# Satellite, Terrestrial and Dynamic AIS Data

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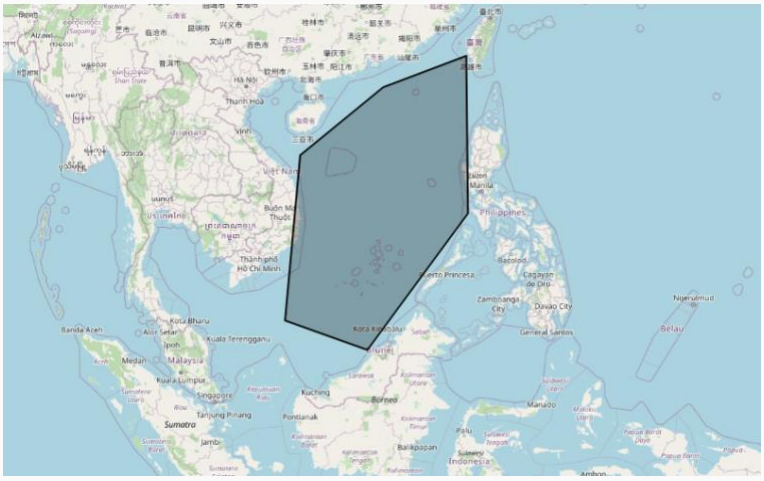
|---|---|
| **Sources of AIS Data** | Satellite, Terrestrial and Dynamic AIS |
| **Time Range** | 2022-10-10 at 00:00:00 UTC to<br>2022-10-10 a at 23:59:59 UTC |
| **Area of Interest** |  <br>POLYGON((119.99839279032011 22.859270085723978,114.65218346434392 20.978031927252843,109.34086213478906 16.87297305834737,108.36040717779065 6.498385548777165,113.65640497341371 4.635208785954205,120.1167433180816 13.26557461739253,119.99839279032011 22.859270085723978)) |
| **Vessels Include** | All Vessels |

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| **Data Files Uploaded To** | Marketing Spire Lux Combined Format All Sources.csv |
| **File List** | Marketing Spire Lux Combined Format All Sources.csv |

# Different AIS Messages

The sample file(s) contains data from two different types of AIS messages: **position messages** and **static voyage messages**.

Message Types 1, 2, 3, 18, 19, 27 are some common position messages that contain values in the position related fields, such as speed, heading, rate of turn, position, and status of vessels.

Message Types 5 & 24 are static voyage messages and contain values in the static details and voyage related fields, such as identity, type, size and voyage information.

To identify the Name, IMO number or type of ships related to the AIS Position reports, the MMSI number must be used to join together the 2 different sets of AIS data.

For example, if position reports are recorded against MMSI 636018333 in AIS message type 1, then the IMO and name of that vessel is discovered by looking for AIS message type 5 reported using the same MMSI number as shown below:

| Position | | | | | Both | | | Static | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| speed | heading | rot | latitude | longitude | timestamp | msg_type | mmsi | imo | name | callsign | eta | destination |
| 0 | 511 | 0 | -86.6701 | 21.8061 | 2020-04-23T15:38:10.37 | 1 | 636018333 | | | | | |
| | | | | | 2020-04-23T15:58:40.38 | 5 | 636018333 | 9821299 | SOUTHERN SHARK | D5PG4 | 2020-04-25T09:00:00 | MX COA |
| 13.5 | 288 | -11 | -86.7018 | 21.8523 | 2020-04-23T16:03:11.23 | 1 | 636018333 | | | | | |
| 12.8 | 290 | 0 | -86.786 | 21.919 | 2020-04-23T17:30:50.34 | 27 | 636018333 | | | | | |
| 14.4 | 296 | -128 | -86.8096 | 21.92199 | 2020-04-23T17:38:00.41 | 1 | 636018333 | | | | | |
| 14.3 | 295 | -43 | -86.9663 | 21.9533 | 2020-04-23T17:48:51.11 | 1 | 636018333 | | | | | |
| | | | | | 2020-04-23T18:01:10.43 | 5 | 636018333 | 9821299 | SOUTHERN SHARK | D5PG4 | 2020-04-25T12:00:00 | MX COA |
| 14.4 | 290 | 8 | -86.9996 | 22.0199 | 2020-04-23T18:20:44.34 | 1 | 636018333 | | | | | |
| 14.1 | 300 | 0 | -87.0682 | 22.0678 | 2020-04-23T18:28:00.45 | 1 | 636018333 | | | | | |

For more information about our available AIS Message Types can be found in this FAQ: https://faq.spire.com/available-ais-message-types

## AIS Data Sample File Column Descriptions

| Column | Data Type | Descriptions |
|---|---|---|
| **created_at** | *date* | ISO 8601 formatted timestamp in UTC of the time the vessel record was created |
| **timestamp** | *string* | ISO 8601 formatted timestamp in UTC of the time the AIS message was transmitted |

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|---|---|---|
| **mmsi** | *integer* | The Maritime Mobile Service Identity of the vessel transmitting the AIS message<br>*Possible values:*<br>000000000 - 999999999 |
| **msg_type** | *integer* | *AIS message type*<br>*Common values:*<br>1, 2, 3, 5, 18, 19, 24, 27<br>AIS message types are explained in more details here https://faq.spire.com/available-ais-message-types |
| **latitude** | float | *Vessel latitude in degrees*<br>*(North = positive, South = negative)*<br>*range -90 to +90* |
| **longitude** | float | Vessel longitude in degrees<br>(East = positive, West = negative)<br>range = -180 to +180 |
| **speed** | *float* | Vessel speed over ground represented in knots<br>*Possible values:*<br>0 - 102.2 knots, 102.3 (not available) |
| **course** | *float* | Vessel course over ground in degrees<br>*Possible values:*<br>0 - 359.9 degrees, 360.0 (not available) |

| | | |
|---|---|---|
| **heading** | *integer* | Vessel true heading in degrees<br>*Possible values:*<br>0 - 359 degrees, 511 (not available) |
| **rot** | *integer* | Vessel rate of turn<br>*Possible values:*<br>-127 - 127; -128 (not available) |
| **imo** | *integer* | IMO number of the ship<br>Unique International Maritime Organization number for the vessel that stays with the ship for it's life<br>valid values 7 digit number |
| **name** | *string* | Vessel name |
| **call_sign** | *string* | Vessel call sign |
| **flag** | *string* | Vessel flag |
| **draught** | float | Vessel draught represented in 1/10 meters<br>*Possible values:*<br>0.1 - 255, 0 (not available; default) |

| | | |
|---|---|---|
| **ship_and_cargo_type** | *integer* | Vessel ship and cargo type code<br><br>*Some common values:*<br><br>30 (fishing vessel), 52 (tug boat), 70 (cargo/fishing ship)<br><br>more information on determining the ship type is detailed here https://faq.spire.com/determining-ais-ship-type |
| **length** | *integer* | Vessel length extracted from ship dimensions to_bow and to_stern in meters |
| **width** | *integer* | Vessel width extracted from ship dimensions to_port and to_starboard in meters |
| **eta** | *string* | Vessel estimated time of arrival as entered by the captain, represented in ISO 8601 format<br><br>*Possible values:*<br><br>Month: 1 - 12, 0 (not available; default); Day: 1 - 31, 0 (not available; default); Hour: 0 - 23, 24 (not available; default); Minute: 0 - 59, 60 (not available; default) |
| **destination** | *string* | Vessel destination as entered by the vessel captain |
| **status** | *integer* | Vessel navigation status<br><br>*Some common values:*<br><br>0 (under way using engine), 1 (at anchor), 3 (restricted maneuverability), 7 (engaged in fishing), 15 |

| | | |
|---|---|---|
| **maneuver** | *integer* | Vessel maneuver code<br>*Valid values:*<br>0 (not available; default), 1 (not engaged in special maneuver), 2 (engaged in special maneuver) |
| **accuracy** | *integer* | Vessel GPS geo location accuracy in meters<br>*Possible values:*<br>1 (high, <=10 meters); 0 (low, >10 meters, default) |
| **to_bow** | *integer* | Distance from positioning device to bow |
| **to_stern** | *integer* | Distance from positioning device to stern |
| **to_portside** | *integer* | Distance from positioning device to portside of the vessel |
| **to_starboard** | *integer* | Distance from positioning device to starboard side of the vessel |
| **collection_type** | *string* | How the message was captured<br>*Possible values:*<br>satellite or terrestrial or dynamic |

For additional information, please refer to: https://faq.spire.com/