

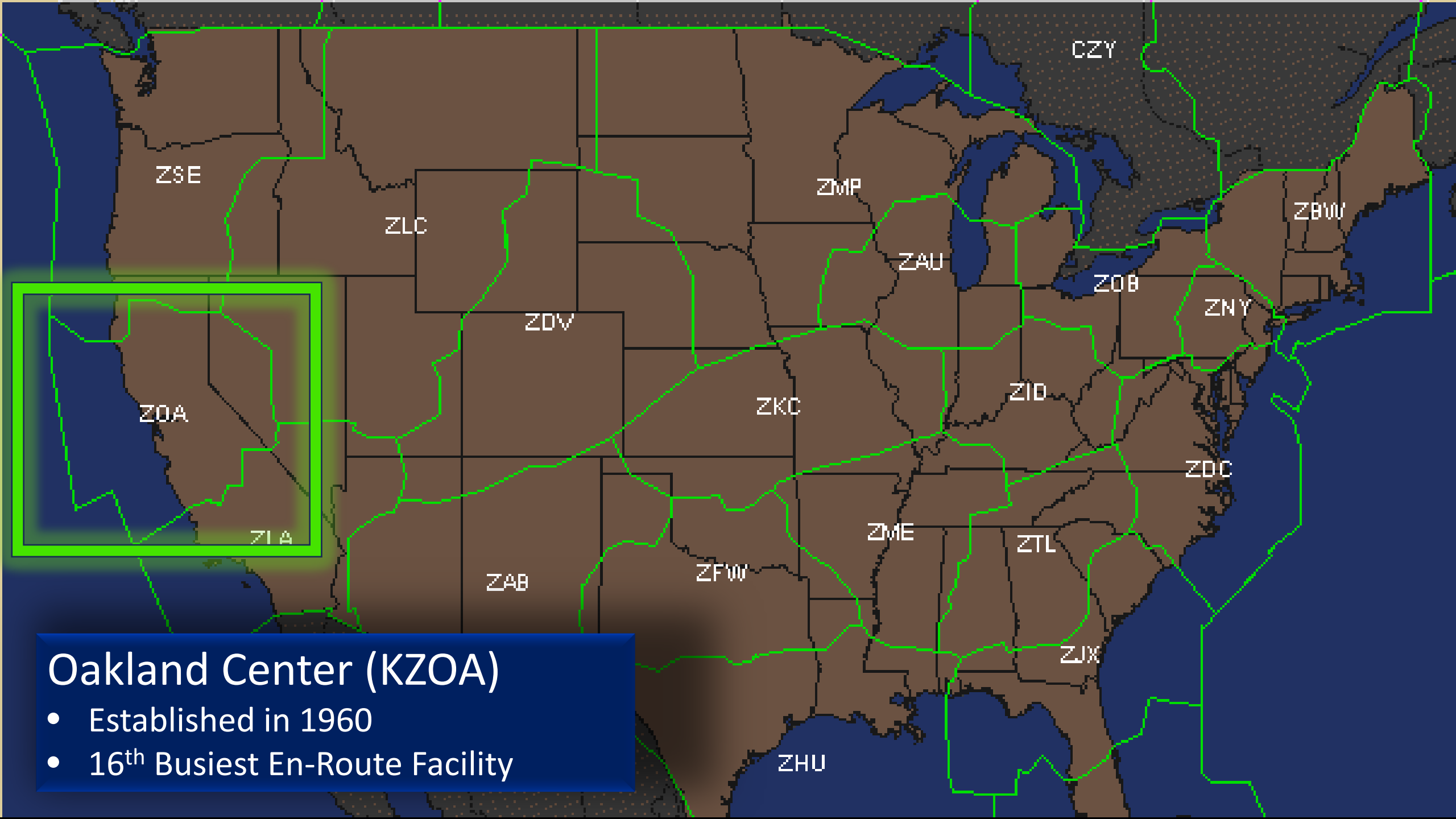


Oakland (ZOA)

Air Route Traffic Control Center

IPACG PM29

Facility Update

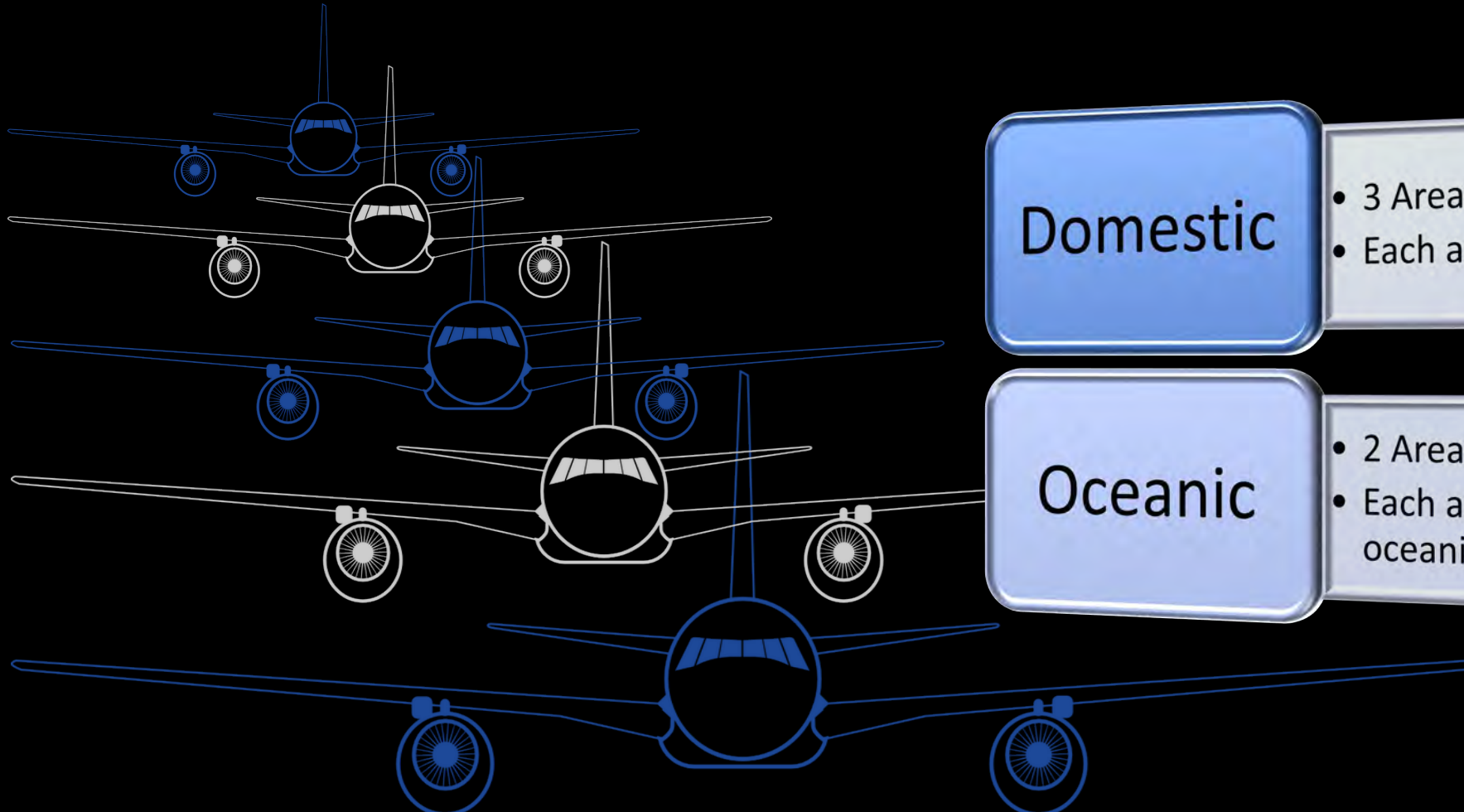


Oakland Center (KZOA)

- Established in 1960
- 16th Busiest En-Route Facility

Oakland Center Areas of Responsibility

KZOA FIR and KZAK FIR



Domestic

- 3 Areas- North, South, & East
- Each area has 6 sectors

Oceanic

- 2 Areas- Pacific North & Pacific South
- Each area has 2 radar sectors and 4 oceanic sectors

Domestic Airspace

Major Airports Serviced

San Francisco (KSFO)

San Jose (KSJC)

Oakland (KOAK)

Sacramento (KSMF)

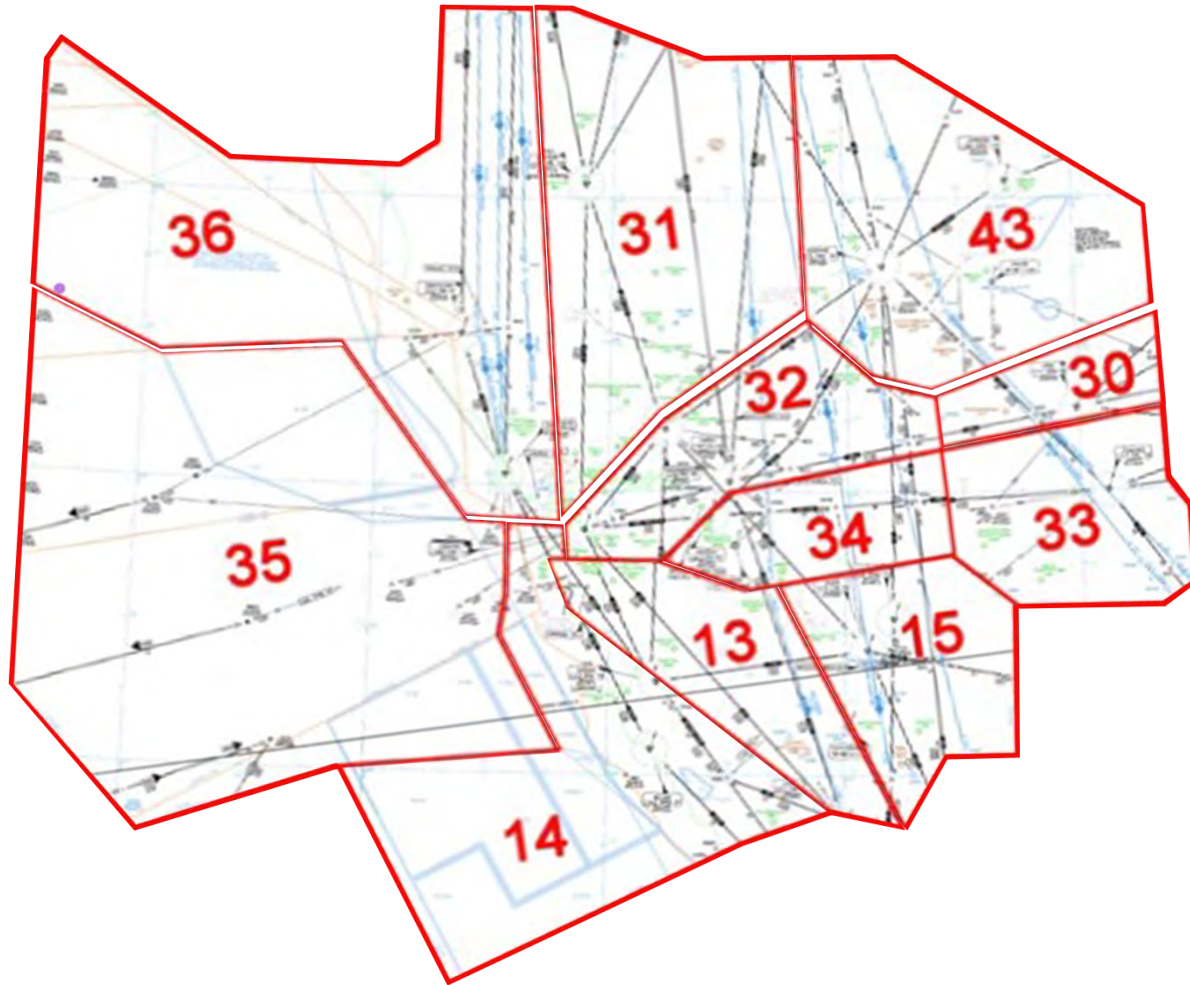
Military Airports

Beale AFB (KBAB)

Travis AFB (KSUU)

Lemoore (KNLC)

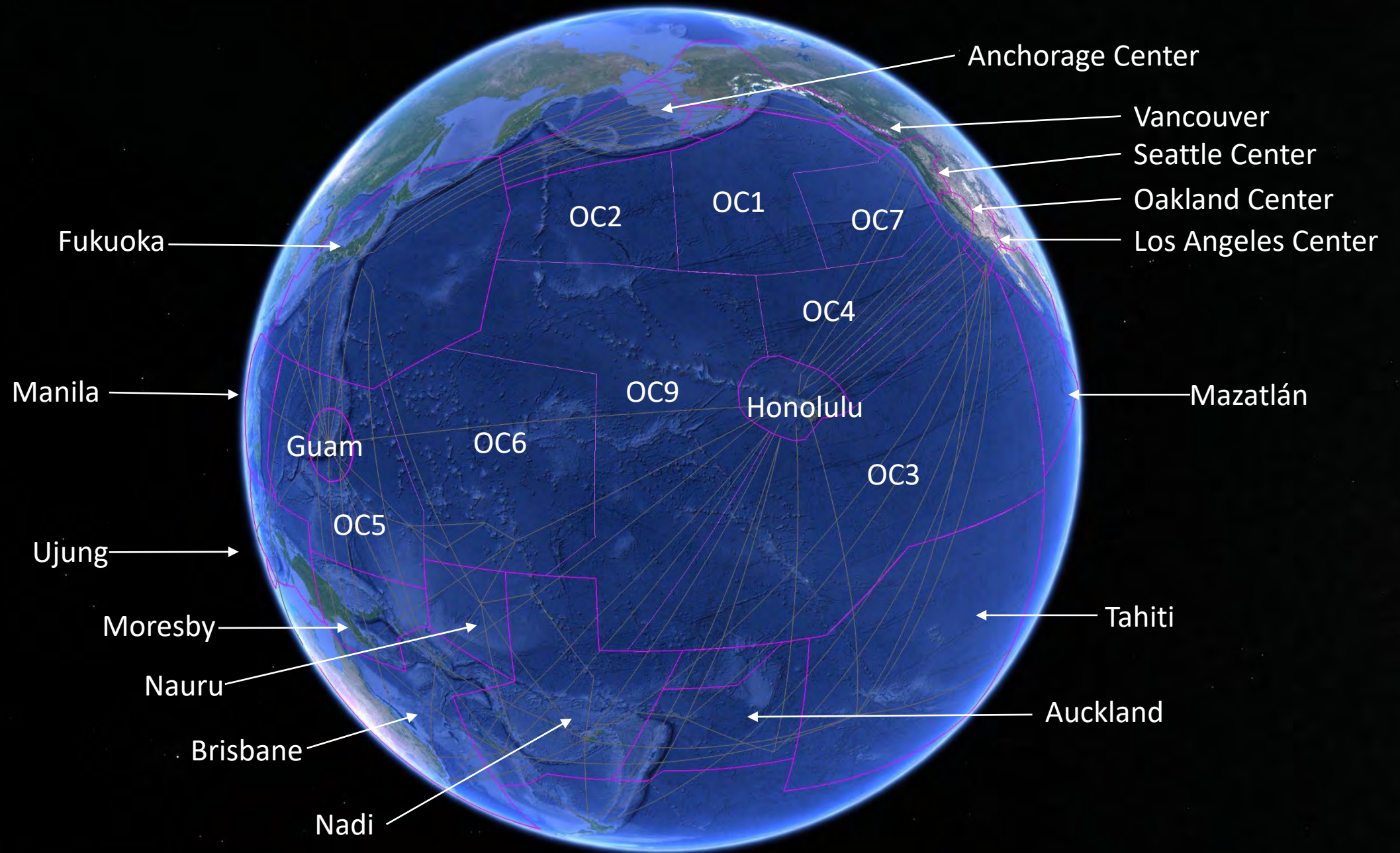
Fallon (KNFL)



Oakland Center Oceanic Airspace (KZAK)

- Covers approximately 18.7 million square miles of oceanic airspace
- Roughly 9.56% of the earth's surface
- Interfaces with 17 different foreign and domestic facilities
- Largest Oceanic controlled airspace in the world



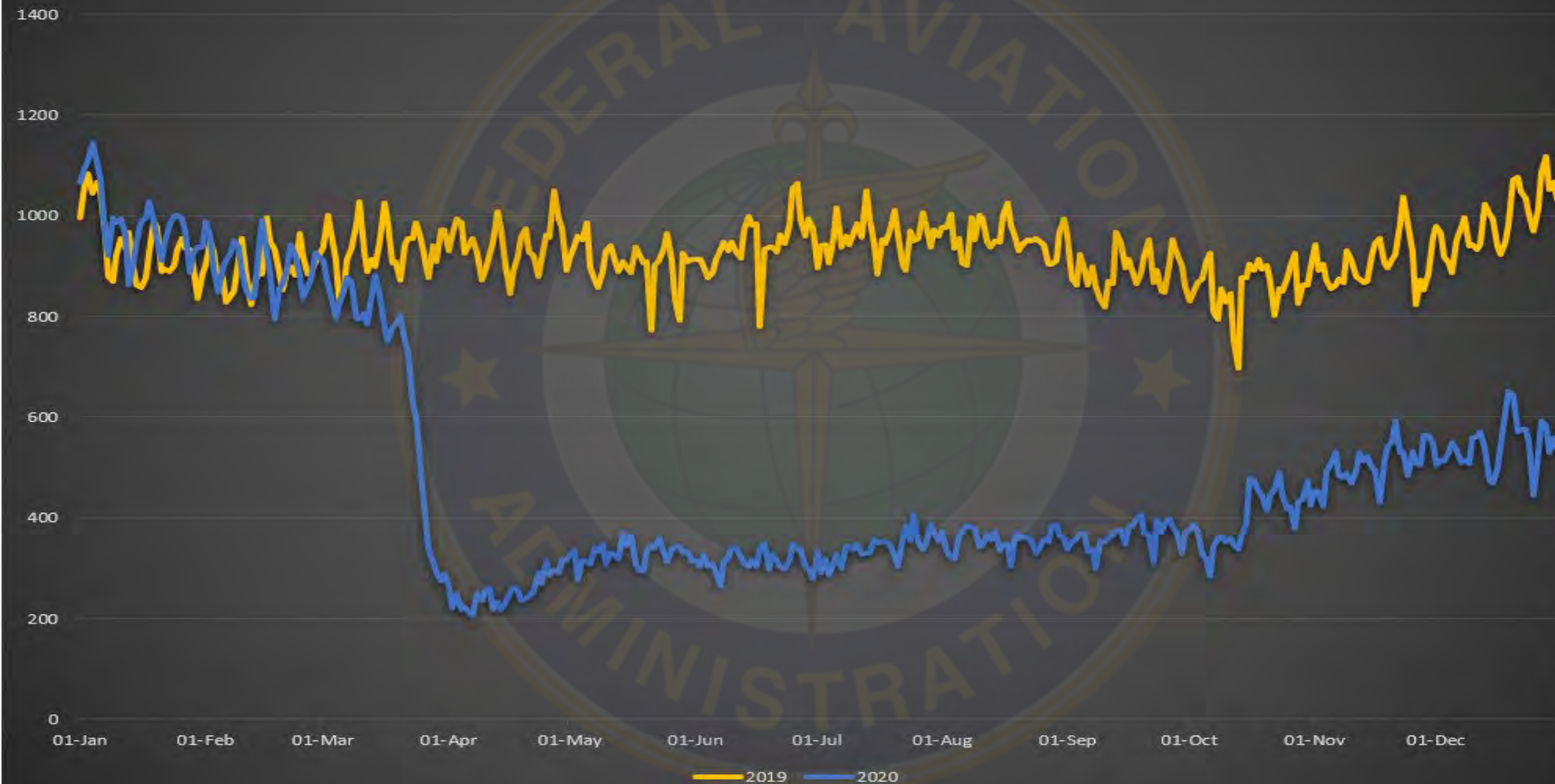




Traffic Data

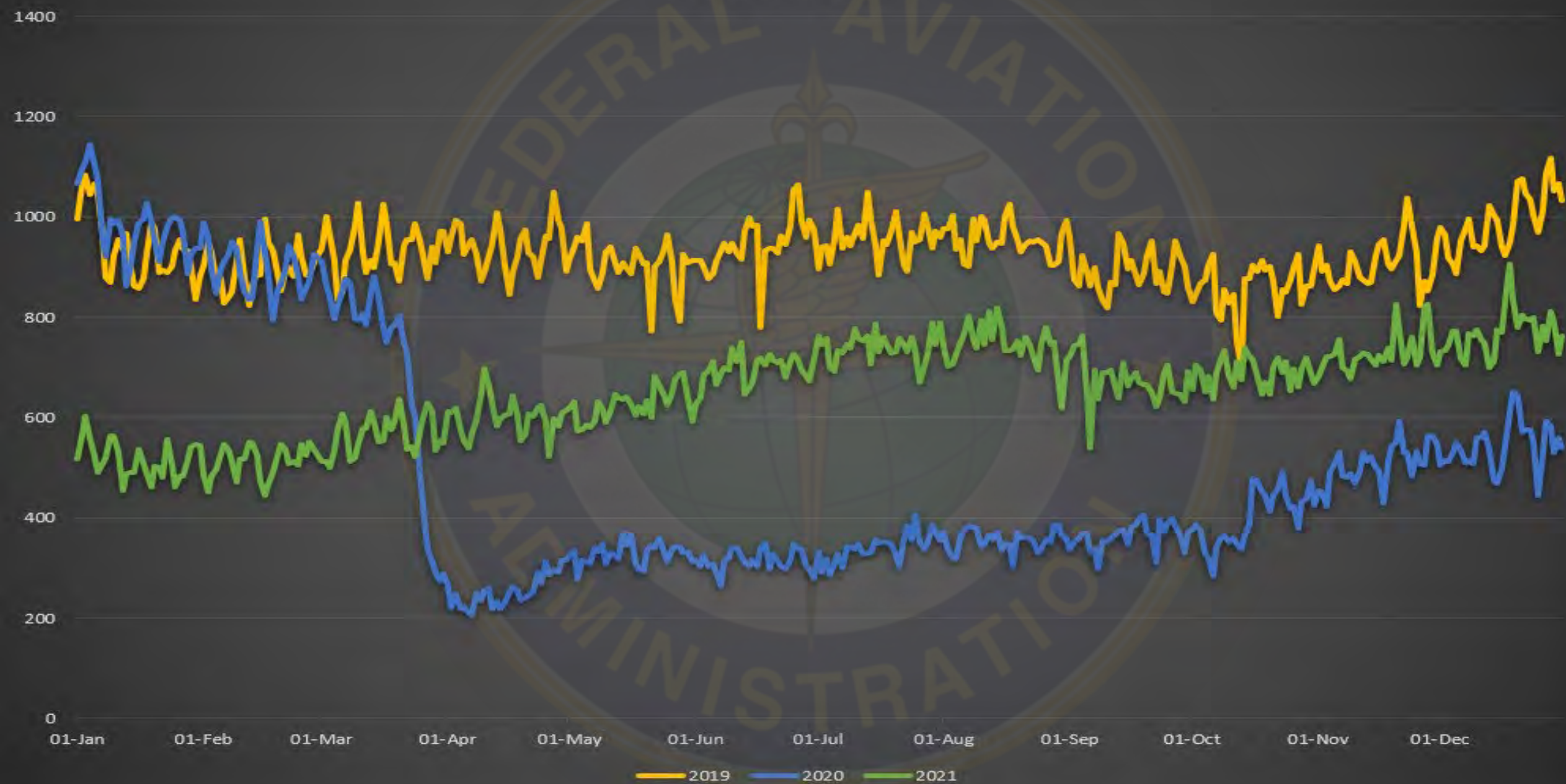
Oakland Oceanic Traffic Count

2019 - 2020



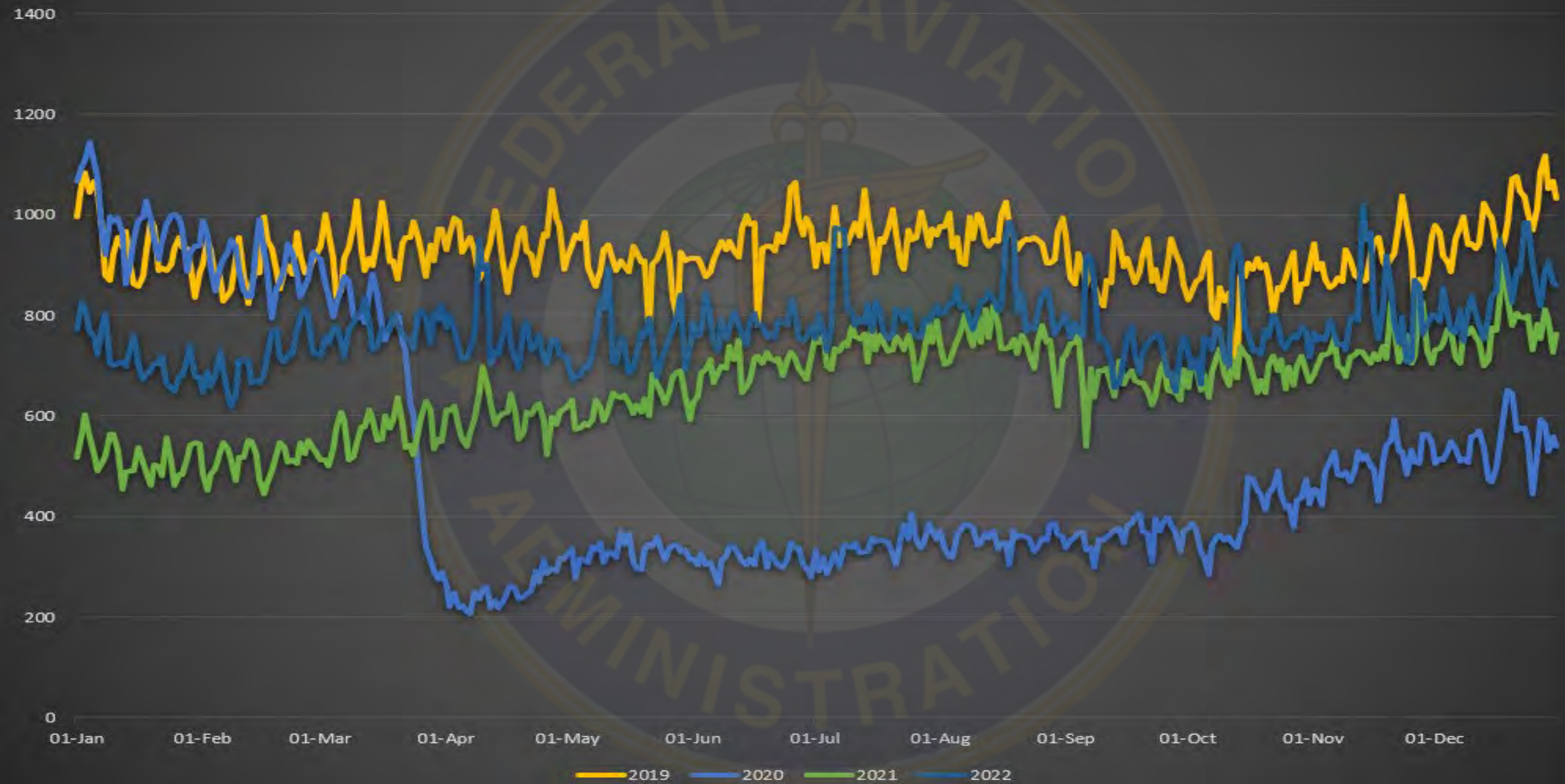
Oakland Oceanic Traffic Count

2019 - 2021

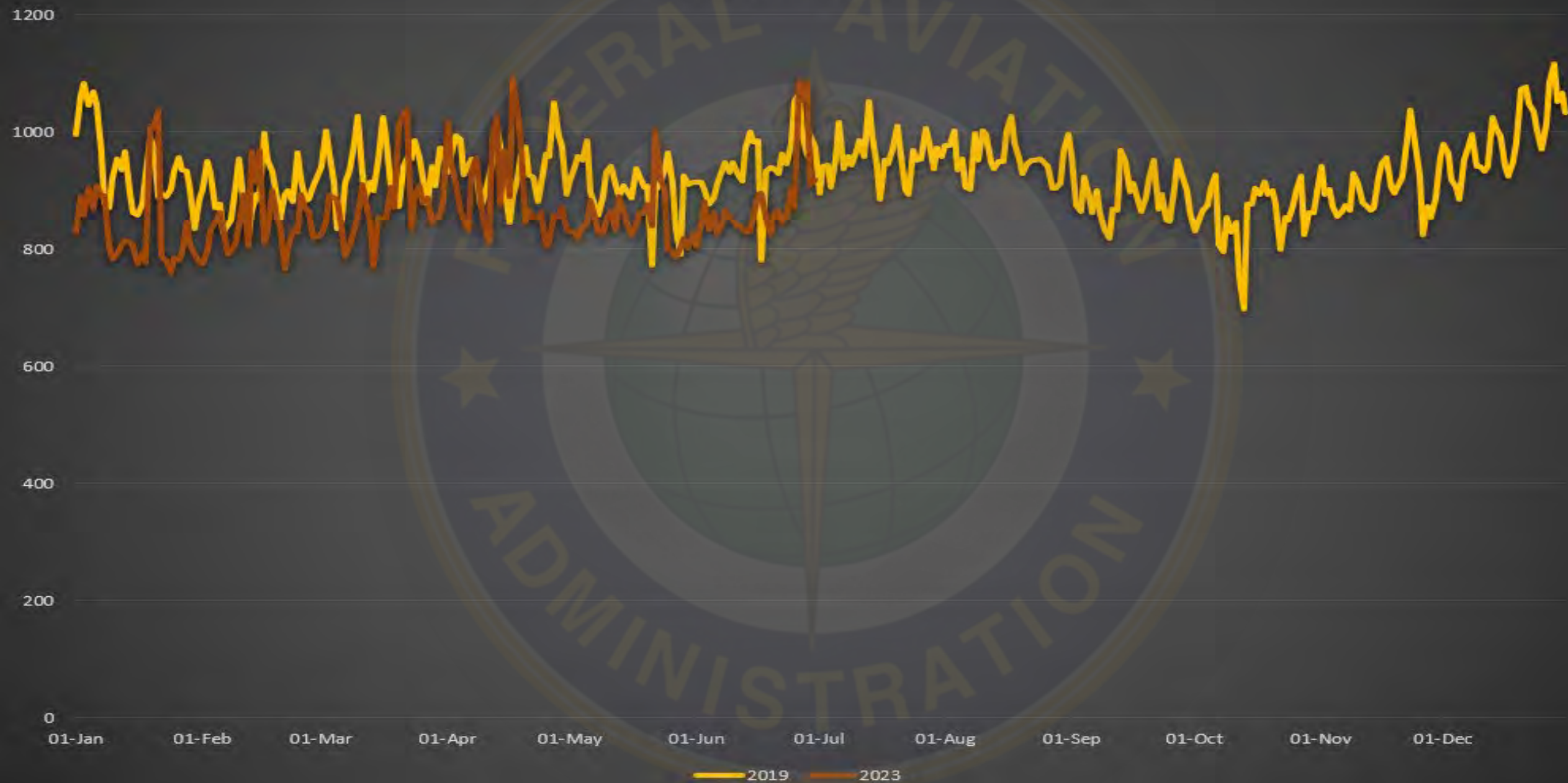


Oakland Oceanic Traffic Count

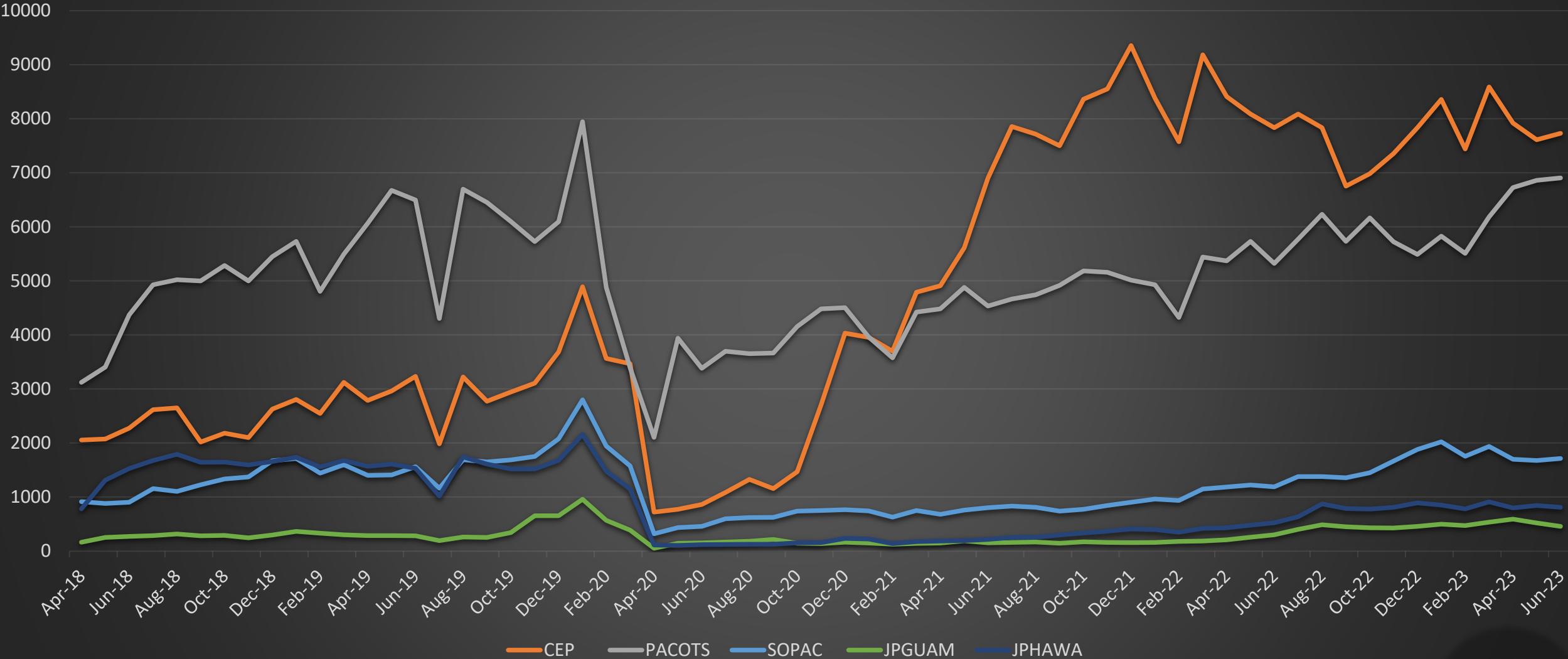
2019 - 2022



Oakland Oceanic Traffic Count 2019 vs. 2023



Number of Flights per Month by Traffic Flow



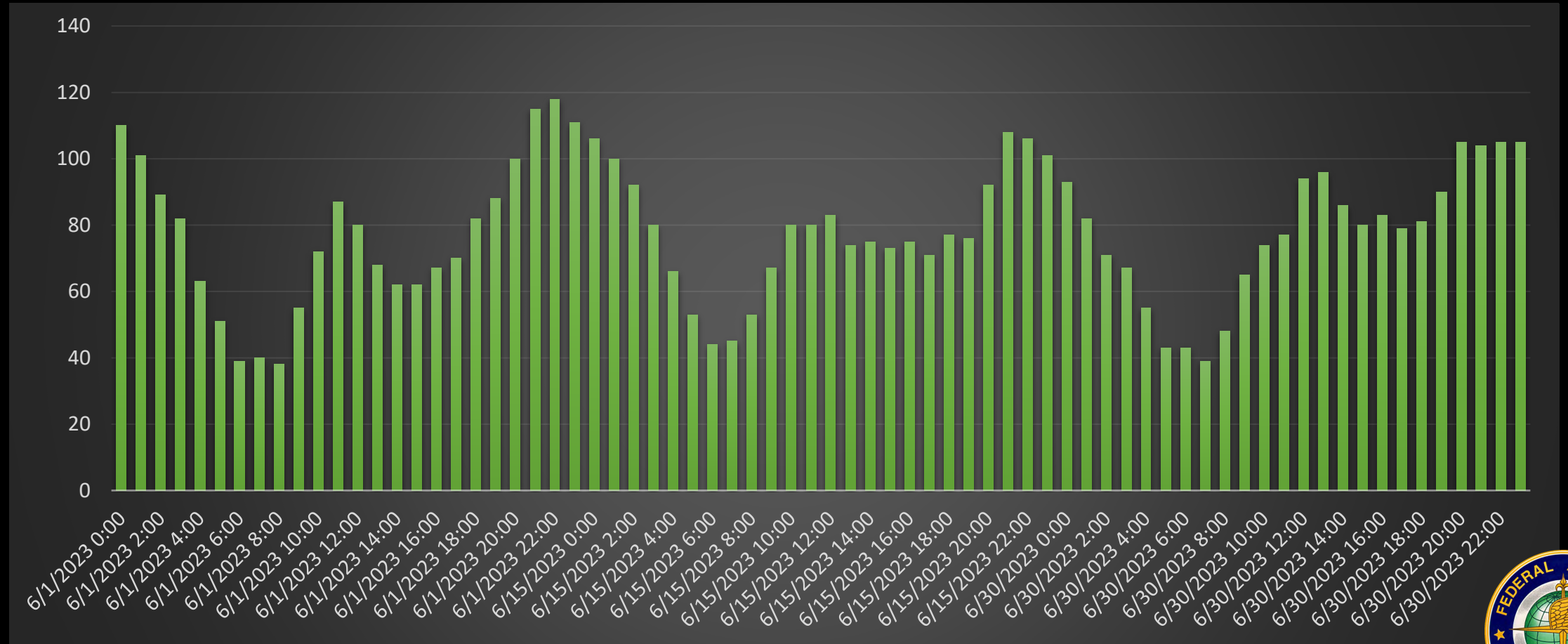
Flow Designator	Flow Name	Description of Flow
CEP	Central East Pacific	Hawaii to/from North America
PACOTS/CENPAC	Central Pacific	North America to/from Japan/Korea/Asia
SOPAC	South Pacific	North America to/from South Pacific States
JPGUAM	Japan to Guam Area	Japan to/from Guam/Saipan other proximate locations
JPHAWA	Japan to Hawaii	Japan to/from Hawaii





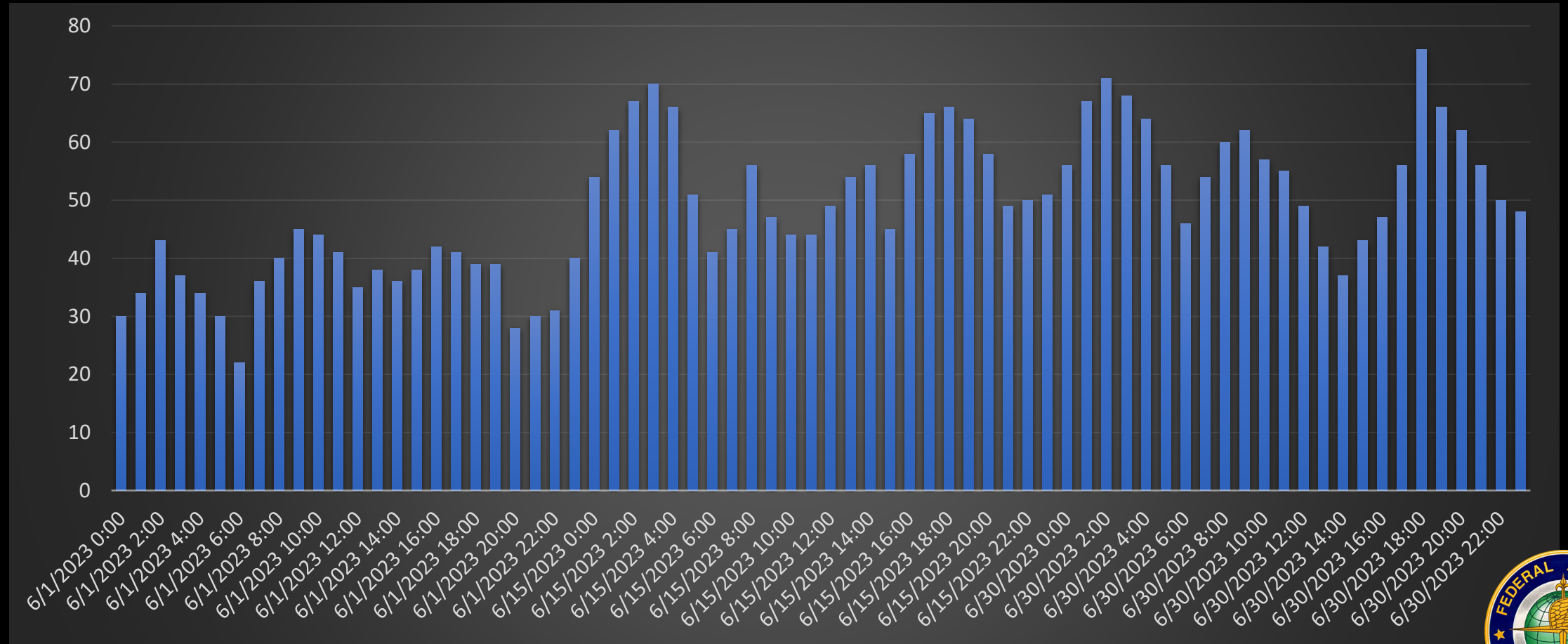
Hourly Count June 1st, 15th, 30th 2023

Pac North

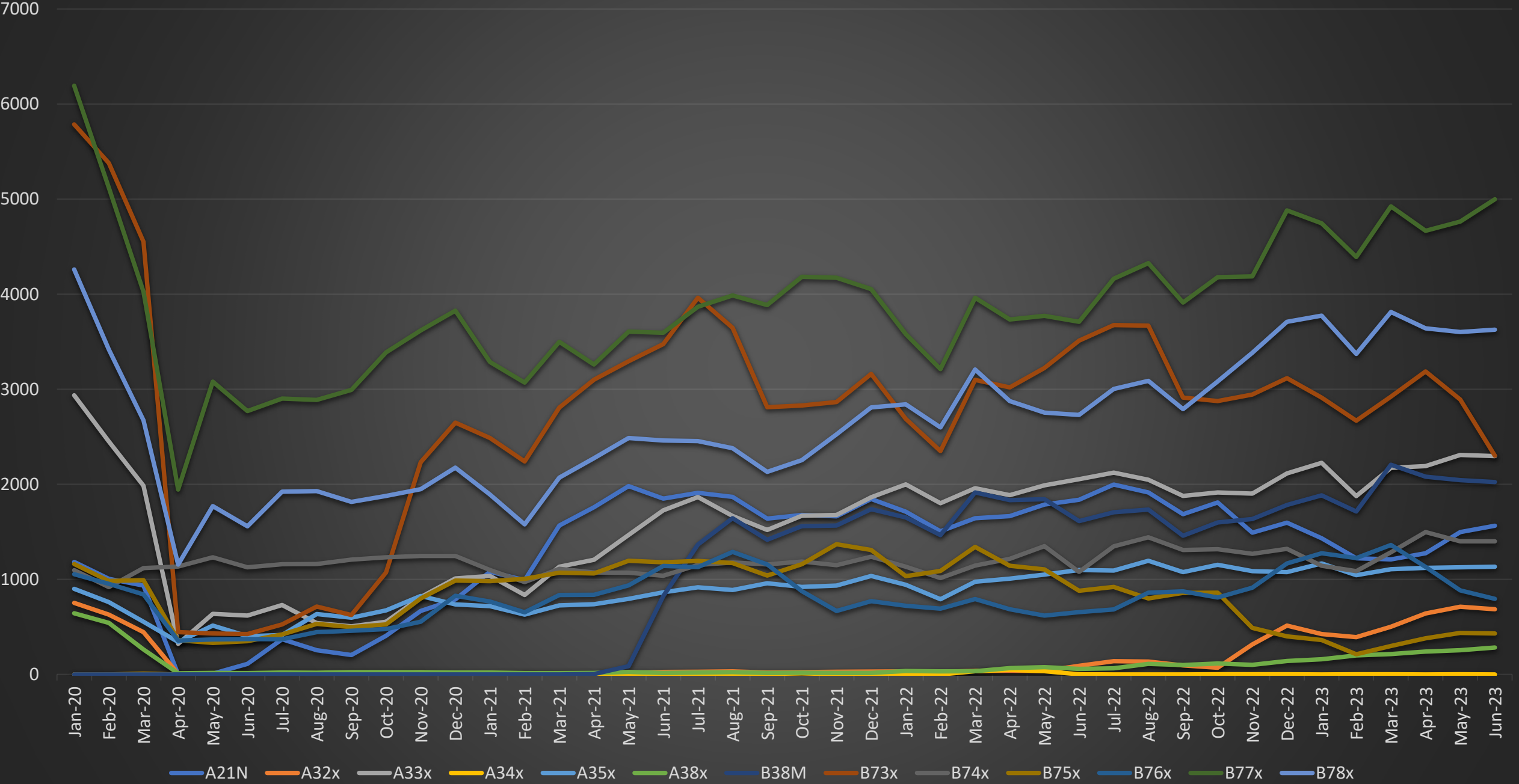


Hourly Count June 1st, 15th, 30th 2023

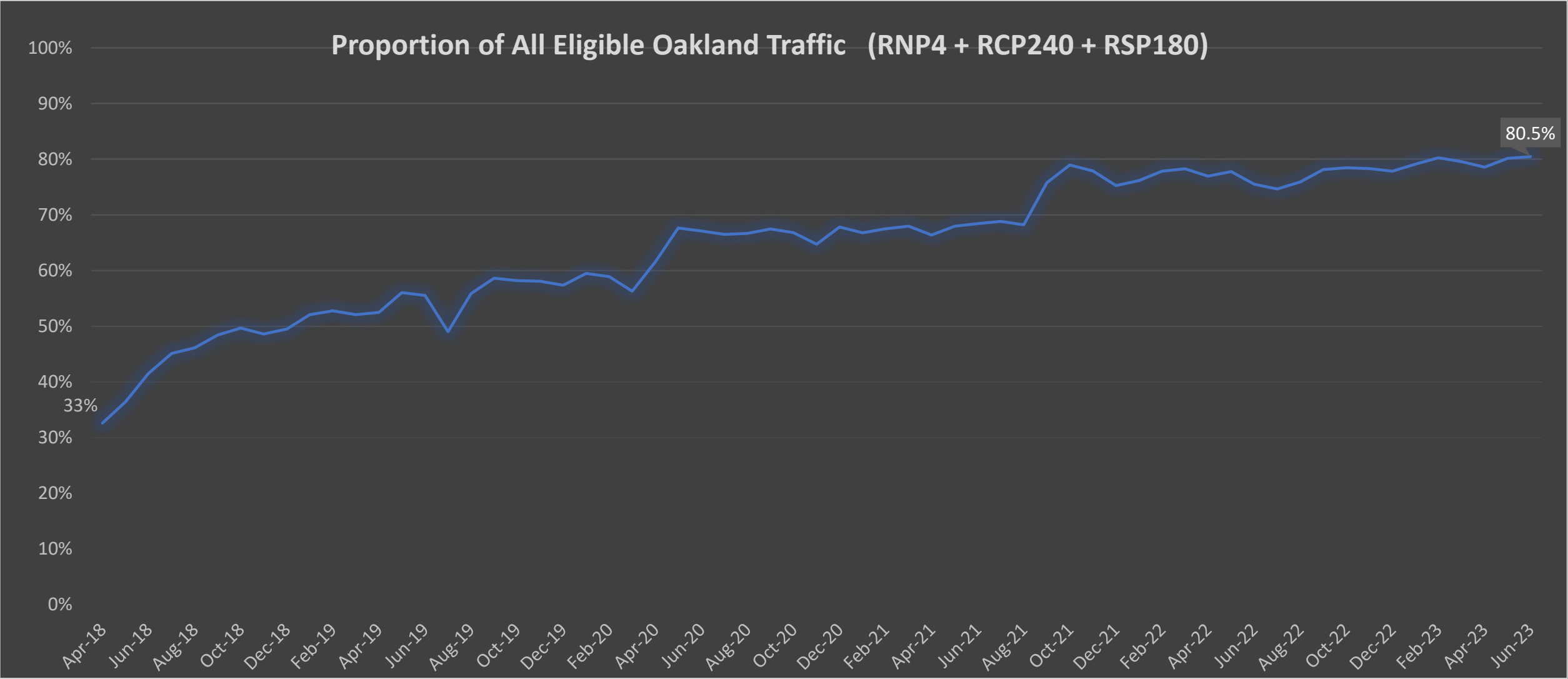
Pac South



Oakland Aircraft Type Trend 2020 - 2023

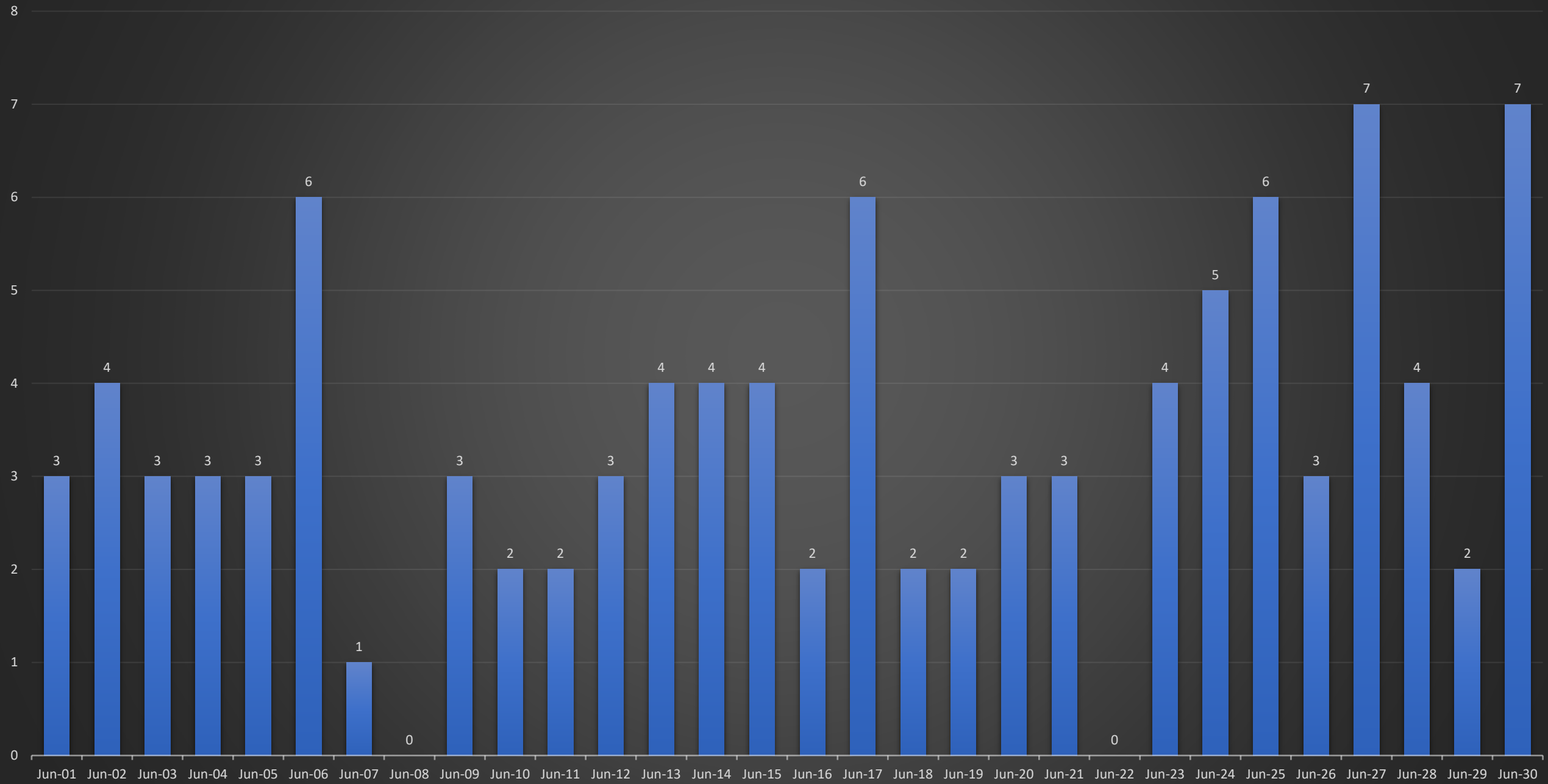


Traffic Data-RNP4 Stats

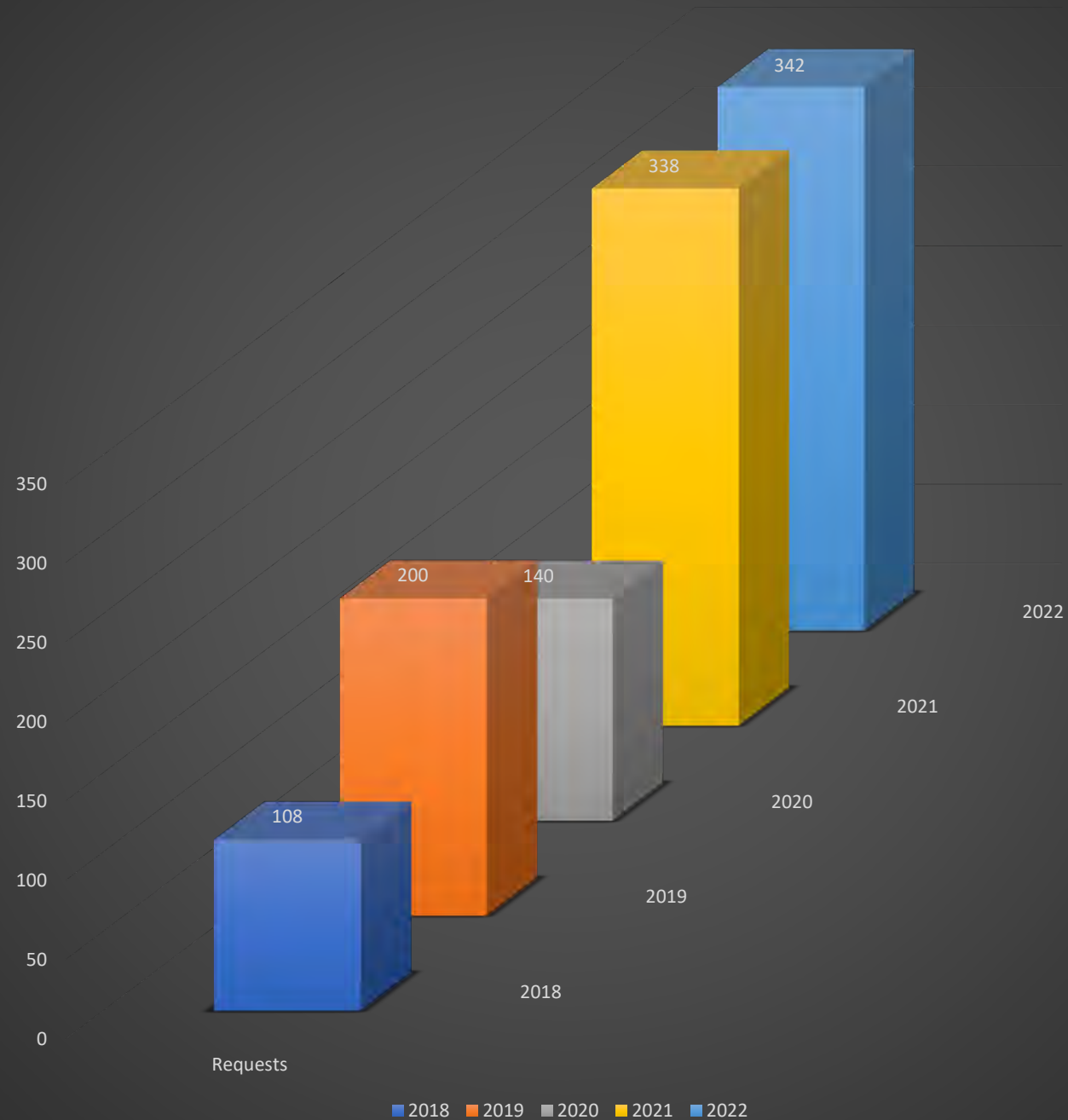


CDP Usage in KZAK

June, 2023



ITP Requests





International Interfaces

- AIDC implementation with Port Moresby
- AIDC implementation with Ujung
- AIDC implementation with Manila

Future ATOP Enhancements

23NM Lateral Separation

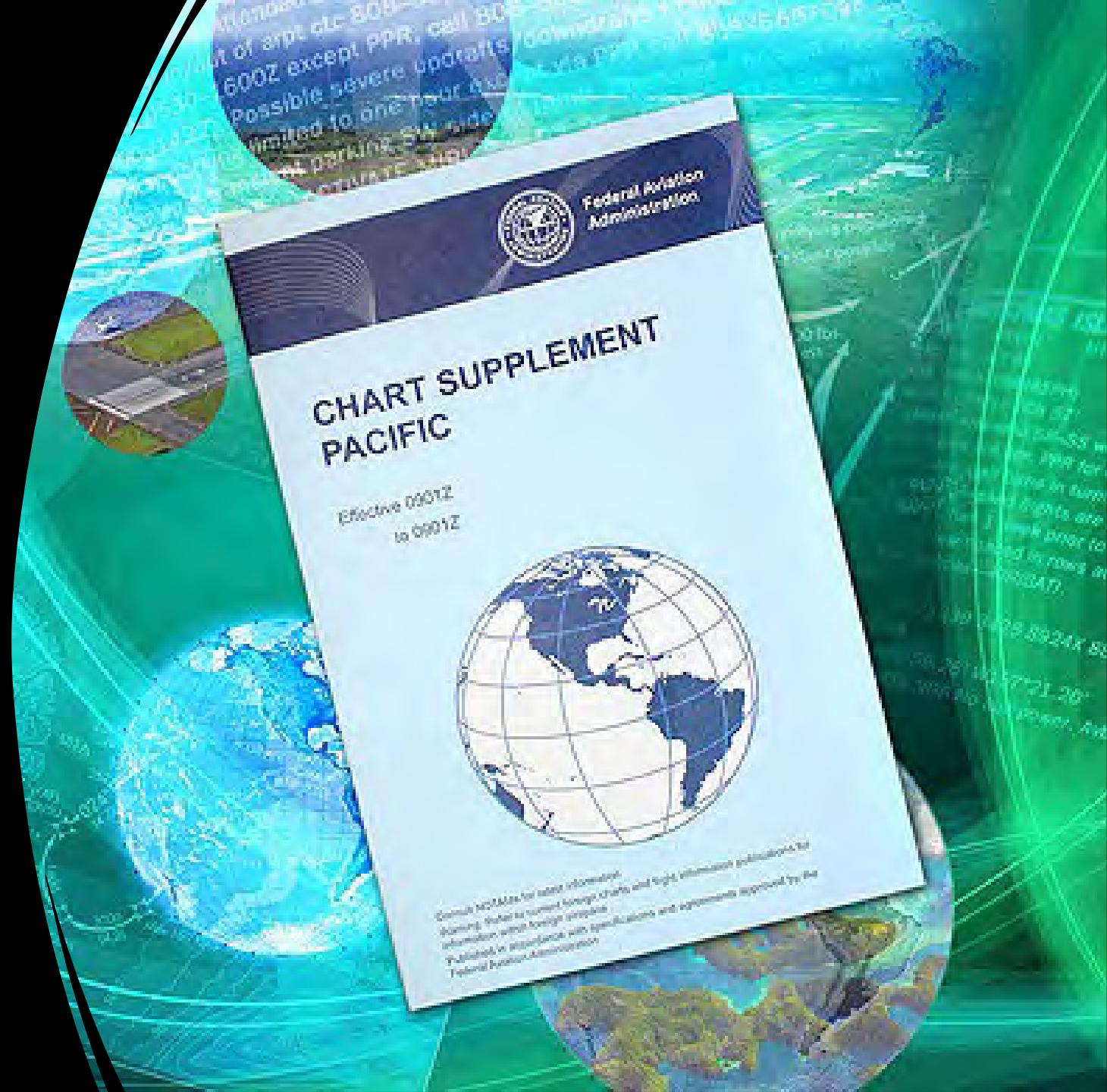
Enhanced Trial Probe
functionality

20NM Longitudinal Separation

Enhanced Weather Deviation
Capability

PAC Chart Supplement Updates

- Updated PACOTS Track Designator & Details Table
- UPR General and Specific Guidelines



6. Aircraft Over-Flying Guam CERAP Airspace

The CPDLC and ADS connection with Oakland ARTCC may be terminated within the Guam CTA. If the CPDLC connection with KZAK is not terminated, do not use CPDLC for ATC COM until Guam CERAP advises you to again contact en route communications or San Francisco Radio. It may be necessary to log back on to CPDLC with KZAK 10-15 minutes prior to exiting the Guam CTA if the CPDLC connection was terminated.

BEACON CODE REQUIREMENTS

Upon reaching the first compulsory reporting point in KZAK FIR airspace and after radar service is terminated, all aircraft should adjust their transponder to display code 2000 on their display. Aircraft should maintain code 2000 thereafter until otherwise directed by air traffic control.

PACOTS ORGANIZED TRACK SYSTEM (PACOTS) GUIDELINES

(1) General Information

- Geographical Boundary: PACOTS tracks may be established within the Oakland Oceanic, Fukuoka, and Anchorage FIRs.
- Track Definition Message (TDM): Oakland ARTCC is using the TDM format for PACOTS tracks. Questions regarding published PACOTS tracks should be directed to Oakland ARTCC Traffic Management Unit (TMU), at (610) 745-3771.
- Oakland ARTCC or Fukuoka Air Traffic Management Center (ATMC) may develop more or fewer tracks according to user needs, military activity, significant weather, or other limitations.
- Usable Flight Levels

(1) All UPR flight levels at or above FL290 except the Westbound North America-Japan PACOTS which also includes FL280 in the Oakland OCA/FIR. Certain restrictions may apply for non-PACOTS traffic operating in the opposite direction to the published PACOTS tracks.

e. Lateral Spacing of Tracks

(1) PACOTS Tracks are established at least 50 NM apart. Tracks are defined using latitude/longitude expressed in whole degrees or named waypoints with the exception of FIR crossing points.

f. Flight Planning

(1) The following flight planning restrictions and rules apply to aircraft operating within the Oakland Oceanic FIR on the PACOTS during the effective time of the Track. These restrictions do not affect aircraft flying on ATS routes.

(a) Participating Aircraft

- Aircraft requesting altitudes at or above FL280 may flight plan via the route published in the daily NOTAM or track message.
 - Operators must file appropriate SIDs and STARs associated with the departure/arrival airports.
 - Operators must flight plan to avoid active military airspace and comply with NOTAM restrictions.
- (b) Non-Participating Aircraft: Random routes under the PACOTS at FL270 and below are permitted, unless otherwise prohibited by NOTAM. Higher Altitude may be approved if traffic permits.

g. ATC Procedures

- Aircraft utilizing a PACOTS Track must be RNAV 10 (RNP10) or RNP4 approved.
 - Aircraft flight planning via an approved UPR procedure have the same priority for altitude assignment as aircraft flight planning a PACOTS Track.
 - The minimum longitudinal separation between aircraft crossing the Fukuoka FIR boundary on the same track at the same flight level will be 10 minutes using Mach Number Technique or applicable ADS-C distance-based separation standard.
- h. Position Reporting
- (1) Within the Oakland and Anchorage oceanic control areas position reports shall be made using latitude/longitude coordinates or named fixes as specified in the TDM. Position reports shall comprise information on present position, estimated next position, and ensuing position in accordance with ICAO procedures. Rounding off geographical coordinates is prohibited.

(2) PACOTS TRACK DESIGNATOR AND DETAILS TABLE

TRACK NAME	ROUTE	TDM DAILY PUBLICATION TIME	REQUIRED USE OR UPR ALTERNATIVES
A	Hawaii to Japan	Daily at 1100 UTC by KZAK	Track A is optional, operators may flight plan a UPR.
B	Hawaii to Japan	Optional at 1100 UTC by KZAK	Track B is optional, operators may flight plan a UPR.
11	Japan to Hawaii	Daily at 2200 UTC by RJJJ	Track 11 is optional, operators may flight plan a UPR.
12	Japan to Hawaii	Optional at 2200 UTC by RJJJ	Track 12 is optional, operators may flight plan a UPR.

PAC, 3 NOV 2022 to 29 DEC 2022

ROUTE	TDM DAILY PUBLICATION TIME	REQUIRED USE OR UPR ALTERNATIVES
North American West Coast to Japan	Daily at 1100 UTC by KZAK	Track C is required for westbound aircraft crossing 160E between 0230 and 0600 UTC. During the Track C required times operators may file a UPR at least 50 NM north or south of Track C.
North American West Coast to Japan	Optional at 1100 UTC by KZAK	For westbound aircraft crossing 160E between 0230 and 0600 UTC, operators may file a UPR at least 50 NM north or south of Track C.
North American West Coast to Japan	Daily at 1100 UTC by KZAK	For westbound aircraft crossing 160E between 0230 and 0600 UTC, operators may file a UPR at least 50 NM north or south of Track C.
North American West Coast to Japan	Daily at 1100 UTC by KZAK	For westbound aircraft crossing 160E between 0230 and 0600 UTC, operators may file a UPR at least 50 NM north or south of Track C.
Japan to North American West Coast	Daily at 2200 UTC by RJJJ	For eastbound aircraft crossing 160E between 0900 and 1230 UTC, operators may file a UPR at least 50 NM north or south of Track 2.
Japan to North American West Coast	Daily at 2200 UTC by RJJJ	Track 2 is required for westbound aircraft crossing 160E between 0900 and 1230 UTC. During the Track 2 required times operators may file a UPR at least 50 NM north or south of Track 2.
Japan to North American West Coast	Daily at 2200 UTC by RJJJ	For eastbound aircraft crossing 160E between 0900 and 1230 UTC, operators may file a UPR at least 50 NM north or south of Track 2.
Japan to North American West Coast	Optional at 2200 UTC by RJJJ	For eastbound aircraft crossing 160E between 0900 and 1230 UTC, operators may file a UPR at least 50 NM north or south of Track 2.
North American West Coast to Asia	Daily at 1100 UTC by KZAK	For westbound aircraft crossing 160E between 0230 and 0600 UTC, operators may file a UPR at least 50 NM north or south of Track C.
North American West Coast to Asia	Optional at 1100 UTC by KZAK	For westbound aircraft crossing 160E between 0230 and 0600 UTC, operators may file a UPR at least 50 NM north or south of Track C.
North American West Coast to Asia	Daily at 0000 UTC by KZAK	Track J is required for westbound aircraft crossing 160E between 1500 and 1800 UTC. During the Track J required times operators may file a UPR at least 50 NM north or south of Track J.
North American West Coast to Asia	Optional at 0000 UTC by KZAK	For westbound aircraft crossing 160E between 1500 and 1800 UTC, operators may file a UPR at least 50 NM north or south of Track J.
North American West Coast to Asia	Daily at 2200 UTC by RJJJ	For eastbound aircraft crossing 160E between 0900 and 1230 UTC, operators may file a UPR at least 50 NM north or south of Track 2.
North American West Coast to Asia	Optional at 2200 UTC by RJJJ	For eastbound aircraft crossing 160E between 0900 and 1230 UTC, operators may file a UPR at least 50 NM north or south of Track 2.

Exact Oakland ARTCC Traffic Management Unit to be added to the daily publication of

E (UPR) GUIDELINES

Used to avoid military special use and NOTAMed airspace when active. A published STAR where appropriate. The same priority for altitude assignment as aircraft on an optional PACOTS Track. There is one high flight plan a UPR that is not laterally separated from an opposite direction PACOTS/UPR traffic and vertically while in conflict with the major traffic flow.

allow the use of UPRs used via International NOTAM whenever a condition exists that may restrict the use of UPRs within a operations

strict the use of UPRs include:

OATS UPR Guidelines

PACOTS UPR guidelines are applicable to the Oakland, Fukuoka and Anchorage Oceanic FIRs, or exit the Oakland Oceanic FIR over a published waypoint on the FIR boundary offshore of the procedures published by Japan and Anchorage ARTCC. Just follow the Guidelines published above in the PACOTS Track Designator Details Table.

PAC, 3 NOV 2022 to 29 DEC 2022



1	Japan to North American West Coast	Daily at 2200 UTC by RJJJ	For eastbound aircraft crossing 160E between 0900 and 1230 UTC, operators may file a UPR at least 50 NM north or south of Track 2.
2	Japan to North American West Coast	Daily at 2200 UTC by RJJJ	Track 2 is required for westbound aircraft crossing 160E between 0900 and 1230 UTC. During the Track 2 required times operators may file a UPR at least 50 NM north or south of Track 2.
3	Japan to North American West Coast	Daily at 2200 UTC by RJJJ	For eastbound aircraft crossing 160E between 0900 and 1230 UTC, operators may file a UPR at least 50 NM north or south of Track 2.
	Japan to North		

USER PREFERRED ROUTE (UPR) GUIDELINES

1. UPR General Guidelines:

- a. The UPR must be planned to avoid military special use and NOTAMed airspace when active.
- b. The UPR must utilize a published STAR where appropriate.
- c. PACOTS UPRs have the same priority for altitude assignment as aircraft on an optional PACOTS Track. There is one exception, operators which flight plan a UPR that is not laterally separated from an opposite direction PACOTS/UPR traffic flow will likely be restricted vertically while in conflict with the major traffic flow.
- d. Conditions that may not allow the use of UPRs
 - (1) Operators will be informed via International NOTAM whenever a condition exists that may restrict the use of UPRs within a particular FIR.
 - (2) Conditions that may restrict the use of UPRs include:
 - (a) Large scale military operations
 - (b) Typhoons.
 - (c) Volcanic Ash
 - (d) Space Launches

2. UPR Specific Guidelines

a. North America – Asia PACOTS UPR Guidelines

- (1) The North America – Asia PACOTS UPR guidelines are applicable to the Oakland, Fukuoka and Anchorage Oceanic FIRs.
- (2) The UPR route must enter or exit the Oakland Oceanic FIR over a published waypoint on the FIR boundary offshore of North America.
- (3) The UPR must comply with the procedures published by Japan and Anchorage ARTCC.
- (4) The PACOTS Track UPR must follow the Guidelines published above in the PACOTS Track Designator Details Table.



Discussion Topics

UPR NOTAMs

- Review Guidance
- Consider Permanent Changes

PACOTS Reduction

- Tracks H or I
- PACOT time restrictions

Pacific Chart Supplements Updates

- New PACOTS guidance table
- Other general UPR guidance



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