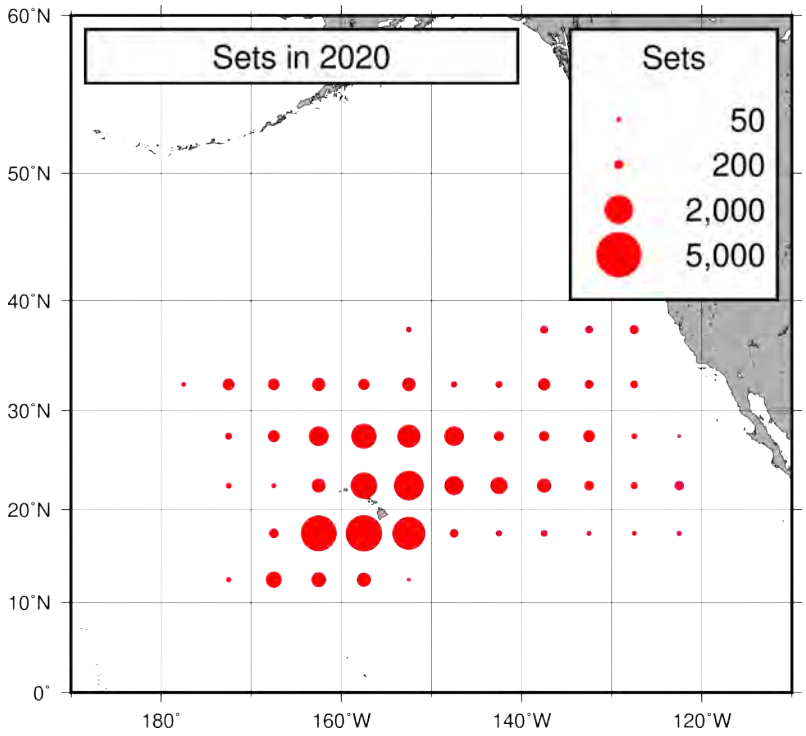


Figure 9: Spatial distribution of the total number of sets by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2020 (provisional data).

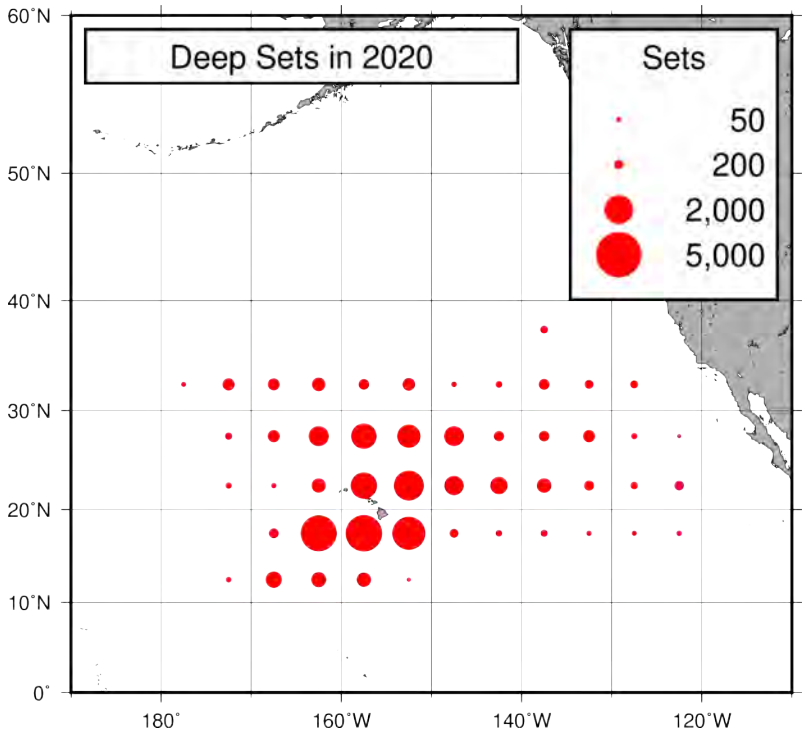


Figure 10: Spatial distribution of the number of deep-set sets by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2020 (provisional data).

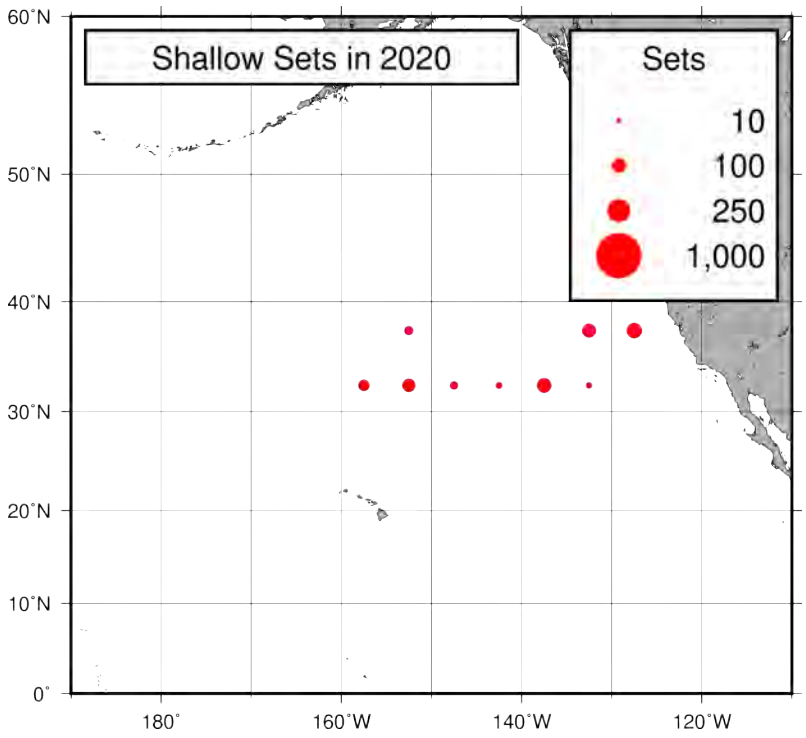


Figure 11: Spatial distribution of the number of shallow-set sets by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2020 (provisional data).

## Total Effort

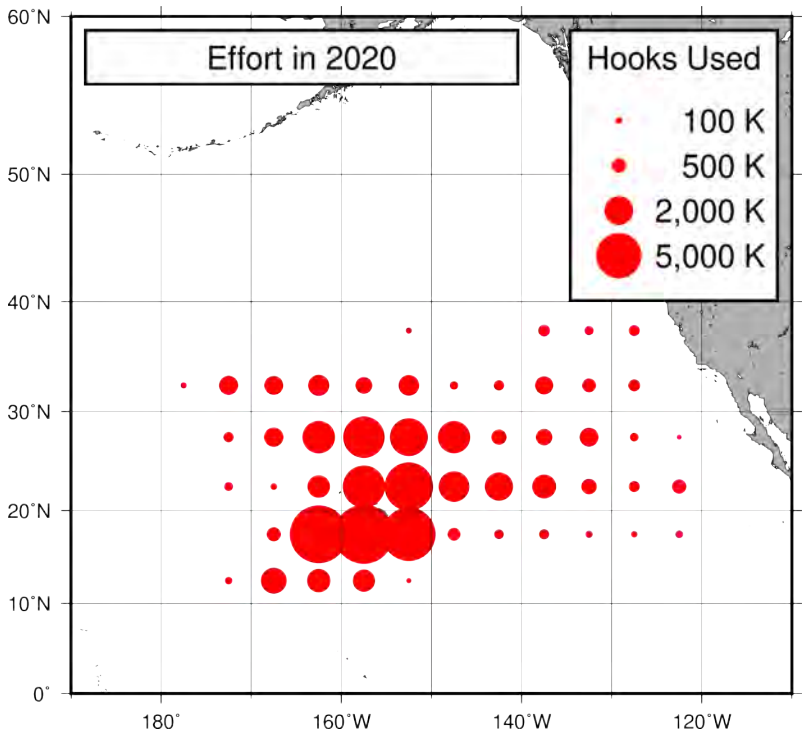


Figure 12: Spatial distribution of the total number of hooks set by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2020 (provisional data).

## Deep Effort

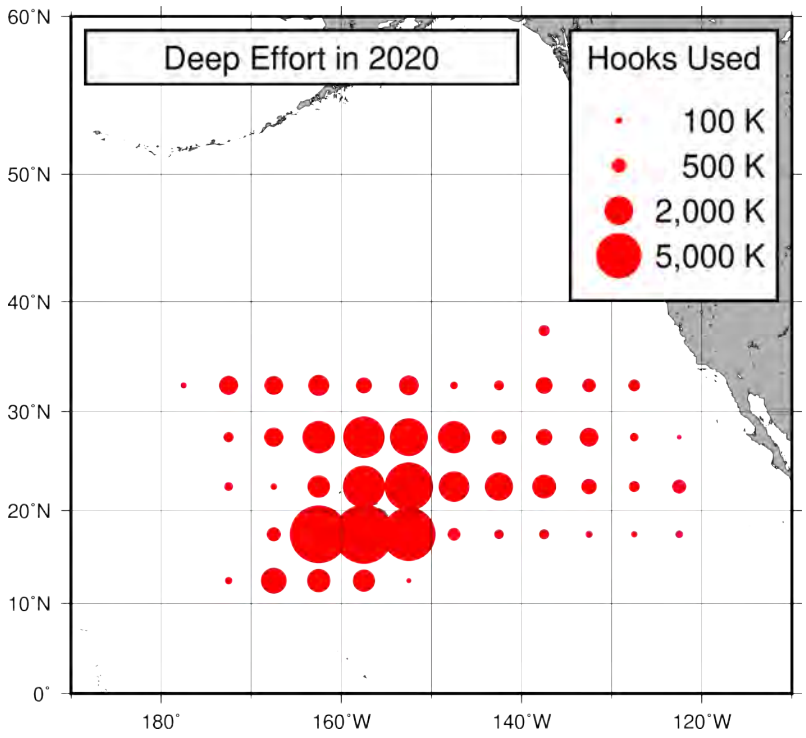


Figure 13: Spatial distribution of the number of deep-set hooks set by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2020 (provisional data).

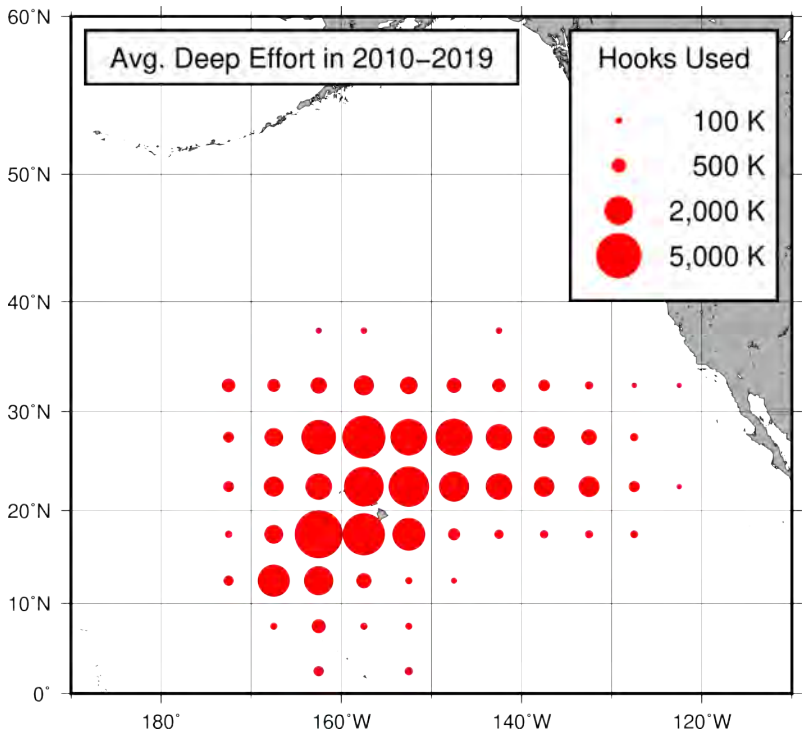


Figure 14: Spatial distribution of the average number of deep-set hooks set by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2010-2019 .

## Shallow Effort

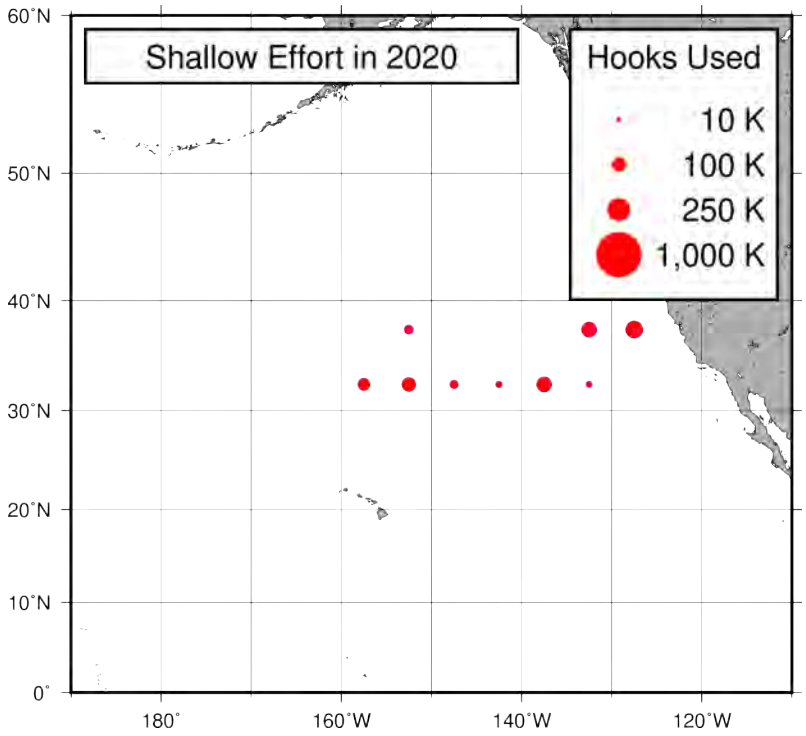


Figure 15: Spatial distribution of the number of shallow-set hooks set by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2020 (provisional data).

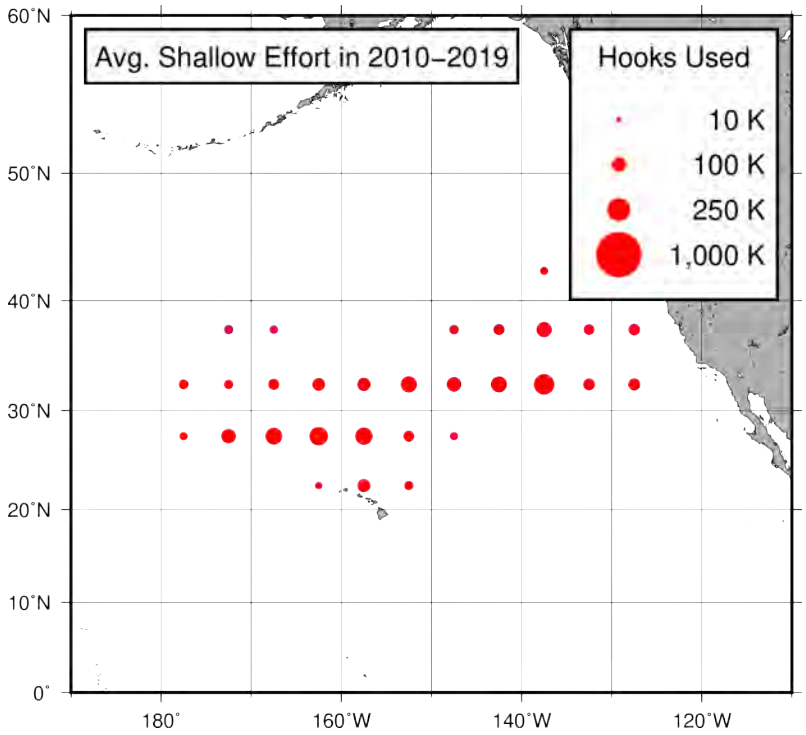


Figure 16: Spatial distribution of the average number of shallow-set hooks set by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2010-2019 .

## Bigeye Catch

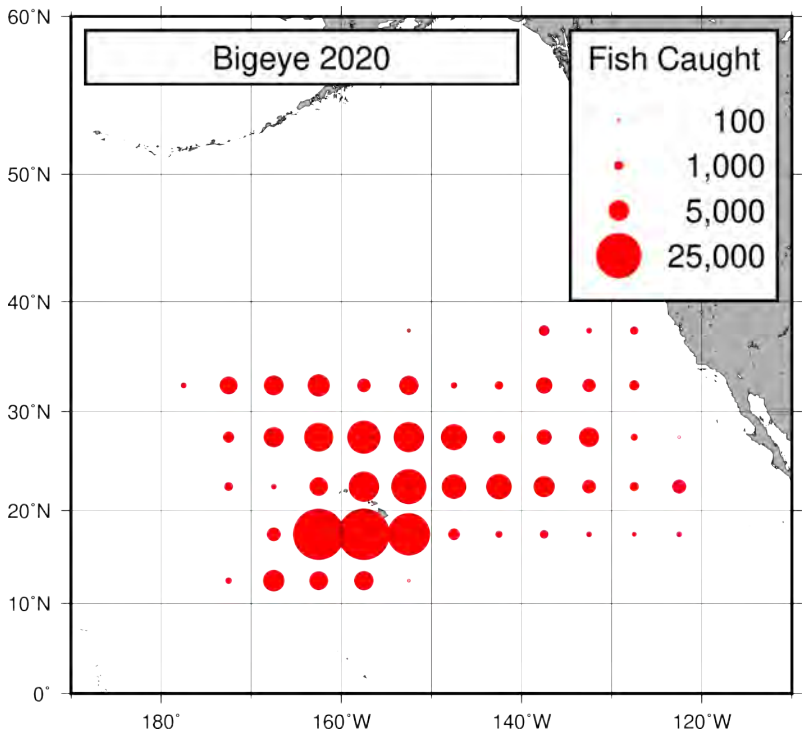


Figure 17: Spatial distribution of the total number of bigeye tuna caught by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2020 (provisional data).

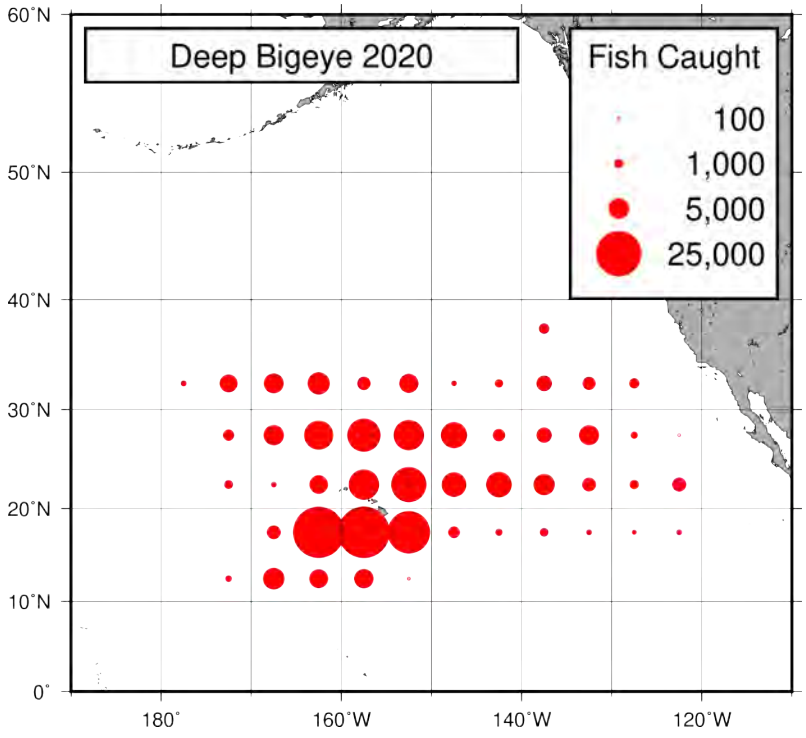


Figure 18: Spatial distribution of the number of deep-set bigeye tuna caught by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2020 (provisional data).

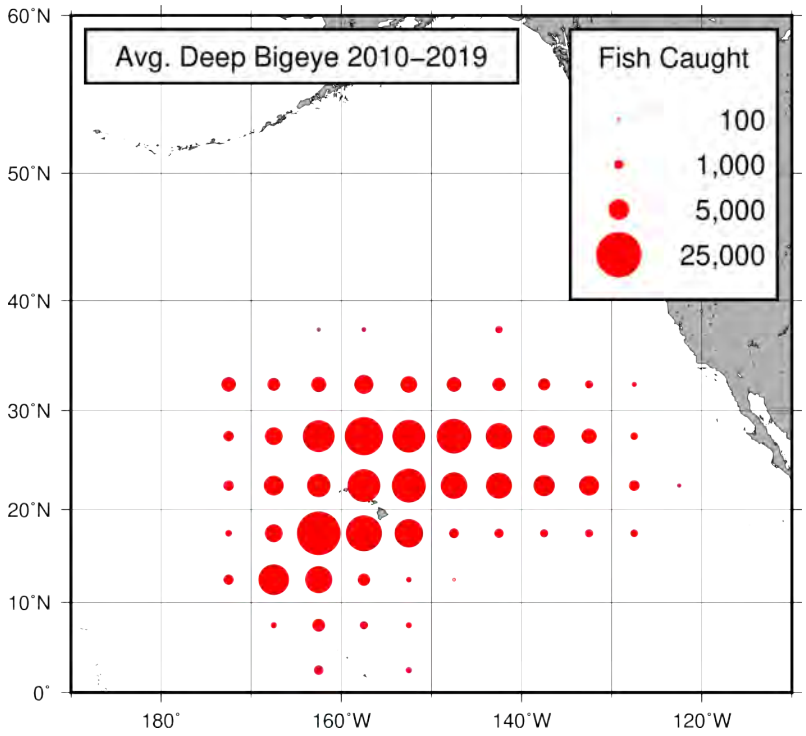


Figure 19: Spatial distribution of the average number of deep-set bigeye tuna caught by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2010-2019.

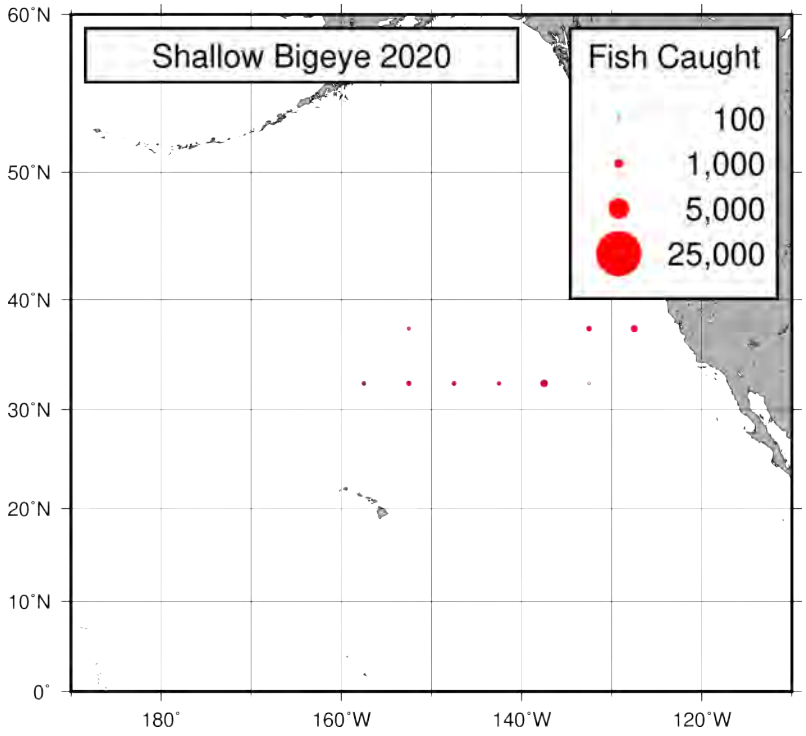


Figure 20: Spatial distribution of the number of shallow-set bigeye tuna caught by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2020 (provisional data).

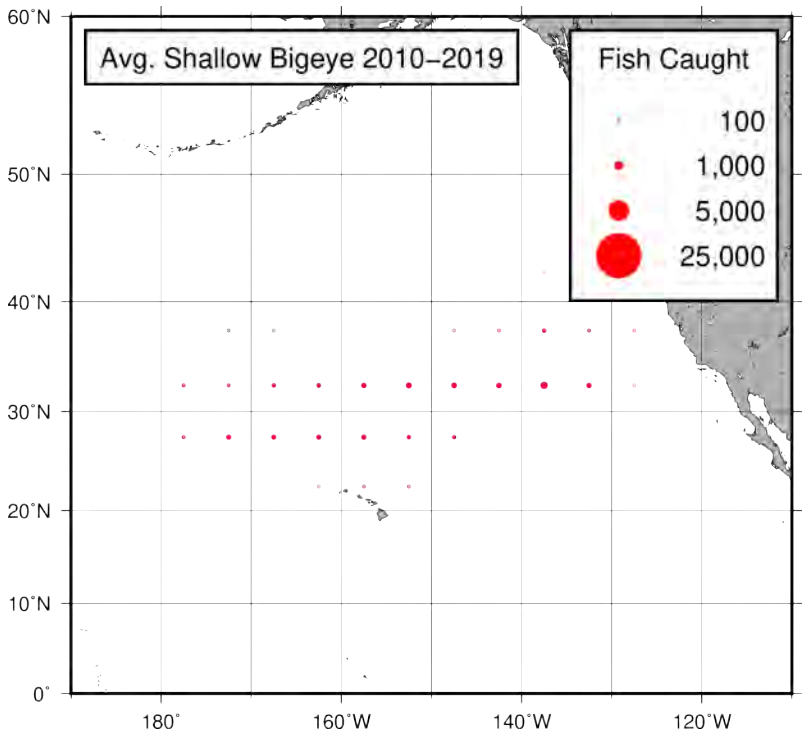


Figure 21: Spatial distribution of the average number of shallow-set bigeye tuna caught by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2010-2019.

## Swordfish

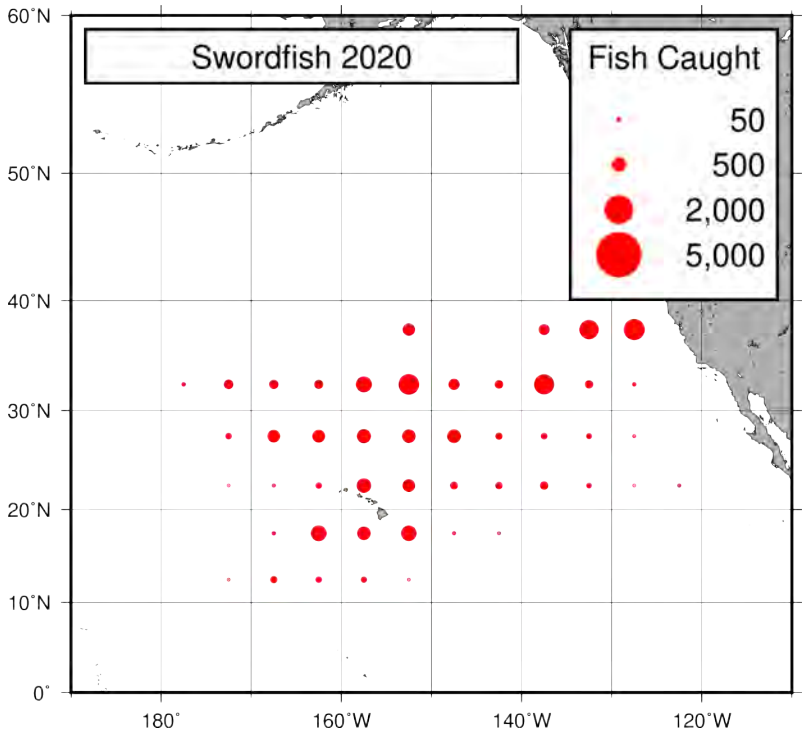


Figure 22: Spatial distribution of the total number of swordfish caught, by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2020 (provisional data).

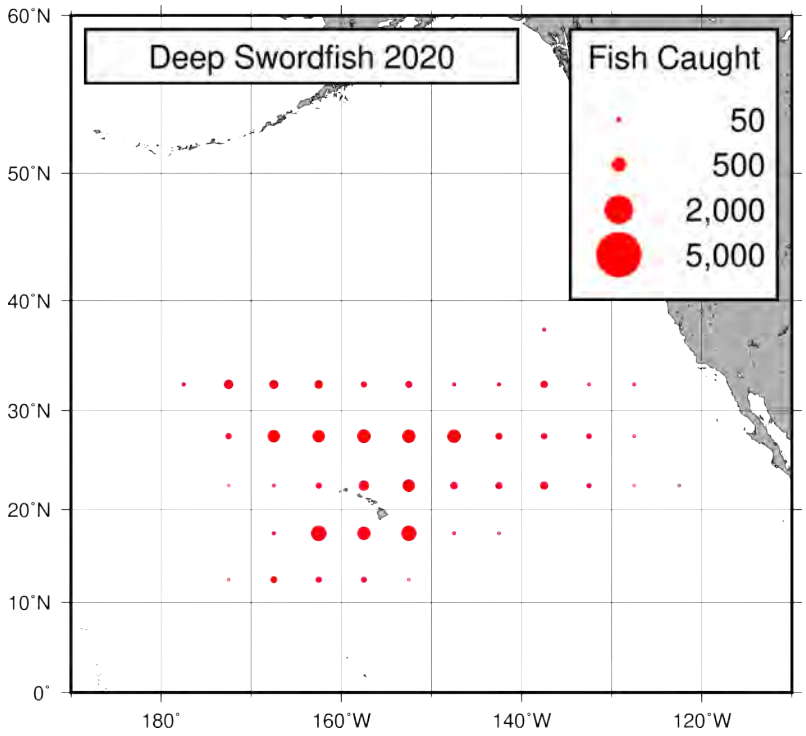


Figure 23: Spatial distribution of the number of deep-set swordfish caught, by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2020 (provisional data).

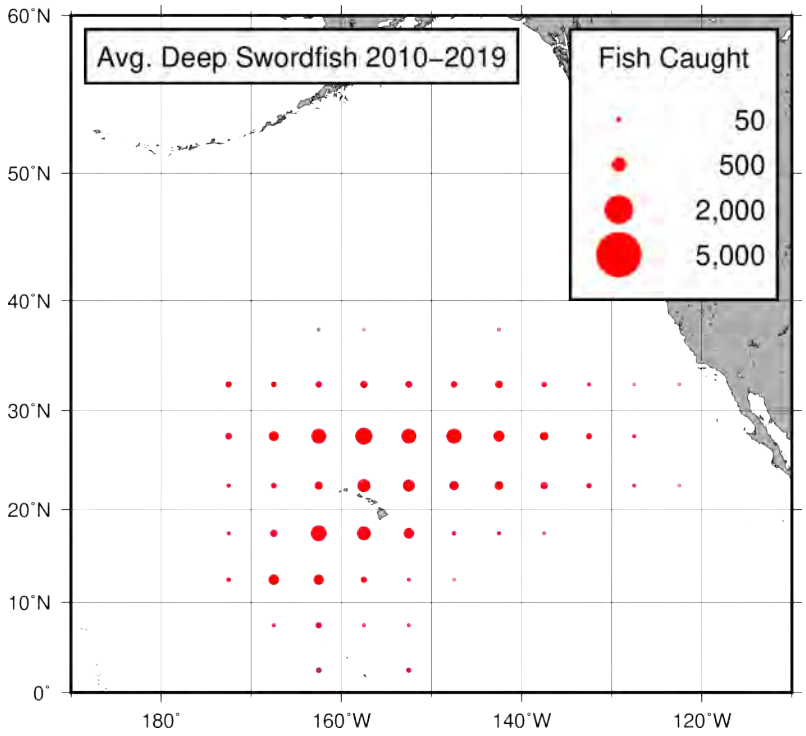


Figure 24: Spatial distribution of the average number of deep-set swordfish caught, by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2010-2019.

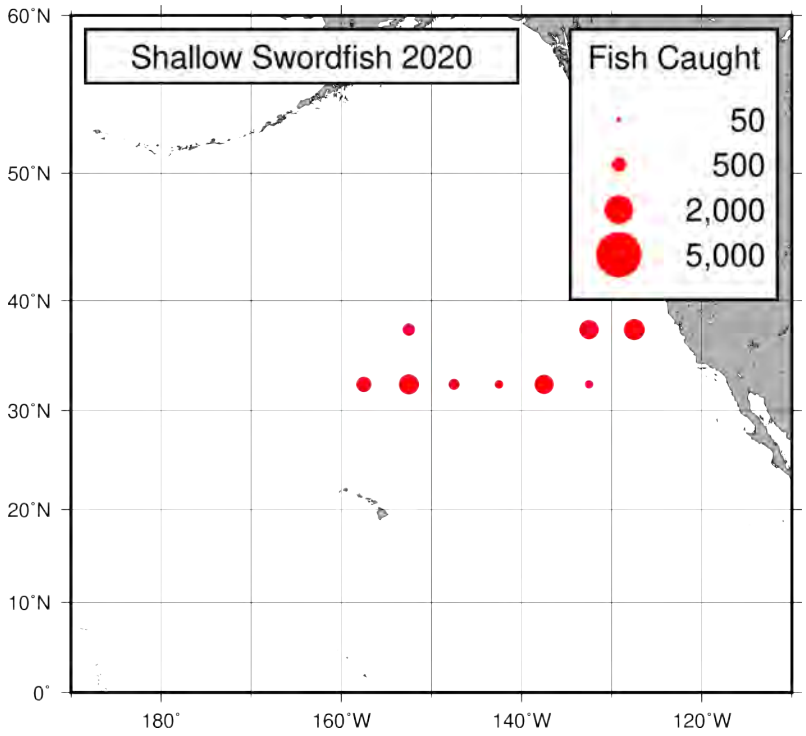


Figure 25: Spatial distribution of the number of shallow-set swordfish caught, by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2020 (provisional data).

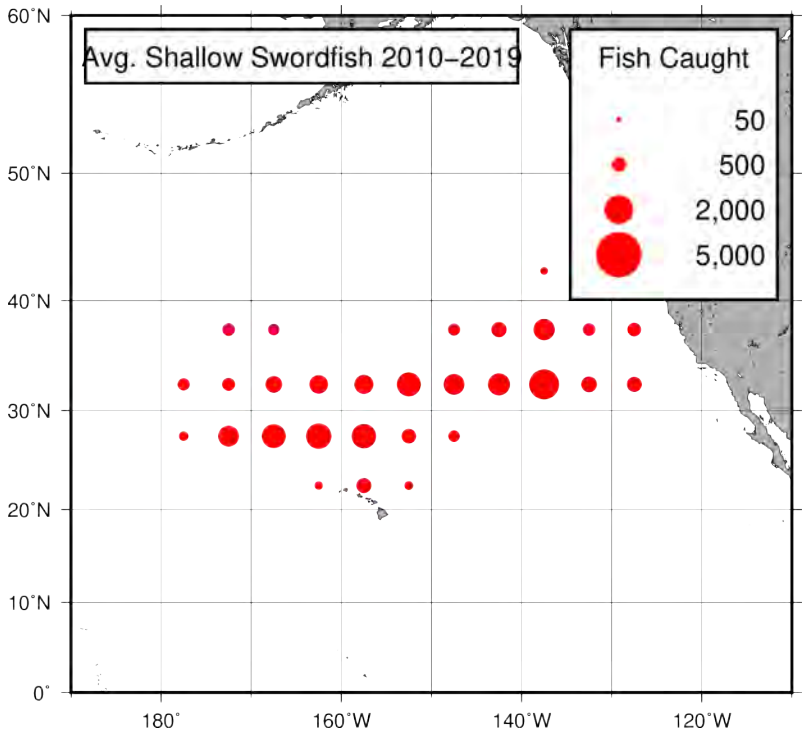


Figure 26: Spatial distribution of the average number of shallow-set swordfish caught, by longline vessels based in Hawaii and California fishing within the North Pacific Ocean, 2010-2019.