

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

**FAA & Select Committee
Working Meeting**

September 29, 2016



**Federal Aviation
Administration**



Discussion Overview

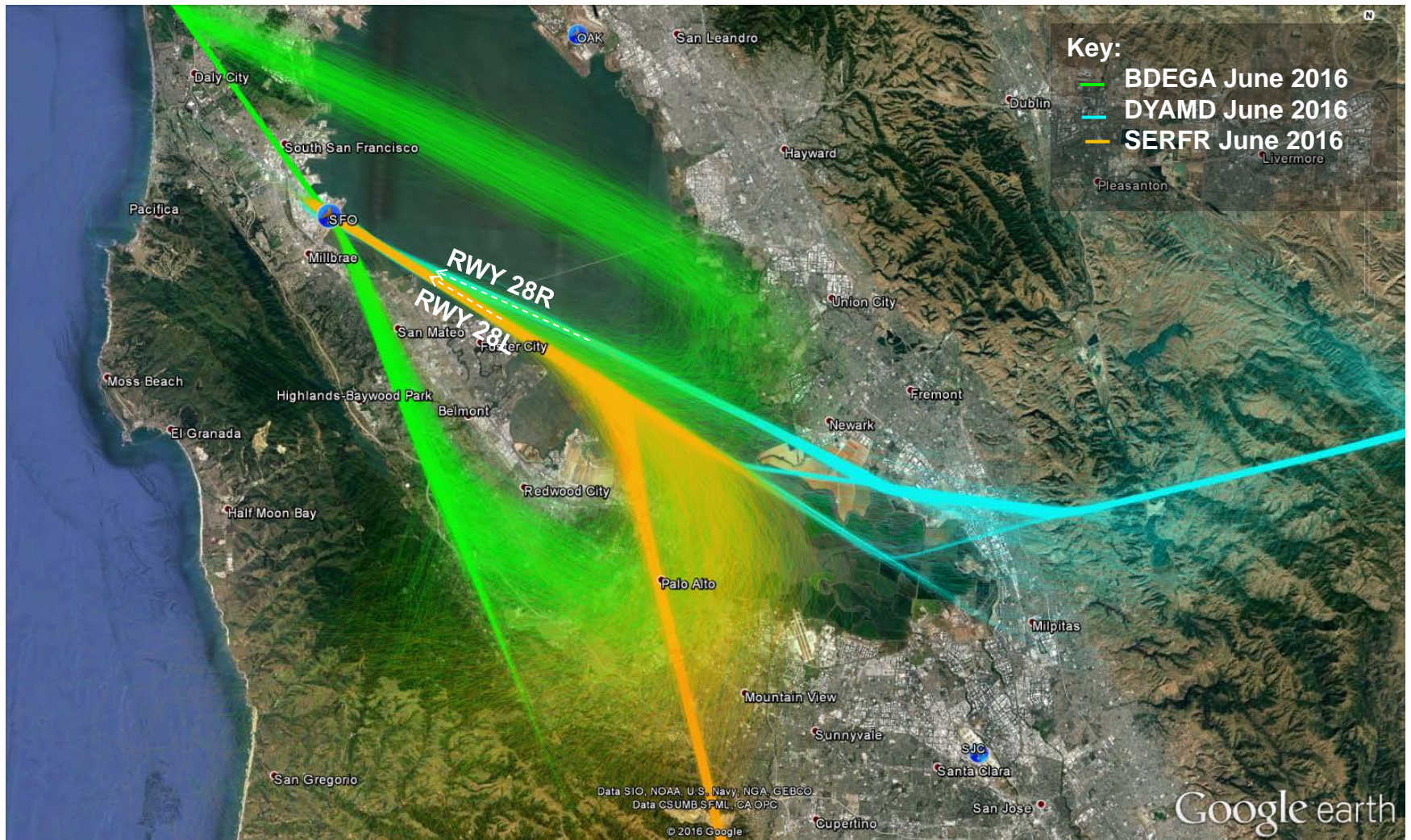
- **Other Solutions Identified by the Select Committee:**
 - a) Northern Arrivals (BDEGA) in to SFO
 - b) Woodside VORTAC
 - c) MENLO Waypoint
 - d) Aircraft Vectoring
 - e) Herringbone Approach to SFO Arrivals
 - f) Fan in Overseas Arrivals (OCEANIC) into SFO
 - g) Redirect Southern Arrivals to an Eastern 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)**



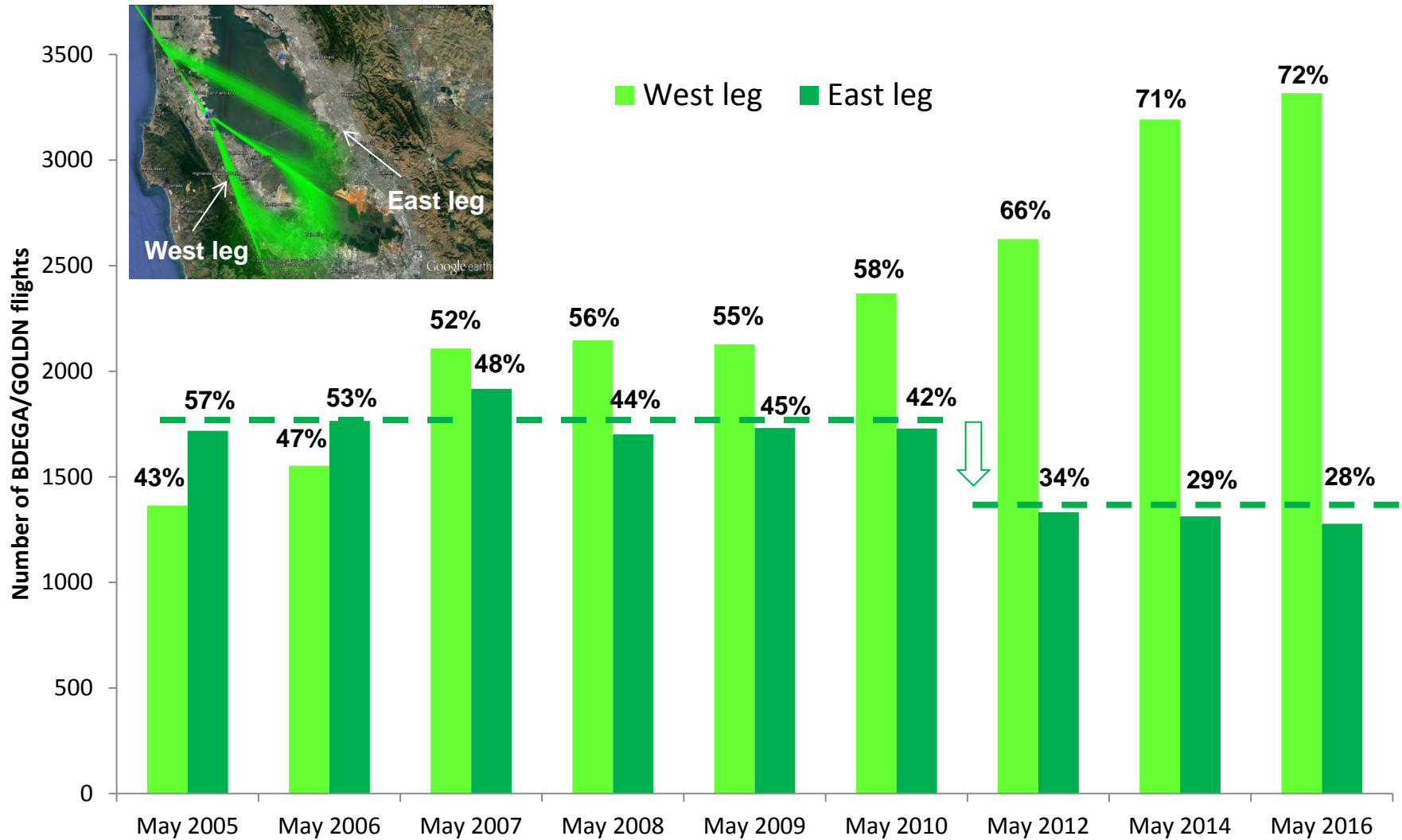
Northern Arrivals (BDEGA) in to SFO



Distribution of Procedural Usage of RWY 28R/L



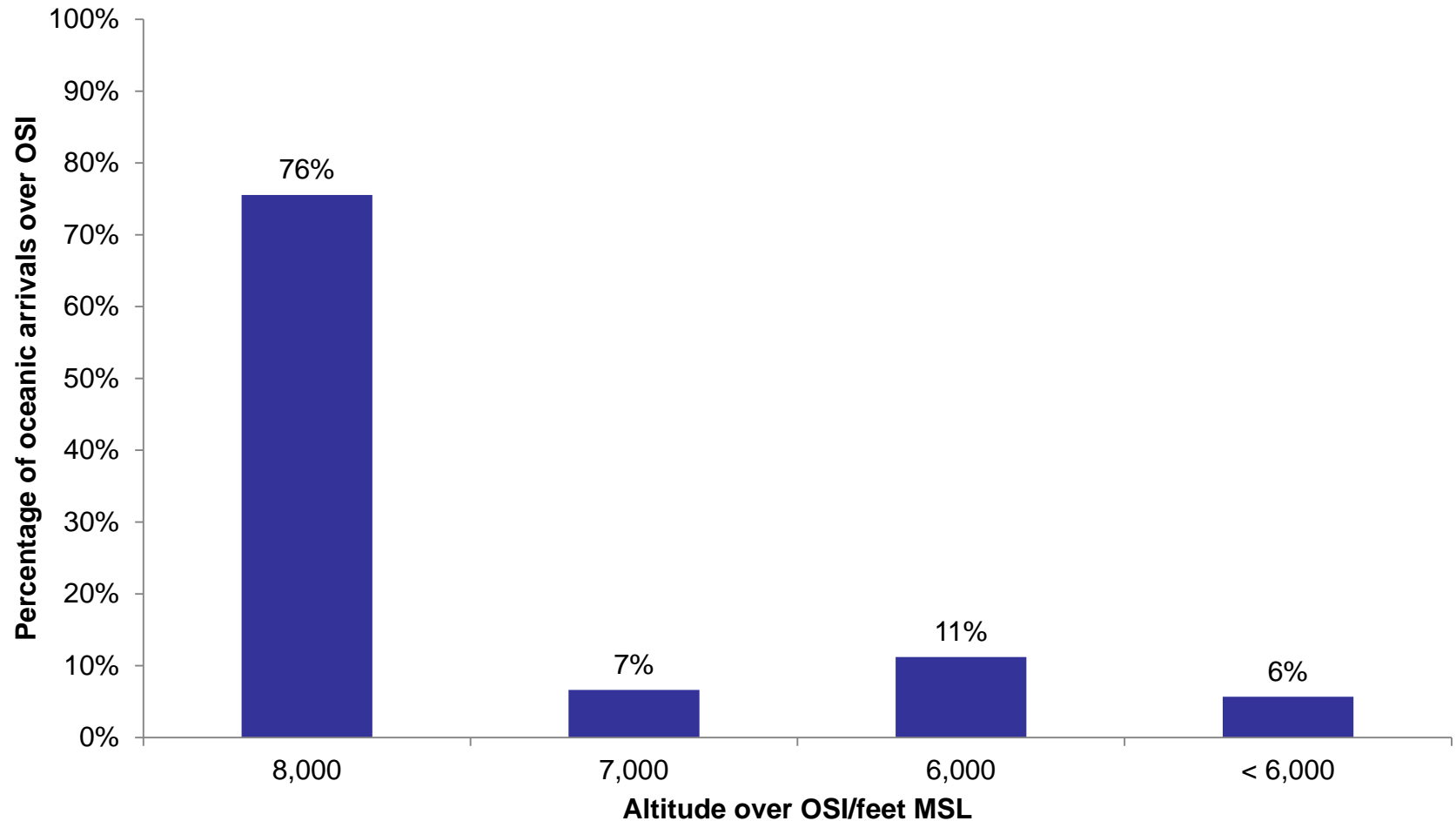
Usage: BDEGA East/West Legs



Woodside VORTAC



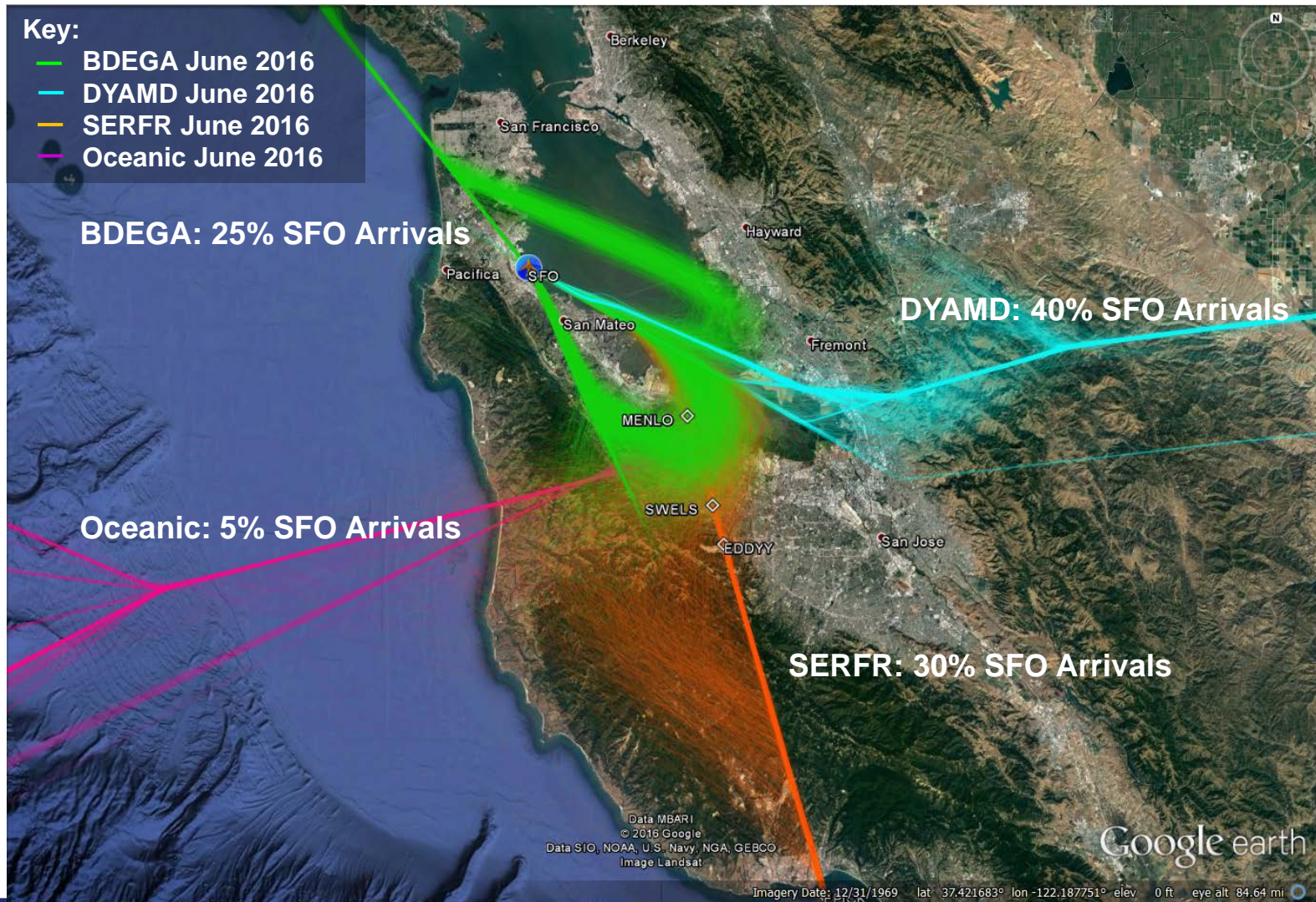
Altitudes of oceanic arrivals over OSI



MENLO Waypoint

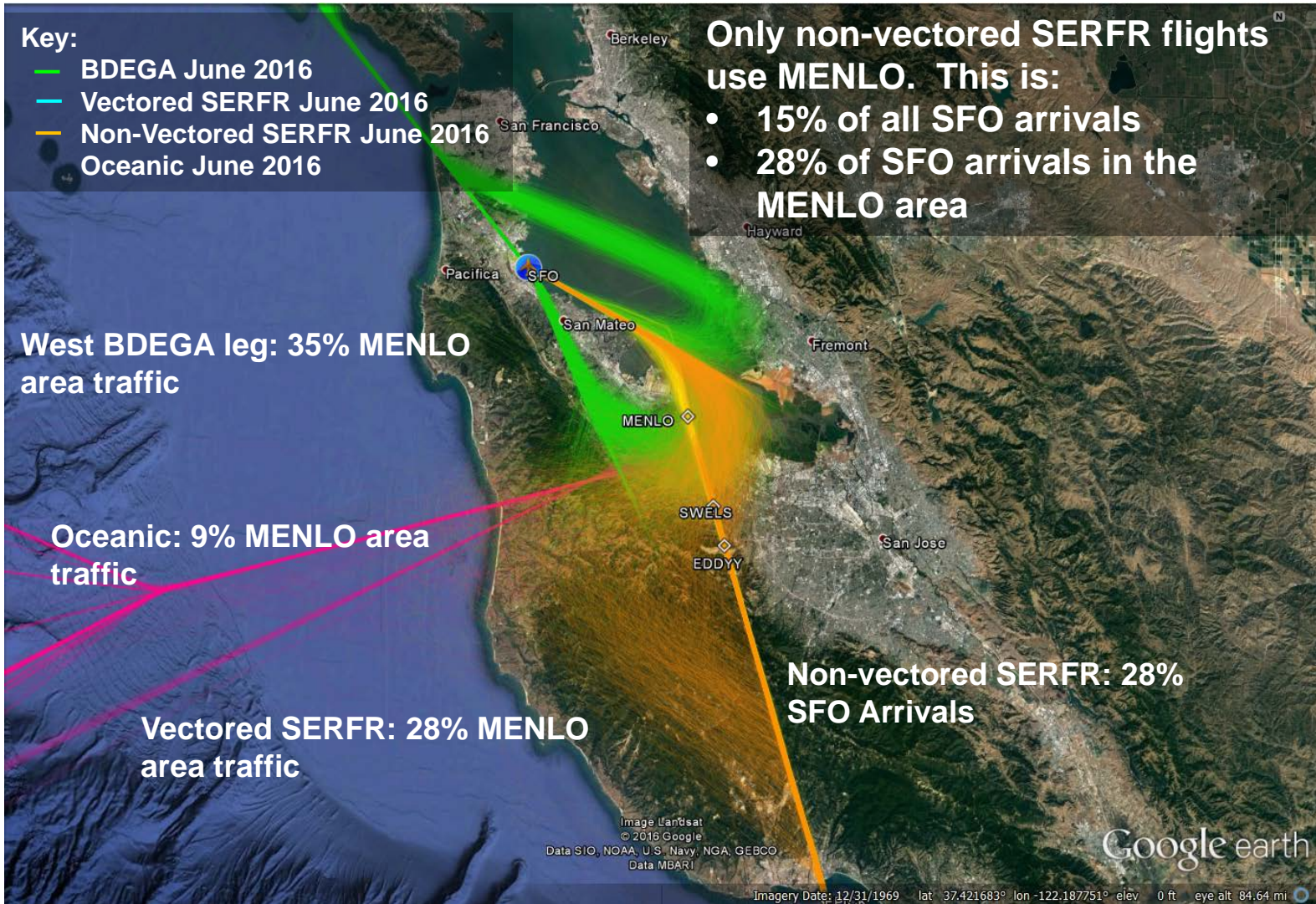


Arrivals into SFO



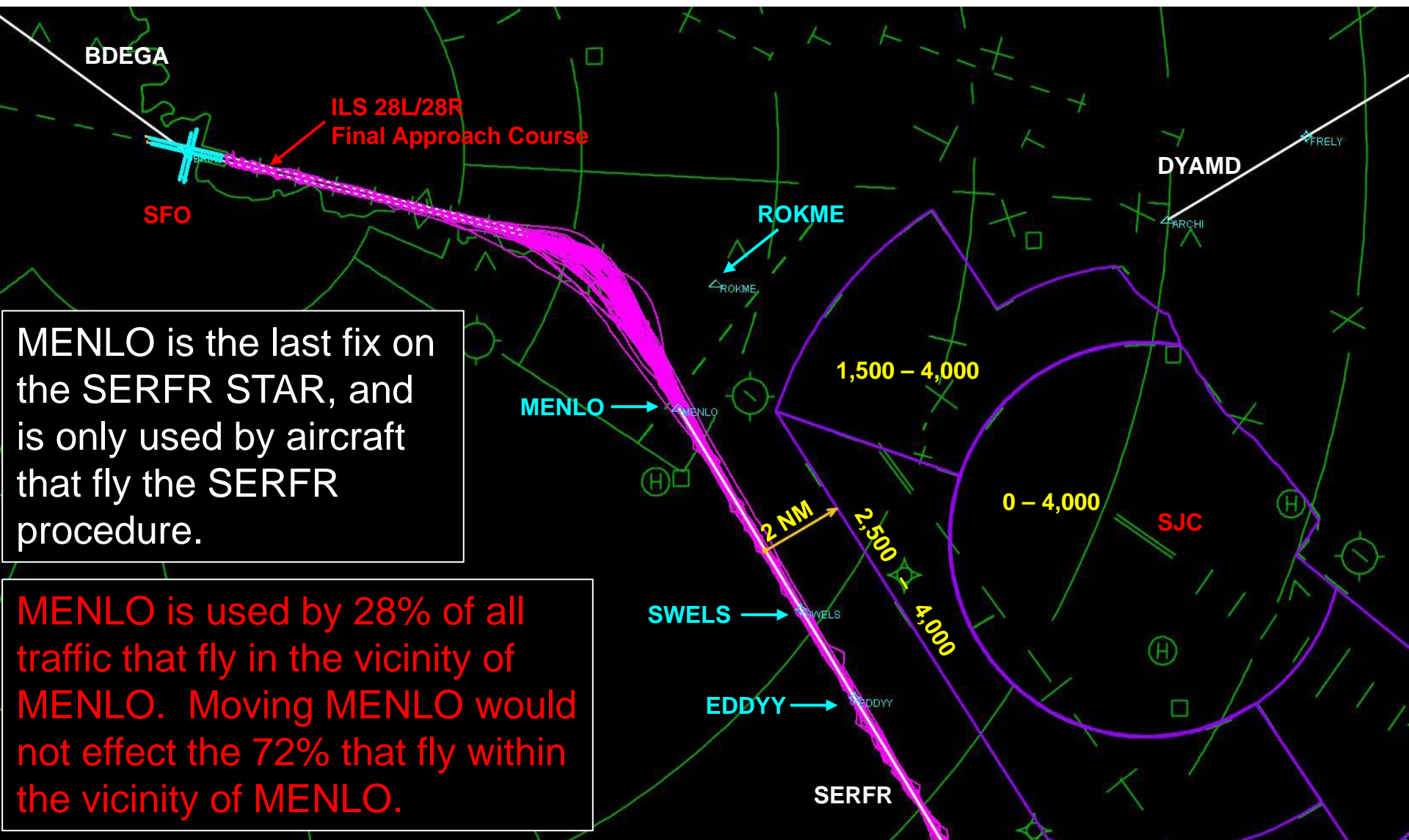
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Which flights are effected by MENLO



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MENLO Usage

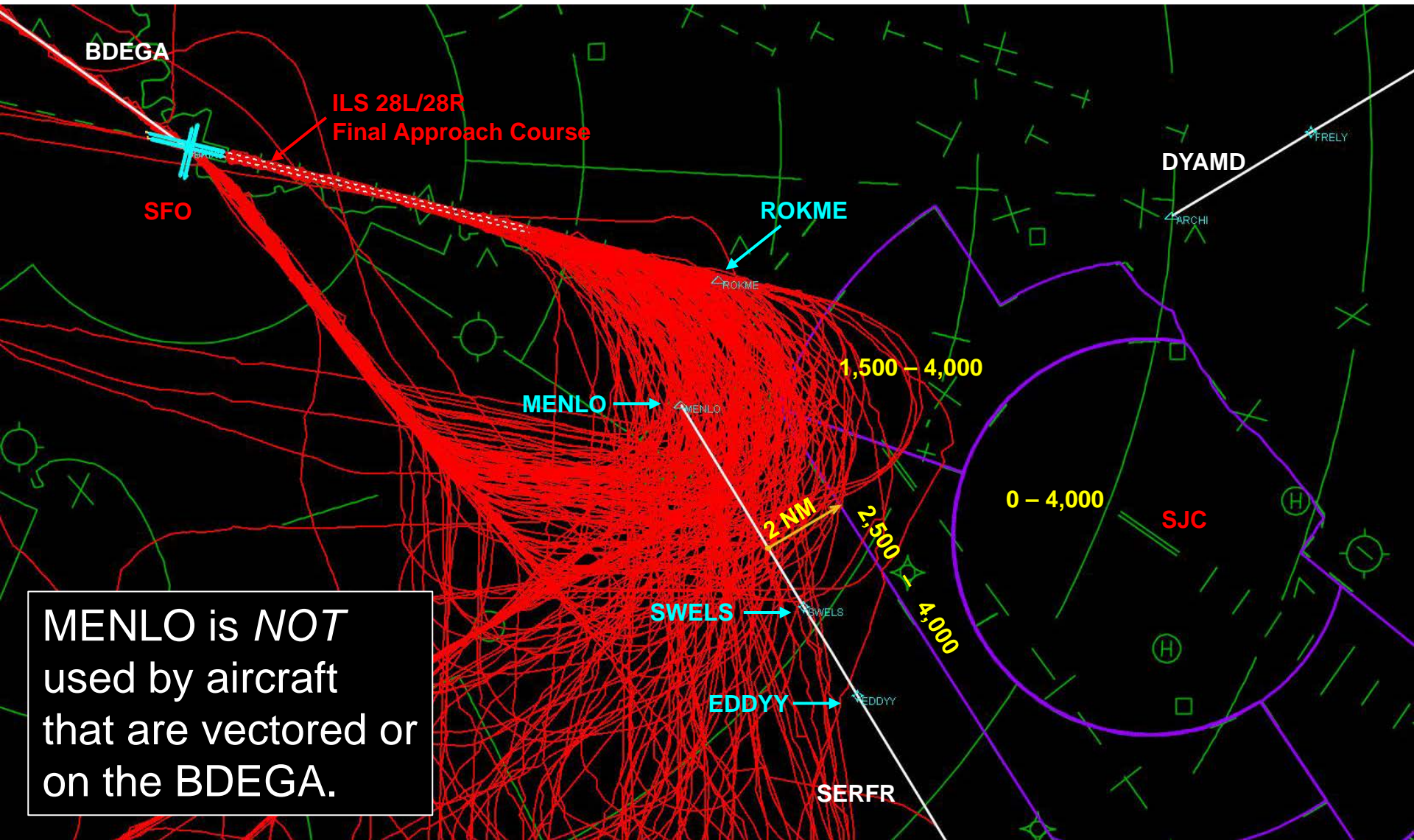


MENLO is the last fix on the SERFR STAR, and is only used by aircraft that fly the SERFR procedure.

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.

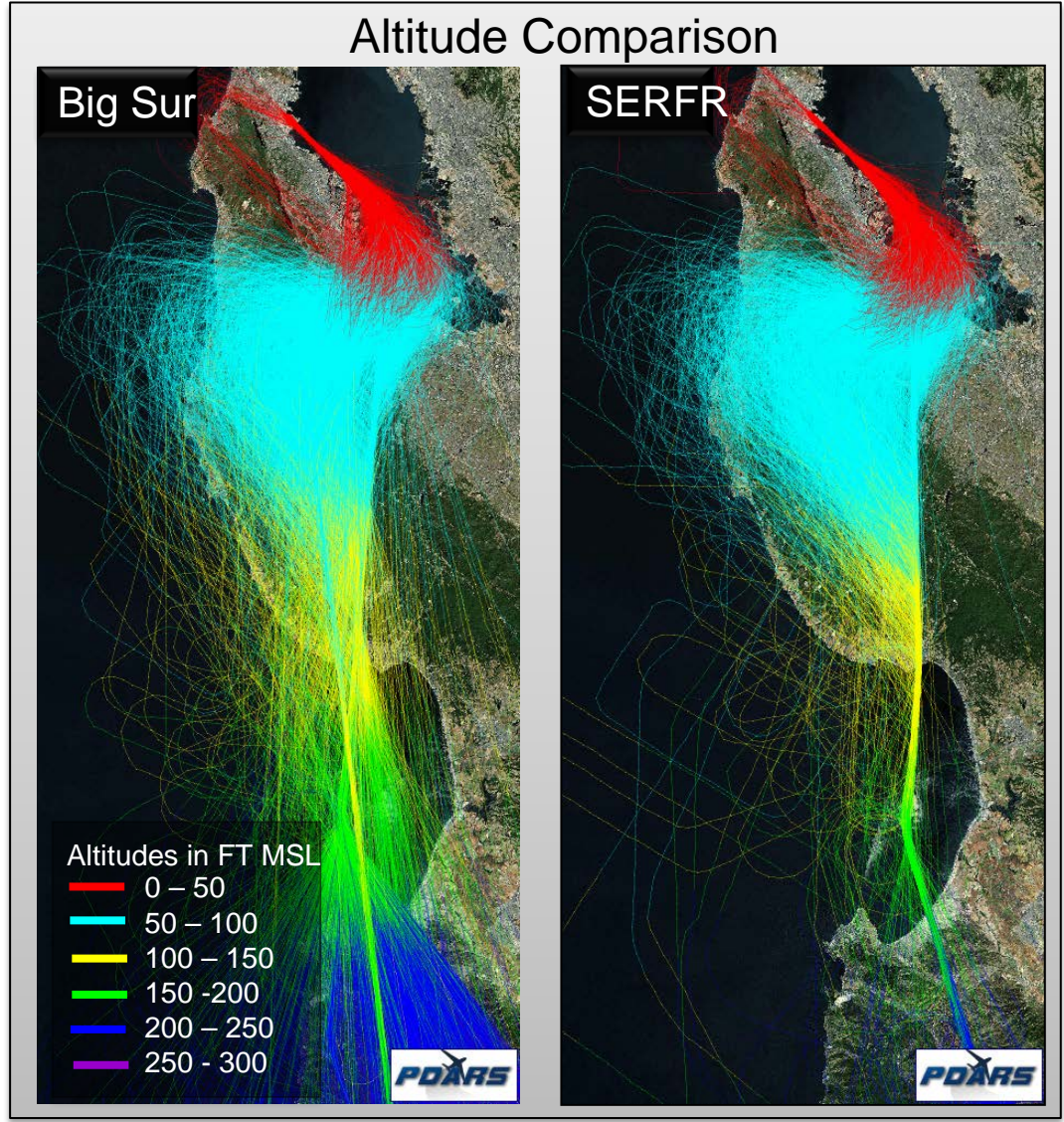
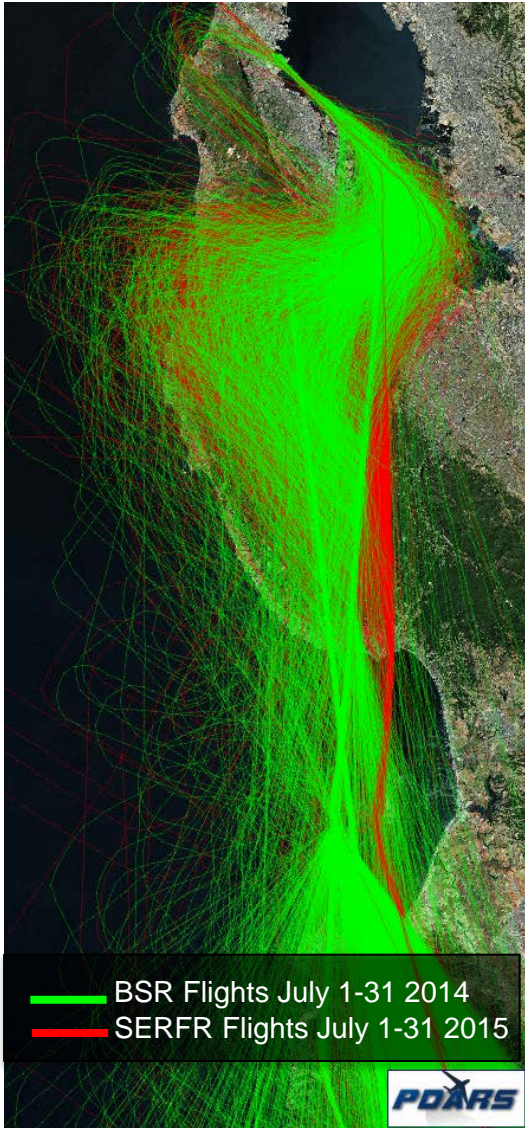


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Aircraft Vectoring



Vectored Flights – BSR and SERFR

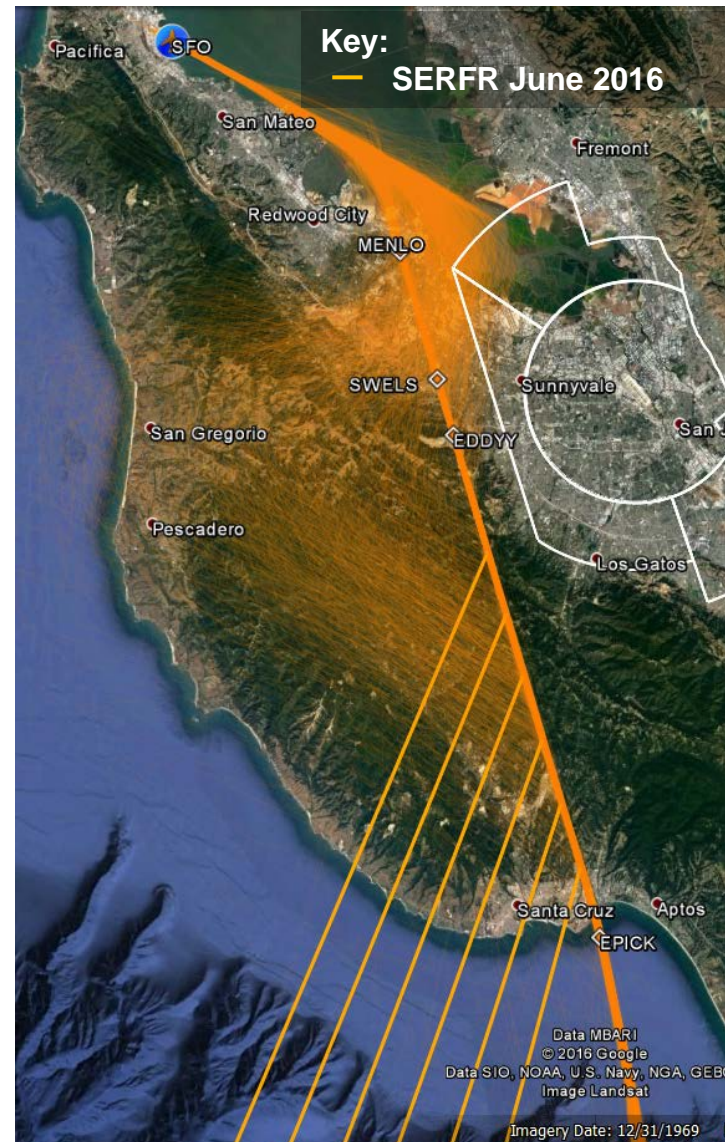
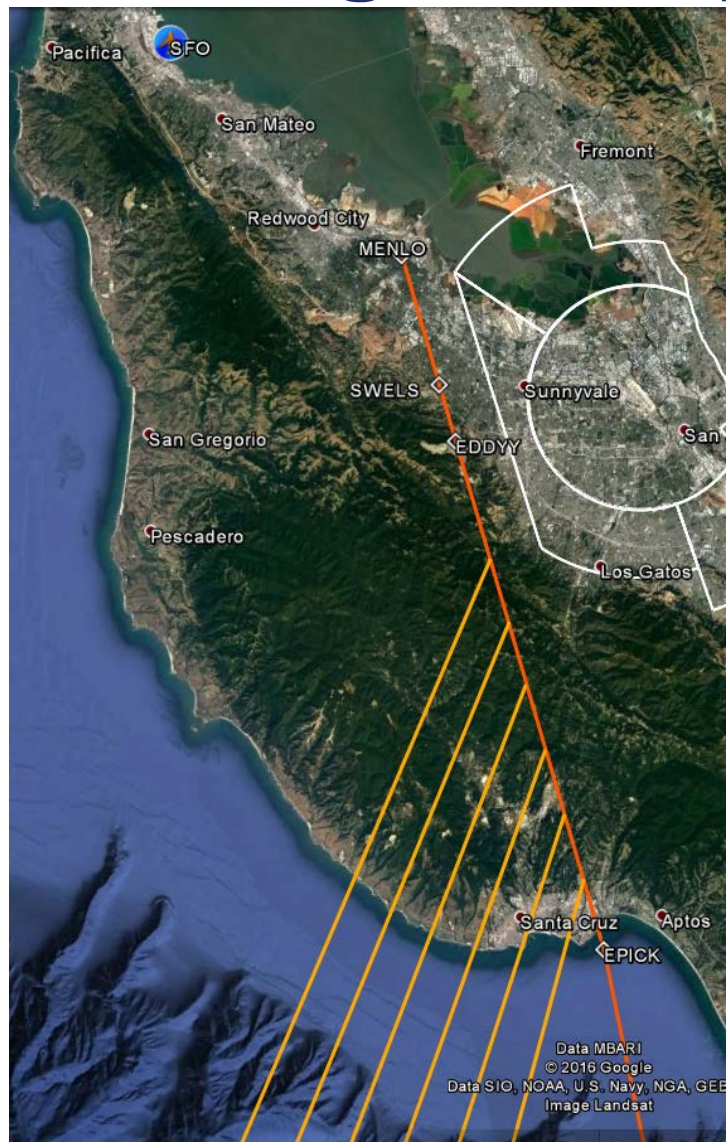


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Herringbone Approach to SFO Arrivals



Herringbone Approach

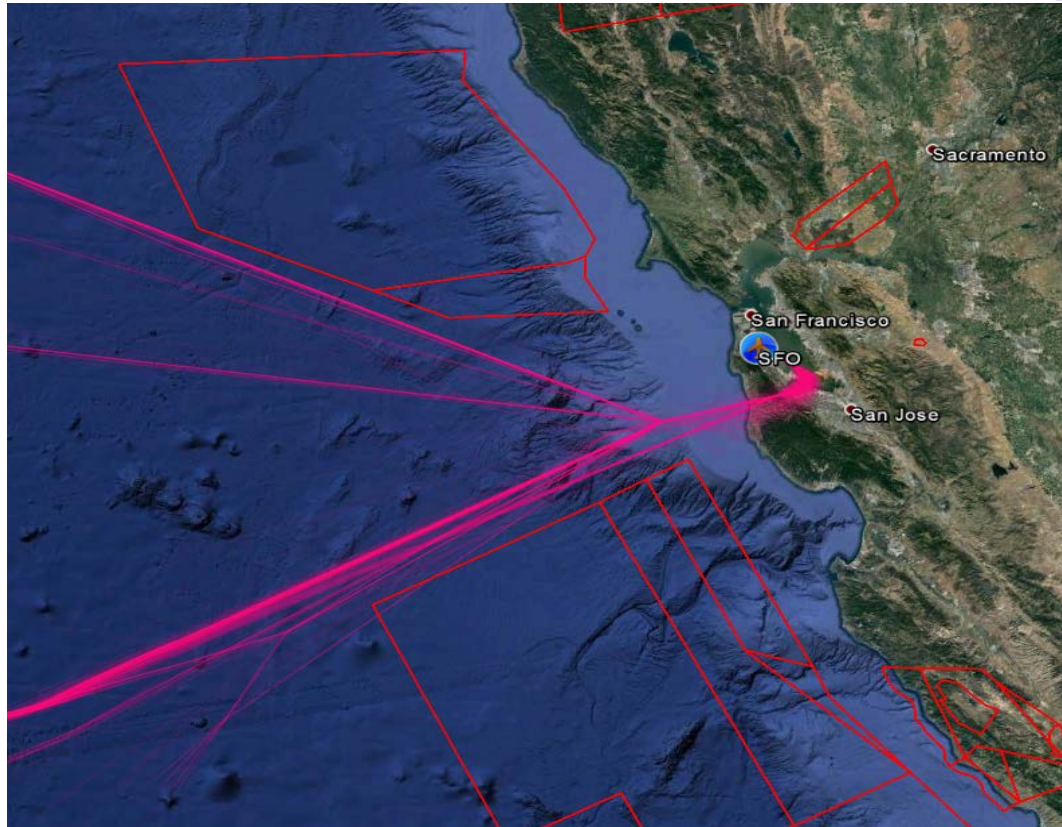


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Fan in Oversees Arrivals (OCEANIC) into SFO



Constraints of “fanning”



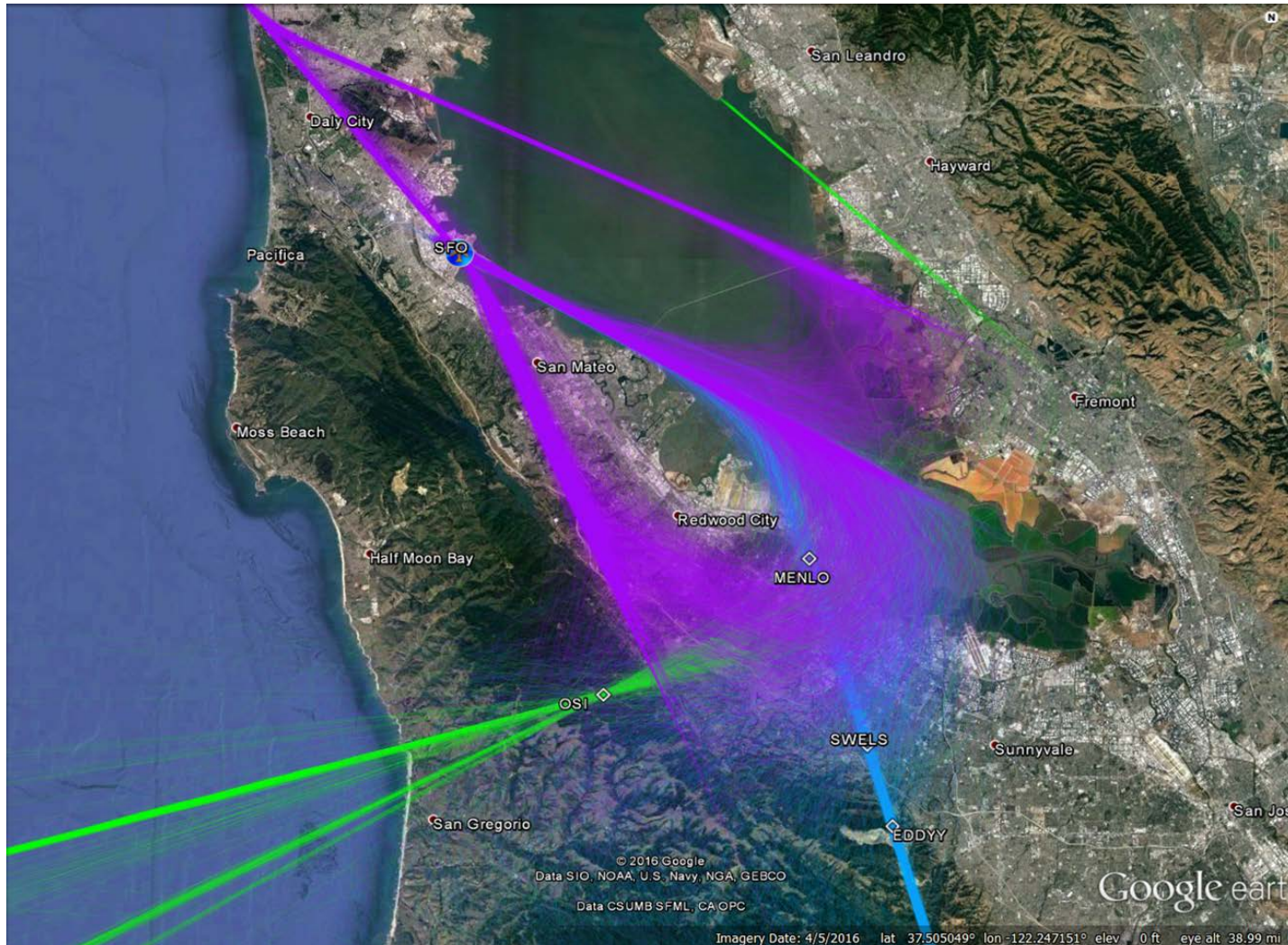
Key:

- 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.



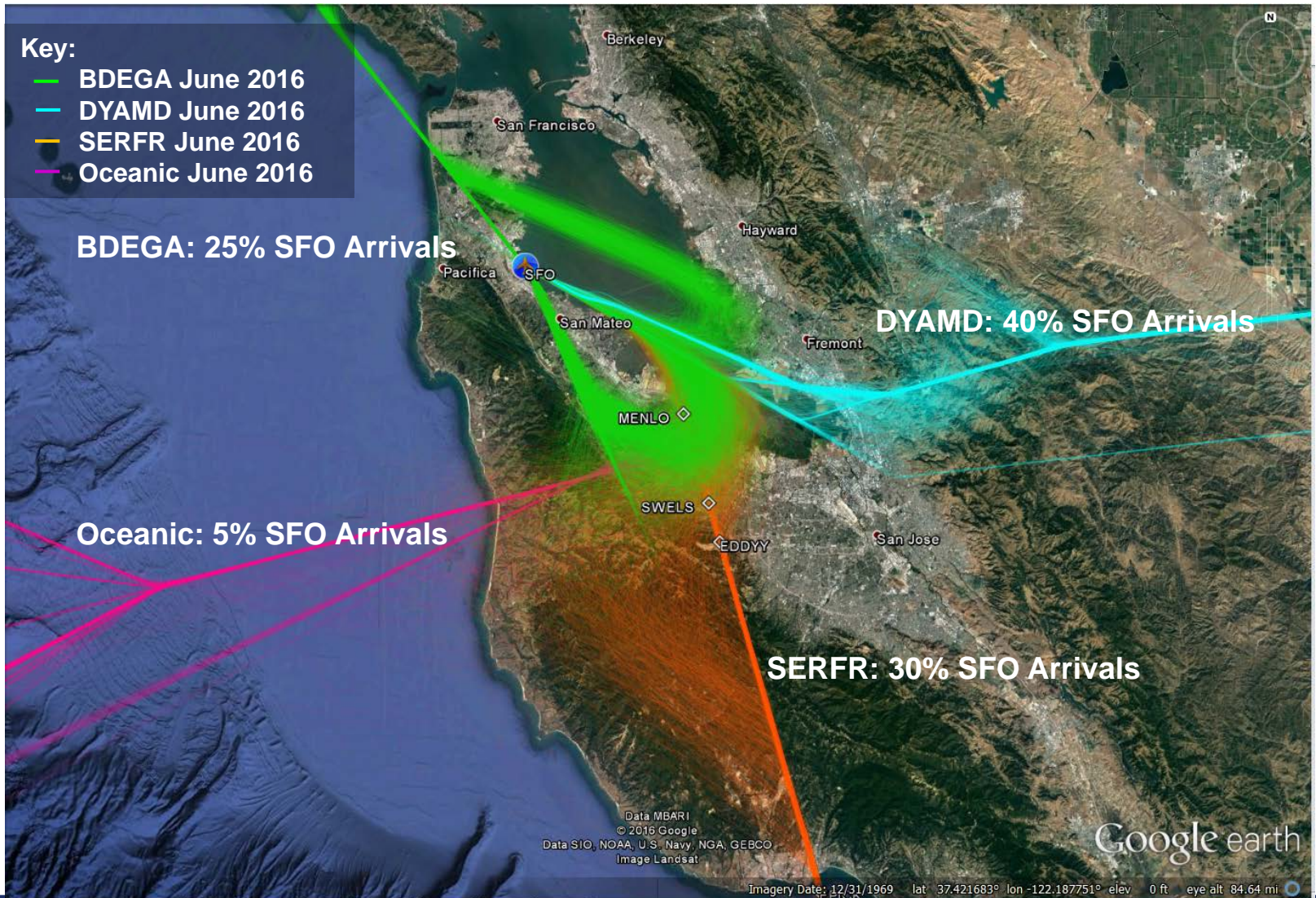
Constraints of “fanning”



Redirect Southern Arrivals to an Eastern Approach into SFO



Arrivals into SFO

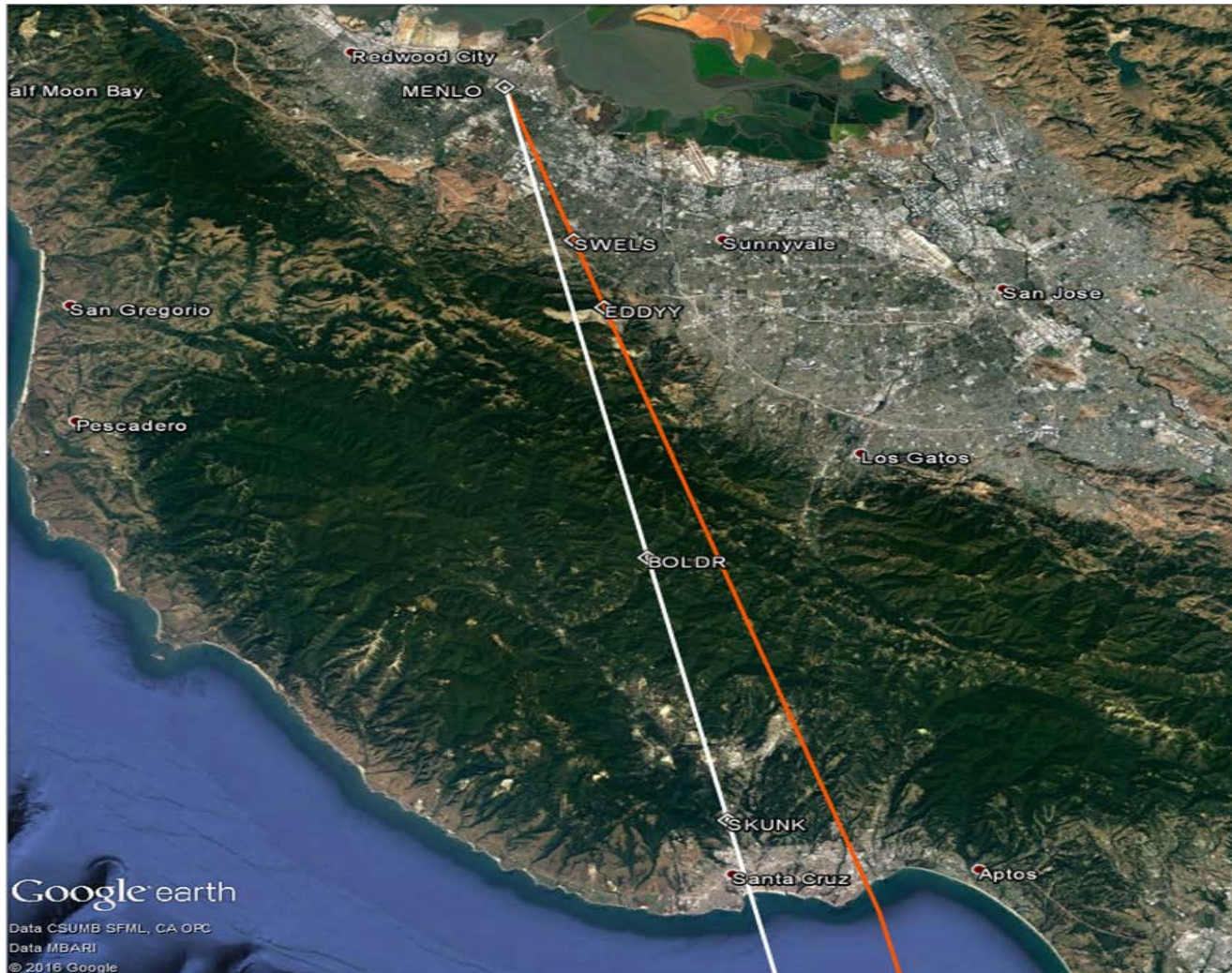


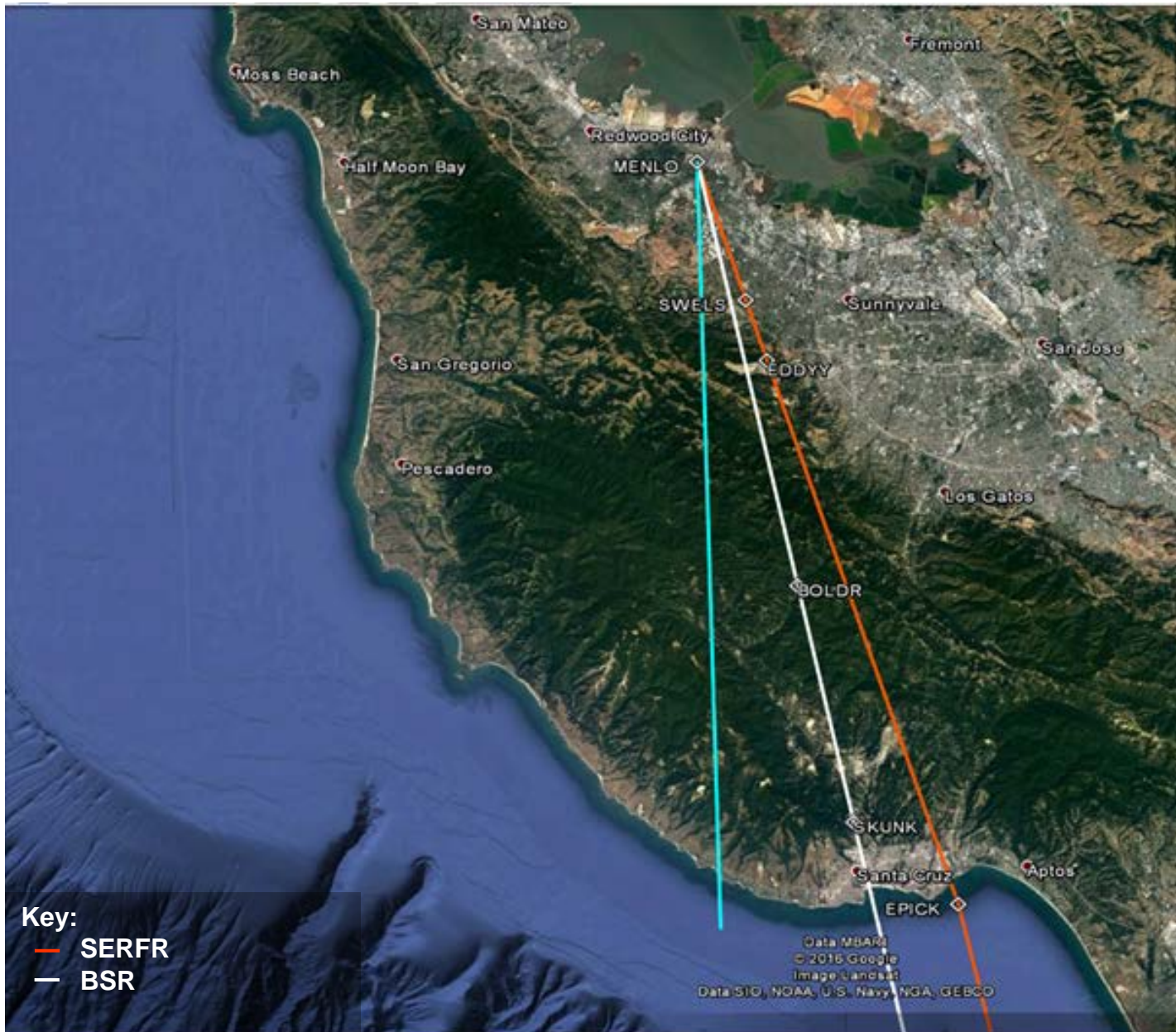
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Transition the SERFR STAR back to the BSR Ground Track Prior to EPICK



BSR and SERFR Ground Tracks





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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 almost 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

Pre-NorCal OAPM: June 2014

90% of GOLDN were vectored off prior to LUYTA

An additional 10% are vectored off prior to JILNA

Key:

- GOLDN6/BRIXX
- BSR/SERFR



Post-NorCal OAPM: June 2016

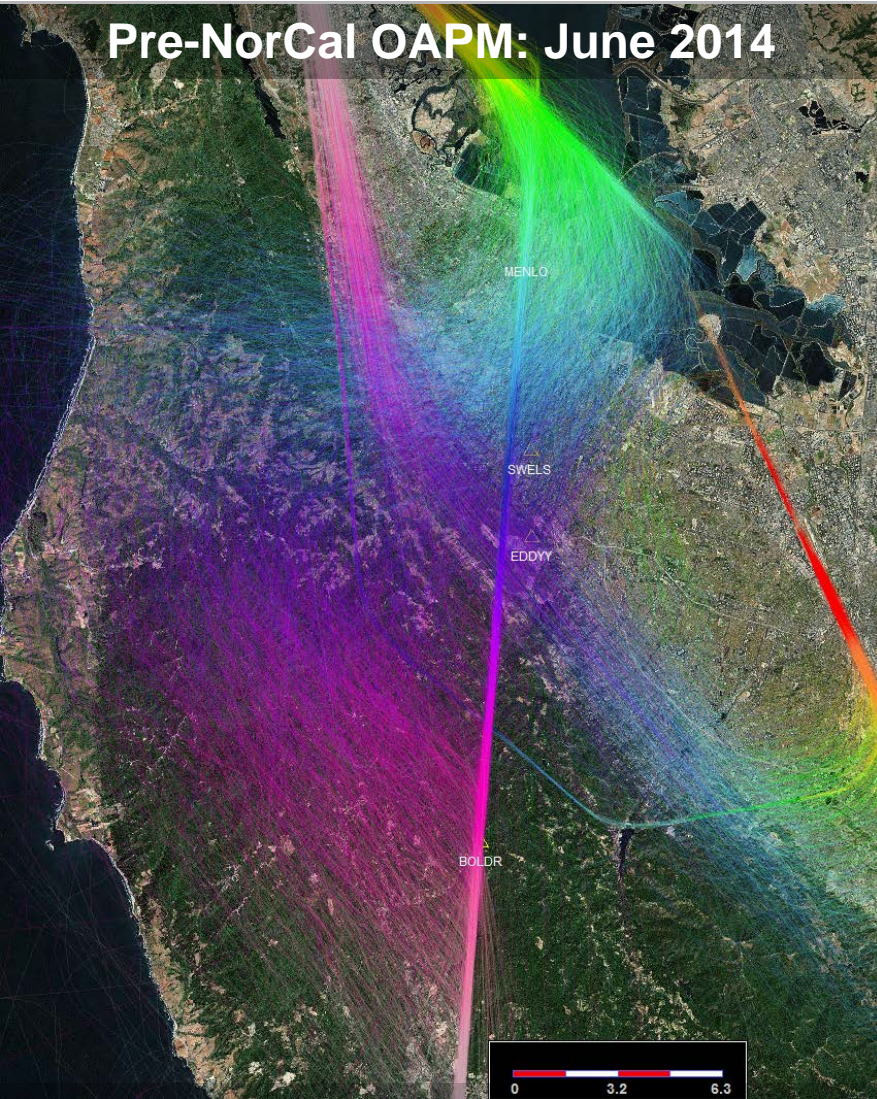
67% of BRIXX are vectored off the BRIXX prior to LUYTA

An additional 9% are vectored off prior to JILNA

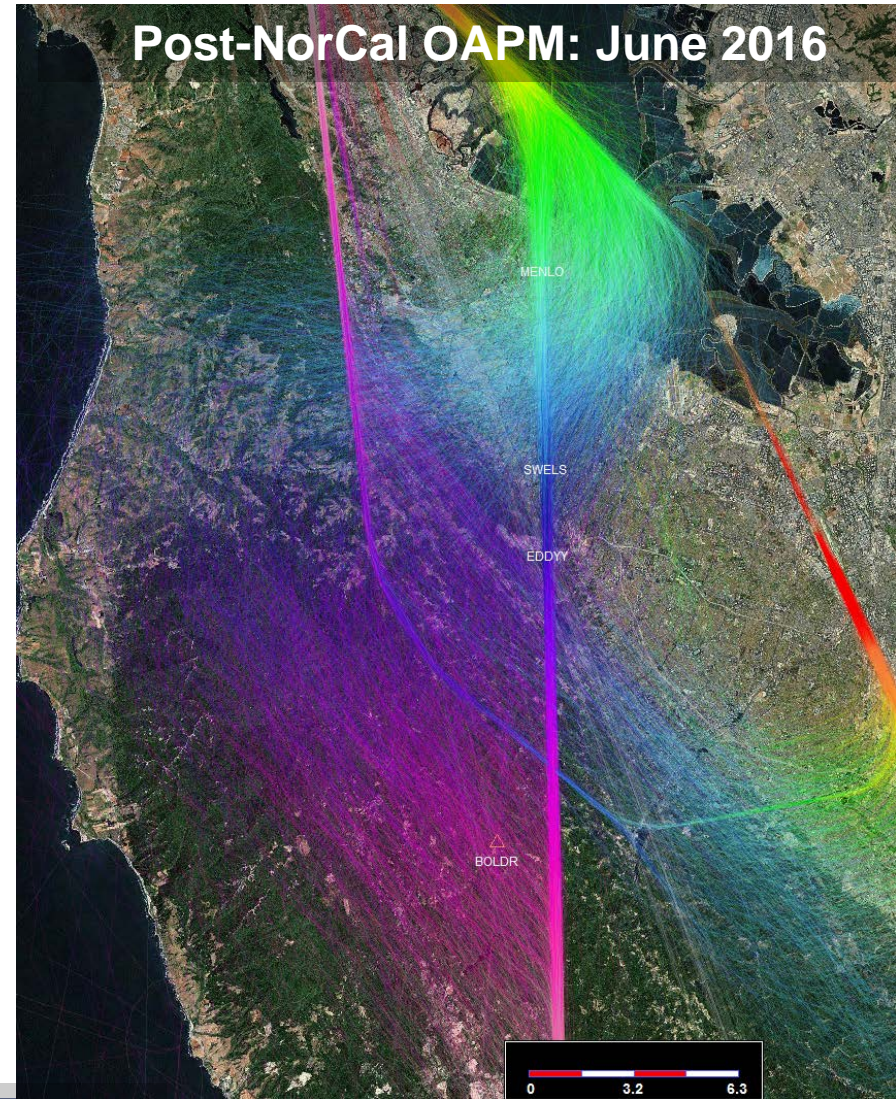


Comparison of GOLDN & BRIXX

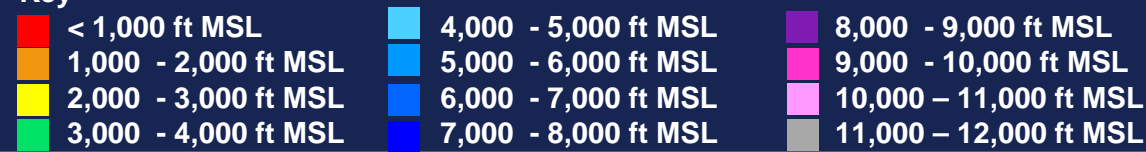
Pre-NorCal OAPM: June 2014



Post-NorCal OAPM: June 2016



Key



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