FAA Initiative to Address Noise Concerns of Santa Cruz/Santa Clara/San Mateo/San Francisco Counties

FAA & Select Committee Working Meeting

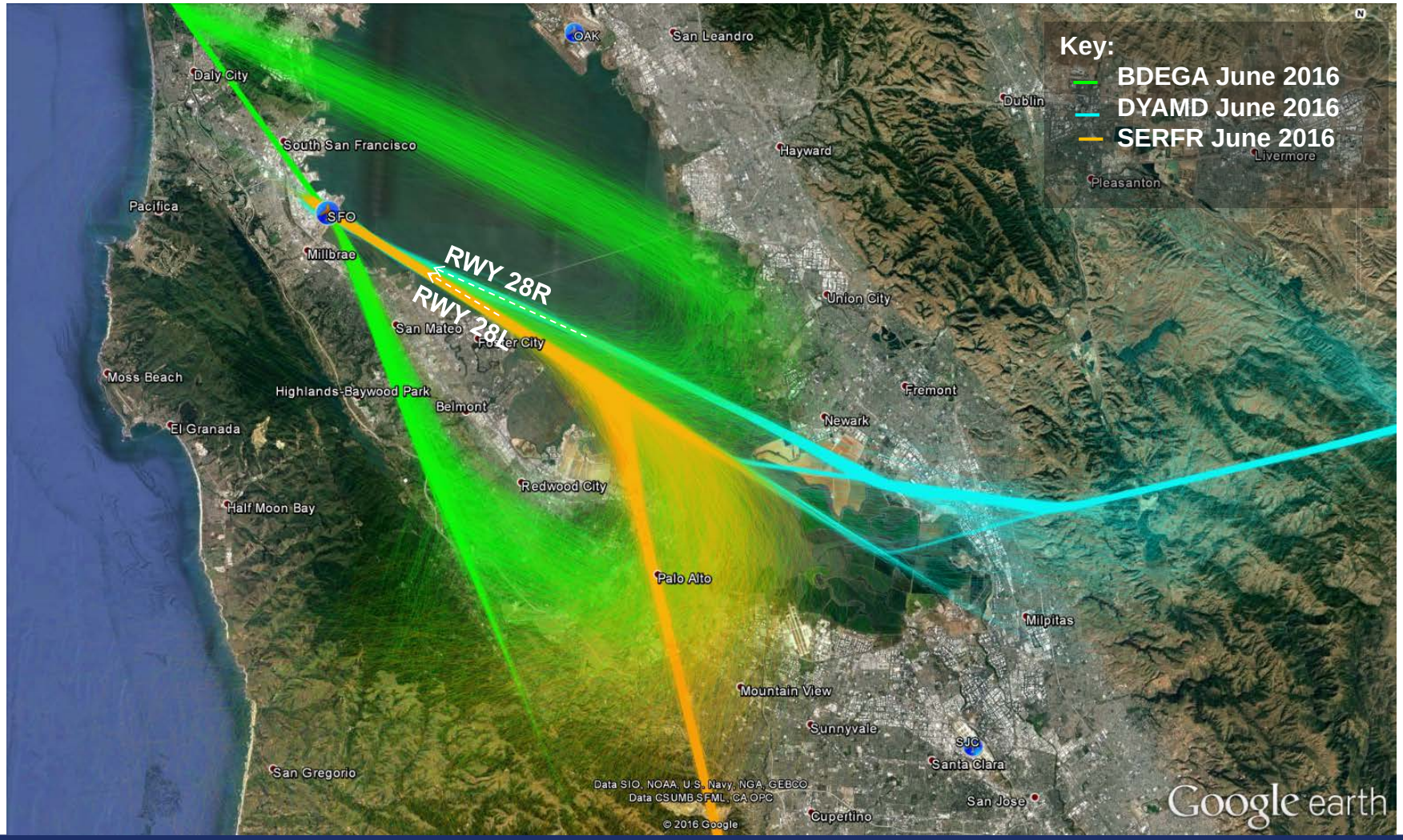
September 29, 2016

Discussion Overview

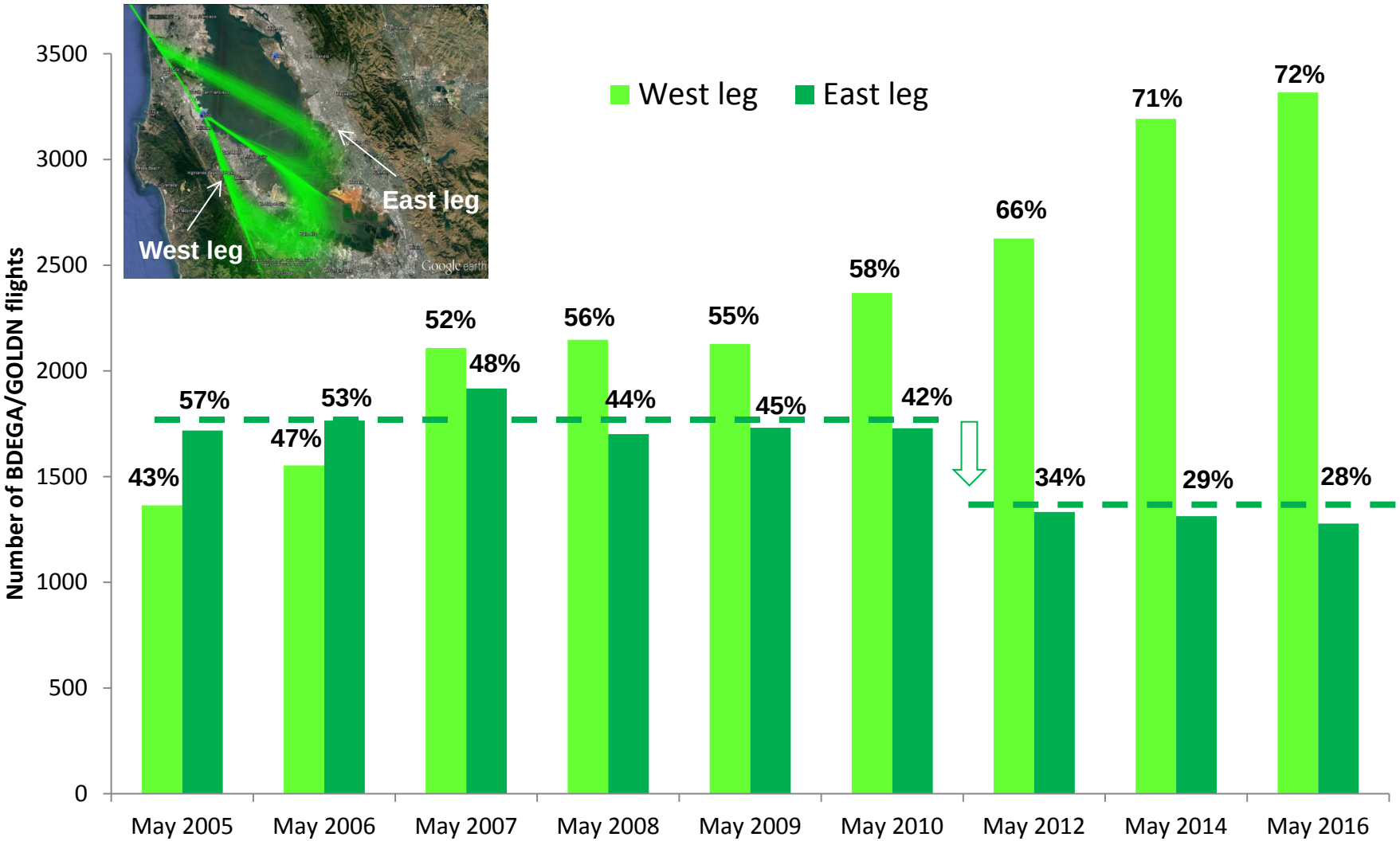
- **Other Solutions Identified by the Select Committee:**
    a) Northern Arrivals (BDEGA) in to SFO
    b) Woodside VORTAC
    c) MENLO Waypoint
    d) Aircraft Vectoring
    e) Herringbone Approach to SFO Arrivals
    f) Fan in Oversees Arrivals (OCEANIC) into SFO
    g) Redirect Southern Arrivals to an Eastern Approach into SFO
- **Transition the SERFR STAR back to the BSR Ground Track Prior to EPICK**
- **Comparison between the BRIXX arrival and its predecessor (GOLDN6)**

Northern Arrivals (BDEGA) in to SFO

Distribution of Procedural Usage of RWY 28R/L

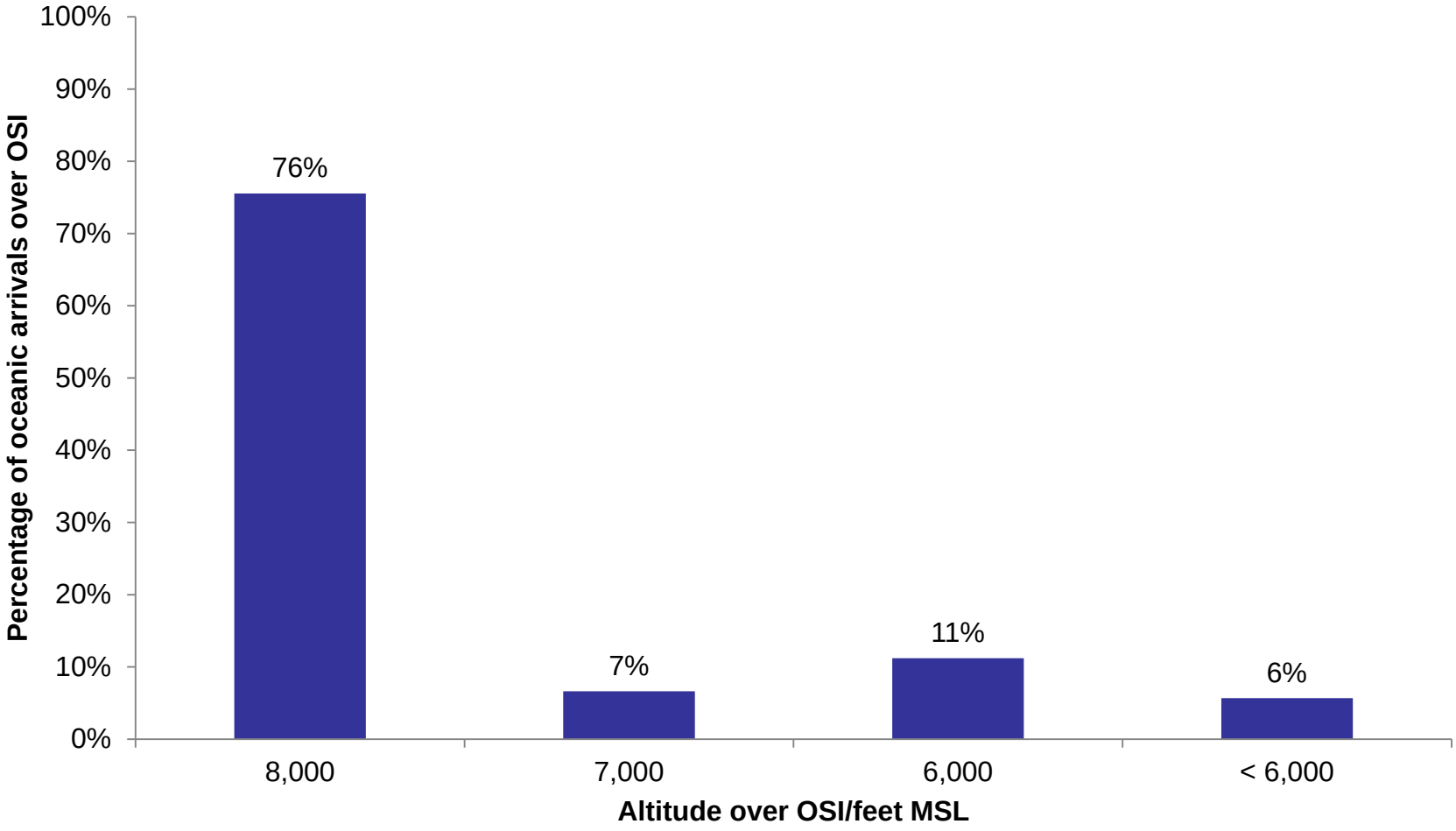


Usage: BDEGA East/West Legs



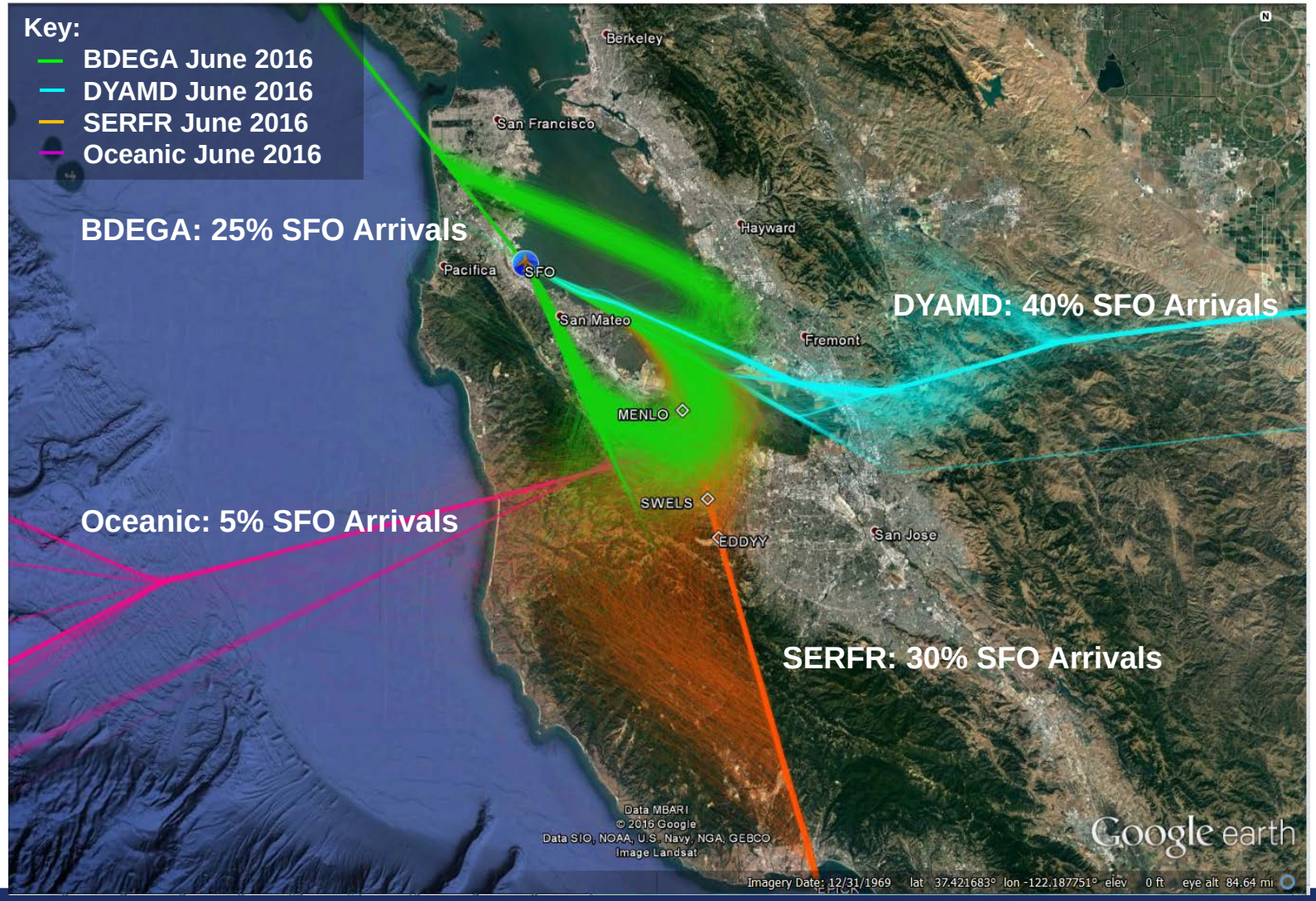
Woodside VORTAC

Altitudes of oceanic arrivals over OSI

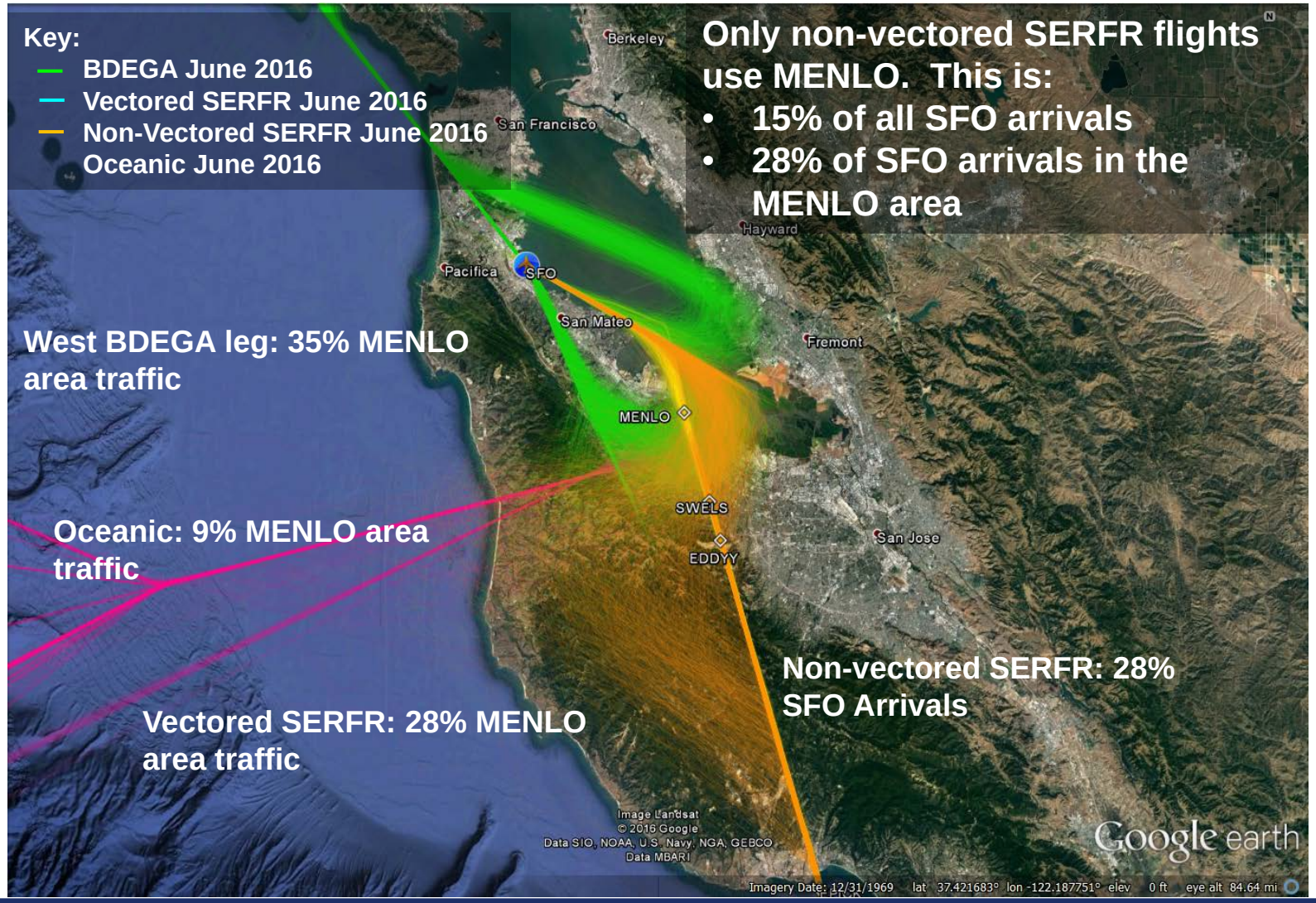


MENLO Waypoint

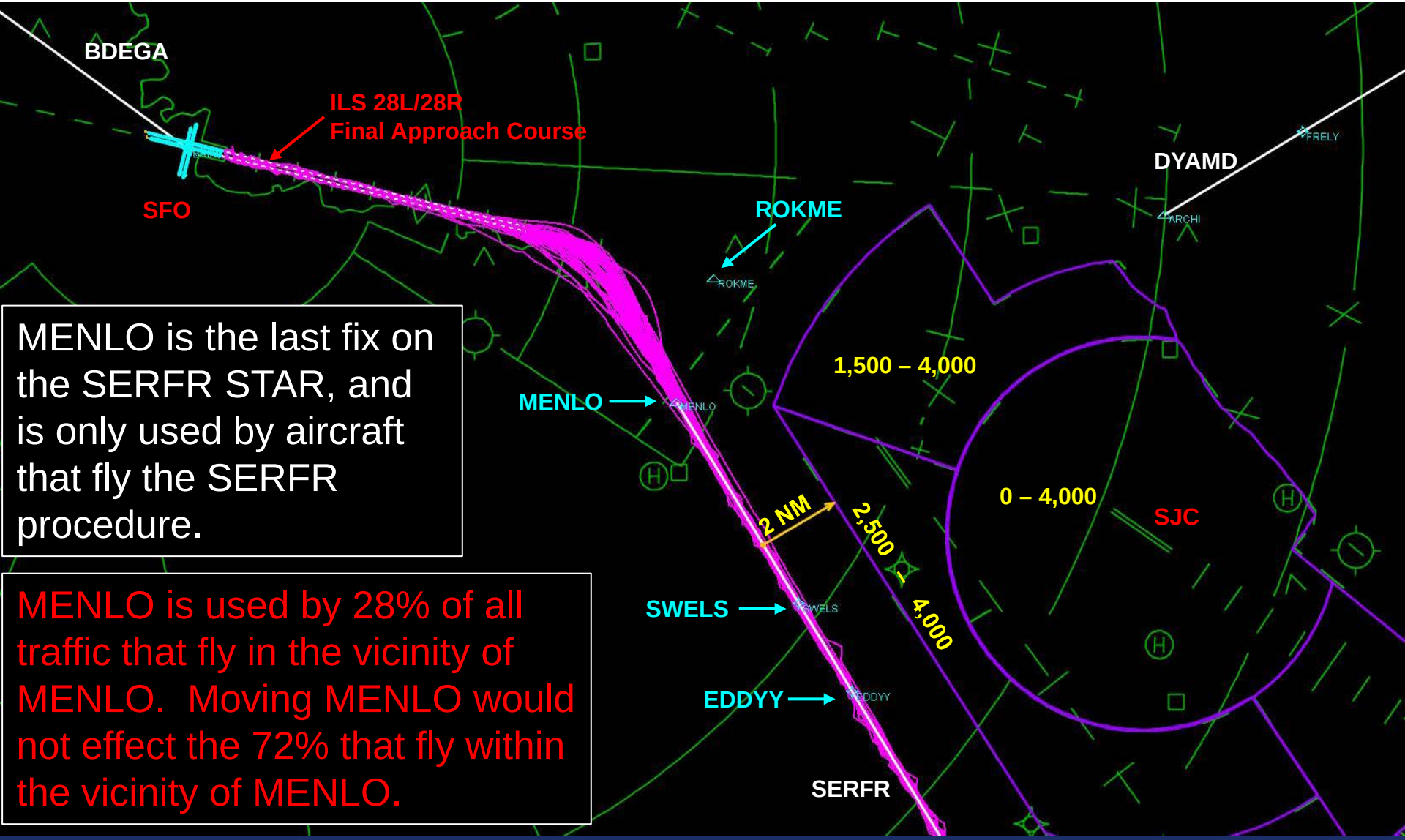
Arrivals into SFO



Which flights are effected by MENLO



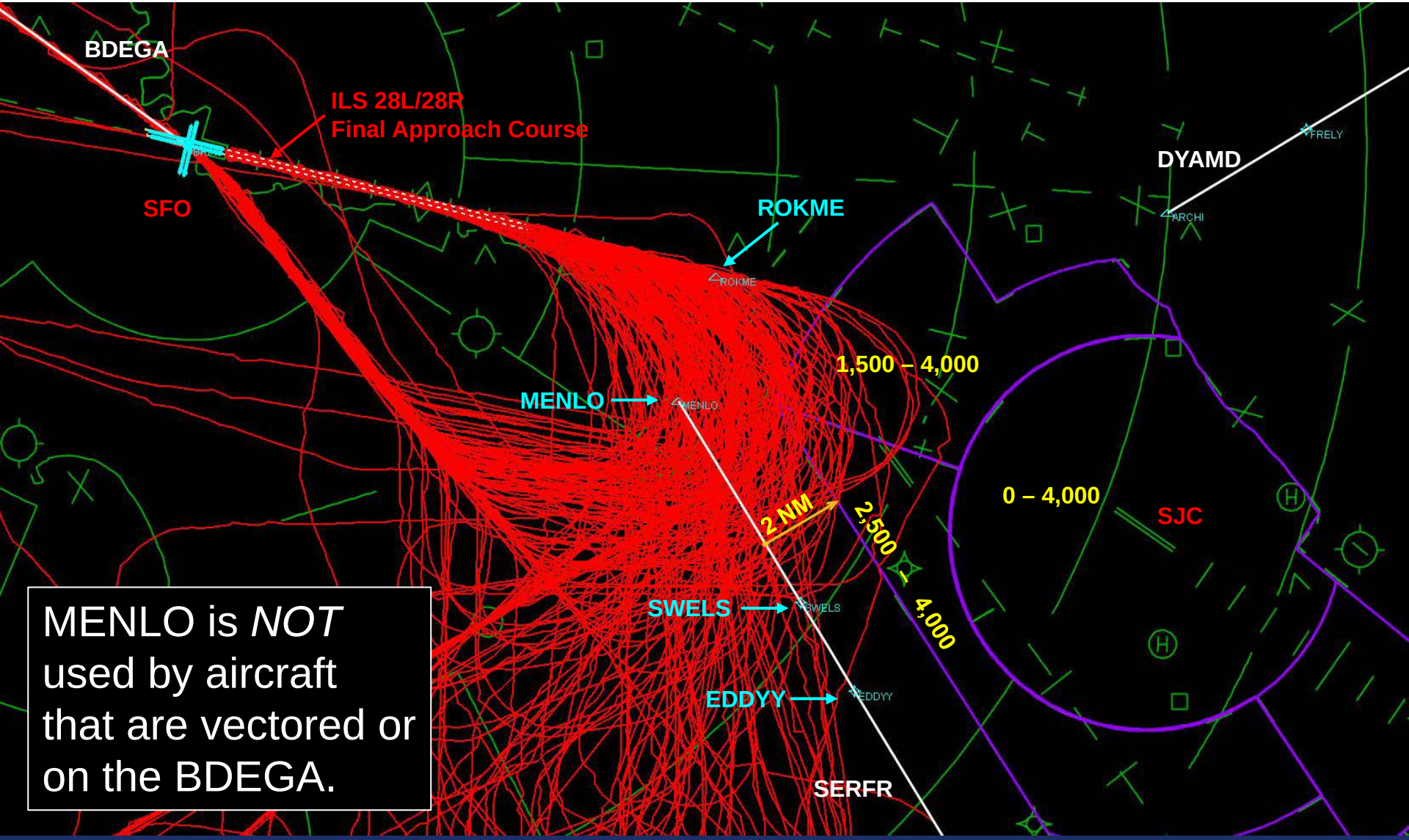
MENLO Usage



MENLO is the last fix on the SERFR STAR, and is only used by aircraft that fly the SERFR procedure.

MENLO is used by 28% of all traffic that fly in the vicinity of MENLO. Moving MENLO would not effect the 72% that fly within the vicinity of MENLO.

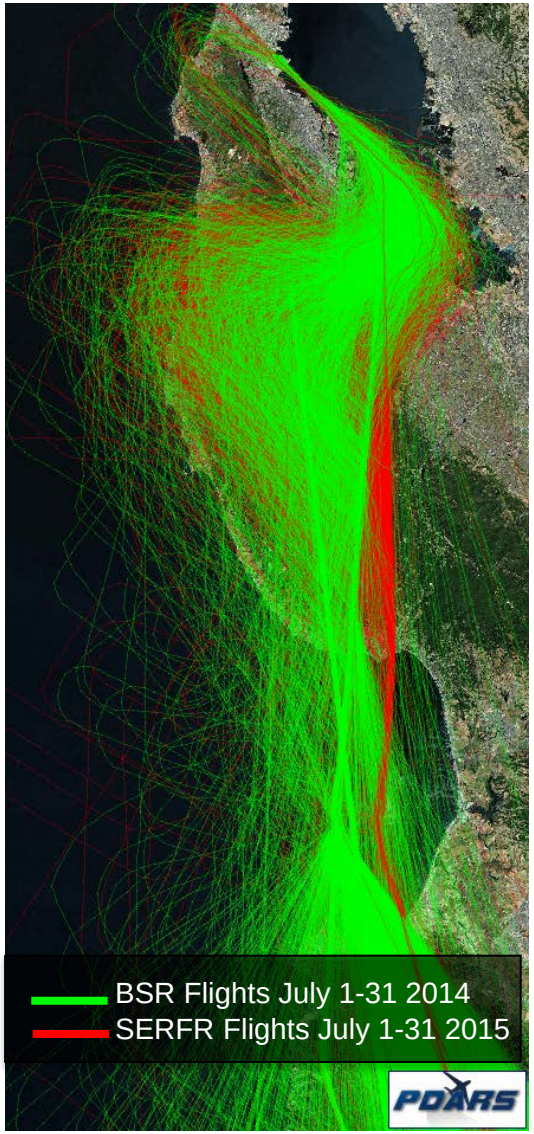
MENLO Usage

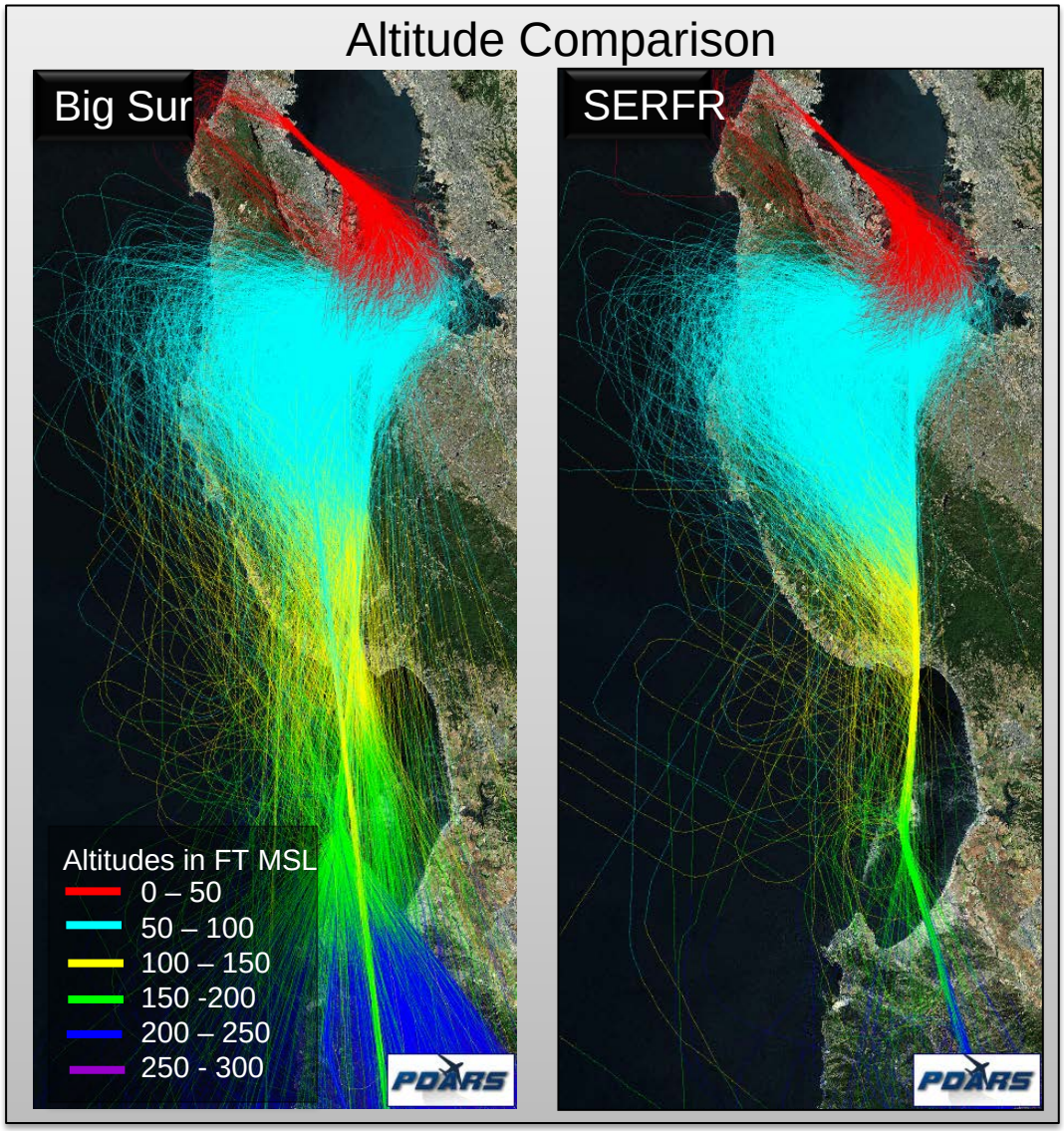


MENLO is *NOT* used by aircraft that are vectored or on the BDEGA.

Aircraft Vectoring

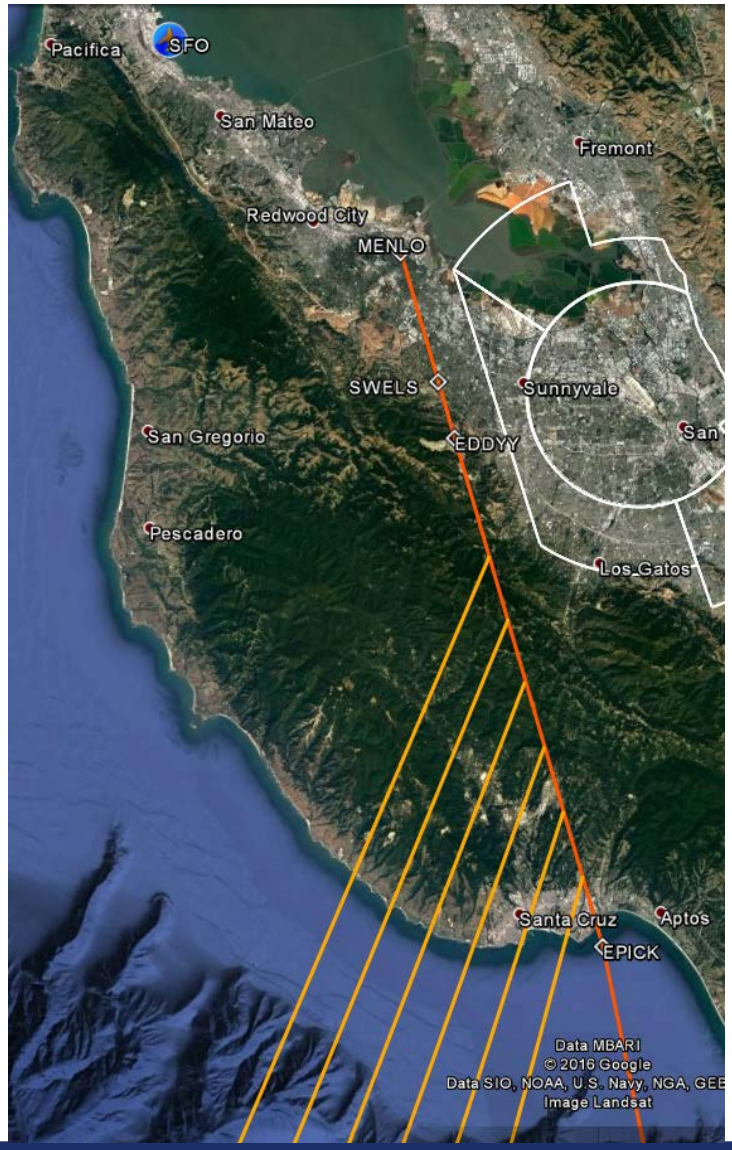
Vectored Flights – BSR and SERFR

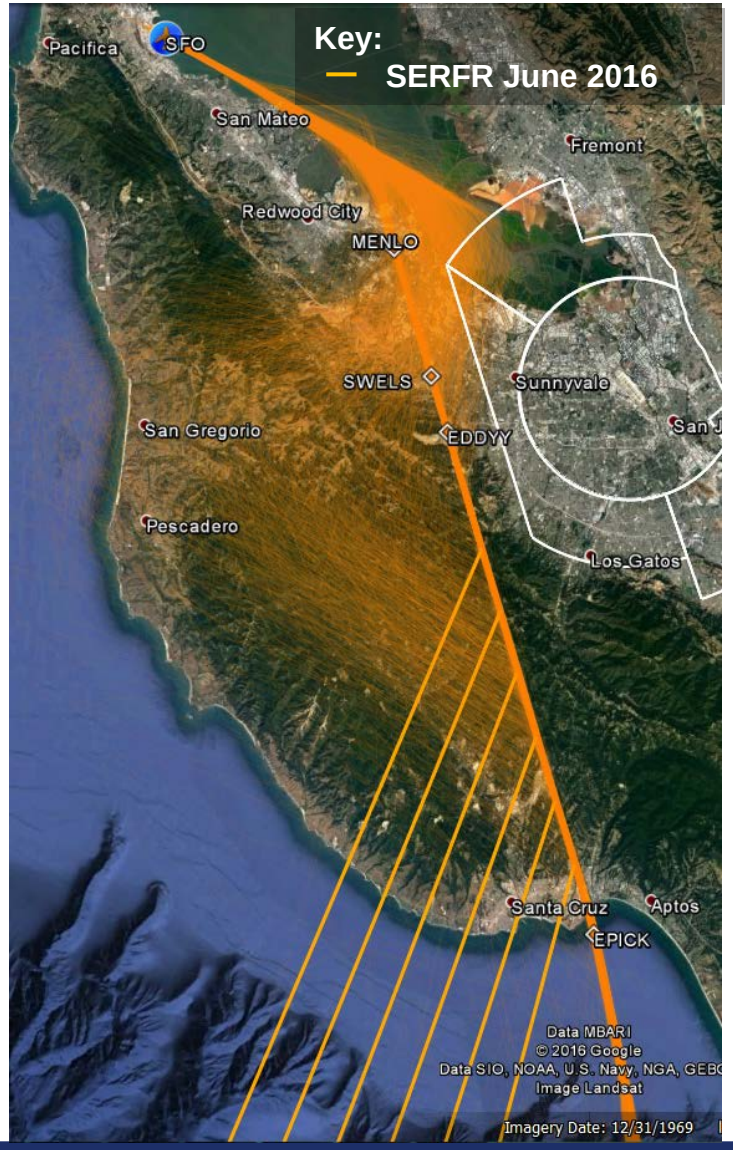




Herringbone Approach to SFO Arrivals

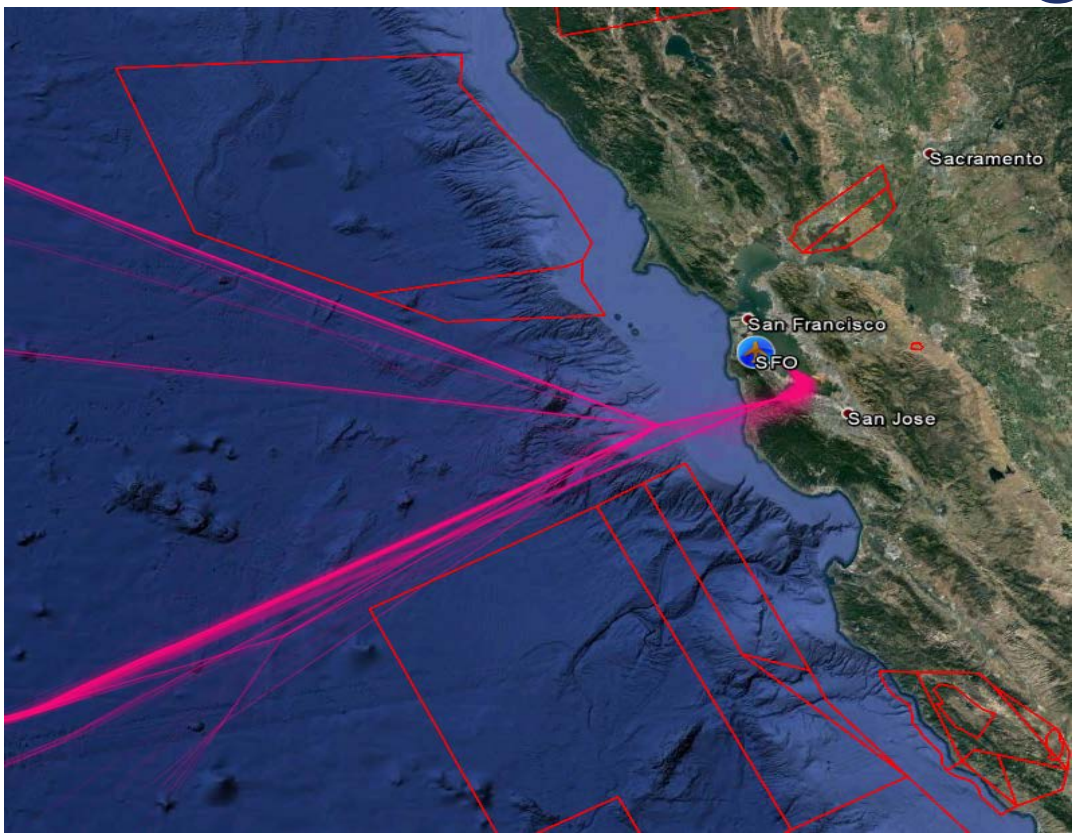
Herringbone Approach





Fan in Oversees Arrivals (OCEANIC) into SFO

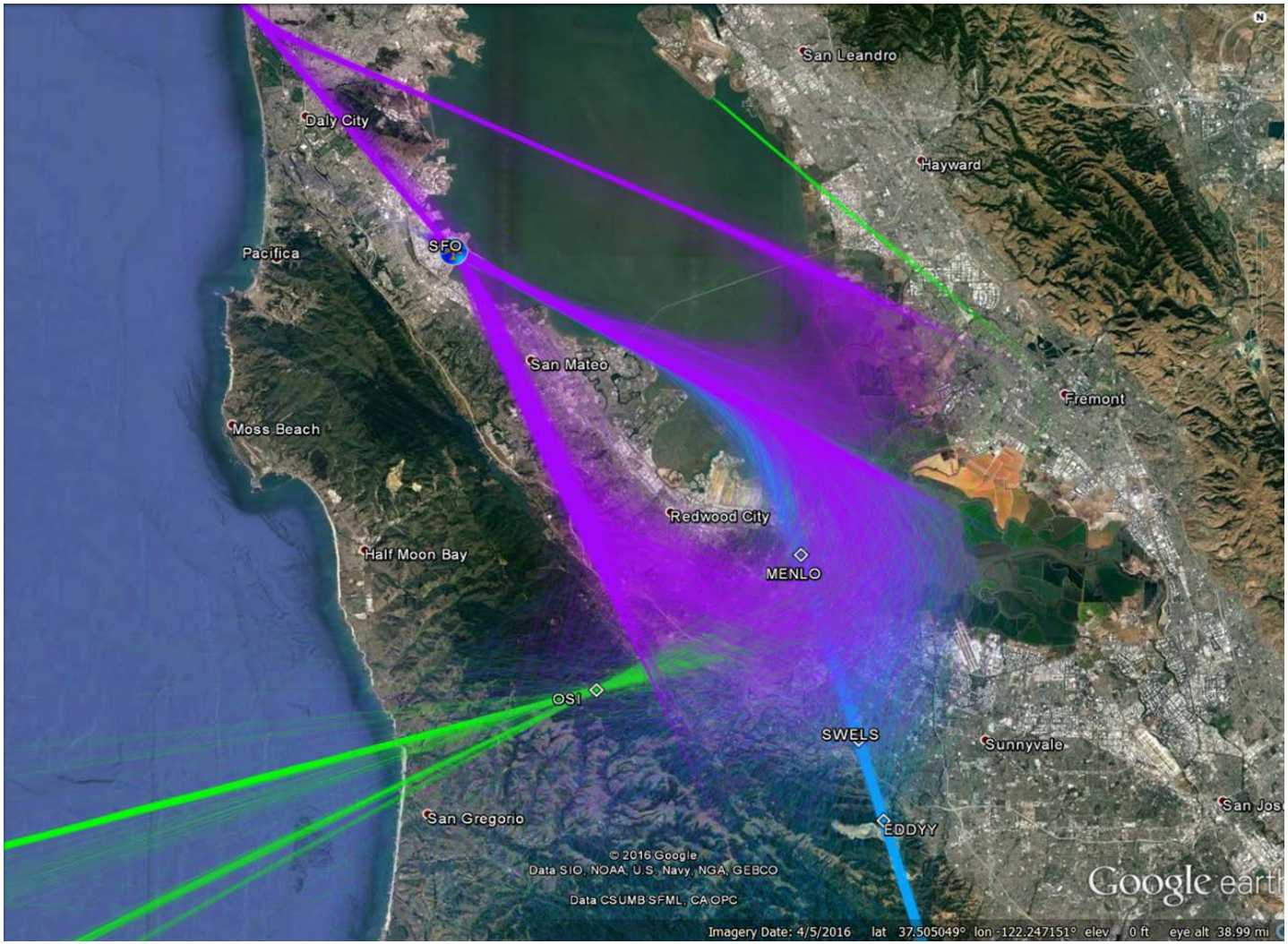
Constraints of “fanning”



Key:
- **Special Use Airspace (SUA)**
- **Oceanic arrivals June 2016**

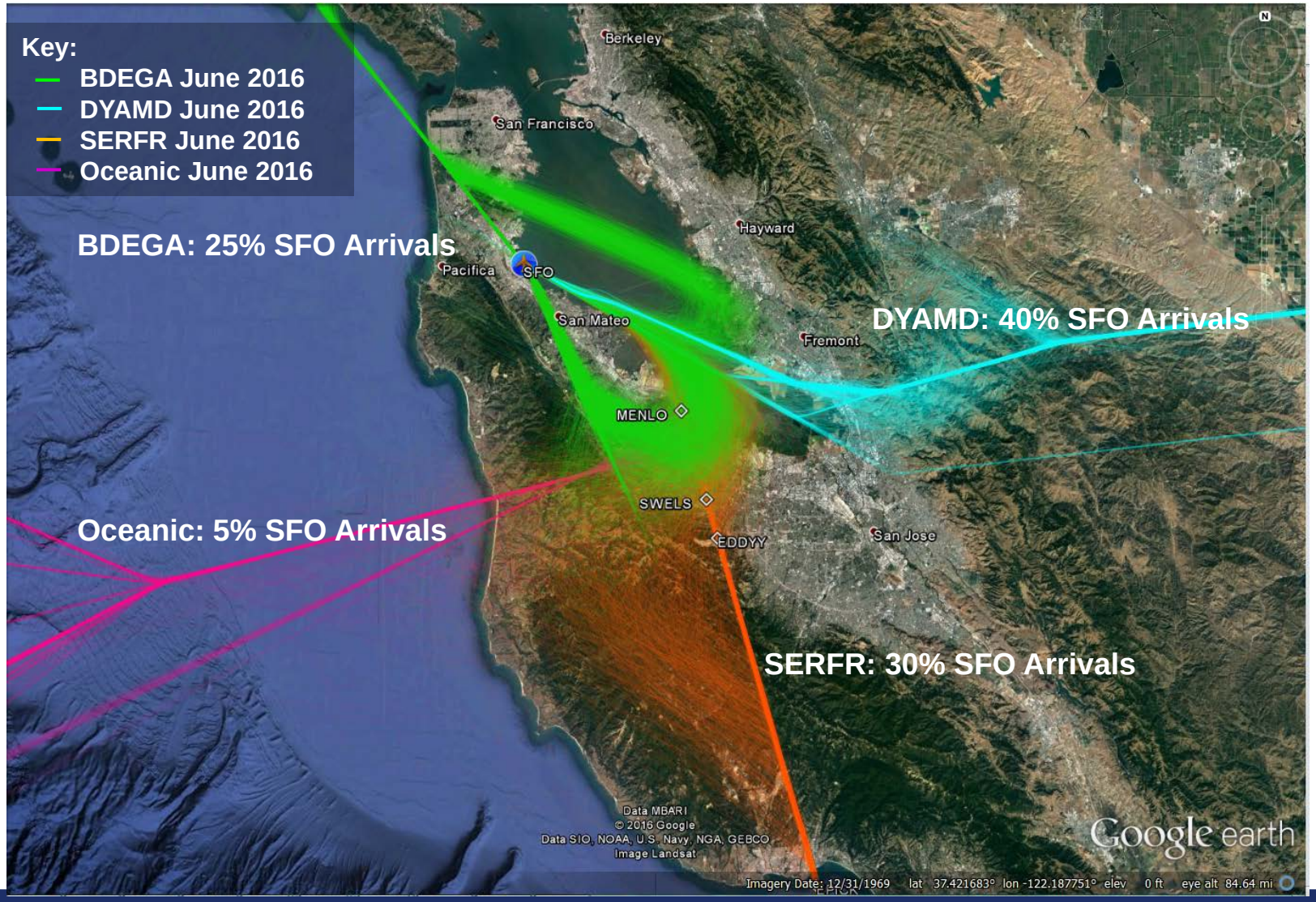
- Special Use Airspace limits the location where the oceanic arrivals cross land.
- Once the oceanic arrivals cross land, spacing and sequencing needs to be accomplished as they are merged with SERFR and BDEGA arrivals.

Constraints of “fanning”



Redirect Southern Arrivals to an Eastern Approach into SFO

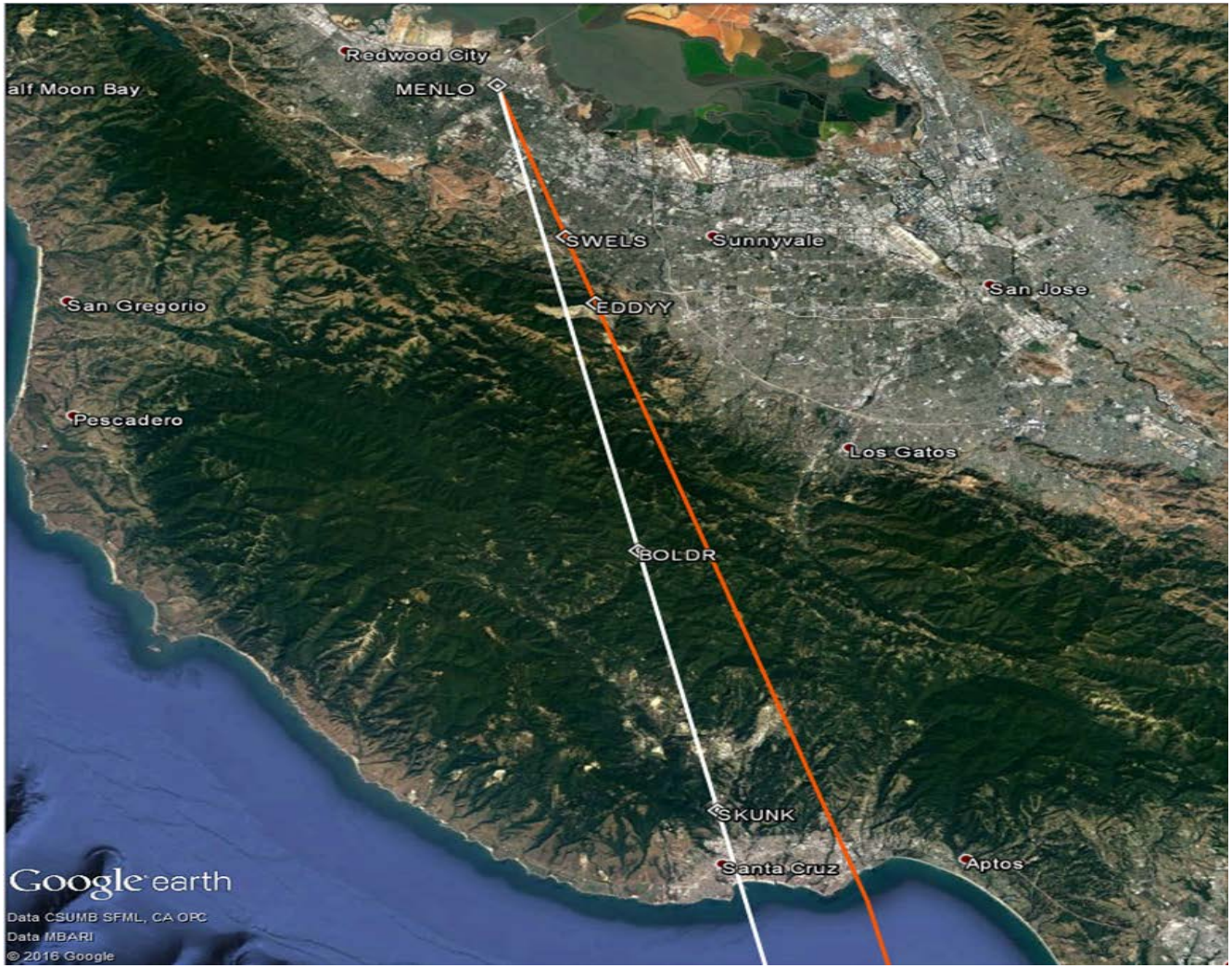
Arrivals into SFO

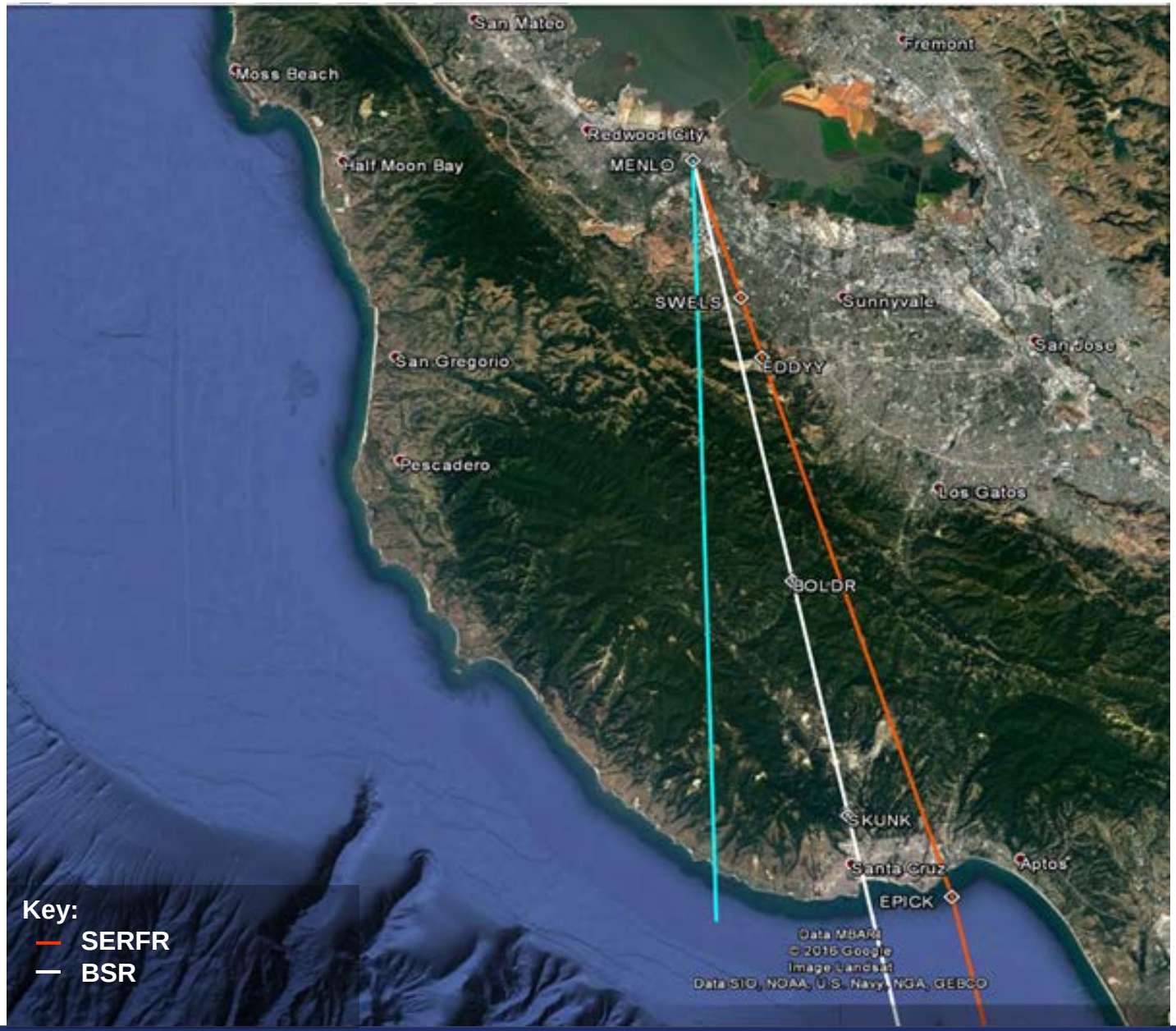


Federal Aviation Administration

Transition the SERFR STAR back to the BSR Ground Track Prior to EPICK

BSR and SERFR Ground Tracks





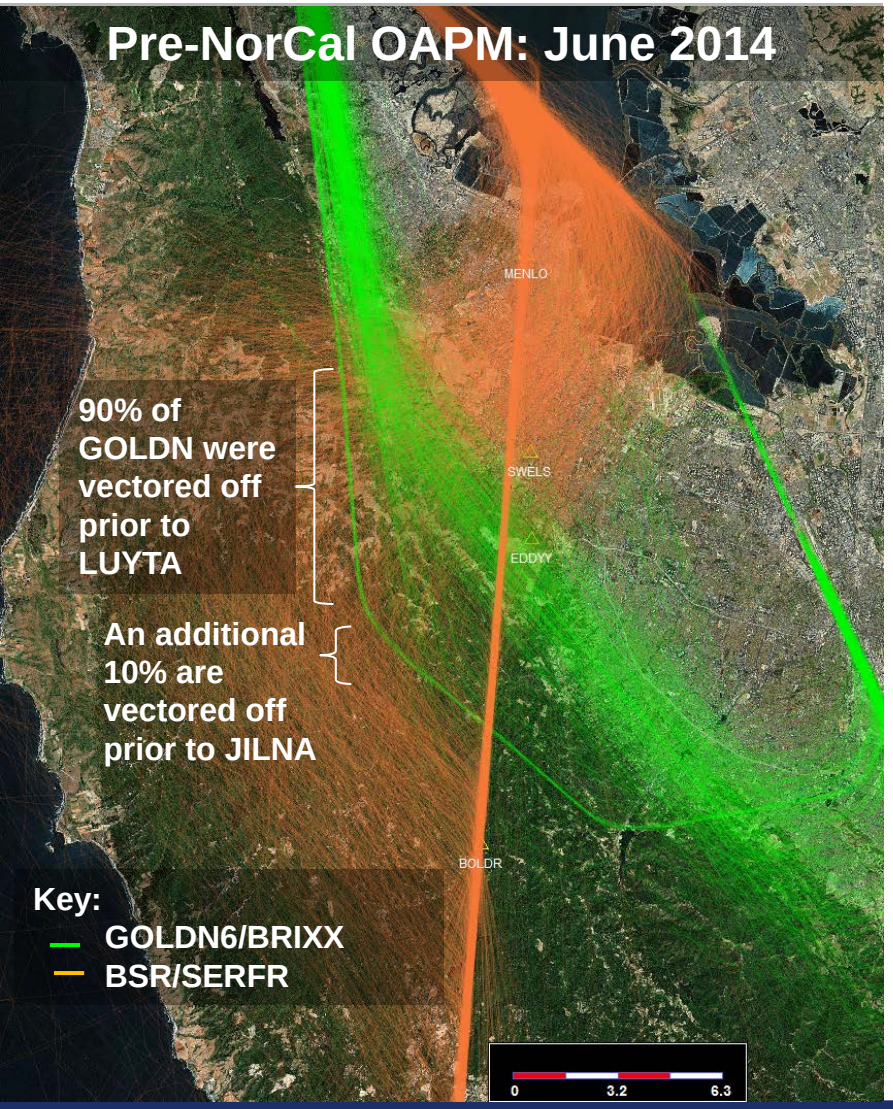
Federal Aviation Administration

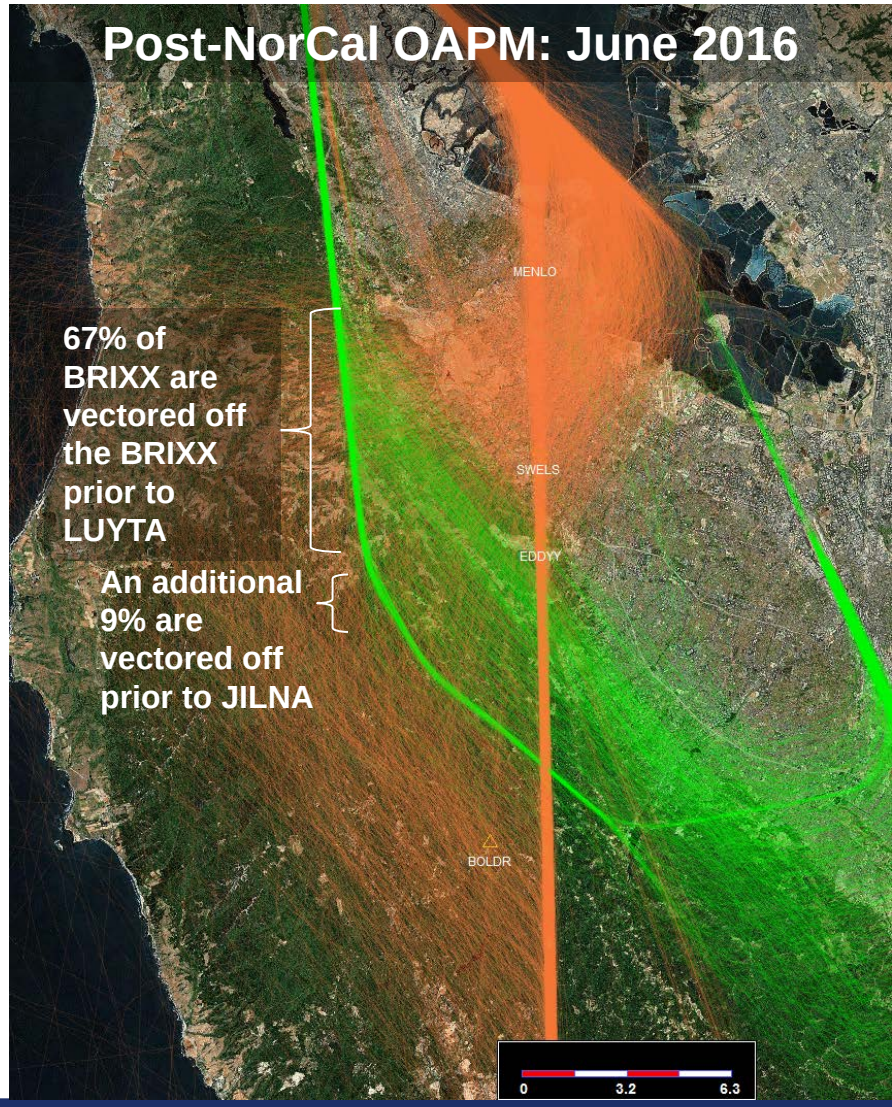
Comparison between the BRIXX arrival and its predecessor (GOLDN6)

BRIXX vs. GOLDN

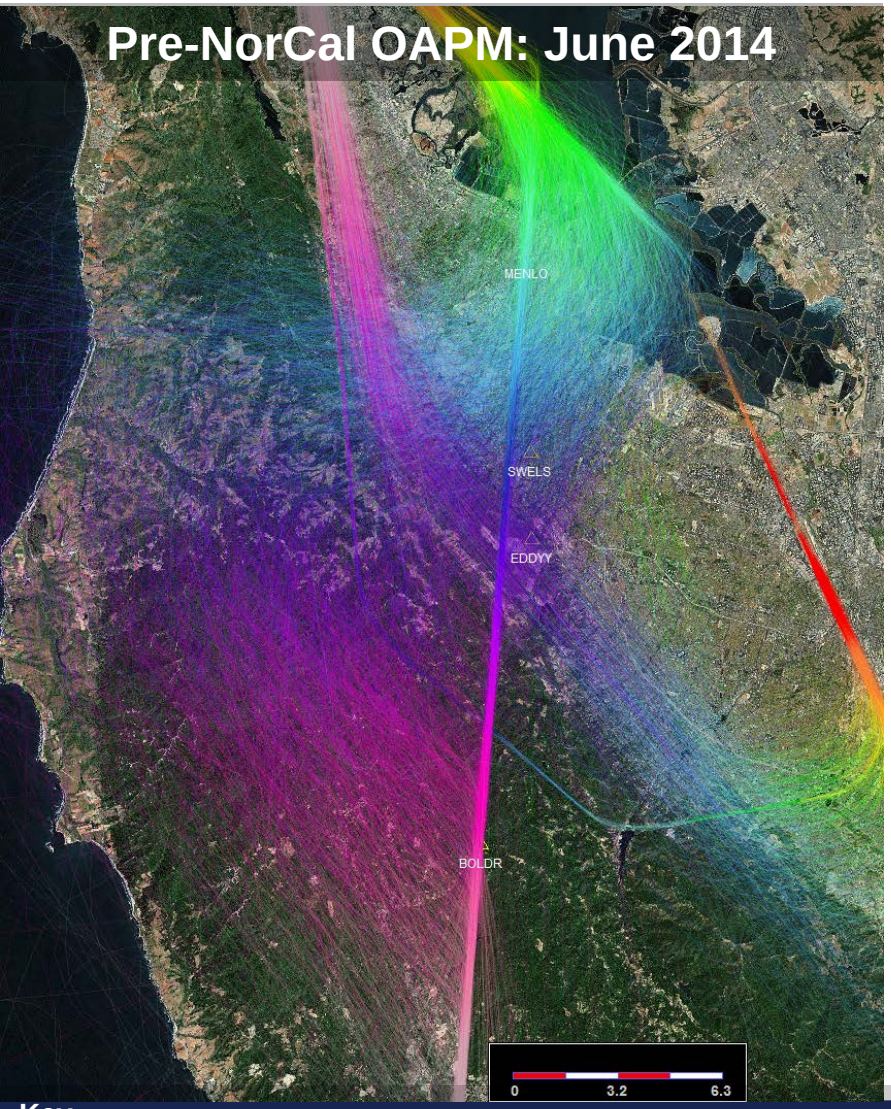
- **The GOLDN6 terminated at SFO and SJC arrivals were vectored to SJC.**
- **The BRIXX is <u>almost</u> an overlay of the legacy GOLDN6.**
- **For the dates analyzed:**
  - 76% of BRIXX arrivals are vectored off the procedure prior to the procedural SERFR/BRIXX intersection.
  - 90% of GOLDN6 flights were vectored across BSR prior to this same intersection.

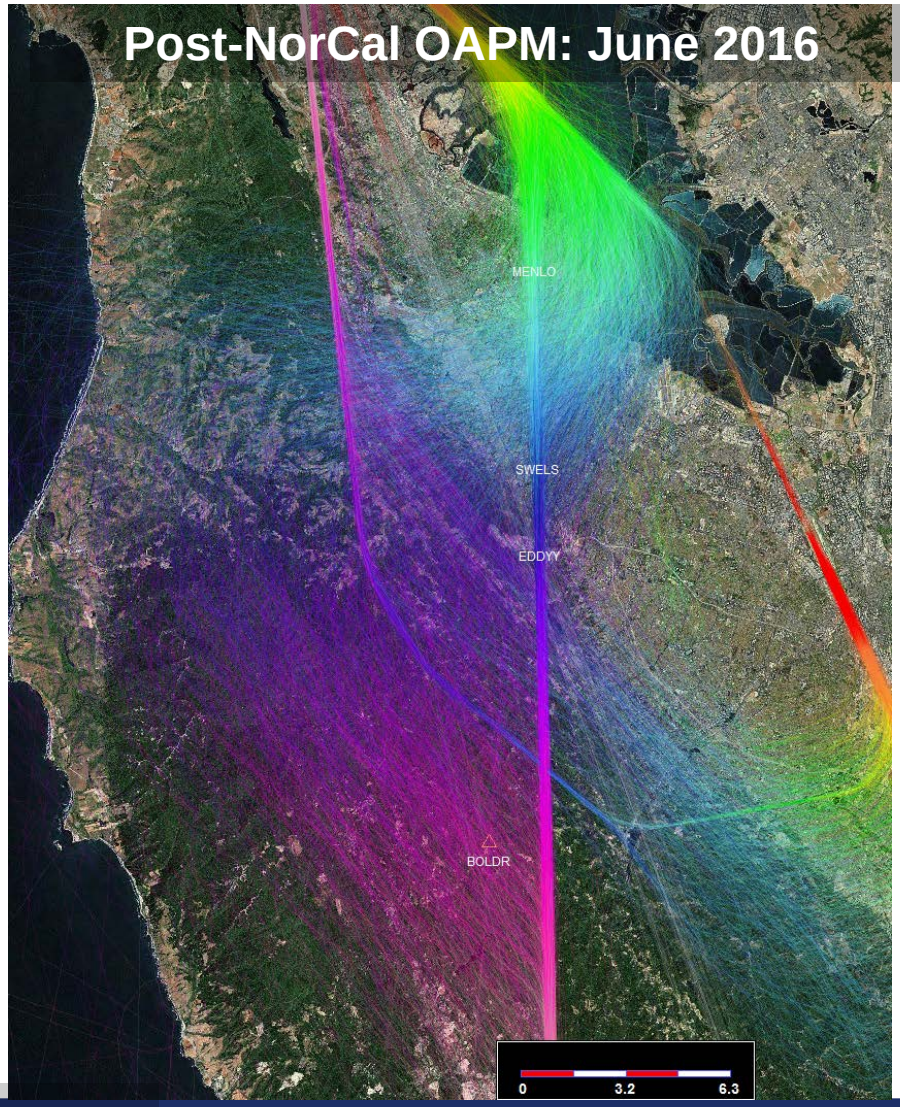
Comparison of GOLDN & BRIXX





Comparison of GOLDN & BRIXX





Key

- < 1,000 ft MSL
- 1,000 - 2,000 ft MSL
- 2,000 - 3,000 ft MSL
- 3,000 - 4,000 ft MSL
- 4,000 - 5,000 ft MSL
- 5,000 - 6,000 ft MSL
- 6,000 - 7,000 ft MSL
- 7,000 - 8,000 ft MSL
- 8,000 - 9,000 ft MSL
- 9,000 - 10,000 ft MSL
- 10,000 – 11,000 ft MSL
- 11,000 – 12,000 ft MSL

Federal Aviation Administration