ForeFlight Workshop Series

17-01

Brian Schiff
Airline Captain, CFI, CFII, MEI, AGI, IGI

November 7, 2017

"Luck is what happens when preparation meets opportunity."
— Lucius Annaeus Seneca

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"Luck is what happens when preparation meets opportunity."
— Lucius Annaeus Seneca

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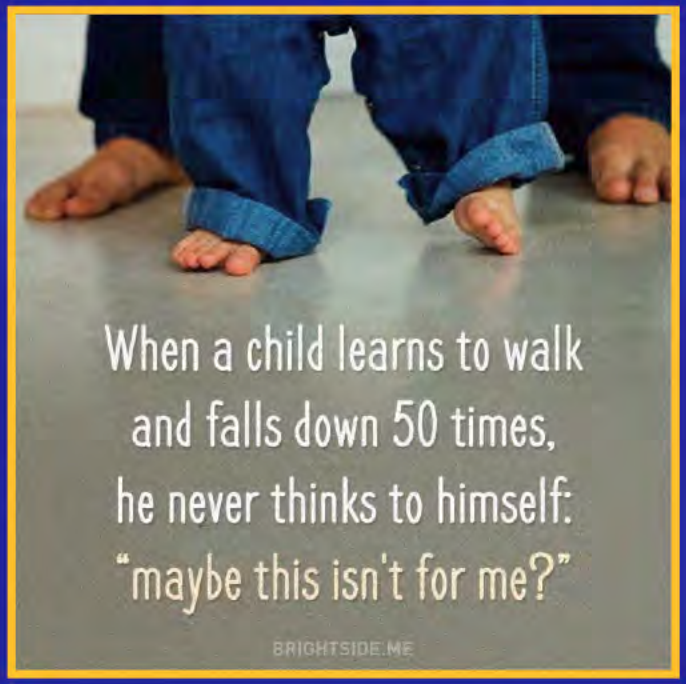
Today's Objectives

- New Features
- Overview
- Setup
- Flight Planning
- Open Topics



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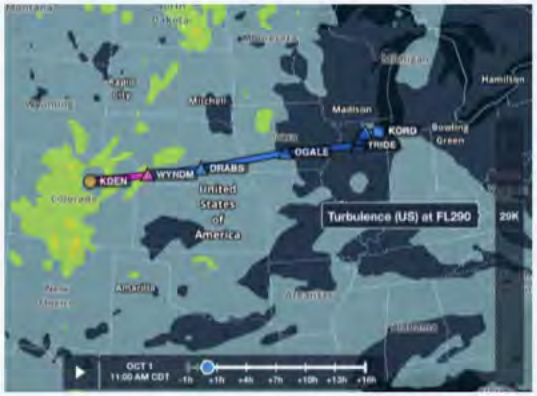
First – A Warning!

- Be careful of being “Heads-down” too much
- January 16, 2004:
  - Cessna 180 & Beech Baron Collide (Near TSP)

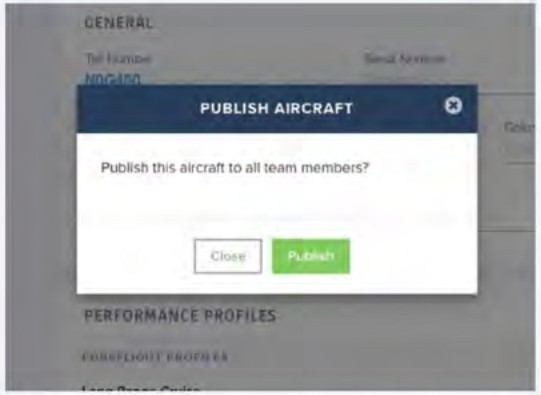
What's New in ForeFlight

A few highlights from the latest release.



GLOBAL ICING, TURBULENCE, SURFACE ANALYSIS

JEPPESEN WORLDWIDE DATA-DRIVEN ENROUTE CHARTS



AIRCRAFT MANAGER FOR MULTI-PILOT ACCOUNTS

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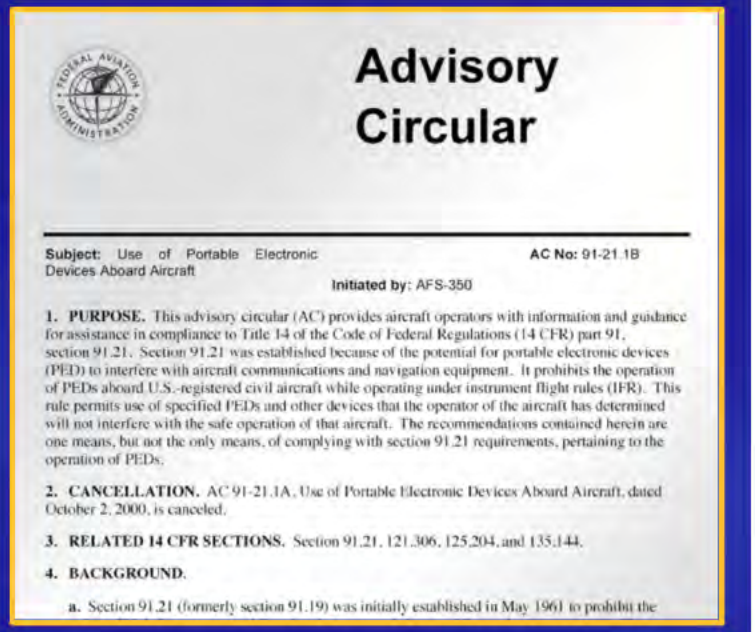
Can ForeFlight Replace Paper Charts?

- Yes, VFR and IFR
- FAR 91.21 & AC 91-21 - PEDs
  - No avionics interference
  - Determined by the PIC
- AC 91-78 - EFBs
  - Part 91 VFR and IFR
  - EFBs are legal replacements for paper charts if:
    - Functional equivalent of the paper material
    - Data is current
    - An evaluation period prior to eliminating paper charts (recommended)



Advisory Circular

Subject: Use of Portable Electronic Devices Aboard Aircraft

AC No: 91-21.1B

Initiated by: AFS-350

1. PURPOSE. This advisory circular (AC) provides aircraft operators with information and guidance for assistance in compliance to Title 14 of the Code of Federal Regulations (14 CFR) part 91, section 91.21. Section 91.21 was established because of the potential for portable electronic devices (PED) to interfere with aircraft communications and navigation equipment. It prohibits the operation of PEDs aboard U.S.-registered civil aircraft while operating under instrument flight rules (IFR). This rule permits use of specified PEDs and other devices that the operator of the aircraft has determined will not interfere with the safe operation of that aircraft. The recommendations contained herein are one means, but not the only means, of complying with section 91.21 requirements, pertaining to the operation of PEDs.

2. CANCELLATION. AC 91-21.1A, Use of Portable Electronic Devices Aboard Aircraft, dated October 2, 2000, is canceled.

3. RELATED 14 CFR SECTIONS. Section 91.21, 121.306, 125.204, and 135.144.

4. BACKGROUND.

a. Section 91.21 (formerly section 91.19) was initially established in May 1961 to prohibit the

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ForeFlight Replace Paper Charts?

- Navigation capabilities are not a source for primary navigation—only for situational awareness.
- Backup is suggested:
  - 2nd iPad
  - iPhone can serve as backup
  - Print paper charts

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Plan Features

BASIC PLUS
$99.99/yr

Includes **Logbook** and **Weight & Balance**

BUY BASIC PLUS

- Flight Planning in App and on the Web
- International Flight Plan Filing
- Graphical Briefing
- Aviation Weather
- Global Data-Driven Aeronautical Maps
- VFR, IFR & ForeFlight Taxi Charts
- Airport & FBO Information
- Global Navigation Data
- Aircraft Weight & Balance
- Logbook
- Avionics Connectivity
- Printable NavLog

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iOS Updates – Caution

New post on **ForeFlight**

Apple iOS 10.3 and ForeFlight
by ForeFlight

We are performing compatibility testing between ForeFlight
to ensure that everything is working smoothly. We will upda
when testing is completed. Please also stay tuned to our Fa
updates.

ForeFlight | March 27, 2017 at 1:41 pm | Tags: Apple, ios, software upda
http://wp.me/p5zOW-29l

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iPad Settings

- Settings > Privacy > Location Services
  - On
  - ForeFlight – Always
- Settings > ForeFlight > Enable Ownship
  - Always
- Settings > ForeFlight > Allow Notifications
  - On
  - Select notification preference

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Airplane Mode

- Airplane Mode On:
  - In IOS 8.2 and later –
    - Disables wifi, Bluetooth and cellular data
    - Leaves GPS on
    - Note: initial location faster with cellular data on

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Battery Management

- Power & charging
  - Faster charging – “airplane mode”
  - Radio management – unnecessary off
  - Backup power options:
    - External batteries
    - Cigarette lighter adapter (CAUTION for 28 Volts!)
    - Built-in USB install

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Polarized Sunglasses

- Don’t use polarized sunglasses!

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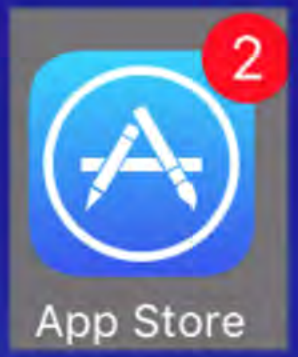
Updates

- Updates:
  - IOS
  - Apps
  - App Data



WARNING:

Don’t update the ForeFlight App,
the data or the OS
unless you have time
to check it out before flight!

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Input

Radios

- How the iPad receives internet/data
  - Wireless network (wifi)
  - Bluetooth (close-range device)
  - Cellular (built-in mobile phone)
  - Internal GPS (assisted by cellular)

- Airplane Mode – turns off all radios
  - except GPS on IOS 8.2 & later

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ForeFlight Mobile Overview

A look at the tabs—the core features of the app.

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ForeFlight Map

AIRPORTS | MAPS | PLATES | DOCS | IMAGERY | FLIGHTS | SCRATCH PADS | MORE

8 Core Tabs

- Always visible
- Show the core features of ForeFlight

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ForeFlight Map

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Tabs: Airports

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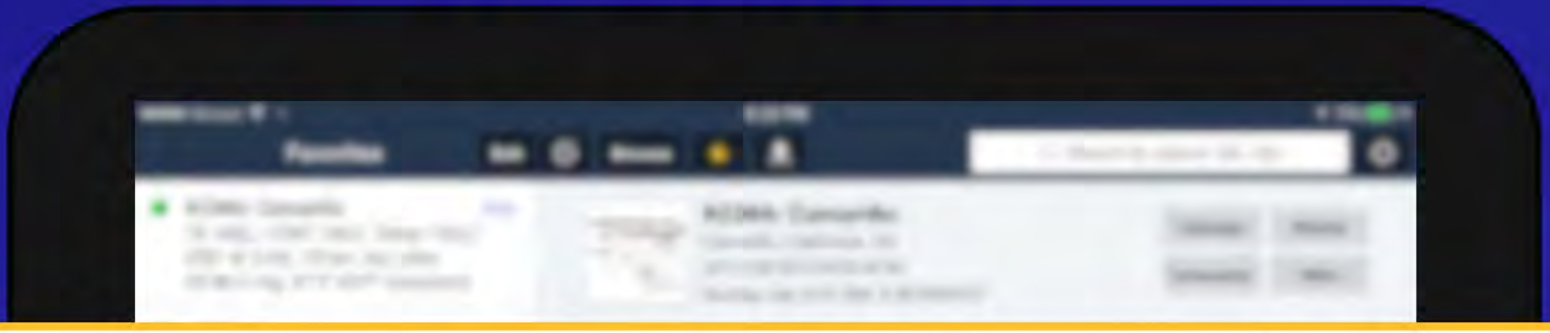
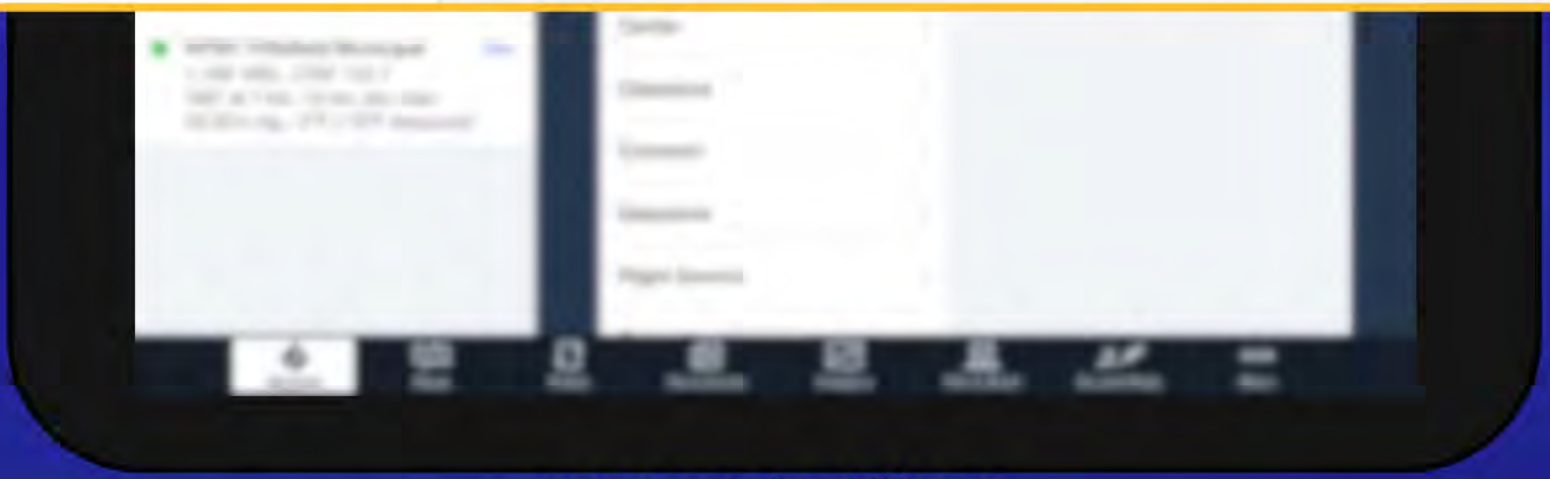
Tabs: Airports: Menu Bar



Browse
Favorite
Search
Favorites
Recents
View on Map
Near-me



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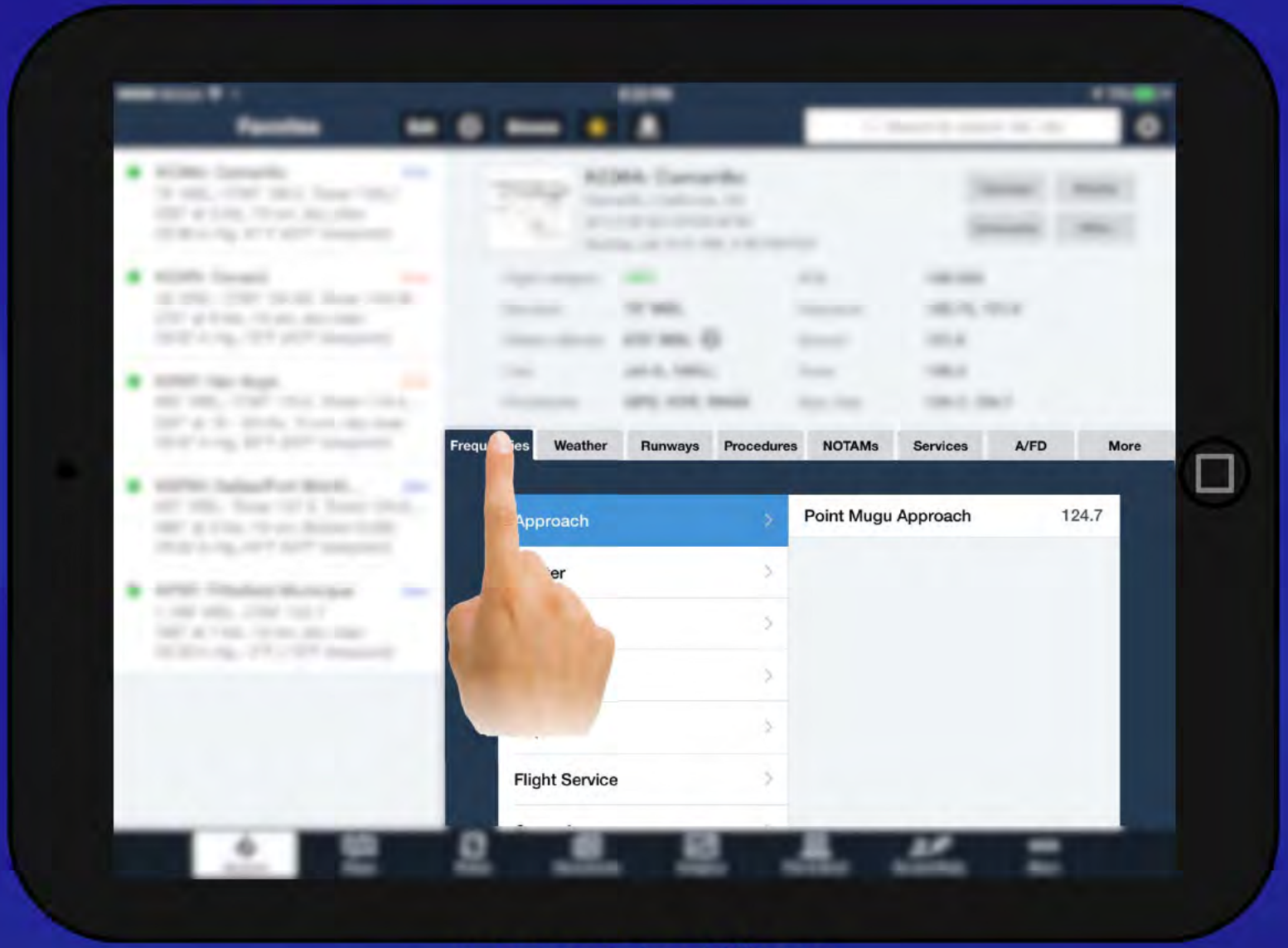
Tabs: Airports



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Tabs: Maps

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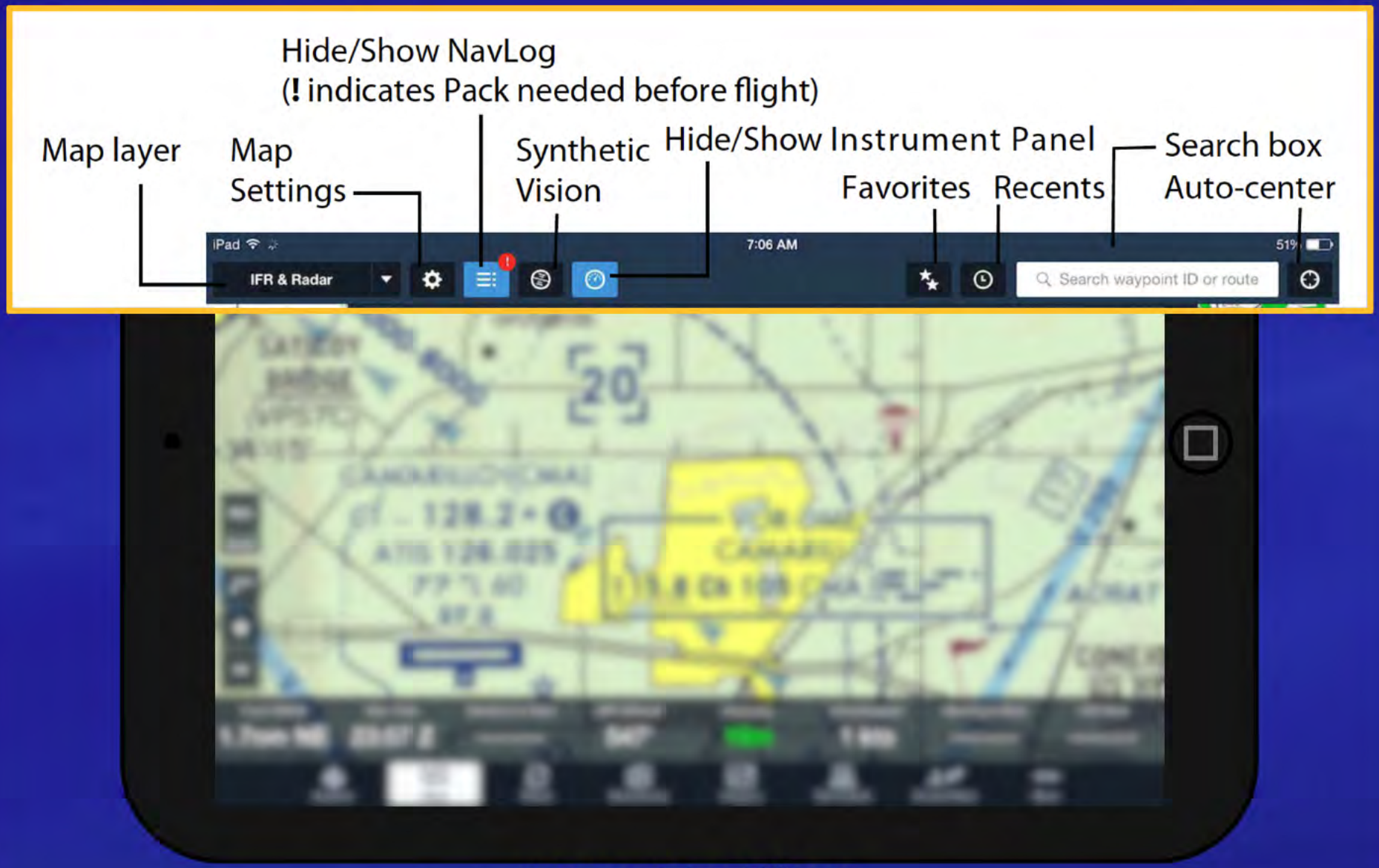
Tabs: Maps



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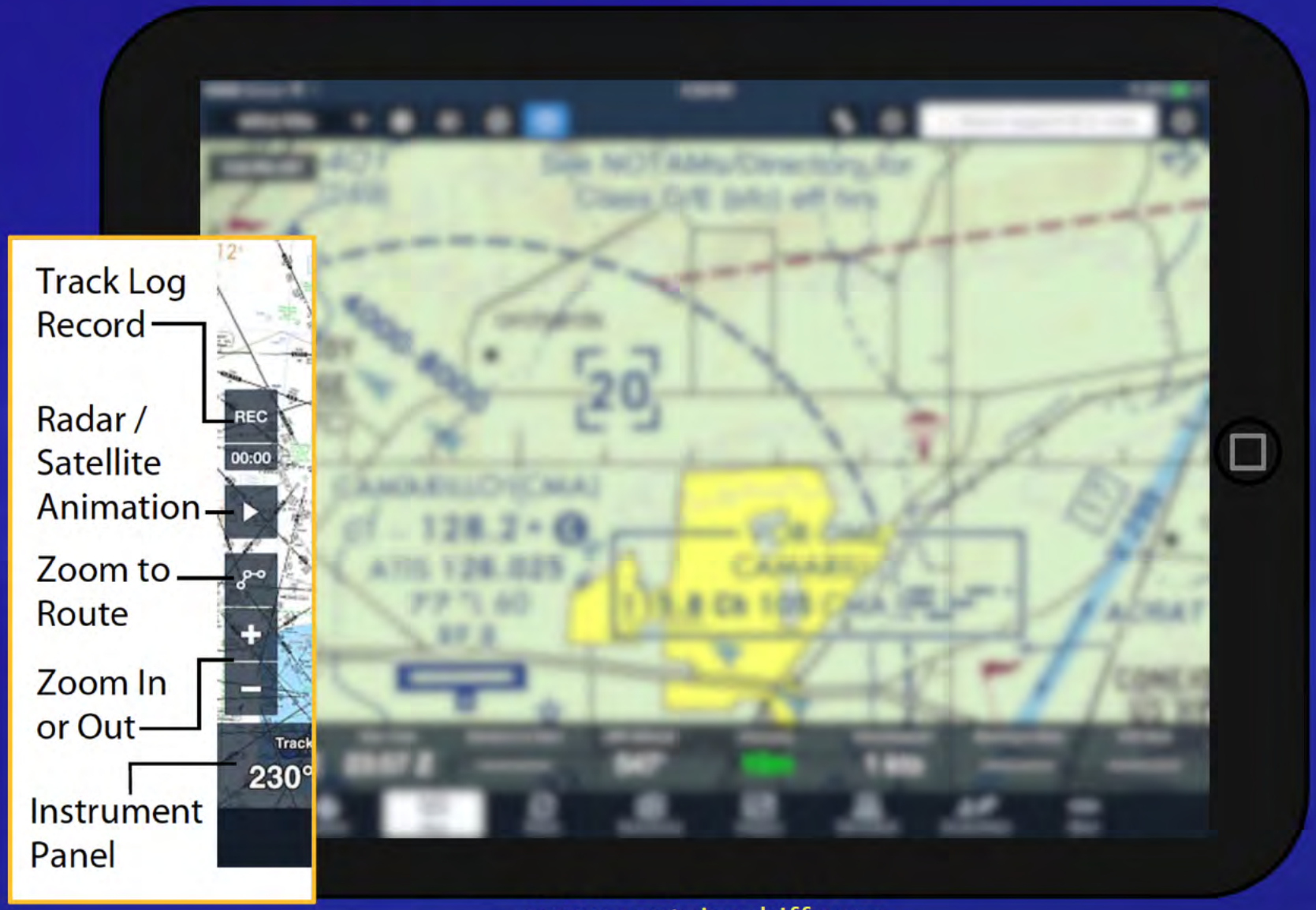
Tabs: Maps



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Tabs: Maps

- Pinch to zoom
- Zoom to Route
- Touch planning
- Layers
- Track up/North up (auto center)

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Tabs: Maps: Auto-Center Button

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Tabs: Maps: Map Options Button

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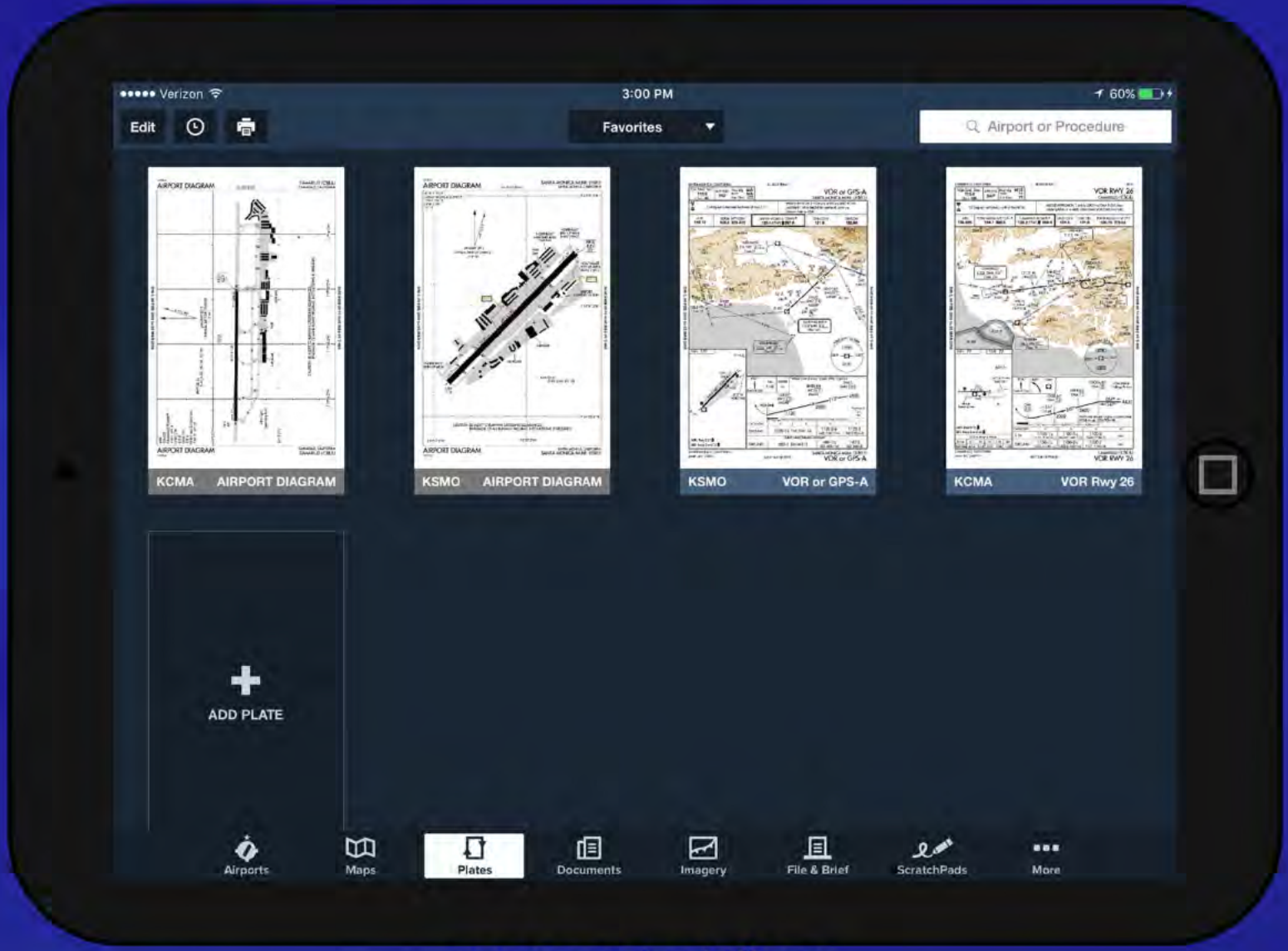
Tabs: Plates



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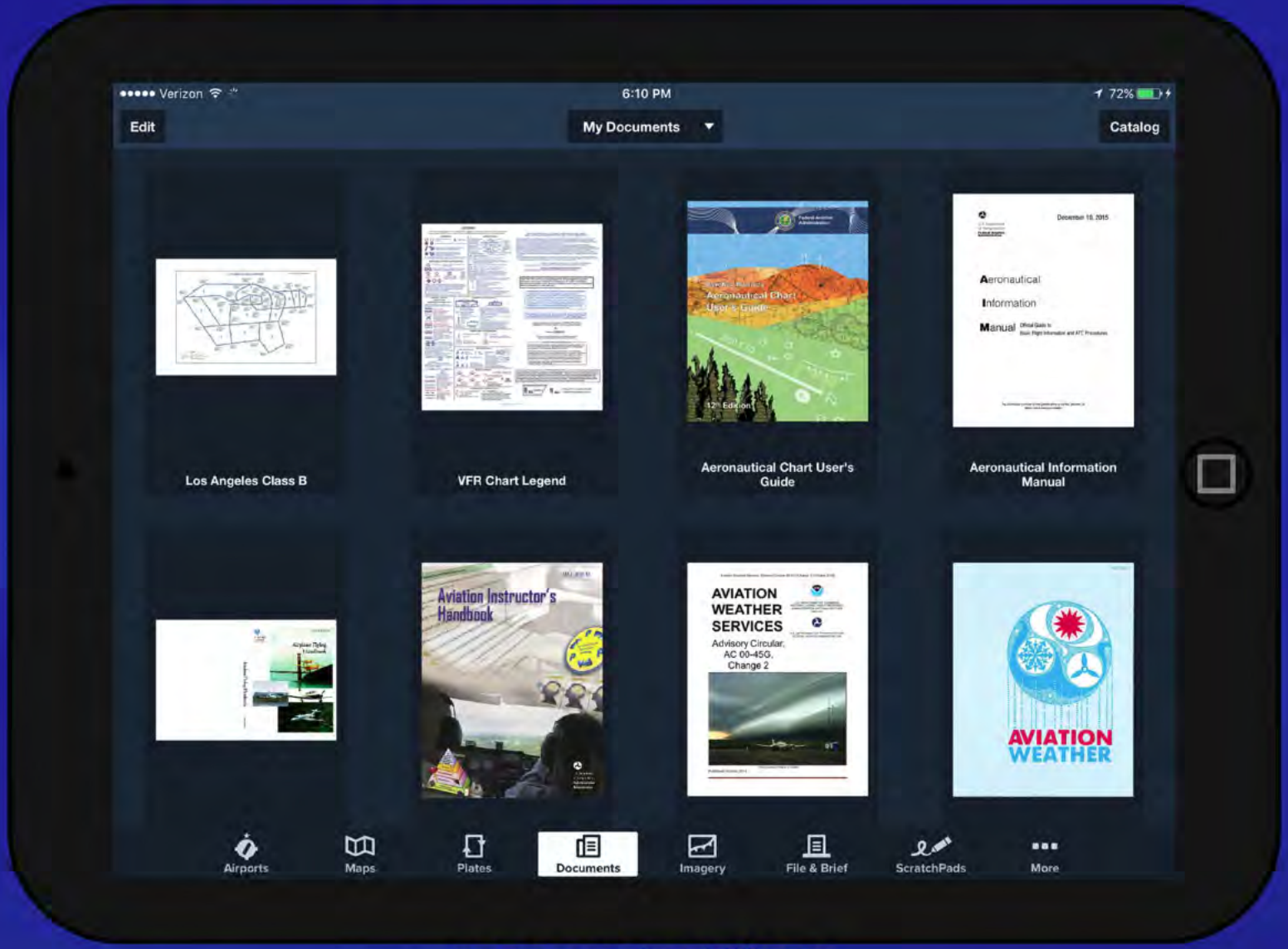
Tabs: Documents



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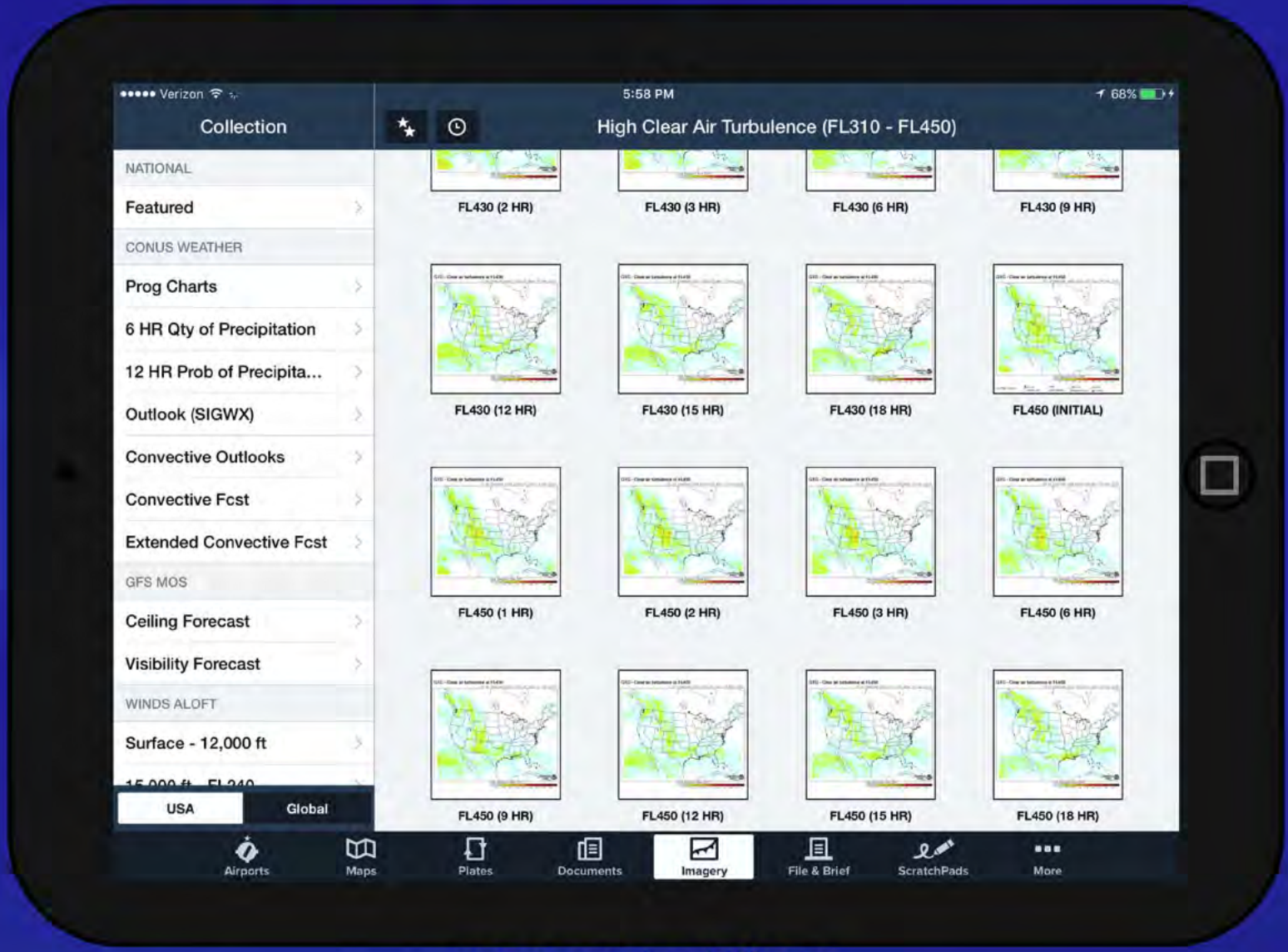
Tabs: Imagery



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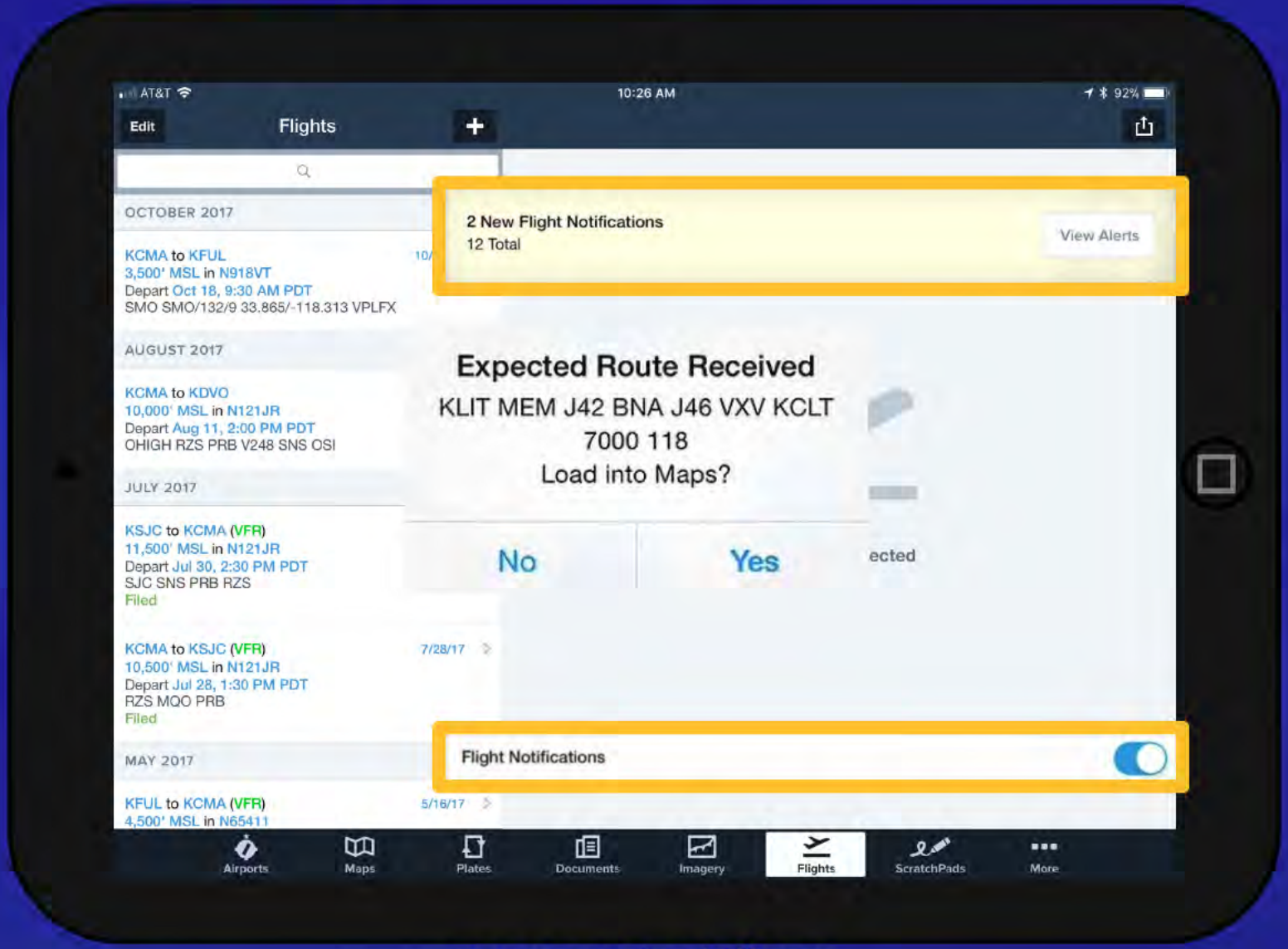
Tabs: Flights



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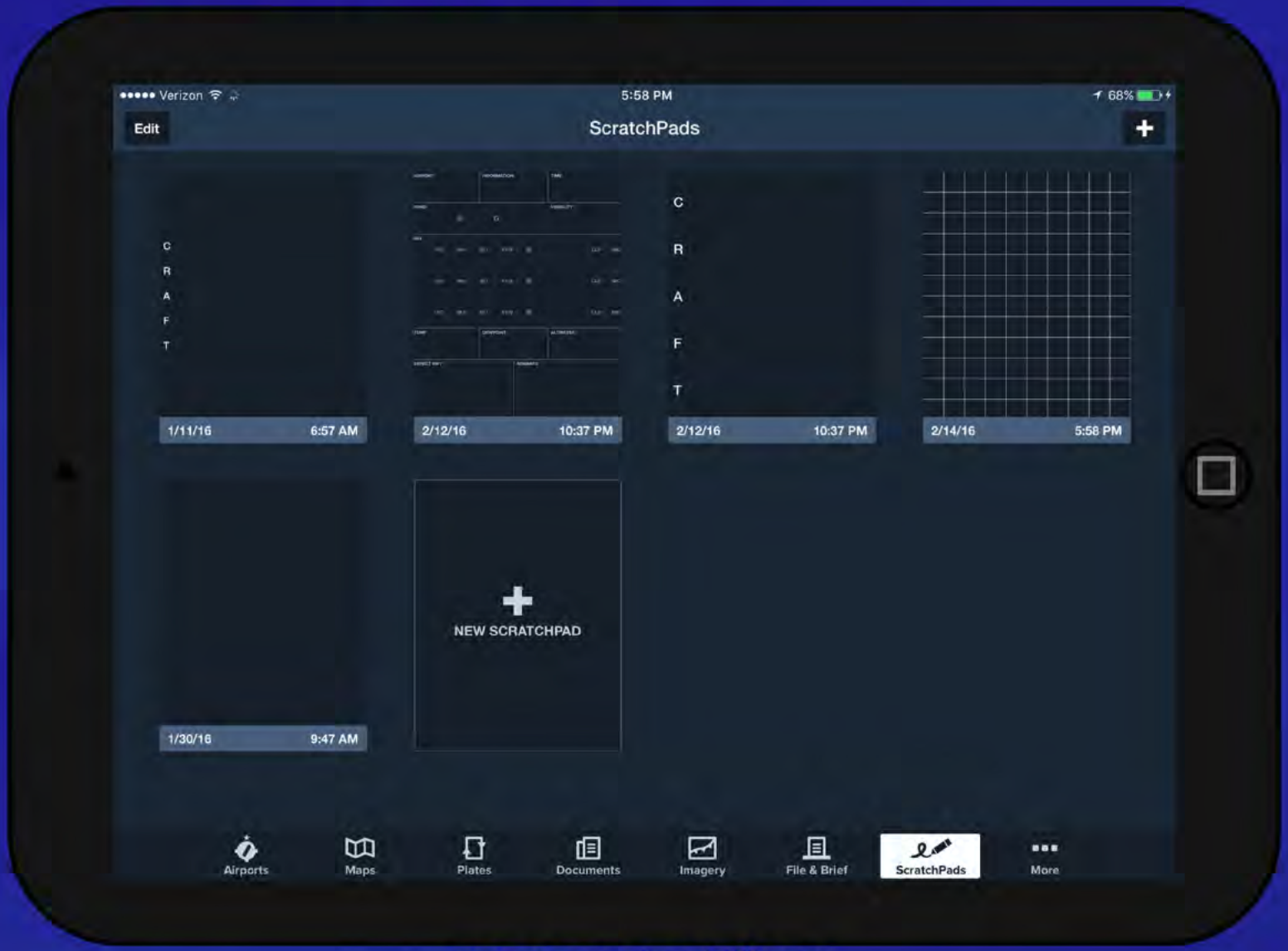
Tabs: Scratchpads



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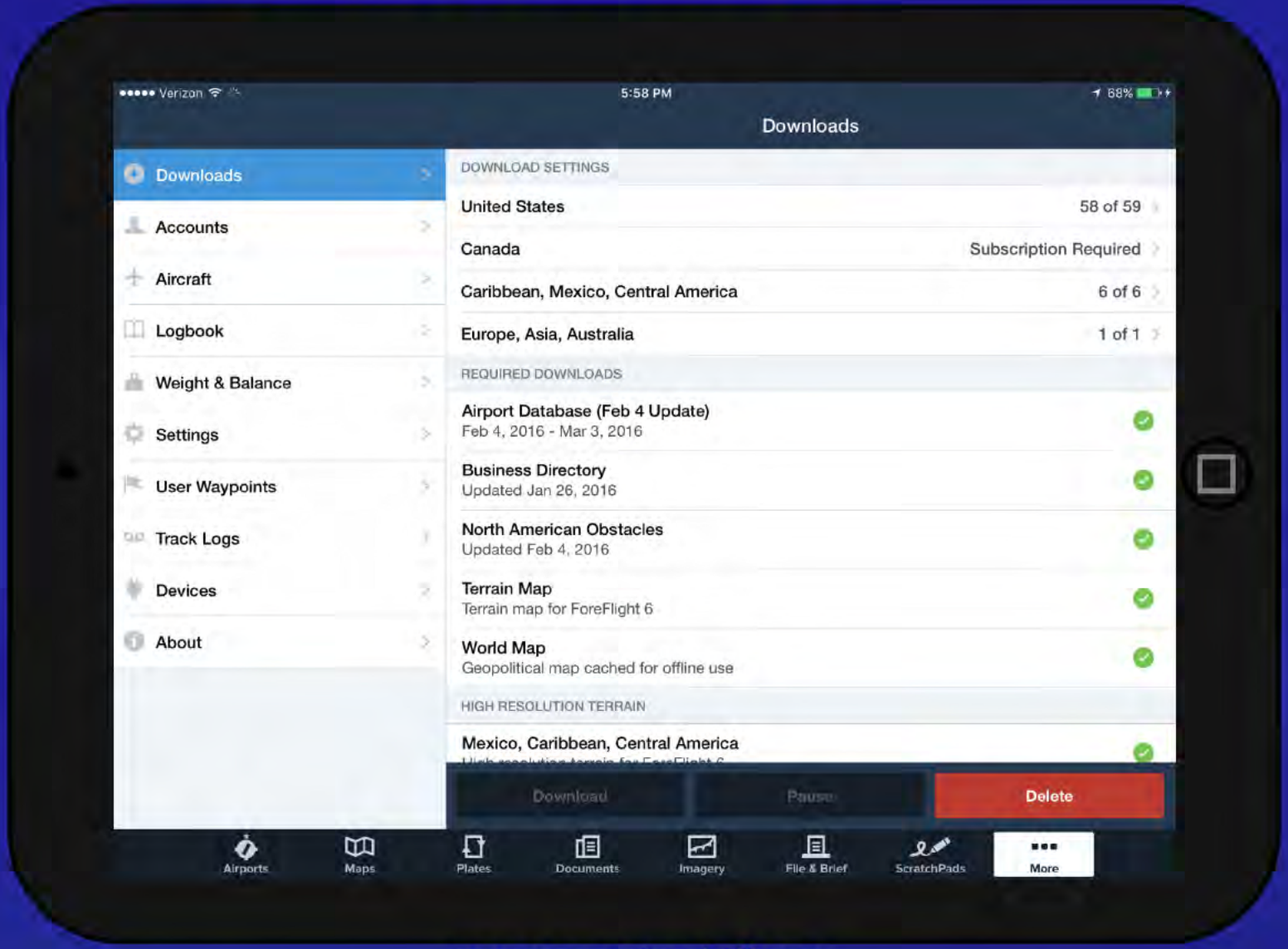
Tabs: More: Downloads



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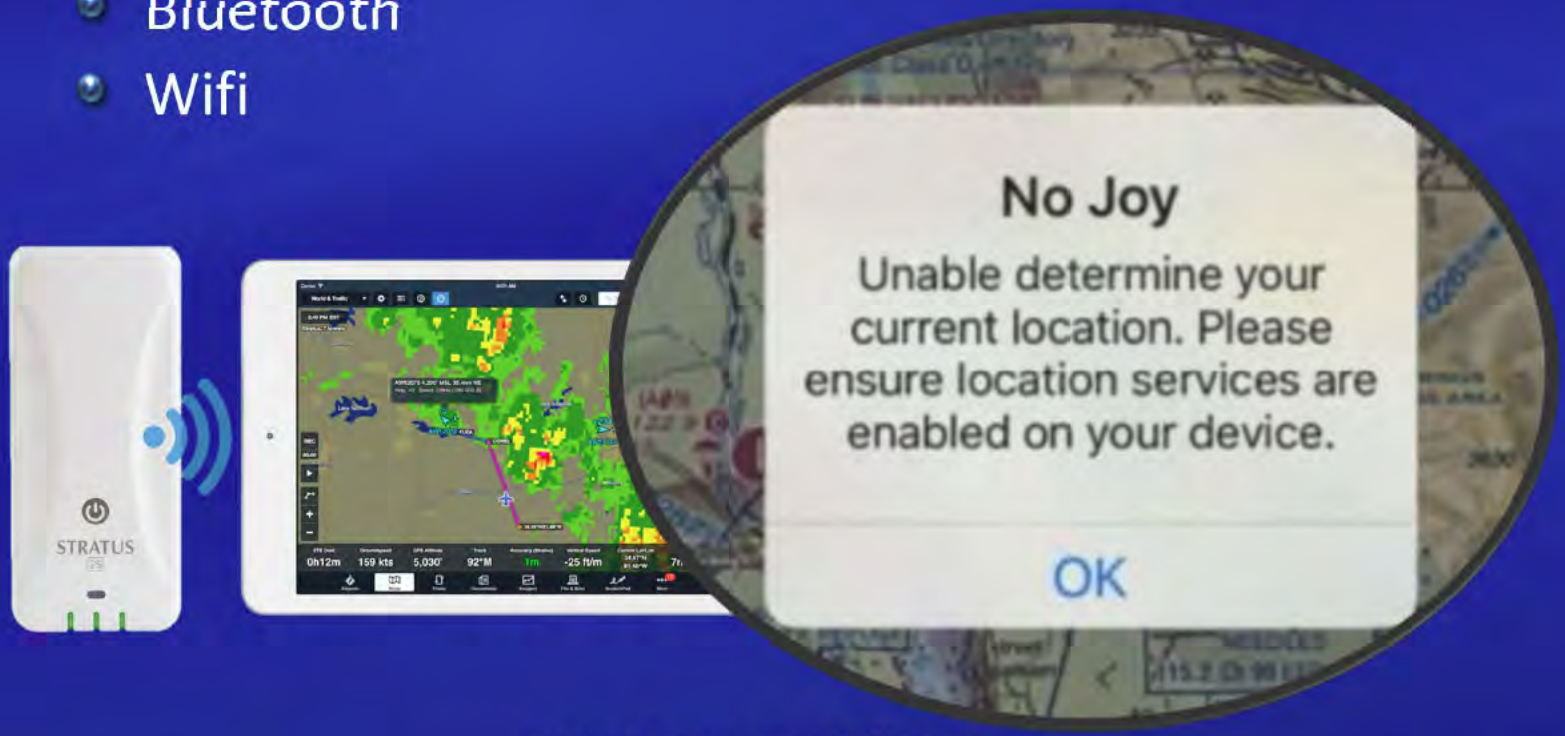
Aircraft Position

- How does ForeFlight obtain aircraft position?
  - Internal GPS (Models with cellular)
  - External GPS
    - Bluetooth
    - Wifi



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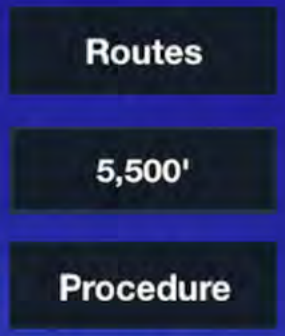
Many Advisors

- Route Advisor
- Altitude Advisor
- Procedure Advisor
- Runway Proximity Advisor
- NOTAM Advisor
- Hazard Advisor
- Cabin Altitude Advisor (requires external device)
- Glide Advisor



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ForeFlight Mobile Legends

Flight Category - Map

Weather Overlay Color Coding

Weather Overlay	Color coding
Flight Category	LIFR: Magenta. Ceiling less than 500 feet and/or visibility less than 1 mile. IFR: Red. Ceiling 500 to less than 1,000 feet and/or visibility 1 to less than 3 miles. MVFR: Blue. Ceiling 1,000 to 3,000 feet and/or visibility 3 to 5 miles inclusive. VFR: Green. Ceiling greater than 3,000 feet and visibility greater than 5 miles; includes sky clear. Unknown: gray question-mark

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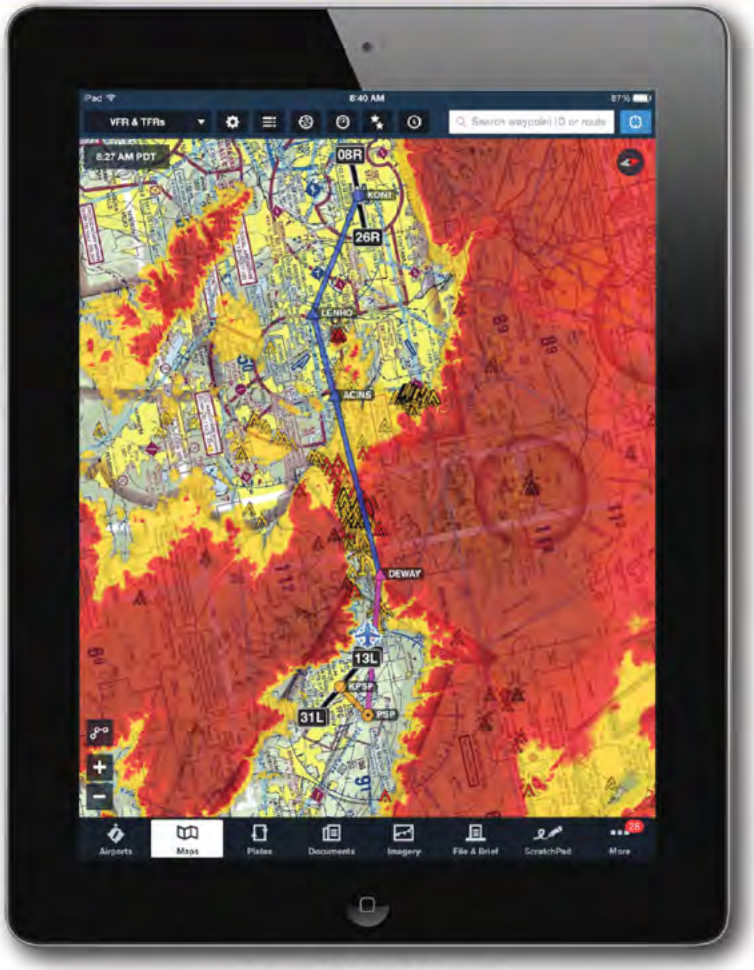
ForeFlight Mobile Legends

Hazard Advisor



Hazard Advisor™ legend

Yellow	Hazard **1000'-100' below** current altitude	
Red	Hazard **100' below to above** current altitude	

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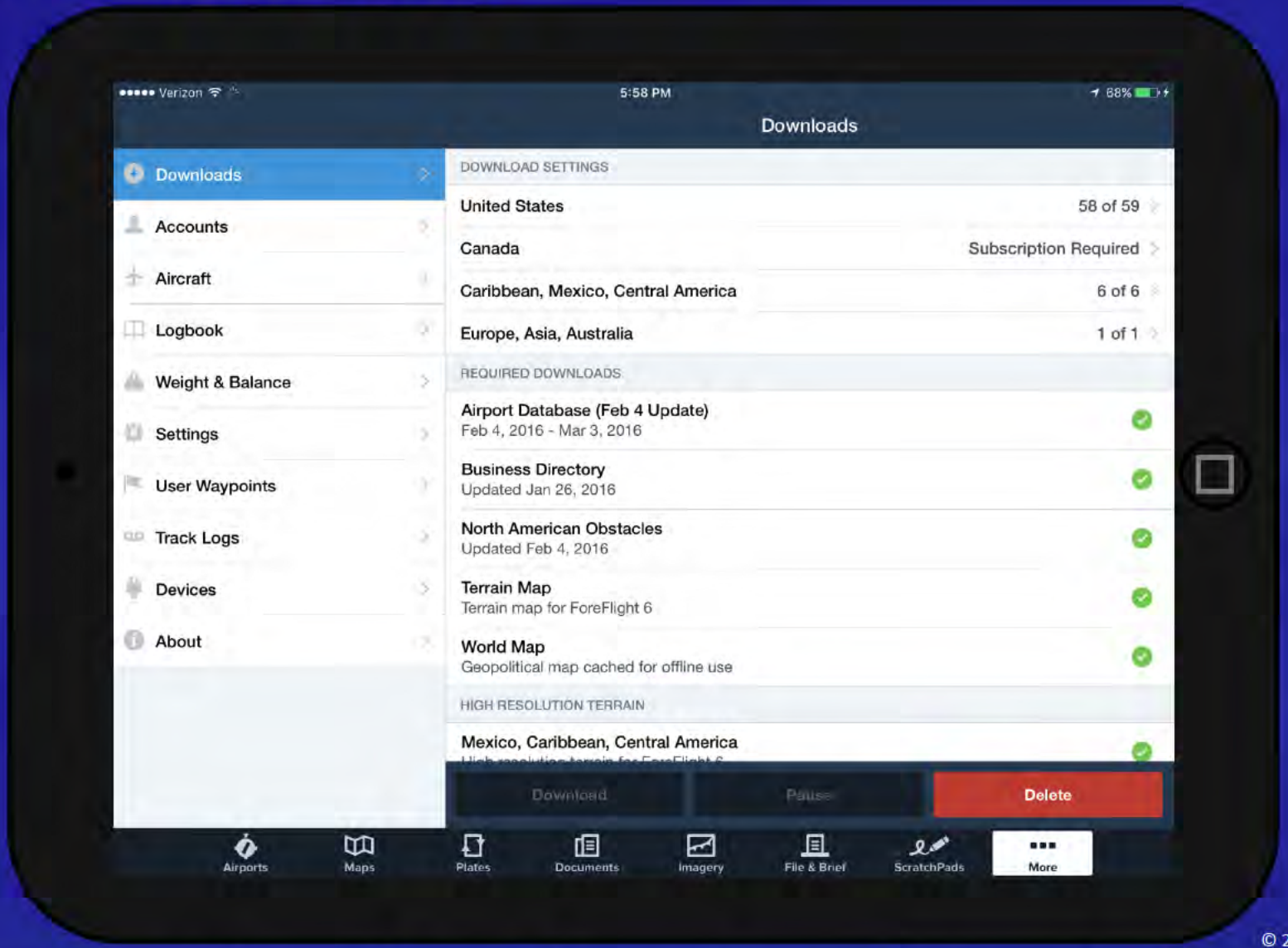
Download Data



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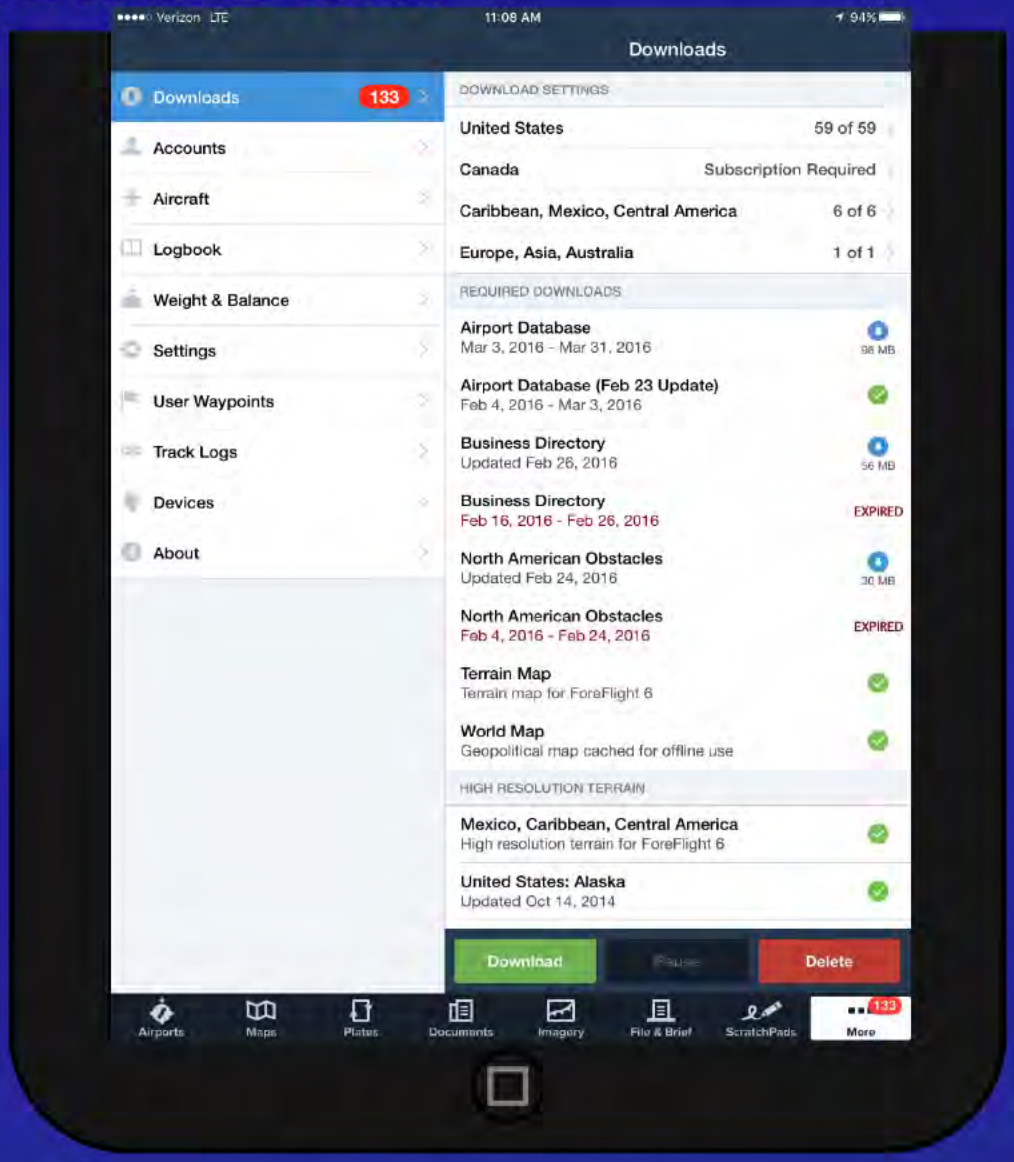
Airports Maps Plates Documents Imagery File & Brief ScratchPads More

Download Data



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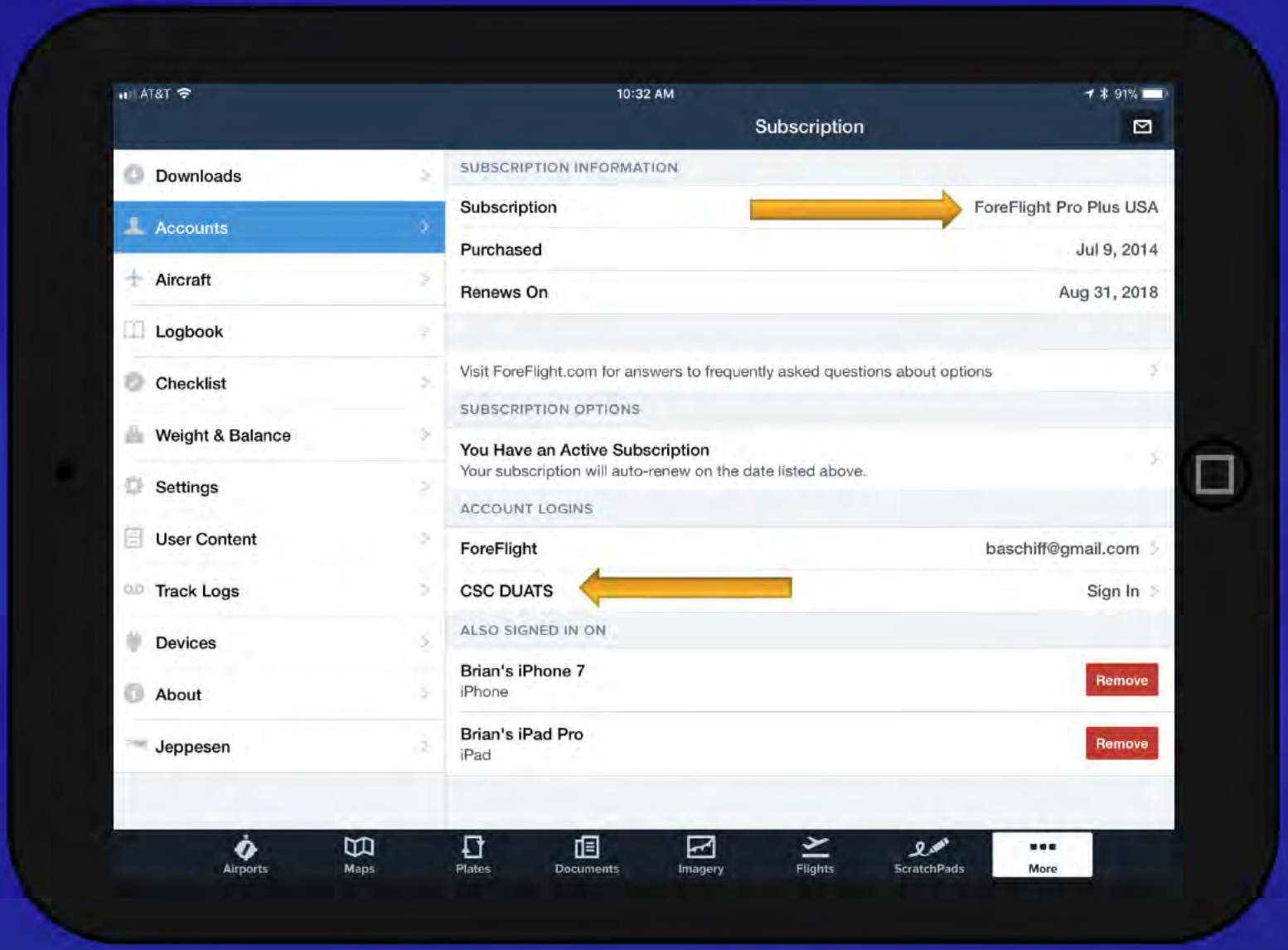
Accounts



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Foreflight Sync

- Cloud-based
- Synchronizes between devices on account:
  - Recent & Favorite Airports
  - Routes
  - Weather Imagery
  - User Waypoints
  - Aircraft Profiles
  - Flight Plans (filed & unfiled)
- More > Settings “Synchronize User Data” - ON

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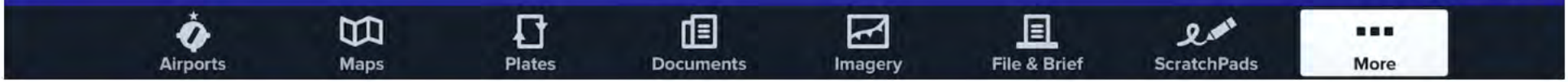
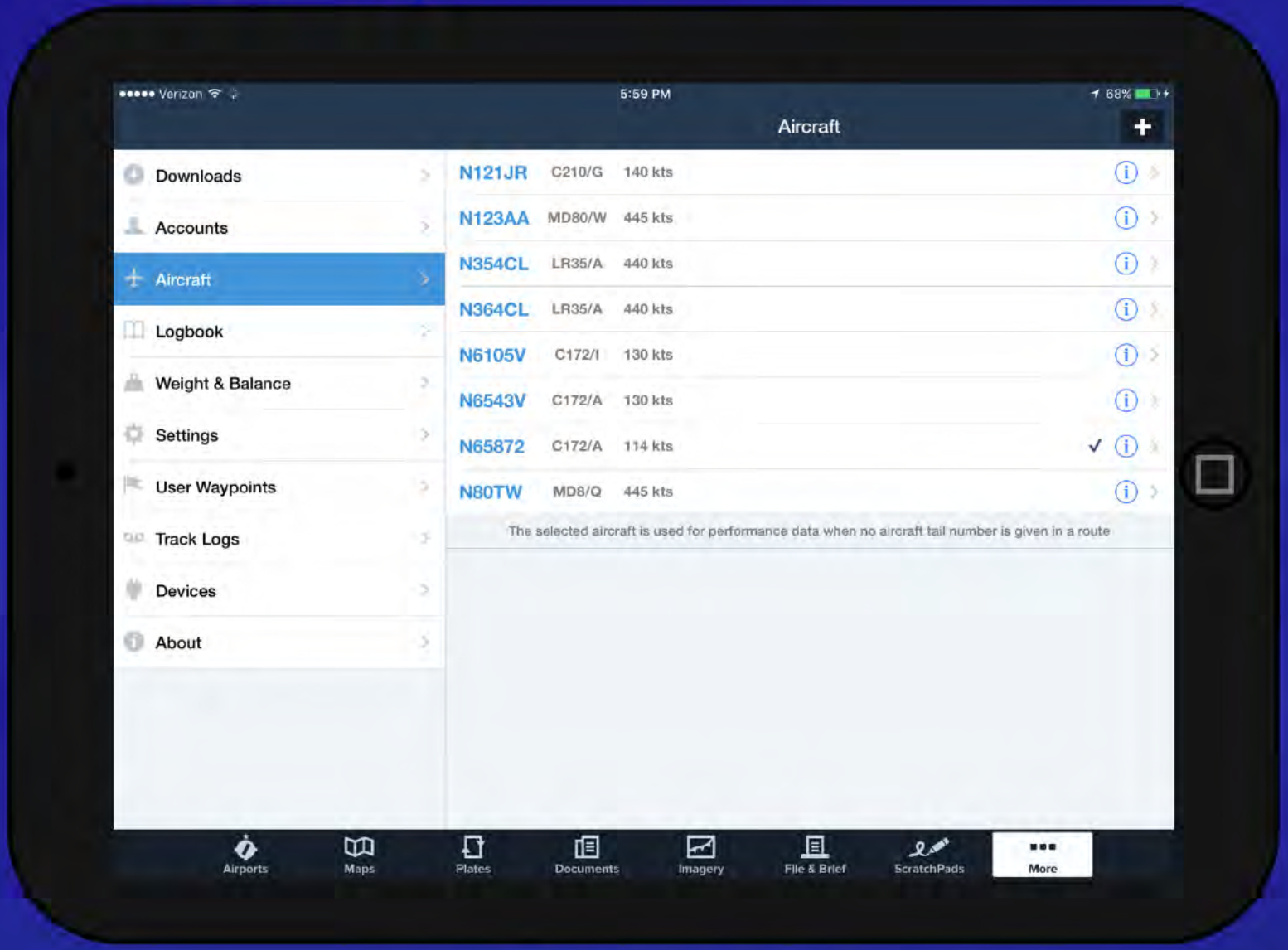


Aircraft Setup



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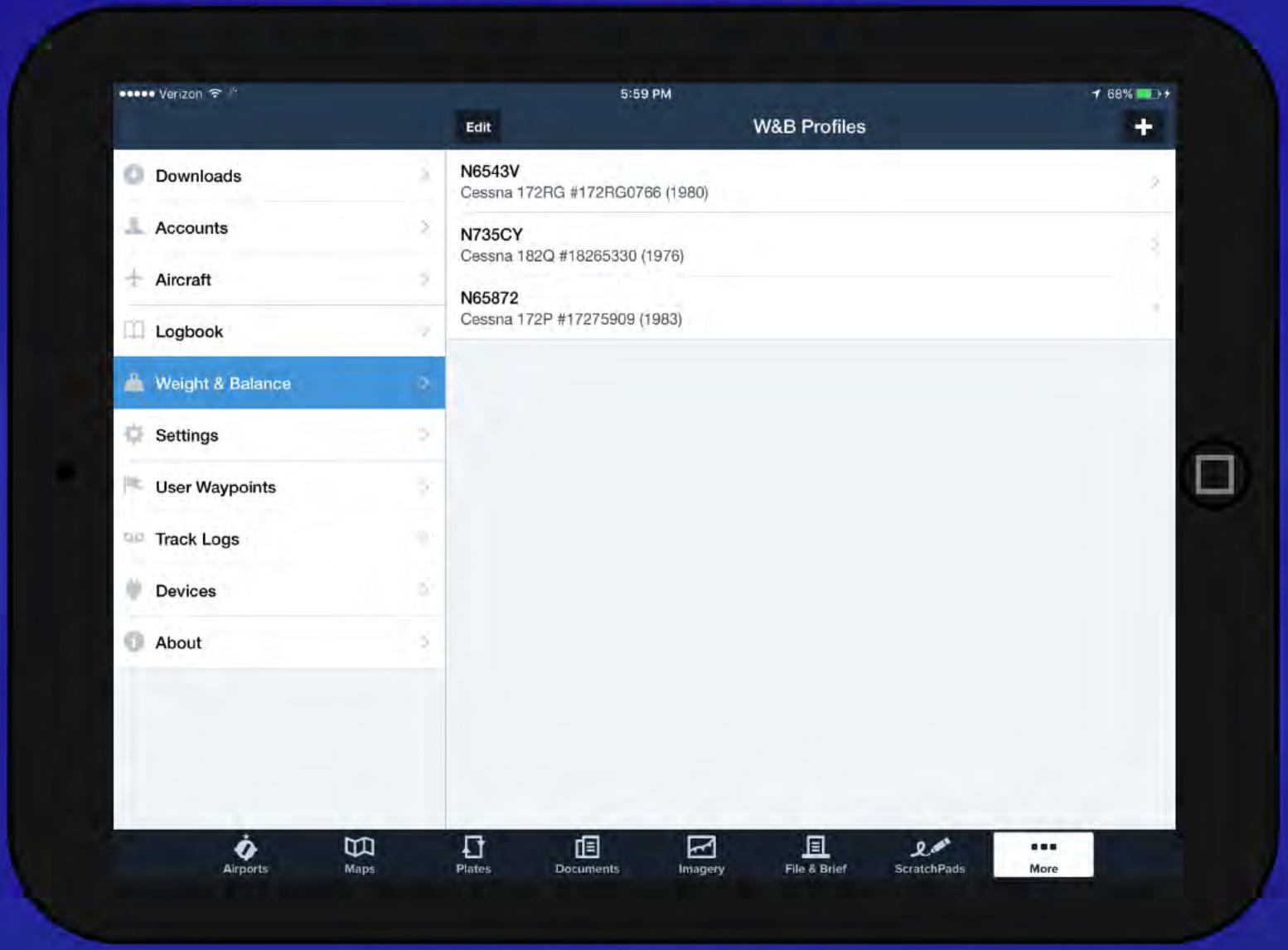
Weight & Balance Setup



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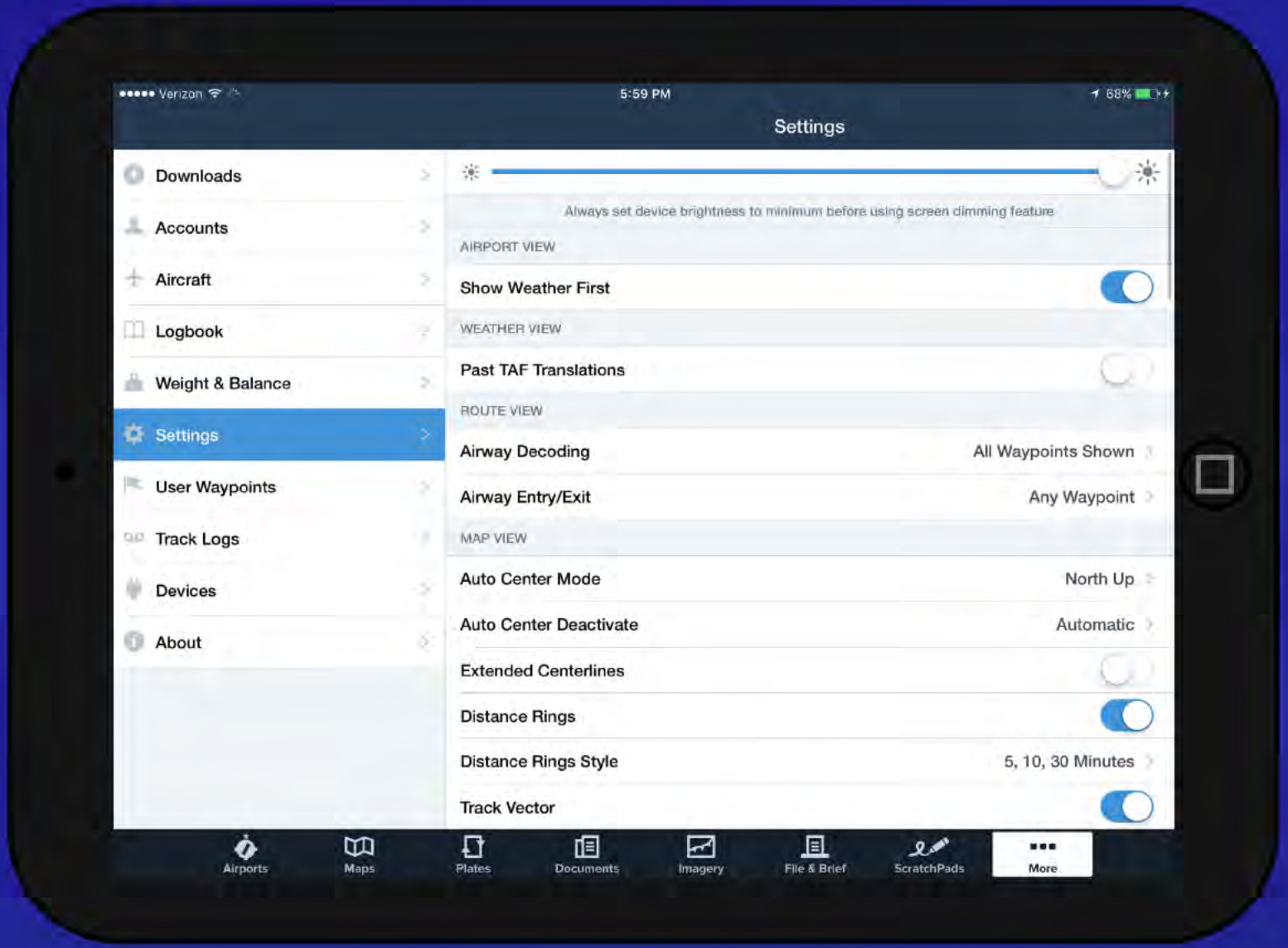
Settings



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Flight Planning

“Measure twice, cut once.”

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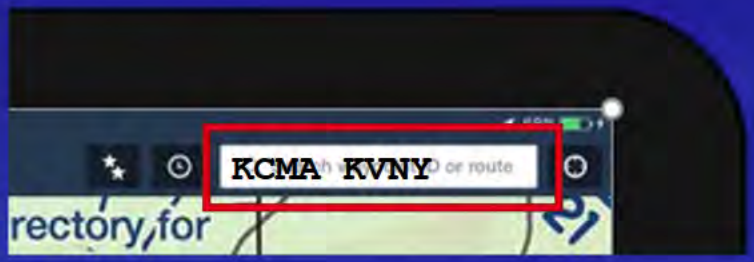
Flight Plan #1

Maps: Search Box

- KCMA-KVNY
- VFR
- 110 Knots
- 3,500’ Feet
- 10 GPH



Type: **“KCMA KVNY”**

Type: **“KCMA KVNY 110kts 3500ft 10gph”**

or: **“KCMA KVNY 110 3500 10”**

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Flight Plan #2

- KCMA-KSNA
- VFR
- IFR
- Touch planning
- User Waypoints
  - More
  - Use Waypoints
  - +

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Flight Plan #3

- KLGB-Big Bear (L35)
- VFR
- Terrain Advisor
- Turn on AIR/SIGMET/CWAs layer on Maps tab

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Flight Plan #4

- KFUL-KSAN
- VFR
- Direct?
- Turn on TFR Layer

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Flight Plan #5

- KSMO-KPSP
- VFR
- Touch Planning
- Considerations:
  - Airspace
  - Terrain

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Preflight iPad

"By failing to prepare, you are preparing to fail."

— **Benjamin Franklin**

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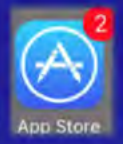
Preflight iPad

- App updated
  - Most recent version of ForeFlight 

  - Run the app once after an update
- Charts updated
  - Most current charts/plates (saved on iPad)
- Battery charged on iPad and external devices
  - Backup battery
- Wireless radios setup properly
- Favorites and routes loaded
- Plates binder set up

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Preflight Stratus

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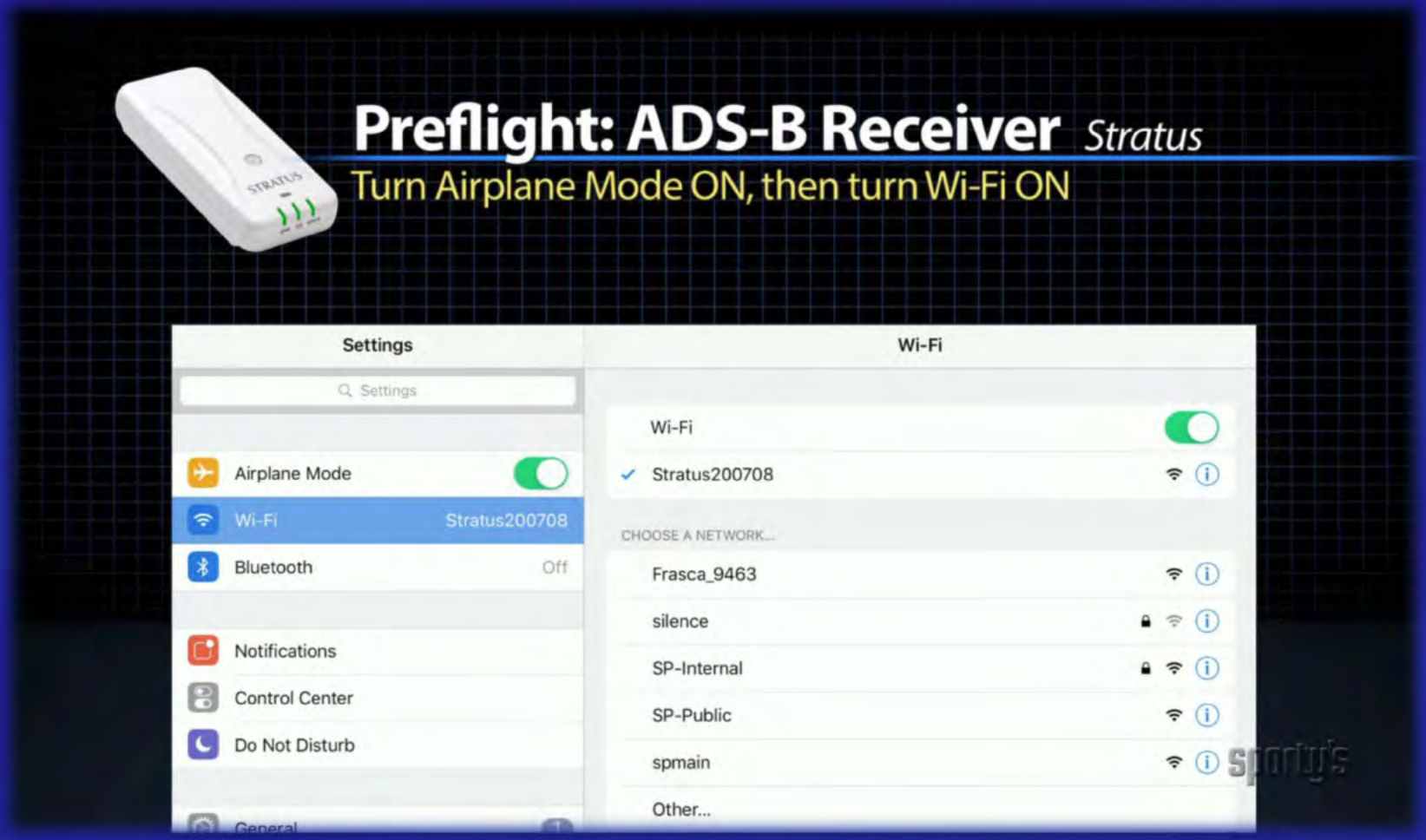
Preflight Stratus



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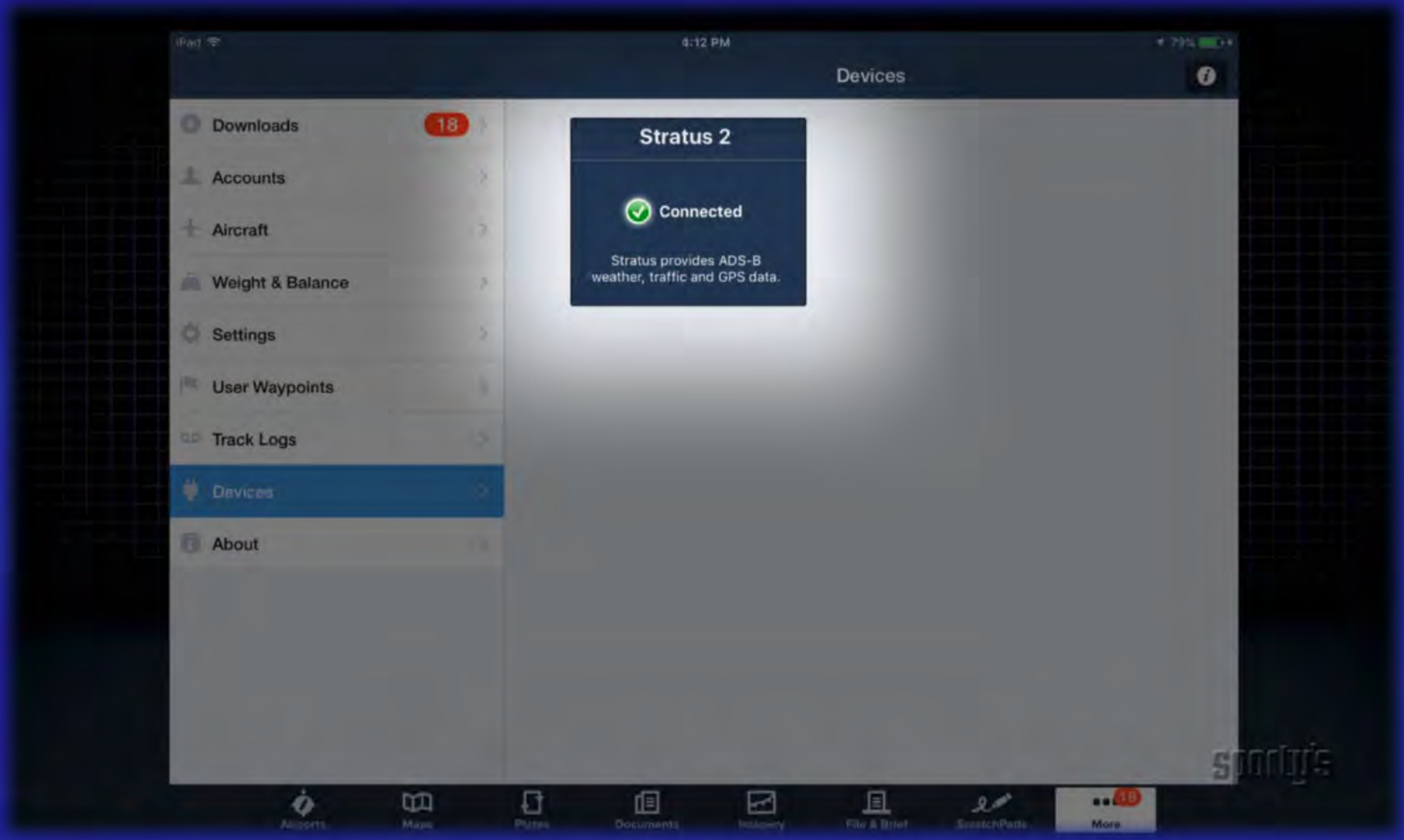
Preflight Stratus



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Post Flight

"My airplane is quiet, and for a moment still an alien, still a stranger to the ground, I am home."

— **Richard Bach**, **Stranger to the Ground**

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Post Flight

- After landing, the brain relaxes
- ForeFlight helps with Airport Diagram (Pro)
  - More > Settings > Taxi Diagram
- Geo-referenced airplane symbol on plate (Pro)
- Tap to view NOTAMs box if visible
  - Shows taxiway NOTAMs only
- FBO button on top

- Pen Button to highlight taxi route

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ForeFlight Logbook

- If installed & set up, tracked flights can automatically be entered in logbook

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Track Logs

- More > Track Logs
- Instructor training tool
- Self-diagnose flying weaknesses
- Send To > Open in > Google Earth

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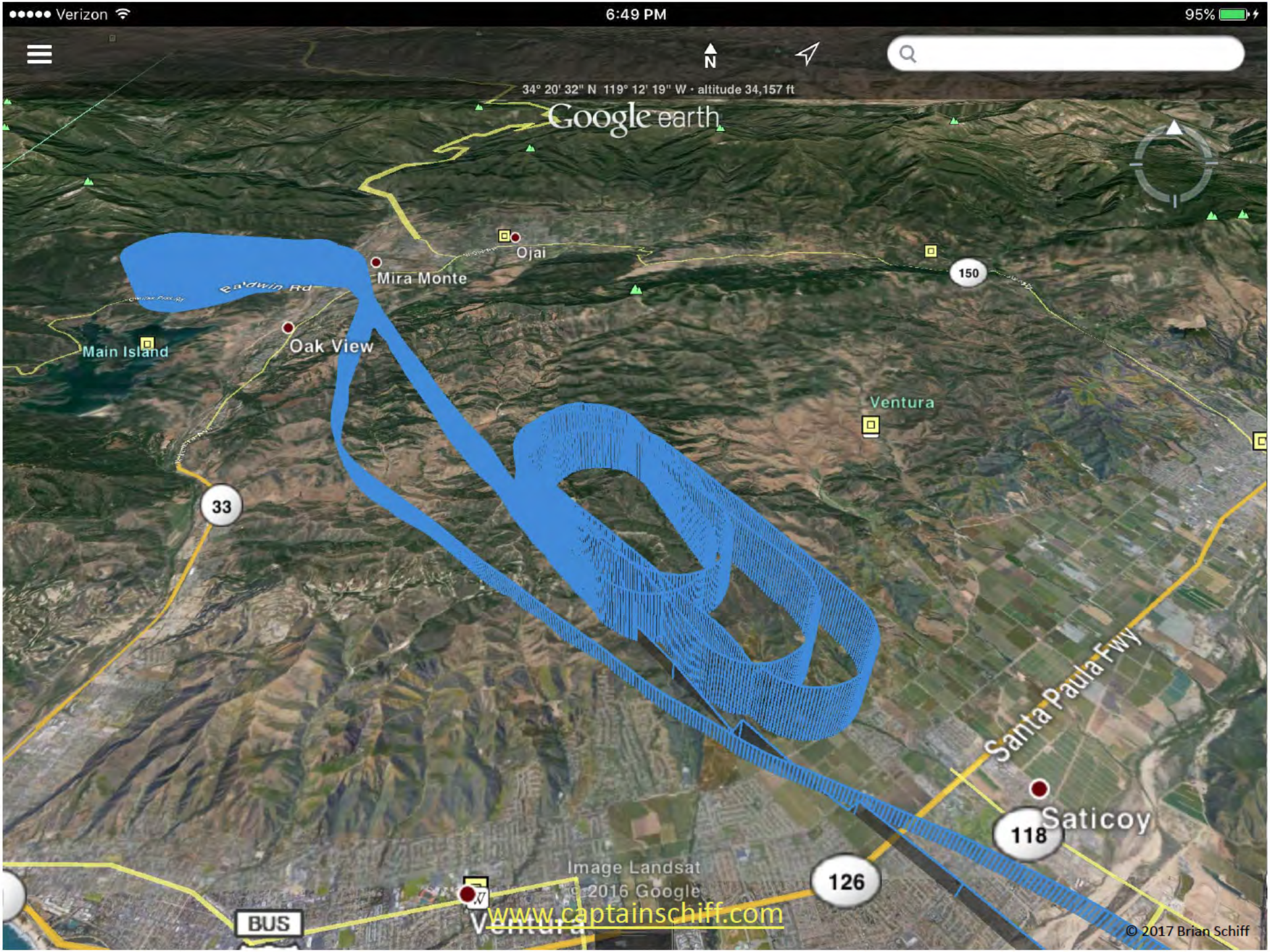
Verizon
6:49 PM
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N
34° 20' 32" N 119° 12' 19" W · altitude 34,157 ft
Google earth
Baldwin Rd
Ojai
Mira Monte
150
Main Island
Oak View
Ventura
33
Santa Paula Fwy
Saticoy
118
126
Image Landsat
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Tips & Tricks

"Wisdom is the quality that keeps you from getting into situations where you need it."

-- Doug Larson,
American newspaper columnist

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Tips & Tricks

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Tips & Tricks

- Settings:
  - Distance Rings (with green track triangles)
  - Extended Centerlines
    - Unfamiliar airports
    - Multiple runways
  - Track Vector (the “noodle”)
  - Current Location Marker
  - Hazard Advisor

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Tips & Tricks

- Plates tab Smart Search
- Plates – send to map overlay (Pro)
- Switching approach plates (Pro)
  - Three finger swipe L to R or R to L
- Two “Nearby” buttons on Airports Tab
- Spotlight Search – iPad Air and later

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Tips & Tricks: Direct

- Fly direct vs. intercept airway (fly the leg)
- Direct to (3 ways):
  1. Search box – "D KCMA"
  2. Nav Log – tap arrow, tap "Direct XXX"
  3. Map – tap & hold, tap more, "Direct To"

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Tips & Tricks

- iPad inverted “night” mode: Tripple-clicking the home button on the iPad will toggle between inverting the colors & normal.
- To set up:
  - iPad Settings tab
  - General section
  - Accessibility
  - Physical & Motor section
  - Tap Accessibility Shortcut
  - Tap Invert Colors

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Ways to Learn More

- Read the Pilot's Guide available online or through the App Documents tab
- Go "couch flying" – Integrates with:

X-PLANE 10

Microsoft Flight Simulator

INFINITE FLIGHT

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ForeFlight Customer Support

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iPad Safety

Don't crash the airplane to fly the iPad.

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Safety Tips

- Setup as much as possible before flight
- Copilot
- Cockpit mount
- Battery management
- What ifs:
  - Little blue airplane goes away?
  - GPS position lost?
  - Screen goes blank?
  - Battery dies?

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Safety Tips

- Don’t use polarized sunglasses
- Don’t become a “Child of the Magenta”
- Look out the window!
- Practice, practice, practice
  - Couch flying
  - X-Plane Simulator
  - Microsoft FSX www.fsxflight.com
  - www.infinite-flight.com
  - Play with ForeFlight

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Safety Tips

- ADS-B data gaps (15-minute cycle)
- Nexrad Latency

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End
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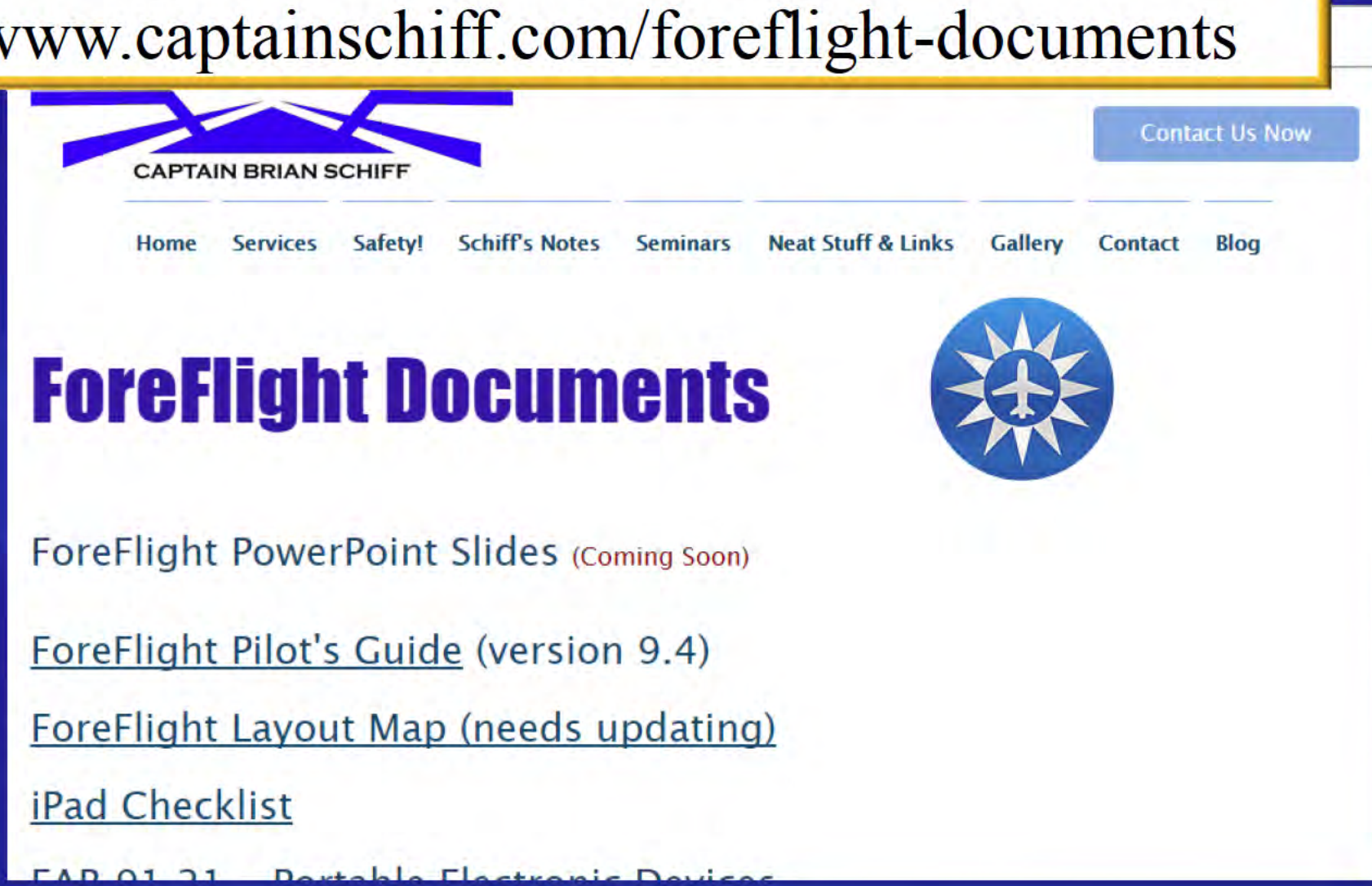
ForeFlight Related Docs

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