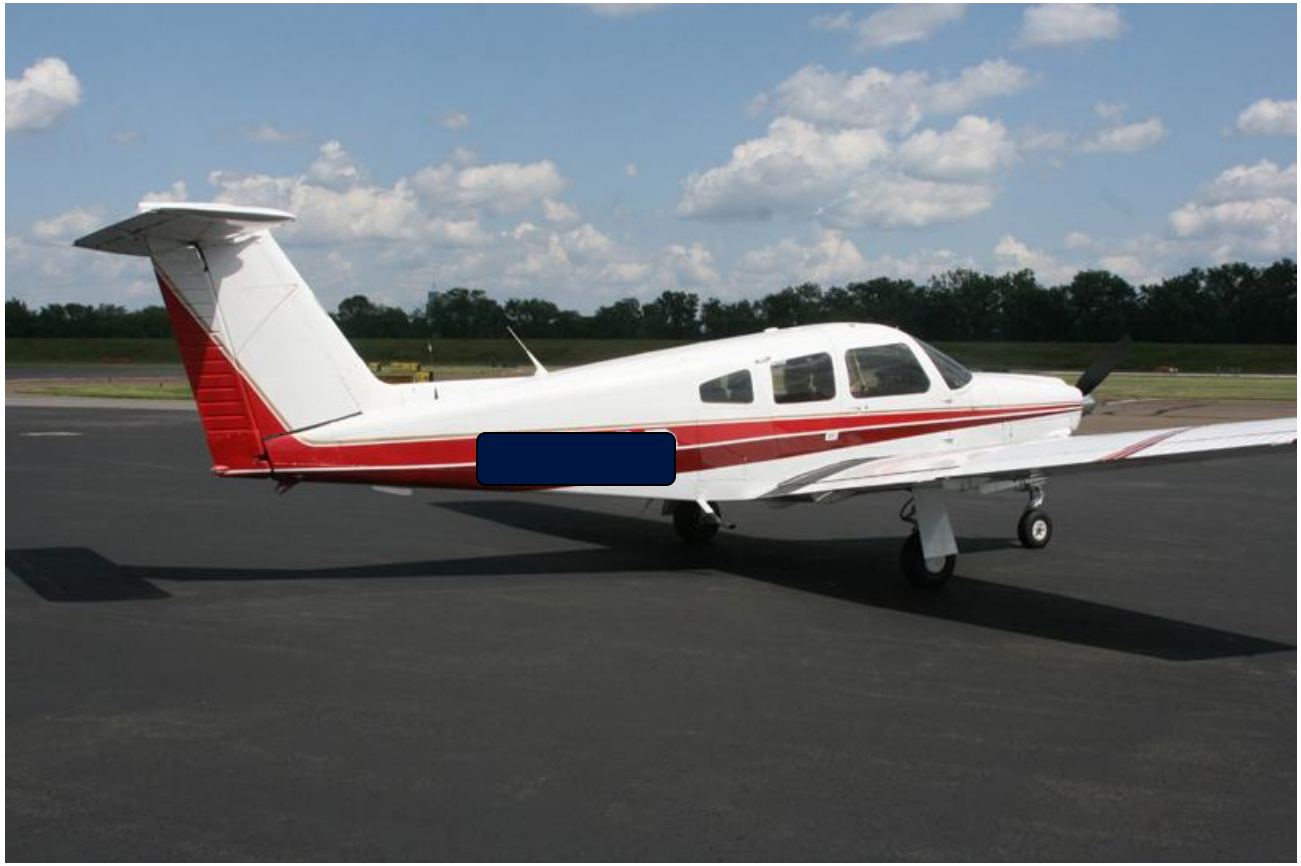
# Data Link Weather

## Non Commercial General Aviation Perspective

This is a springboard for further discussion to discuss the weather uplink applications and automation.

# VFR Flight Decision Making

For VFR pilots, it is simple.  Just stay out of the clouds and convective weather!



# IFR Decision Making

For IFR pilots, it is not that easy.

Do you know what evil lurks within these clouds?

Turbulence?

Embedded Thunderstorms?

Ice?

# We Need Tools to Peer Inside The Cloud

- If you think that this issue is for the little piston pumpers:
  - Listen to channel nine when you fly through a frontal system.
  - 90% of en-route ATC communications traffic is related to turbulence ahead. Folks in the heavy iron don't know what is behind the clouds either.
- Pilots have gone from carrying weather briefing data printed on a piece of paper to an interactive personal tablet device.
  - Applications need development to peer inside and beyond the cloud.

# Portable Electronic Devices- A Timeline

- Portable GPS- Moving Map Display
- Windows PC Tablets

- Tablet Devices – Data Linked Weather / Flight Planning in The Bag

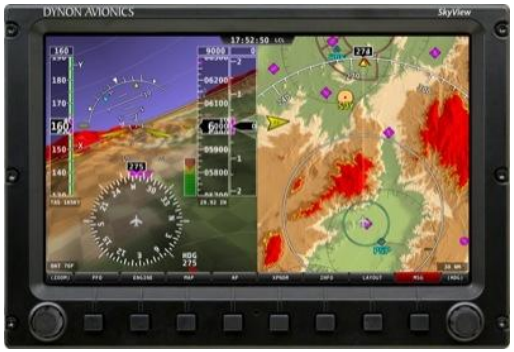

- Integrated Cockpit
- Ship to Ship Sensor

- System Wide Information Management

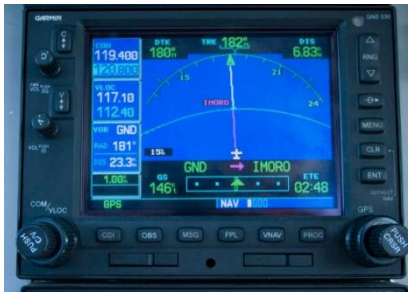
# Integrated Cockpit Concept

PFD

MFD




Primary Navigational Device




Wireless Hub

Data Link Radio

Tablet Device

# Future Applications?

- GOALS
  - Reduce the need for in-flight weather forecasting by the flight crew.
    - Simplify weather presentation and the decision making process.
    - Integrate the flight trajectory and en-route weather forecasting into ground weather forecast products- SWIM applications.
    - Include sensor data obtained from aircraft or sensors in the vicinity or along the path of the aircraft.
  - Current Electronic Flight Bag applications basically move flight planning into the cockpit.
    - EFB Applications need to move towards predictive information delivery of;
      - Data relevant to the trajectory of the aircraft,
      - Data obtained from sensors on aircraft in the aircraft route and vicinity.