



EMS
Brüel & Kjær

Port Authority of New York & New Jersey

WebTrak

EMS Bruel & Kjaer – Environment Management Solutions

Largest global provider of flight track and noise monitoring solutions

Established 1990,
Headquarters in
Melbourne, Australia

Taking Quality and Environment seriously, ISO 20906 certified and California Title 21 Compliant

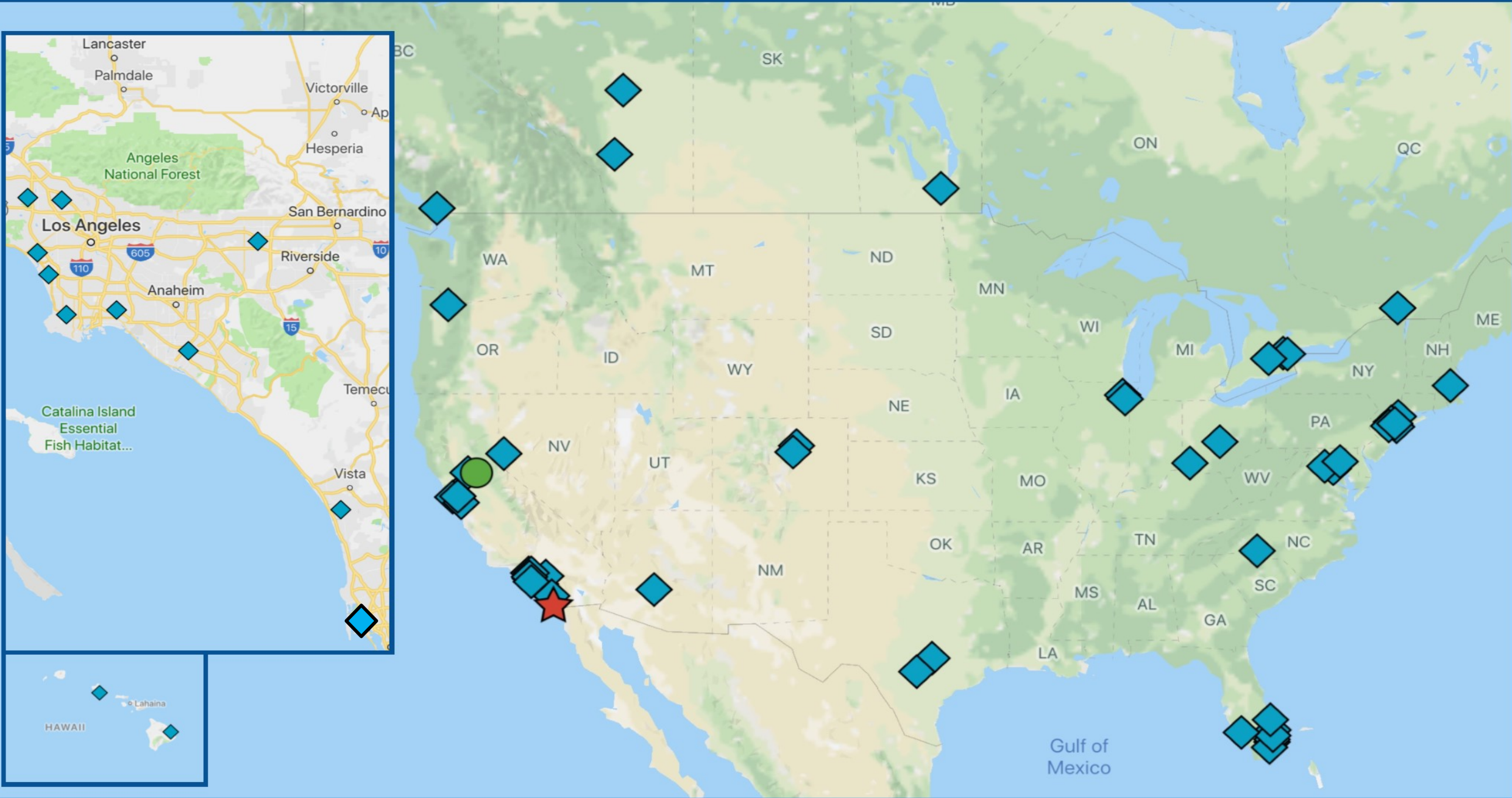


Global leader, with regional and local presence **(NYC Office)**

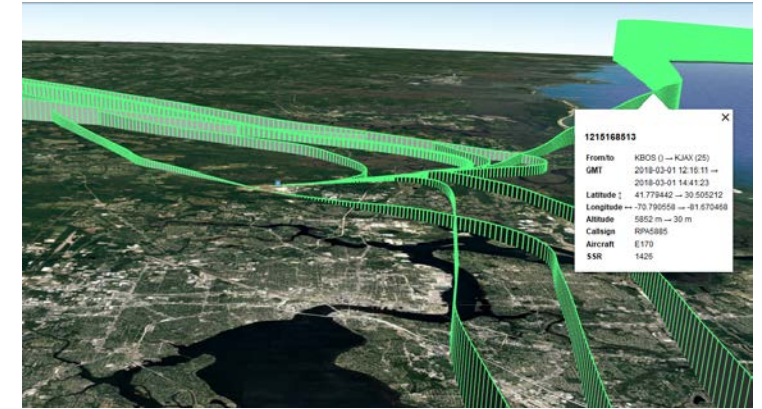
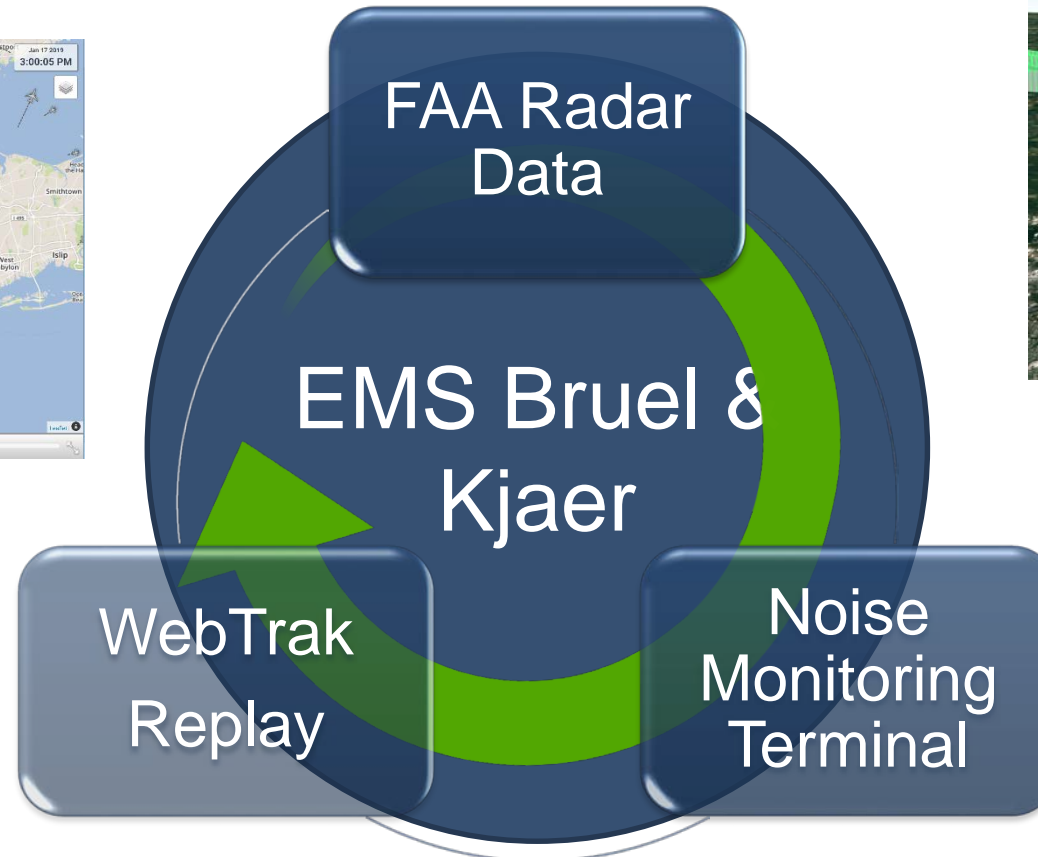
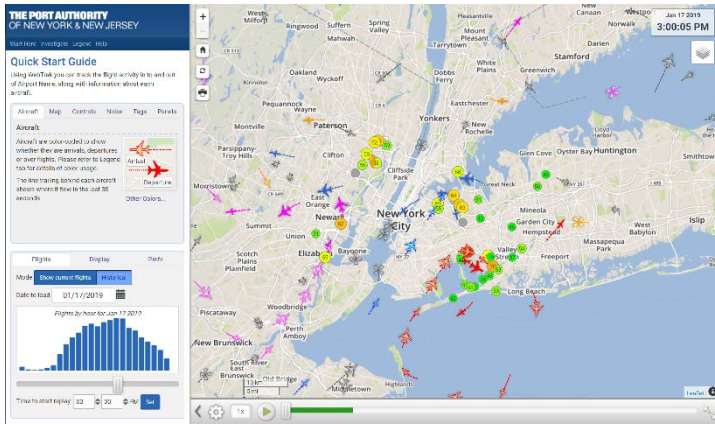
More than 300 clients globally

Worked with Federal Aviation Administration on SWIM program rollout

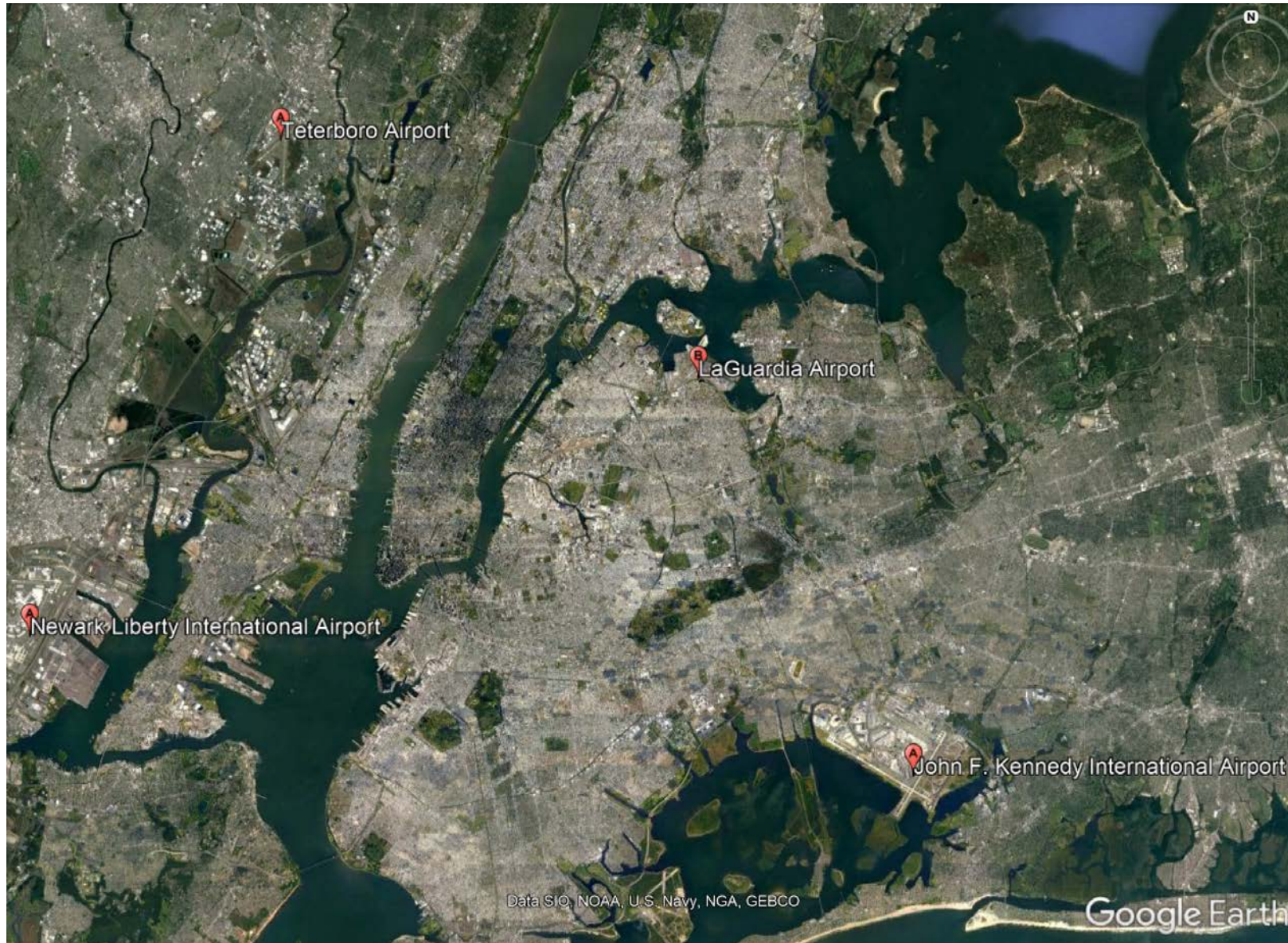
North American Headquarters Sacramento, California



EMS Bruel & Kjaer – Noise & Operations Monitoring



Port Authority of New York & New Jersey



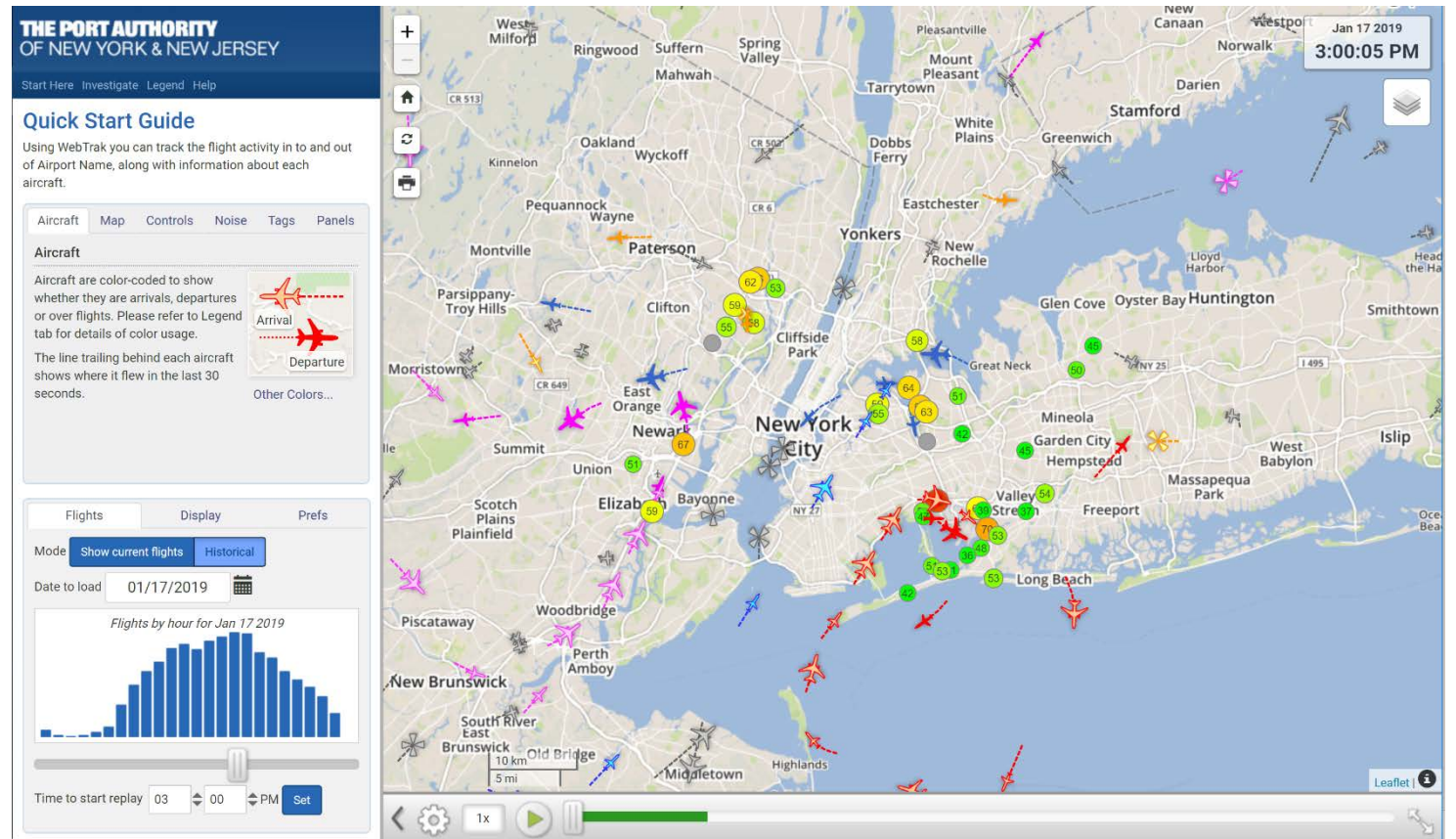
Port Authority of New York & New Jersey WebTrak

- PANYNJ WebTrak

- Real Time Flight Tracking
- Historical Flight Tracking, Noise and Event Data

- PANYNJ Complaint Filing

- WebTrak Complaint
- E-Mail
- Phone



Port Authority of New York & New Jersey WebTrak

THE PORT AUTHORITY OF NEW YORK & NEW JERSEY

Start Here Investigate Legend Help

Quick Start Guide

Using WebTrak you can track the flight activity in to and out of Airport Name, along with information about each aircraft.

Aircraft Map Controls Noise Tags Panels

Aircraft

Aircraft are color-coded to show whether they are arrivals, departures or over flights. Please refer to Legend tab for details of color usage.

The line trailing behind each aircraft shows where it flew in the last 30 seconds.

Arrival
Departure
Other Colors...

Flights Display Prefs

- Smoother Aircraft Movement
- Aircraft Info tags
- Noise Monitors
- Message Window
- Weather Panel

Map Data:

- Flight Id:** UAL1867
Aircraft Type: B739
Airports: IAH → EWR
Altitude: 20 ft
Speed: 46 mph
- Flight Id:** FDX1932
Aircraft Type: B752
Airports: DTW → EWR
Altitude: 1,483 ft
Speed: 143 mph
- Flight Id:** FDX1914
Aircraft Type: B752
Airports: SYR → EWR
Altitude: 2,005 ft
Speed: 194 mph
- Flight Id:** ASA1416
Aircraft Type: A320
Airports: LAX → JFK
Altitude: 16,024 ft
Speed: 375 mph
- Flight Id:** UPS108
Aircraft Type: B763
Airports: JFK → RFD
Altitude: 6,020 ft
Speed: 281 mph
- Flight Id:** DAL468
Aircraft Type: A333
Airports: JFK → TLV
Altitude: 6,804 ft
Speed: 319 mph
- Flight Id:** ASA1026
Aircraft Type: A320
Airports: JFK → LHR
Altitude: 112 ft
Speed: 0 mph
- Flight Id:** VIR154
Aircraft Type: B789
Airports: JFK → LHR
Altitude: 112 ft
Speed: 0 mph
- Aircraft Type:** A321
Airports: LAX → JFK
Altitude: 18,930 ft
Speed: 492 mph

Map Date: Jan 17 2019 12:00:12 AM

Scale: 5 km / 3 mi

Leaflet

Port Authority of New York & New Jersey WebTrak

THE PORT AUTHORITY OF NEW YORK & NEW JERSEY
Start Here Investigate Legend Help

Quick Start Guide

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Aircraft

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The line trailing behind each aircraft shows where it flew in the last 30 seconds.

Arrival (Red dashed line)
Departure (Red solid line)
Other Colors...

Flights | Display | Prefs

- Smoother Aircraft Movement
- Aircraft Info tags
- Noise Monitors
- Message Window
- Weather Panel

Map Data:
Date: Jan 17 2019
Time: 12:00:12 AM

Flight Data Pop-ups:

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Port Authority of New York & New Jersey WebTrak

Submit a Complaint | The Port Authority of New York & New Jersey - Google Chrome
https://www.planenoise.com/panynj/daPRAbr9/qs114wbt.php?acClass=J&operNum=119956442&tailNumber=&ssrCode=&locale=en_US&incident_hour=00&fontSize=11&host...

THE PORT AUTHORITY OF NEW YORK & NEW JERSEY

Noise Complaint Form

Your Information

First Name: *

Last Name: *

Phone: * () -

Email: *

Address: *

City: *

State/Region: * NY

Zip/Postal Code: *

Complaint Information

Filing Your Complaint

Welcome to the Port Authority of New York & New Jersey's airport noise complaint management system, powered by PlaneNoise®.

There are two ways to file an aircraft noise complaint:

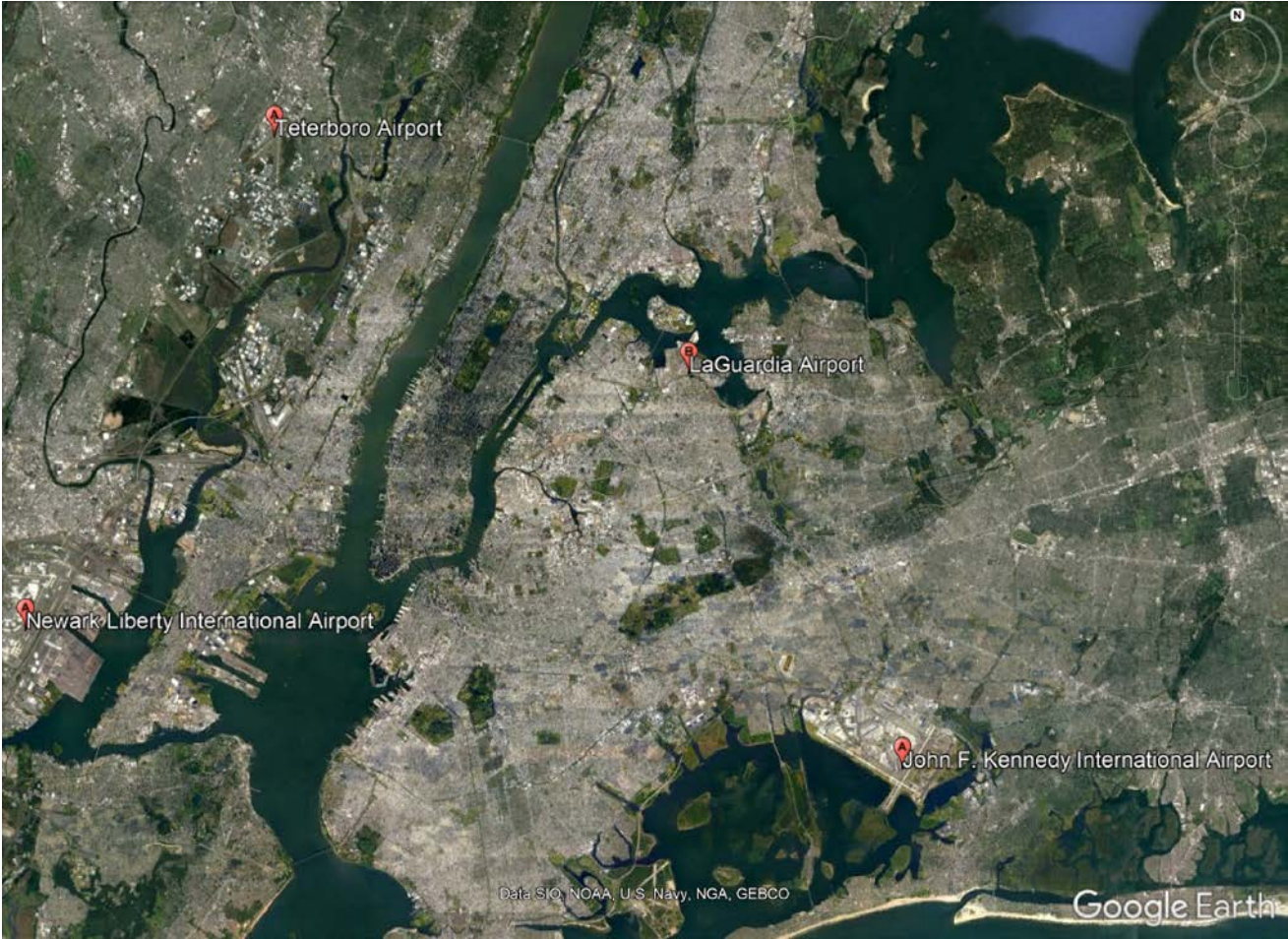
1. Complete and submit the form on this page, or
2. Leave a voicemail on our airport noise complaint hotline 1-800-225-1071.

Either way, we ask that you kindly provide as much information as possible. Details will help the Port Authority review and process your complaint.

Thank you for filing your complaint with the Port Authority of New York & New Jersey.

Viewpoint
Jan 17 2019
12:00:12 AM
Flight Id: DAL468
Aircraft Type: A333
Airports: JFK → TLV
Altitude: 6,804 ft
Speed: 319 mph

Thank You

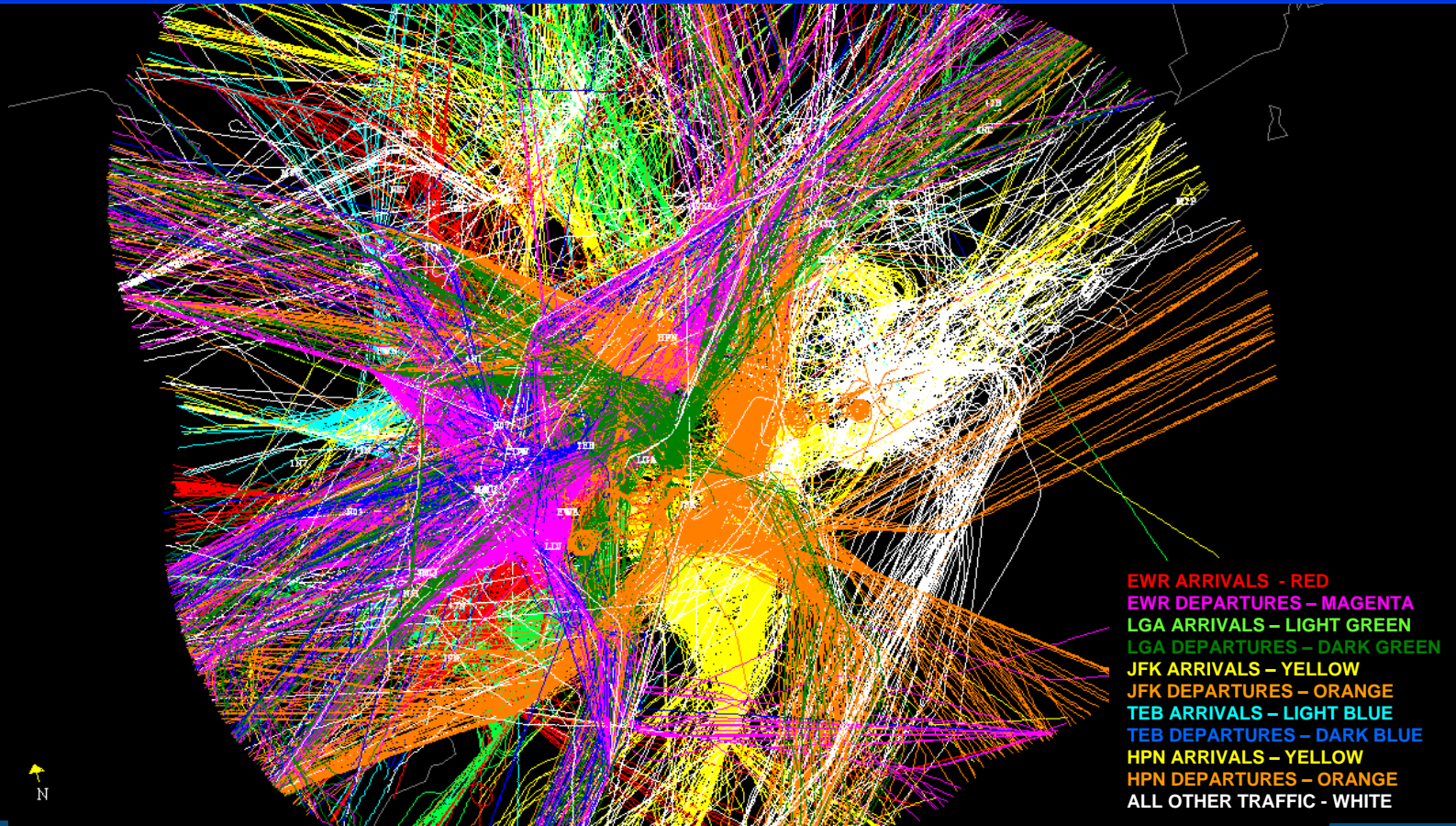


Greg Bracci
greg.bracci@emsbk.com

New aircraft noise website is now **Live!**
<https://aircraftnoise.panynj.gov/>

*Old Address: <http://www.panynj.gov/airports/aircraft-noise-information.html>
All old links on www.panynj.gov are redirected to the new site.*

All NY/NJ Area Air Traffic operations for 24 hours



Where we were



We're Running Out of Airspace

By Clifford B. Hicks

FOR A THREE-DAY period in September 1945 — called "Black Friday" by the traffic controllers, who will never forget it — there was literally an air-traffic jam in the skies above New York City. Planes were stacked up in every holding pattern around the city, with more roaring in from every direction.

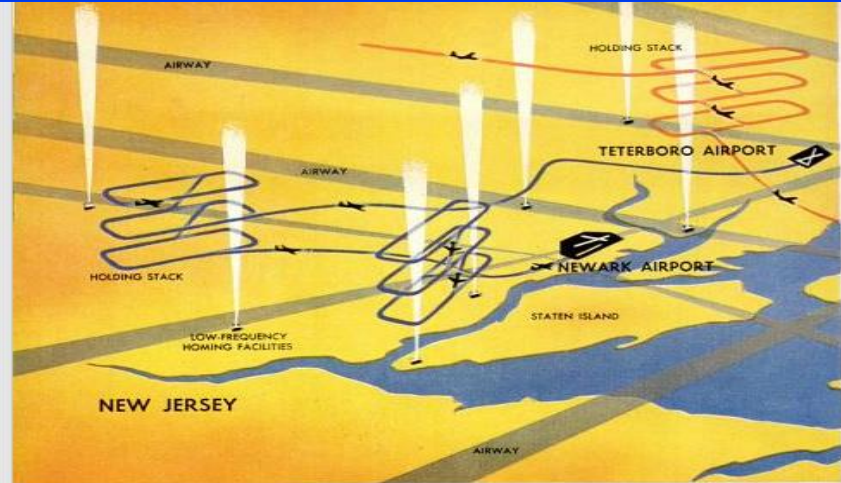
At one point for nearly an hour Civil Aeronautics Administration controllers were not accepting any flight plans whatever. Planes were backed up halfway across the country. In Chicago and Miami,

disgruntled passengers looked at clear skies and grumbled about the delay, while in New York the tense traffic controllers were sweating out the exacting job of guiding onto cleared runways all those planes that were droning through the murk overhead.

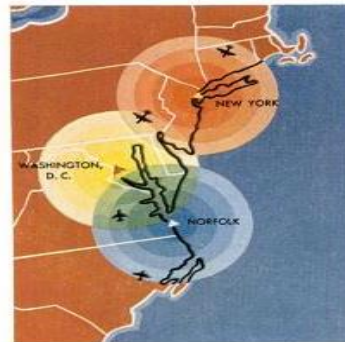
Thanks to the expert work of the controllers, every plane landed safely and every passenger waiting on the ground got into the air. The worst air-traffic jam in history finally was unmarked without violation of a single safety rule.

JANUARY 1956

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Long-range radar at terminal cities (below) puts much of the East Coast area under continual surveillance



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Studies of Black Friday never pinned down the precise reasons for the sudden glut of air traffic. But these studies, along with others made by the CAA, proved one thing: in some areas of the country we're rapidly running out of airspace.

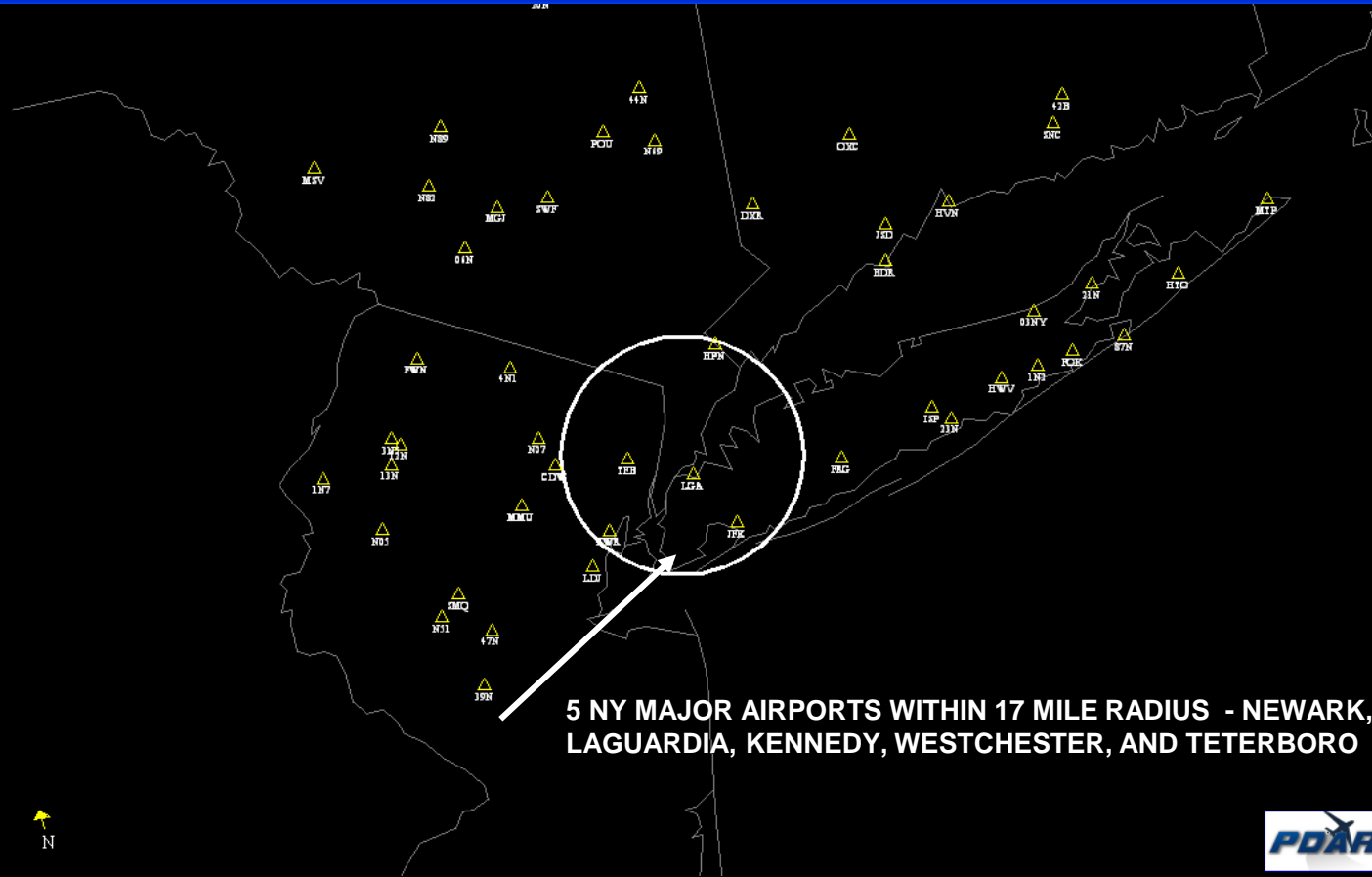
Airspace is a nonrenewable asset. On the ground, you can build more highways and rail lines to solve traffic jams. But overhead there's a definite, limited amount of airspace. When it's gone, there is no more.

Surveying the magnificent bowl of blue sky, man tends to think his airspace is endless. Actually it's carved into a good many imaginary chunks—so many that in some areas there's nothing left to carve.

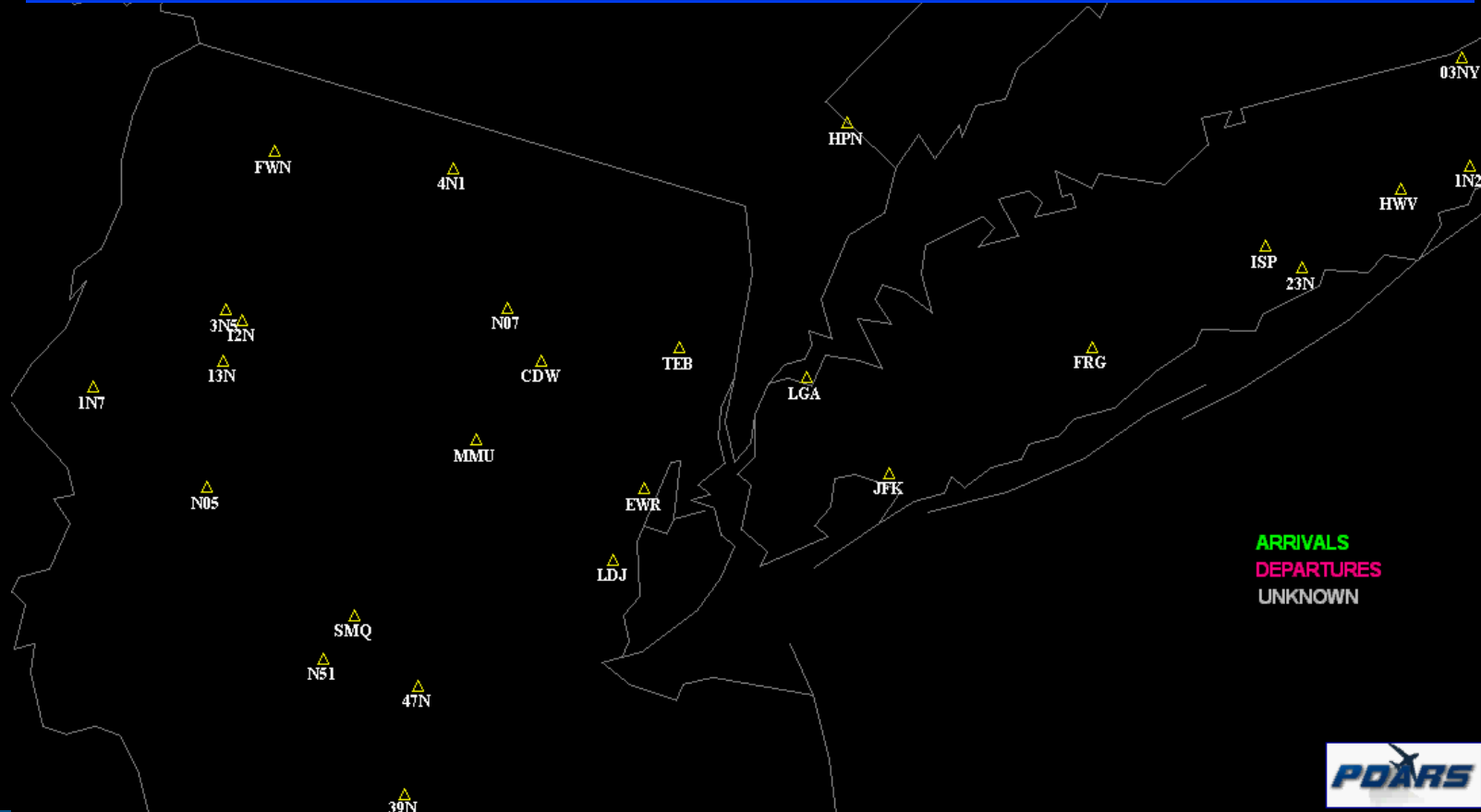
When you take a plane flight you fly along an airway, an aerial highway 10 miles wide. These highways are laid out by the CAA to provide the most direct route between airports while skirting any hazards to safe flying or safety on the ground. During instrument-flying weather, regulations require that all aircraft flying on the same airway be separated by at least 1000 feet in altitude, or by 10 minutes' flying time if two or more planes are at the same altitude. Thus a single plane oc-

POPULAR MECHANICS

NY airspace: So why is it complex?



New York area traffic is the most complex airspace in the National Airspace System



Ground Based Augmentation System: Purpose and Need

- Improve airport and airspace efficiency
- **Improve noise impacts**
- **Improve air quality impacts**
- All new Boeing and Airbus aircraft are equipped
- Airlines are making significant investments in new aircraft
- **Incentive to fly newer generation aircraft into NY**

What is the PA's role?

- We led the US with the first GBAS installation at a major airport.
- Workgroup established between Airlines/Port Authority and the FAA.
- Workgroup has developed initial set of approaches which will allow for immediate use of the system when installation is completed.
- System will support the operations 20-30 years into the future
- **This will allow modernization of the airspace and allow for increased efficiency and reduce noise impacts**
- Lead the development of new operational criteria

FAA report findings

- Compared to ILS, GBAS has its advantages offers consistent accuracy along the entire approach path
- Requires less ground infrastructure and is more flexible regarding equipment placement
- One system can offer GBAS approaches to all runway ends for the same cost
- **Ability to create multiple approach paths to a single runway**
- The expense of annual maintenance is a fraction of that required for ILS

Performance-based Operations Aviation Rulemaking Committee (PARC) recommendations 2014

The GBAS Action Team was formed with representatives from A4A, ACI, Airbus, ALPA, Boeing, Honeywell, MITRE, NBAA, the Port Authority of NY/NJ, Rockwell Collins, Southwest Airlines, United Airlines and the FAA. FAA participants were drawn from Aircraft Certification, Airports, Flight Standards, NextGen and the Technical Center.

2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
EWR	ATL	DFW	JFK	CLT	BOS	DEN	IAD	MIA	DCA	DAL	CLE	MCO
IAH	ORD	SFO	LAX	SEA	DTW	LGA	MSP	PHL	FLL	PHX	SAN	MEM
		MDW		BWI		HOU						

Based solely on benefits attributable to separation reduction associated with variable glideslopes and touchdown zones at the airports included in the proposed deployment schedule, our analysis resulted in a payback period for FAA and airline investment in GBAS/GLS of roughly five years.

Year	2013	2014	2015	2016	2017	2018	2019	2020
ROI (\$M)	\$ (14.45)	\$ (23.23)	\$ (29.53)	\$ (20.40)	\$ (3.57)	\$ 27.16	\$ 67.55	\$ 124.75

Comparison of systems

Instrument Landing System (ILS)

- 1940's technology
- Requires a significant amount of infrastructure
- 1 system, 1 approach, 1 glide slope
- Temperamental: Impacted by snow depth, impacted by ground traffic
- Each ILS requires periodic flight checks to ensure accuracy, impacting flight operations
- Accuracy varies depending on installation

Ground Based Augmentation System (GBAS)

Latest Satellite navigation

Minimal infrastructure requirement

1 system, 48 approaches

Not impacted by snow depth, vehicle traffic

De-conflicts arrival flows into NY airspace

Curved approaches, lower minimums,

Accuracy down to .5 meters

Higher glideslope potential, research required

Advanced procedures allowing for additional flexibility of flows

SFO Demo



Figure 30: Community Noise Exposure for Approaches to Runway 19L/19R



Current flight paths

Google earth

**Not actual flights
paths just conceptual**



Data SIO, NOAA, U.S. Navy, NGA, GEBCO

Google earth

In other words

Instrument Landing System (ILS)

Ground Based Augmentation System (GBAS)



QUESTIONS



Backup slides

Weather criteria

- Flying conditions are described by a measure of the height of the clouds from the ground and the visibility
- This measure is the basis of many aviation flying rules
- Visual Flight Rules (VFR) allows aircraft to fly by allowing pilots to navigate using sight. This is identified by 1000 foot ceiling and 3 miles visibility
- Instrument Flight Rules (IFR) are any conditions below 1000 foot ceiling and/or visibility of less than 3 miles

Various FAA NAVAIDS at our airports

