

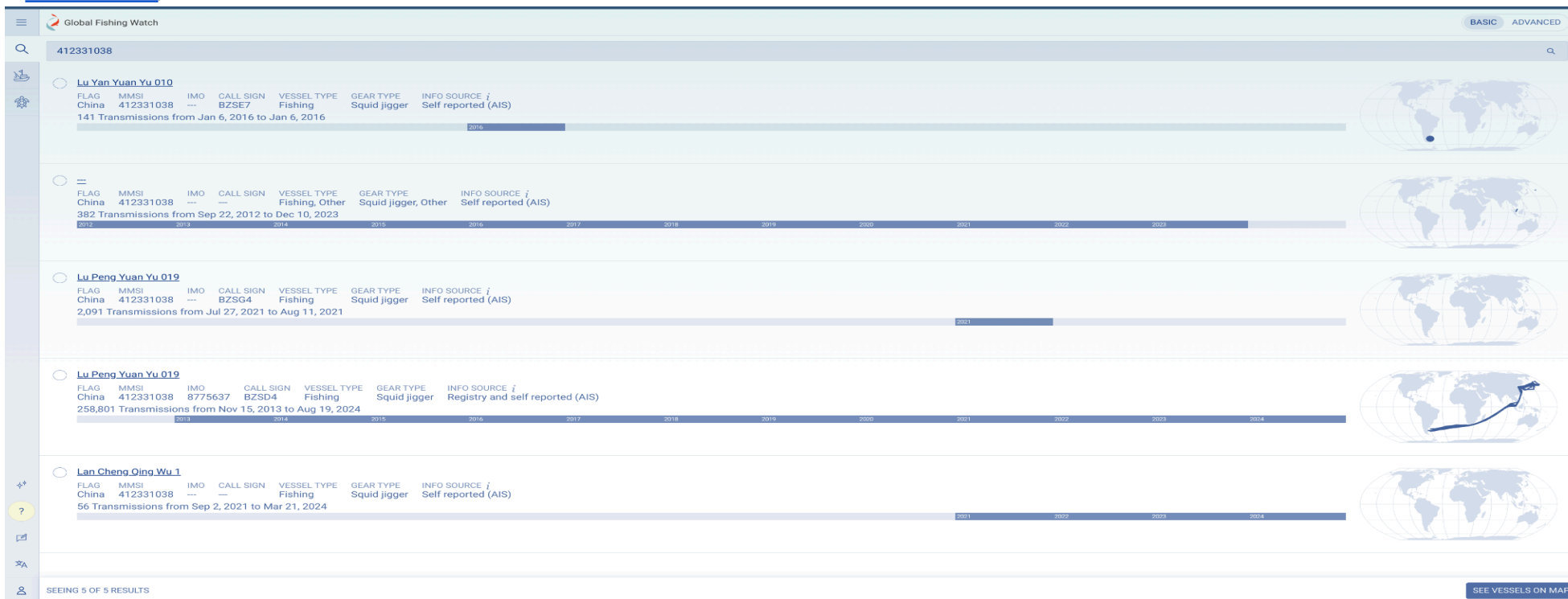
2024 - Vessel Viewer (VV) and the APIs behind It

Context

The goal of this document is to explain what APIs (which exact requests) are used in Vessel Viewer

Vessel Search - example 1: MMSI 412331038

In [Vessel Viewer](#), it returns 5 results:



The screenshot shows the Global Fishing Watch Vessel Viewer interface. At the top, there is a search bar containing the MMSI number 412331038. Below the search bar, five vessel entries are listed, each with a radio button for selection. The entries are:

- Lu Yan Yuan Yu 010**: FLAG: China, MMSI: 412331038, IMO: ---, CALL SIGN: BZSE7, VESSEL TYPE: Fishing, GEAR TYPE: Squid jigger, INFO SOURCE: Self reported (AIS). 141 Transmissions from Jan 6, 2016 to Jan 6, 2016. Timeline shows activity in 2016.
- : FLAG: China, MMSI: 412331038, IMO: ---, CALL SIGN: ---, VESSEL TYPE: Fishing, Other, GEAR TYPE: Squid jigger, Other, INFO SOURCE: Self reported (AIS). 382 Transmissions from Sep 22, 2012 to Dec 10, 2023. Timeline shows activity from 2012 to 2023.
- Lu Peng Yuan Yu 019**: FLAG: China, MMSI: 412331038, IMO: ---, CALL SIGN: BZSG4, VESSEL TYPE: Fishing, GEAR TYPE: Squid jigger, INFO SOURCE: Self reported (AIS). 2,091 Transmissions from Jul 27, 2021 to Aug 11, 2021. Timeline shows activity in 2021.
- Lu Peng Yuan Yu 019**: FLAG: China, MMSI: 412331038, IMO: 8775637, CALL SIGN: BZSD4, VESSEL TYPE: Fishing, GEAR TYPE: Squid jigger, INFO SOURCE: Registry and self reported (AIS). 258,801 Transmissions from Nov 15, 2013 to Aug 19, 2024. Timeline shows activity from 2013 to 2024.
- Lan Cheng Qing Wu 1**: FLAG: China, MMSI: 412331038, IMO: ---, CALL SIGN: ---, VESSEL TYPE: Fishing, GEAR TYPE: Squid jigger, INFO SOURCE: Self reported (AIS). 56 Transmissions from Sep 2, 2021 to Mar 21, 2024. Timeline shows activity from 2021 to 2024.

At the bottom of the interface, it says "SEEING 5 OF 5 RESULTS" and there is a button labeled "SEE VESSELS ON MAP".

In the back, VV is calling [Vessel API](#), specifically:

2024 - Vessel Viewer (VV) and the APIs behind It

```
Unset
curl --location --globoff
'https://gateway.api.globalfishingwatch.org//v3/vessels/search?query=412331038&datasets[0]=public-global-vessel-identity%3Alatest&includes[0]=MATCH_CRITERIA&includes[1]=OWNERSHIP' \
--header 'Authorization: Bearer [ADD YOUR API TOKEN]'
```

⚠ IMPORTANT NOTE ⚠: The API token determines data access. Public Vessel Viewer is intended for non-commercial use, so the API provides access to all registry sources. However, API tokens associated with R&D agreements for potential commercial use may have restricted access to certain sources, as some registries do not permit commercial usage.

The API response also includes the 5 results as in VV, which is correct since all entries match with finding the value **412331038** in some field, in this example in SSVID (a.k.a MMSI) :

```
{
  "limit": 20,
  "since": null,
  "total": 5,
  "entries": [
    {
      1
    },
    {
      2
    },
    {
      3
    },
    {
      4
    },
    {
      5
    }
  ],
  "metadata": {
    "query": "412331038",
    "normalizedQuery": "412331038",
    "didYouMean": {}
  }
}
```


2024 - Vessel Viewer (VV) and the APIs behind It

Sorting of the entries can vary but all of them should be there. So, let's analyze each entry to understand its meaning:


2024 - Vessel Viewer (VV) and the APIs behind It

Entry	Vessel API	Vessel Viewer Search Result														
(1)	<pre> { "dataset": "public-global-vessel-identity:v3.0", "registryInfoTotalRecords": 0, "registryInfo": [], "registryOwners": [], "combinedSourcesInfo": [...], "selfReportedInfo": [...], "matchCriteria": [...] }, </pre> <p>Source of this data is different public vessel registries</p> <p>Source of this data is a combination of public vessel registries + AIS + GFW vessel lists</p> <p>Source of this data is AIS</p> <p>Explains what fields matched with the query</p> <p>In the request, I got as Entry (1) one that does not have data from registries; it only has AIS data, which is why the INFO SOURCE = Self-reported (AIS) on the vessel viewer.</p> <p>Since there is NO registry, then we will only find 1 vessel_id inside <code>selfReportedInfo</code> = <code>91df2f8c7-74fd-5b5a-60f5-3d86f9c51ff2</code>. Which is the same ID as in <code>combinedSourcesInfo</code></p> <pre> "selfReportedInfo": [{ "id": "91df2f8c7-74fd-5b5a-60f5-3d86f9c51ff2", "ssvid": "412331038", "shipname": "LU YAN YUAN YU 010", "nShipname": "LUYANYUANYU10", "flag": "CHN", "callsign": "BZSE7", "imo": null, "messagesCounter": 154, "positionsCounter": 141, "sourceCode": ["AIS"], "matchFields": "NO_MATCH", "transmissionDateFrom": "2016-01-06T02:46:22Z", "transmissionDateTo": "2016-01-06T22:08:20Z" }], </pre>	<p>Lu Yan Yuan Yu 010</p> <table border="1"> <thead> <tr> <th>FLAG</th> <th>MMSI</th> <th>IMO</th> <th>CALL SIGN</th> <th>VESSEL TYPE</th> <th>GEAR TYPE</th> <th>INFO SOURCE</th> </tr> </thead> <tbody> <tr> <td>China</td> <td>412331038</td> <td>---</td> <td>BZSE7</td> <td>Fishing</td> <td>Squid jigger</td> <td>Self reported (AIS)</td> </tr> </tbody> </table> <p>141 Transmissions from Jan 6, 2016 to Jan 6, 2016</p>	FLAG	MMSI	IMO	CALL SIGN	VESSEL TYPE	GEAR TYPE	INFO SOURCE	China	412331038	---	BZSE7	Fishing	Squid jigger	Self reported (AIS)
FLAG	MMSI	IMO	CALL SIGN	VESSEL TYPE	GEAR TYPE	INFO SOURCE										
China	412331038	---	BZSE7	Fishing	Squid jigger	Self reported (AIS)										

2024 - Vessel Viewer (VV) and the APIs behind It

Entry	Vessel API	Vessel Viewer Search Result
(2)	<p>It is the same situation as the entry (1) with a different vessel_id, 108c5510b-b6aa-9cf2-8b86-0598de546741. Since AIS didn't report the ship name or callsign, we consider them a separate entity. We can't consider this the same vessel as entry (1) since we can't be sure of its identity.</p> <pre> "selfReportedInfo": [{ "id": "108c5510b-b6aa-9cf2-8b86-0598de546741", "ssvid": "412331038", "shipname": null, "nShipname": null, "flag": "CHN", "callsign": null, "imo": null, "messagesCounter": 382, "positionsCounter": 382, "sourceCode": ["AIS"], "matchFields": "NO_MATCH", "transmissionDateFrom": "2012-09-22T08:57:08Z", "transmissionDateTo": "2023-12-10T10:02:03Z" }], </pre>	

2024 - Vessel Viewer (VV) and the APIs behind It

Entry	Vessel API	Vessel Viewer Search Result														
(3)	<p>It is the same situation as the entry (1) with a different vessel_id, d2fbd05f5-57dd-1faa-c384-67a75f27fc80. Since AIS reported a different ship name and a different callsign, we consider them separate entities. We can't consider this the same vessel as entry (1) since we can't be sure of its identity.</p> <pre> { "selfReportedInfo": [{ "id": "d2fbd05f5-57dd-1faa-c384-67a75f27fc80", "ssvid": "412331038", "shipname": "LU PENG YUAN YU 019", "nShipname": "LUPENGYUANYU19", "flag": "CHN", "callsign": "BZSG4", "imo": null, "messagesCounter": 2338, "positionsCounter": 2091, "sourceCode": ["AIS"], "matchFields": "NO_MATCH", "transmissionDateFrom": "2021-07-27T05:05:52Z", "transmissionDateTo": "2021-08-11T09:11:14Z" }] } </pre> <p><i>(Note: In the original image, red boxes highlight the ID and shipname/callsign fields, with red arrows pointing to the text "Different shipname" and "Different callsign".)</i></p>	 <p>The screenshot shows the search results for the vessel "LU Peng Yuan Yu 019". The vessel details are as follows:</p> <table border="1"> <thead> <tr> <th>FLAG</th> <th>IMRIS</th> <th>IMO</th> <th>CALL SIGN</th> <th>VESSEL TYPE</th> <th>GEAR TYPE</th> <th>INFO SOURCE</th> </tr> </thead> <tbody> <tr> <td>China</td> <td>412331038</td> <td>—</td> <td>BZSG4</td> <td>Fishing</td> <td>Squid jigger</td> <td>Self reported (AIS)</td> </tr> </tbody> </table> <p>2,091 Transmissions from Jul 27, 2021 to Aug 11, 2021</p>	FLAG	IMRIS	IMO	CALL SIGN	VESSEL TYPE	GEAR TYPE	INFO SOURCE	China	412331038	—	BZSG4	Fishing	Squid jigger	Self reported (AIS)
FLAG	IMRIS	IMO	CALL SIGN	VESSEL TYPE	GEAR TYPE	INFO SOURCE										
China	412331038	—	BZSG4	Fishing	Squid jigger	Self reported (AIS)										

2024 - Vessel Viewer (VV) and the APIs behind It

- (4) This entry has information from the **Registry** and **AIS**, which is why in Vessel Viewer, you see **INFO SOURCE = Registry and self-reported (AIS)**. This entry not only has 1 matching in the Registry it also matches potentially with 2 vessel ids: **755a48dd4-4bee-4bcf-7b5f-9baea058fc7b** and **3dad49b0b-b2e0-9347-0c4c-e39fea560f9f**

registryInfo object includes:

```

"registryInfo": [
  {
    "id": "4ef90bea19300c6a23f6ce627a80238b",
    "sourceCode": [
      "IMO",
      "NPPFC",
      "RESEARCH-PAPER",
      "SPRFMO"
    ],
    "ssvid": "412331038",
    "flag": "CHN",
    "shipname": "LU PENG YUAN YU 019",
    "nShipname": "LUPENGYUANYU19",
    "callsign": "BZSD4",
    "imo": "8775637",
    "latestVesselInfo": true,
    "transmissionDateFrom": "2013-11-15T00:28:32Z",
    "transmissionDateTo": "2024-06-27T22:36:55Z",
    "geartypes": [
      "SQUID_JIGGER"
    ],
    "lengthM": 69.9,
    "tonnageGt": 1408,
    "vesselInfoReference": "f7de94ea-ca6c-4218-bf61-dd74c775d8e4"
  }
]

```

Annotations in the image:

- Red arrow pointing to "id": "4ef90bea19300c6a23f6ce627a80238b": internal id we use to reference as part of GFW Vessel DB
- Red arrow pointing to "sourceCode": ["IMO", "NPPFC", "RESEARCH-PAPER", "SPRFMO"]: Registry sources, details in <https://globalfishingwatch.org/our-apis/documentation#vessel-api-registry-codes-data-sources>
- Red arrow pointing to "ssvid": "412331038": MMSI
- Red arrow pointing to "vesselInfoReference": "f7de94ea-ca6c-4218-bf61-dd74c775d8e4": Vessel reference used in the object matchCriteria to understand where was the match from the user query in the registry (in this case)

When we check the `selfReportedInfo`, meaning AIS data in this case, we have 2 vessel IDs as part of this same entry. This means that this is our best guess that these 2 vessel_ids are actually the same “physical vessel” that is linked to the information extracted from the public registries.

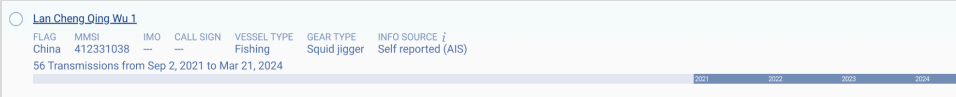
FLAG	MMSI	IMO	CALL SIGN	VESSEL TYPE	GEAR TYPE	INFO SOURCE
China	412331038	8775637	BZSD4	Fishing	Squid Jigger	Registry and self reported (AIS)

258,801 Transmissions from Nov 15, 2013 to Aug 19, 2024

2024 - Vessel Viewer (VV) and the APIs behind It

Entry	Vessel API	Vessel Viewer Search Result
	<pre> "selfReportedInfo": [{ "id": "755a48dd4-4bee-4bcf-7b5f-9baea058fc7b", "ssvid": "412331038", "shipname": "LU PENG YUAN YU 019", "nShipname": "LUPENGYUANYU19", "flag": "CHN", "callsign": "BZSD4", "imo": "8775637", "messagesCounter": 114945, "positionsCounter": 66070, "sourceCode": ["AIS"], "matchFields": "SEVERAL_FIELDS", "transmissionDateFrom": "2023-10-25T05:45:45Z", "transmissionDateTo": "2024-08-30T23:31:49Z" }, { "id": "3dad49b0b-b2e0-9347-0c4c-e39fea560f9f", "ssvid": "412331038", "shipname": "LU PENG YUAN YU 019", "nShipname": "LUPENGYUANYU19", "flag": "CHN", "callsign": "BZSD4", </pre> <p>This fields means that this vessel_id from AIS matches in several identity fields (in this case MMSI, callsign, flag, IMO and name) with the registry</p>	

2024 - Vessel Viewer (VV) and the APIs behind It

Entry	Vessel API	Vessel Viewer Search Result
(5)	<p>It is the same situation as the entry (1) with a different vessel_id, a5ef97d59-9f40-3bdc-e247-daf9c892ceff. Since AIS reported a different ship name, no callsign, we consider them separate entities. We can't consider this the same vessel as entry (1) since we can't be sure of its identity.</p> <pre data-bbox="219 544 1093 1125"> { "selfReportedInfo": [{ "id": "a5ef97d59-9f40-3bdc-e247-daf9c892ceff", "ssvid": "412331038", "shipname": "LAN CHENG QING WU 1", "nShipname": "LANCHENGQINGWU1", "flag": "CHN", "callsign": null, "imo": null, "messagesCounter": 61, "positionsCounter": 56, "sourceCode": ["AIS"], "matchFields": "NO_MATCH", "transmissionDateFrom": "2021-09-02T09:06:30Z", "transmissionDateTo": "2024-03-21T23:09:46Z" }] } </pre> <p><i>Annotations in the JSON:</i> - Red arrow pointing to "shipname": "LAN CHENG QING WU 1" with text "Different shipname" - Red arrow pointing to "callsign": null with text "No call sign"</p>	 <p>The screenshot shows a search result for the vessel "Lan Cheng Qing Wu 1". It displays a table with columns: FLAG, MMSI, IMO, CALL SIGN, VESSEL TYPE, GEAR TYPE, and INFO SOURCE. The data row shows: China, 412331038, --, --, Fishing, Squid Jigger, Self reported (AIS). Below the table, it indicates "56 Transmissions from Sep 2, 2021 to Mar 21, 2024". A timeline at the bottom shows years 2021, 2022, 2023, and 2024.</p>

2024 - Vessel Viewer (VV) and the APIs behind It

Vessel Profile - example 1: Lu Peng Yuan Yu 019

The recommendation is to always try to select the one with INFO SOURCE = **Registry and self-reported (AIS)** from the search result since it means we were able to match **registry data and AIS**. In this example, it will be [Lu Peng Yuan Yu 019 \(entry 4\)](#) from the previous search).

- Vessel viewer executes several API requests to built the Vessel Profile
- By default, Vessel Viewer displays the last three months of activity.

2024 - Vessel Viewer (VV) and the APIs behind It

Lu Peng Yuan Yu 019 PRINT ADD TO VESSEL GROUP

REGISTRY *i* | AIS

REGISTRY SOURCES	DATES	
IMO, NPFC, RESEARCH-PAPER...	Nov 15, 2013 - Jun 27, 2024	↓
NAME	FLAG	Vessel API
Lu Peng Yuan Yu 019	China	
MMSI	IMO	CALL SIGN
412331038	8775637	BZSD4
GEAR TYPES	LENGTH	GROSS TONNAGE
Squid jigger	69.9	1,408
OWNER <i>i</i>		
Zhoushan Shunhang Ocean Fisheries (China) Nov 15, 2013 - Jun 27, 2024		
AUTHORIZATION <i>i</i>		
NPFC Jan 4, 2017 - Jul 1, 2024	SPRFMO Dec 22, 2016 - Jul 1, 2024	

SUMMARY | AREAS | RELATED VESSELS | **INSIGHTS**

Insights API


12 events in 3 voyages between May 30, 2024 and Aug 30, 2024 in 3 EEZs, 1 FAO area, 6 RFMOs areas. [↓](#)

- 2 Port visits (China, Republic of Korea) *i*
- 10 Fishing events (59.42 hours) *i*
- ◆ 0 Encounter events *i*
- ◇ Loitering events *i*

Events API

ACTIVITY BY TYPE | TIMELINE BY VOYAGES

- ⬇ 2 PORT VISITS
- ⬇ 10 FISHING EVENTS



1000 nm

MAY 30, 2024 - AUG 30, 2024

Founding partners: OCEANA SKYTRUTH Google © Global Fishing Watch 2024

2024 - Vessel Viewer (VV) and the APIs behind It

Vessel API request

```
Unset
curl --location --globoff
'https://gateway.api.globalfishingwatch.org//v3/vessels?datasets[0]=public-global-vessel-identity%3Alatest&ids[0]=755a48dd4-4bee-4bcf-7
b5f-9baea058fc7b&includes[0]=POTENTIAL_RELATED_SELF_REPORTED_INFO' \
--header 'Authorization: Bearer [ADD YOUR TOKEN]'
```

The flag **POTENTIAL_RELATED_SELF_REPORTED_INFO** allows to bring all related vessel_ids based on the matching with the registry, in this case, the vessel_id is **755a48dd4-4bee-4bcf-7b5f-9baea058fc7b** is related to **3dad49b0b-b2e0-9347-0c4c-e39fea560f9f** since the Vessel API response, includes both vessel_ids as part of the same entry:

2024 - Vessel Viewer (VV) and the APIs behind It

```
"entries": [
  {
    "registryInfoTotalRecords": 1,
    "registryInfo": [ ... ],
    "registryOwners": [ ... ],
    "registryPublicAuthorizations": [ ... ],
    "combinedSourcesInfo": [ ... ],
    "selfReportedInfo": [
      {
        "id": "755a48dd4-4bee-4bcf-7b5f-9baea058fc7b",
        "ssvid": "412331038",
        "shipname": "LU PENG YUAN YU 019",
        "nShipname": "LUPENGYUANYU19",
        "flag": "CHN",
        "callsign": "BZSD4",
        "imo": "8775637",
        "messagesCounter": 114945,
        "positionsCounter": 66070,
        "sourceCode": [
          "AIS"
        ],
        "matchFields": "SEVERAL_FIELDS",
        "transmissionDateFrom": "2023-10-25T05:45:45Z",
        "transmissionDateTo": "2024-08-30T23:31:49Z"
      },
      {
        "id": "3dad49b0b-b2e0-9347-0c4c-e39fea560f9f",
        "ssvid": "412331038",
        "shipname": "LU PENG YUAN YU 019",
        "nShipname": "LUPENGYUANYU19",
        "flag": "CHN",
        "callsign": "BZSD4",
        "imo": null,
        "messagesCounter": 317578,
        "positionsCounter": 192738,
      }
    ]
  }
]
```

2024 - Vessel Viewer (VV) and the APIs behind It

Vessel API

Registry tab in Vessel Viewer includes these objects from the API response:

- registryInfo
- registryOwners
- registryPublicAuthorizations

```

"registryInfo": [
  {
    "id": "4ef90bea19300c6a23f6ce627a80238b",
    "sourceCode": [
      "IMO",
      "NPFC",
      "RESEARCH-PAPER",
      "SPRFMO"
    ],
    "ssvid": "412331038",
    "flag": "CHN",
    "shipname": "LU PENG YUAN YU 019",
    "nShipname": "LUPENGYUANYU19",
    "callsign": "BZSD4",
    "imo": "8775637",
    "latestVesselInfo": true,
    "transmissionDateFrom": "2013-11-15T00:28:32Z",
    "transmissionDateTo": "2024-06-27T22:36:55Z",
    "geartypes": [
      "SQUID_JIGGER"
    ],
    "lengthM": 69.9,
    "tonnageGt": 1408,
    "vesselInfoReference": "f7de94ea-ca6c-4218-bf61-dd74c775d8e4"
  }
],

```

Vessel Viewer

REGISTRY <i>i</i>		AIS	
REGISTRY SOURCES	DATES	↓	
IMO, NPFC, RESEARCH-PAPER...	Nov 15, 2013 - Jun 27, 2024		
NAME	FLAG		
Lu Peng Yuan Yu 019	China		
MMSI	IMO	CALL SIGN	
412331038	8775637	BZSD4	
GEAR TYPES	LENGTH	GROSS TONNAGE	
Squid jigger	69.9	1,408	
OWNER <i>i</i>			
Zhoushan Shunhang Ocean Fisheries (China) Nov 15, 2013 - Jun 27, 2024			
AUTHORIZATION <i>i</i>			
NPFC Jan 4, 2017 - Jul 1, 2024		SPRFMO Dec 22, 2016 - Jul 1, 2024	

2024 - Vessel Viewer (VV) and the APIs behind It

Vessel API

```
"registryOwners": [  
  {  
    "name": "ZHOUSHAN SHUNHANG OCEAN FISHERIES",  
    "flag": "CHN",  
    "ssvid": "412331038",  
    "sourceCode": [  
      "RESEARCH-PAPER"  
    ],  
    "dateFrom": "2013-11-15T00:28:32Z",  
    "dateTo": "2024-06-27T22:36:55Z"  
  }  
],
```

```
  },  
  "registryPublicAuthorizations": [  
    {  
      "dateFrom": "2017-01-04T00:00:00Z",  
      "dateTo": "2024-07-01T00:00:00Z",  
      "ssvid": "412331038",  
      "sourceCode": [  
        "NPFC"  
      ]  
    },  
    {  
      "dateFrom": "2016-12-22T00:00:00Z",  
      "dateTo": "2024-07-01T00:00:00Z",  
      "ssvid": "412331038",  
      "sourceCode": [  
        "SPRFMO"  
      ]  
    }  
  ],  
],
```

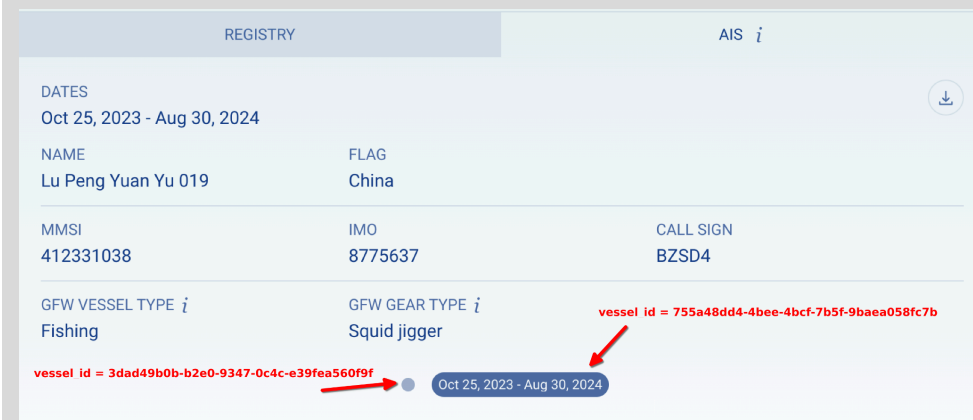
Vessel Viewer

2024 - Vessel Viewer (VV) and the APIs behind It

Vessel API

Registry tab in Vessel Viewer includes these objects from the API response **selfReportedInfo** . There is one point for each vessel id based on the transmission dates

Vessel Viewer



The screenshot shows the 'REGISTRY' tab in the Vessel Viewer interface. The vessel details are as follows:

REGISTRY		AIS <i>i</i>	
DATES Oct 25, 2023 - Aug 30, 2024			
NAME Lu Peng Yuan Yu 019	FLAG China		
MMSI 412331038	IMO 8775637	CALL SIGN BZSD4	
GFW VESSEL TYPE <i>i</i> Fishing	GFW GEAR TYPE <i>i</i> Squid jigger	vessel id = 755a48dd4-4bee-4bcf-7b5f-9baea058fc7b	
vessel id = 3dad49b0b-b2e0-9347-0c4c-e39fea560f9f			Oct 25, 2023 - Aug 30, 2024

Red arrows in the original image point to the vessel IDs and the date range.

2024 - Vessel Viewer (VV) and the APIs behind It

Vessel API

```

"selfReportedInfo": [
  {
    "id": "755a48dd4-4bee-4bcf-7b5f-9baea058fc7b",
    "ssvid": "412331038",
    "shipname": "LU PENG YUAN YU 019",
    "nShipname": "LUPENGYUANYU19",
    "flag": "CHN",
    "callsign": "BZSD4",
    "imo": "8775637",
    "messagesCounter": 114945,
    "positionsCounter": 66070,
    "sourceCode": [
      "AIS"
    ],
    "matchFields": "SEVERAL_FIELDS",
    "transmissionDateFrom": "2023-10-25T05:45:45Z",
    "transmissionDateTo": "2024-08-30T23:31:49Z"
  },
  {
    "id": "3dad49b0b-b2e0-9347-0c4c-e39fea560f9f",
    "ssvid": "412331038",
    "shipname": "LU PENG YUAN YU 019",
    "nShipname": "LUPENGYUANYU19",
    "flag": "CHN",
    "callsign": "BZSD4",
    "imo": null,
    "messagesCounter": 317578,
    "positionsCounter": 192738,
    "sourceCode": [
      "AIS"
    ],
    "matchFields": "SEVERAL_FIELDS",
    "transmissionDateFrom": "2013-11-15T00:28:32Z",
    "transmissionDateTo": "2023-10-11T02:05:05Z"
  }
],

```

Vessel Viewer

If I filter by date range April 1, 2023, to April 1, 2024, the filter does not impact the Registry and AIS tabs; it only impacts **Events**.

2024 - Vessel Viewer (VV) and the APIs behind It

Events API requests

Vessel Viewer executes several requests to get all events by event type: fishing, encounters, etc. In this section, we will focus on **PORT VISITS**.

- Since the vessel includes 2 vessel ids ([755a48dd4-4bee-4bcf-7b5f-9baea058fc7b](#) and [3dad49b0b-b2e0-9347-0c4c-e39fea560f9f](#)), then Vessel Viewer ask for all port visits for those 2 vessel ids.
- Additionally, it filters only by confidence = 4

Port visits request:

```
Unset
curl --location --globoff
'https://gateway.api.globalfishingwatch.org//v3/events?vessels[0]=755a48dd4-4bee-4bcf-7b5f-9baea058fc7b&vessels[1]=3dad49b0b-b2e0-9347-0c4c-e39fea560f9f&confidences[0]=4&includes[0]=id&includes[1]=type&includes[2]=start&includes[3]=end&includes[4]=position&includes[5]=regions.mpa&includes[6]=regions.eez&includes[7]=regions.fao&includes[8]=regions.rfmo&includes[9]=port_visit.intermediateAnchorage.name&includes[10]=port_visit.intermediateAnchorage.flag&limit=9999999&offset=0&datasets[0]=public-global-port-visits-events%3Av3.0&start-date=2023-01-01T00%3A00%3A00.000Z&end-date=2024-01-01T00%3A00%3A00.000Z' \
--header 'Authorization: Bearer [ADD YOUR TOKEN]'
```

2024 - Vessel Viewer (VV) and the APIs behind It

Events API

There are 4 port visits for those 2 vessel ids with confidence = 4

```

1  {
2  >   "metadata": { ...
17  },
18  "limit": 9999999,
19  "offset": 0,
20  "nextOffset": null,
21  "total": 4,
22  "entries": [
23  >   { ...
53  }, (1)
54  >   { ...
84  }, (2)
85  >   { ...
116  }, (3)
117  >   { ...
150  }, (4)
151  ]
152 }

```

Vessel Viewer

SUMMARY
AREAS
RELATED VESSELS
INSIGHTS

99 events in 5 voyages between Apr 1, 2023 and Apr 1, 2024 in 5 EEZs, 5 FAO areas, 13 RFMOs areas. ⌵

- 4 Port visits (Republic of Korea, China, Singapore and 1 more) *i*
- 95 Fishing events (629.18 hours) *i*
- ◆ 0 Encounter events *i*
- ◆ Loitering events *i*

ACTIVITY BY TYPE
TIMELINE BY VOYAGES

⌵ 4 PORT VISITS ⌴

⌵ 7/27/2023, 12:23 AM UTC - 21H 30M Visited port Busan, Republic of Korea	<i>i</i> ⌵
⌵ 10/4/2023, 10:10 PM UTC - 4H 43M Visited port Penglai, China	<i>i</i> ⌵
⌵ 11/2/2023, 5:03 AM UTC - 2D 6H 42M Visited port Singapore, Singapore	<i>i</i> ⌵
⌵ 11/22/2023, 8:44 PM UTC - 2D 11H 19M Visited port Cape Town, South Africa	<i>i</i> ⌵

⚠ Note: We had an issue when you use Vessel Viewer and update the URL using the vessel id `3dad49b0b-b2e0-9347-0c4c-e39fea560f9f`, [this profile](#), was requesting events from only `3dad49b0b-b2e0-9347-0c4c-e39fea560f9f` and it was missing `755a48dd4-4bee-4bcf-7b5f-9baea058fc7b`, so there were 2 port visits instead of 4. We fixed it Sep 3 2024.

2024 - Vessel Viewer (VV) and the APIs behind It

Vessel Profile - example 2: Jia De 7, a.k.a. Unknown vessel

[Vessel Viewer vessel profile link](#)

2024 - Vessel Viewer (VV) and the APIs behind It

Global Fishing Watch
🔗 ✕

Jia De 7, a.k.a. Unknown vesse

PRINT
ADD TO VESSEL GROUP

REGISTRY *i*
AIS

REGISTRY SOURCES	DATES	
GFW-REVIEW, IMO, NPFC...	Aug 1, 2012 - Jun 30, 2024	
NAME	FLAG	
Jia De 7	China	
MMSI	IMO	CALL SIGN
412420316	8776435	BZ3VC
GEAR TYPES	LENGTH	GROSS TONNAGE
Squid jigger	65.8	1,305
OWNER <i>i</i>		
Zhoushan Jade International Fisheries (China) Aug 1, 2012 - Jun 30, 2024		
AUTHORIZATION <i>i</i>		
NPFC Apr 30, 2020 - Jul 1, 2024		SPRFMO Apr 18, 2015 - Jul 1, 2024

SUMMARY
AREAS
RELATED VESSELS
INSIGHTS

Vessel insights between Apr 1, 2023 and Apr 1, 2024 *i*

AIS COVERAGE EXPERIMENTAL *i*

26%

AIS OFF EVENTS EXPERIMENTAL *i*

4 AIS Off events detected ▾

FISHING EVENTS *i*

No fishing events detected in no-take MPAs

80 fishing events detected outside known RFMO authorized areas ▾

2024 - Vessel Viewer (VV) and the APIs behind It

Vessel API request

As explained in the [previous example](#), when a vessel profile is displayed in Vessel Viewer, this API request below is executed:

```
Unset
curl --location --globoff
'https://gateway.api.globalfishingwatch.org//v3/vessels?datasets[0]=public-global-vessel-identity%3Alatest&ids[0]=31fd3b527-74f3-b094-6e0f-496673f5ee4f&includes[0]=POTENTIAL_RELATED_SELF_REPORTED_INFO' \
--header 'Authorization: Bearer [ADD YOUR TOKEN]'
```

The flag **POTENTIAL_RELATED_SELF_REPORTED_INFO** allows to bring all related vessel_ids based on the matching with the registry, in this case, the vessel_id is **126d785fa-a2ef-35e4-a77c-2975abcf00c6** and the vessel_id is **738c7fbe4-4e9c-c2bc-de52-91737631db04** are related to **31fd3b527-74f3-b094-6e0f-496673f5ee4f** since the Vessel API response, includes all vessel_ids as part of the same entry within the object **selfReportedInfo**:


2024 - Vessel Viewer (VV) and the APIs behind It

```

"endDate": "2024-04-01",
"vessels": [
  {"datasetId": "public-global-vessel-identity:latest", "vesselId": "31fd3b527-74f3-b094-6e0f-496673f5ee4f"},
  {"datasetId": "public-global-vessel-identity:latest", "vesselId": "738c7fbe4-4e9c-c2bc-de52-91737631db04"},
  {"datasetId": "public-global-vessel-identity:latest", "vesselId": "126d785fa-a2ef-35e4-a77c-2975abcf00c6"}
]
}'

```

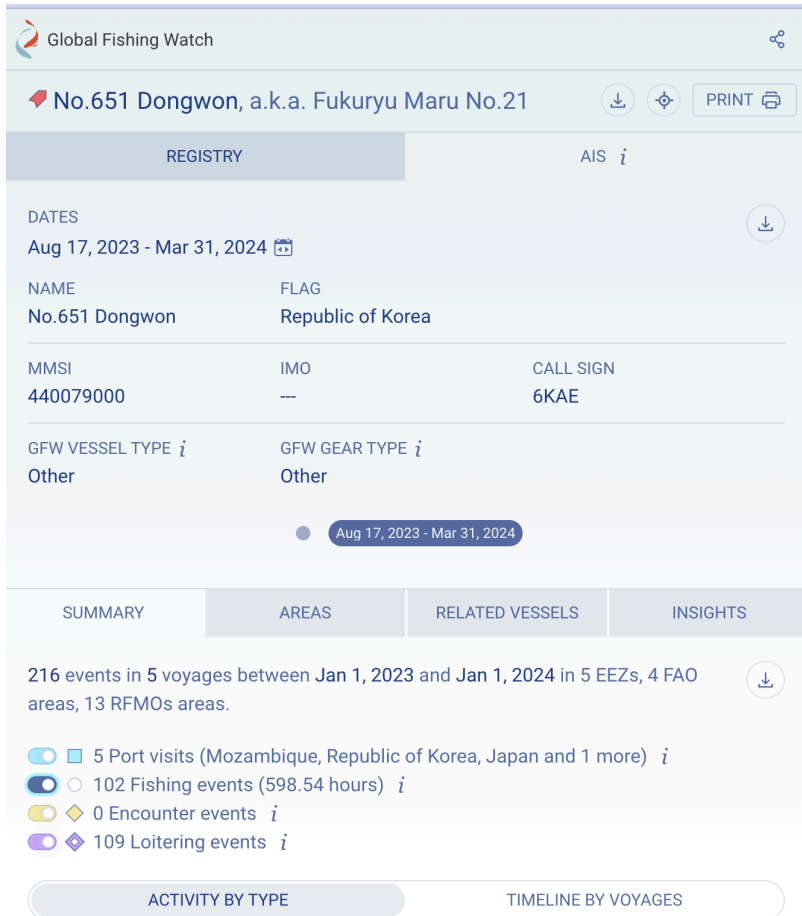
Getting the same response in both places

Insights API	Vessel Viewer
<pre> 1 { 2 "period": { 3 "startDate": "2023-04-01", 4 "endDate": "2024-04-01" 5 }, 6 "coverage": { 7 "blocks": 17342, 8 "blocksWithPositions": 4511, 9 "percentage": 26.011994002998502, 10 "historicalCoverage": { 11 "blocks": 222437, 12 "blocksWithPositions": 23334, 13 "percentage": 10.490161259143038 14 } 15 } 16 } </pre>	<div style="background-color: #2e8b99; color: white; padding: 5px;"> SUMMARY AREAS RELATED VESSELS INSIGHTS </div> <div style="padding: 10px;"> <p>Vessel insights between Apr 1, 2023 and Apr 1, 2024 <i>i</i></p> <p>AIS COVERAGE EXPERIMENTAL <i>i</i></p> <p style="text-align: center;">26%</p>  </div>

2024 - Vessel Viewer (VV) and the APIs behind It

Vessel Profile - example 3: Dong Won 651, a.k.a. Fukuryu Maru No.21

[Vessel Viewer Profile Link](#)



The screenshot shows the vessel profile for No.651 Dongwon, a.k.a. Fukuryu Maru No.21. The interface includes a header with the vessel name and a 'PRINT' button. Below this, there are tabs for 'REGISTRY' and 'AIS'. The 'REGISTRY' tab is active, displaying the following information:

DATES		
Aug 17, 2023 - Mar 31, 2024		
NAME	FLAG	
No.651 Dongwon	Republic of Korea	
MMSI	IMO	CALL SIGN
440079000	---	6KAE
GFW VESSEL TYPE	GFW GEAR TYPE	
Other	Other	

Below the registry information, there is a date range selector for 'Aug 17, 2023 - Mar 31, 2024'. At the bottom of the profile, there are tabs for 'SUMMARY', 'AREAS', 'RELATED VESSELS', and 'INSIGHTS'. The 'SUMMARY' tab is active, showing the following statistics:

- 216 events in 5 voyages between Jan 1, 2023 and Jan 1, 2024 in 5 EEZs, 4 FAO areas, 13 RFMOs areas.
- 5 Port visits (Mozambique, Republic of Korea, Japan and 1 more)
- 102 Fishing events (598.54 hours)
- 0 Encounter events
- 109 Loitering events

At the bottom of the summary section, there are two buttons: 'ACTIVITY BY TYPE' and 'TIMELINE BY VOYAGES'.

2024 - Vessel Viewer (VV) and the APIs behind It

Vessel API Request:

```
Unset
curl --location --globoff
'https://gateway.api.dev.globalfishingwatch.org/v3/vessels?datasets[0]=public-global-vessel-identity%3Alatest&ids[0]=c86612cab-bbda-c446-0a4d-49ea8747450d&includes[0]=POTENTIAL_RELATED_SELF_REPORTED_INFO' \
--header 'Authorization: Bearer[ADD YOUR TOKEN]'
```

The flag **POTENTIAL_RELATED_SELF_REPORTED_INFO** allows to bring all related vessel_ids based on the matching with the registry, in this case, the vessel_id is [c86612cab-bbda-c446-0a4d-49ea8747450d](#) is related to [c166ae8b9-97c5-6a65-f632-e9c5c1273fdf](#) since the Vessel API response, includes both vessel_ids as part of the same entry:

Vessel API Response

2024 - Vessel Viewer (VV) and the APIs behind It

```
"selfReportedInfo": [  
  {  
    "id": "c86612cab-bbda-c446-0a4d-49ea8747450d",  
    "ssvid": "440079000",  
    "shipname": "NO.651 DONGWON",  
    "nShipname": "DONGWON651",  
    "flag": "KOR",  
    "callsign": "6KAE",  
    "imo": null,  
    "messagesCounter": 1271702,  
    "positionsCounter": 500036,  
    "sourceCode": [  
      "AIS"  
    ],  
    "matchFields": "SEVERAL_FIELDS",  
    "transmissionDateFrom": "2023-08-17T00:46:59Z",  
    "transmissionDateTo": "2024-03-31T20:21:01Z"  
  },  
  {  
    "id": "c166ae8b9-97c5-6a65-f632-e9c5c1273fdf",  
    "ssvid": "431200750",  
    "shipname": "FUKURYU MARU NO.21",  
    "nShipname": "FUKURYUMARU21",  
    "flag": "JPN",  
    "callsign": "JJBJ",  
    "imo": null,  
    "messagesCounter": 1231668,  
    "positionsCounter": 389040,  
    "sourceCode": [  
      "AIS"  
    ],  
  }  
]
```

vessel id 1

vessel id 2