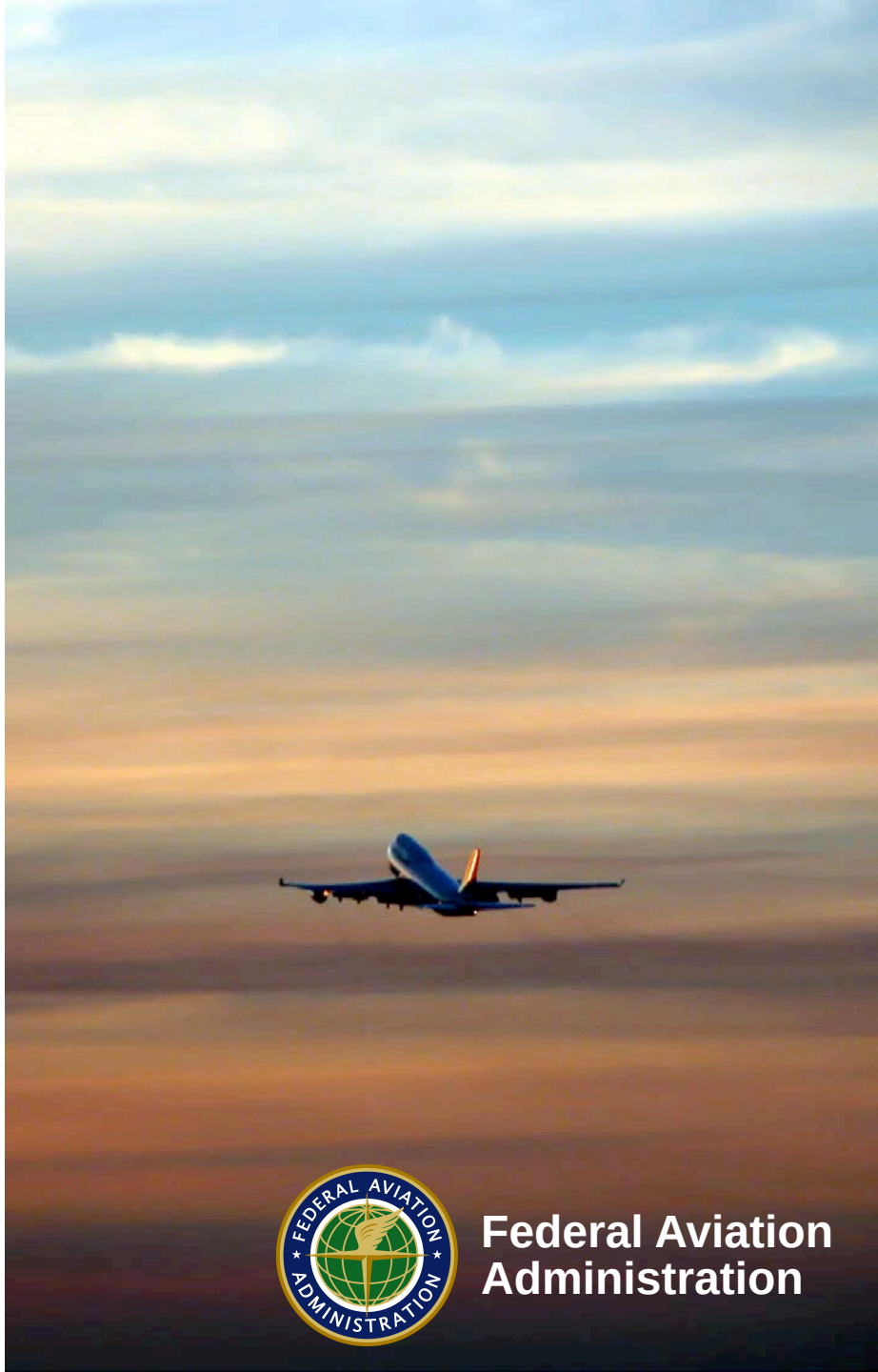
Federal Aviation Administration

Initial Analysis of the Cause of Noise Concerns due to overflights in the San Diego area

January 2017



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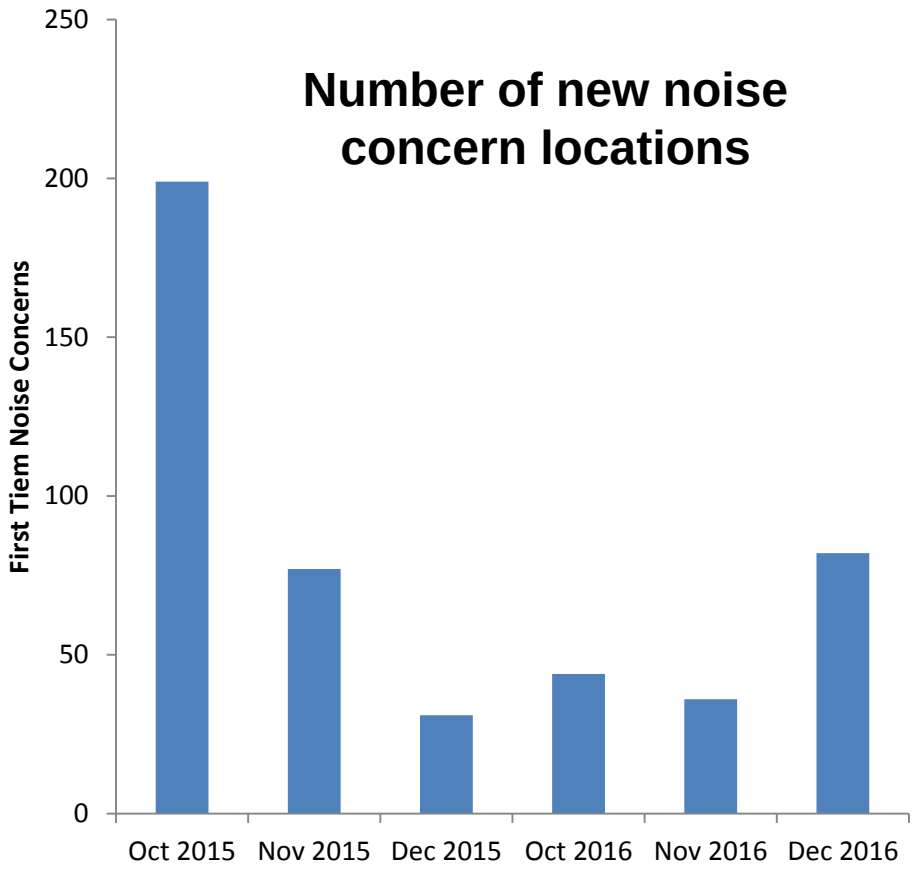
   xi. Mt. Helix area

Introduction

Introduction



Noise concerns increased towards the end of the last quarter of 2016 in the San Diego area.

Questions were raised regarding the cause of these concerns.

Analysis Methodology

Overflights within 1 NM of 11 locations within the greater San Diego area were analyzed during:

- **October, November and December 2015**
- **October, November and December 2016**

The overflights were split into operational groups and analyzed for the following parameters:

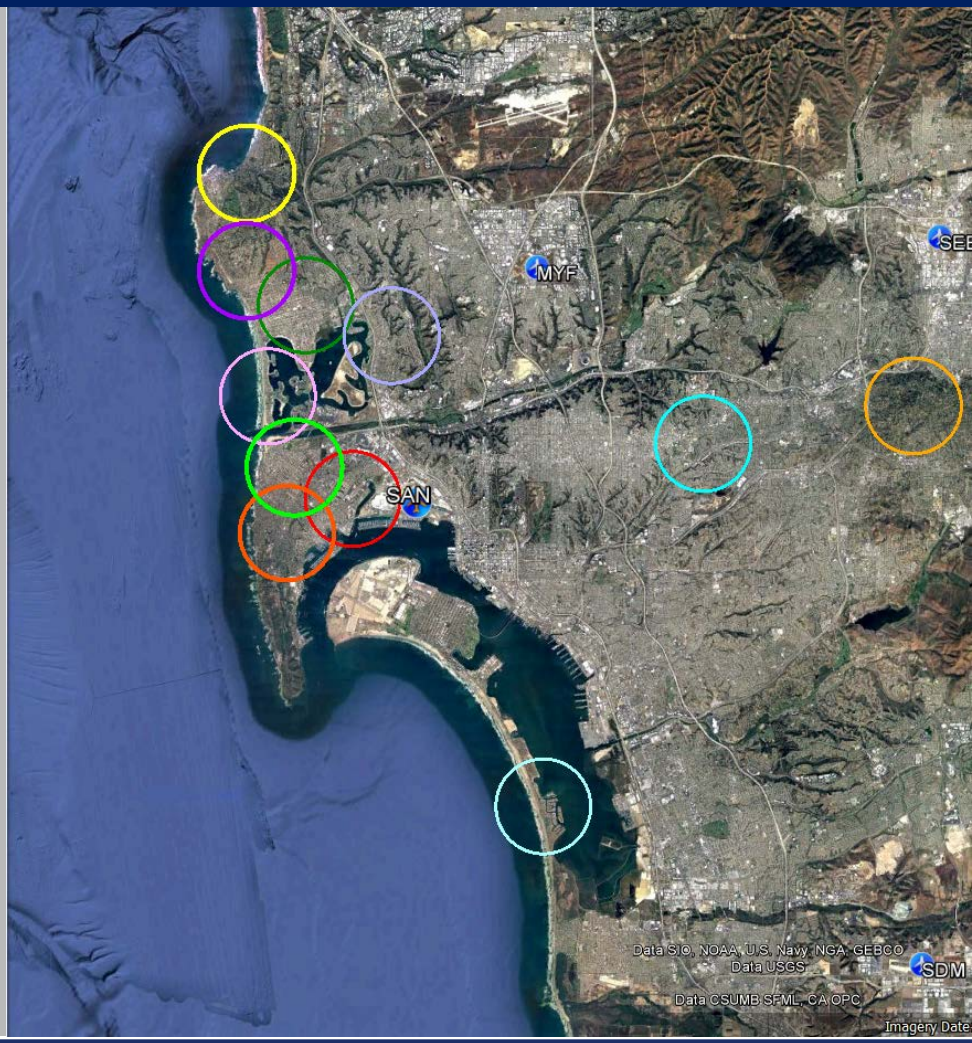
- **Average altitudes**
- **Monthly overflight counts**
- **Average distance from central point - this provides a measure of whether the average flight path has shifted**

Locations investigated

Key

1NM circles surrounding:

- **La Jolla Cove, La Jolla Shores and Mt. Soledad areas**
- **Bird Rock and La Jolla Mesa area**
- **Pacific Beach area**
- **Bay Park area**
- **Mission Beach areas**
- **Ocean Beach and Point Loma Heights areas**
- **Liberty Station**
- **Sunset Cliffs, Wooden Area, Fleetridge and La Playa areas**
- **Coronado Cays area**
- **El Cerrito area**
- **Mt. Helix area**

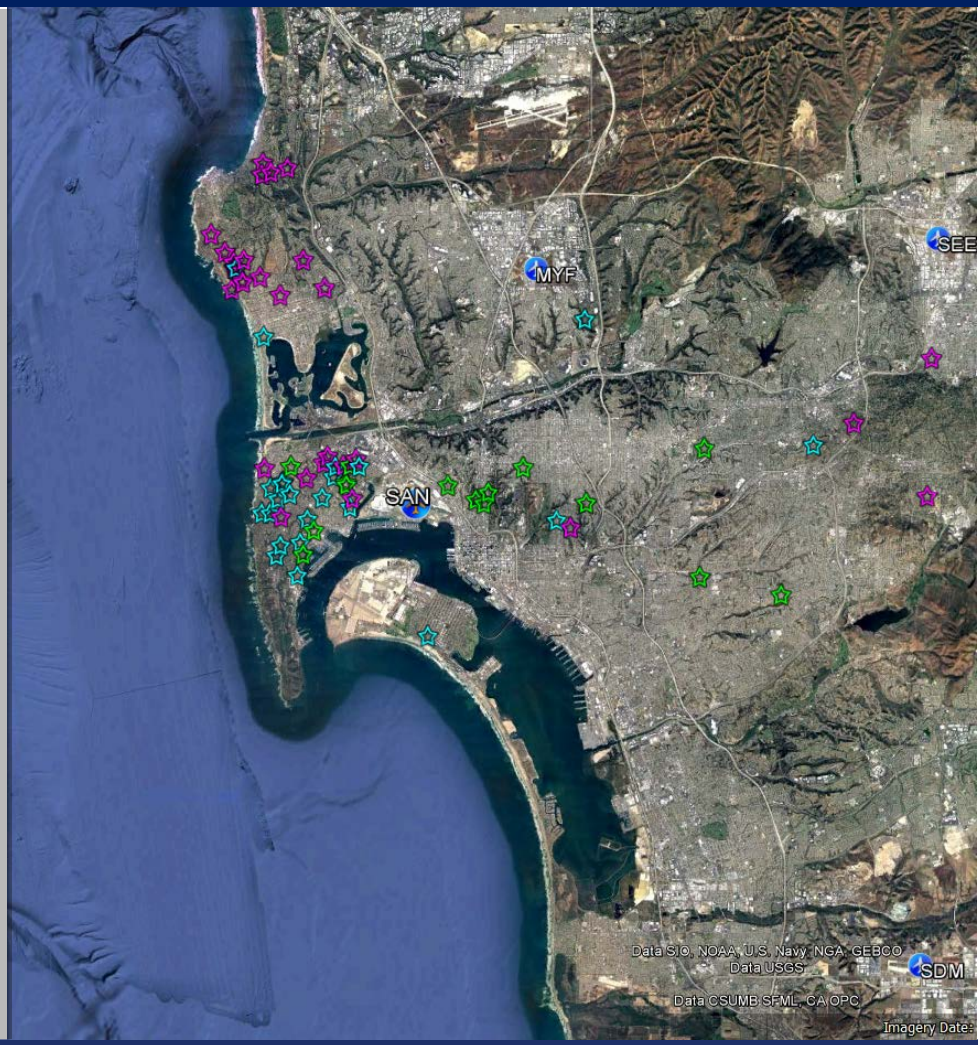


Noise Concern locations in the last Quarter 2016

Key

First time noise concerns

- ☆ **Oct 2016**
- ☆ **Nov 2016**
- ☆ **Dec 2016**



General Aviation corridor

Key

First time noise concerns

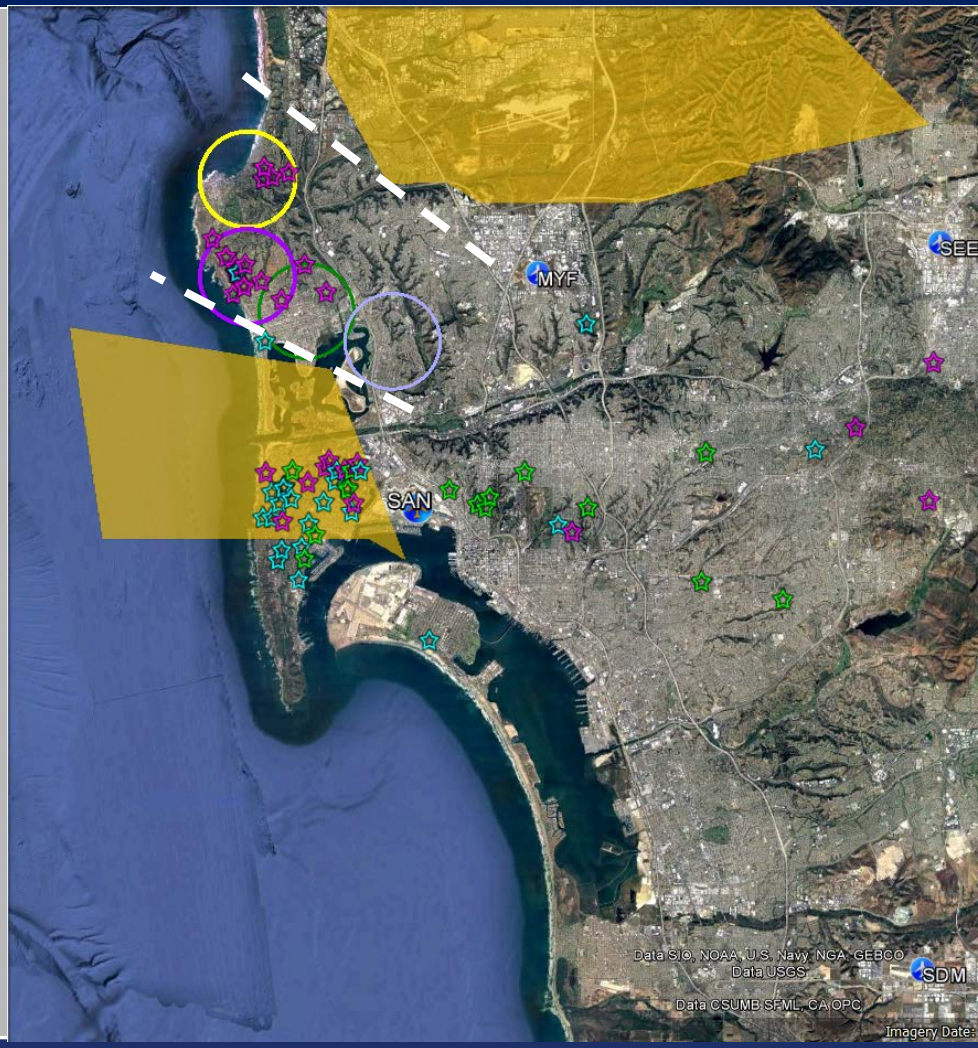
- ★ Oct 2016
- ★ Nov 2016
- ★ Dec 2016

1NM circles surrounding:

- ○ La Jolla Cove, La Jolla Shores and Mt. Soledad areas
- ○ Bird Rock and La Jolla Mesa areas
- ○ Pacific Beach area
- ○ Bay Park area

■ Areas of SAN Class B which extend to the ground

– – Effective GA corridor

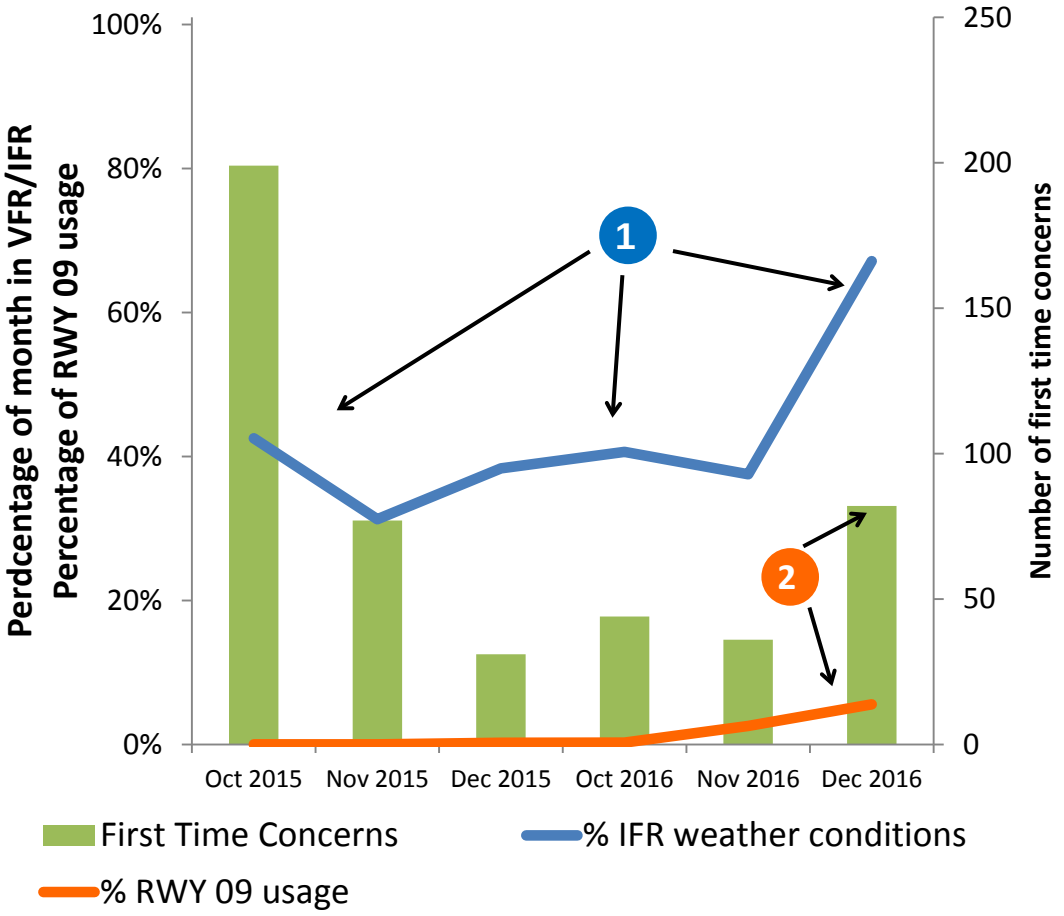


Executive Summary

- **There has been no procedural changes in the San Diego Area, effecting these areas.**
- **In many locations, General Aviation (GA) including helicopters, is the predominant source of overflights.**
- **These GA aircraft often fly with no interaction with Air Traffic Control.**
- **There was unusual weather in November and December 2016 which resulted in higher than normal usage of RWY 09 departures and arrivals.**
- **This weather was associated with low clouds, which may change how aircraft noise is heard.**

Runway Usage and Weather at SAN

Correlation between Noise Concerns & SAN Flow and weather



1. **The change in the number of first-time noise concerns correlates with IFR conditions (low cloud cover).**

2. **The uptick in first-time noise concerns in December 2016 correlate with an uptick in RWY 09 usage**

Analysis

i. La Jolla Cove, La Jolla Shores and Mt. Soledad areas
ii. Bird Rock and La Jolla Mesa area
iii. Pacific Beach area
iv. Bay Park area
v. Mission Beach areas
vi. Ocean Beach and Loma Heights areas
vii. Liberty Station
viii. Sunset Cliffs, Wooden Area, Fleetridge and La Playa areas
ix. Coronado Cays area
x. El Cerrito area
xi. Mt. Helix area

La Jolla Cove, La Jolla Shores and Mt. Soledad Areas

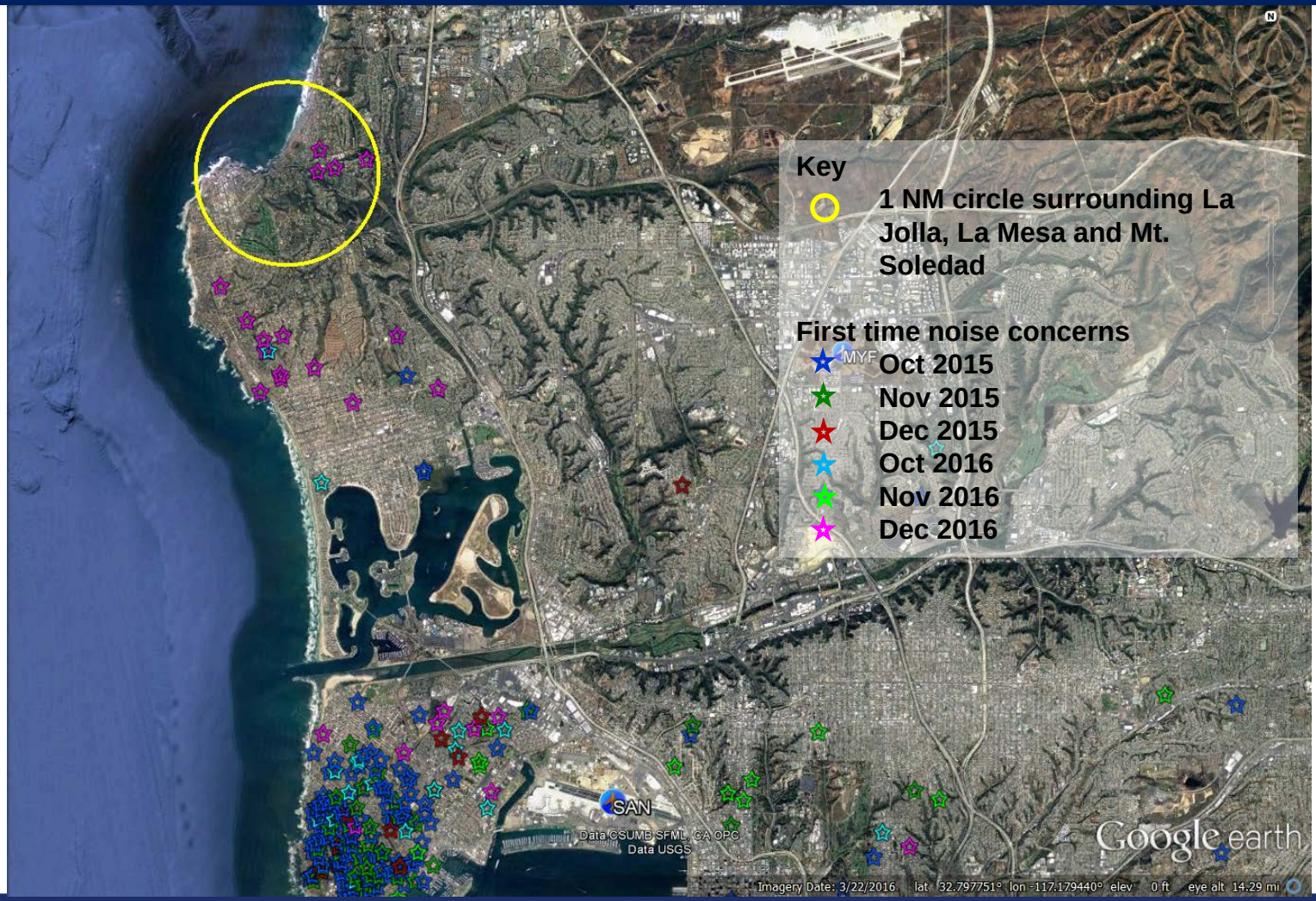
Executive Summary

La Jolla, La Mesa and Mt. Soledad Areas

- **There were 4 new noise concerns locations within the La Jolla Mesa, La Jolla Shores and Mt. Soledad areas in December 2016.**
- **The overflights consist of ~ 43% SAN arrivals, ~55% GA (of which 3% are helicopters) and 2% SAN departures**
  - **SAN arrivals (~8,300 ft AGL)**
  - **GA aircraft (~2,500 ft AGL)**
  - **Helicopters (~ 3,000 ft AGL)**
  - **SAN departures (~7,400 ft AGL)**
- **Helicopters have been flying ~500 feet lower in the last quarter of 2016 relative to 2015.**
- **There was an increase in IFR conditions (normally low clouds) during December 2016. This may have contributed to greater awareness of overflights**

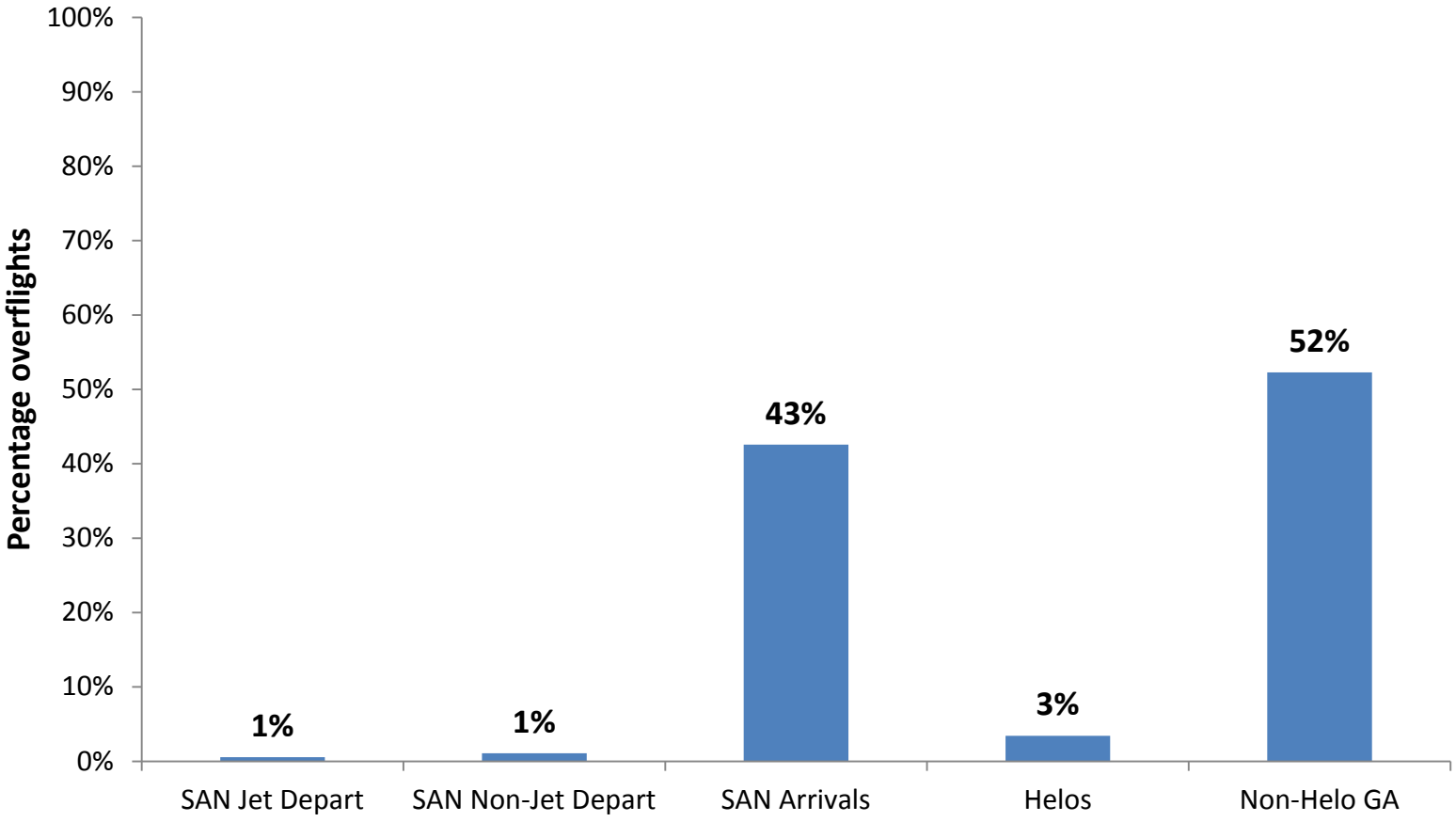
Area of Interest

La Jolla, La Mesa and Mt. Soledad Areas



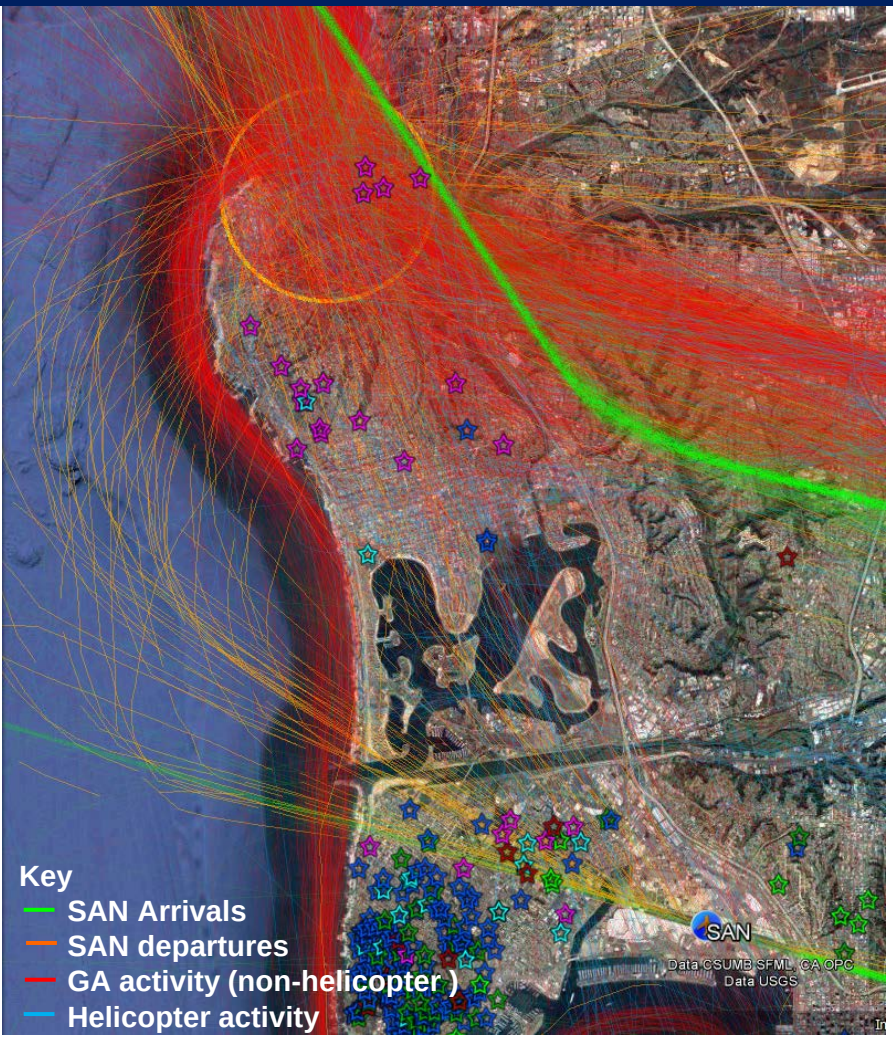
Operational distribution of overflights

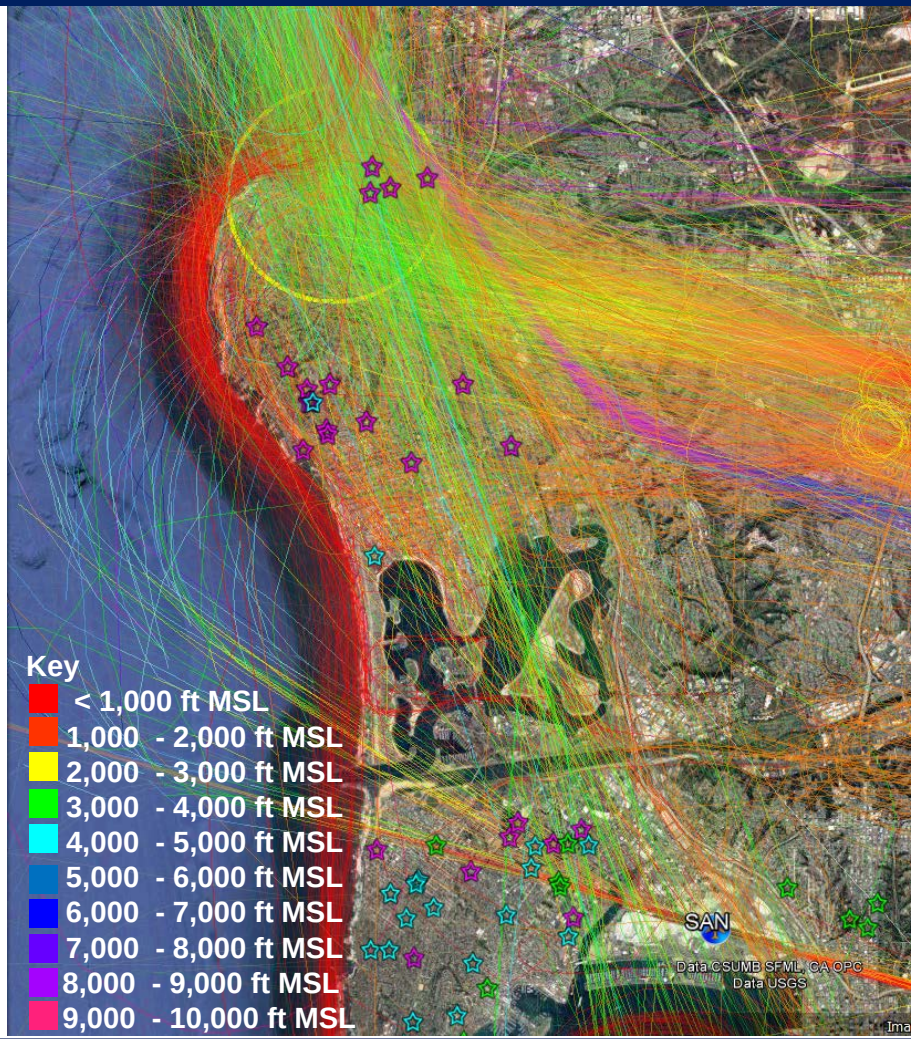
La Jolla, La Mesa and Mt. Soledad Areas



December 2016 tracks: locations and altitudes

La Jolla, La Mesa and Mt. Soledad Areas





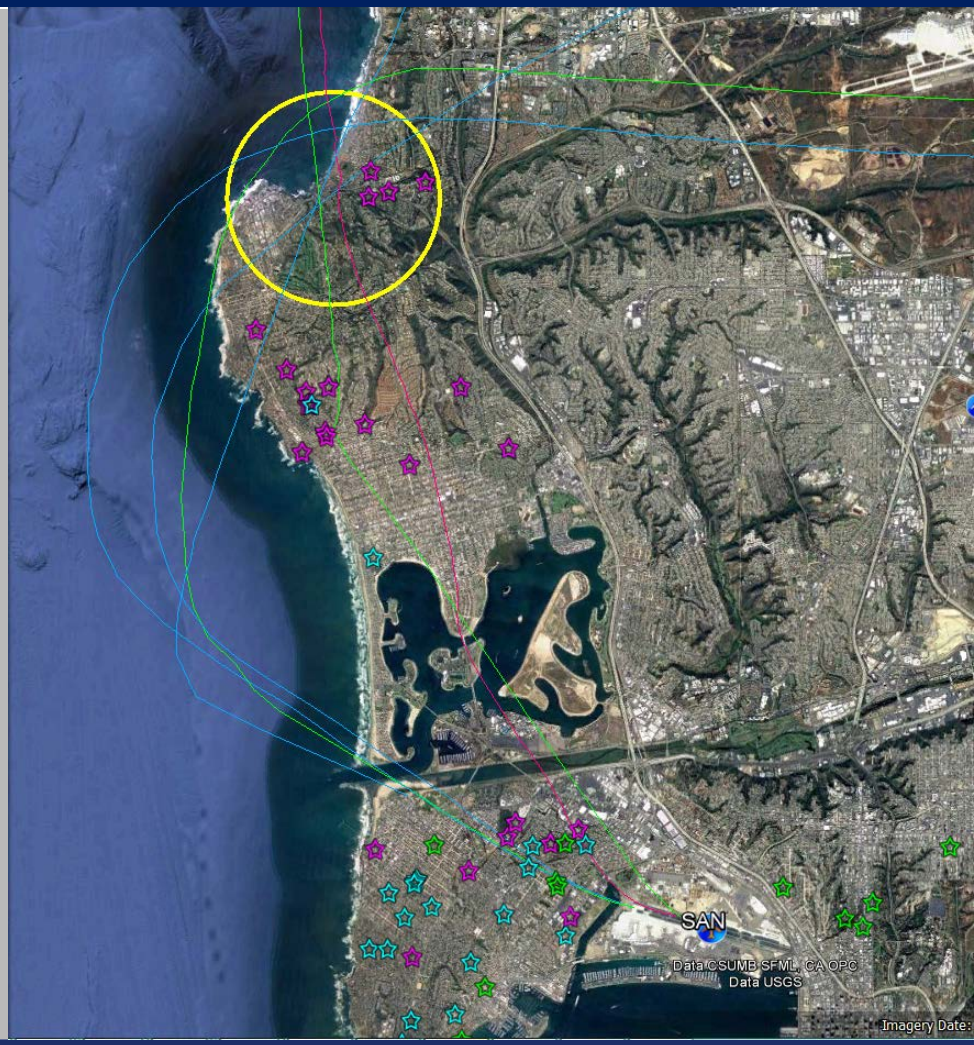
SAN departures between 10 pm – 11:30pm

La Jolla, La Mesa and Mt. Soledad Areas

Key

First time noise concerns

- **Flights in Oct 2016 (2 flights)**
- **Flights in Nov 2016 (3 flights)**
- **Flights in Dec 2016 (1 flight)**



Bird Rock and La Jolla Mesa Areas

Executive Summary

Bird Rock and La Jolla Mesa Areas

- **There were 12 new noise concern locations in Dec 2016 within the Bird Rock and La Jolla Mesa areas.**

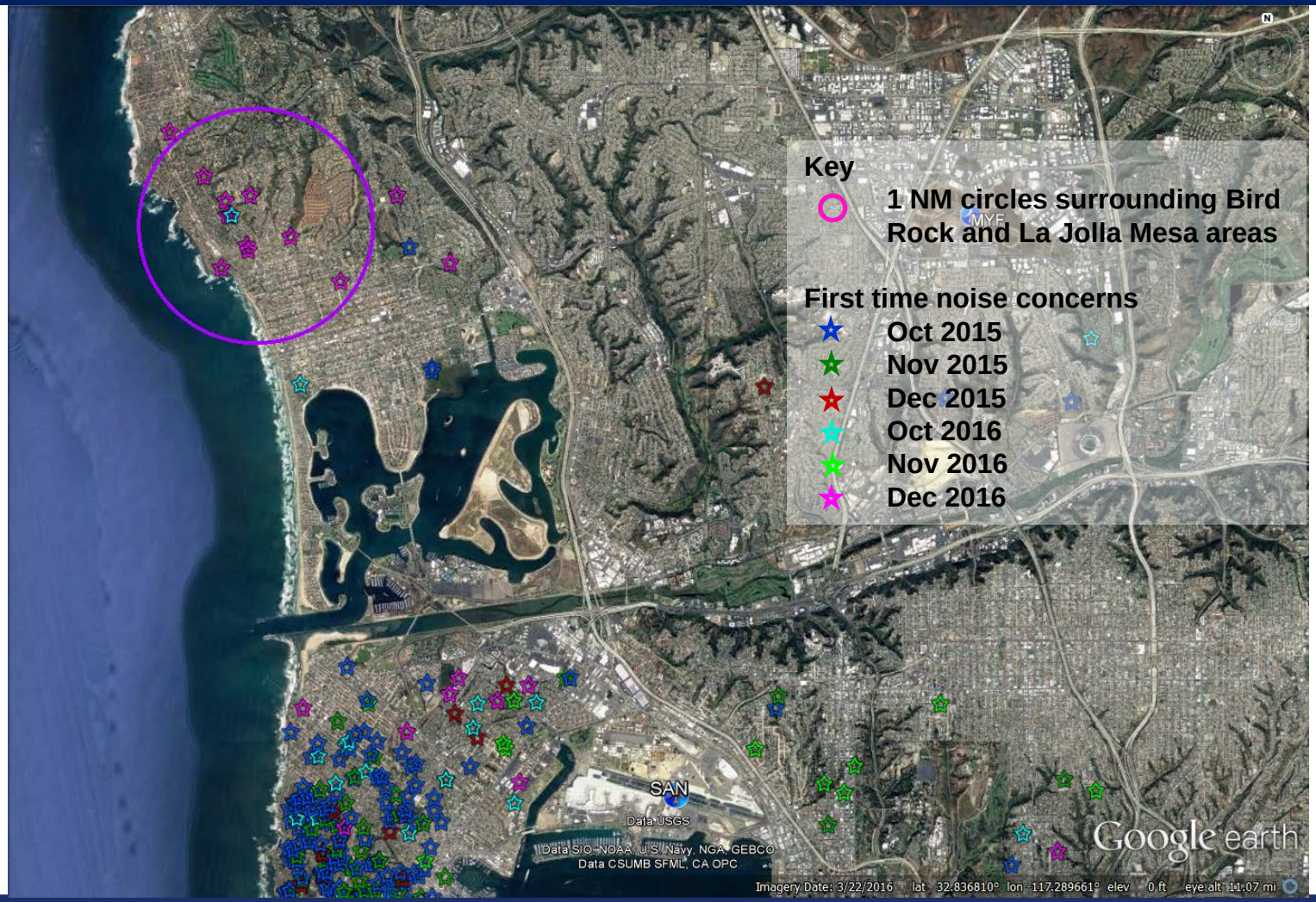
- **Helicopters and other GA aircraft account for 88% of overflights. These aircraft fly between < 1,000 ft - ~2,000 feet AGL. Most of these operations are associated with MYF.**

- **There were some unusual overflights associated with SAN east flow in November and December 2016. These account for < 1% of total overflights.**

- **There was an increase in IFR conditions (normally low clouds) during December 2016. This may have contributed to greater awareness of overflights.**

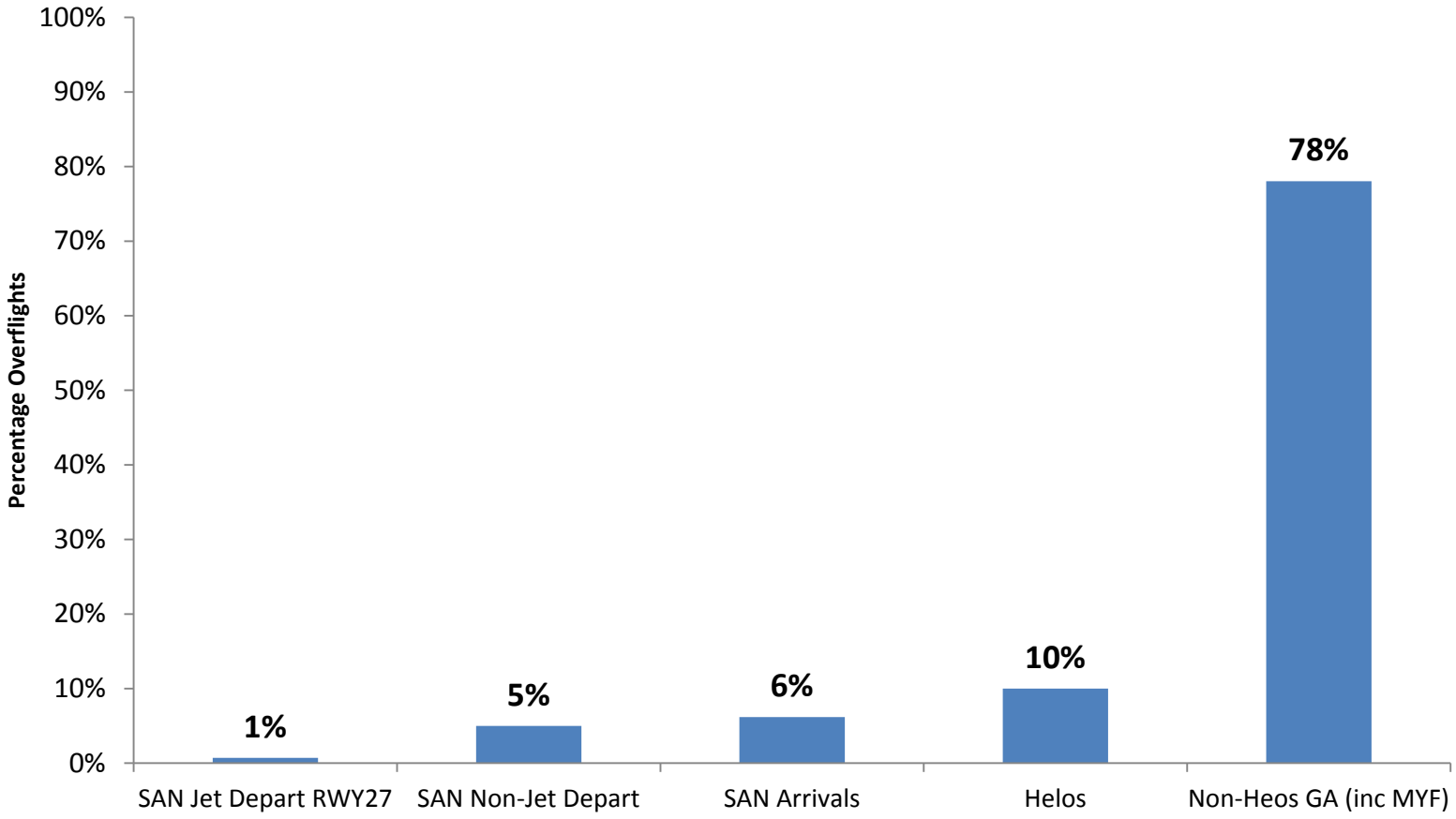
Area of Interest

Bird Rock and La Jolla Mesa Areas



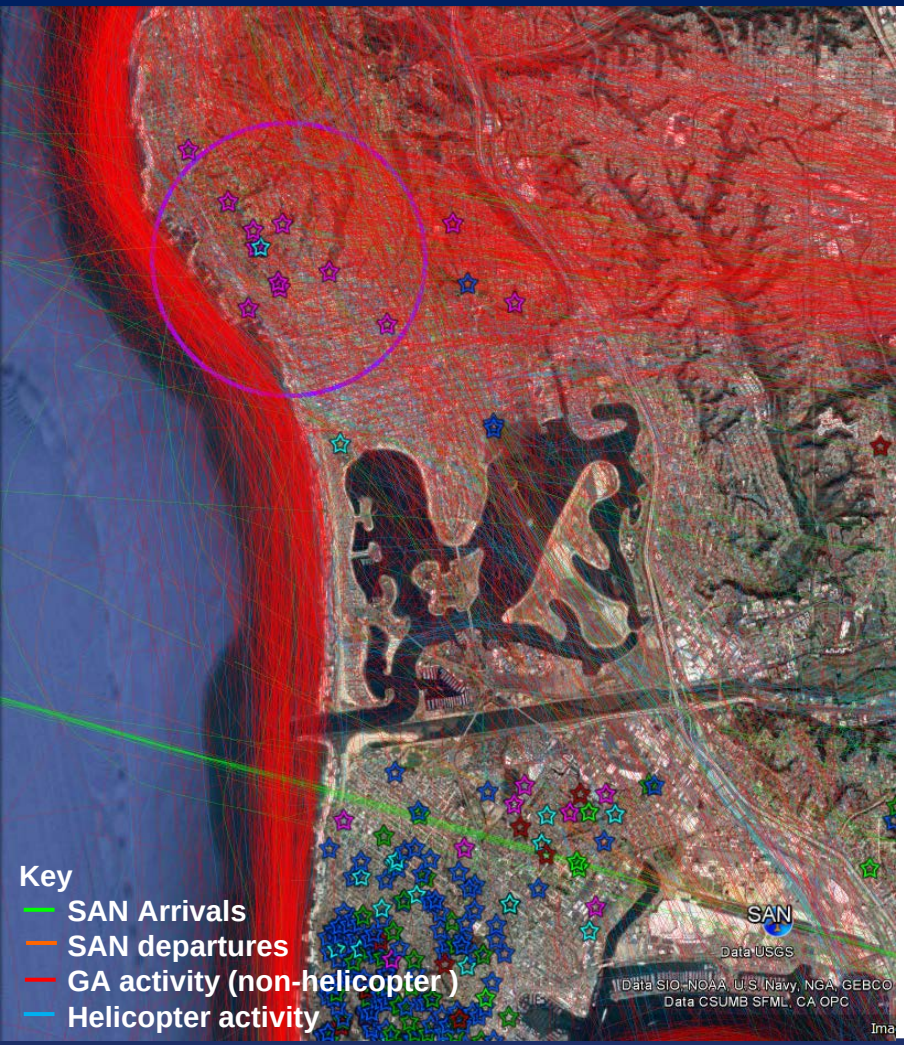
Operational distribution of overflights

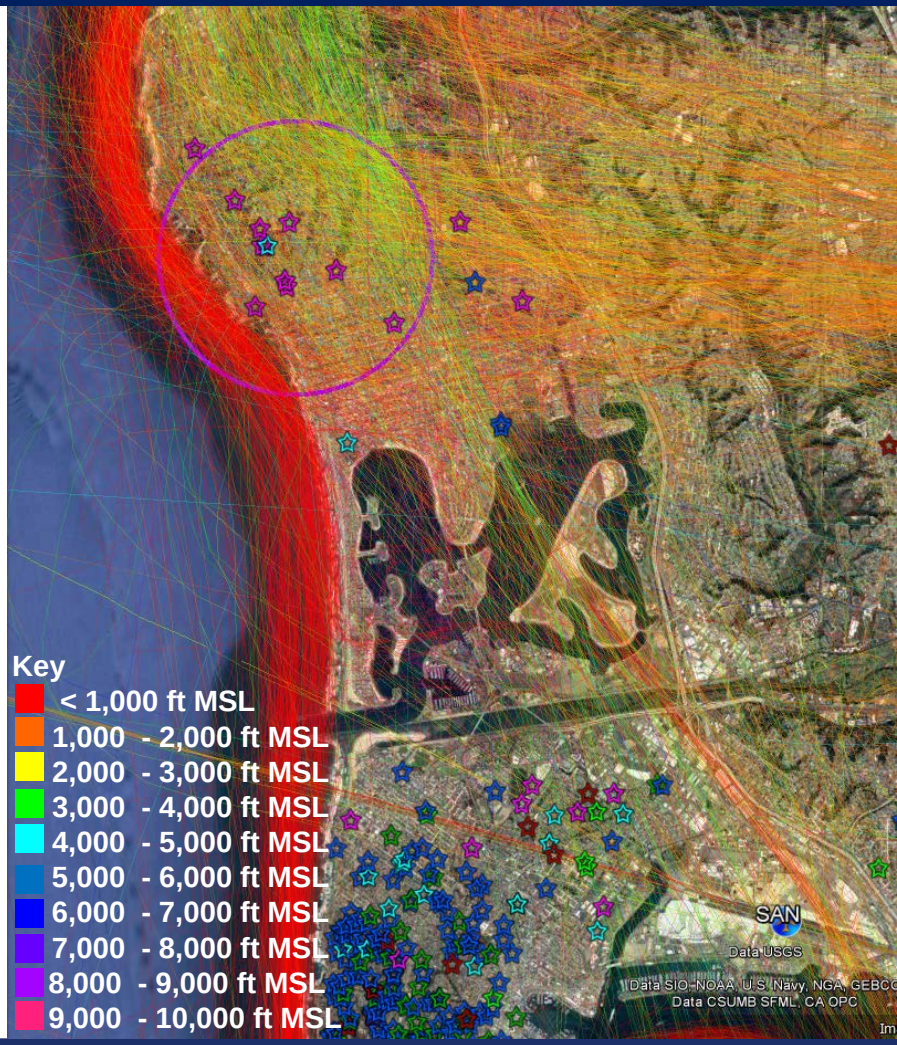
Bird Rock and La Jolla Mesa Areas



December 2016 tracks: locations and altitudes

Bird Rock and La Jolla Mesa Areas





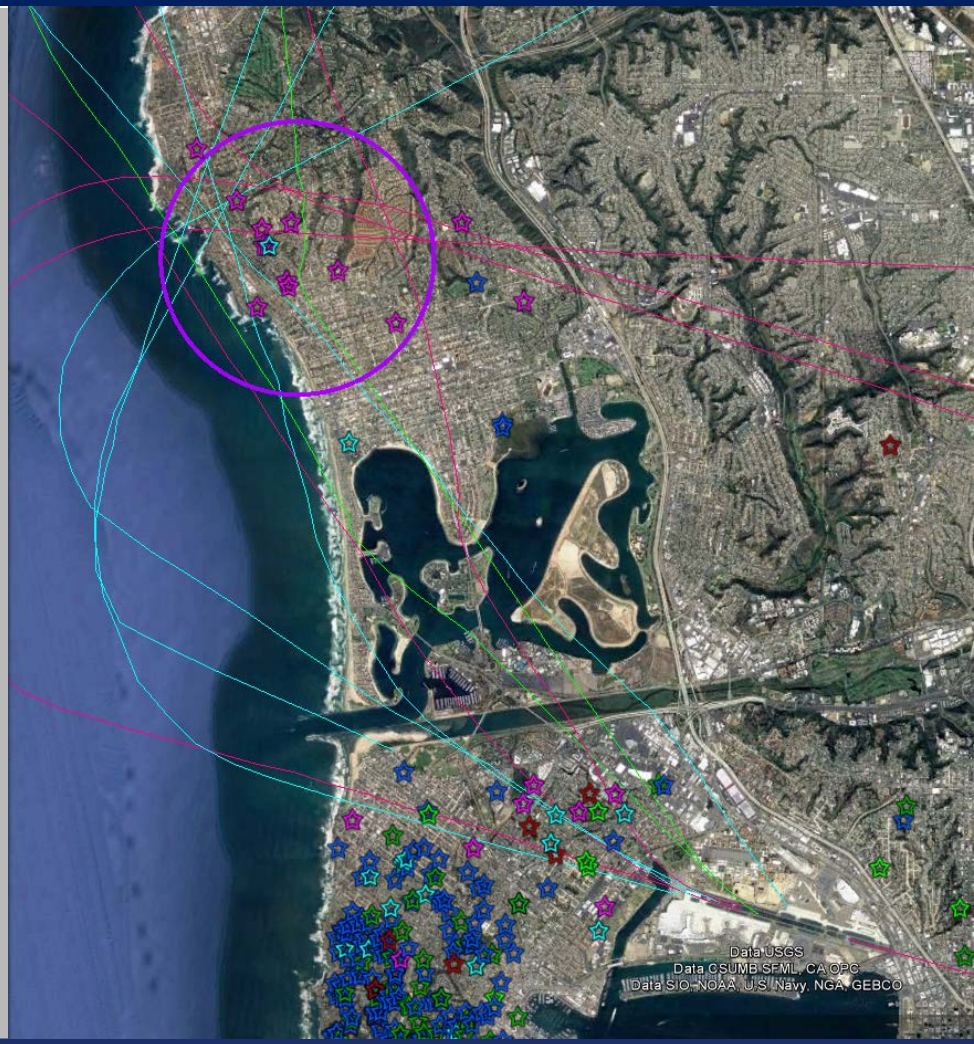
SAN departures between 10 pm – 11:30pm.

Bird Rock and La Jolla Mesa Areas

Key

First time noise concerns

- **Flights in Oct 2016 (5 flights)**
- **Flights in Nov 2016 (2 flights)**
- **Flights in Dec 2016 (5 flight)**



Pacific Beach Area

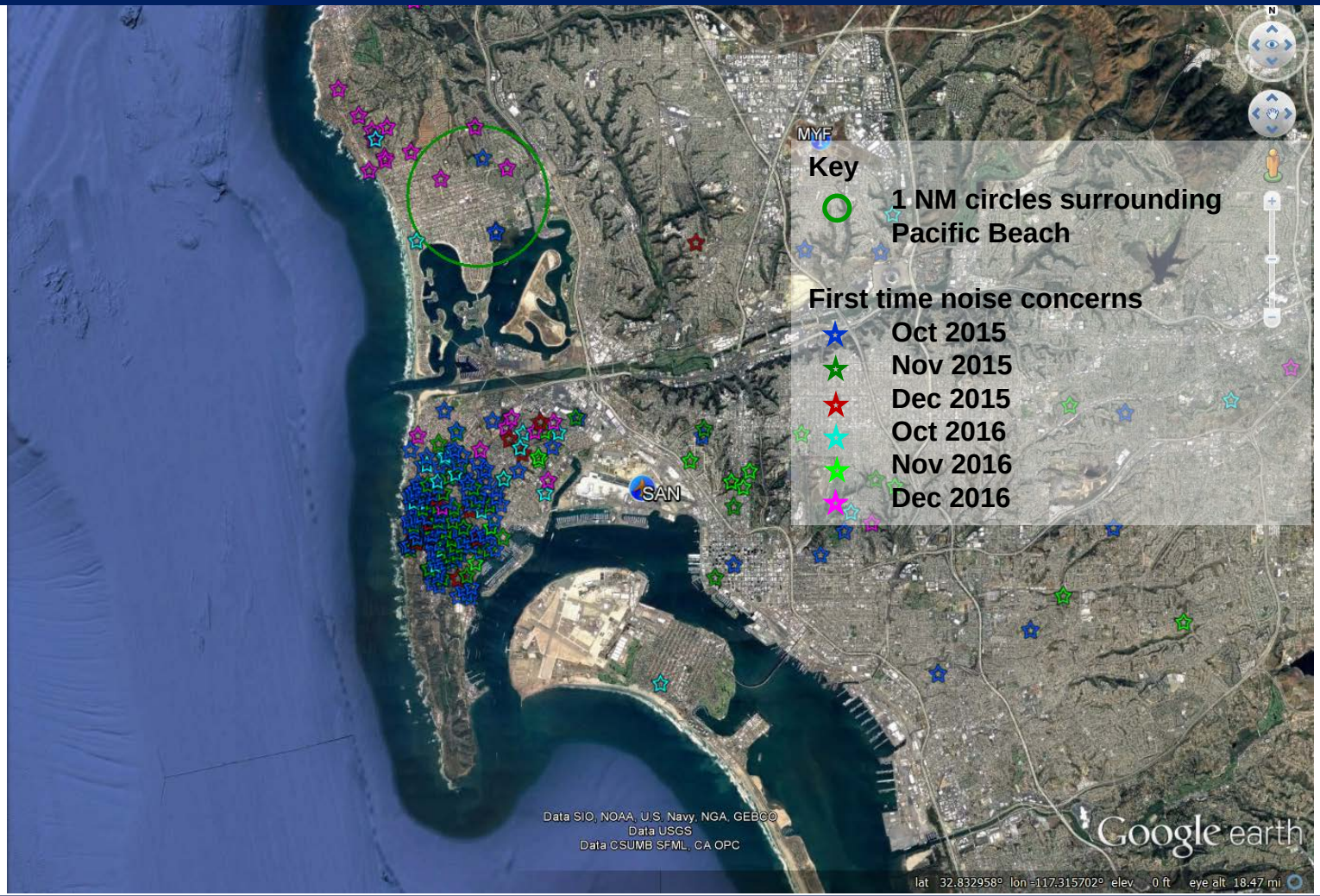
Executive Summary

Pacific Beach Area

- **There were 3 new noise concern locations in Dec 2016 in the Pacific Beach area.**
- **Helicopters and other GA aircraft account for 84% of overflights, at between 2,400 – 2,700 feet AGL. Most of these operations are associated with MYF.**
- **There was a slight decrease in the altitude at which GA and helicopter traffic overflew Pacific Beach form November to December 2016.**
- **This may have been due to the increase in IFR conditions (normally low clouds) during December 2016.**

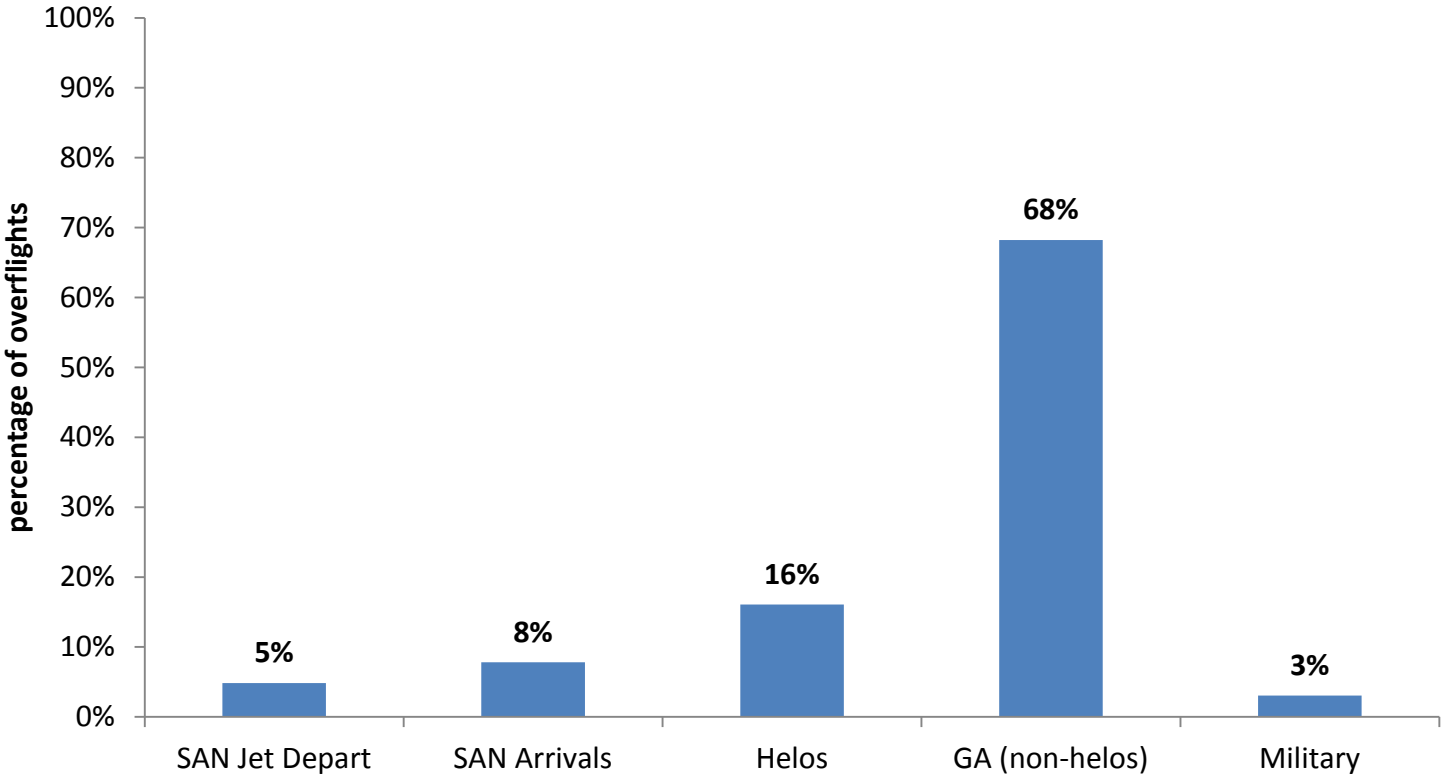
Area of Interest

Pacific Beach Area



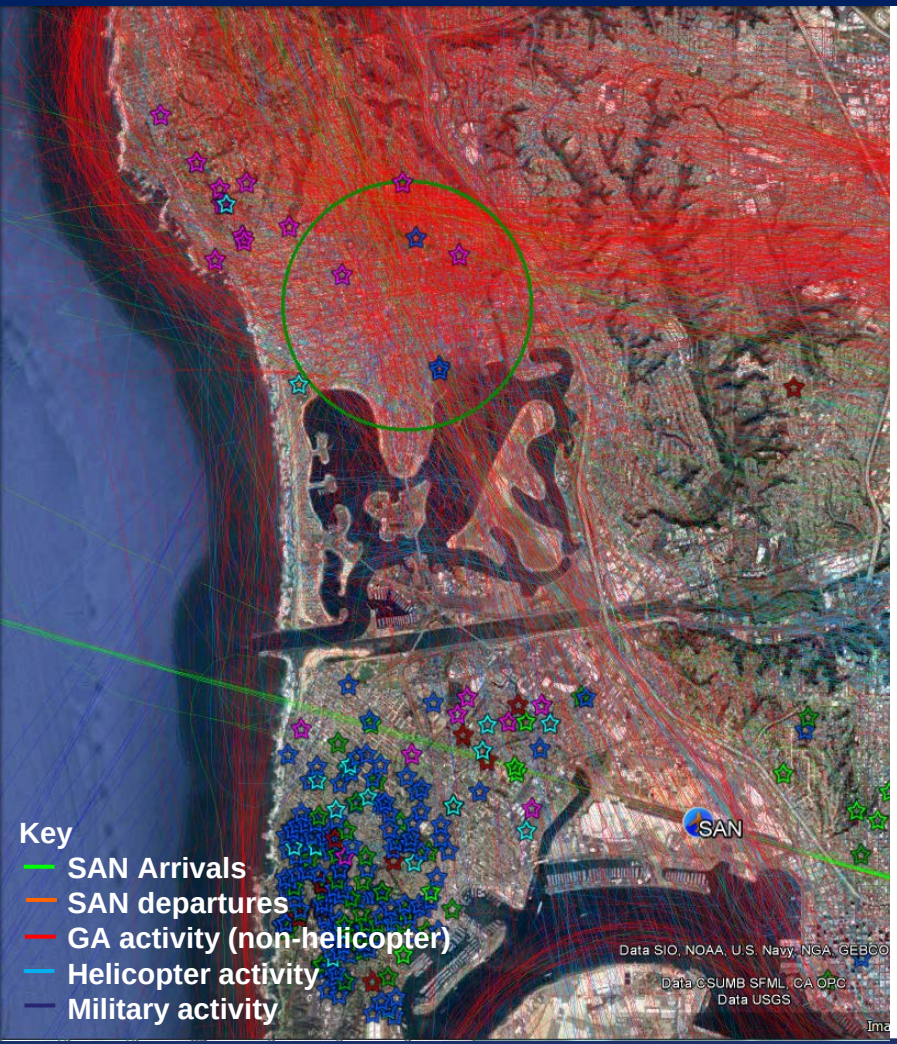
Operational distribution of overflights

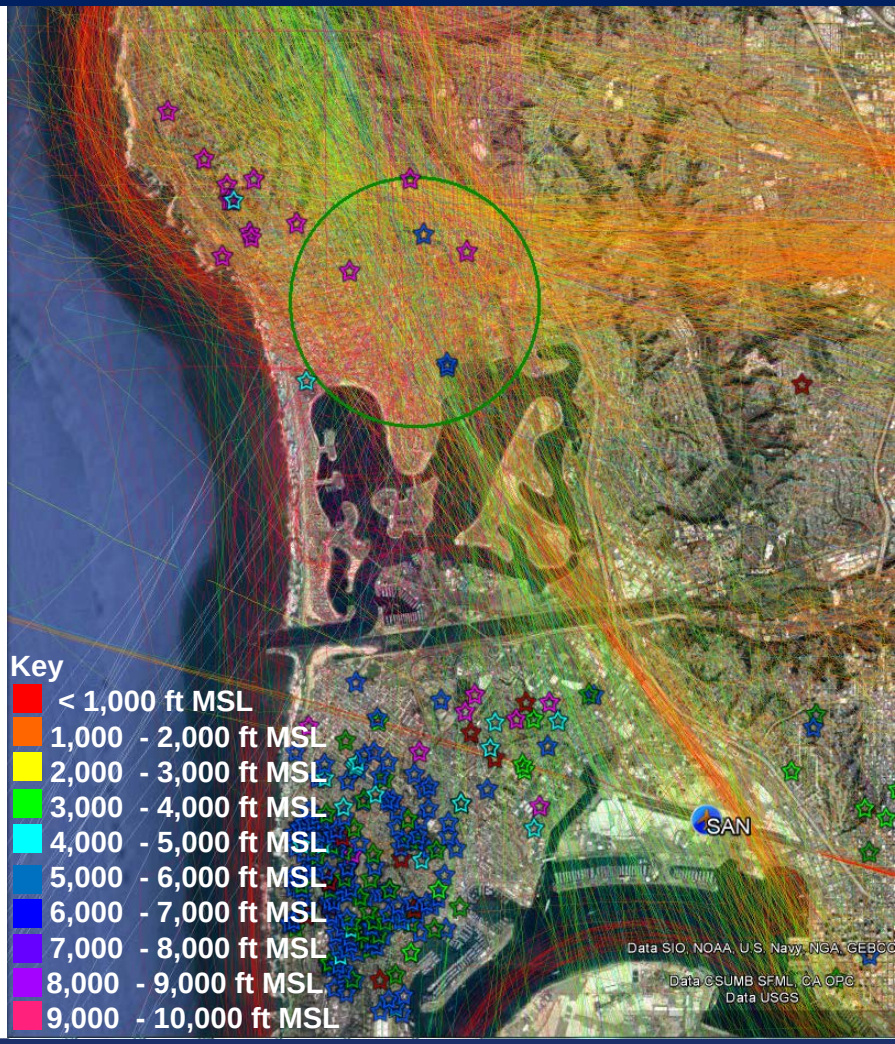
Pacific Beach Area



December 2016 tracks: locations and altitudes

Pacific Beach Area





Bay Park Area

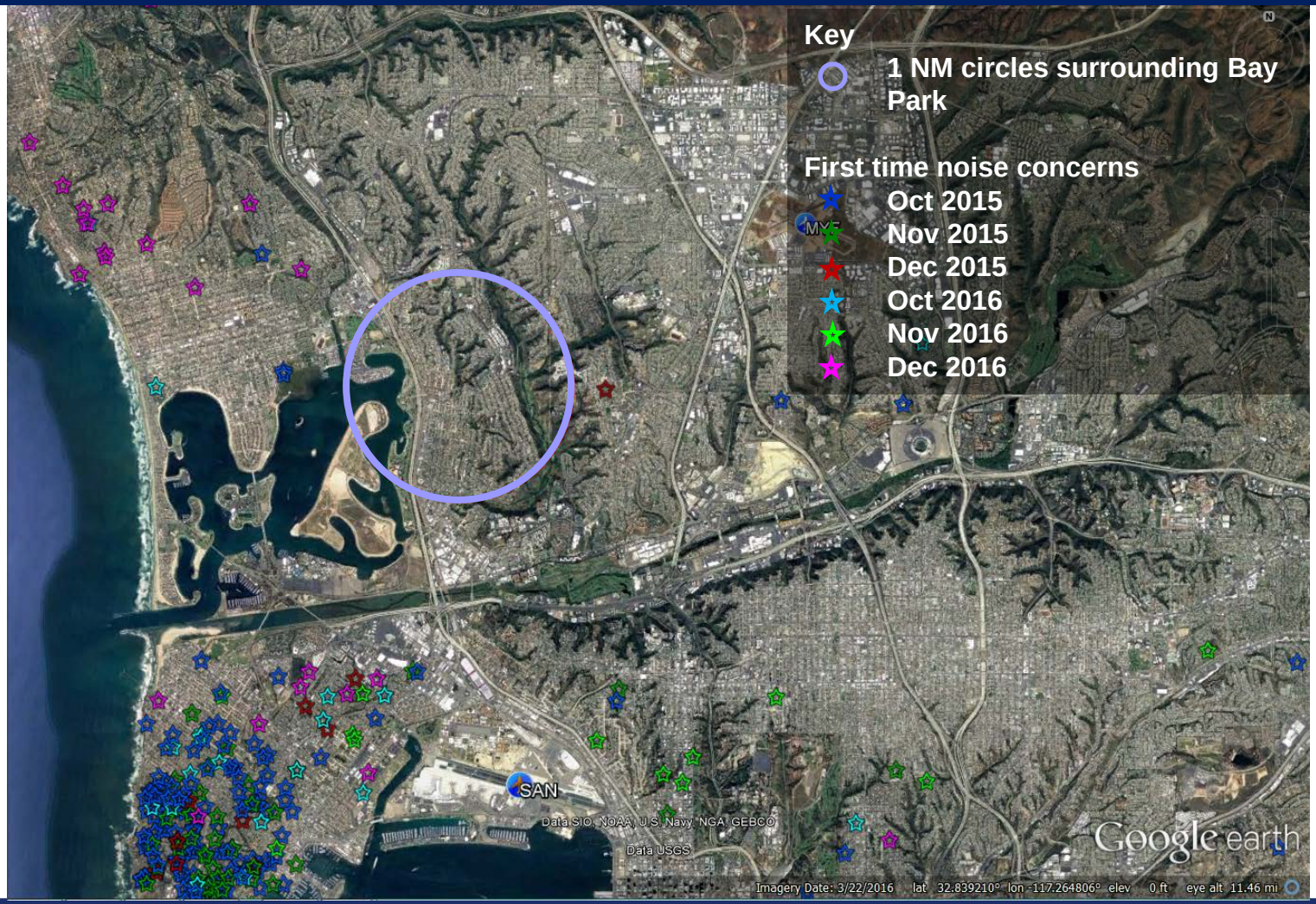
Executive Summary

Bay Park Area

- **There were no new noise concerns in October, November or December 2016 within the Bay Park area.**
- **The majority of the operations within the Bay Park area consist of non-helicopter GA activity, primarily from MYF. This activity occurs ~ 2,400 feet AGL.**
- **SAN arrivals consist of 15% of the operations. These occur at ~ 6,400 feet AGL.**
- **GA activity has decreased since last year, where there was one new concerns (Dec 2015).**

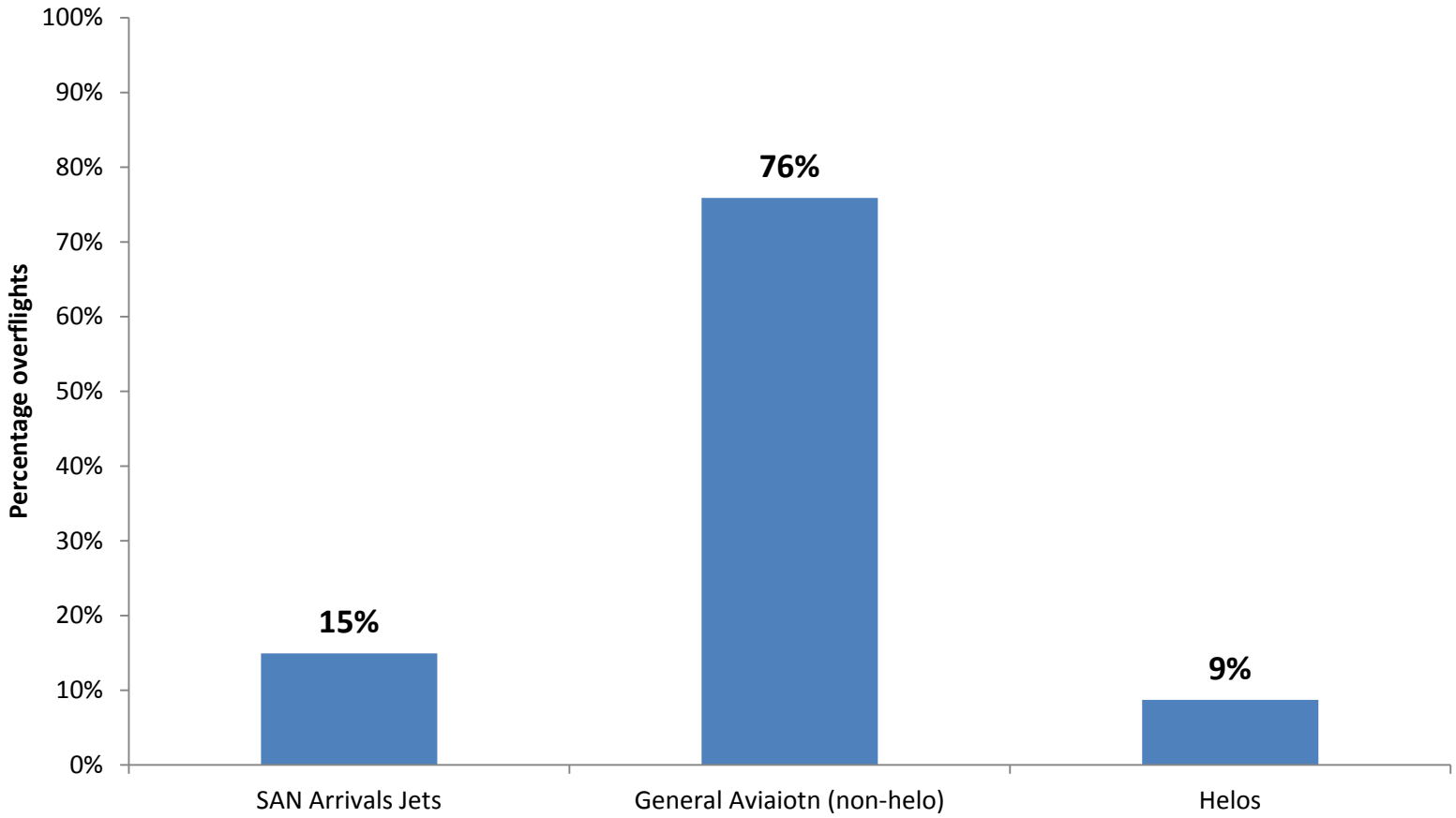
Area of Interest

Bay Park Area



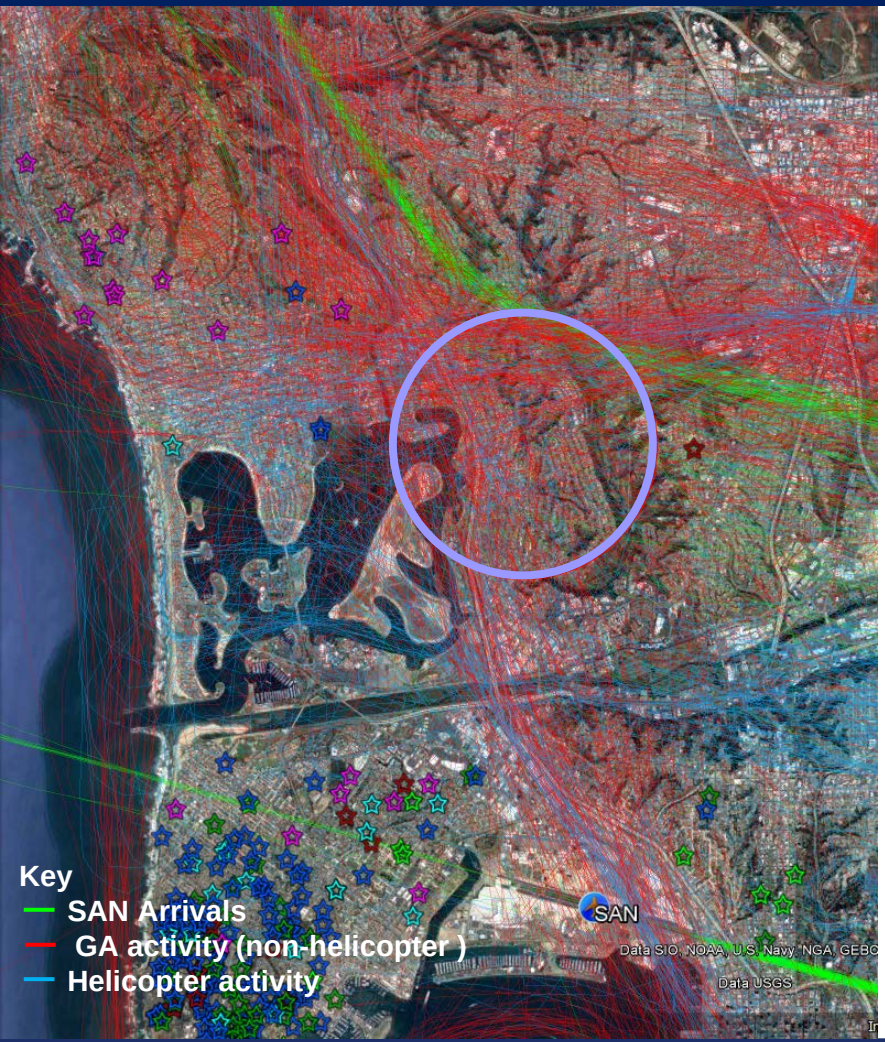
Operational distribution of overflights

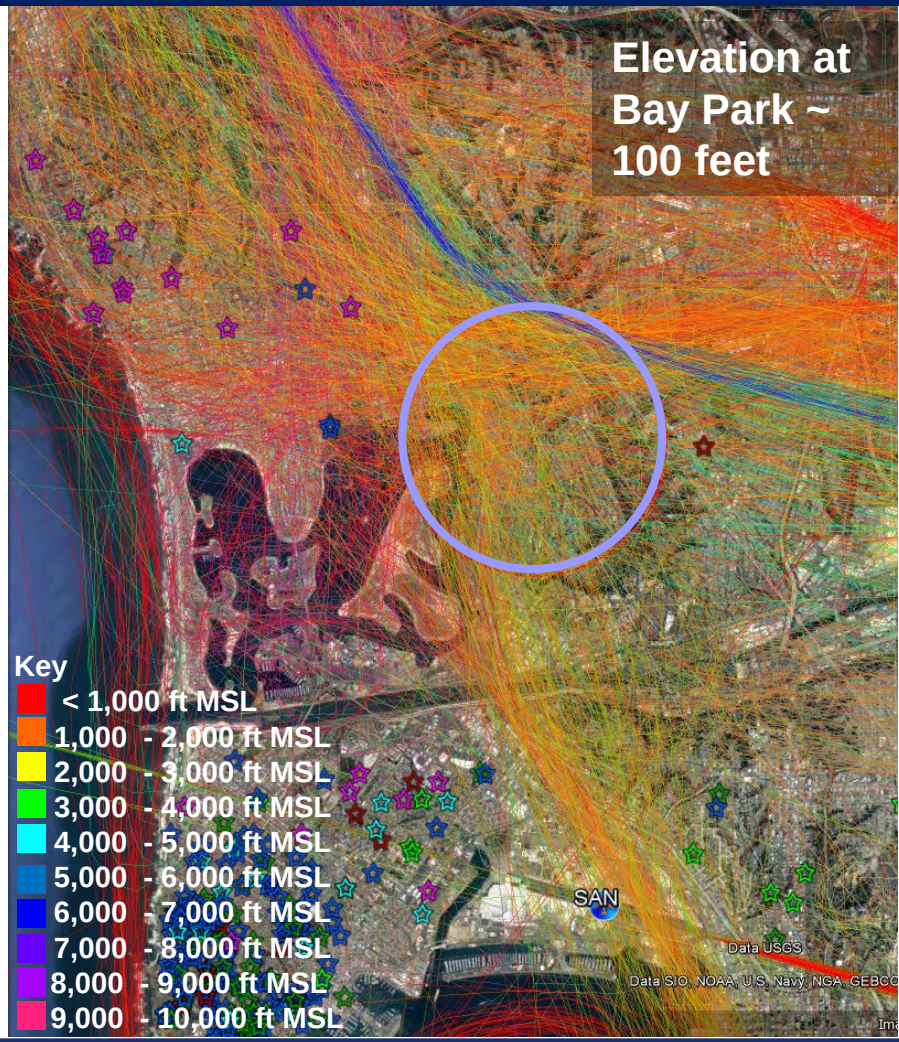
Bay Park Area



December 2016 tracks: locations and altitudes

Bay Park Area





Mission Beach Area

Executive Summary

Mission Beach Area

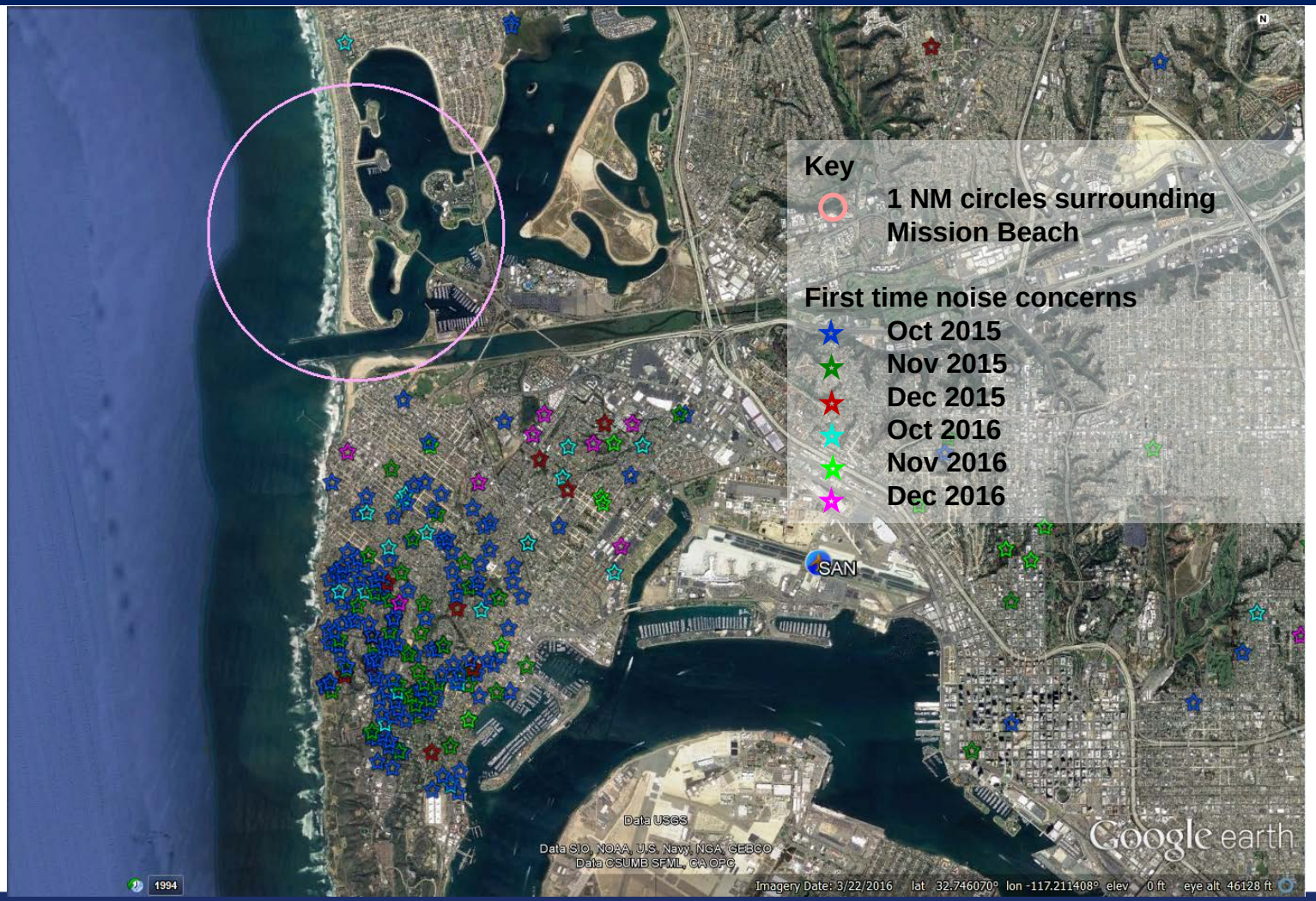
- **There were no new noise concern locations in the last quarter of 2016 in the Mission Beach area.**

- **Departures from SAN RWY 27 account for 75% of the overflight activity over Mission Beach. These departures are ~ 2,700 ft AGL.**

- **Helicopters and other GA activity account for 15% of overflights. These aircraft fly along the channel to the west of Mission Beach as well as along the coast to the west of Mission Beach. These aircraft fly ~1,200 ft AGL.**

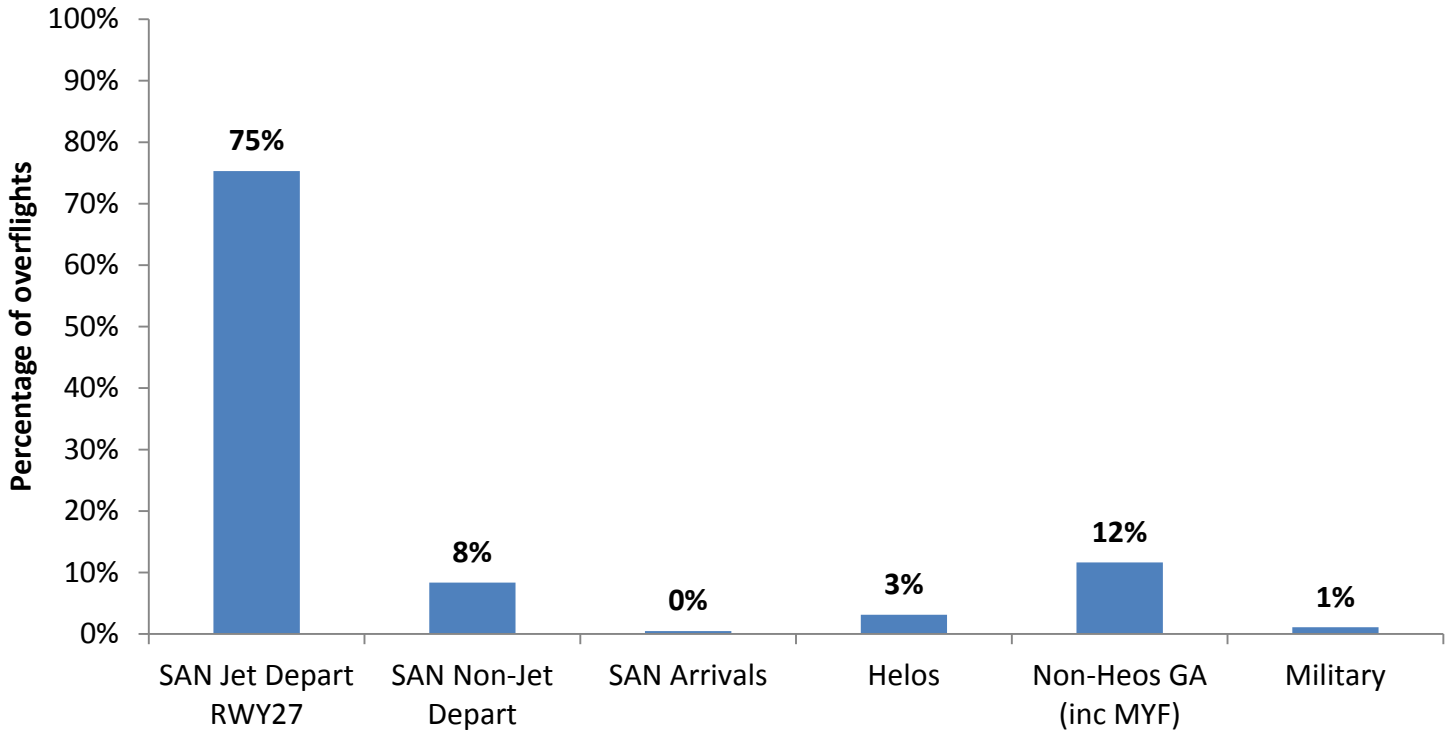
Area of Interest

Mission Beach Area



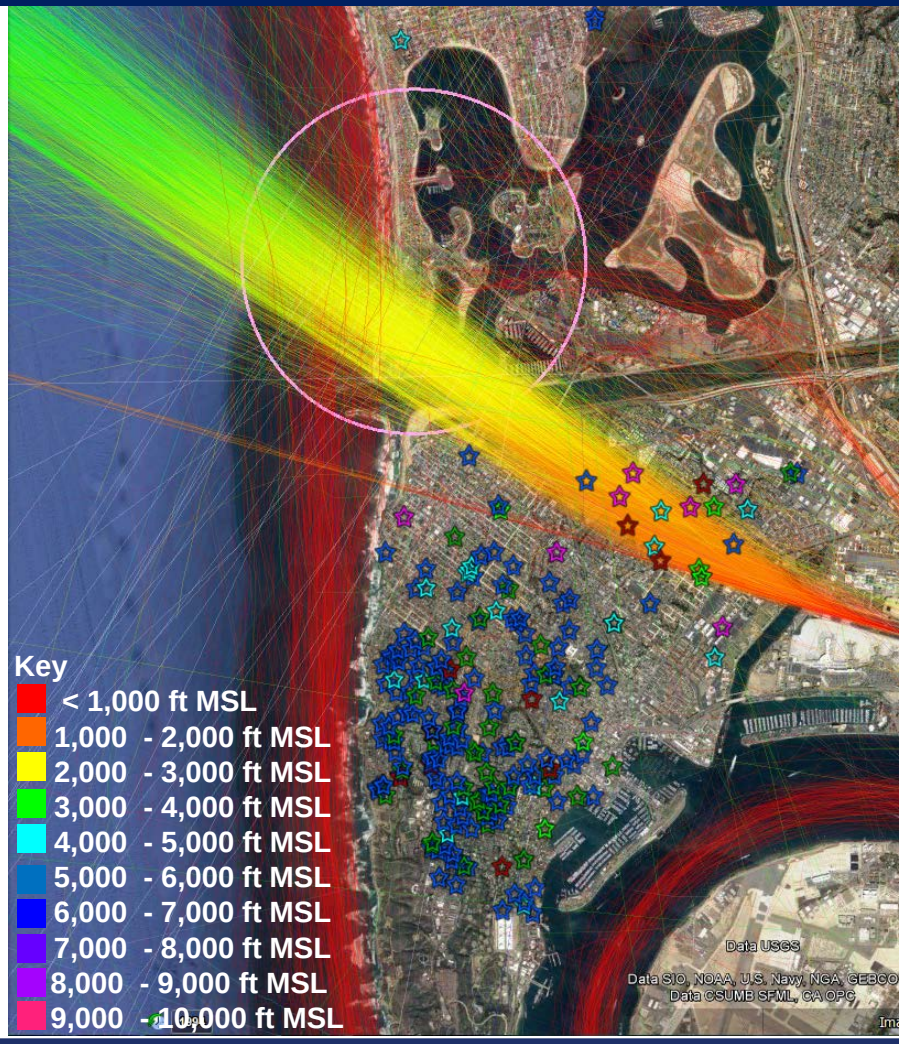
Operational distribution of overflights

Mission Beach Area



December 2016 tracks: locations and altitudes

Mission Beach Area



Ocean Beach and Point Loma Heights Areas

Executive Summary

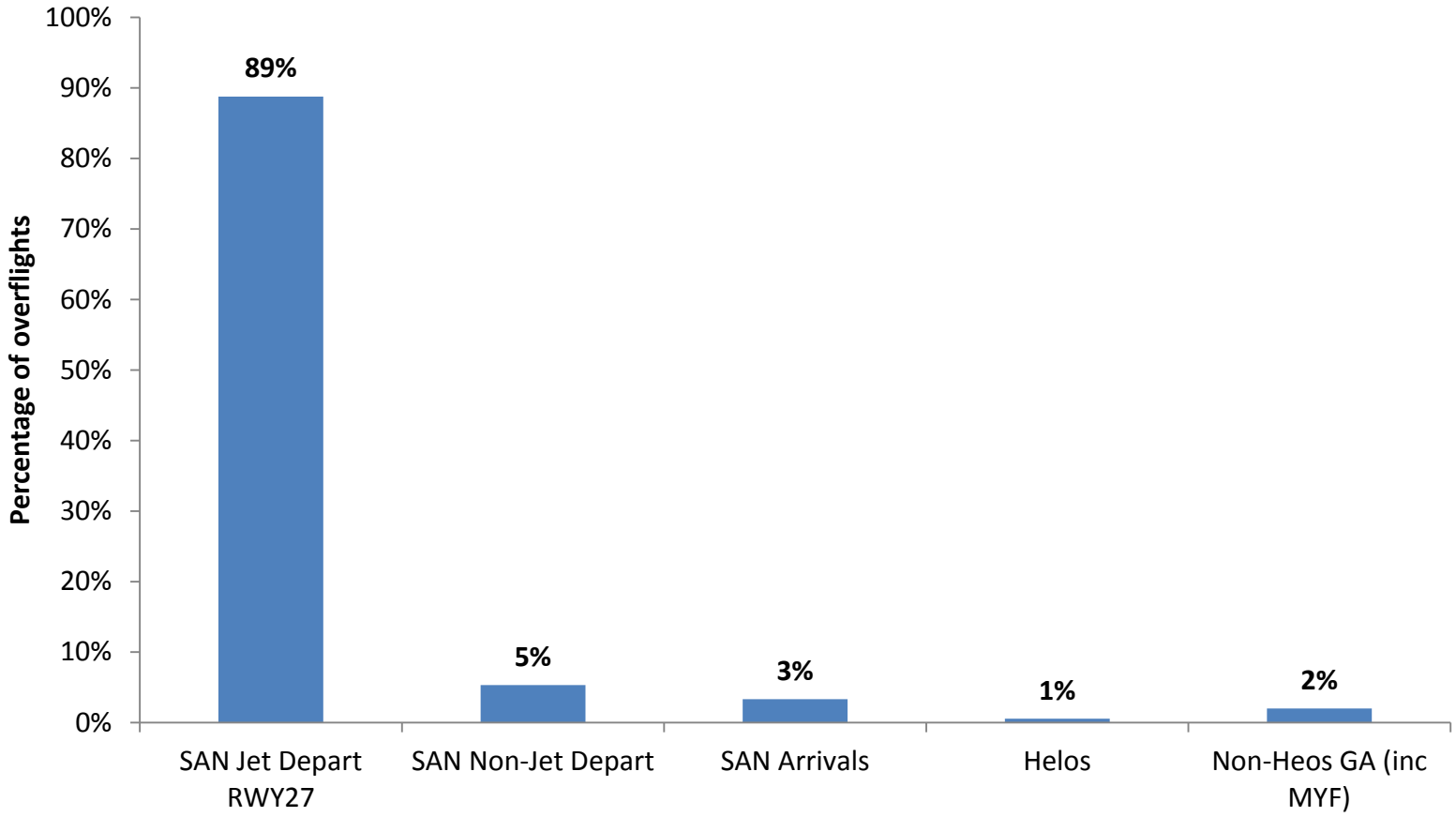
Ocean Beach and Point Loma Heights Areas

- **There were 6 new noise concerns locations within the Ocean Beach and Point Loma Heights areas.**

- **The analysis indicates that the likely cause of these noise concerns is an increase in the lower flying SAN arrivals in December 2016 (~ 800 feet AGL). These operations occurred due to unusual weather conditions dictating higher than normal usage of RWY 09**

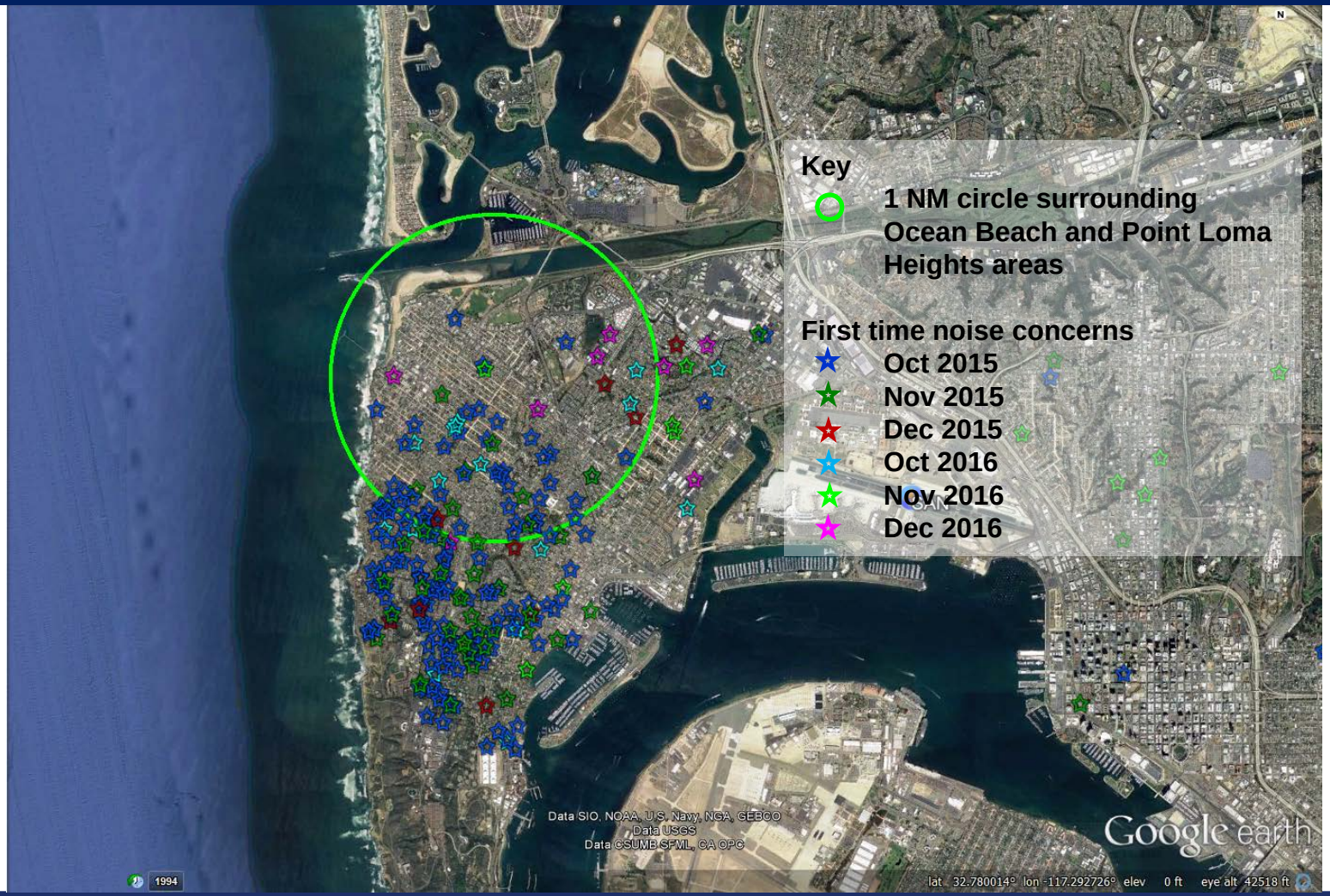
Operational distribution of overflights

Ocean Beach and Point Loma Heights areas



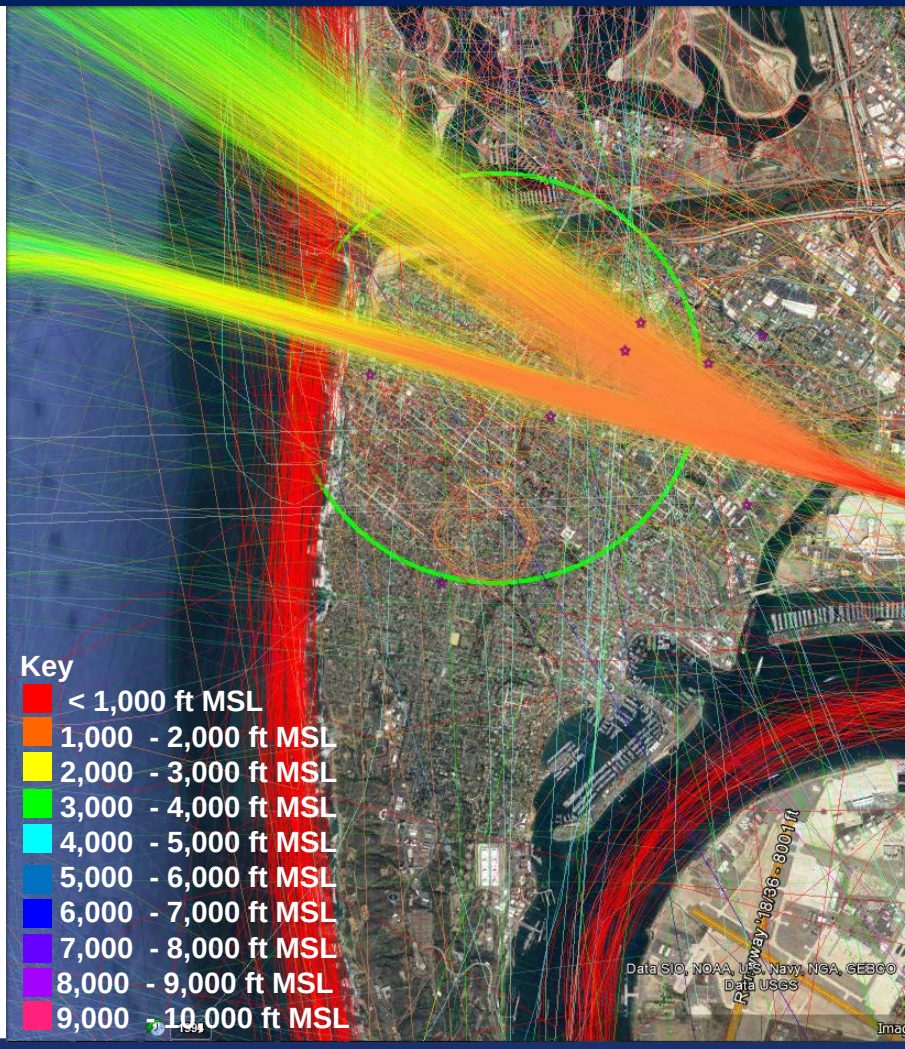
Area of Interest

Ocean Beach and Point Loma Heights Areas



December 2016 tracks: locations and altitudes

Ocean Beach and Point Loma Heights Areas



Liberty Station Area

Executive Summary

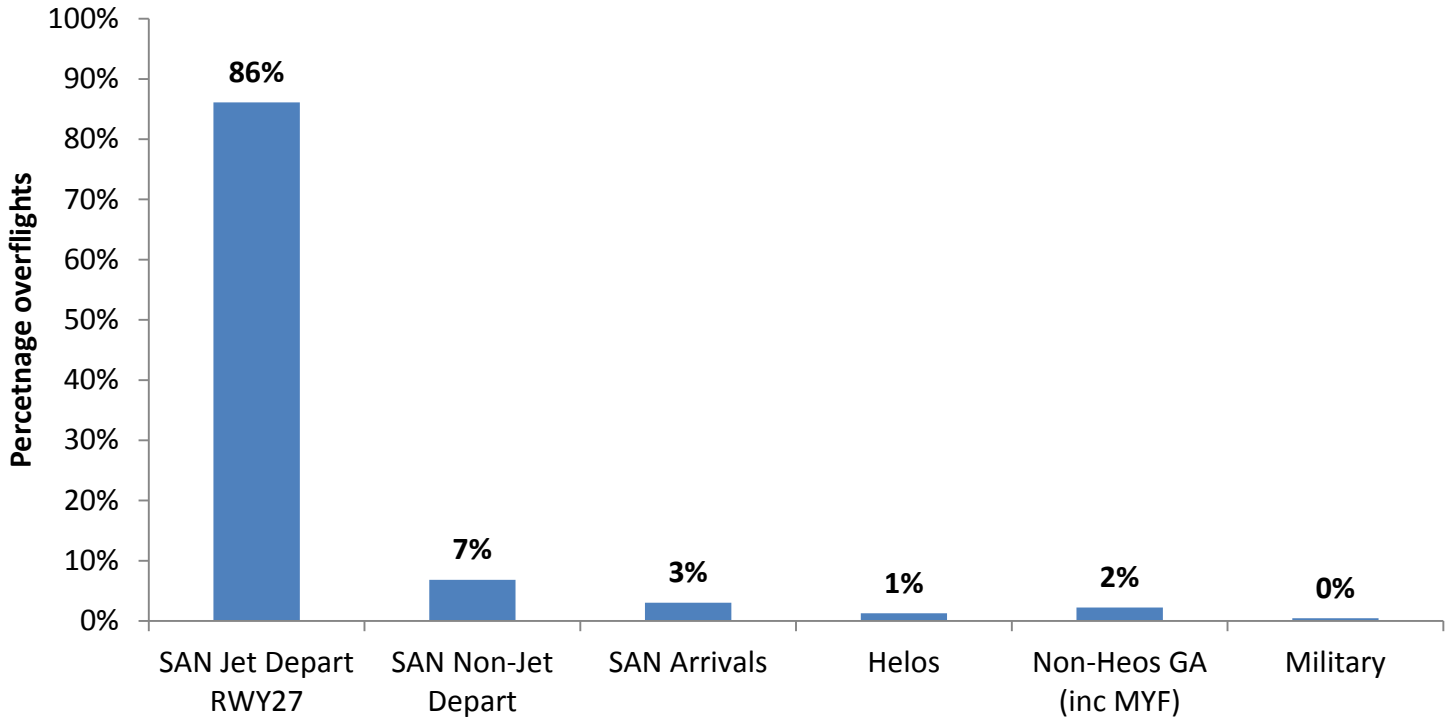
Liberty Station Area

- **In October, November and December 2016, there were 4, 6 and 6 new noise concerns locations within the Liberty Station area respectively.**

- **The analysis indicates that the likely cause of these noise concerns is an increase in the lower flying SAN arrivals in November and December 2016 (~ 400 feet AGL). These operations occurred due to unusual weather conditions dictating higher than normal usage of RWY 09**

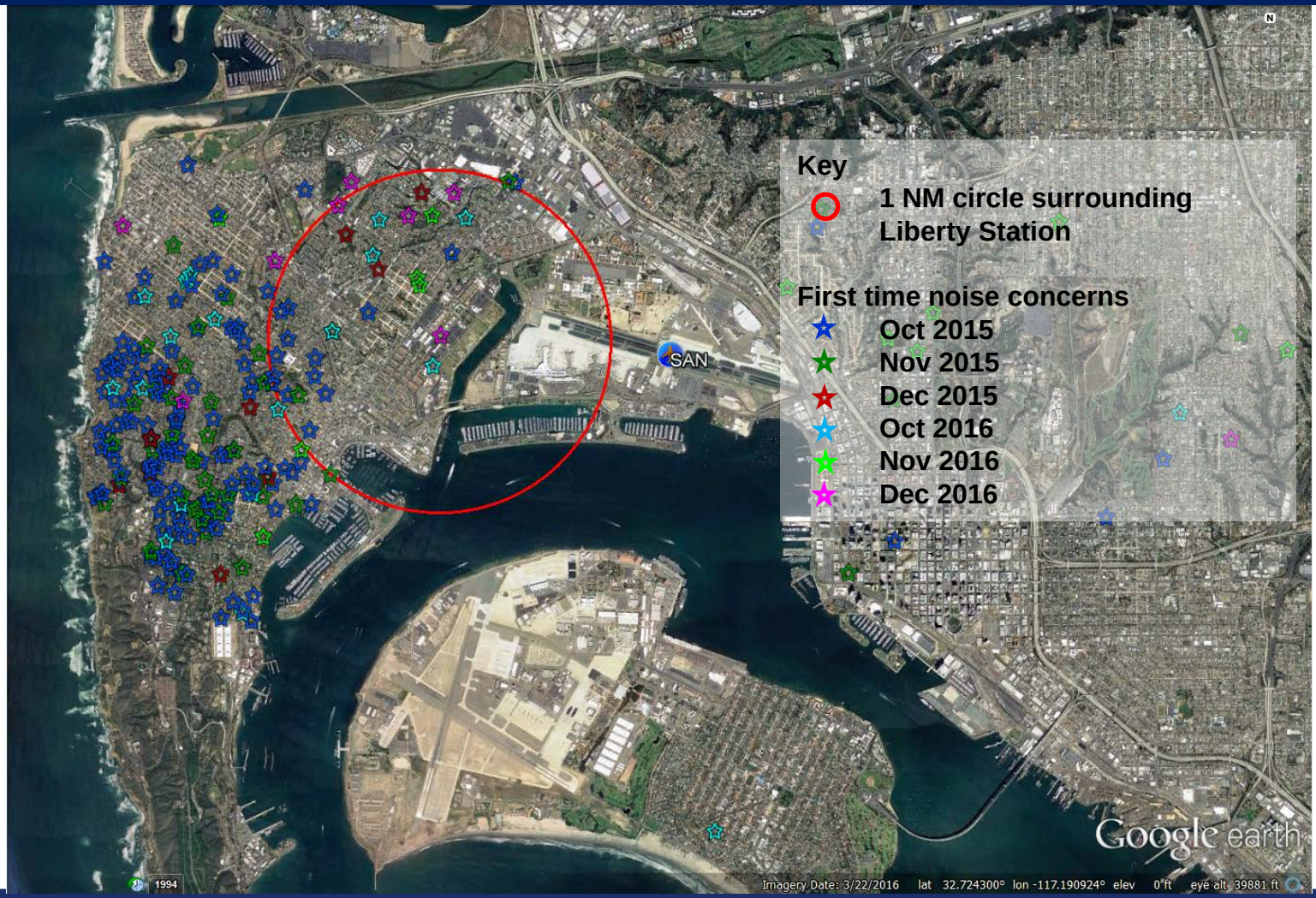
Operational distribution of overflights

Liberty Station Area



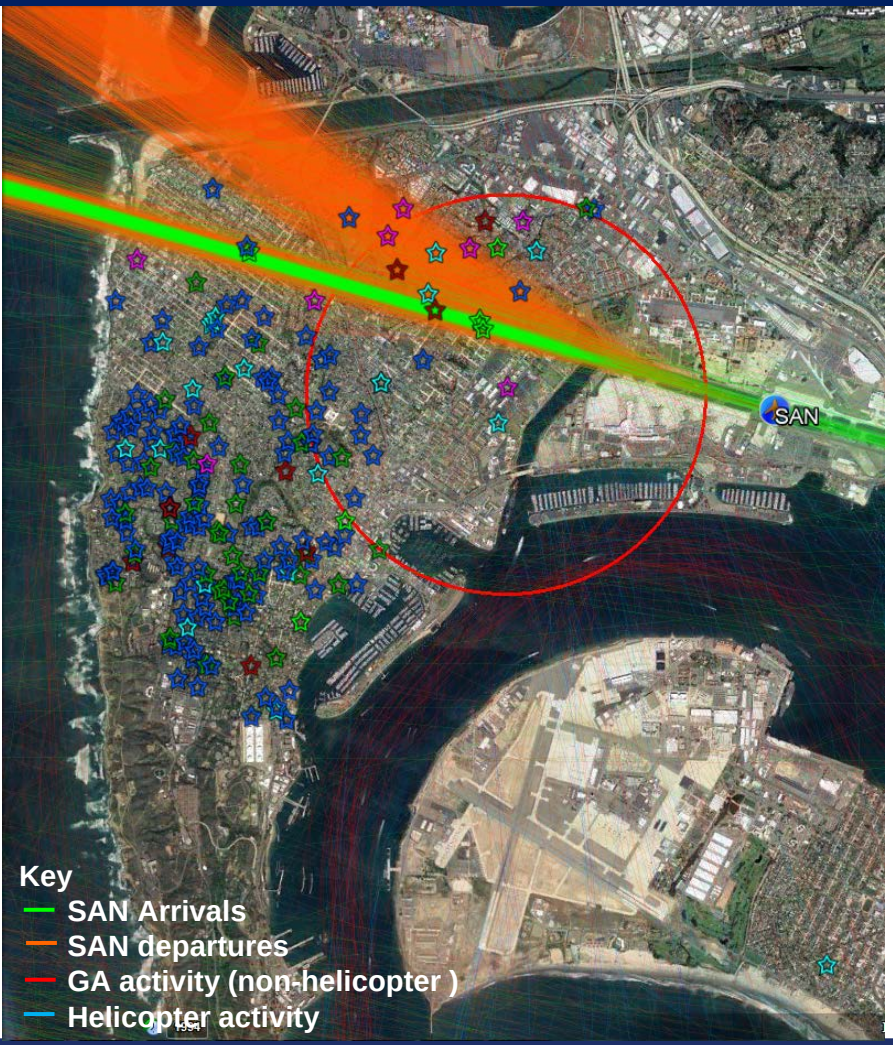
Area of Interest

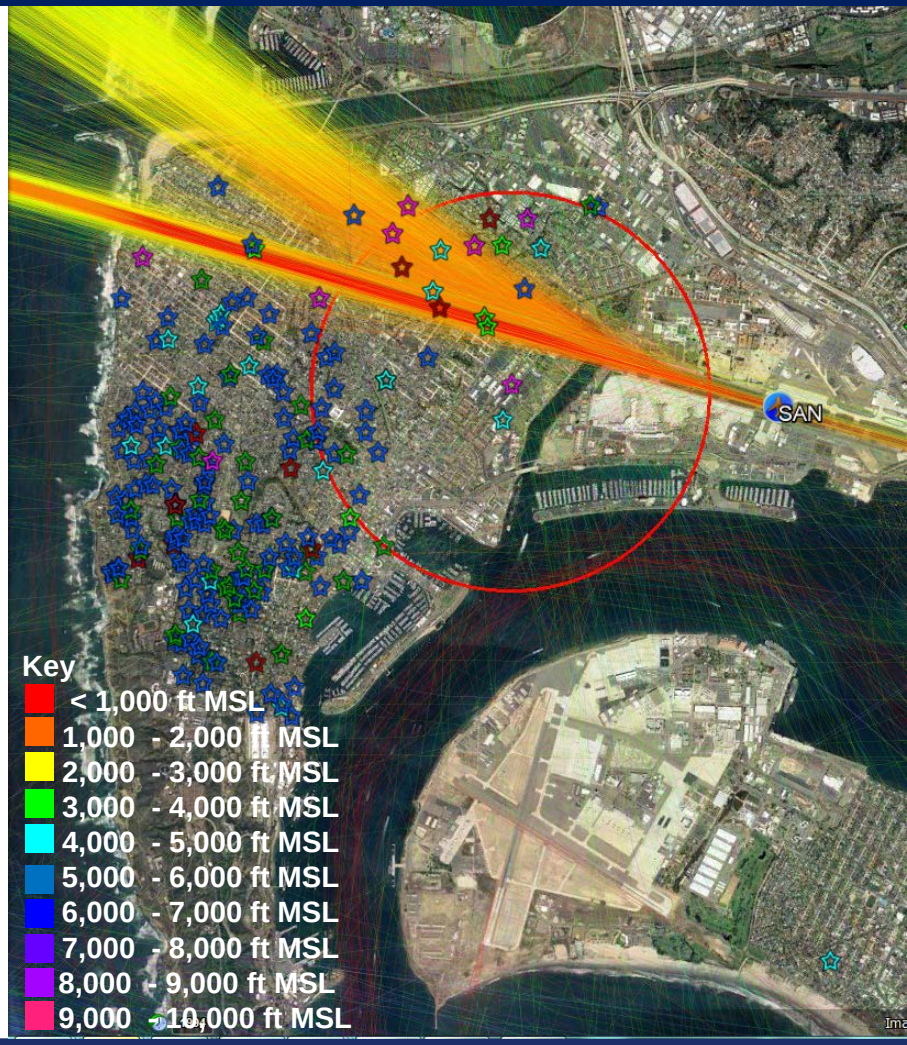
Liberty Station Area



December 2016 tracks: locations and altitudes

Liberty Station Area





Sunset Cliffs, Wooded Area Fleetridge and La Playa Areas

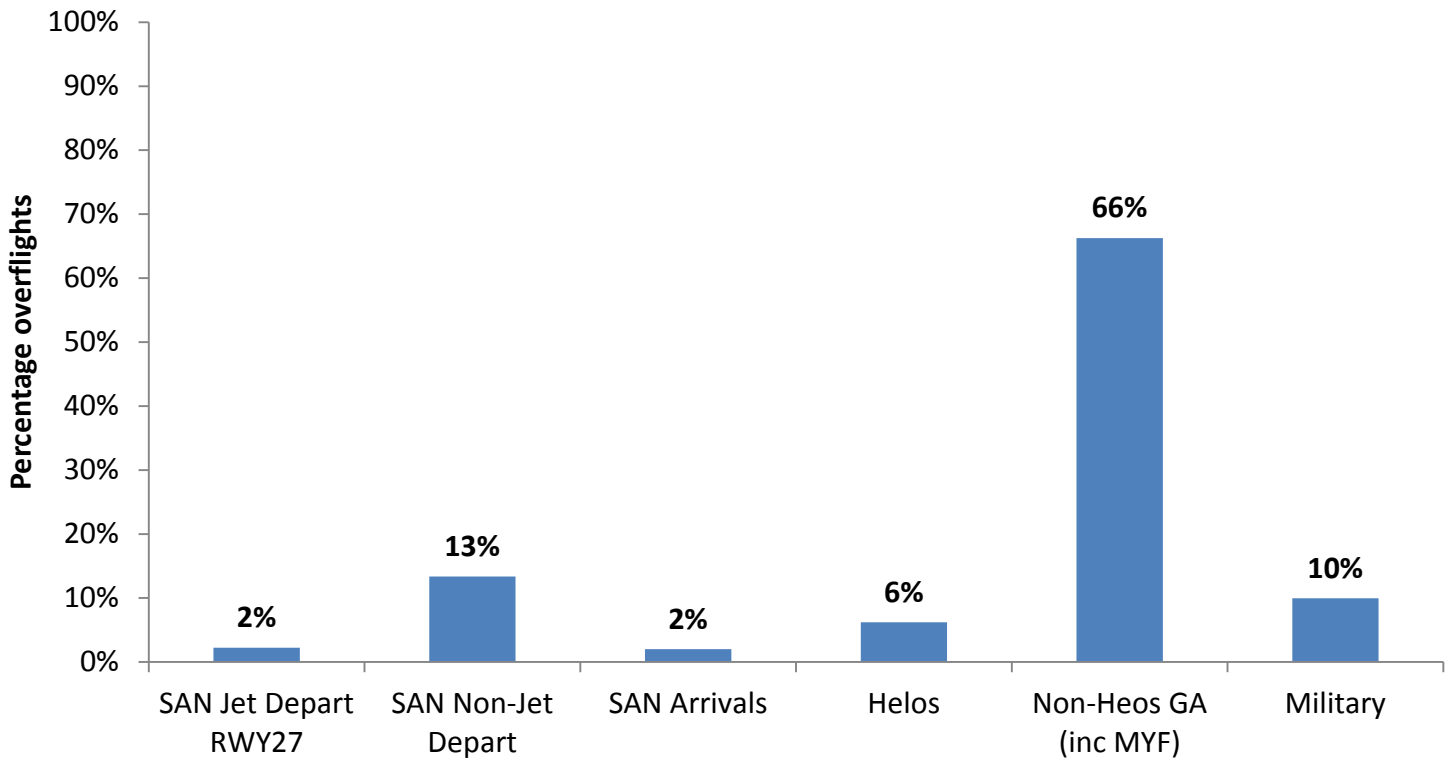
Executive Summary

Sunset Cliffs, Wooded Area Fleetridge and La Playa Areas

- **The number of new noise concern locations have decreased from 14 in October to 1 in December 2016.**
- **72% of the overflights are associated with GA (primarily non-helicopter) activity. This activity primarily follow the San Diego Bay (to the West) around to the Pacific shoreline (to the west).**
- **SAN departures account for 15% of the overflights.**
- **The average altitude of GA and SAN departures have decreased from October to December 2016. These lower altitudes of the SAN departures may be due to the increased RWY 09 usage.**

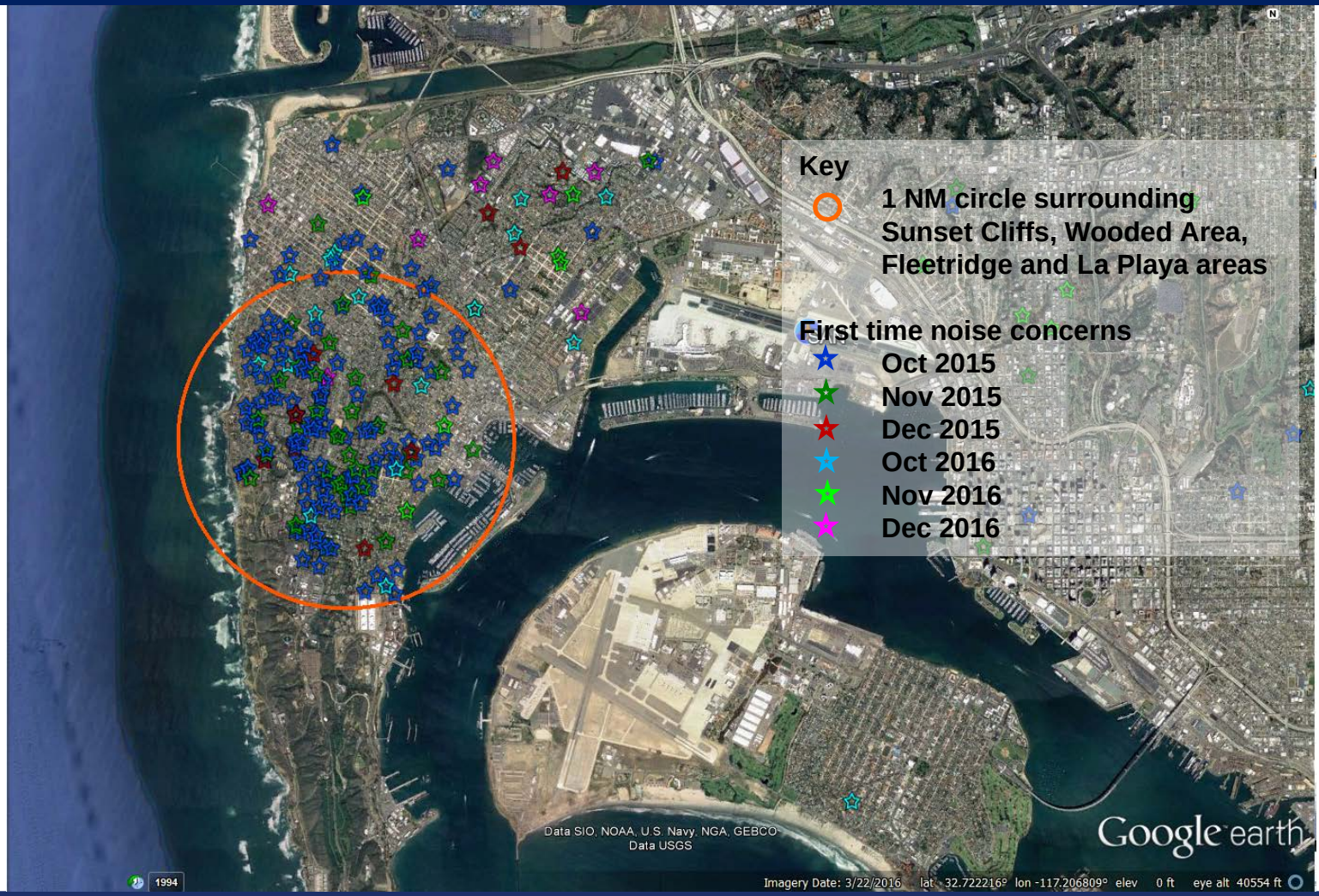
Operational distribution of overflights

Sunset Cliffs, Wooded Area Fleetridge and La Playa Areas



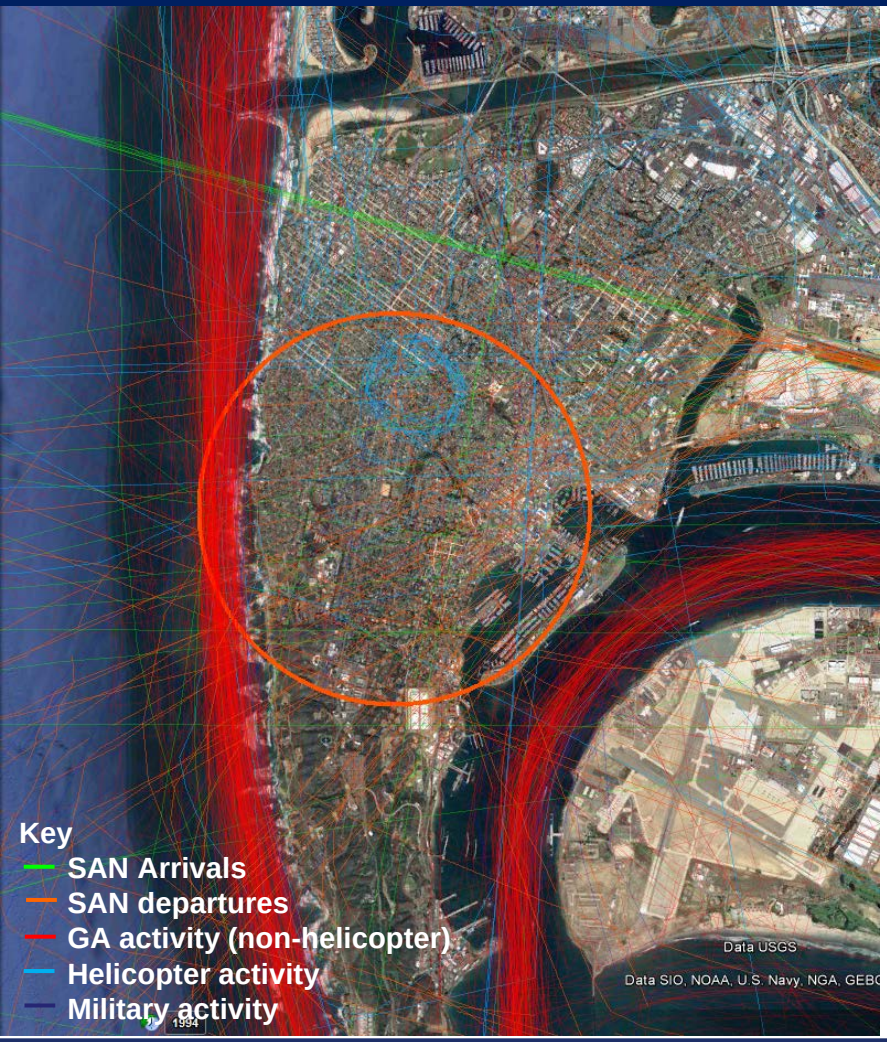
Area of Interest

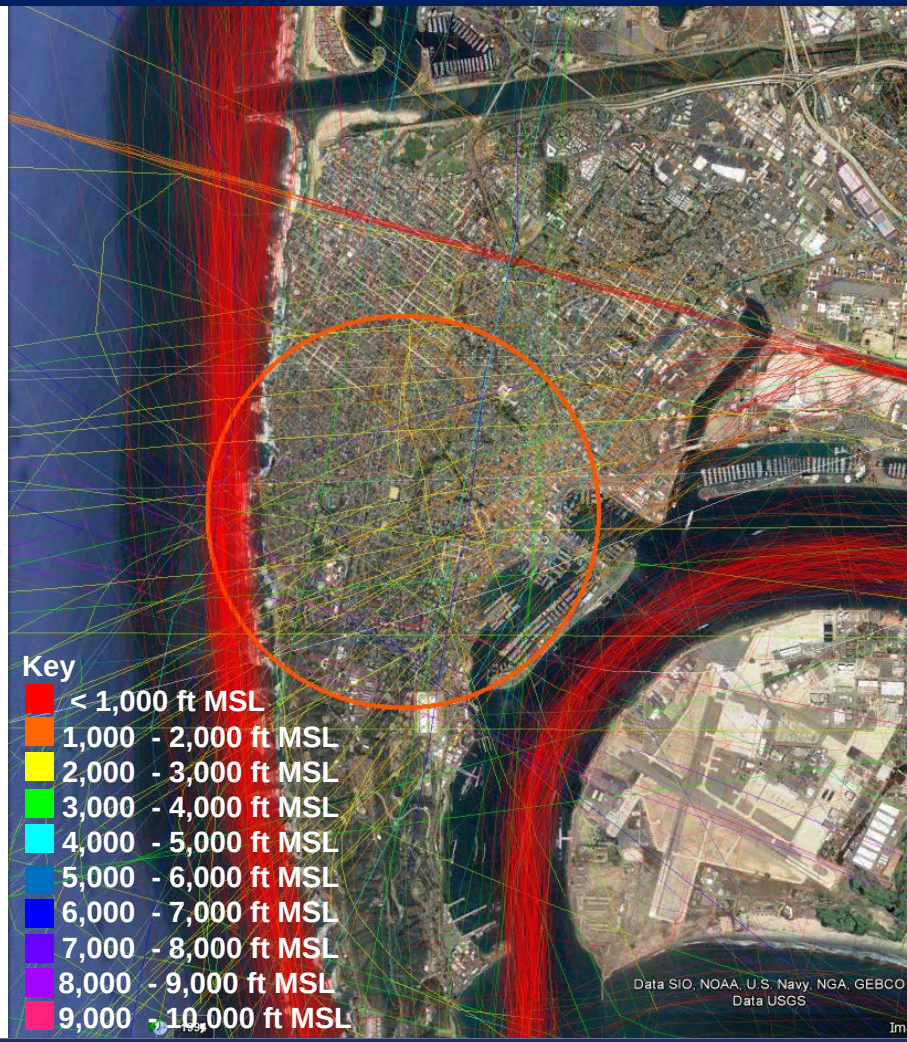
Sunset Cliffs, Wooded Area Fleetridge and La Playa Areas



December 2016 tracks: locations and altitudes

Sunset Cliffs, Wooded Area Fleetridge and La Playa Areas





Coronado Cays Area

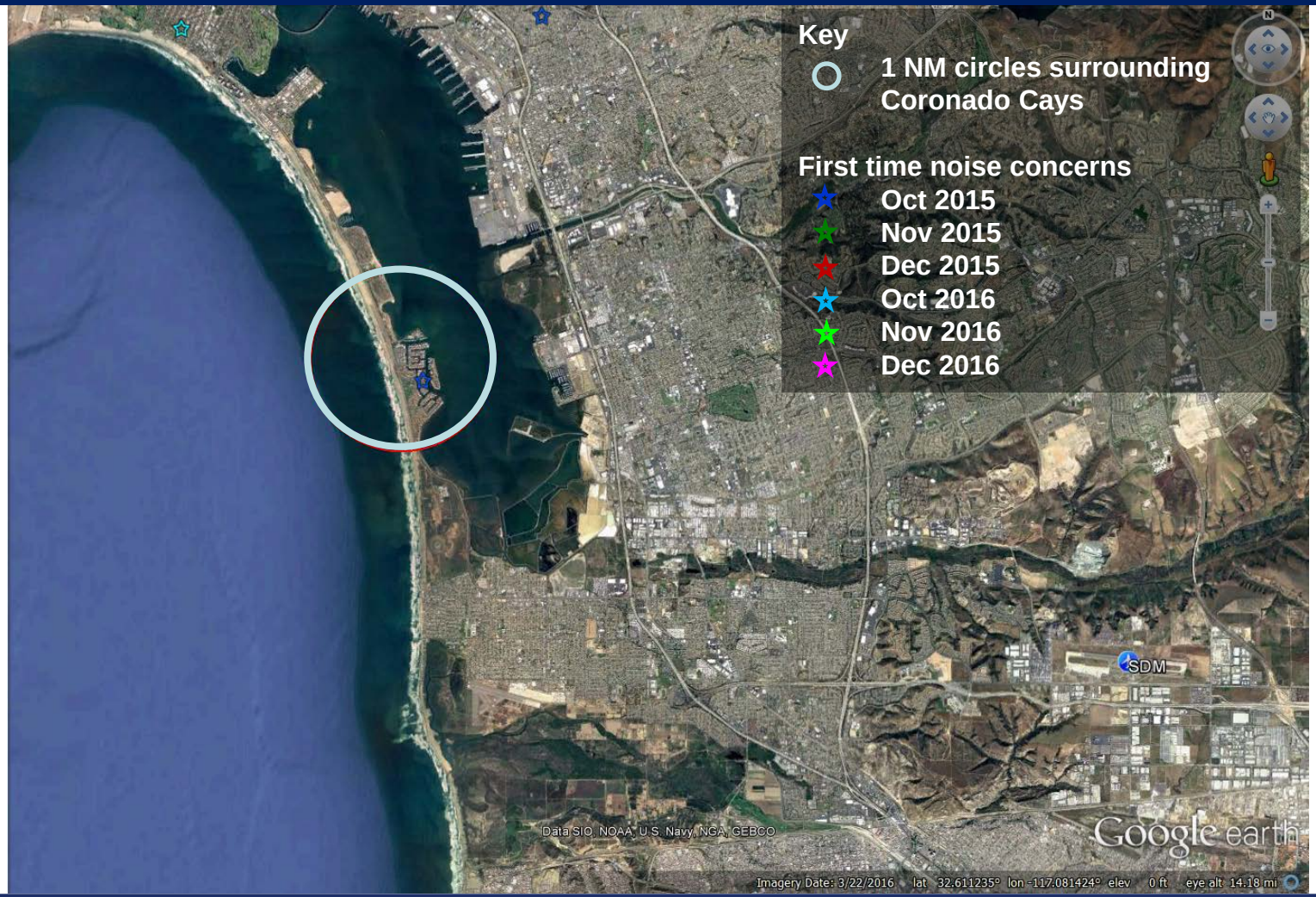
Executive Summary

Coronado Cays Area

- **There were no noise concerns in the last quarter of Dec 2016. There was 1 new noise concerns in October 2015.**
- **~77% of the overflights are SAN departures at > 10,000 feet AGL**
- **~20% of the overflights are GA aircraft at ~ 3,000 ft AGL and helicopters at ~1,900 ft AGL**

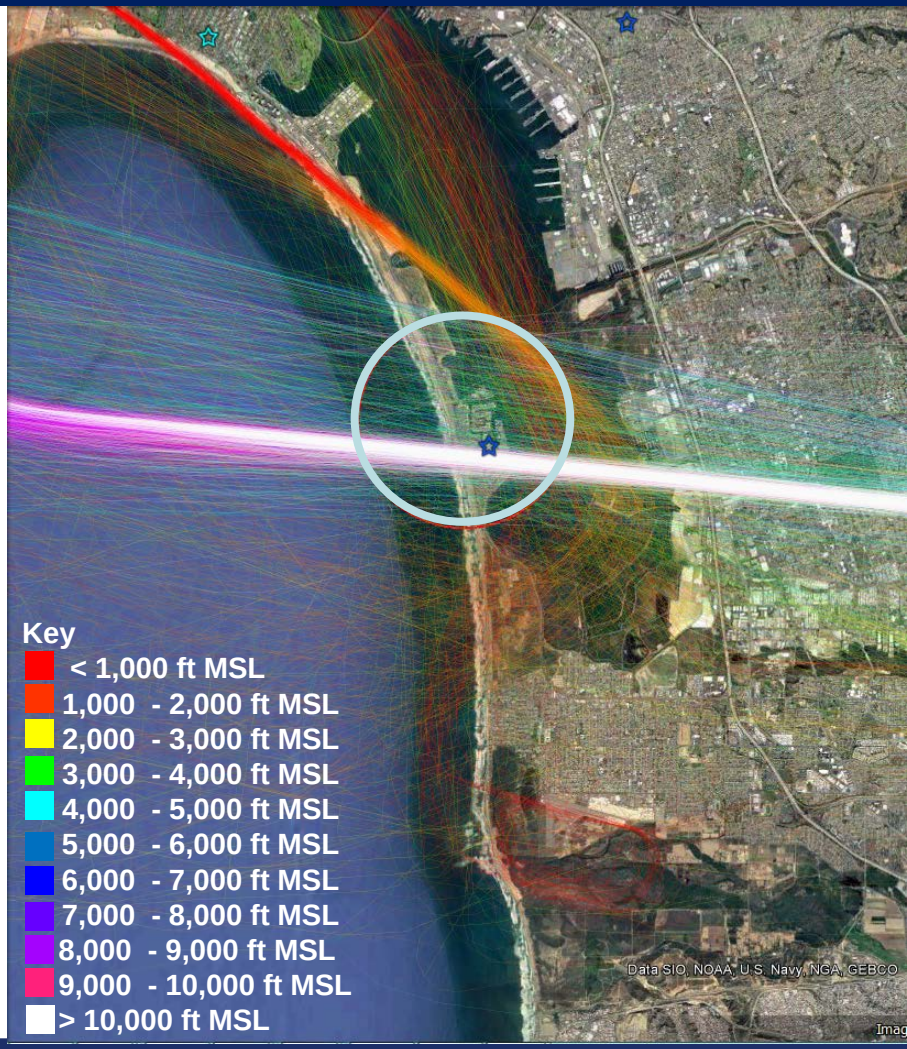
Area of Interest

Coronado Cays Area



December 2016 tracks: locations and altitudes

Coronado Cays Area



El Cerrito Area

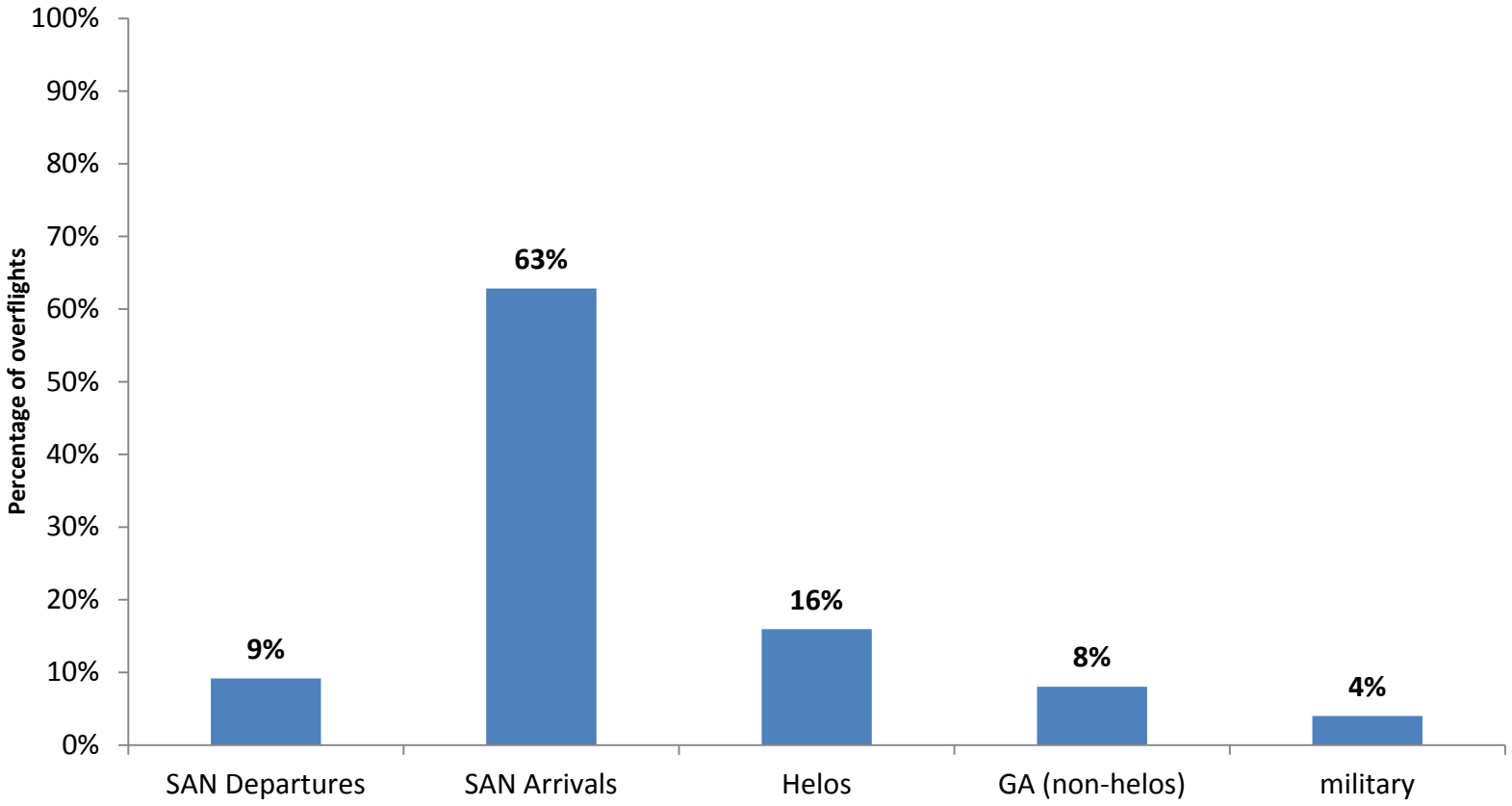
Executive Summary

El Cerrito Area

- **There was 1 new noise concerns in November 2016.**
- **SAN arrivals account for ~63% of the overflights. These occur ~ 4,500 feet AGL.**
- **There unusual winds experienced in November and December 2016, resulting in RWY 09 departures overflights.**
- **The SAN arrivals shifted from Oct to Nov 2016. This may be due to how the arrivals were sequenced into SAN.**

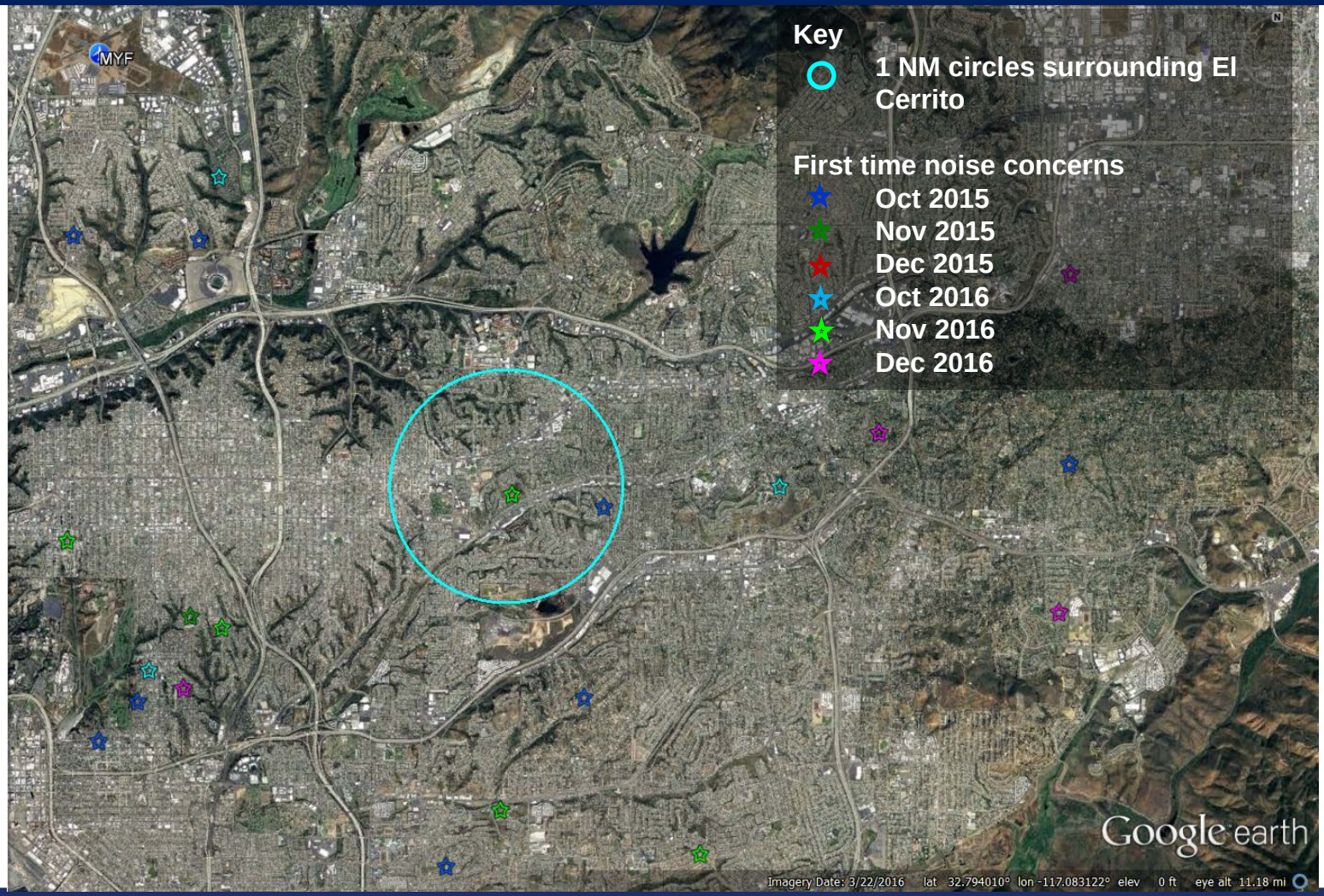
Operational distribution of overflights

El Cerrito Area



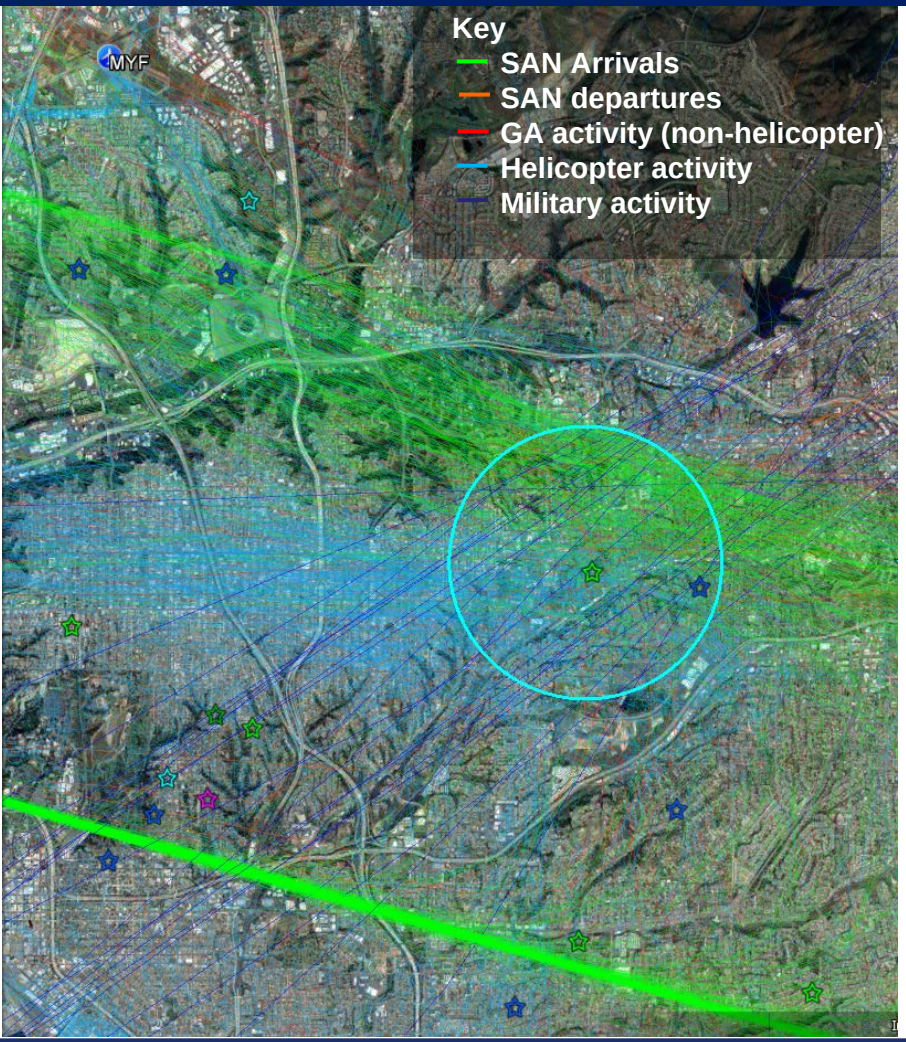
Area of Interest

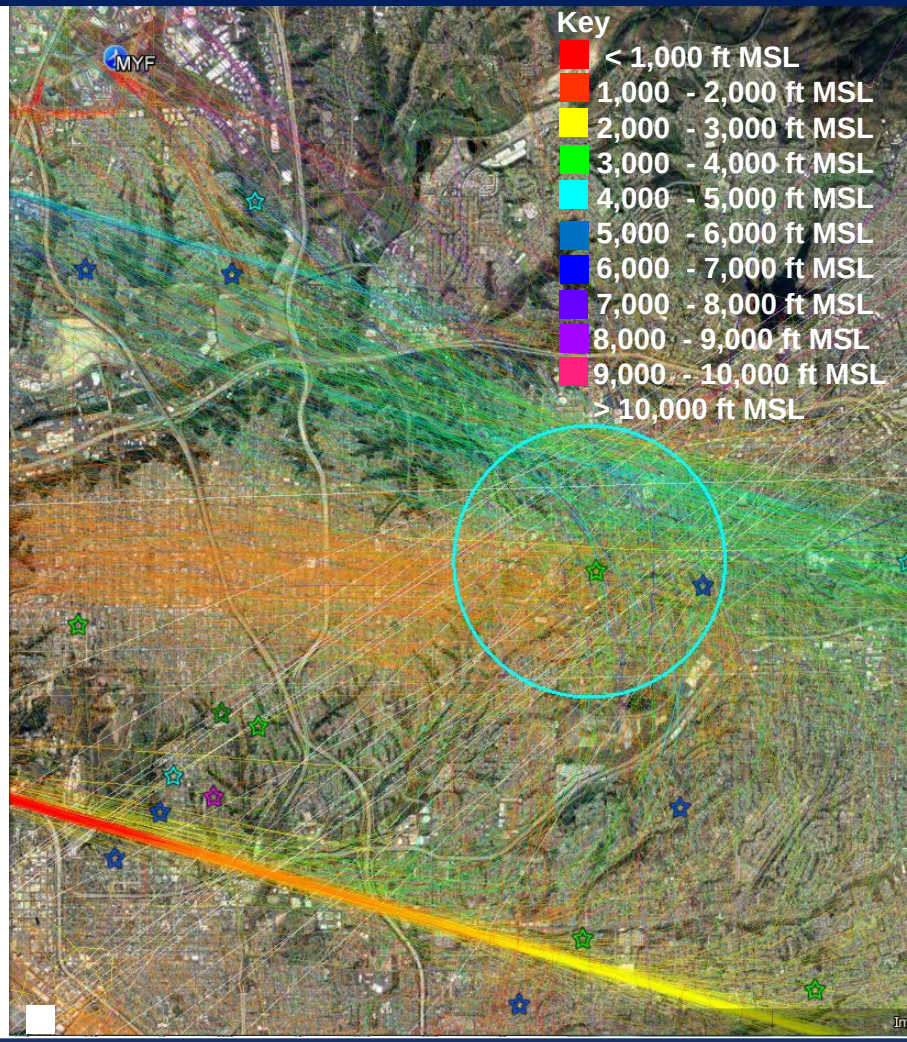
El Cerrito Area



December 2016 tracks: locations and altitudes

El Cerrito Area





Mt. Helix Area

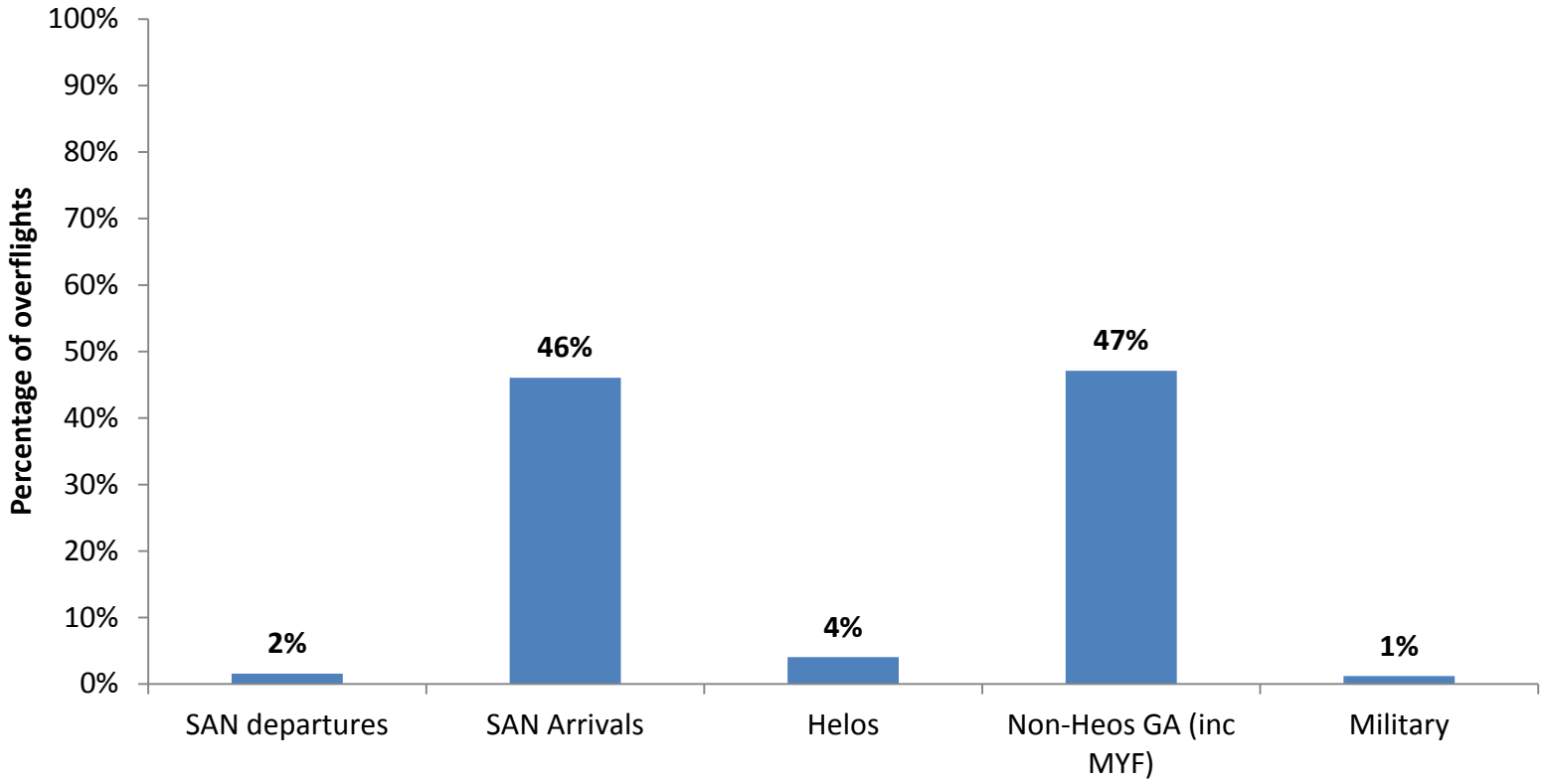
Executive Summary

Mt. Helix Area

- **There was 3 new noise concerns in November 2016.**
- **The activity over Mt. Helix are is roughly 50% SAN arrivals and 50% GA.**
- **Ht. Helix is located ~ 3.5 NM from SEE.**
- **On average, GA operations are at ~ 1,700 ft AGL and SAN arrivals are at 4,100 ft AGL.**
- **The number of SAN arrivals dropped in November and December 2016 – likely due to the increased RWY 09 usage. Given this, the additional noise concerns may be due to GA activity.**

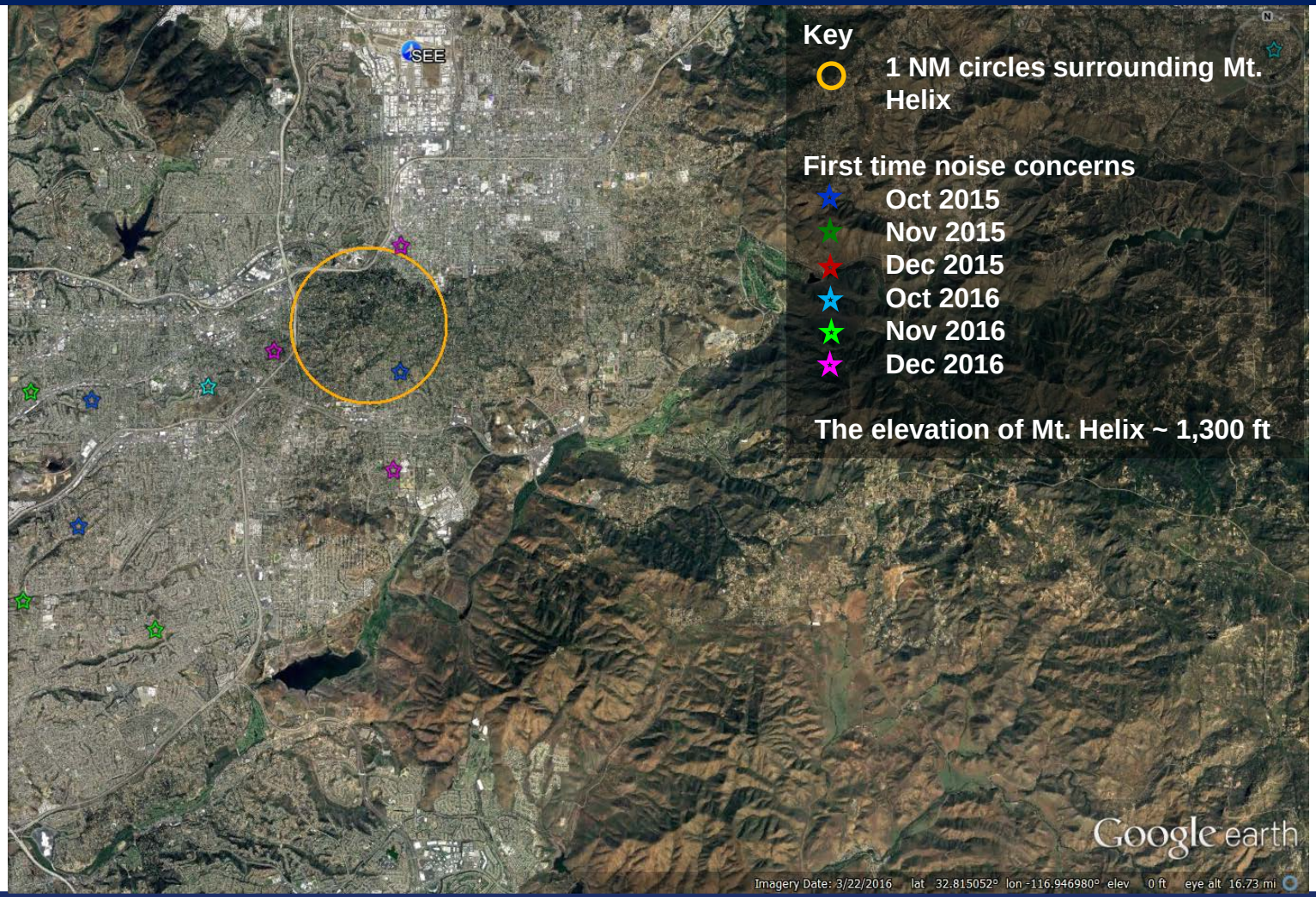
Operational distribution of overflights

Mt. Helix Area



Area of Interest

Mt. Helix area



December 2016 tracks: locations and altitudes

Mt. Helix Area