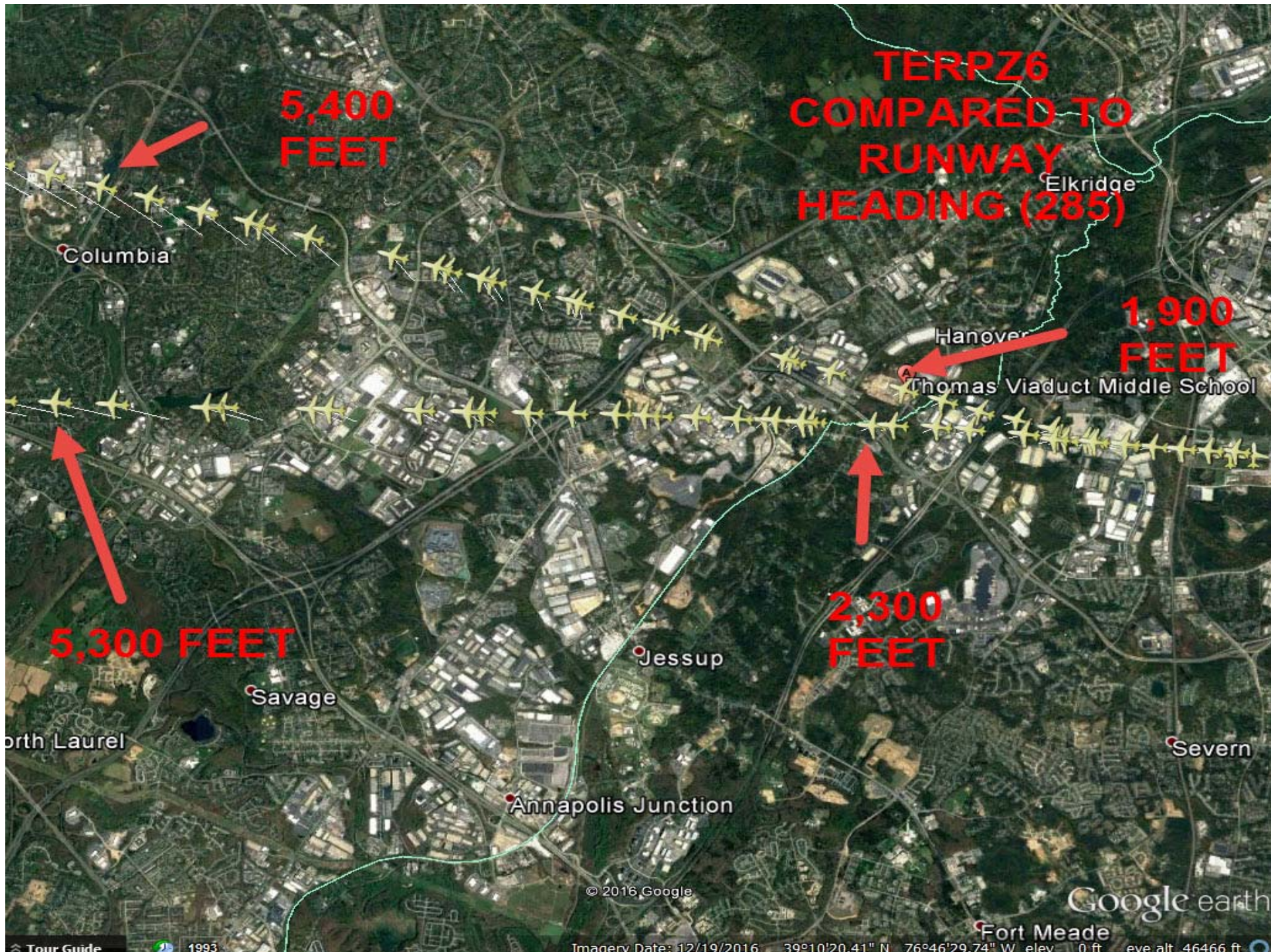


# BWI Roundtable Presentation

July 18, 2017

# TERPZ6 RNAV DEPARTURE

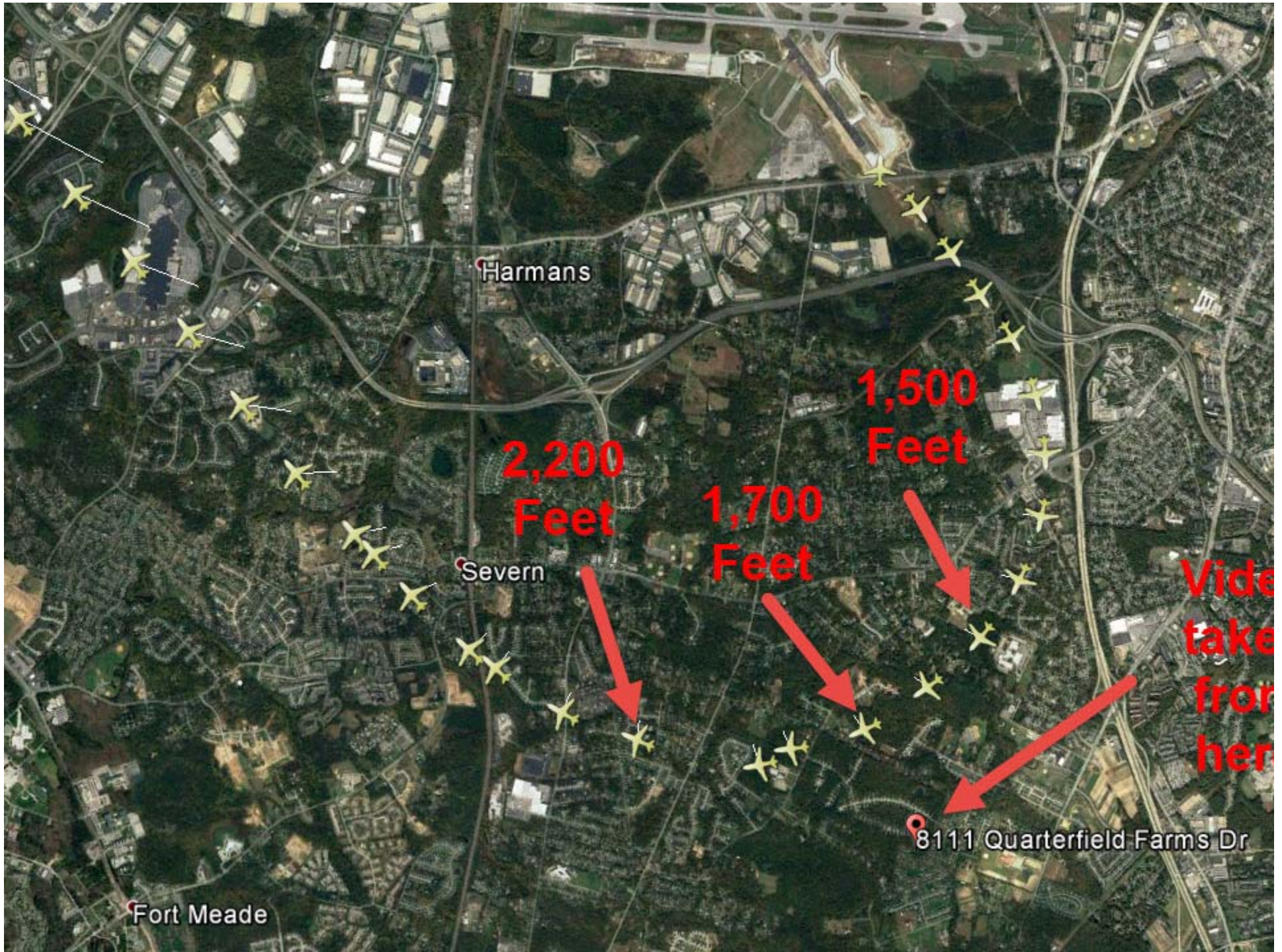
- Criteria:
  - From Runway 28, climb heading 285 to intercept course 297 to WONCE then on track to 283 to cross TERPZ at or above 11,000.
  - Heading 297 to WONCE provides separation between Westbound departures and southbound departures allowing increased efficiency at the airport.
  - Each aircraft flying this Departure Procedure flies the same exact track, but altitudes may differ depending on wind, temperature and type of aircraft.



# TERPZ6 RNAV DEPARTURE

- Criteria:
  - From Runway 15R, climb heading 155 to 850 feet then right turn to SARLY, then on track of 288 to WONCE...
  - Provides automated turn in which aircraft turns itself to the heading, prior to NEXGEN, rather than relying on controller instruction.
  - Provides built in separation with Runway 10 arrival aircraft approaching from the south of BWI.
  - Timing of the turn to SARLY is based on altitude and not DME.





Harmans

2,200 Feet

1,700 Feet

1,500 Feet

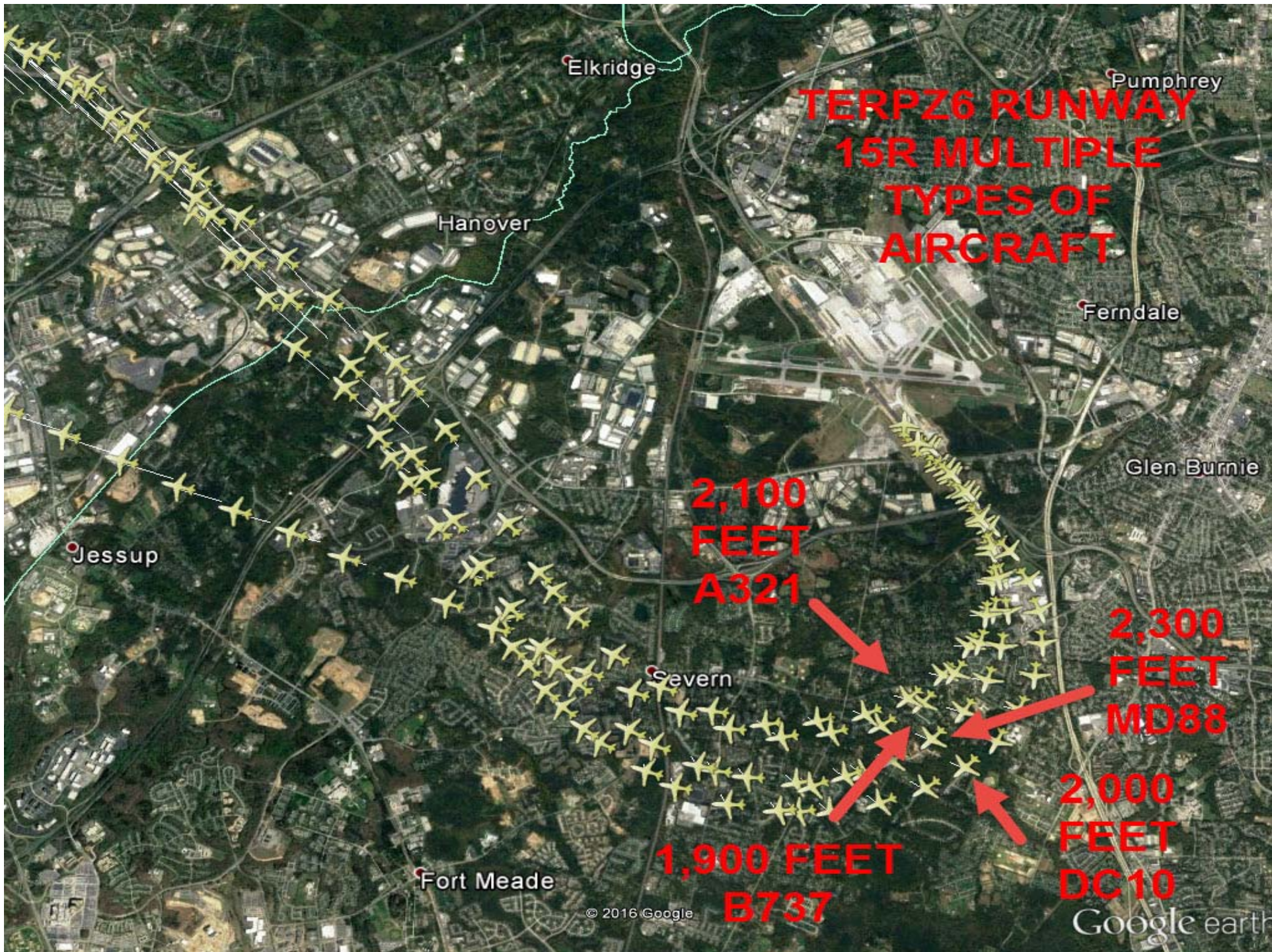
Severn

Video taken from here

8111 Quarterfield Farms Dr

Fort Meade



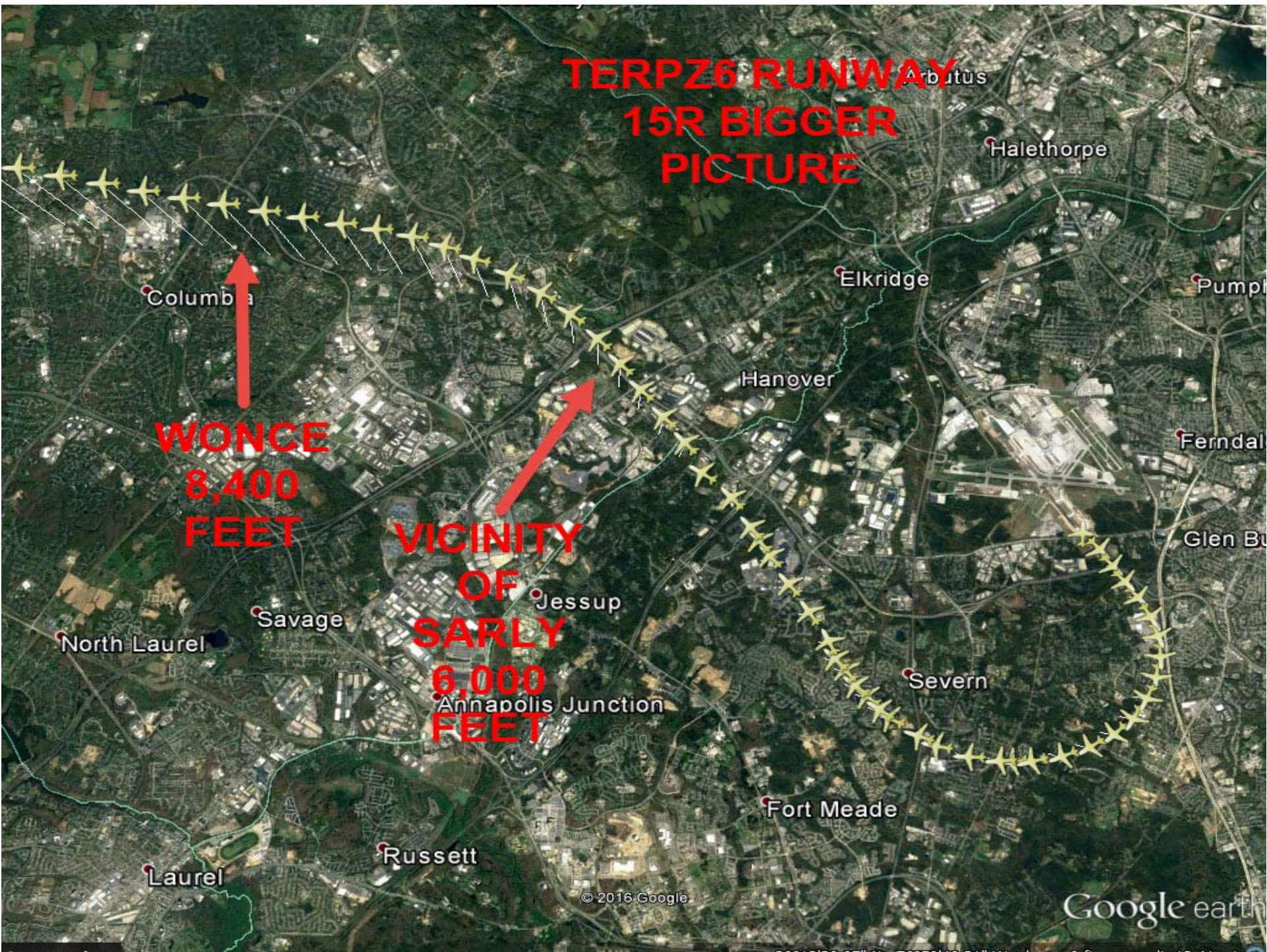




**TERPZ6 RUNWAY  
15R BIGGER  
PICTURE**

**WONCE  
8,400  
FEET**

**VICINITY  
OF  
SARLY  
6,000  
FEET**



# Instrument Landing System (ILS)

## Runway 33L

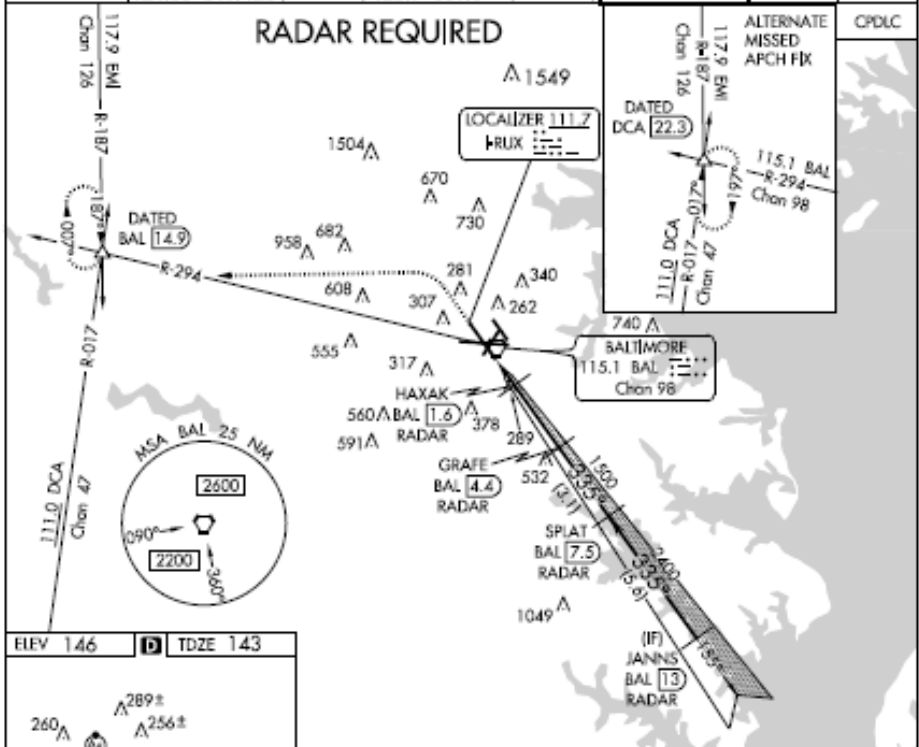
- Criteria:
  - Provides lateral and vertical guidance to aircraft landing on a specific runway.
  - ILS is based on Ground Radio Signals. Includes a Localizer Signal (Lateral Guidance) and a Glide Slope Signal (Vertical Guidance).
  - All altitudes indicated on the Approach Chart are Glide Slope Intercept altitudes. If not at that altitude, aircraft is either above or below stable approach glide path.
  - If the aircraft is NOT on the Localizer, the aircraft will either be left or right of the runway.

LOC FRUX <b>111.7</b>	APP CRS <b>335°</b>	Rwy Idg TDZE Apt Elev	<b>8300</b> <b>143</b> <b>146</b>
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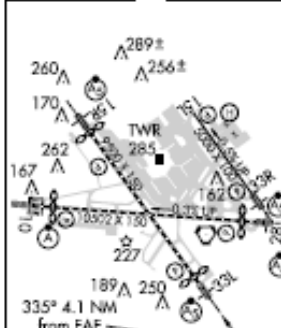
BALTIMORE/  
WASHINGTON INTL THURGOOD MARSHALL (BWI)  
ILS or LOC RWY 33L

**⚠** DME or Radar required. Simultaneous approach authorized with ILS or LOC Rwy 33R. DME from BAL VORTAC. **MALSR** MISSED APPROACH: Climb to 600 then diming left turn to 2600 on heading 280° and BAL R-294 to DATED INT/BAL 14.9 DME and hold.

AIS <b>115.1 127.8</b>	POTOMAC APP CON (020°-100°) <b>119.0 282.275</b> (101°-130°) <b>124.55 317.425</b>	(131°-180°) <b>119.7 290.475</b> (181°-019°) <b>128.7 307.9</b>	BALTIMORE TOWER <b>119.4 257.8</b>	GND CON <b>121.9</b>	CLNC DEL <b>118.05</b>
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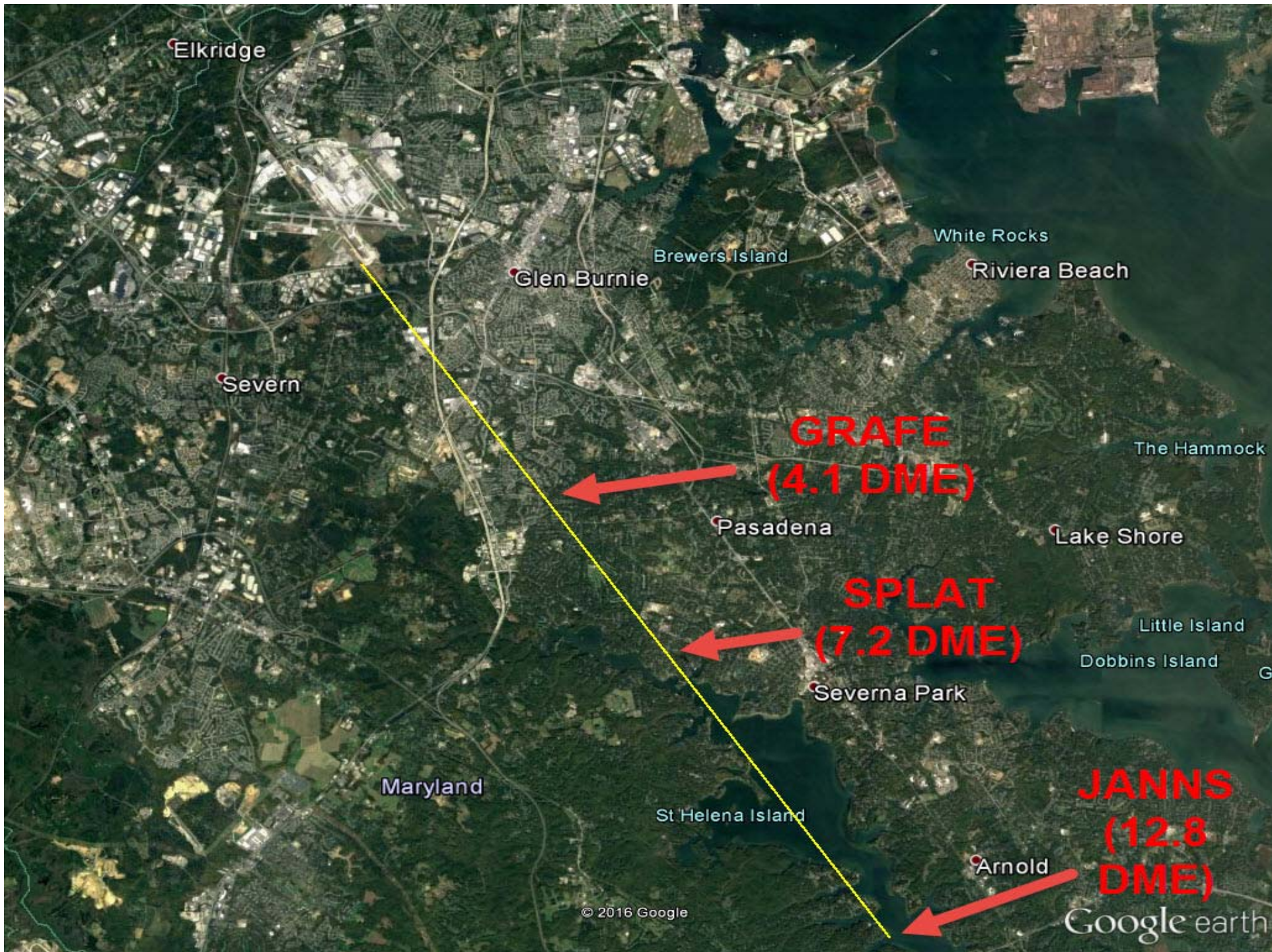
ELEV 146 TDZE 143



TDZ/CL Rwy 10 and 33L  
REIL Rwy 15L and 33R  
HRL all rwy

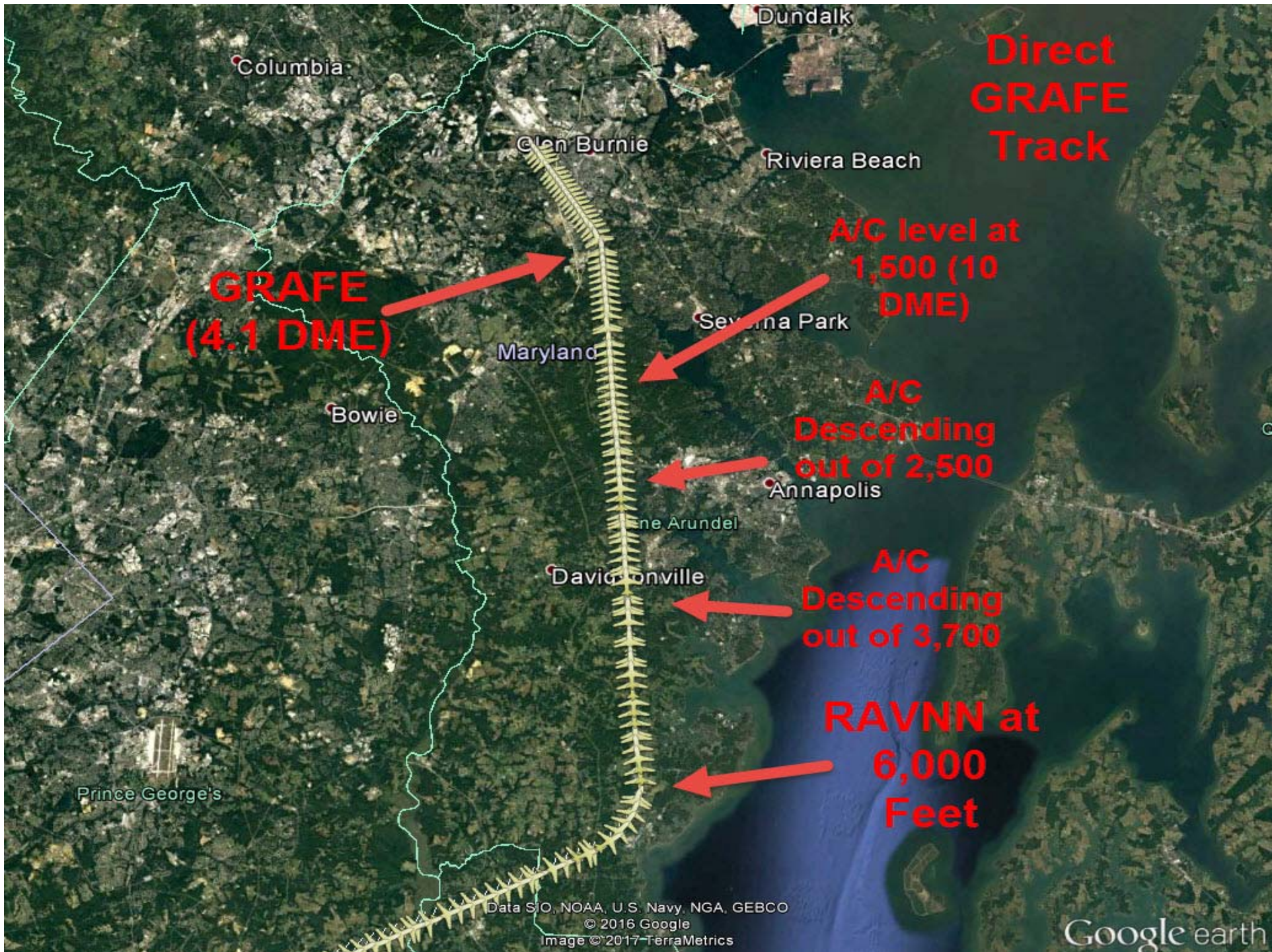
FAF to MAP 4.1 NM					
Knots	60	90	120	150	180
Min/Sec	4:06	2:44	2:03	1:38	1:22

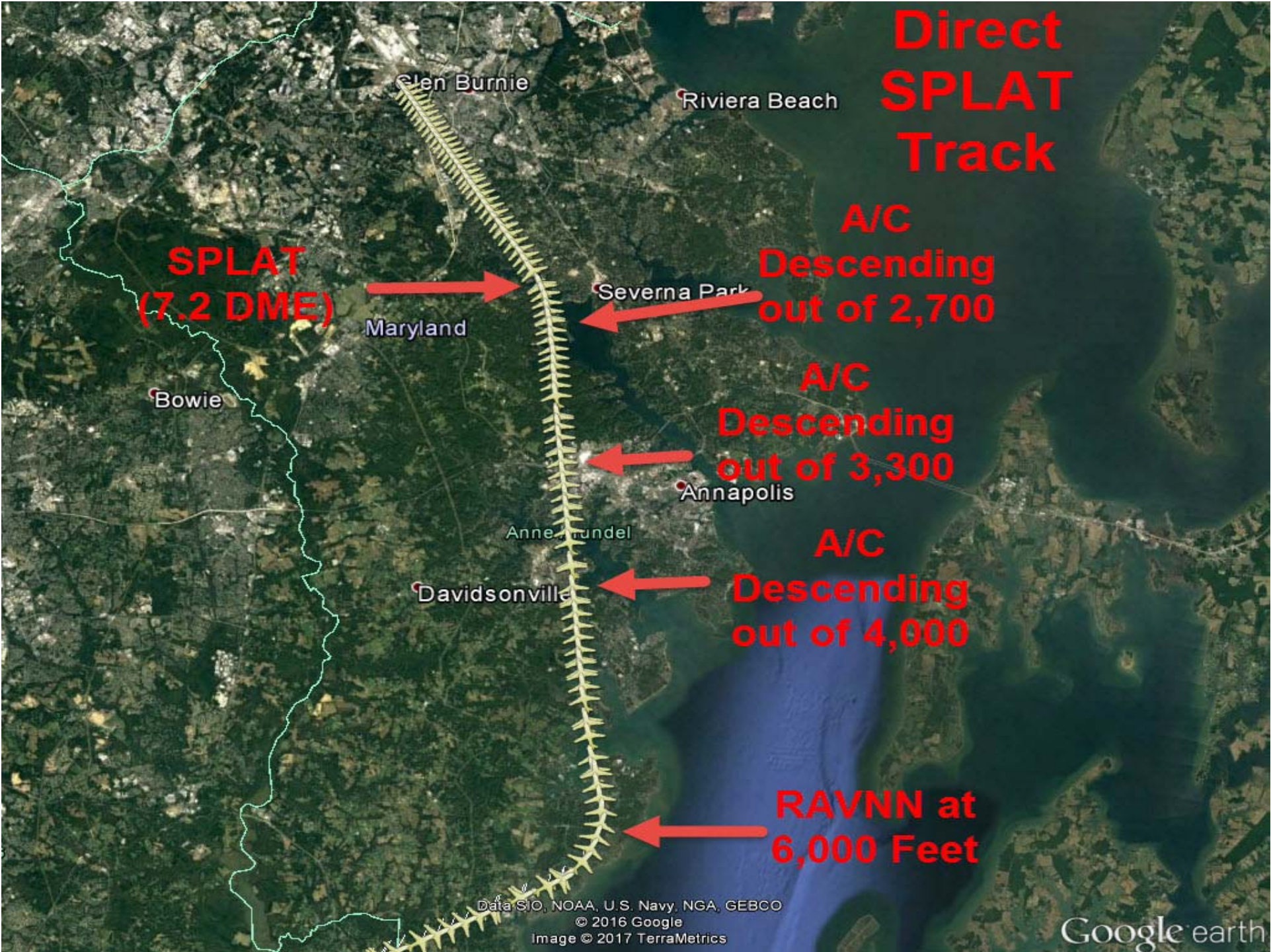
600	2600	BAL R-294	DATED	GRAFE BAL 4.4 RADAR	SPLAT BAL 7.5 RADAR	JANNS BAL 13 RADAR
hdg 280°						
*LOC only.						
BAL 0.4	HAXAK BAL 1.6 RADAR	1500	335°	2400	4000	GS 3.00° TCH 55
1.3	2.8 NM	0.1 NM	5.4 NM			
CATEGORY	A	B	C	D		
S-ILS 33L	343/18		200 (200-½)			
S-LOC 33L	540/24 397 (400-½)		540/40 397 (400-½)			
CIRCLING	640-1 494 (500-1)	660-1 514 (600-1)	700-1½ 554 (600-1½)	880-2½ 734 (800-2½)		

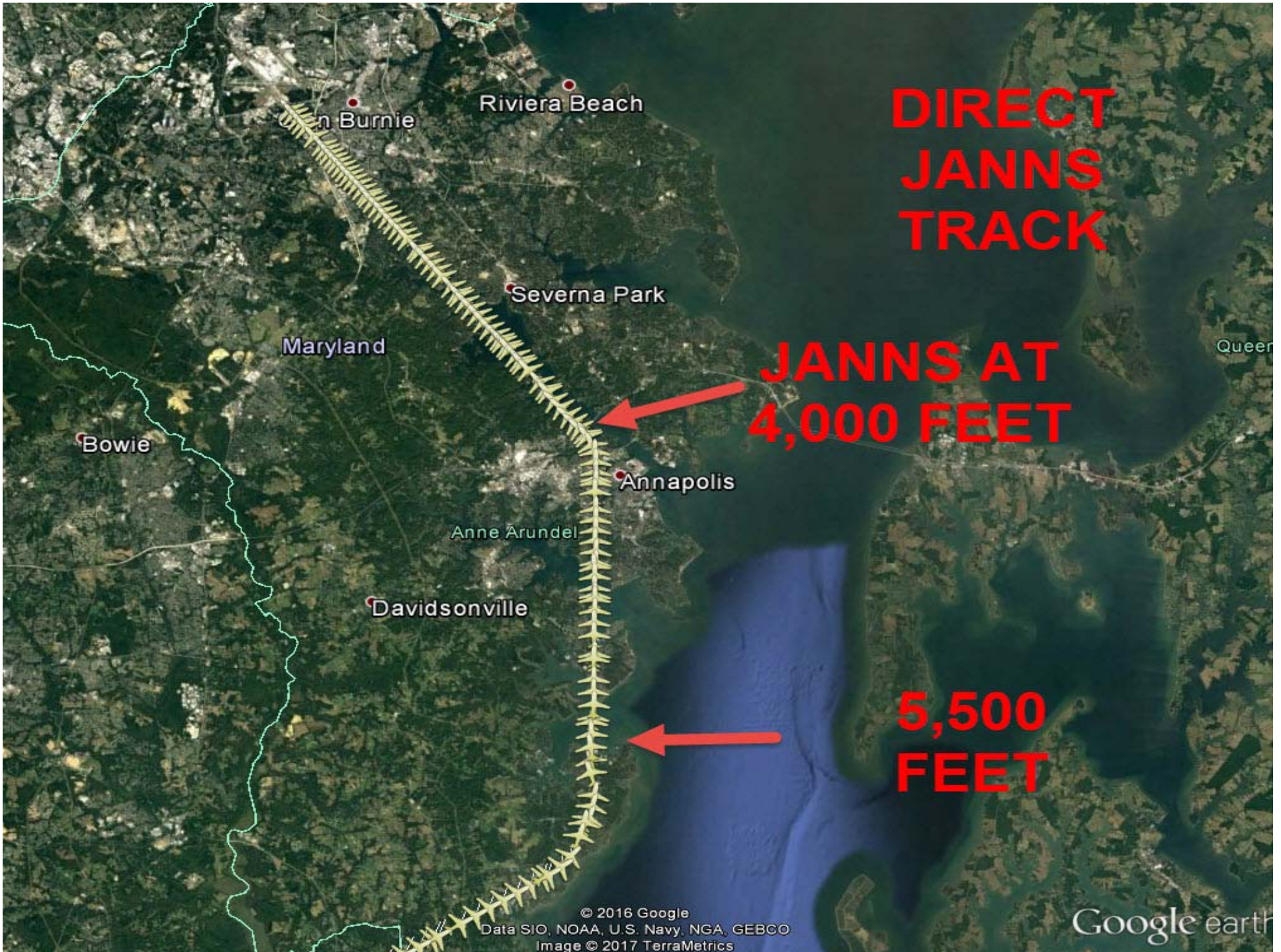


# Visual Approaches Runway 33L

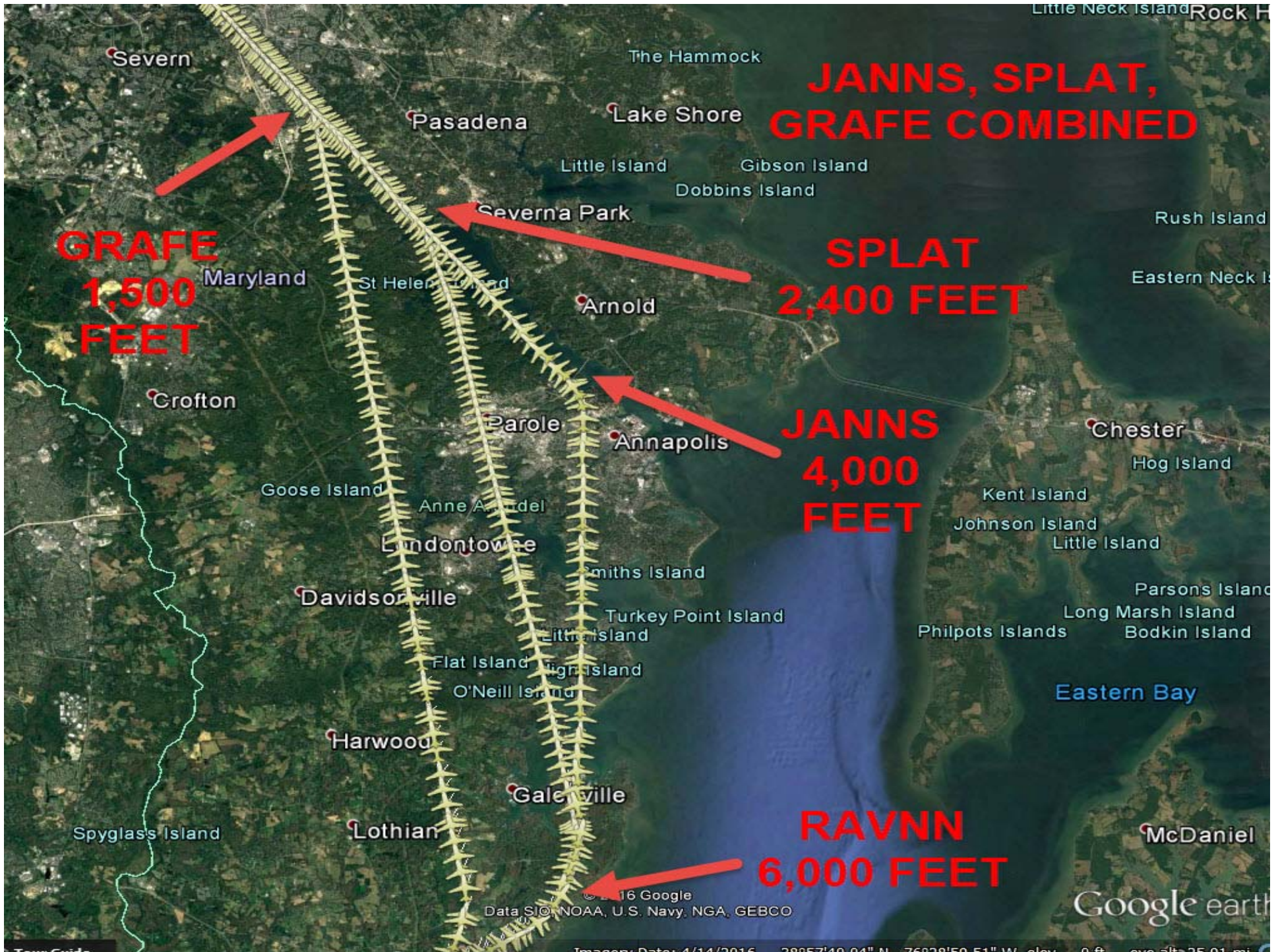
- Criteria:
  - Once cleared for a Visual Approach, pilots are allowed to navigate (laterally and vertically) on their own to the runway as long as they continue on a direct path as their last assigned heading (No reverse course).
  - Controllers responsibility for separation from terrain transfers to the pilot
  - Pilots will use the ILS system as a backup to verify the visual approach.
  - Knowing this, prior to the visual approach clearance, controllers turn aircraft toward the landing runway by using headings or fixes on the approach path











**JANNS, SPLAT,  
GRAFE COMBINED**

**GRAFE  
1,500  
FEET**

**SPLAT  
2,400 FEET**

**JANNS  
4,000  
FEET**

**RAVNN  
6,000 FEET**

# RNAV (RNP) Z Runway 33L


- Criteria:
  - Controllers turn aircraft to certain points to join the procedure. Once at that point, the aircraft takes over via automation and flies itself to the runway.
  - Provides lateral and vertical guidance.
  - Difficult procedure to use when sequencing other aircraft from other locations.
  - Mirrors a visual approach from the North of BWI, but is flown via automation.

APP CRS	Rwy ldg	8300
335°	TDZE	143
	Apt Elev	146

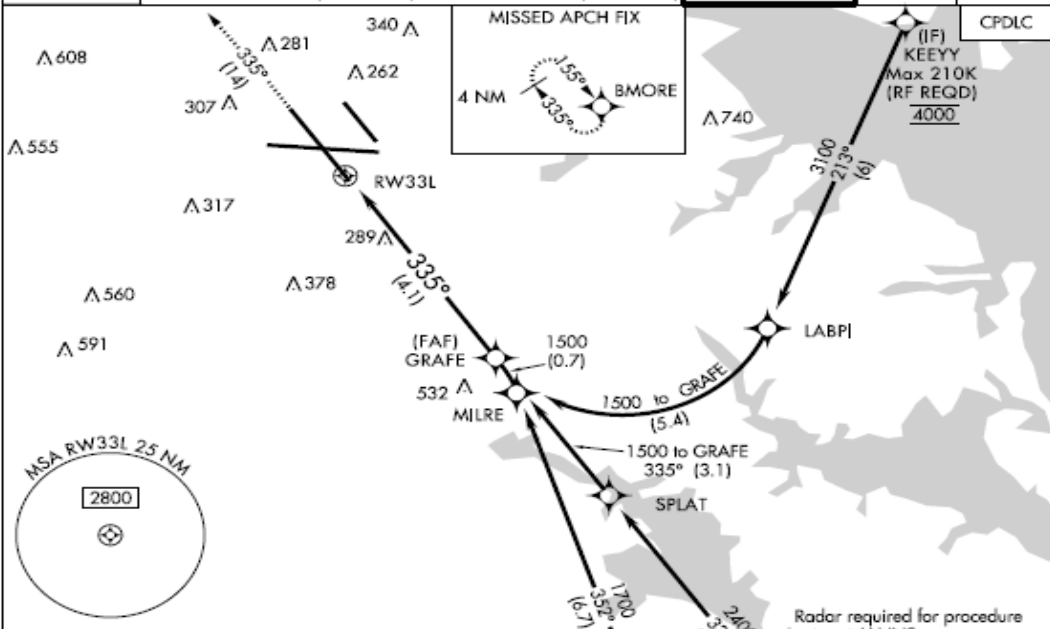
# RNAV (RNP) Z RWY 33L

BALTIMORE/WASHINGTON INTL THURGOOD MARSHALL (BWI)

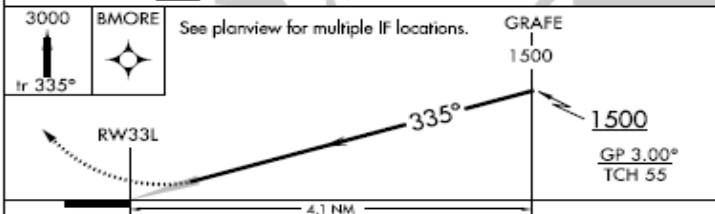
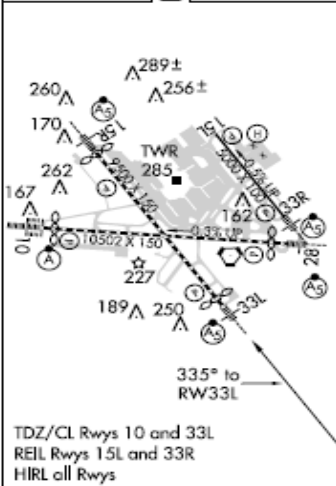
**V** For uncompensated Baro-VNAV systems, procedure NA below -12°C (11°F) or above 54°C (130°F). For inop MALS, increase RNP 0.30 all Cats visibility to RVR 5700. GPS required.

**MALS**  
  
**MISSED APPROACH:** Climb to 3000 on track 335° to BMORE and hold.

ATIS	POTOMAC APP CON (020°-100°)	BALTIMORE TOWER	GND CON	CLNC DEL
115.1 127.8	119.0 282.275 124.55 317.425 (101°-130°)	119.4 257.8	121.9	118.05
	119.7 290.475 (131°-180°) 128.7 307.9 (181°-019°)			



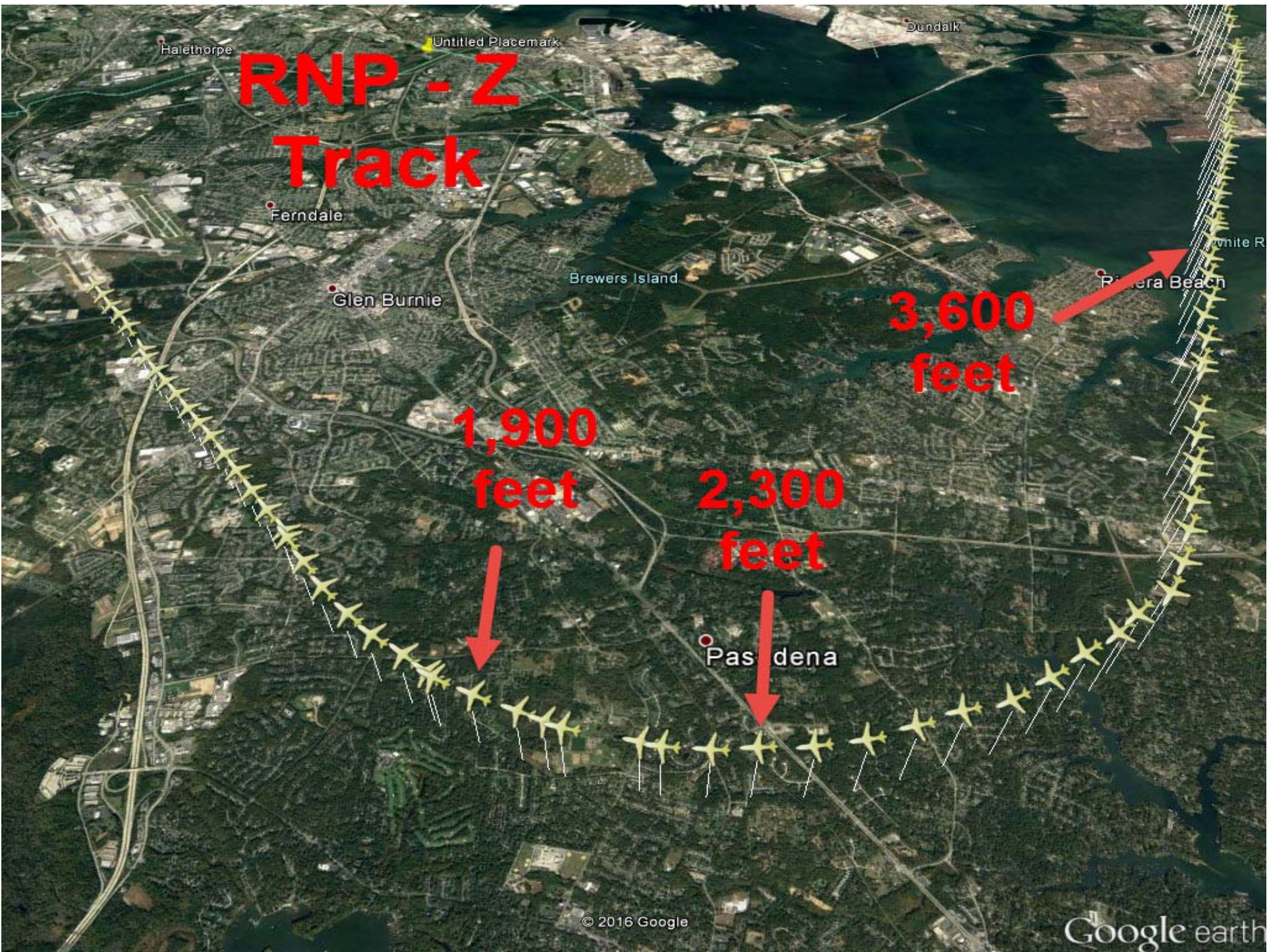
ELEV 146 **D** TDZE 143



CATEGORY	A	B	C	D
RNP 0.30 DA	496/34	353 (400-3/4)		

## AUTHORIZATION REQUIRED

# RNP - Z Track

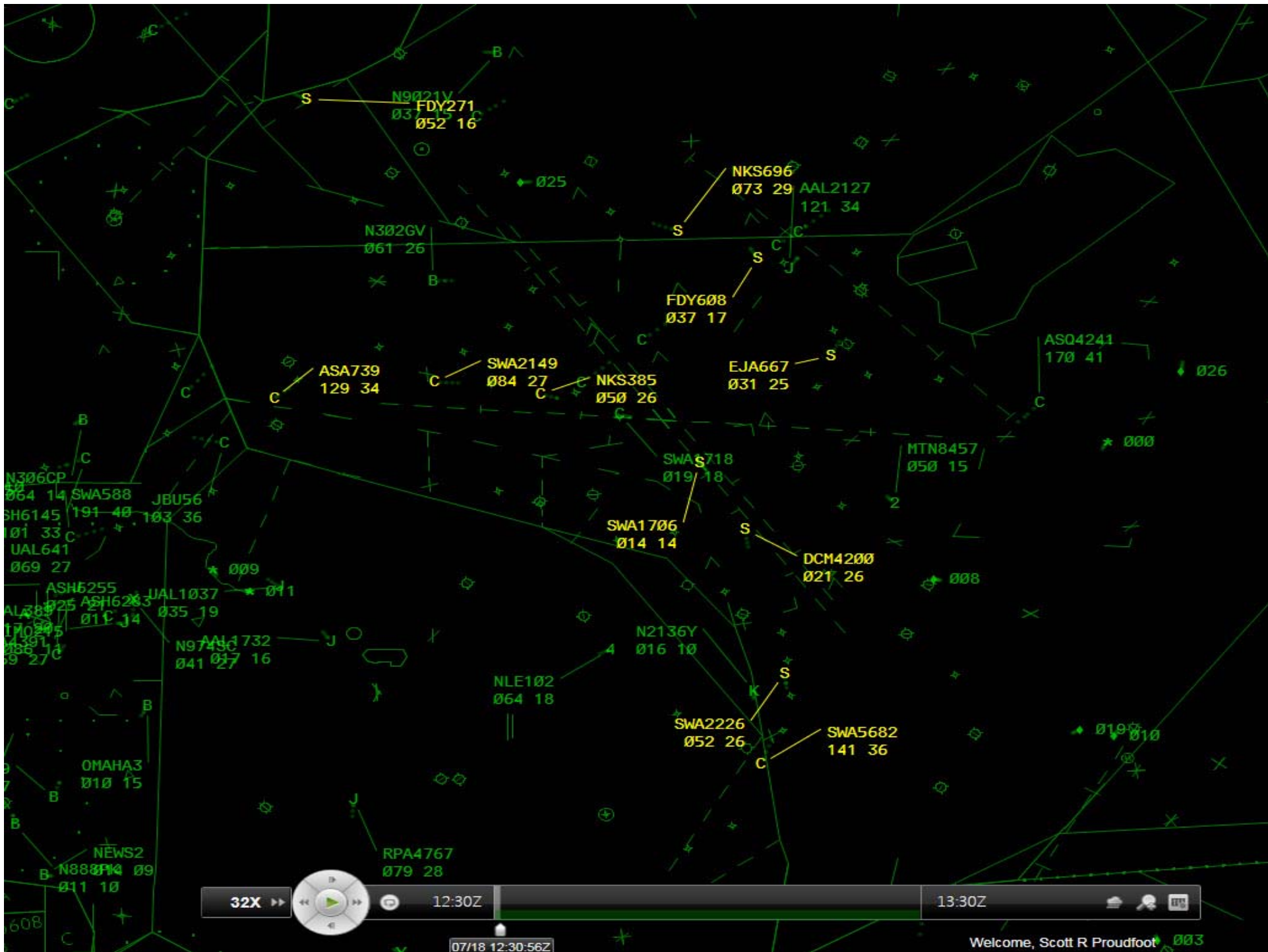


# RNP Z Track



© 2016 Google

Google earth  
Littl



32X



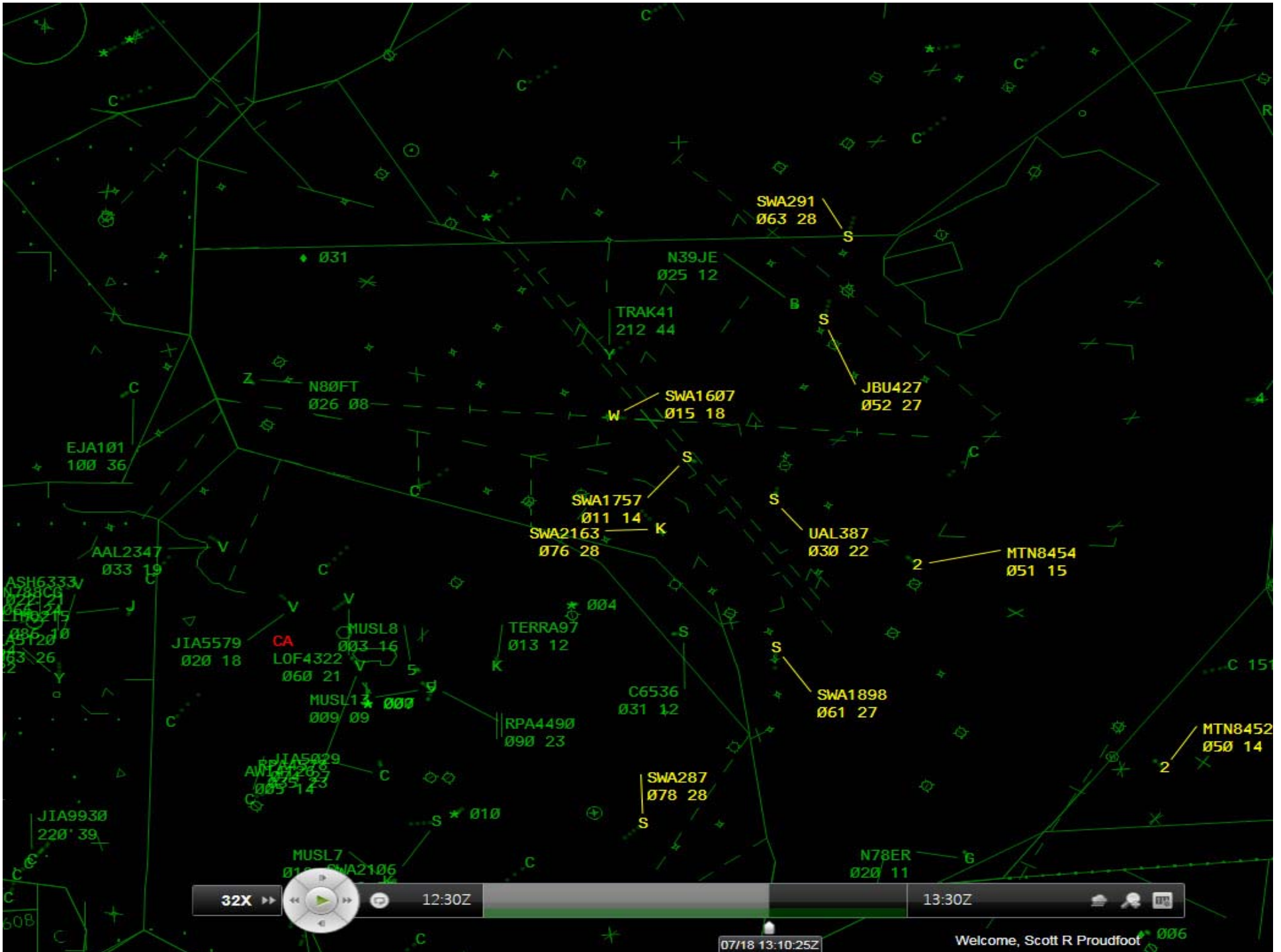
12:30Z

13:30Z

07/18 12:30:56Z

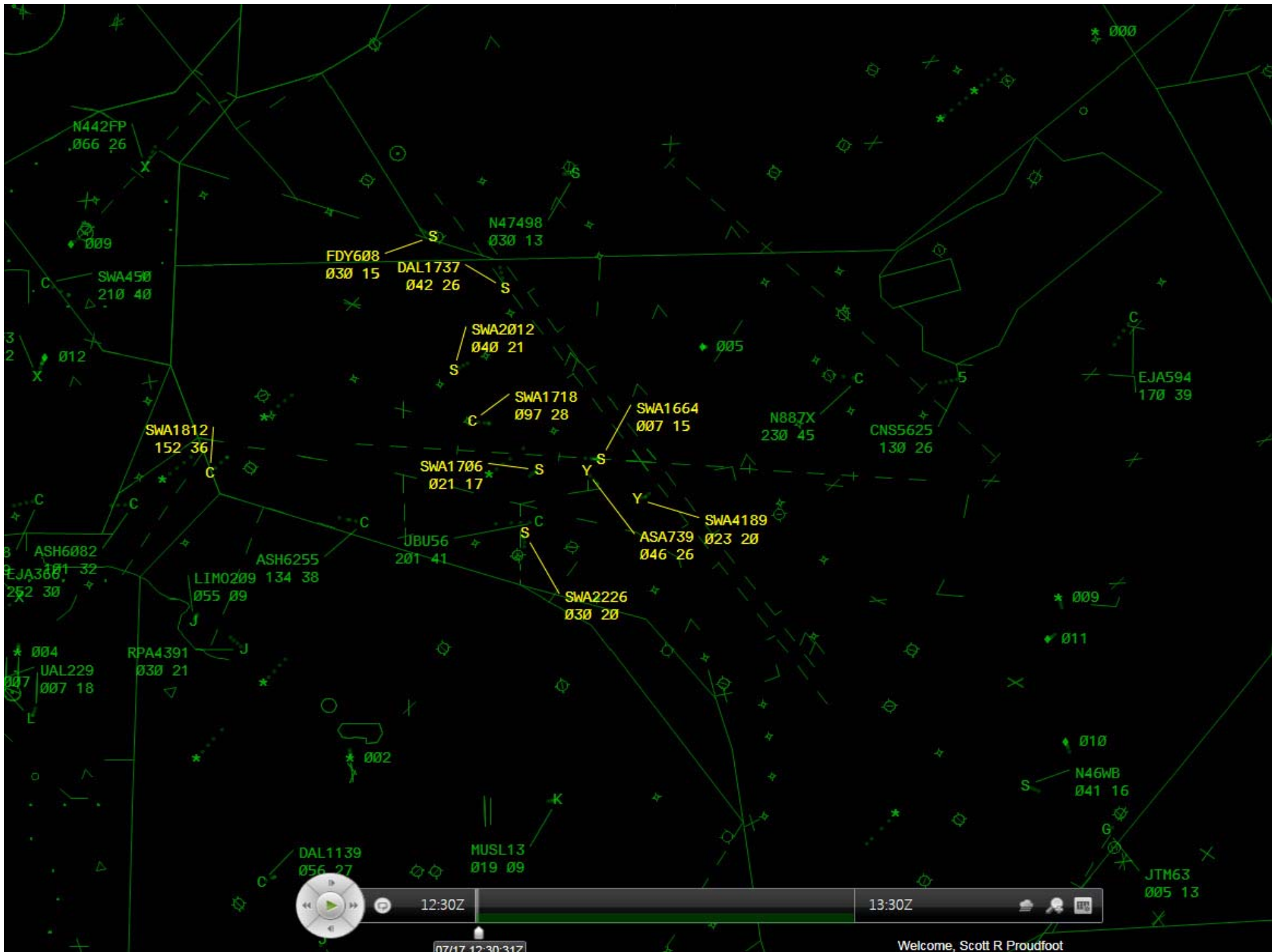
Welcome, Scott R Proudfoot 003





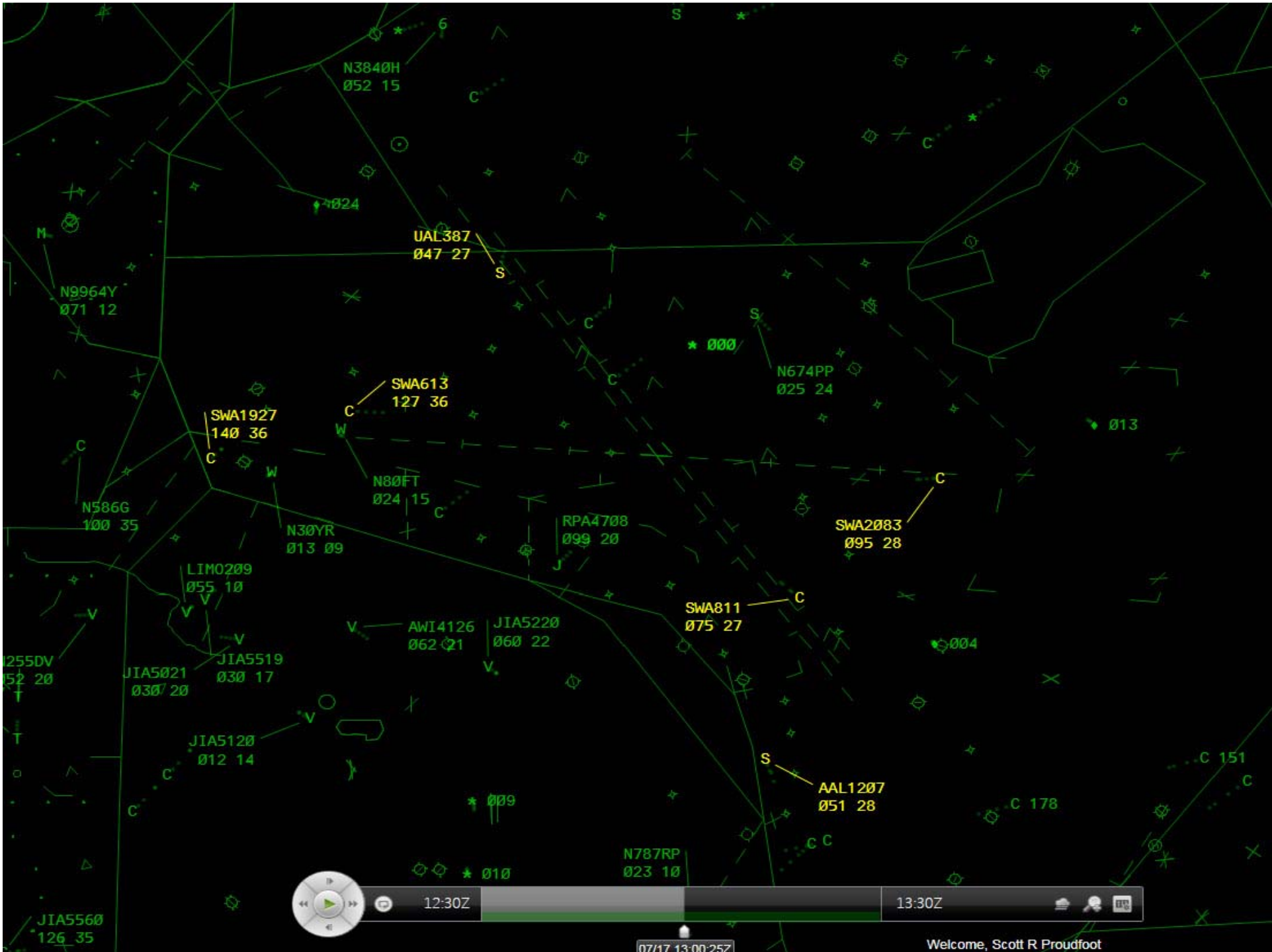






07/17 12:30:31Z

Welcome, Scott R Proudfoot



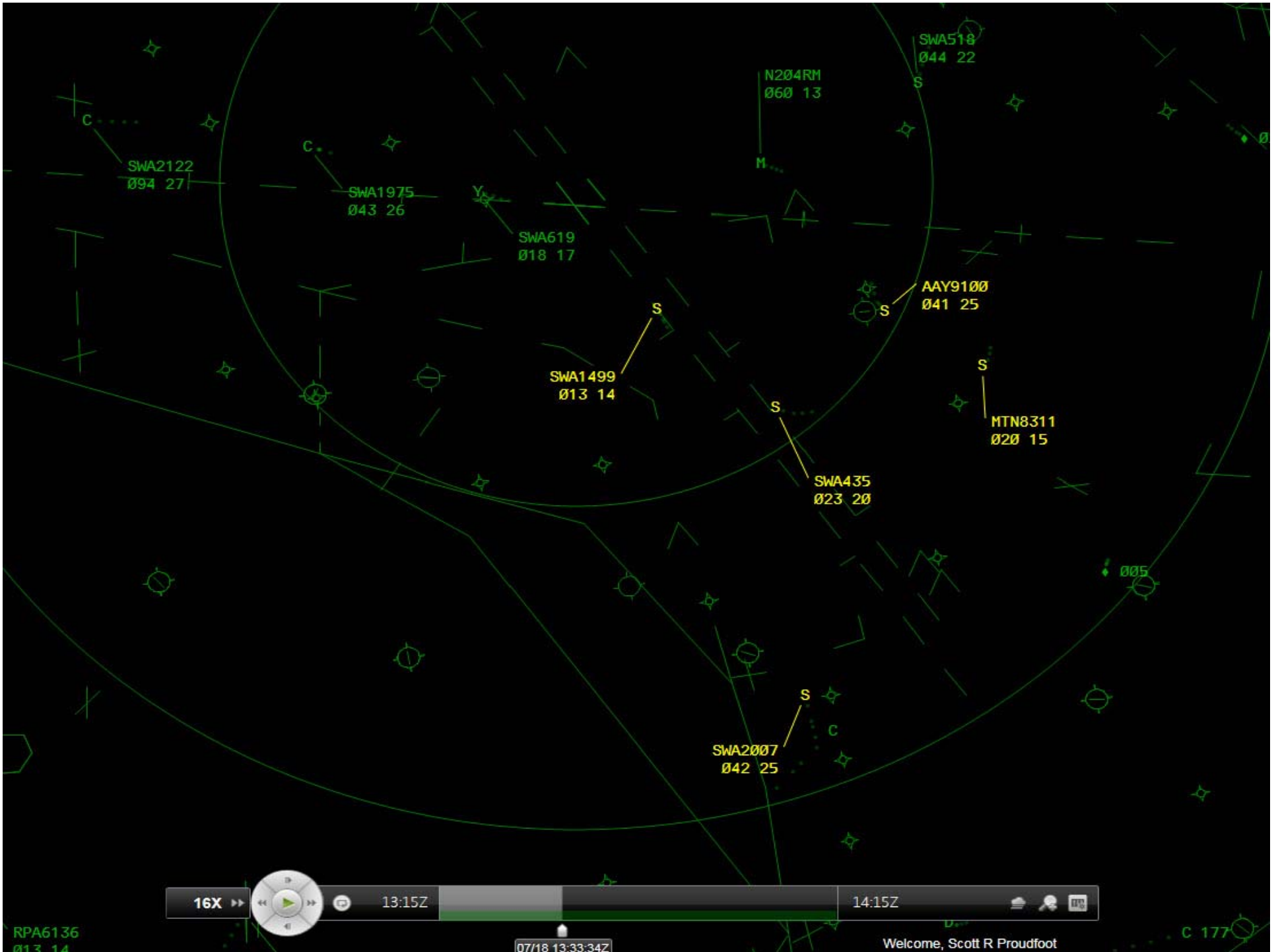
07/17 13:00:25Z

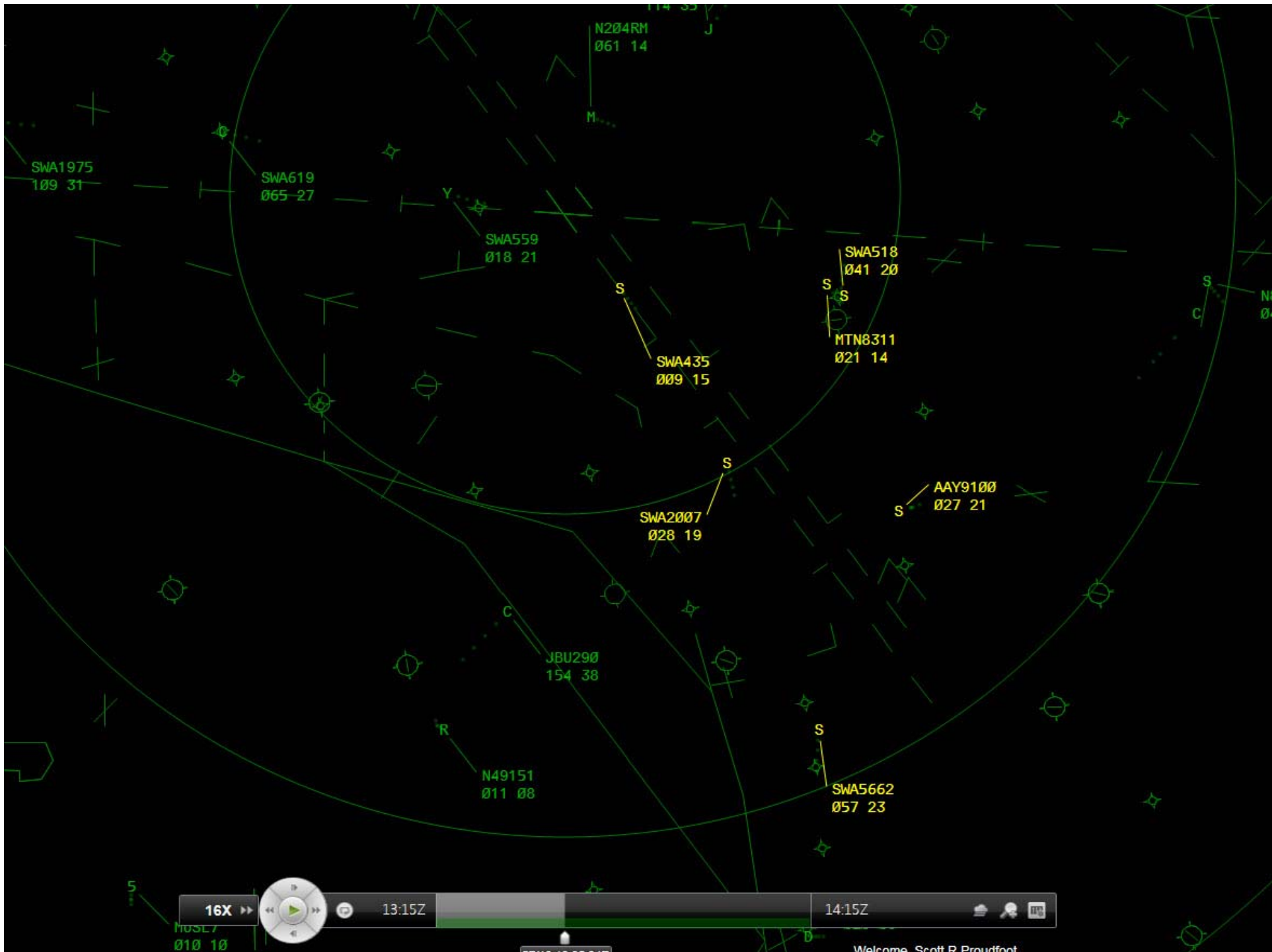
Welcome, Scott R Proudfoot











16X



13:15Z



14:15Z



0748-12-25-247

Welcome, Scott R. Proudfoot





4X

13:15Z

14:15Z

07/18 13:37:33Z

Welcome, Scott R Proudfoot