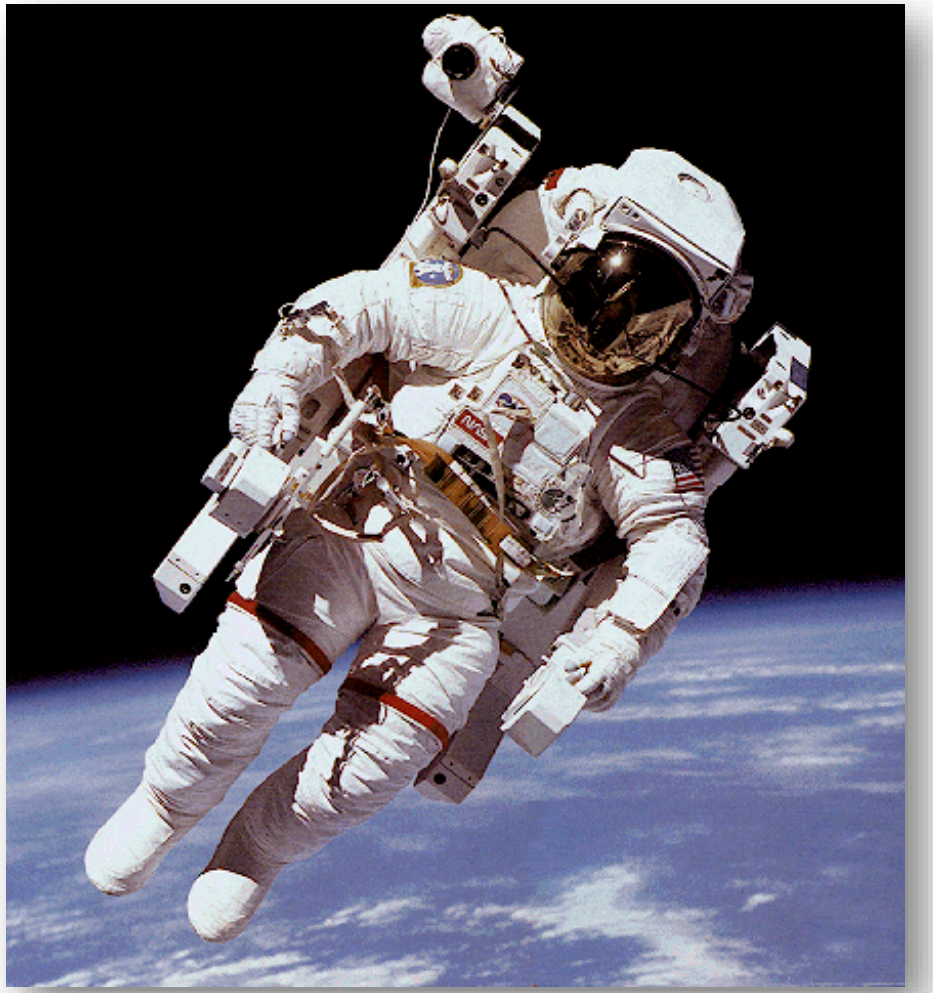
# The National FAA Safety Team Presents

Federal Aviation Administration

## Over-Water Flying & Ditching for GA Aircraft



Presented to: **Carrabelle Flying Club (X13)**

By: **Bruce Graham**

Date: **25 July 2020**

**Produced by AFS-850**
**The FAA Safety Team (FAASTeam)**

# Welcome

- Exits
- Restrooms
- Emergency Evacuation
- Breaks
- Phones & pagers to silent or off
- Sponsor Carrabelle Flying Club
- Other information



# Overview

- Over-Water Flight
- Required Equipment
- Things you might want to have…just in case!
- Tips & Challenges
- Best laid plans of mice and men….DITCHING!
- FAA Video
- Summary
- Questions and “sea stories”



# Over-Water Flight

- **Carrabelle (X13) to Key West (KEYW)**
  - http://vfrmap.com/

***“Automatic Rough”***



# Over-Water Flight

- Carrabelle (X13) to Key West (KEYW)
- What does the FAR say about private, GA aircraft over water?
  - How far from land?
  - What safety equipment?
- 14 CFR 91,
  - ***Not*** "Large and Turbine-Powered Multiengine Airplanes or Fractional ownership Program Aircraft"
  - ***Not*** "for hire"

# Over-Water Flight

- **There isn’t anything!!!!!**

  – Section 91.205 Covers equipment requirements for VFR Day/Night, IFR and such but,

  – 91.205 (b) Visual-flight rules (day) sub-para (12) says:
    - *“If the aircraft is operated **for hire** over water and beyond power-off gliding distance from shore, approved flotation gear readily available to each occupant and…at least one pyrotechnic signaling device.”*

# Over-Water Flight

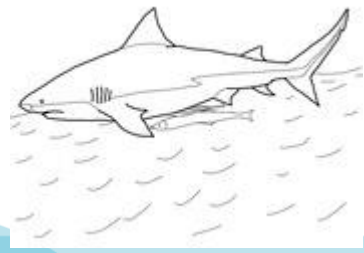
- **Section 91.509 Survival equipment for overwater operations has similar requirements.**
  - "(a) No person may take off an airplane for a flight over water more than 50 nautical miles from the nearest shore unless that airplane is equipped with a life preserver or an approved flotation means for each occupant of the airplane.
  - (b) No person may take off an airplane for flight over water more than 30 minutes flying time or 100 nautical miles from the nearest shore, whichever is less, unless it has on board the following survival equipment…" (nice list of good stuff)

# Over-Water Flight

- **FAR 91.205 (b) [12] applies only to “for hire” operations**
- **FAR 91.509 is under “Subpart F - Large and Turbine-Powered Multiengine Airplanes and Fractional Ownership Program Aircraft”**
- **So…. your C-172 is not for hire, is small (under 12,500lbs), single engine and NOT fractional owned (does not mean your spouse is on the cert as well).**
- **What now?**
  - **NOTE: some local/state regs require some equipment for all times: Alaska wants survival equipment and other countries have specific requirements like Bahamas and such. Check their regs before flying there, but we are just going to The Conch Republic (Key West).**

# Things you might want to have…just in case!

- **Section 91.509 does have a nice list you may want to consider- (Not a direct quote)**
  - (1) Life preserver w/light for each occupant
  - (2) Life raft w/light to accommodate all occupants
  - (3) A pyrotechnic signaling device
  - (4) A floating water-resistant EPIRB or equivalent
  - (5) A lifeline
- **Some of this can be expensive, some can be rented**
- **If gross weight is an issue, leave one pax (your choice) behind or make an additional fuel stop**
- **Floating in that warm water alone is not fun!**



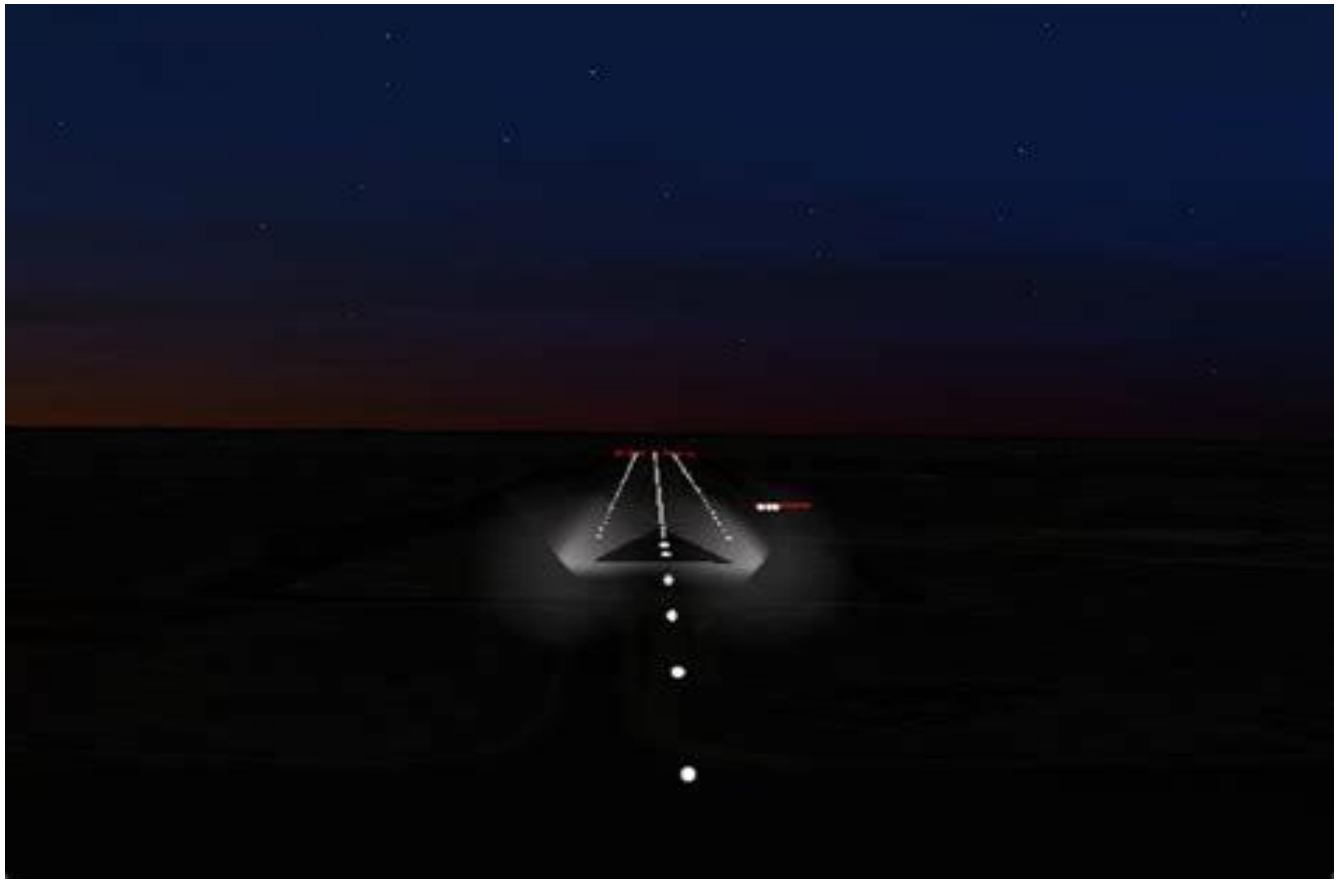
# Tips & Challenges - Night Flight over Water

- False Horizon
  - Can occur when natural horizon is obscured or not readily apparent
  - Can be generated by confusing bright stars and city lights
  - Can also occur while flying toward the shore of an ocean or a large lake. Because of the relative darkness of the water, the lights along the shoreline can be mistaken for stars in the sky.




- **Trust your instruments and rely less on outside references at night**

# Tips & Challenges - Night Flight over Water



- **Black-hole Approach**

# Tips & Challenges - Night Flight over Water

- **Black-hole Approach**
  - Occurs when landing at night from over water or non-lighted terrain
  - Runway lights only source of light
  - Without peripheral visual cues can have trouble w/orientation relative to horizon
  - Runway can seem out of position (down-sloping or up-sloping)
  - Worse case, land short of runway!
  - Use VASI / PAPI or other visual glide slope indicator if avail
  - Use approach NAVAIDS if avail
  - Trust your instruments!!!

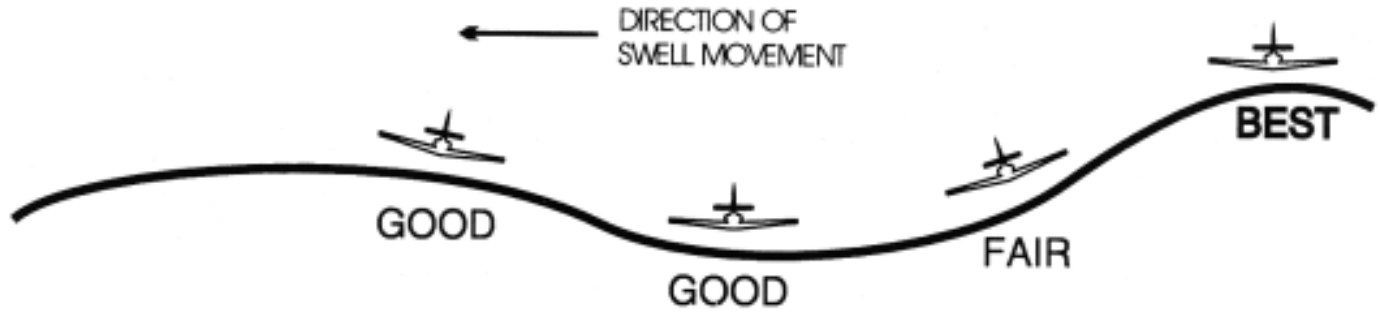
# Best laid plans of mice and men….DITCHING!



# DITCHING!

- Evaluate sea conditions
- Ditching heading critical
- **AVOID THE FACE OF A SWELL!**
- Examine the wind streaks on the water for direction and velocity
- Slow to 10 kts above stall
- Smooth stretch of water, cut power if available
- Touchdown fully stalled if possible
- Get survival equipment out with you as soon as possible

# DITCHING!

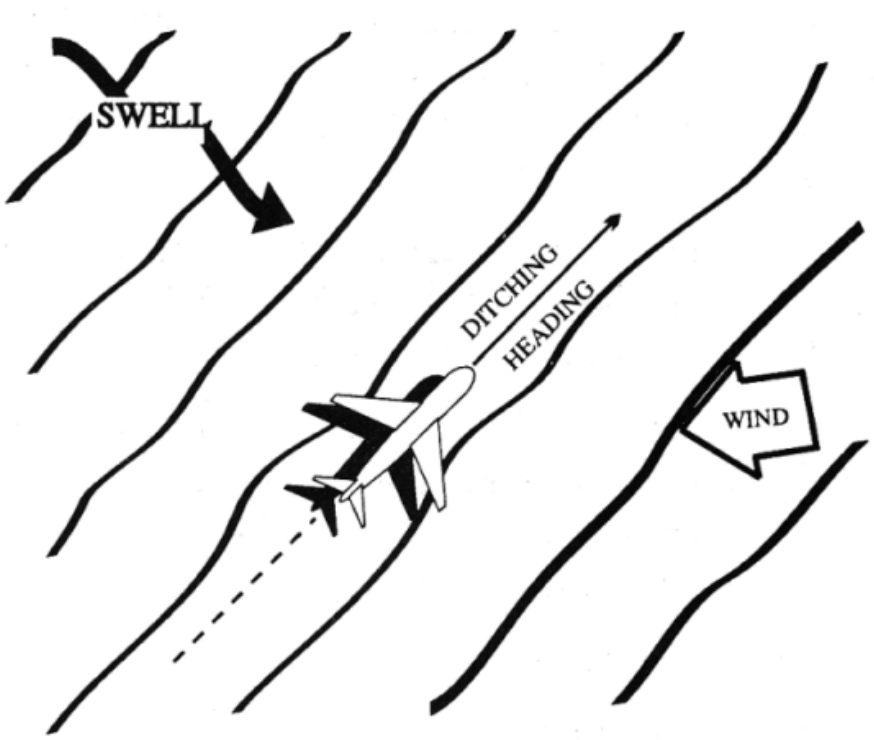



Landing parallel to the major swell

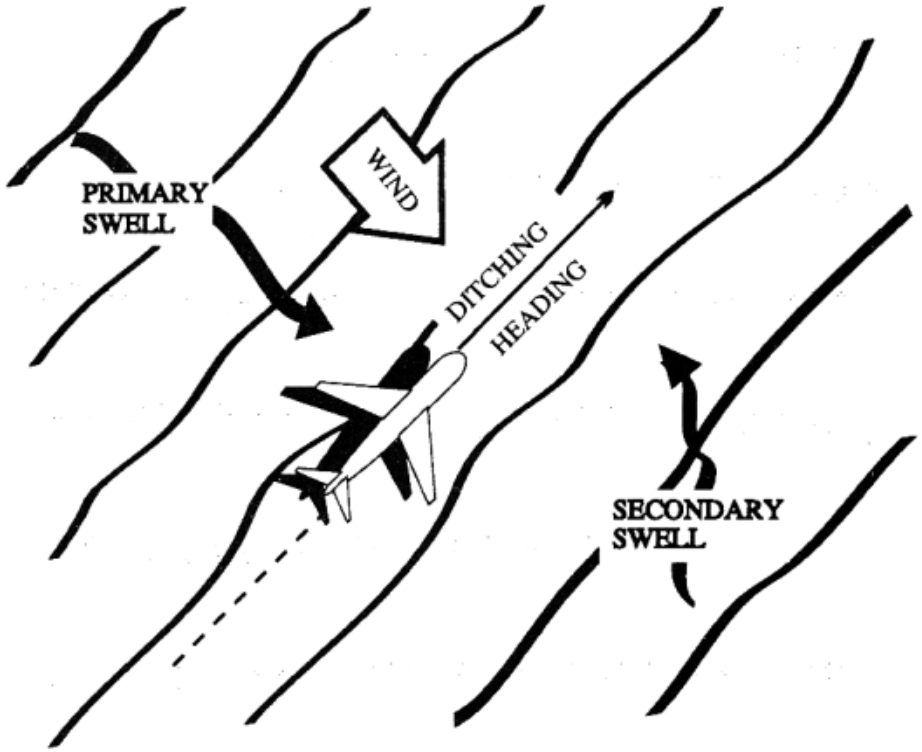



Landing on the face and back of swell

# DITCHING!

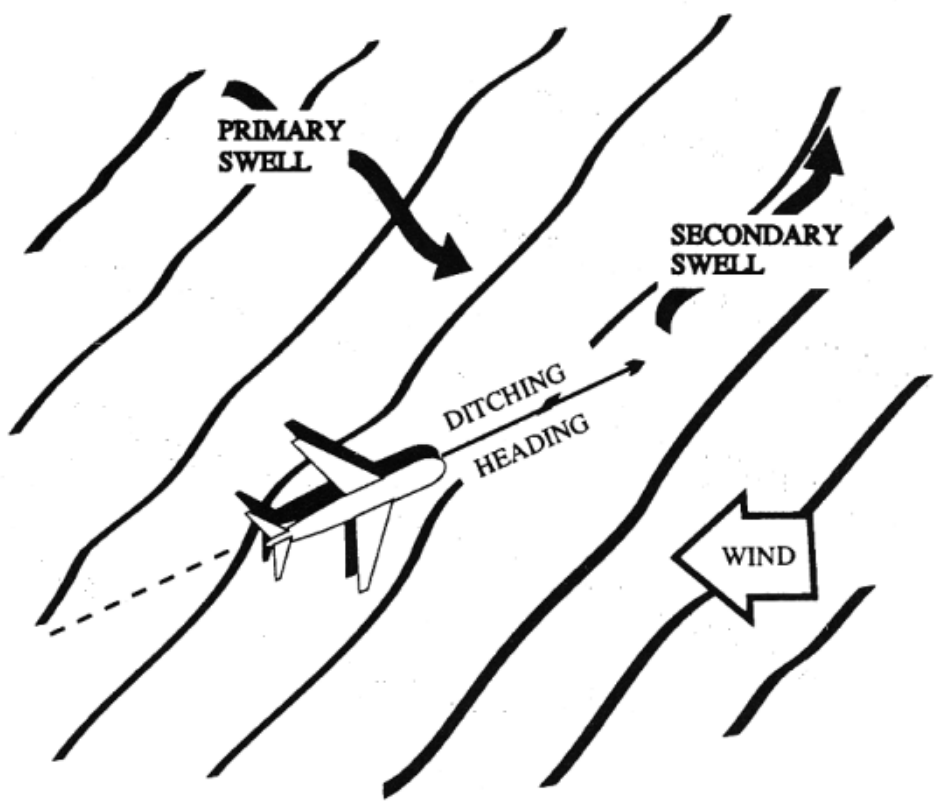



Single Swell

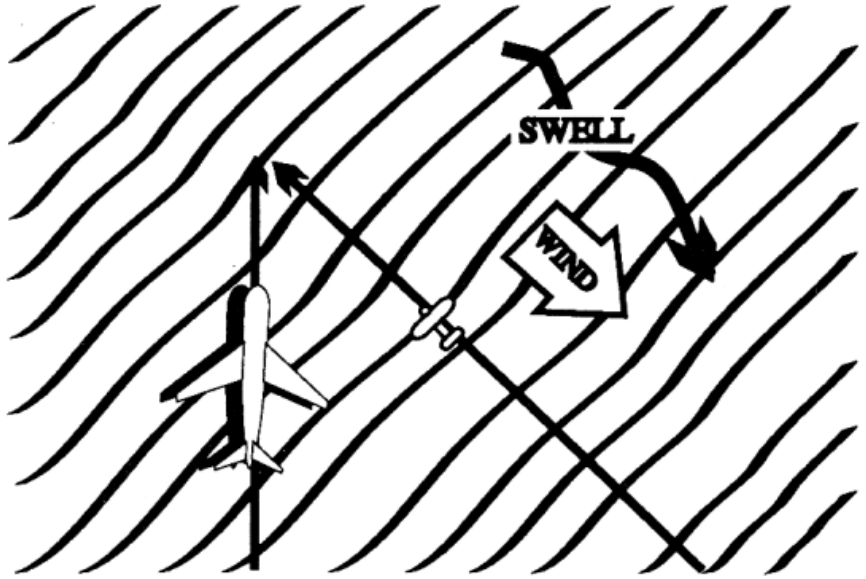



Double Swell (15 knots)

# DITCHING!




**Double Swell (30 knots)**




**Aircraft with low landing speeds - land into the wind.**

**Aircraft with high landing speeds - choose compromise heading between wind and swell.**

**Both - land on back side of swell.**

**Double Swell (50 knots)**

# DITCHING!

- **FAA TV: Survival on Open Water**

- **https://www.faa.gov/tv/?mediaId=472**

# Summary

- Over-Water Flight
- Required Equipment
- Things you might want to have…just in case!
- Tips & Challenges
- Best laid plans of mice and men….DITCHING!
- FAA Video

# Pilot Proficiency

- **The best investment in:**
  - Competence
  - Confidence
  - Safety





# Proficiency training works!

- Sports
- Medicine
- Aviation









# Proficiency Training Works

- **Increases confidence**
- **Increases comfort**
- **Expands horizons**
- **Keeps us safe**







**Earning any WINGS phase qualifies for a Flight Review!**



# Why *WINGS*?

- **Proficient Pilots are:**
  - Confident
  - Capable
  - Safe
- ***WINGS*** will keep you on top of your game



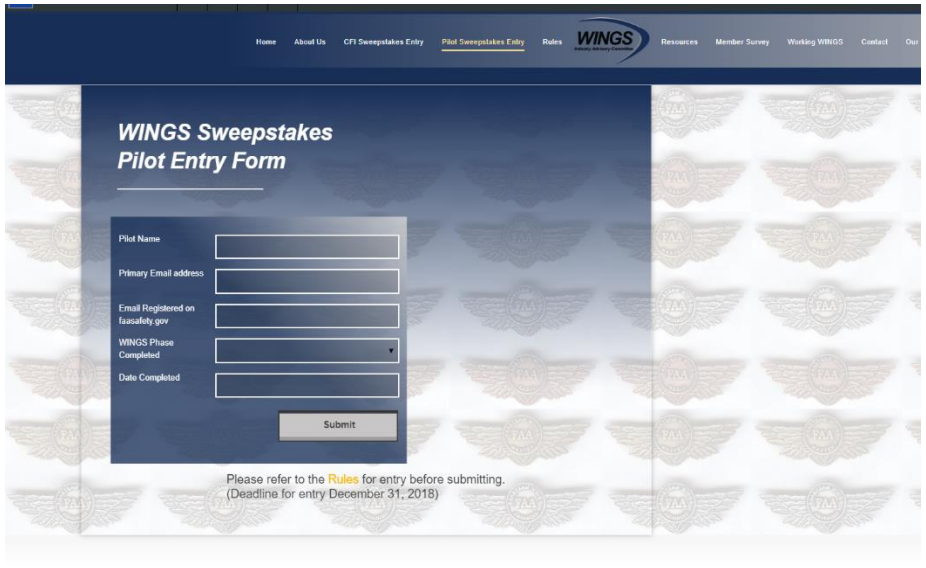
# *WINGS* Also Means Chances to WIN $$$

## Introducing the *WINGS* Industry Advisory Committee



# The Paul & Fran Burger 2019 *WINGS $10,000* Sweepstakes




***Complete WINGS Phases and WIN Cash Awards!***

***www.mywingsiniative.org***

# How To Win – It's Easy

- Select *WINGS* Sweepstakes on the Team Member Award section of your My *WINGS* page
- Or Visit www.mywingsinitiative.org & click on "Sweepstakes Entry"
- You are earning Knowledge Credit today, keep going to win!
- Complete the form, get chances to win one of 10 cash prizes!

***Four $1,500, Four $750,Two $500 Winners***

# WIAC National Ambassadors

## *WIAC WINGS* Safety Ambassador



**Catherine Cavagnaro, 2018 National FAASTeam Rep of the Year Honoree**

## *WIAC WINGSPro* Ambassador



**Karen Kalishek, 2019 National FAASTeam Rep of the Year Honoree**

# References

- **FAASafety.gov**
  - Information and enrollment for *WINGS* Pilot Proficiency Program
- **Off Airport Ops Guide**
  - Baseline performance determination examples
  - https://www.faasafety.gov/gslac/ALC/libview_normal.aspx?id=135893
- **Personal Minimums Development Guide**
  - https://www.faasafety.gov/gslac/ALC/lib_categoryview.aspx?categoryId=15&r_s=50&r_c=50



# Questions?

- **KAAF FAASTeam Reps:**

  **John Bone (678) 472-1437**

  **Bruce Graham (703) 678-6042**



- **FAASTeam Program Manager**

  **Andrew Crossman**

  **Aviation Safety Inspector**

  **Tampa Flight Standards District Office**

  **Office #: 813-287-4933**



# Proficiency and Peace of Mind

- **Fly regularly with your CFI**
- **Perfect Practice**
- **Document in WINGS**







# Thank you for attending

- **You are vital members of our GA safety community**



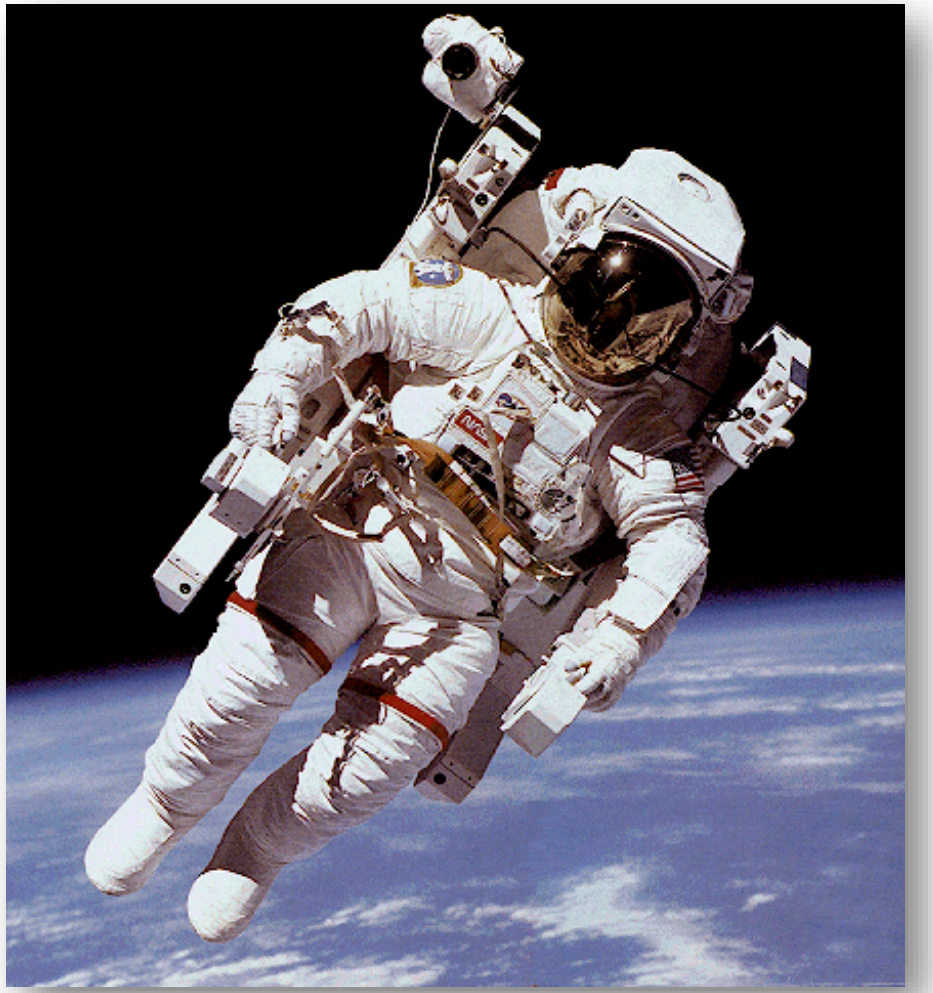





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