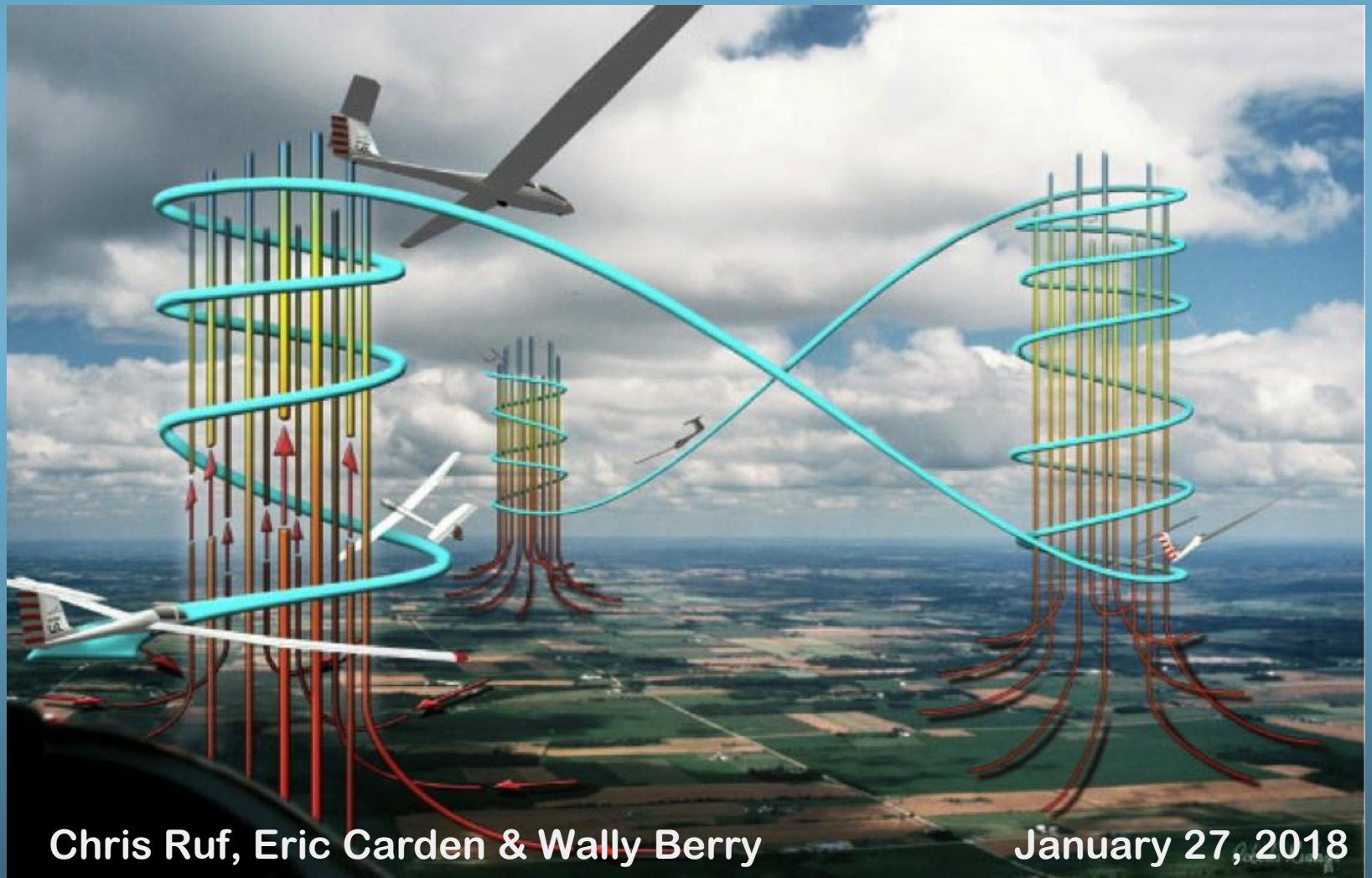
Southern Eagles Soaring

Cross Country Soaring 101 Seminar



Chris Ruf, Eric Carden & Wally Berry

January 27, 2018

SES Cross Country 101 Seminar

Beginners learn how to comfortably fly their first distance flight & have fun too!

What: A seminar (and lunch!) to prepare pilots to fly their first cross country.

Who: **Any glider pilots interested in learning how leave glide range of the pattern - now or in the future..**

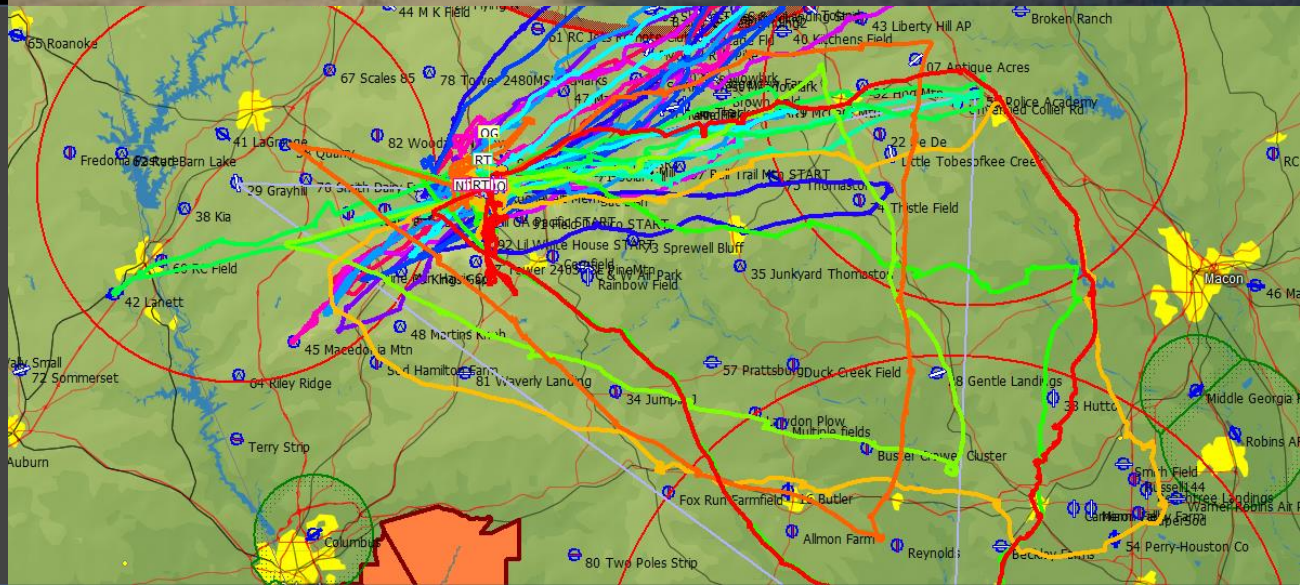
Why: Pilots who learn to fly XC & Racing tend to get more out of soaring , stay in the sport longer, and enjoy years of camaraderie with fellow pilots. Cross country soaring skills will take your flying to the next level..

Use advice and content at your own risk! Read and talk to your instructors.

Introduction of presenters & attendees

Chris Ruf
Eric Carden
Wally Berry

Show of Hands for each State people are attending from.

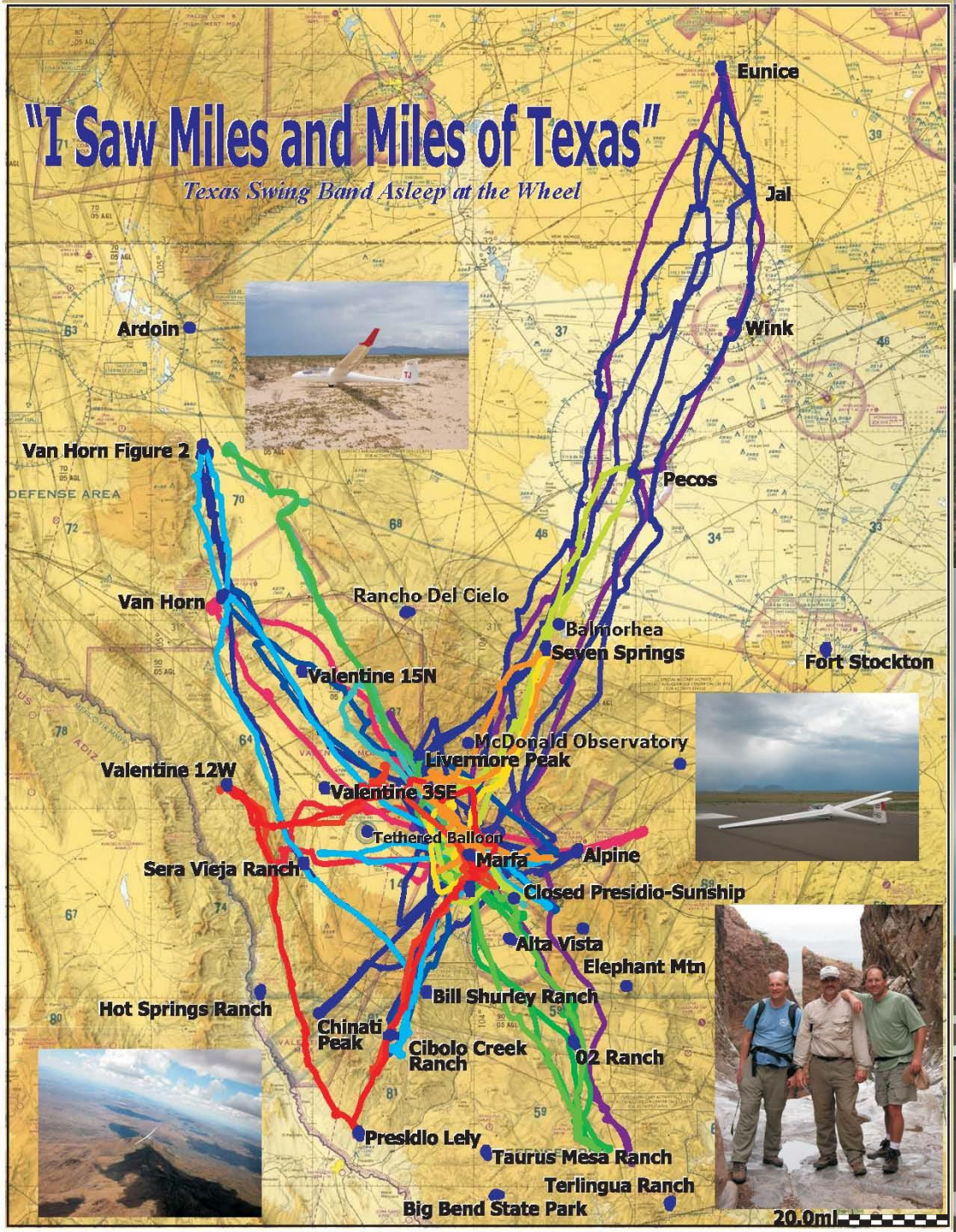


Oh, the Places you'll go… Soaring

Chris Ruf over Marfa Texas

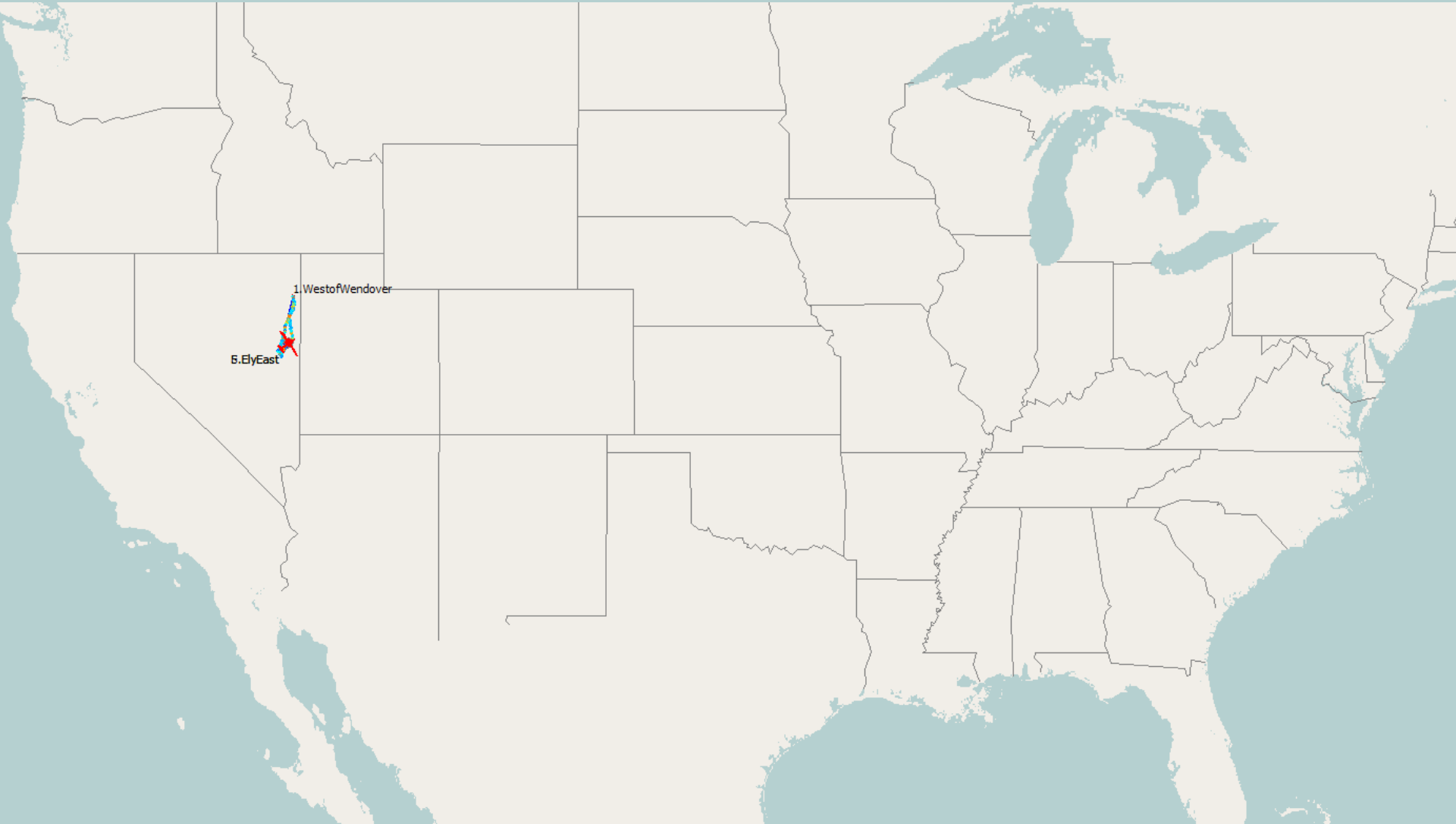
"I Saw Miles and Miles of Texas"

Texas Swing Band Asleep at the Wheel



Ely, Nevada, Nimbus 3DM, Carl Herold & Chris Ruf

- Where can a thermal take you?



Ely, Nevada, Nimbus 3DM, Carl Herold & Chris Ruf
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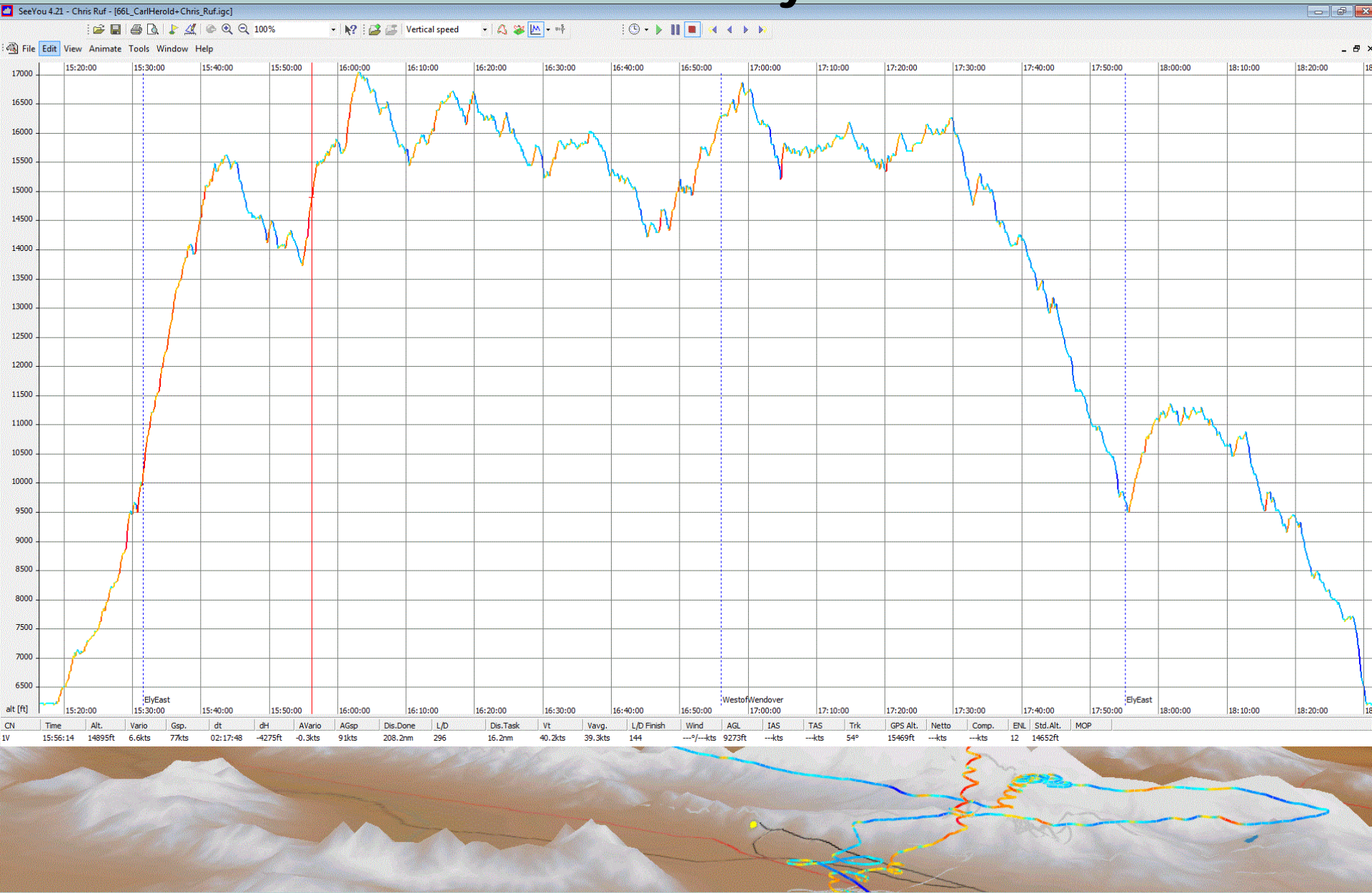
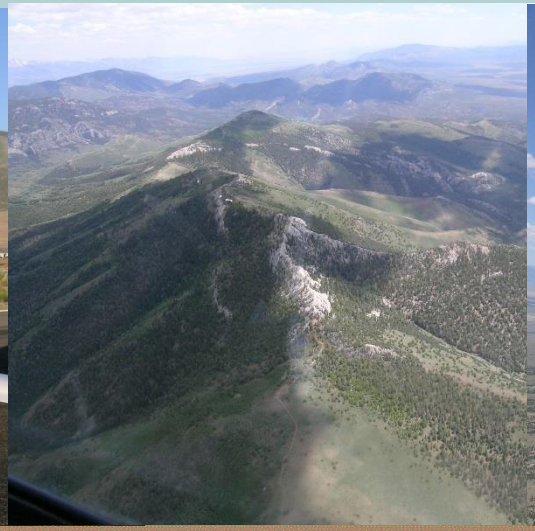
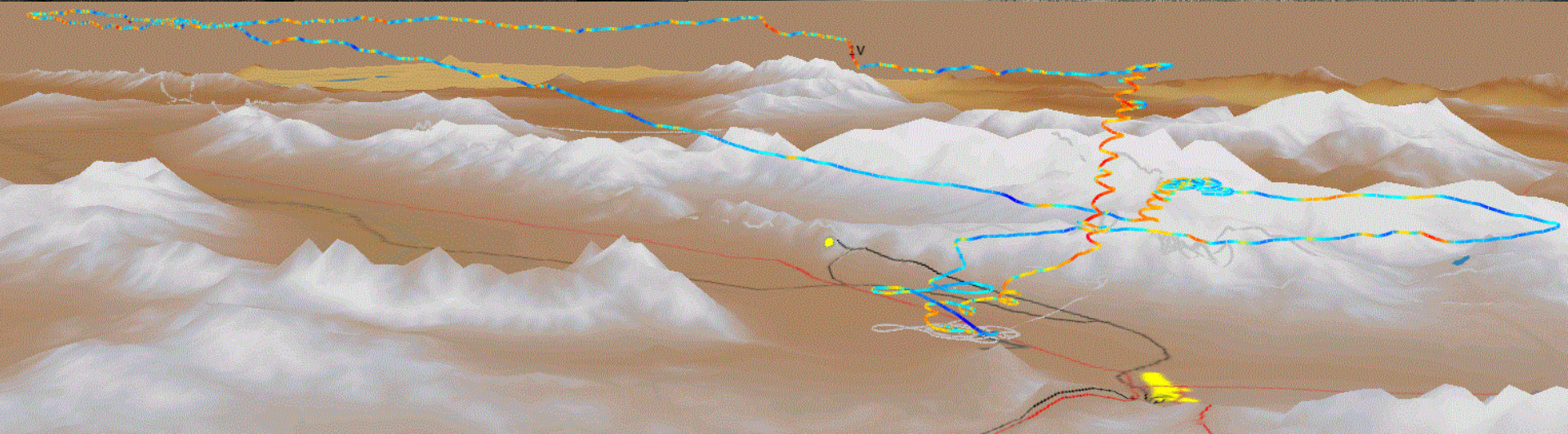


Ely, Nevada, Nimbus 3DM, Carl Herold & Chris Ruf

- Where can a thermal take you?

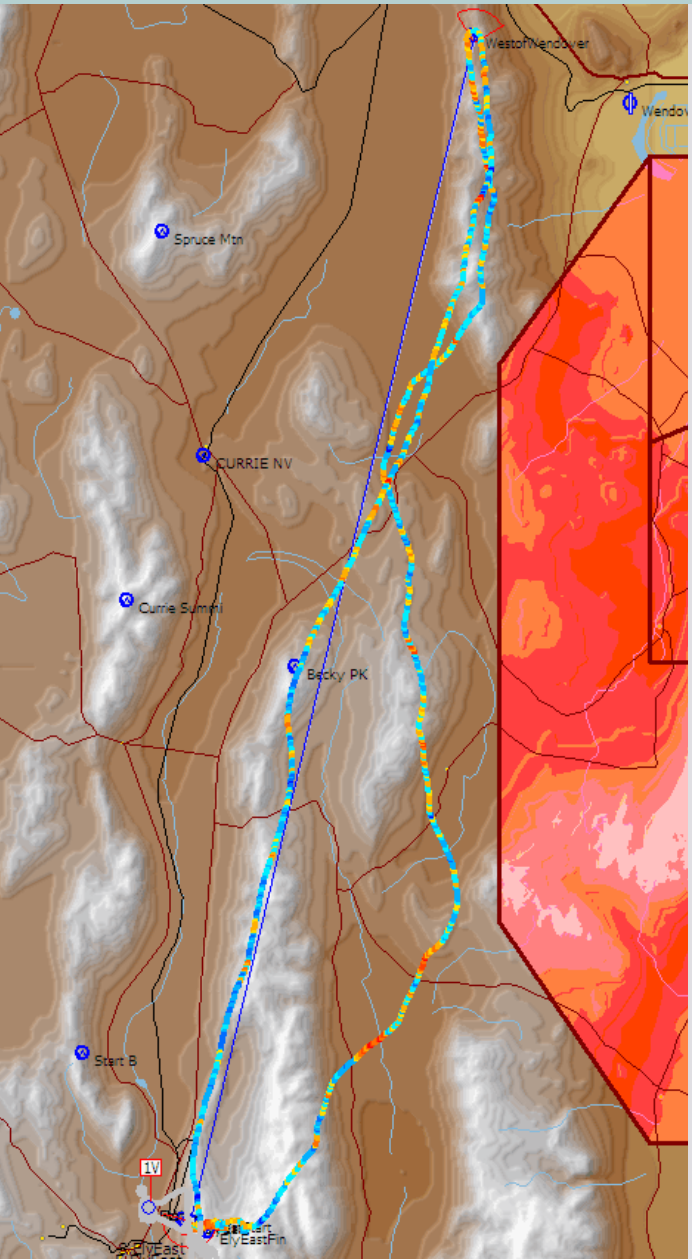
66L_CarlHerold+Chris_Ruf.igc





Ely, Nevada, Nimbus 3DM, Carl Herold & Chris Ruf

Where can *A* thermal take you? 238miles on 1 thermal



ElyEast - WestofWendover - ElyEast

Distance: 216.8ml
Start: 15:31:37 at 10194ft
Finish: 17:55:11 at 9689ft
Duration: 02:23:34
Speed: 90.60mph, XC Speed: 90.06mph

2006-06-21 Ely, NV
Carl Herold with Chris Ruf
Nimbus 3DM

Circling:	Time	Vario	Alt.Gain	Alt.Loss	Thermals
Total	00:06:24 (4%)	5.9kts	3842ft	-39ft	2
Right	00:06:24 (100%)	5.9kts	3842ft	-39ft	2
Tries (<45s)	00:00:12 (0%)	-3.4kts	0ft	-69ft	1

Straight:	Time	Dis.Done	Alt.diff	Netto	Avg.GS	IAS	Glides	Avg.Glide	Mean L/D
Total	02:17:06 (95%)	238.4ml	-4298ft	-1088.7kts	104mph	84mph	2	119.2ml	292.8
Rising	00:43:00 (31%)	70.9ml	23563ft	-1770.4kts	99mph	79mph			-16
Sinking	01:34:06 (69%)	167.5ml	-27861ft	-777.3kts	107mph	86mph			32
Netto rising	01:37:30 (71%)	170.6ml	11867ft	4.2kts	105mph	84mph			-76

Wind

<10250	10500	11000	11500	12000	12500	13000	13500	14000	14500	15000	15500	16000	16500	16750>	[ft]
1.4	1.8	2.4	1.9	1.0	1.1	2.1	2.2	7.5	12.3	11.8	29.6	37.0	17.1	3.2	[min]
228°/11	228°/11	228°/11	228°/11	228°/11	227°/11	228°/11	234°/11	236°/11	239°/11	241°/10	242°/10	242°/10	242°/10	242°/10	[°/kts]

Vario

<1.5	2	3	4	5	6	7	8	9	10	11	12	12.5>	[kts]
0.8	0.3	0.8	0.1	1.2	0.9	0.2	0.7	0.8	0.2	0.1	0.2	0.1	[min]
30	72	413	33	522	558	118	653	732	187	66	299	121	[ft]

Altitude

<10750	11000	11500	12000	12500	13000	13500	13750>	[ft]
0.5	0.7	0.8	0.7	0.8	0.8	1.1	1.0	[min]
10.3	6.6	4.3	7.2	6.2	6.7	4.2	3.4	[kts]

Speed

<75	80	90	100	110	120	130	135>	[mph]
4.6	7.8	23.2	42.2	26.1	18.5	11.8	2.9	[min]
5.3	10.5	35.2	70.4	47.7	37.0	25.5	6.8	[ml]
1033	1542	2133	1004	-2270	-3839	-3061	-840	[ft]

4% circling, 108mi N, 108mi S
292:1 L/D
90.6 mph for 217 miles
84mph IAS
A 24% increase in Groundspeed vs Indicated Airspeed
That is really impressive!

500K Triangle, Cordele, Chris Ruf

SSA State Soaring Record Application Form

ATTACH COMPLETED SSA AWARDS APPLICATION MASTER FORM

Notify the State Record Keeper in writing within 10 days of the flight

Pilot Name: Chris Ruf DOB: 2/19/1967 (Circle) M F

Street: 146 Underwood Dr NW City: Sandy Springs State: GA Zip: 30328

Phone or E-MAIL: rufchris@gmail.com SSA Member #: 903297

Multiplace claims:
Passenger Name: DOB: (Circle) M F
Street: City: State: Zip:

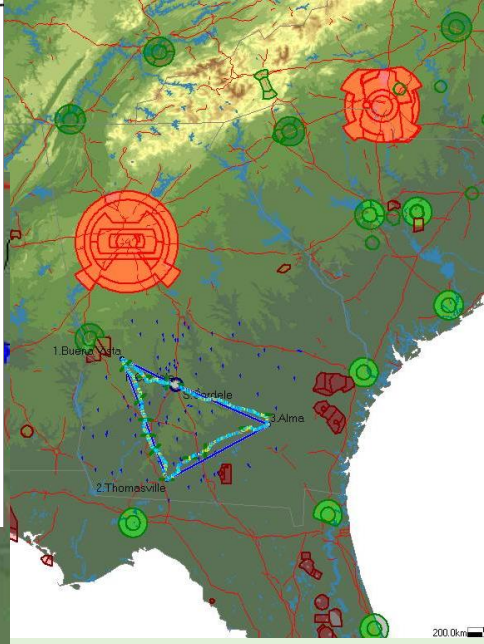
State in which the Start Point is located: Georgia Date of Flight: 6/11/2011

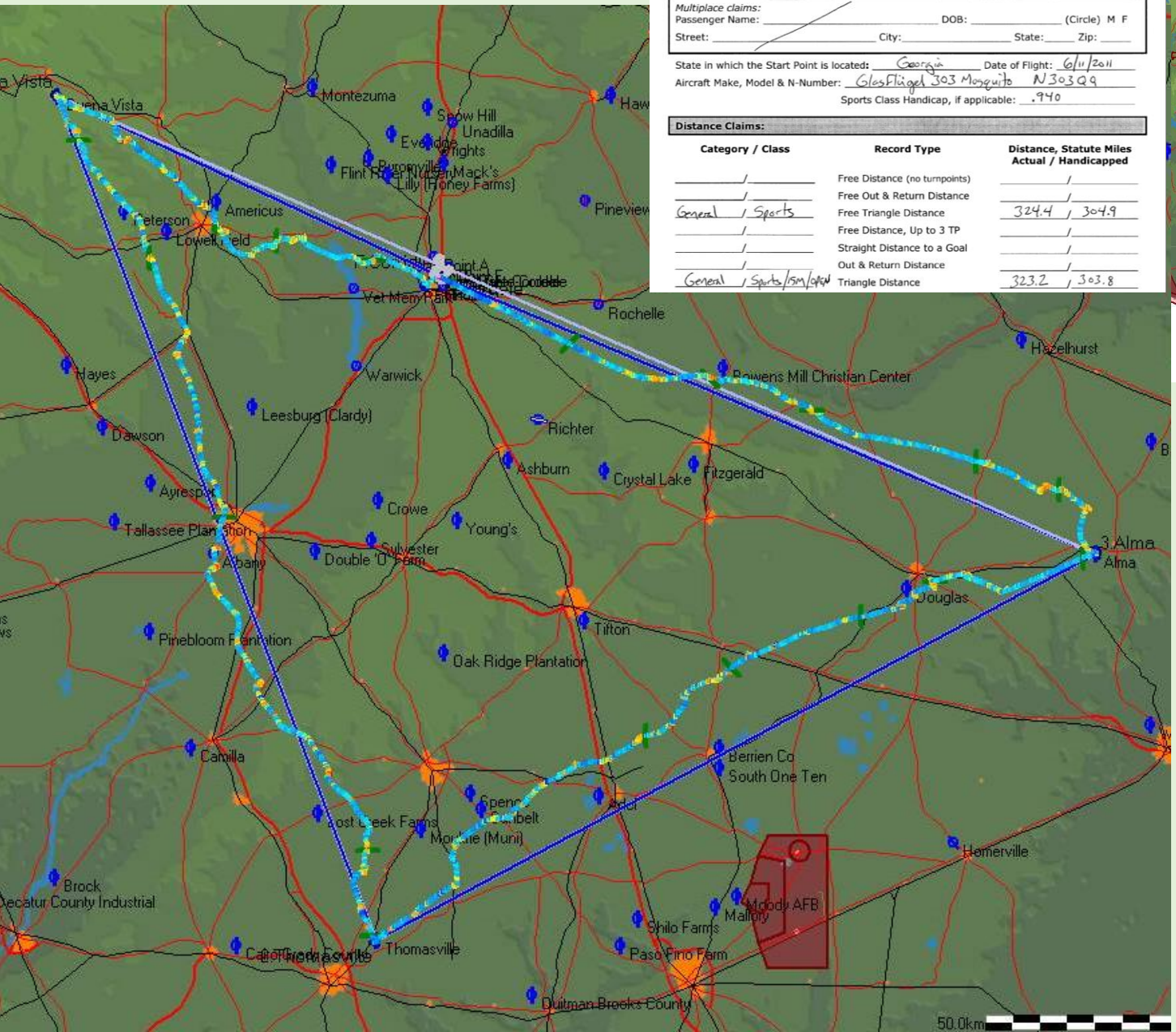
Aircraft Make, Model & N-Number: GlesFliegel 303 Mosquito N303QQ

Sports Class Handicap, if applicable: .940

Distance Claims:

Category / Class	Record Type	Distance, Statute Miles Actual / Handicapped
/	Free Distance (no turnpoints)	/
/	Free Out & Return Distance	/
General / Sports	Free Triangle Distance	324.4 / 304.9
/	Free Distance, Up to 3 TP	/
/	Straight Distance to a Goal	/
/	Out & Return Distance	/
General / Sports/15M/OPEN	Triangle Distance	323.2 / 303.8



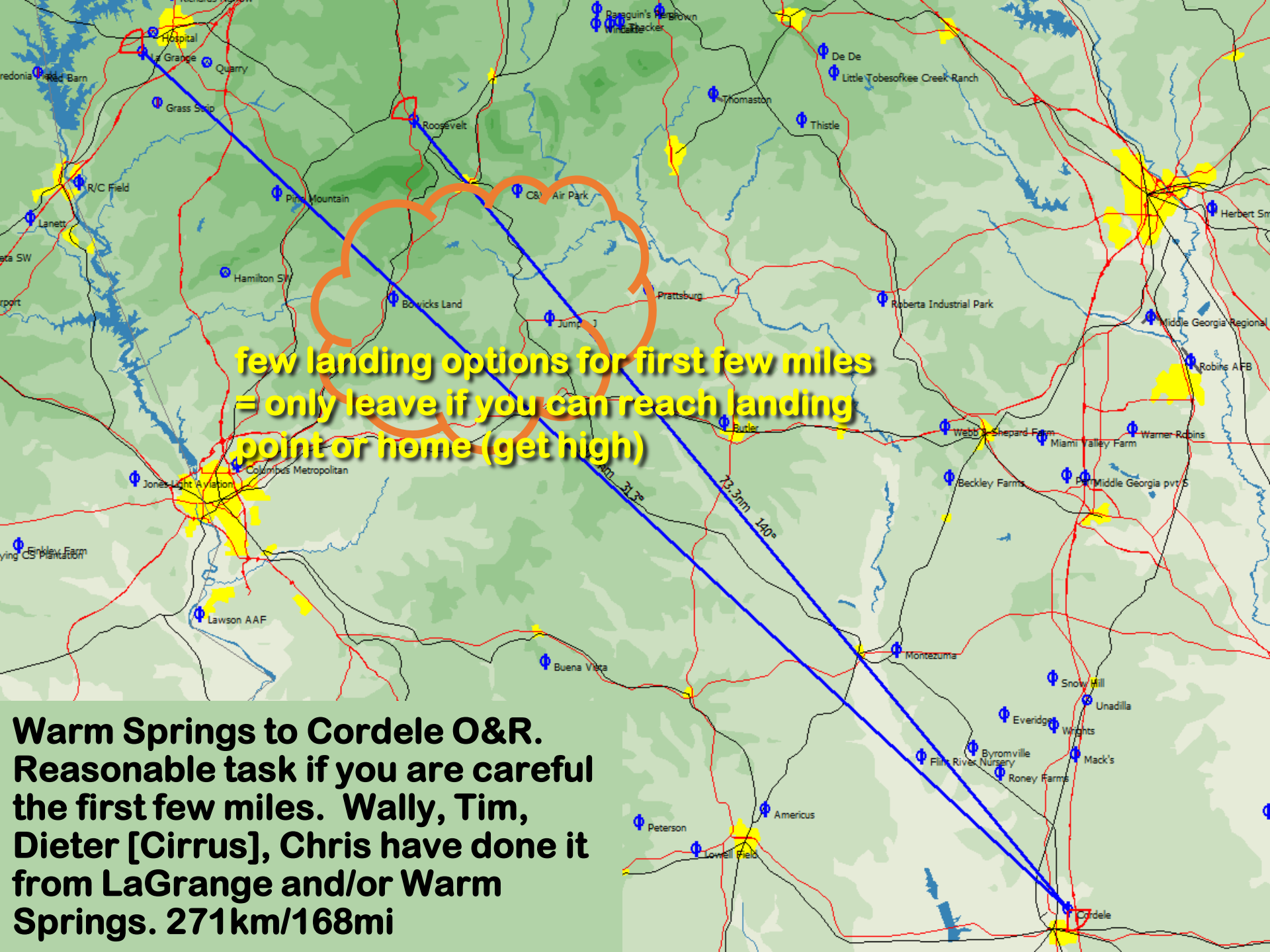


Diamond Distance
500K Triangle, 324.4 miles

Cordele, Buena Vista, Thomasville, Alma, Cordele

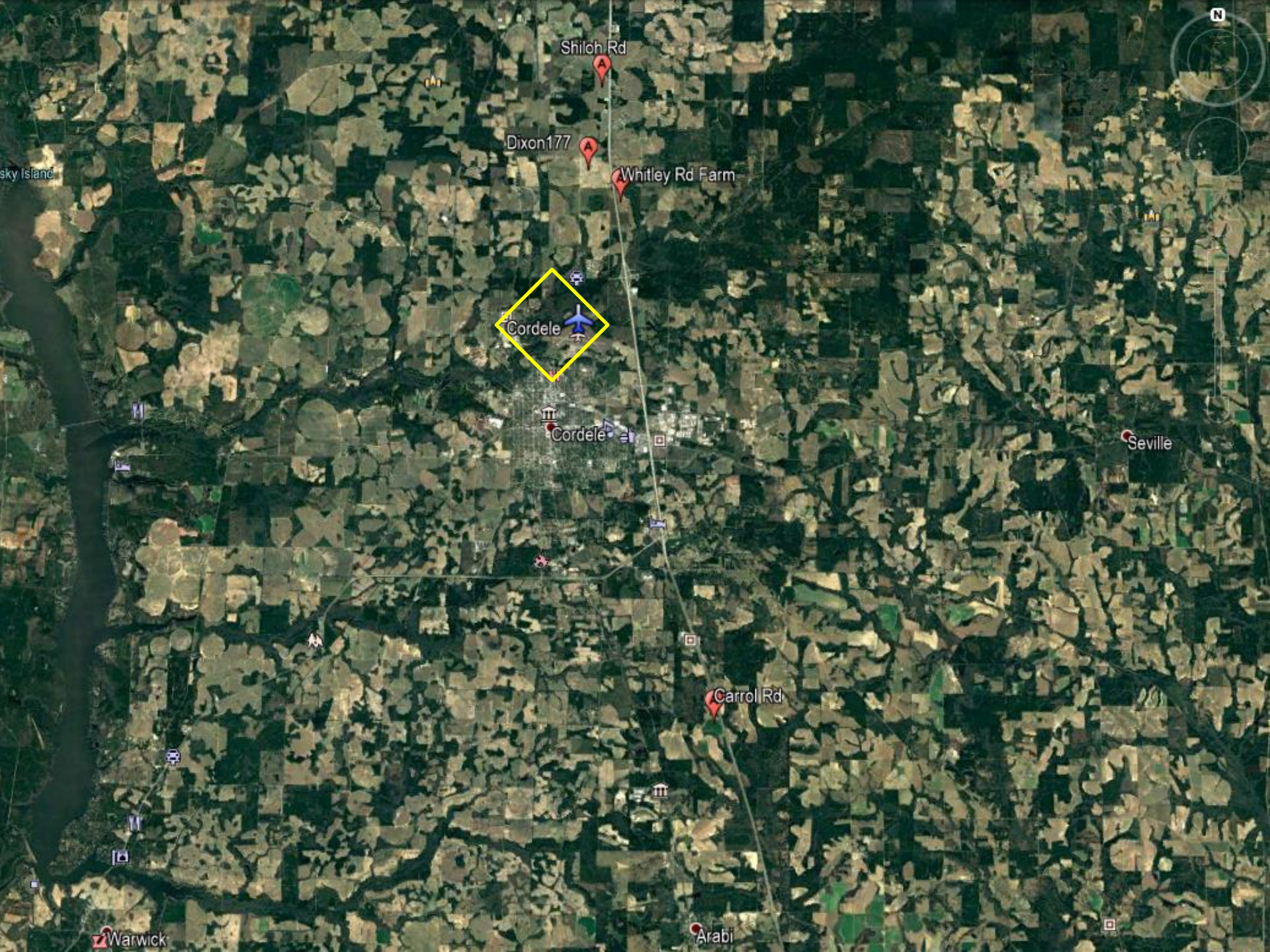
Chris Ruf
Mosquito H6
June 11, 2011


Go on a Safari out west, you'll learn a lot
Heck Go to Cordele, you'll learn a lot



Warm Springs to Cordele O&R. Reasonable task if you are careful the first few miles. Wally, Tim, Dieter [Cirrus], Chris have done it from LaGrange and/or Warm Springs. 271km/168mi

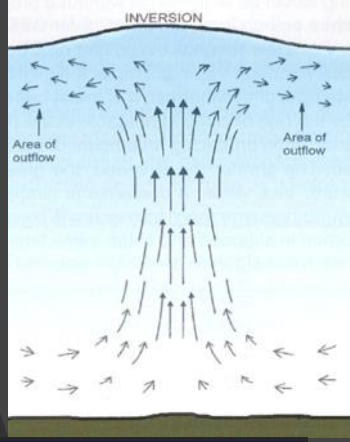

Greenville
Woodard Narrow
Molena
Cedar Tree Farm START
Woodbury
Bark&Stone Mill
Solar Hill
Roosevelt Memorial
Sat Dish
Wheat
Wood Mill GA Pacific START
Field Derrico START
Lil White House START
Warm Springs
Pine Mountain
Manchester
Cornfield
C & W Air Park
Tower 2403MSL PineMtn
Kings Gap
Rainbow Field
Shiloh
Pine Mountain Valley
© 2018 Google
Google Earth


Shiloh Rd
Dixon177
Whitley Rd Farm
Cordele
Cordele
Seville
Carrol Rd
Warwick
Arabi

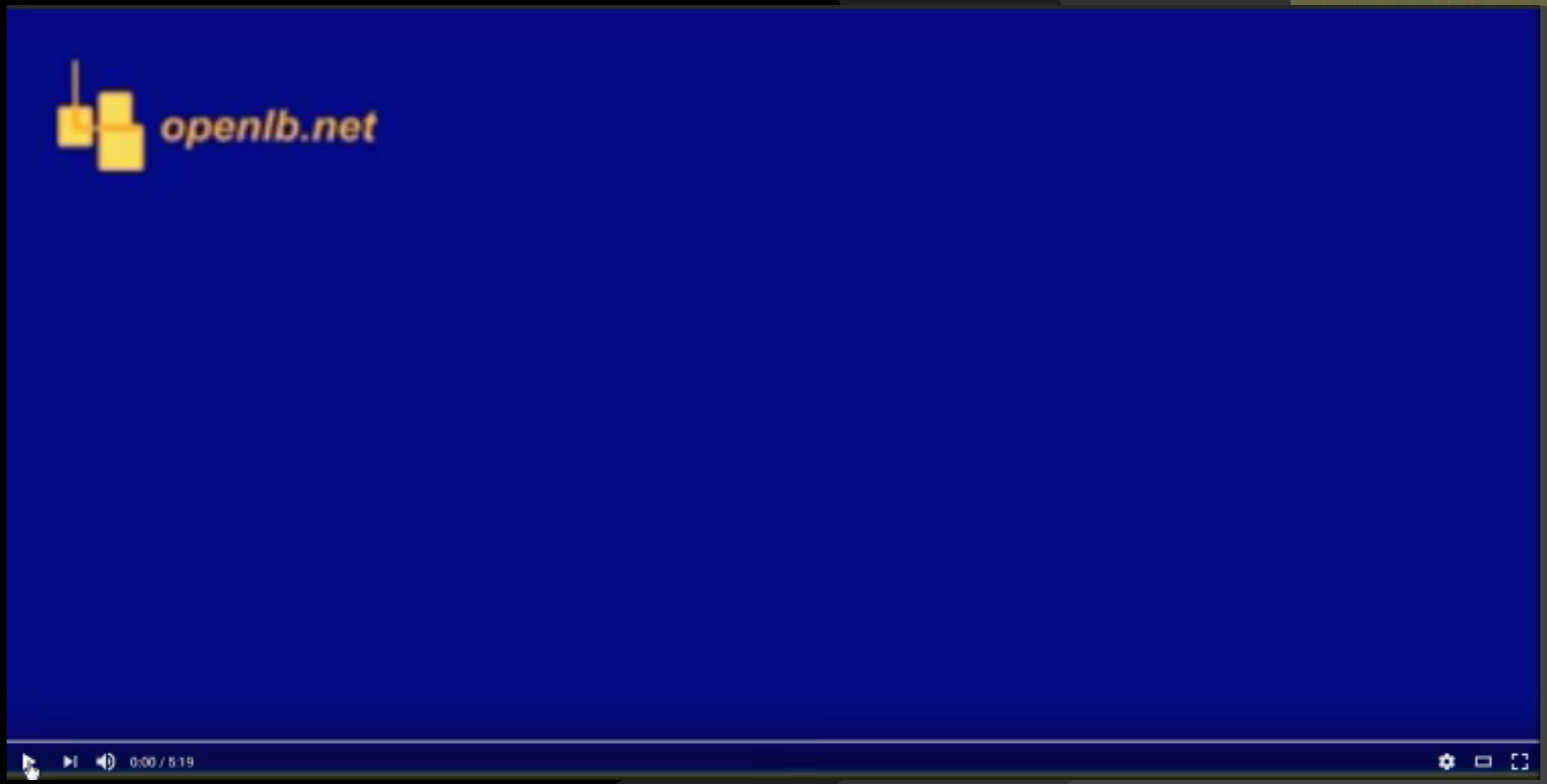
WB's turn to talk

Convection & Thermalling Low

Rayleigh Benard Thermal Convection full video



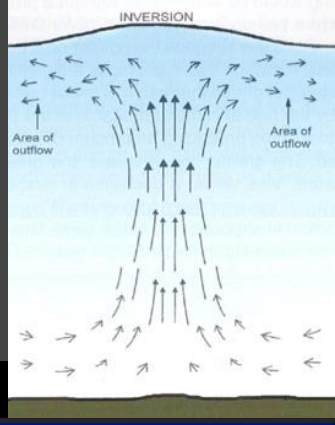
Notice down low the air movement is vastly horizontal inflow.



Convection & Thermalling Low – Slow Motion

Rayleigh Benard Thermal Convection full video

Notice down low the air movement is vastly horizontal inflow.

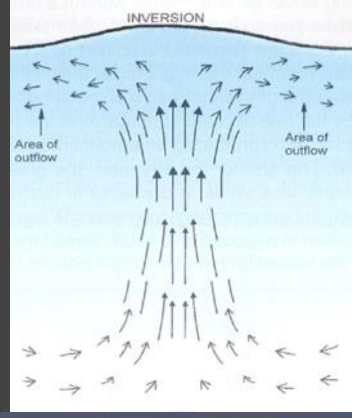


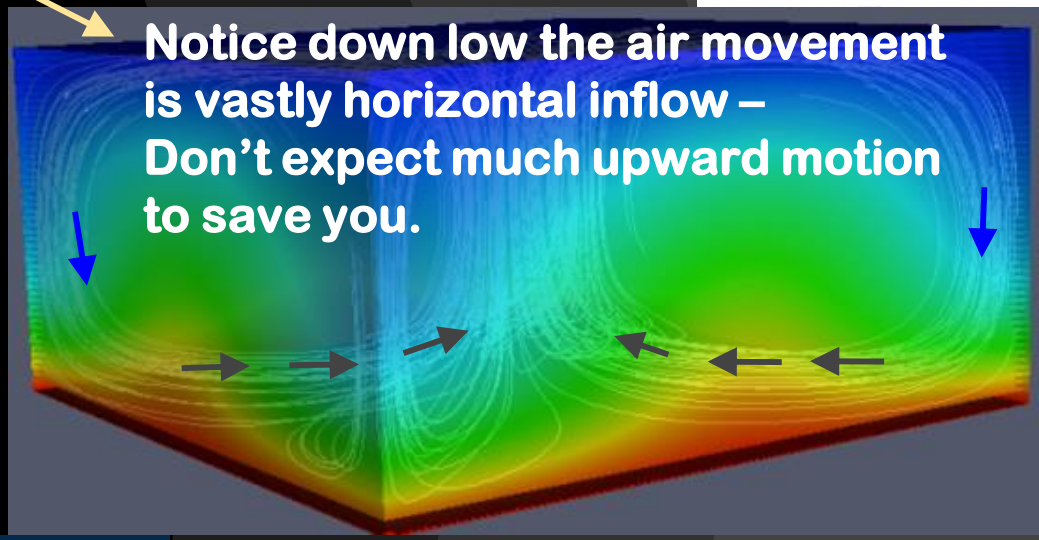
openlb.net

0:00 / 5:19

Thermalling Low

- Low saves are a fact of soaring
- Routine in ridge flying
- Very difficult much below 1000 feet – and that's for experts
- Typically very narrow with sharp boundaries between sink & lift
- Typically very turbulent
- And dangerous as hell with any wind speed





Remember, look outside for:

- Birds or other gliders circling,
- Change in wind direction on the ground,
- Dust devils, Fires, Tractors,
- Newly forming clouds
- Find the trigger, go to the high ground.

So:

- Have a field picked
- Add a bit more speed
- Expect to be in and out of sink
- Look for positive average climb
- Stay with what you got – it'll probably get better
- Make small circle adjustments

Thermalling

Eric Carden's Thermalling & Cross Country Soaring Course

Eric Carden's Thermaling & Cross Country Soaring Course

Here are what I consider my two most valuable videos:
"How to Thermal: 'Easy as 1-2-3' Method": This is a six-minute lesson that I think would serve every new thermalling pilot well - and would even help most experienced thermalling pilots (though the title might offend their egos).

"Thermaling 101 (How to Stay in a Thermal)": This is a 75-minute recorded webinar expanding on the "Easy as 1-2-3" thermalling method and teaching other beginner-level thermalling concepts. These two videos have probably been more helpful to pilots than all my other material combined. My main passion (related to teaching soaring) is helping pilots learn to thermal reasonably well, because without that skill, they're doomed to a life of sled-runs (and don't have much hope of meaningful XC). :-) Thanks, Eric

Local flight = XC training

- Get to know the performance characteristic of your sailplane
- Practice final glides to a predetermined altitude on every flight. Allow for a safe altitude cushion (full pattern + safety margin)
- Practice precision patterns & landings on *every flight*
- Perform patterns without reference to altimeter
- Complete flare for minimum touch down speed
- Evaluate fields both when flying and driving
- Study the bible: “Introduction to Cross-country Soaring” by Kai Gertsen

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ABC BRONZE TRAINING PROGRAM

A Badge Requirements:

Preflight Phase

Applicant Demonstrates Knowledge of:
- **Sailplane Nomenclature**
- **Sailplane Handling Procedures**
- **Sailplane Pre-flight Check**
- **Airport Rules and Federal Aviation Regulations**
- **Tow Equipment, Signals, and Procedures**
- **Hook-up of Towline**
- **Launch Signals**
- **Pilot Responsibilities**

Applicant Possesses:
- **Valid FAA Pilot Certificate**
- **Pilot Logbook or Suitable Permanent Record**

Presolo Phase

Applicant Has Completed the Following Minimum Flight Training Program:
- **Familiarization Flight**
- **Cockpit Check Procedure**
- **Effects of Controls - Ground and Flight**
- **Takeoff Procedures - Normal and Crosswind**
- **Flight During Tow**
- **Straight Gliding Flight**
- **Shallow Turns**
- **Circuit Procedures and Landing Patterns**
- **Landing Procedures - Normal, Downwind, & Crosswind**
- **Moderate and Steep Turns Up to 720 Degrees in Both Directions**
- **Stall Recognition and Recovery**
- **Conditions of Spin Entry and Recovery**
- **Effective Use of Spoilers/Flaps/Slips**
- **Emergency Procedures**
- **Oral Examination on Federal Aviation Regulations**
- **Solo Flight**

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ABC BRONZE TRAINING PROGRAM

B Badge Requirements:

Practice Phase

Applicant Demonstrates:

- **Soaring ability by a solo flight of at least 30 minutes duration after release from a 2,000-foot tow (add 1½ minutes per 100 foot tow altitude above 2,000 feet).**

ABC BRONZE TRAINING PROGRAM

C Badge Requirements:

Pre Cross-country Phase

Applicant Has Completed the Following Flight Training:

- **Dual Soaring Practice, including instruction in techniques for soaring thermals, ridge soaring, and wave (simulated flight and/or ground instruction may be used when suitable conditions do not exist).**
- **Has Knowledge of:**
  - **Cross-country Procedures**
  - **Sailplane Assembly, Disassembly, and Retrieves**
  - **Hazards of Cross-country Flying**
- **Demonstrates Soaring Ability by Solo Flight of at Least 60 Minutes Duration After Release From 2,000 Foot Tow (add 1½ minutes per 100 foot of tow above 2,000 feet).**
- **While Accompanied by an SSA Instructor, Demonstrate the Following:**
  - **Make a Simulated Off-field Landing From the Approach Without Reference to the Altimeter**
  - **Perform an Accuracy Landing From the Approach, Touching Down and Coming to a Complete Stop Within an Area No Greater Than 500 Feet in Length.**

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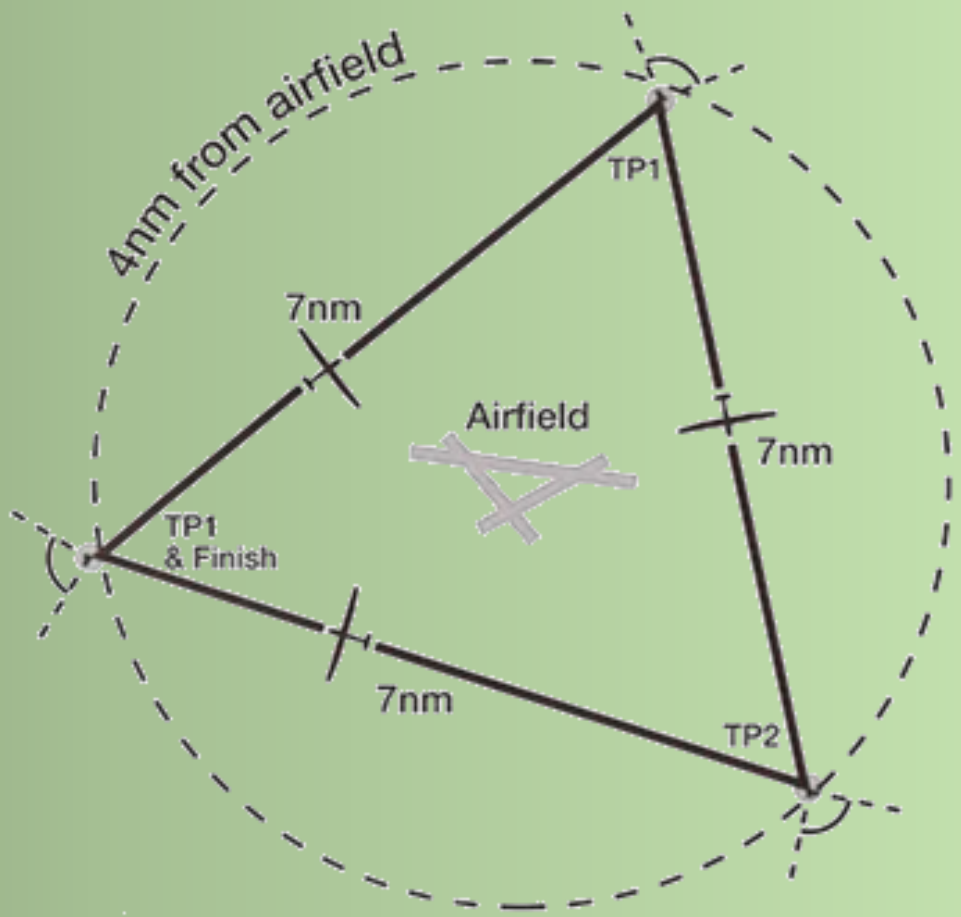
ABC BRONZE TRAINING PROGRAM

Bronze Badge Requirements

- Complete the ABC Training Program with the C Badge Awarded.
- Log at Least 15 Solo Hours in Gliders. This Time Must Include 30 Solo Flights with at Least 10 Flights Flown in a Single-Place Glider if Possible.
- Log at Least **2 Flights, Each Having Duration of Two Hours or More.**
- Perform at Least **3 Solo Spot Landings** in a Glider Witnessed by an SSAI. The Accuracy and Distance Parameters Established Should be Based on Glider Performance Data, Current Winds, Runway Surface, and Density Altitude. As a Guideline, a Maximum Distance of 400 Feet Would be Acceptable for a Schweizer 2-33 Glider.
- Log Dual Time in Gliders with an Instructor during which at Least 2 Accuracy Landings are Made without Reference to the Altimeter to Simulate Off-field Landings.
- Pass a Closed Book Written Examination Covering Cross-country Techniques and Knowledge. The Minimum Passing Score is 80%. This Examination is Administered Only by an SSAI.

New habit:

Log your Miles & Speeds, not just hours.



SSA FAI Badge Record Home Page

FAI Silver Badge

3 required elements.

1. Silver Altitude is a **1,000-meter (3,281-foot) altitude gain** above an in-flight low point.
2. Silver Duration is a **5-hour** flight time after tow release.
3. Silver Distance is a straight distance flight of at least **50-km (31.07-mile)** from the release point, with no more than a 1640' altitude loss (1% rule).

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SSA FAI Badge Record Home Page

FAI Gold Badge

2 required elements.

1. Gold Altitude is a **3,000-meter (9,843-foot) altitude gain** above an in-flight low point
2. Gold Distance is a **300-km (186.42-mile)** cross country flight.

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SSA FAI Badge Record Home Page

FAI Diamond Badge

There are three Diamonds; each may be **achieved separately by completing one** of the soaring performances below

a. Diamond Altitude is a **5,000-meter (16,404-foot)** altitude gain above an in-flight low point;

b. Diamond Goal is a **300-km (186.42-mile)** cross country flight using a **pre-declared Out and Return or Triangle course**;

c. Diamond Distance is a **500-km (310.7-mile)** cross country flight.

(1, 2, & 3 could be done as the same flight).

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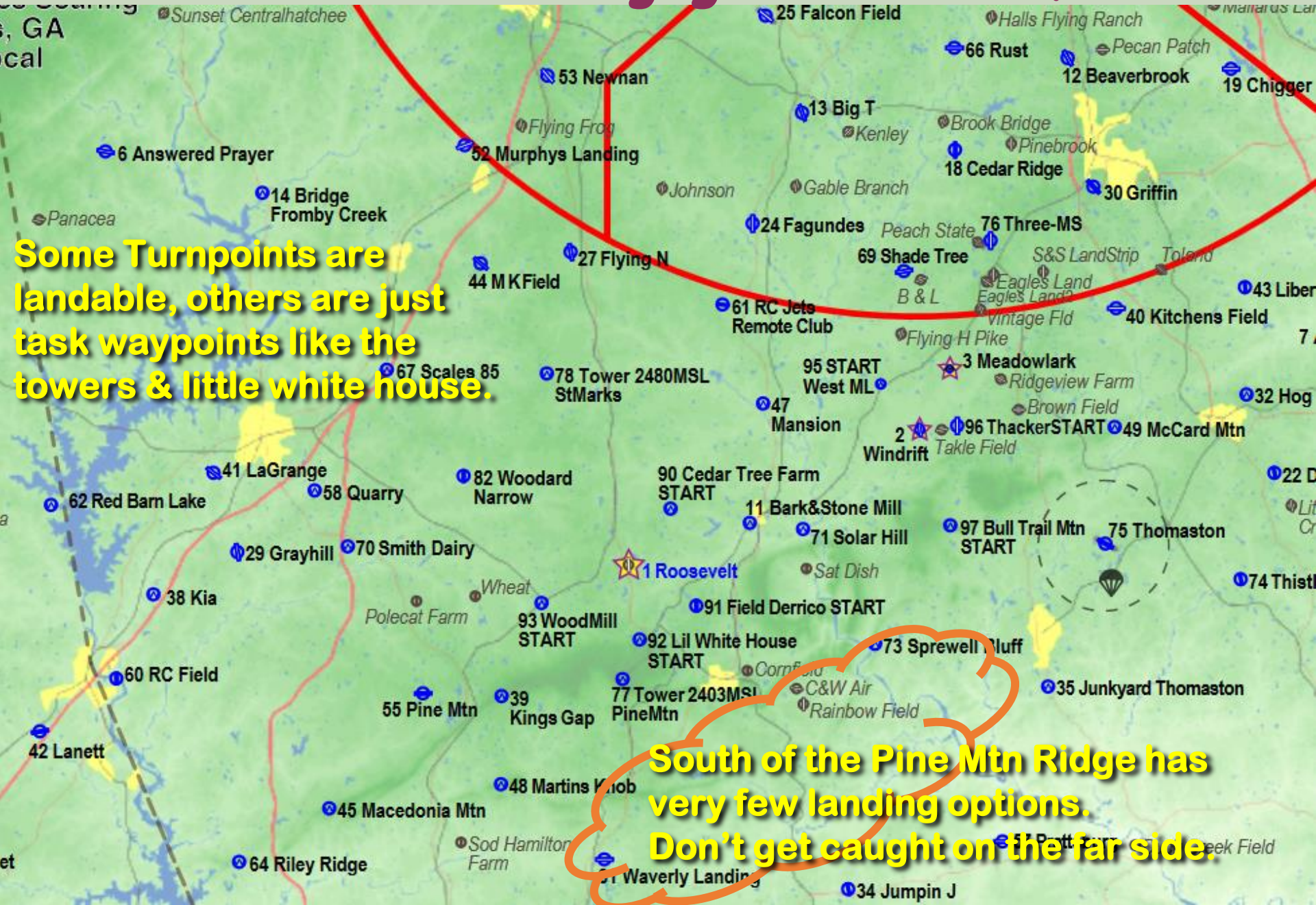
The Local Play yard…sectional

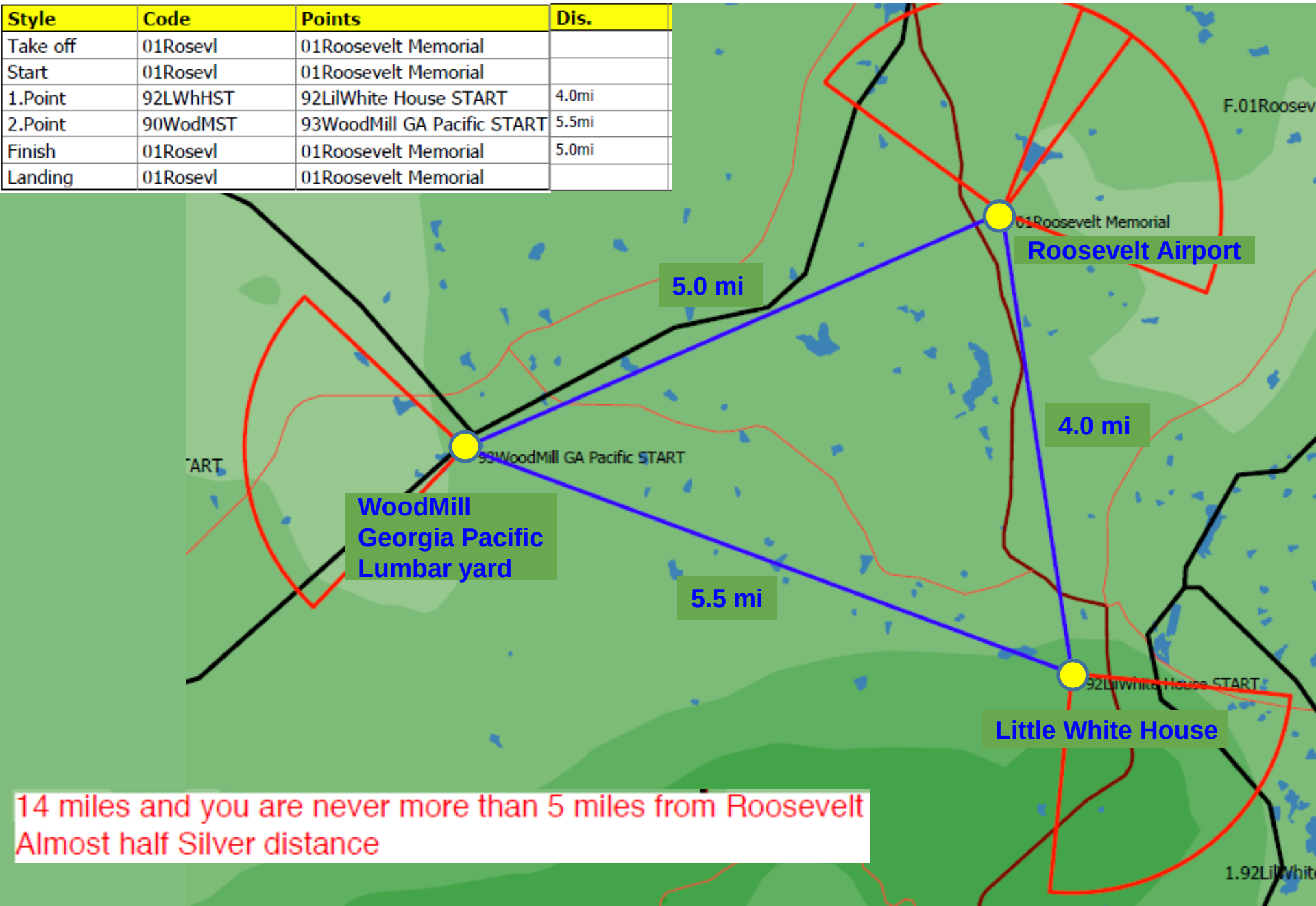
The Local Play yard…Turnpoints



Practice Task to learn XC skills with your instructor Example 1 14.4miles around

Task distance: 14.4mi

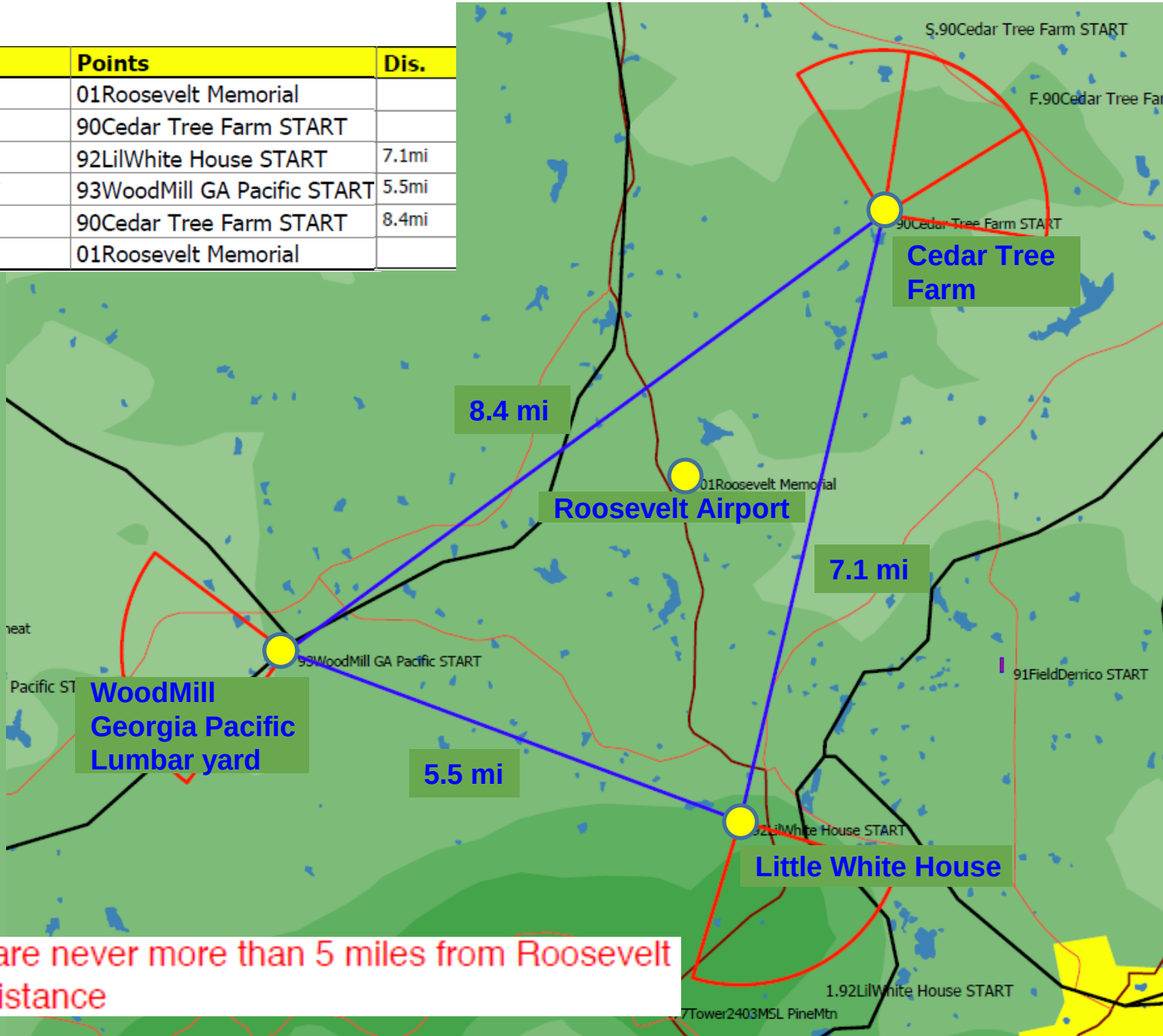
Style	Code	Points	Dis.
Take off	01Rosevl	01Roosevelt Memorial	
Start	01Rosevl	01Roosevelt Memorial	
1.Point	92LWhHST	92LilWhite House START	4.0mi
2.Point	90WodMST	93WoodMill GA Pacific START	5.5mi
Finish	01Rosevl	01Roosevelt Memorial	5.0mi
Landing	01Rosevl	01Roosevelt Memorial	



Practice Task to learn XC skills with your instructor Example 2 21miles around

Task distance: 21.0mi

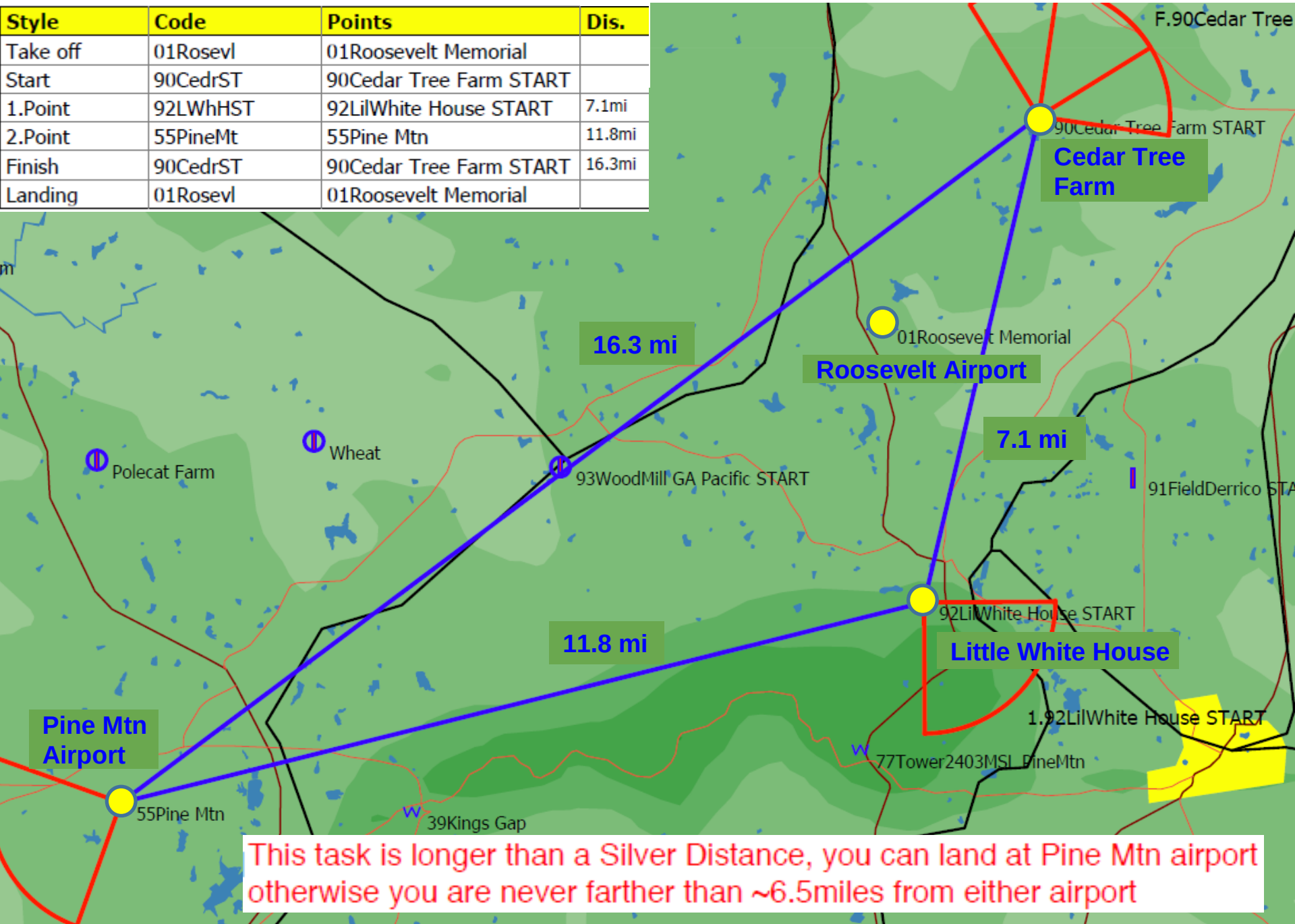
Style	Code	Points	Dis.
Take off	01Rosevl	01Roosevelt Memorial	
Start	90CedrST	90Cedar Tree Farm START	
1.Point	92LWhHST	92LilWhite House START	7.1mi
2.Point	90WodMST	93WoodMill GA Pacific START	5.5mi
Finish	90CedrST	90Cedar Tree Farm START	8.4mi
Landing	01Rosevl	01Roosevelt Memorial	



21 miles and you are never more than 5 miles from Roosevelt
2/3rd of a Silver Distance

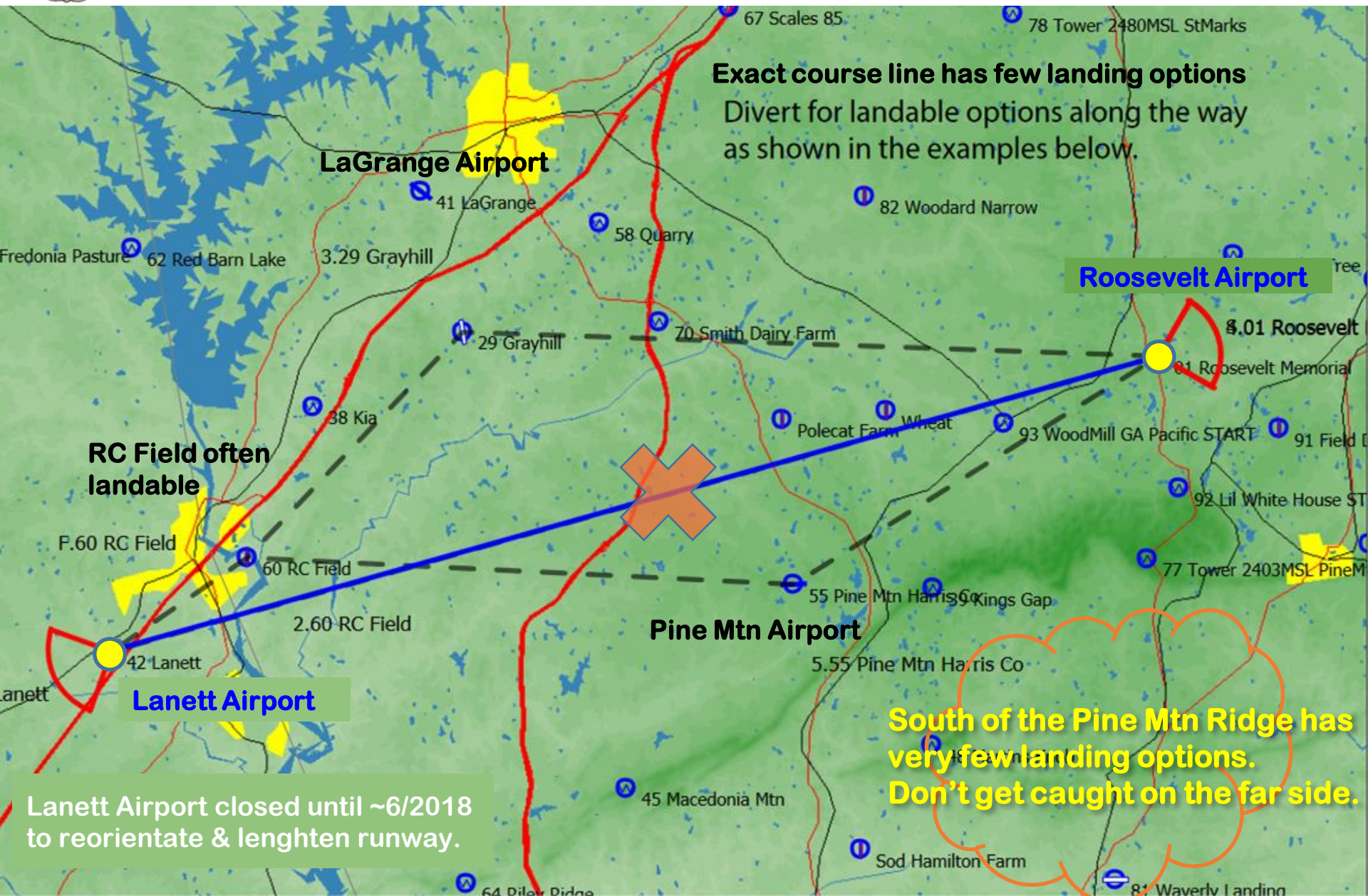
Practice Task to learn XC skills with your instructor Example 3 35miles around

Style	Code	Points	Dis.
Take off	01Rosevl	01Roosevelt Memorial	
Start	90CedrST	90Cedar Tree Farm START	
1.Point	92LWhHST	92LilWhite House START	7.1mi
2.Point	55PineMt	55Pine Mtn	11.8mi
Finish	90CedrST	90Cedar Tree Farm START	16.3mi
Landing	01Rosevl	01Roosevelt Memorial	



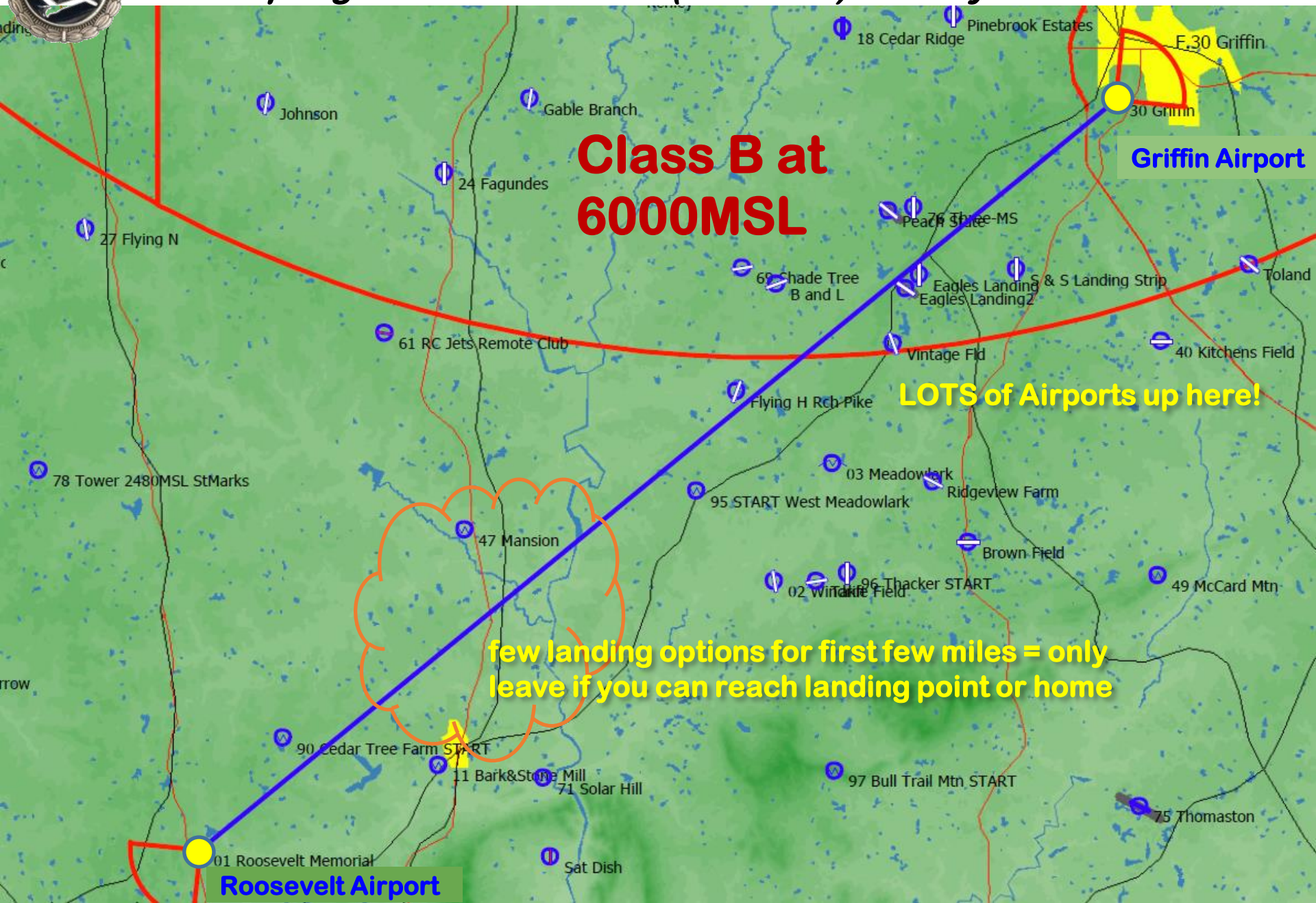
This task is longer than a Silver Distance, you can land at Pine Mtn airport otherwise you are never farther than ~6.5miles from either airport

FAI Silver Badge Course Example 1
Warm Springs to Lanett = 51.9km (32.2miles) one way

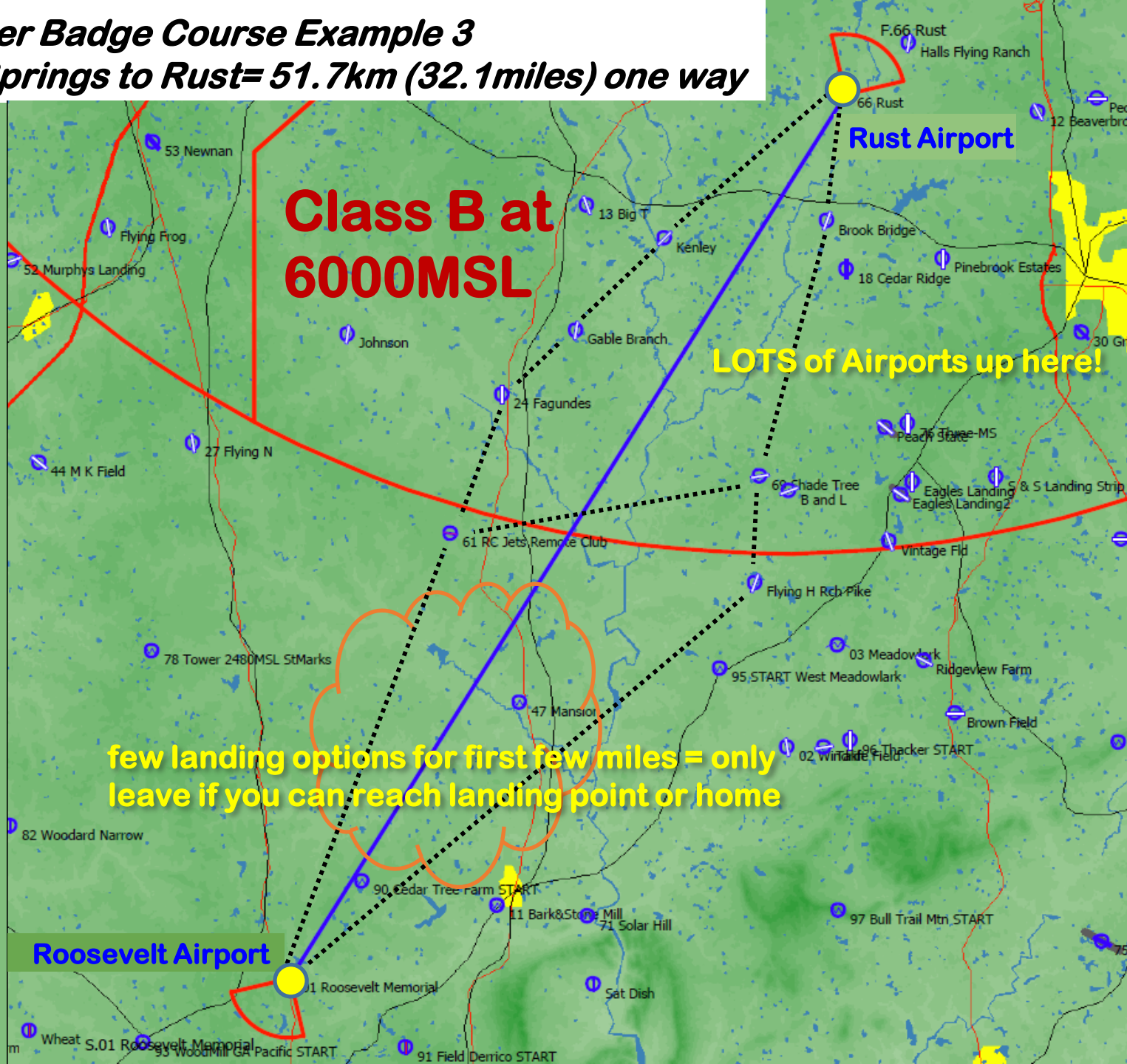


Lanett Airport closed until ~6/2018
to reorientate & lenghten runway.

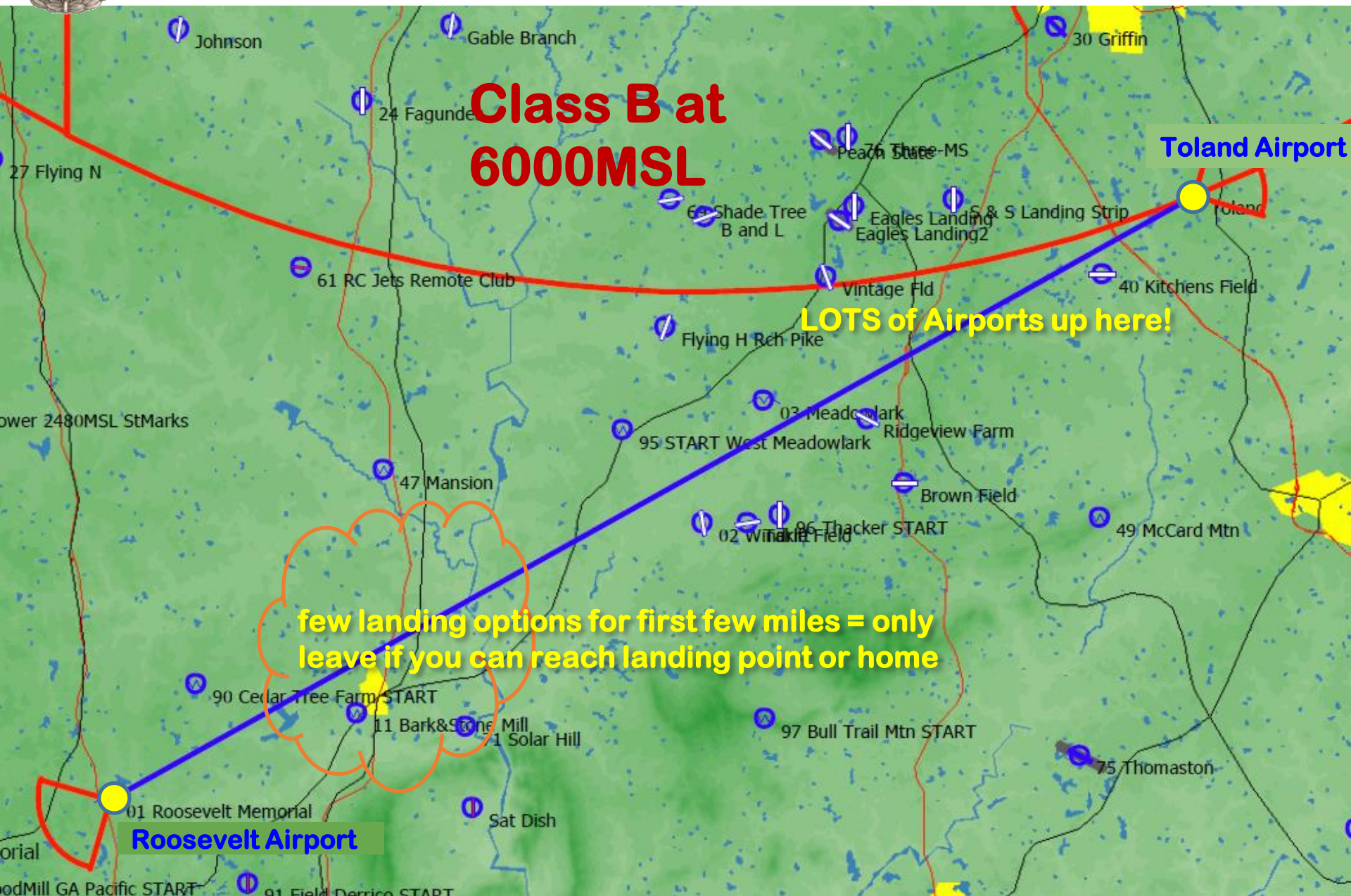
FAI Silver Badge Course Example 2
Warm Springs to Griffin= 50.7km (31.5miles) one way



FAI Silver Badge Course Example 3
Warm Springs to Rust= 51.7km (32.1miles) one way



FAI Silver Badge Course Example 4
Warm Springs to Toland = 51.5km (32.0miles) one way

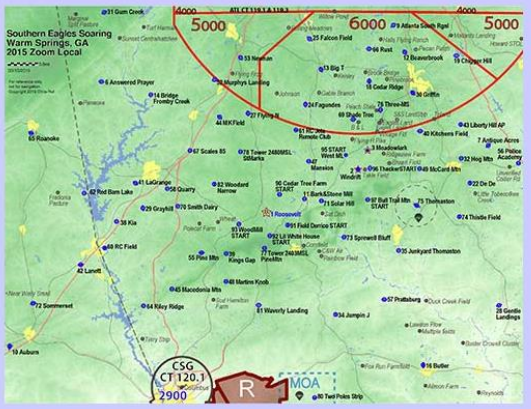


Great resources on our web site…

southerneaglessoaring.com/**WarmSpringsTurnPoints.html**

southerneaglessoaring.com/**XCTasks.html**

Warm Springs Turnpoints & Maps



Turnpoint Maps

Reference Maps available in PDF format - not for navigation.

Map of Local Turnpoints Zoomed In

Auburn 48mi SW to Police Academy 43mi E, with terrain shown.
Designed for color laser printing **11x17 best**, or 8.5x11"

warm_springs_map 2015 SeeYou Zoom local Dark background

warm_springs_map 2015 SeeYou Zoom local Light background

Detailed Map of All Turnpoints

This map is intended to be used for far away turnpoints, it is best to refer to the above zoomed in local for the close in points. "Other"/non-

Turnpoint List

Full List

The Warm Springs Turn Point file has 90 turn points, including those needed for FAI Triangles, as well as Out & Return flights for Records & Badges. There are close in turn points for teaching cross country to students, while staying close to home. It has 595 total points. 90 turn points. The rest are non turn points = 505 for landouts!

Cross Country Tasks

The tasks have been updated for Warm Springs. These use the Warm Springs turnpoint list.
You should discuss these with your instructor. Use at your own risk.

Many of these are applicable for SSA Badges, National and State records

Cross Country Training

Many of these could be flown in a club 2-seater with an instructor. Several of these afford the luxury of remaining within a safe gliding distance of the airport [or other landable spots] while permitting practice in holding a heading, finding, entering and leaving lift, and then proceeding on course to predetermined checkpoints. These are all prerequisites for a cross country flight.

Click for Warm Springs **Training Task List**

50km
Silver Badge Distance

50km= 27nm= 31.1sm. Distance needed for the FAI Silver badge.

Many of these could be flown in a club 2-seater with an instructor first before going solo. Look for a route such as **Griffin** that allows you to fly over many airports on your way. Also look to avoid Controlled Airspace. You are encouraged to discuss flight plans with an instructor beforehand.

The badge requirement is for 50km only, so a one way flight is all that is needed. However this list shows Out & Return of 100k which is not necessary, just more convenient to come back.

Click for Warm Springs **50k Task List**

300km Out & Return
FAI Gold/Diamond Badge
FAI & State Records
300km= 162nm= 186.4sm.

Click for Warm Springs **300k O&R Task List**

500km Out & Return
FAI Diamond Badge
FAI & State Records
500km= 270nm= 310.7sm.

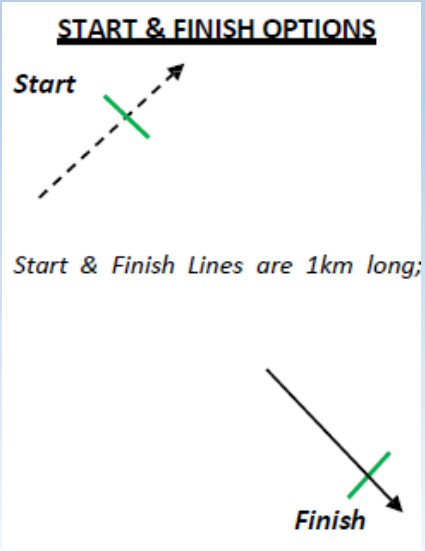
Click for Warm Springs **500k O&R Task List**

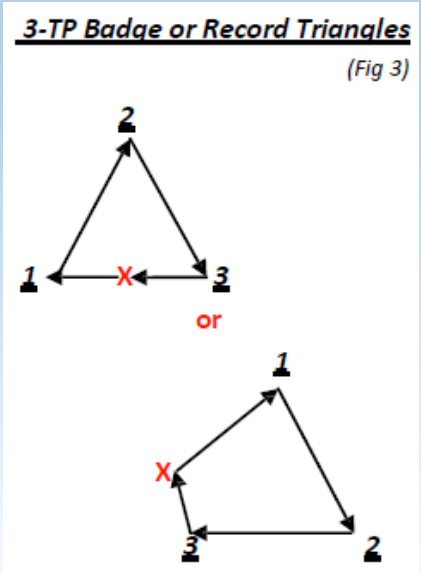
100km Triangle

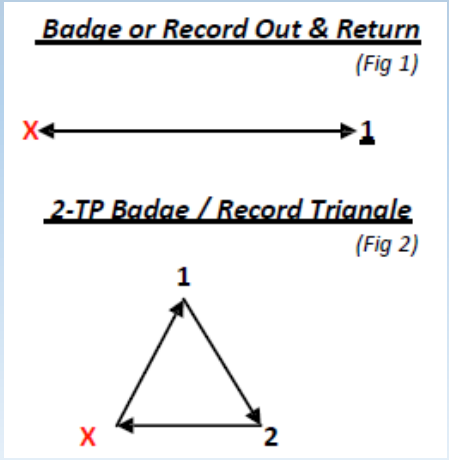
Rules for Badges

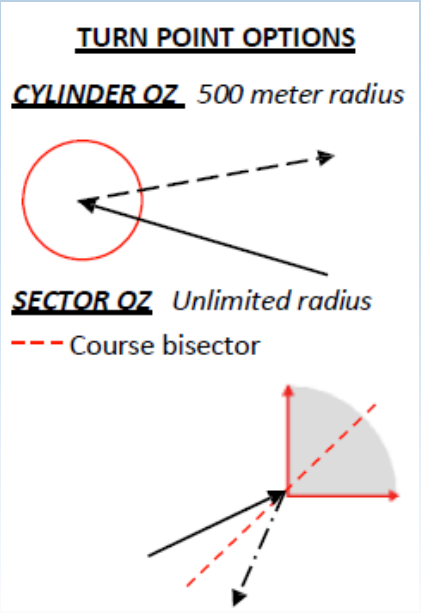
ssa.org/BadgesAndRecords
ssa.org/BadgesAndRecords?show=blog&id=938 Forms
fai.org/igc-documents

- Good Idea to read them at least once.
- **Guide to the Rules** are really helpful.
- Pay particular attention to the rules concerning **turnpoint control, starting, finishing, loss of altitude and observers**.







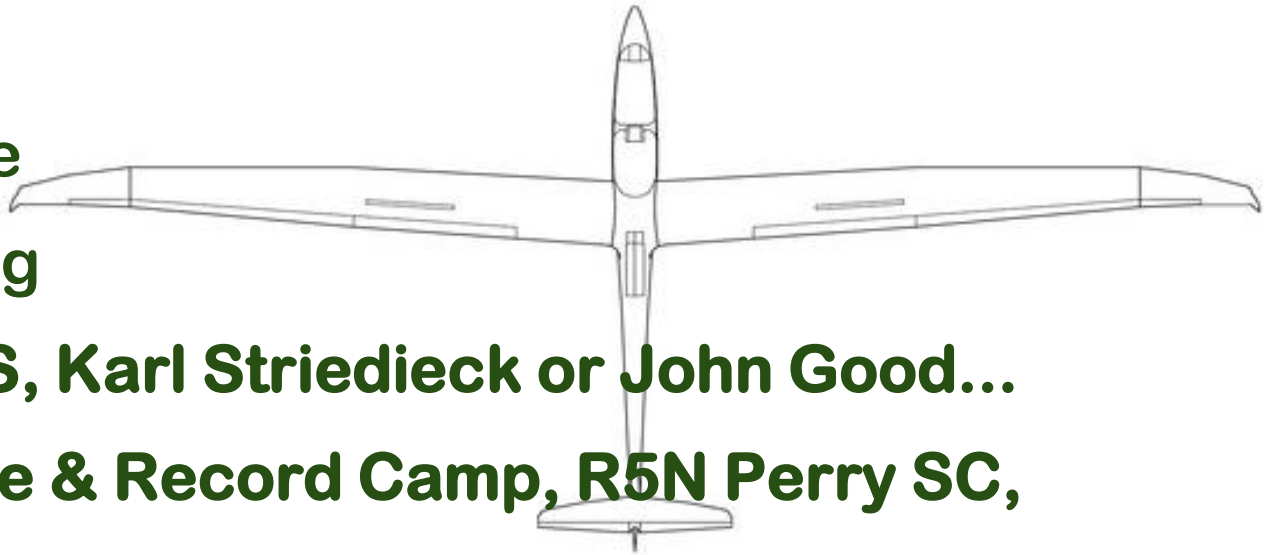


Flight Documentation

- Flight Documentation = fancy way of saying .igc flight recording.
- Many software & hardware options for badges & contests.
- iPhone & Android apps for GTA & regionals (XCSoar, iGlide, SeeYou Mobile)

- Input your Name, Contest Number & Glider type to make a valid .igc file.

Dual in a DUO



- See how it is done
- Pressure & Pacing
- **Fly in Duo with KS, Karl Striedieck or John Good…**
  Sequatchie Badge & Record Camp, R5N Perry SC,
  Seniors in FL, 20m Nationals Reedsville PA, etc
- Otherwise ask for Help - most pilots are glad to help, find a mentor or two. Show up at GTA races.

Lead & Follow Flying

Perry XC/Racing Camp 2007

Developed by Kai Gersten

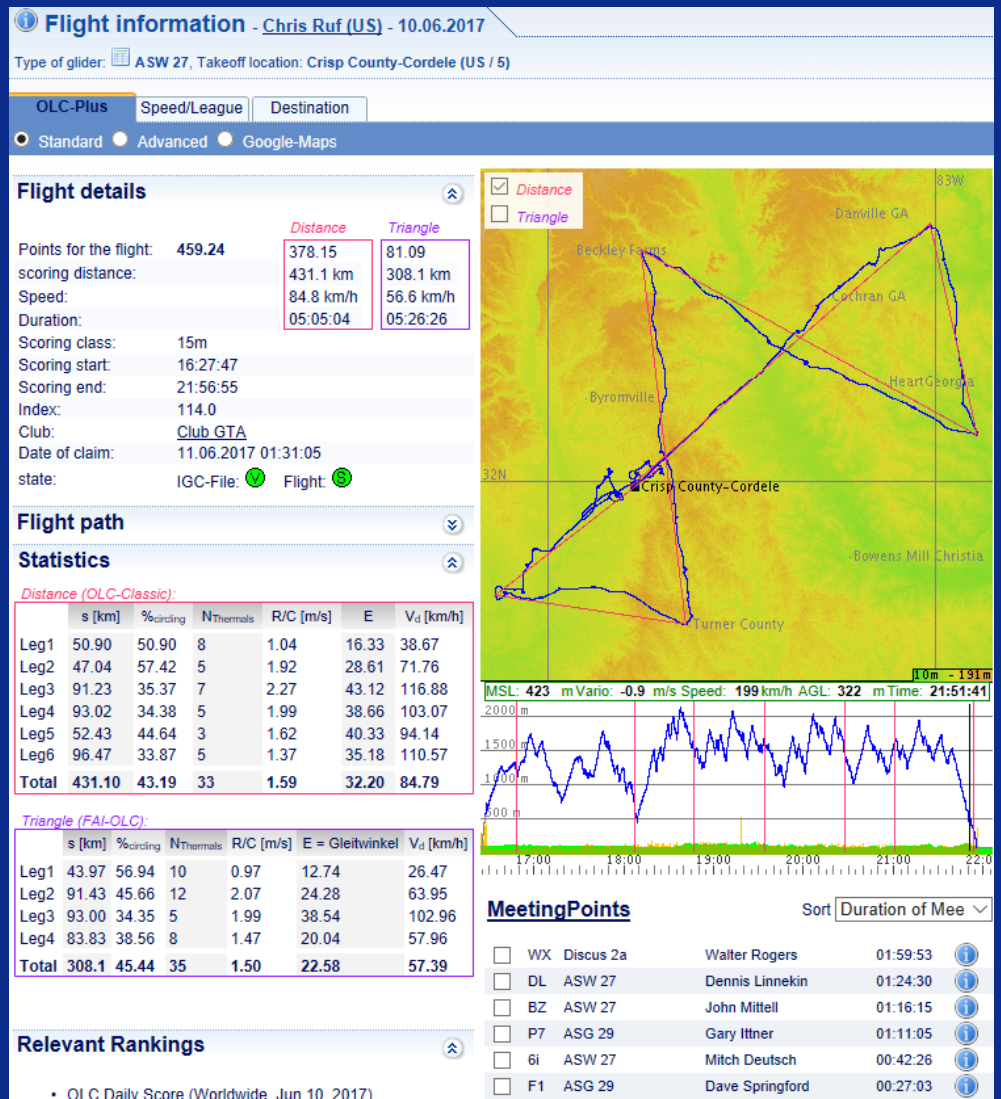
Following as a learning technique - pair/group flying

Objective

- SAFE and effective cross-country training by flying in close company with an experienced XC pilot
- Understanding and comparing decision making
- Close observation of climbing &running techniques
- Comparison of cloud and route selections
- Building confidence in cross country capabilities

Requires careful planning & coordination
(which we are not going to go into now, but is available)

onlinecontest.org



The Online Contest (OLC) is a worldwide computer scored glider contest.
It is very easy to enter and encourages cross-country soaring.

"OLC" Basics

No declarations, forms, turn points, witnesses or observers required.

Flights are scored automatically on a handicap basis. **1 point per km**

Scoring is based on total distance flown, not speed.

There is no entry fee.

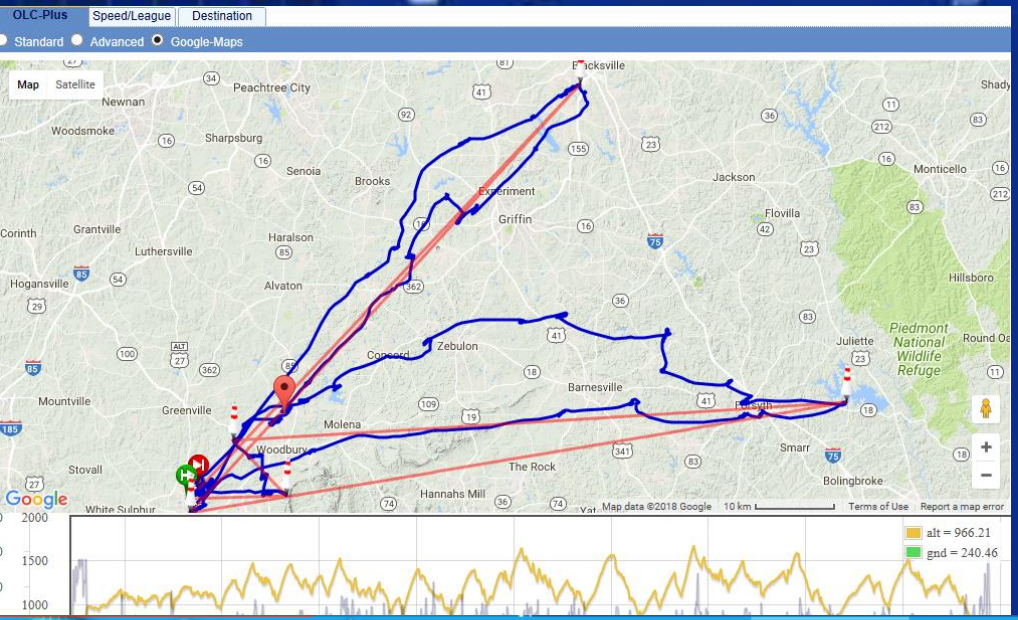
FLIGHT MUST BE UPLOADED WITHIN 48 HOURS

Contest year from September/September.

Meeting points - great way to see others that flew nearby.

Basic flight analysis for free

OLC Innovations for soaring



Compare what you did against:

- Your **buddy** from your club.
- Everyone else in your online **club**
- Everyone in your **region**
- Everyone in **the US**
- Everyone in **the world**

for just for the **Day**, or **All Season**.

Download their flights & learn

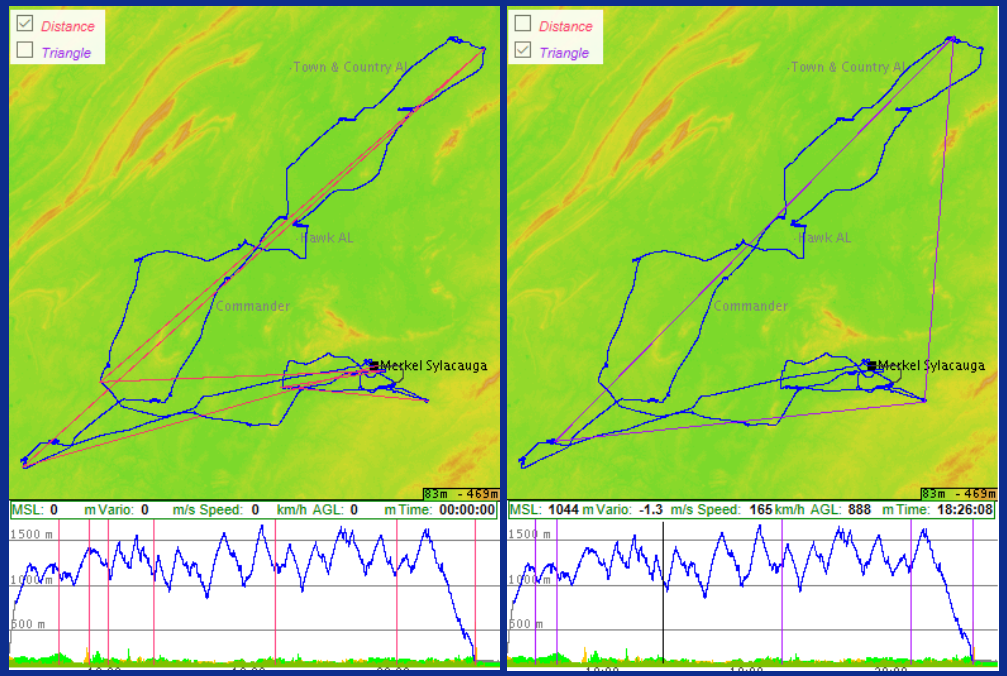
share KML IGC

Maximizing Score

OLC Distance or FAI Triangle distance

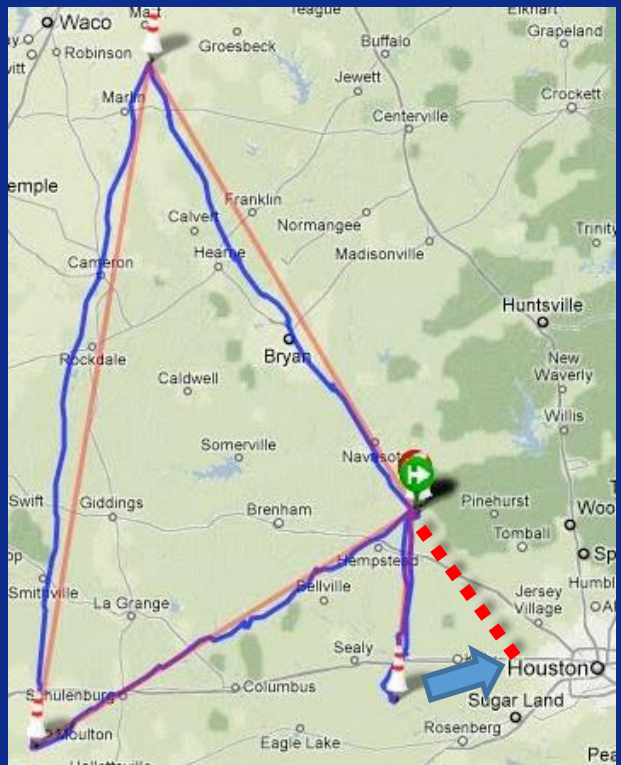
Fewer longer legs, and more credit if the legs are longer at beginning and decrease in length after the 4th leg. Legs diminish in value.

Flight computers can help you maximize



OLC Classic Course: After flight, departure point, up to 5 turn points & finish point give a raw score as great as possible with the departure altitude no more than 1000m above finish.

One technique: when you arrive back home with extra altitude, just keep flying in that same direction to make the leg as long as it can be, then U-turn to land.



Preflight: Navigation Charts/Maps/Turnpoint maps

- Marked up Sectionals & printed maps are still helpful.
- Situational Awareness & frequencies.
- Chart prep = learn task area.
- Mark turnpoints
- Draw concentric circles every 5sm for final glide estimation
- Study turn-point details, map, prominent landmarks
- Identify useful emergency airports.
- Check for restricted airspace

Final Glides

- What we really need to know is not
  "How much altitude to I need to reach an airport?"
- What we really need to know on a continual basis is
  "What can I reach from where I am now?"
- We do too much "estimating" in our heads
- This leads to lots of "fudge factors"
- Which reduces what *think we can do*
- Limiting *what we can do*
- Which just ***paralyzes us psychologically!***

You ask, “How Far Can I Glide?”

I prefer this calculation which gives glide distance in nautical miles per thousand feet of altitude:

Glide Ratio / 5 = Glide Distance in sm

or, for the Astir CS **35 / 5** = 7 sm, *roughly*

This comes from:

35 * 1000 ft of Alt = 35,000 ft of Distance

= 35,000 ft / 5,280 ft / sm

= 35 / 5.3 = 6.6 sm

or

= 36/ ~5 = ~ 7sm – easier math!

What about safety margin?

Degrade you best L/D by ~10% (or whatever you like):

so, for something like the Astir

35 – 4 = 31

therefore

31 / 5 = 6 sm

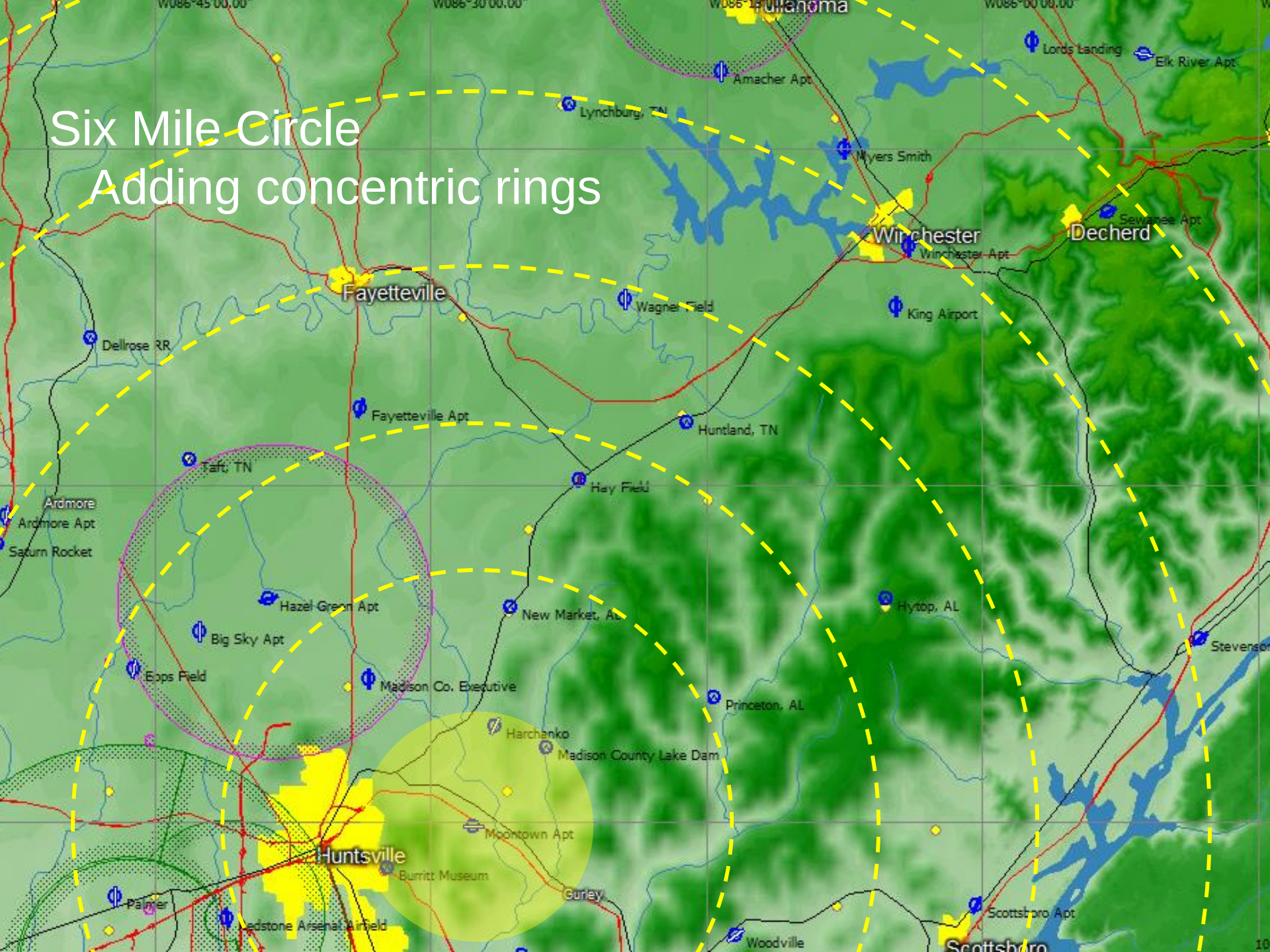
and, for a Blanik

30 – 20% = 24

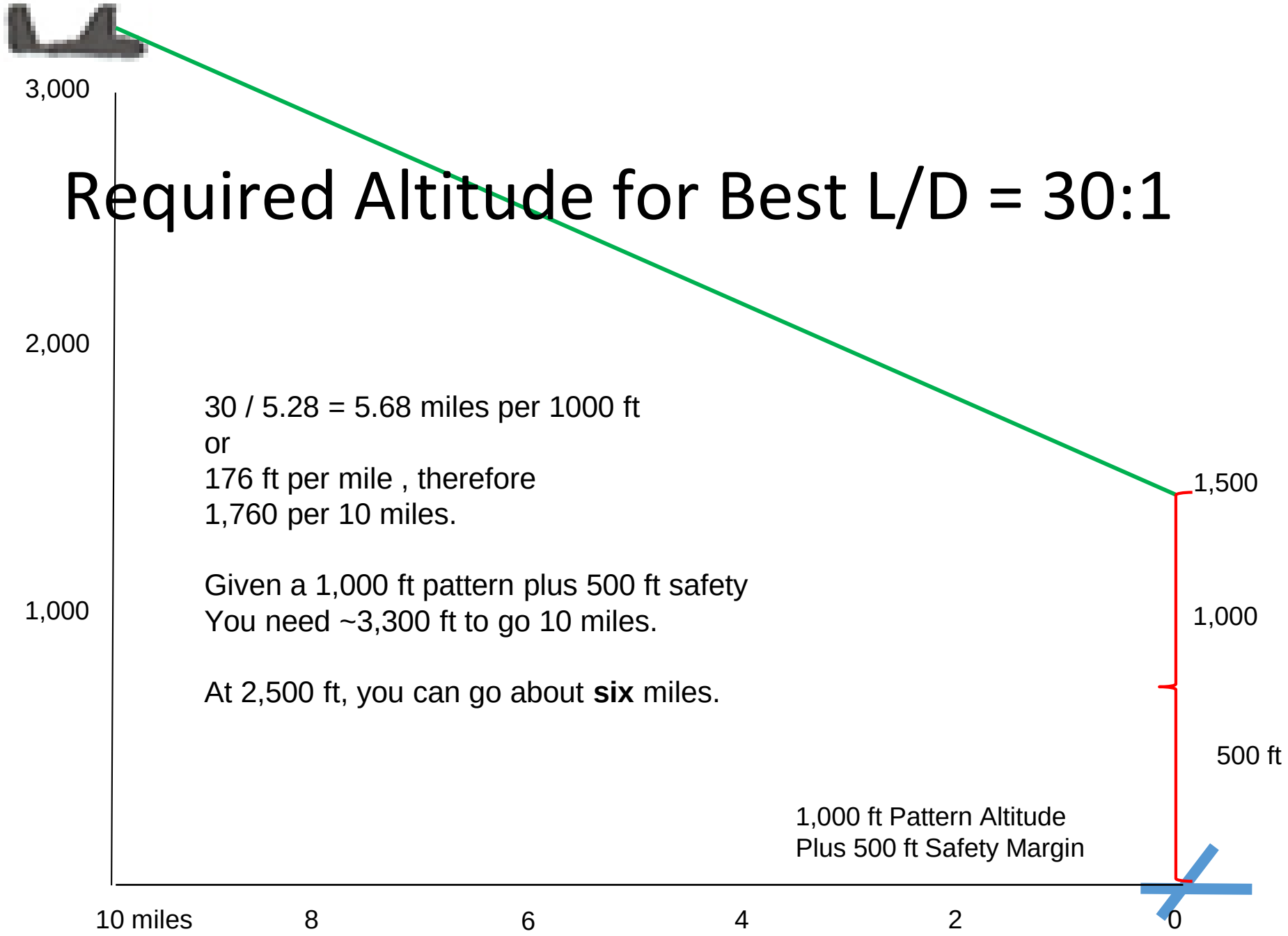
therefore

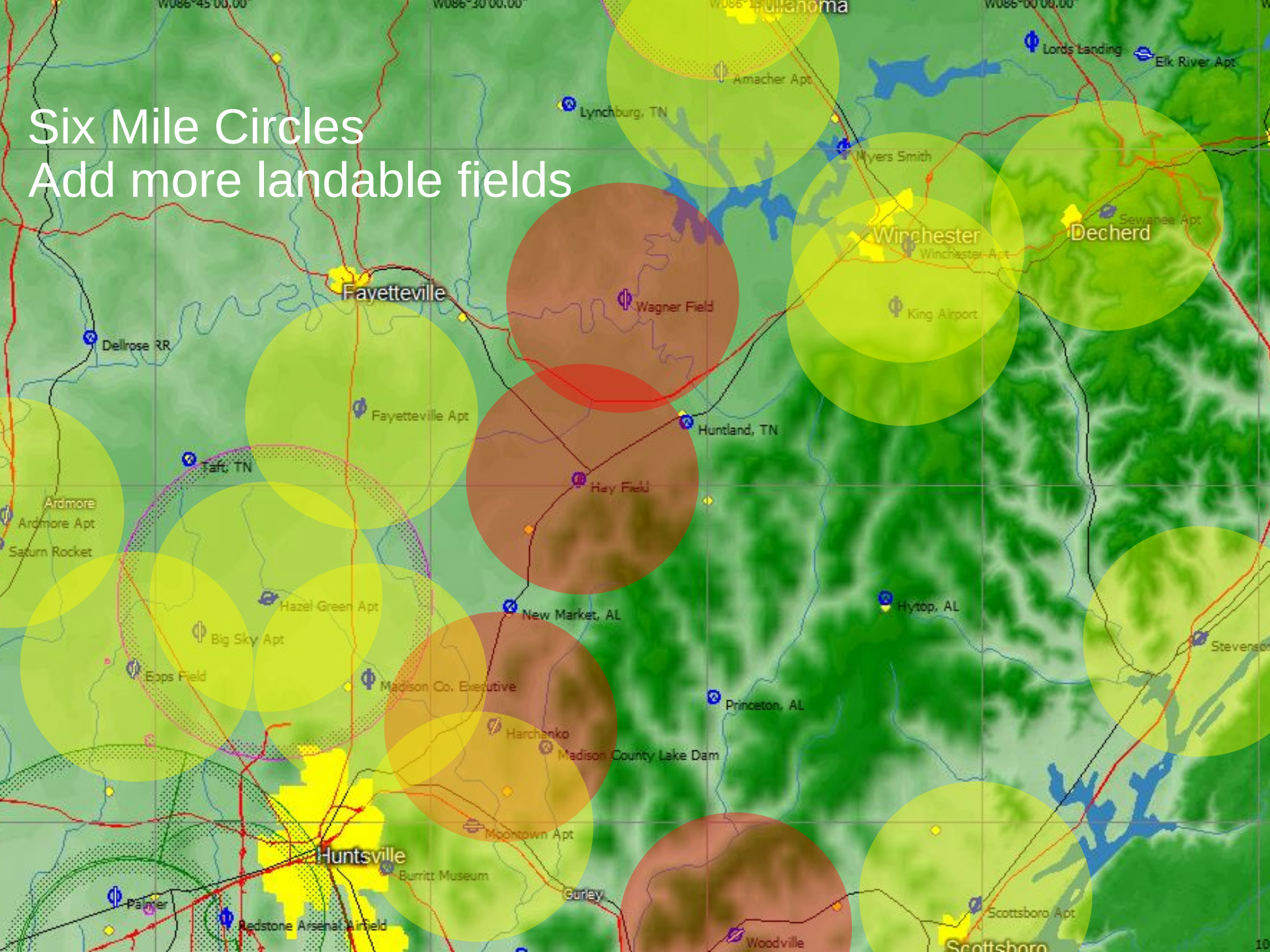
24 / 5 = ~5 sm with a 20% margin,

(so you can get back to Moontown from Madison Co Lake from 2,600 agl)


Six Mile Circle
Adding concentric rings
Lordsdale
Lords Landing
Elk River Apt
Amacher Apt
Lynchburg, TN
Myers Smith
Winchester
Winchester Apt
Sevanee Apt
Decherd
Fayetteville
Wagner Field
King Airport
Dellrose RR
Fayetteville Apt
Huntland, TN
Taft, TN
Hay Field
Ardmore
Ardmore Apt
Saturn Rocket
Hazel Green Apt
New Market, AL
Hytop, AL
Big Sky Apt
Epps Field
Madison Co. Executive
Princeton, AL
Harchenko
Madison County Lake Dam
Moontown Apt
Huntsville
Burritt Museum
Gurley
Palmer
Redstone Arsenal Airfield
Woodville
Scottsboro Apt
Scottsboro

Required Altitude for Best L/D = 30:1




Six Mile Circles
Add more landable fields
Fayetteville
Wagner Field
Dellrose RR
Fayetteville Apt
Taft, TN
Hay Field
Huntland, TN
Ardmore
Ardmore Apt
Saturn Rocket
Hazel Green Apt
Big Sky Apt
Epps Field
Madison Co. Executive
New Market, AL
Hytop, AL
Princeton, AL
Harchenko
Madison County Lake Dam
Moontown Apt
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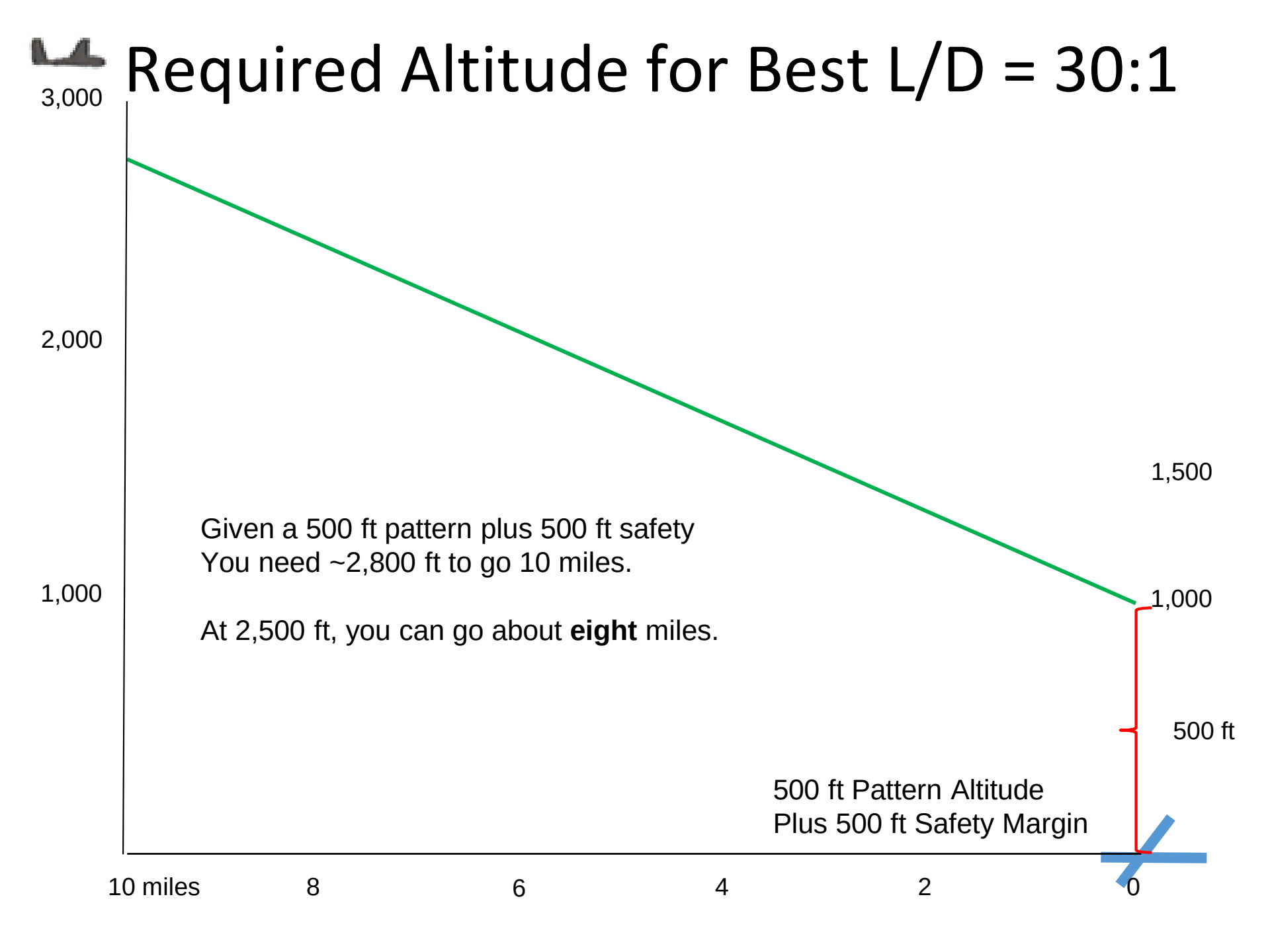
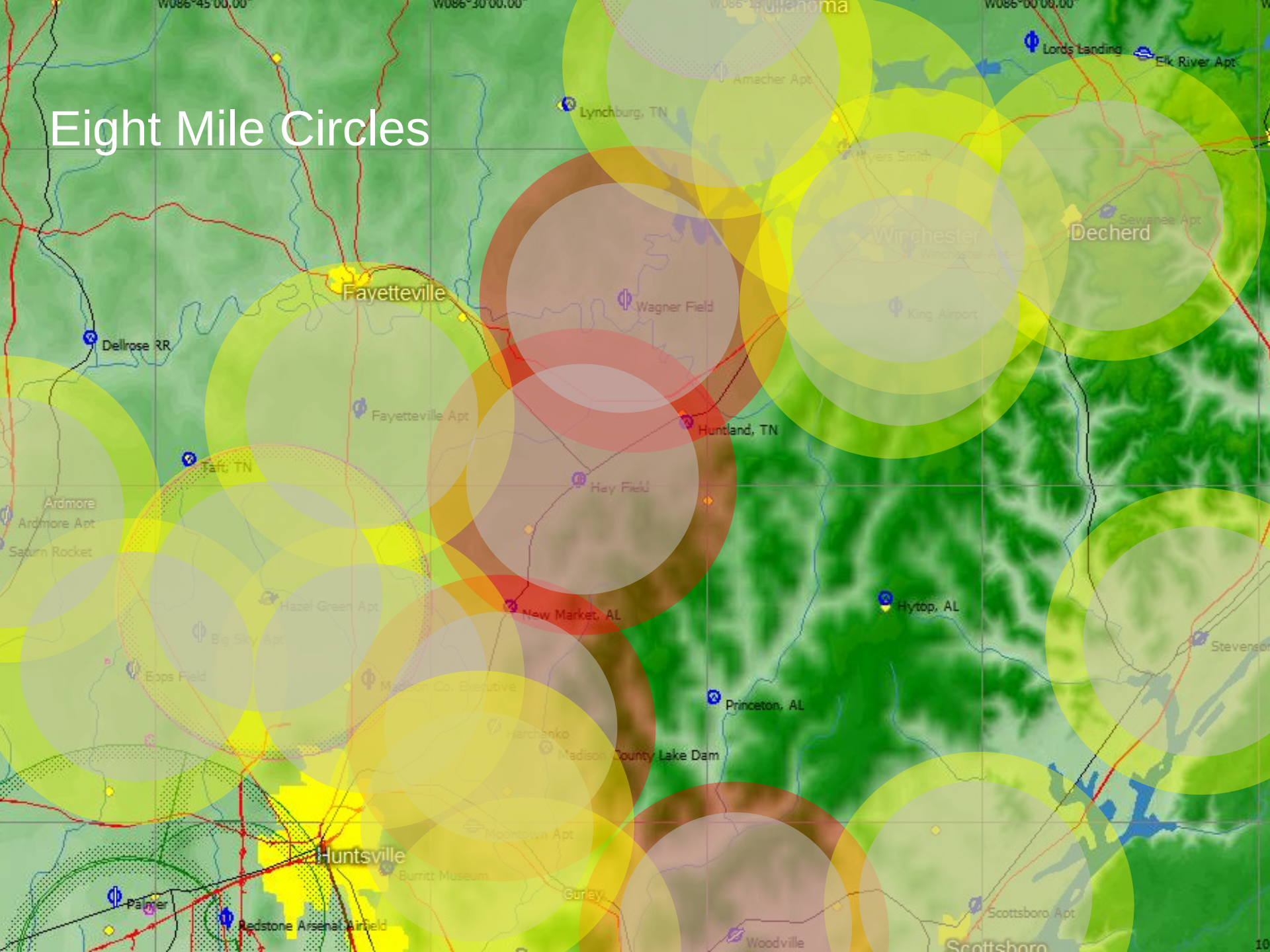
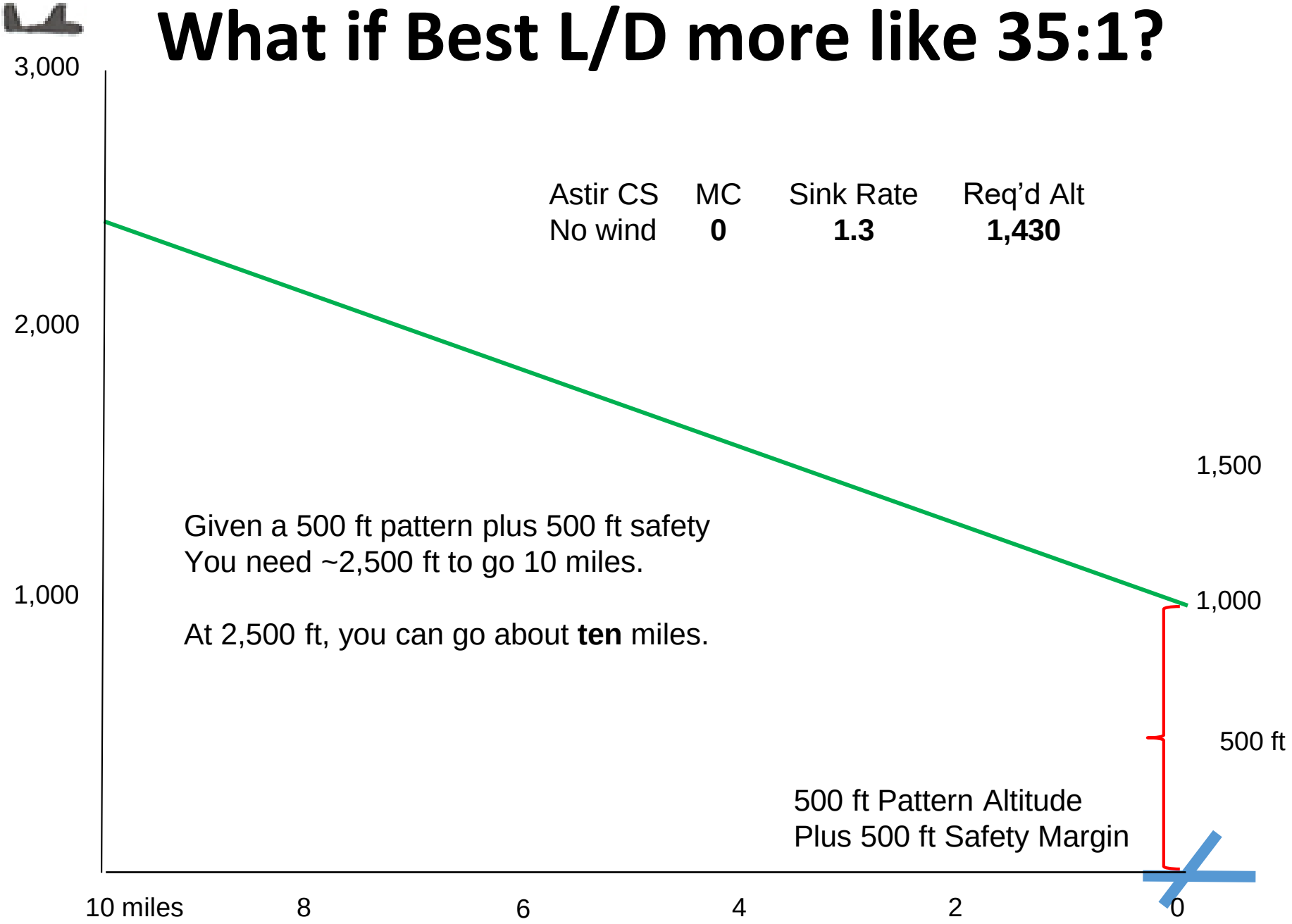
Burritt Museum
Gurley
Palmer
Redstone Arsenal Airfield
Woodville
Scottsboro Apt
Scottsboro
Lynchburg, TN
Amacher Apt
Lords Landing
Elk River Apt
Myers Smith
Winchester
Winchester Apt
Decherd
Sewanee Apt
King Airport

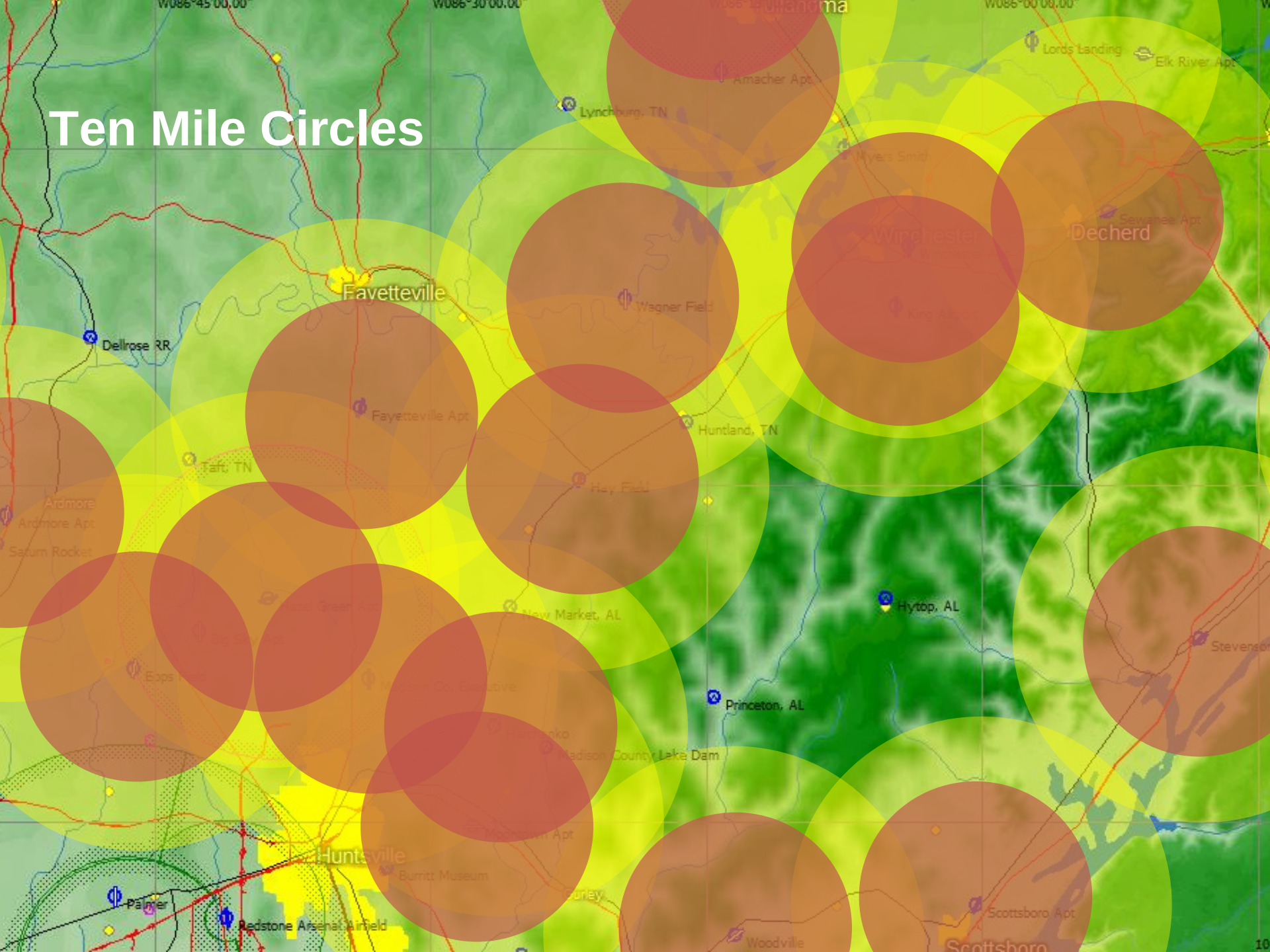
Required Altitude for Best L/D = 30:1




Eight Mile Circles
Lynchburg, TN
Lords Landing
Elk River Apt
Decherd
Fayetteville
Wagner Field
Dellrose RR
Fayetteville Apt
Huntland, TN
Taft, TN
Hay Field
Ardmore
Ardmore Apt
Saturn Rocket
New Market, AL
Hytop, AL
Princeton, AL
Madison County Lake Dam
Huntsville
Palmer
Redstone Arsenal Airfield
Woodville
Scottsboro

What if Best L/D more like 35:1?




Ten Mile Circles
Fayetteville
Dellrose RR
Lynchburg, TN
Amacher Apt
Lords Landing
Elk River Apt
Decherd
Winchester
Wagner Field
Fayetteville Apt
Huntland, TN
Taft, TN
Ardmore
Ardmore Apt
Saturn Rocket
New Market, AL
Hytop, AL
Princeton, AL
Madison County Lake Dam
Huntsville
Burritt Museum
Palmer
Redstone Arsenal Airfield
Woodville
Scottsboro Apt
Scottsboro

What's the point?

- Oh my god … so many circles!

- We have been trained to think along these terms:
  - What is my glide ratio?
  - How far can I go?
  - Can I get to an airport or a landable field?
  - What if the wind quits?

- All of this thinking, figuring, analyzing, ***paralyzes us***.

- We can do better

What about Incorrect Wind?

3,000

2,000

1,000

Astir CS	MC	Sink Rate	Req'd Alt
	0	1.3	1,810
+10 wind	1	1.6	1,830
	2	2.1	1,980
	3	2.6	2,180

Was 1,880

1,500

1,000

Cruise 4 miles MC = 3, now 250 below glide.
No sense of going through sink, must be the wind.
Adjust the headwind component in Flight Computer.

Now adjust MC = 2 and your back on glide.

500 ft

Not all flight computers get the wind right,
but off by 10 knots is a huge error and is unlikely.

10 miles 8 6 4 2 0

Now what's the point?

- Oh my god … so many glide slope lines
  … and sink … and wind errors!

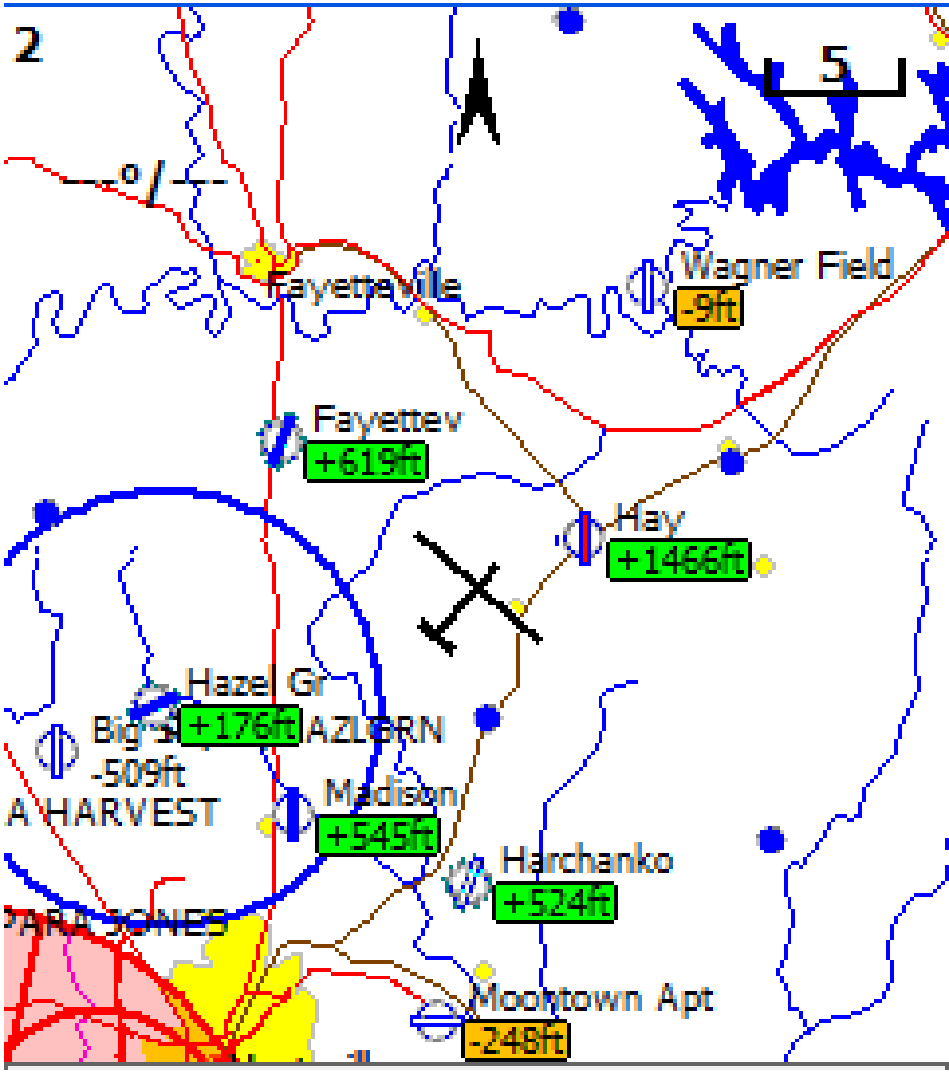
- Now how do we do all that figuring for:
  - What is my glide ratio?
  - How far can I go?
  - Can I get to an airport or a landable field?
  - What if the wind quits?

- You don't, that's the point:
  you get a flight computer.

- And … **you learn to use & learn to believe it!**

What if you had a Flight Computer

- You're in the Astir
- You're at 2,600 ft
- Location is known
- Performance known
- Wind known
- Airports known
- Landable fields known



Wow! You know a lot!

Sense of paralysis is gone!

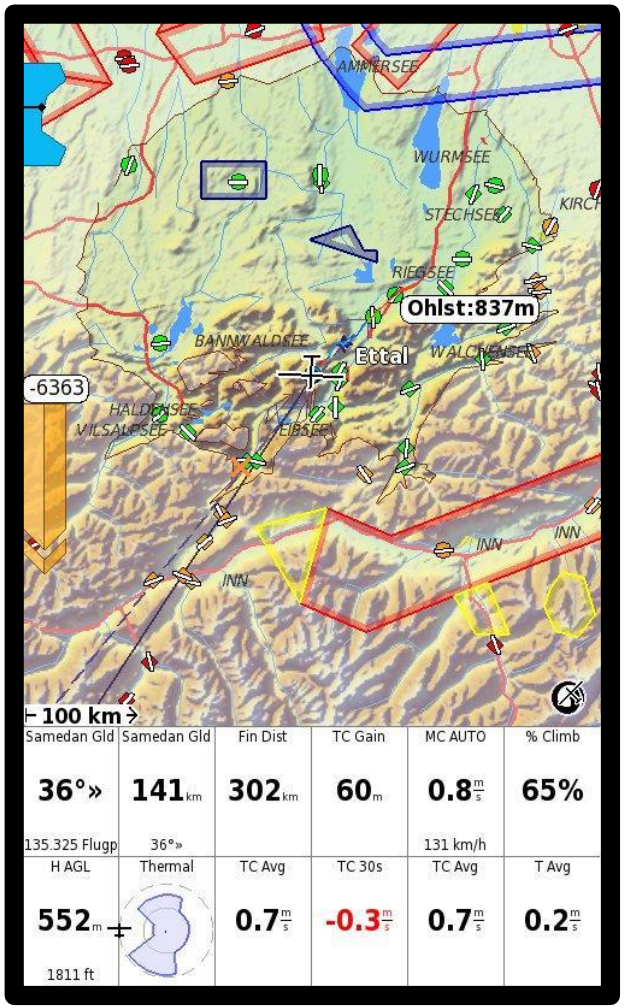
Let’s talk Flight Computers

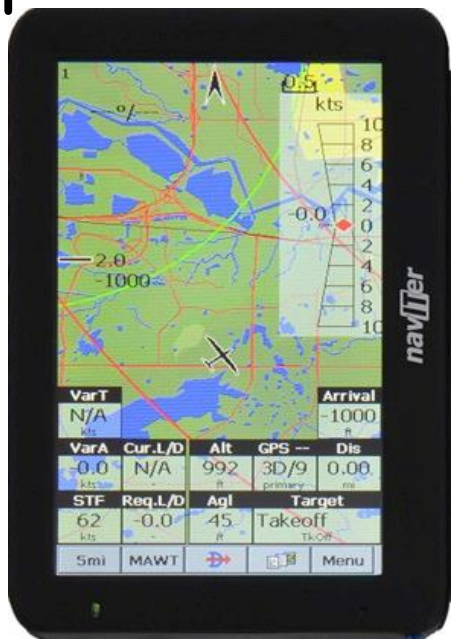
- You need one, period.
- What kind you get is up to you & your budget.
- Let’s go over some Pro’s and Con’s for:
  - Low Cost Systems
  - High End Systems

Navigation

- A moving map is massively helpful – to understand Alternate landings, Start, Finish, Turnpoints, & staying out of Airspace.

- Which system is not as important as knowing how to use it well. Practice on the ground in Simulator mode.

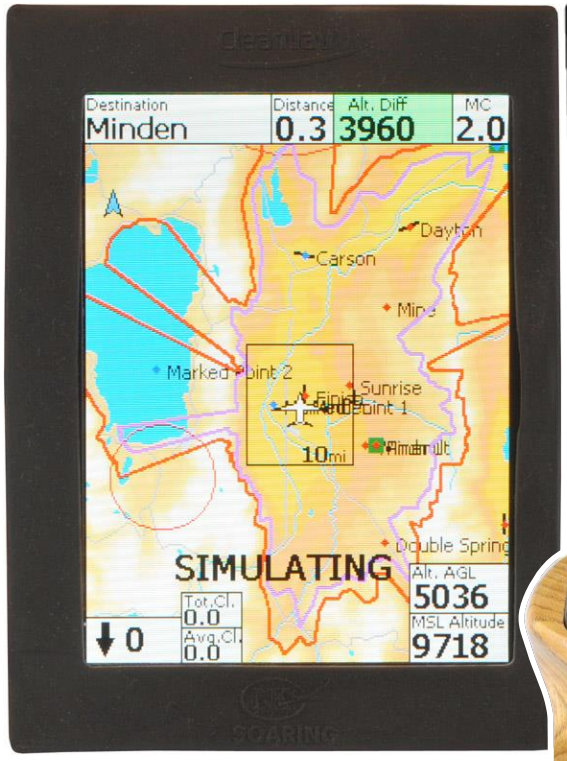




Example High End Systems

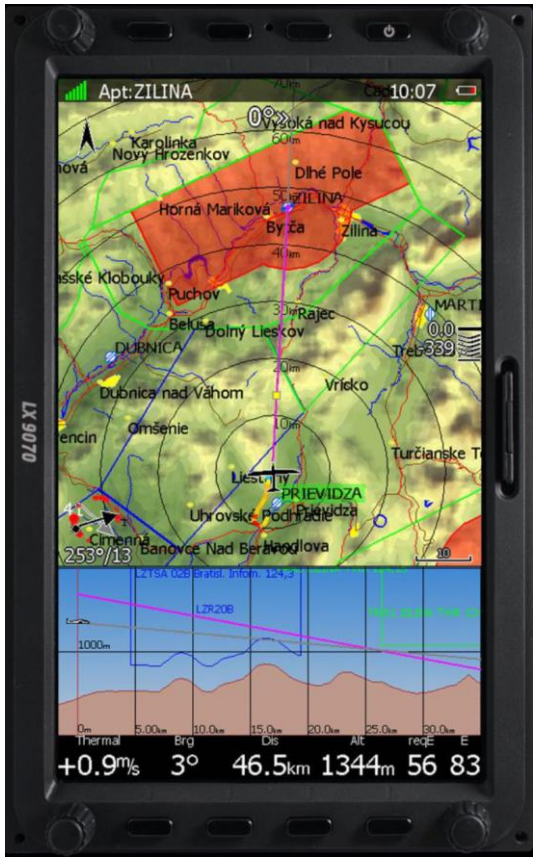
$3,000 - $7000+

ClearNav INSTRUMENTS



ClearNav II
ClearNav Vario

lx nav



LX9070
S100 Vario

What High End Systems Can Do

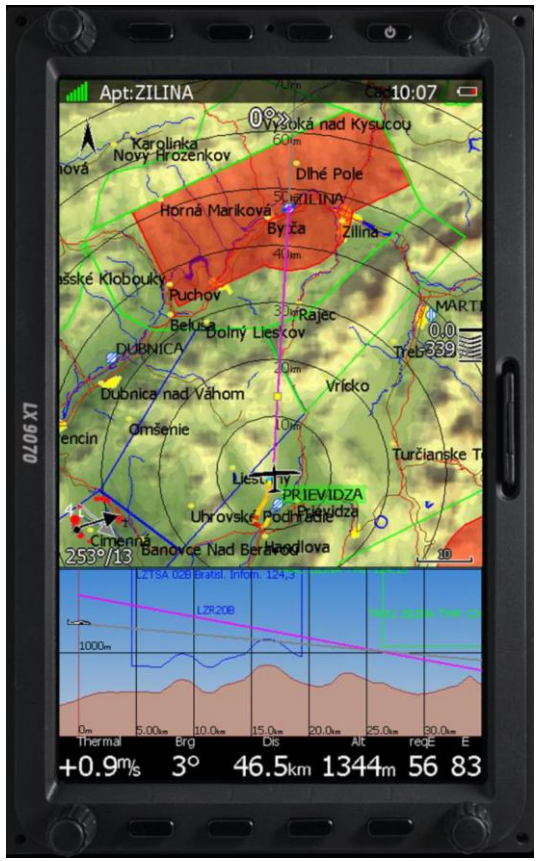
- Large daylight readable screens
- Vario with Audio & Averager
- Speed-to-fly director
- Wind speed & direction calculated using airspeed & GPS data while circling or cruising
- Use GPS Position & Pressure Altitude
- Moving Map with Waypoints and Airspaces shown
- Final Glide Calculations
- Robust installation in panel
- Stick controllers so you don't let go of stick.
- Reachable Airports Highlighted
- Record IGC Approved flight logs
- OK for all contests, badges, and records
- Tasks
- Flight Statistics
- Improved safety through quick access to final glide data
- MacCready only entered once on vario or PDA and data shared between devices
- Artificial Horizon on some

What High End Systems Can't Do

- But Not Much …
- But, they are expensive! No Portable Simulator mode
- And you can't just plunk them into club gliders

ClearNav INSTRUMENTS

ClearNav II
ClearNav Vario

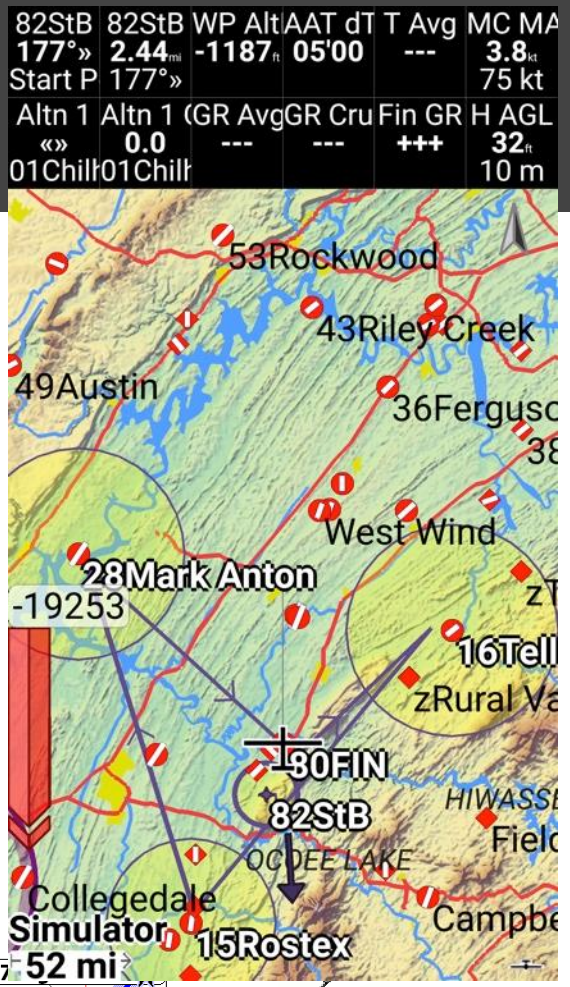


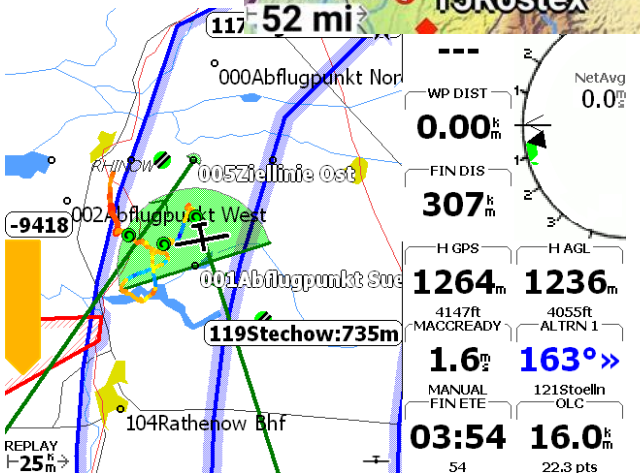
lx nav

LX9070
S100 Vario

Flight Computer/Software

- Glide Range - altitude needed to reach goal.
- Above or below glideslope.
- Where are alternates?
- Wind
- Airspace
- Flight recorder > Regionals, OLC & SeeYou

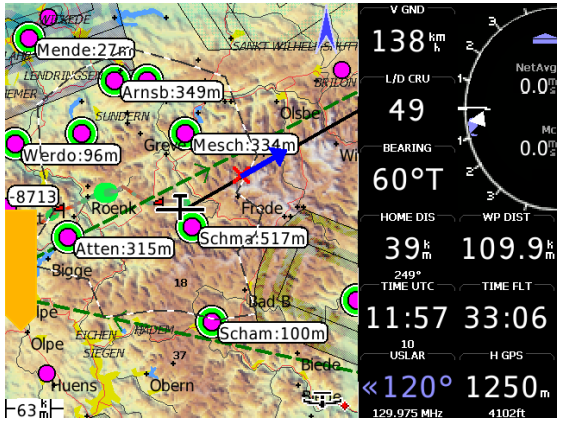


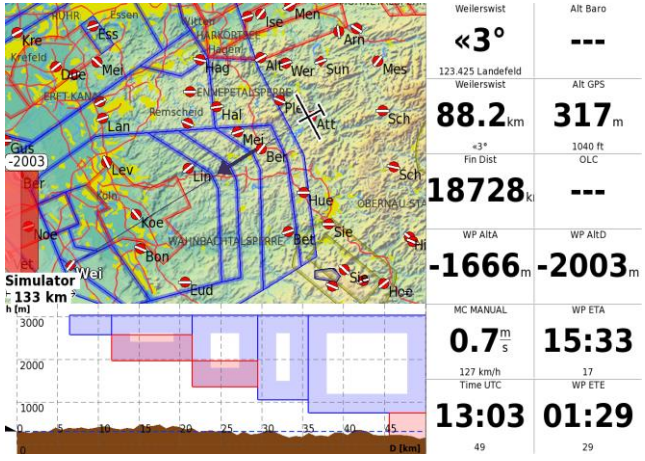


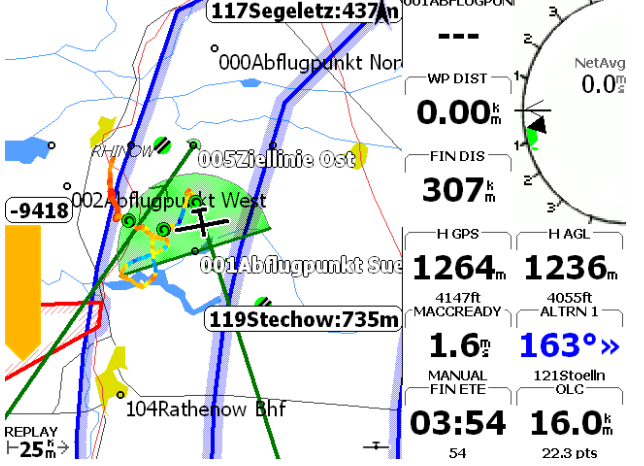
Flight Computer: XCSoar

XCSoar

- Glide Range - altitude needed to reach goal.
- Above or below glideslope.
- Where are alternates?
- Wind
- Airspace
- Flight recorder > Regionals, OLC & SeeYou
- Xcsoar.org



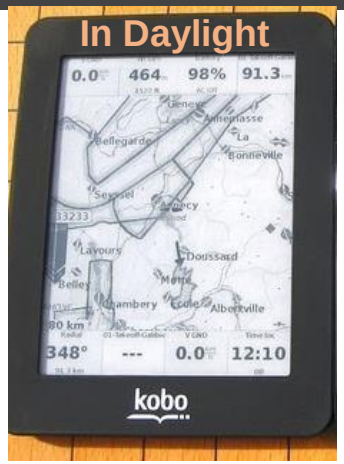




XCSoar Hardware

XCsoar runs on a wide variety of hardware:

- **Android phones** – Samsung Galaxy 4 Note is large, daylight readable. Build in GPS, Pressure sensor, Bluetooth Connections.
- **Bluetooth** built into LXNav S100, vario, several flight recorder like Nano's and can be added to others with a K6 Bluetooth module.
- Dell Streak Android smartphone, transflective 5" screen
- PDA(becoming obsolete) – wired Serial connections
- Naviter "Oudie Lite" – **wired Serial connections**
- IOIO wired serial adaptors
- Kobo high contrast B&W e-book readers



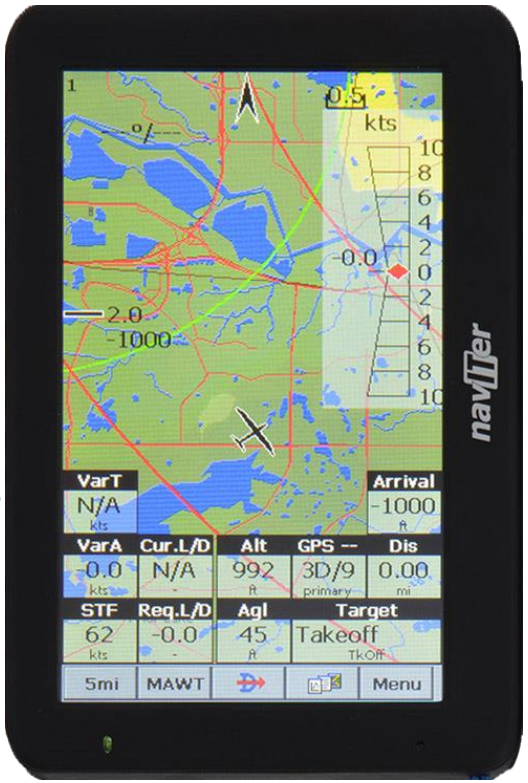
Connect to ClearNav or C302 varios

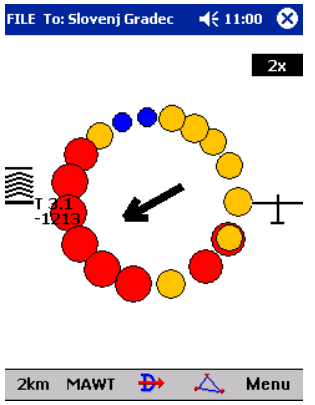
Connect to ClearNav or C302 varios

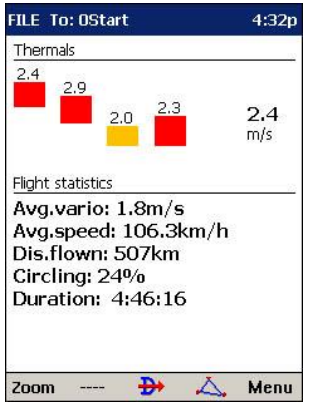
Flight Computer: Oudie / SeeYou Mobile

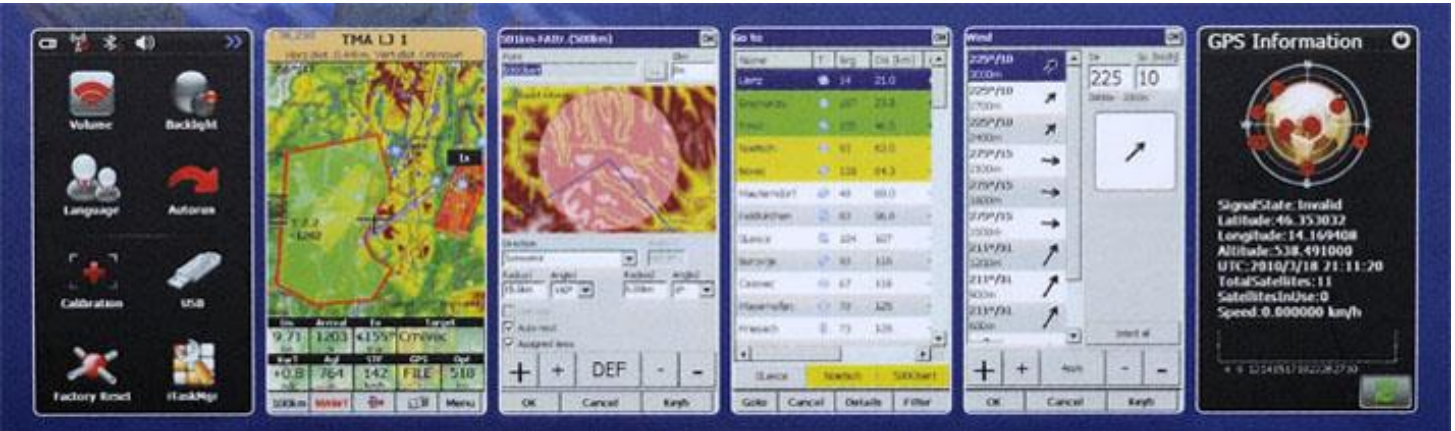
OUDIE IGC naviter.com/oudie2/ [OUDIE 2 alternate]

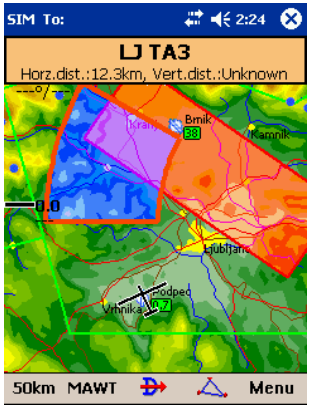
- Hardware & Software package, ~all the same moving map features as XCsoar.
- Aviation Quality GPS
- IGC Approved Logger - Highest Level
- ENL - Engine Noise Level Detector
- Battery Life - 12 hours autonomy at full back light
- Built in Vario (Not TE Compensated) Acts as a good back up vario
- Bright 5” Screen - 900/950 nits Sunlight Readable
- SeeYou Mobile Installed - Turn it on & Fly
- Prepackaged kit and ready for quick installs
- wired serial port & Bluetooth
- Closely integrated with SeeYou flight planning & analysis











Oudie Hardware

OUDIE IGC naviter.com/oudie2/ [OUDIE 2 alternate]

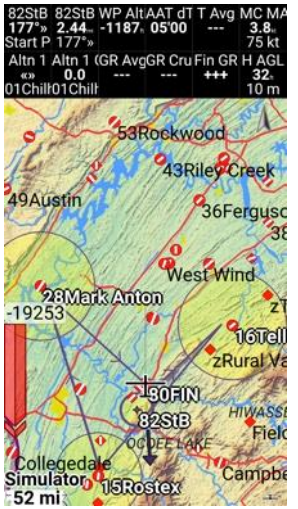
Prepackaged kit - ready for quick installs

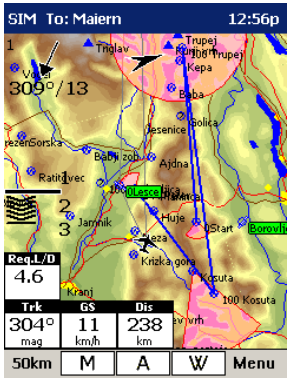
1. Oudie
2. USB Cable
3. Oudie Power and Data Cable
4. Car charger
5. Universal wall charger with 4 different plugs
6. Suction cup mount
7. Cradle
8. Universal RJ45 to DB9 Female converter
9. Universal RJ45 to DB9 Male converter
10. RJ45 Female/Female Gender Changer
11. RJ12 Cable extension
12. CD ROM
13. Getting started manual
14. Protection/Gift Box

Flight Computer Advice

- use 12V external power when possible, or backup battery
- use canopy or panel mount - Not loose in cockpit
- use WGS84 datum
- Worldwide Turnpoint Exchange has waypoint files
- use 1,2,4 seconds track log interval
- use track up orientation for map
- **Simple setup so…**

  you don't get stuck with heads down time!





- **Remember the goal is to make your life easier by it doing calculations for you, *Not to become a Distraction*.**

Flight Analysis

If you can't measure it, you can't improve it.

Peter Drucker

Cordele - Buena Vista - Thomasville - Alma - Cordele
Distance: 512.2km
Start: 11:12:16 at 4353ft
Finish: 17:23:01 at 1717ft
Duration: 06:10:45
Speed: 44.73kts, XC Speed: 43.71kts

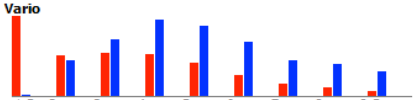
Circling:	Time	Vario	Alt.Gain	Alt.Loss	Thermals
Total	02:10:28 (35%)	3.2kts	46207ft	-4344ft	54
Left	01:14:08 (57%)	3.1kts	25417ft	-1991ft	27
Right	00:45:44 (35%)	3.4kts	17428ft	-1870ft	23
Mixed	00:10:36 (8%)	2.7kts	3363ft	-482ft	4
Tries (<45s)	00:04:36 (1%)	1.7kts	1339ft	-538ft	13

Straight:	Time	Dis.Done	Alt.diff	Netto	Avg.GS	IAS	Glides	Avg.Glide	Mean L/D
Total	04:00:16 (65%)	552.8km	-44495ft	0.5kts	74kts	69kts	55	10.1km	41
Rising	00:59:40 (25%)	117.7km	26358ft	5.3kts	64kts	60kts			-15
Sinking	03:00:36 (75%)	435.0km	-70853ft	-1.0kts	78kts	72kts			20
Netto rising	02:00:52 (50%)	263.9km	14094ft	3.5kts	71kts	66kts			-61

Wind

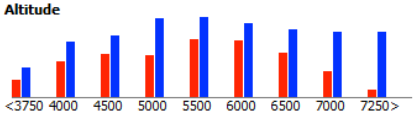
<3750	4000	4500	5000	5500	6000	6500	7000	7250>	[ft]
19.9	35.7	43.1	57.1	69.3	66.6	50.1	24.1	4.9	[min]
105°/6	110°/7	101°/7	86°/6	77°/6	85°/5	64°/4	46°/5	38°/5	[°/kts]

Vario



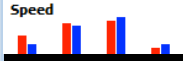
<1.5	2	3	4	5	6	7	8	8.5>	[kts]
36.4	18.6	19.7	19.3	15.1	9.7	5.5	4.0	2.2	[min]
82	3832	6165	8241	7644	5935	3825	3432	2707	[ft]

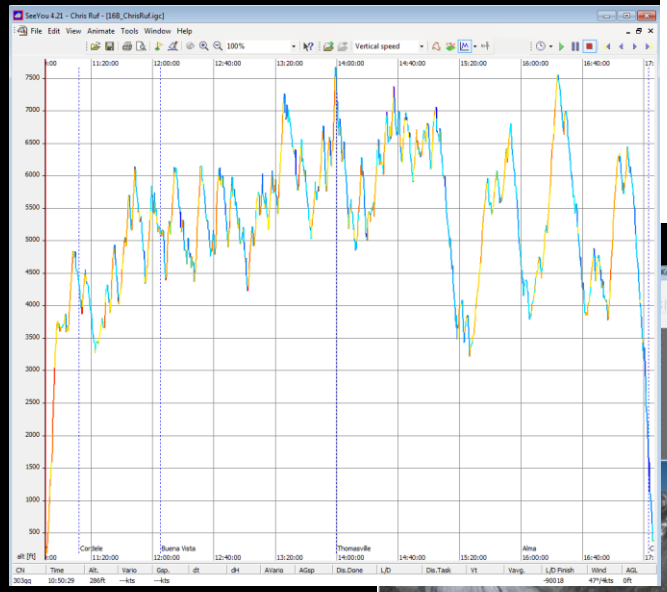
Altitude

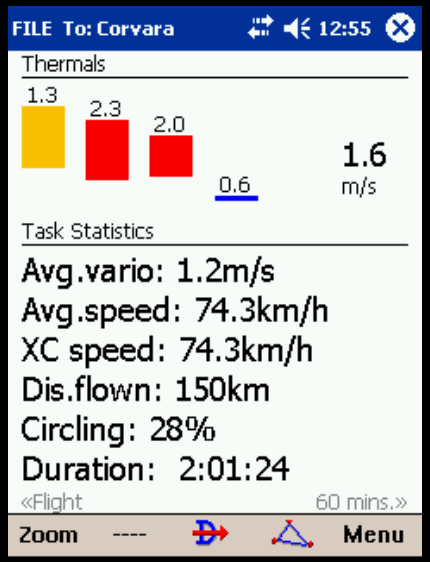


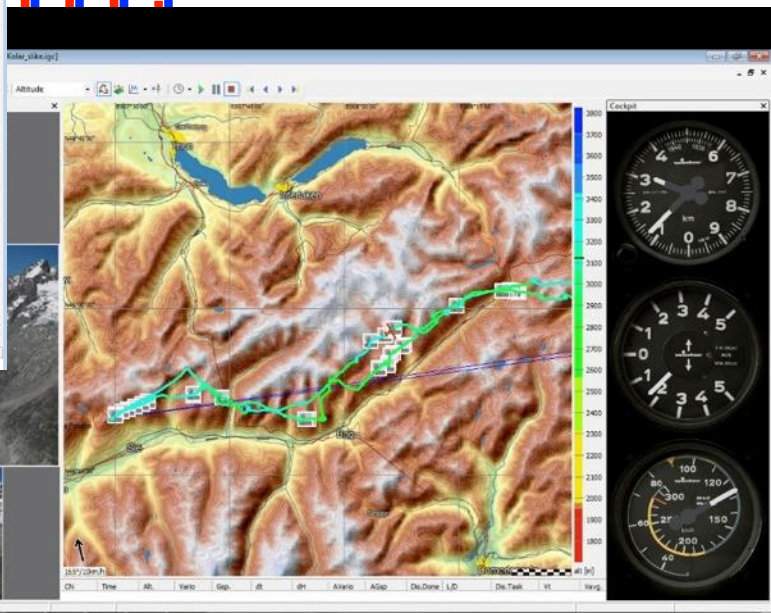
<3750	4000	4500	5000	5500	6000	6500	7000	7250>	[ft]
7.0	14.0	17.1	16.5	22.8	22.6	17.7	10.1	2.8	[min]
1.3	2.4	2.8	3.5	3.6	3.3	3.0	2.9	2.9	[kts]

Speed









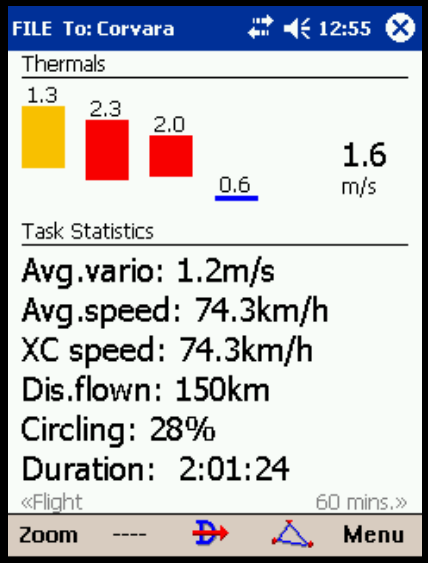
Flight Analysis

- Buy SeeYou … everyone uses it so you can get help & it integrates with SYM
- Analyze your flights, every flight.
- look carefully at your climbs & glides

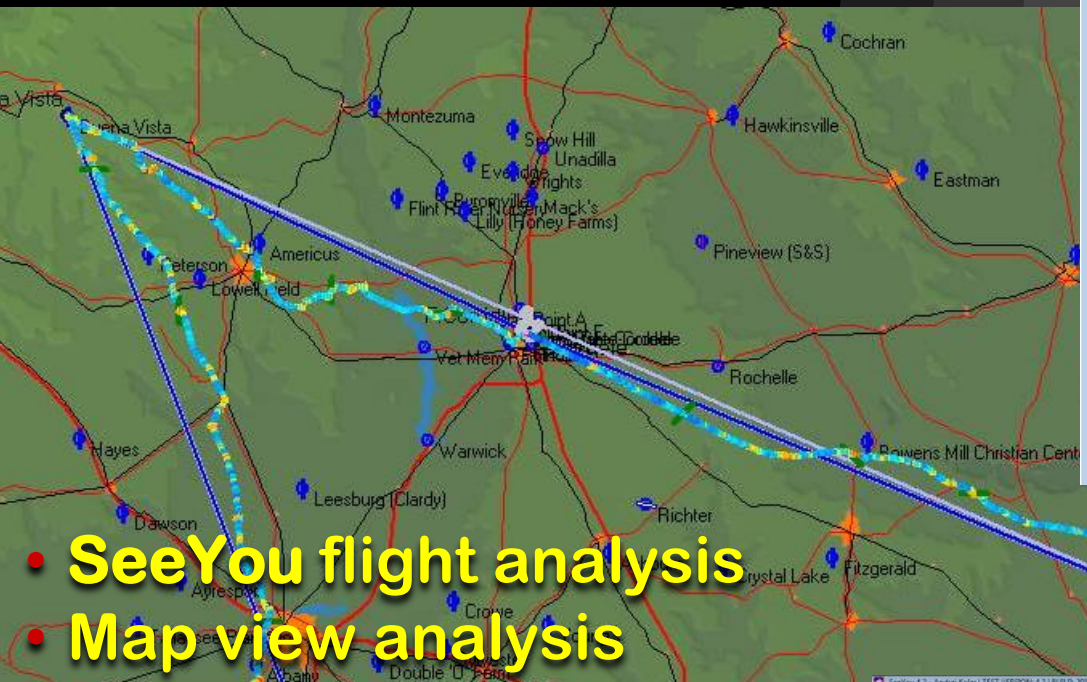
- Then, look closely at the barogram
  - What do the climbs look like?
    - Climb should be steady, no rollover to the right.
    - Look at how you exit, no rounded tops
    - Look at you use of the height band
  - What does the cruise look like?

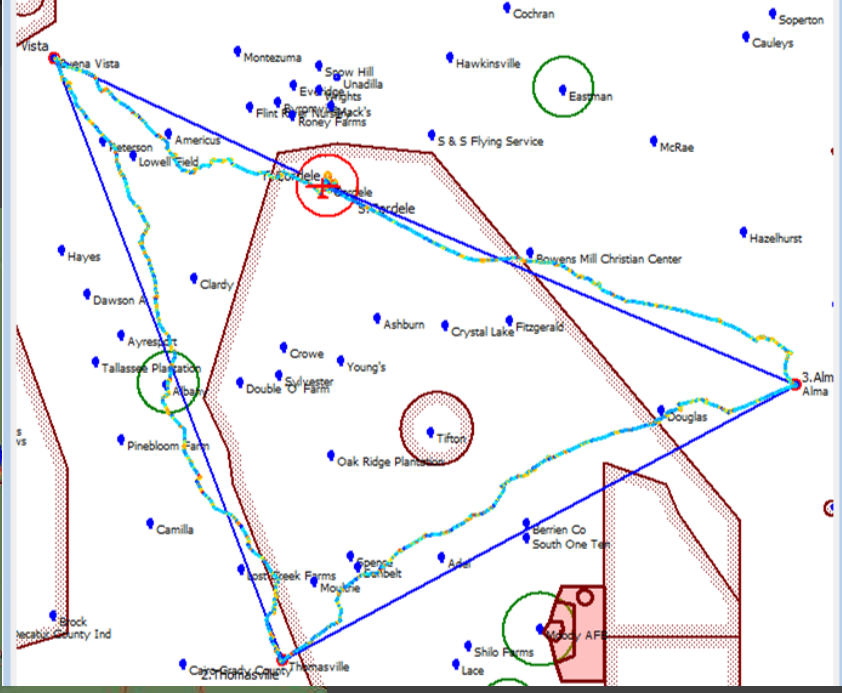
- Finally, look closely at the stats.
  - Achieved climb rates & percent time climbing
  - Number of tries
  - Average cruise length & avg IAS
  - Time in rising vs sinking air
  - % climb
  - Achieved L/D
  - Distance achieved

14 day free trial

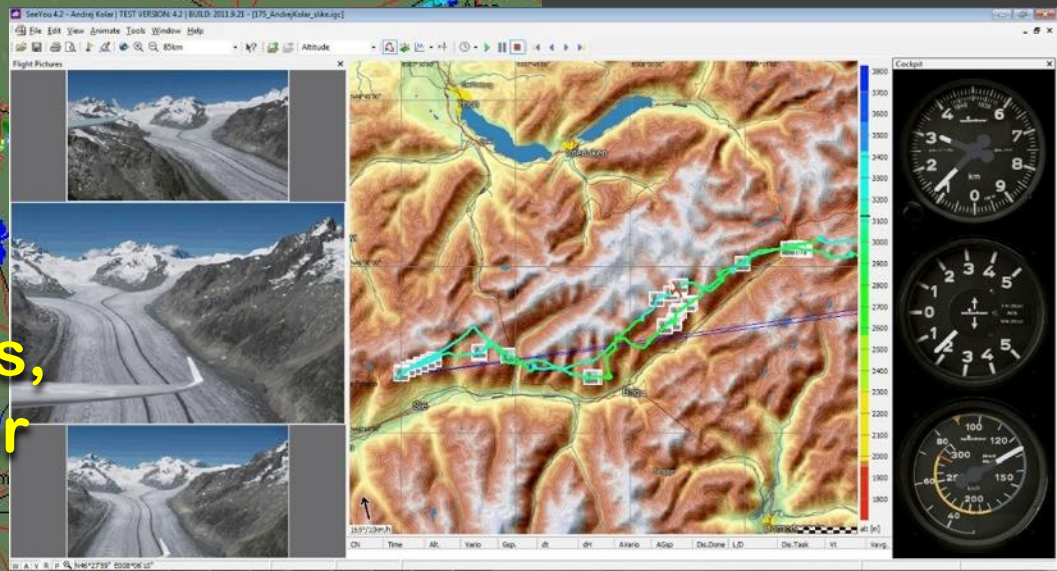


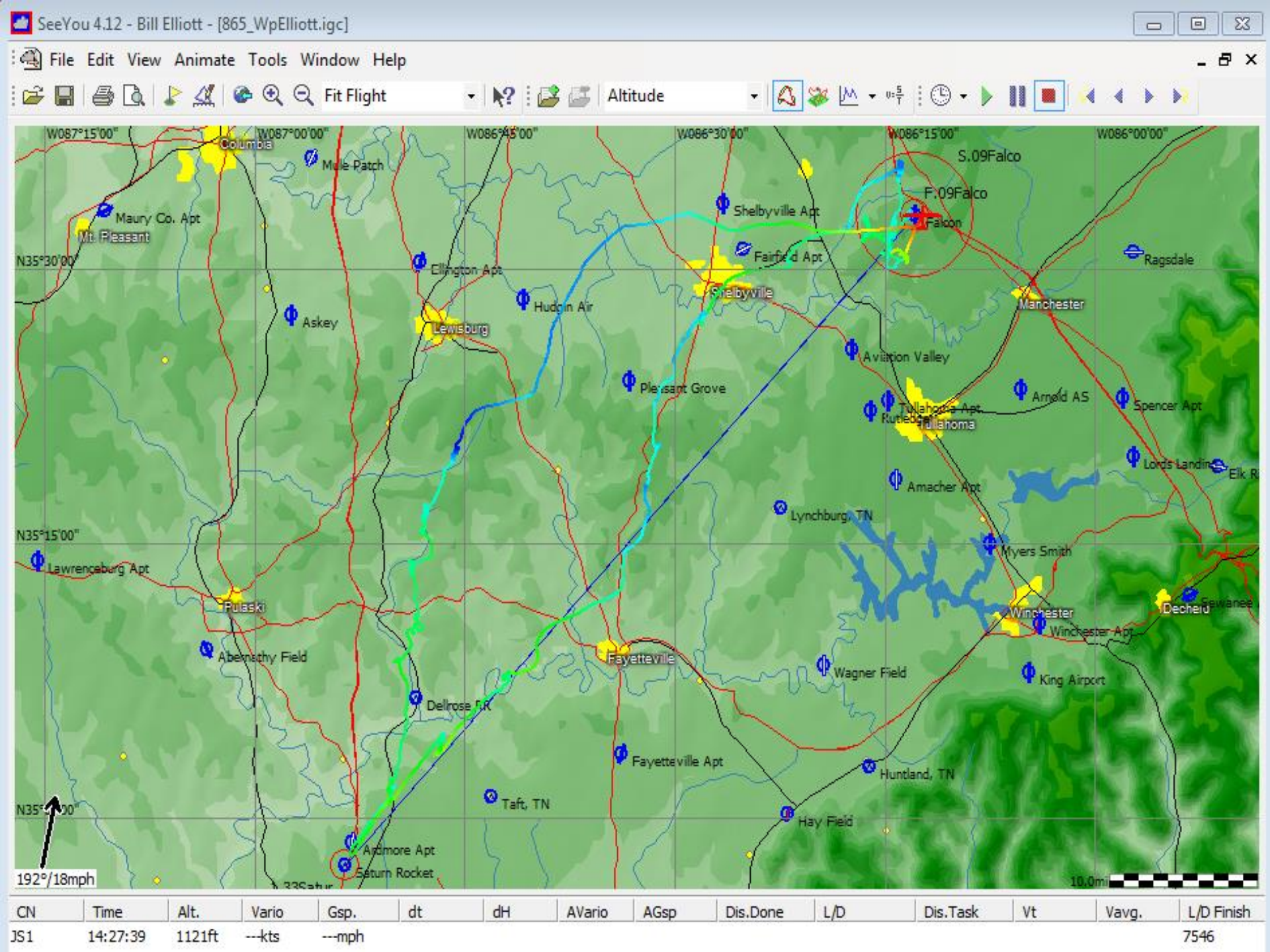
Flight Analysis

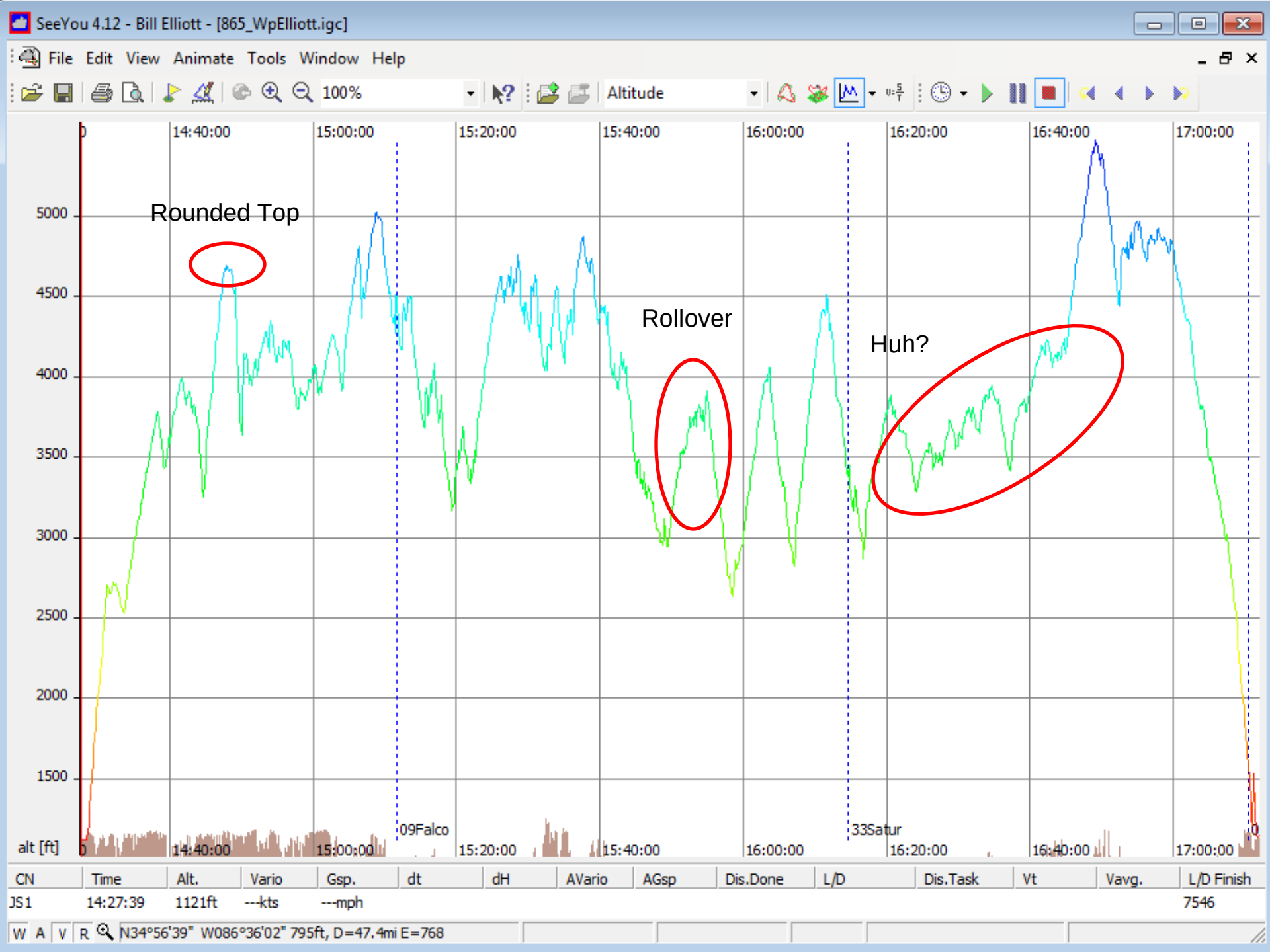




- SeeYou flight analysis
- Map view analysis
- Deviations, options
- Task planning
- Airspace
- Turnpoint location & type
- Map options for Sectionals, Vector with terrain, Raster - Satellite.




SeeYou 4.12 - Bill Elliott - [865_WpElliott.igc]
File Edit View Animate Tools Window Help
Fit Flight
Altitude
W087°15'00"
W087°00'00"
W086°45'00"
W086°30'00"
W086°15'00"
W086°00'00"
N35°30'00"
N35°15'00"
Columbia
Mule Patch
Maury Co. Apt
Mt. Pleasant
Askey
Ellington Apt
Lewisburg
Hudgin Air
Shelbyville Apt
Fairfield Apt
Shelbyville
S.09Falco
F.09Falco
Falcon
Ragsdale
Manchester
Aviation Valley
Pleasant Grove
Arnold AS
Spencer Apt
Tullahoma Apt
Tullahoma
Lords Landing
Amacher Apt
Lynchburg, TN
Myers Smith
Lawrenceburg Apt
Pulaski
Abernathy Field
Fayetteville
Dellrose AR
Wagner Field
King Airport
Winchester
Winchester Apt
Decherd
Fayetteville Apt
Huntland, TN
Taft, TN
Hay Field
Antimore Apt
Saturn Rocket
192°/18mph
10.0mi
CN Time Alt. Vario Gsp. dt dH AVario AGsp Dis.Done L/D Dis.Task Vt Vavg. L/D Finish
JS1 14:27:39 1121ft ---kts ---mph 7546


SeeYou 4.12 - Bill Elliott - [865_WpElliott.igc]
File Edit View Animate Tools Window Help
100%
Altitude
14:40:00
15:00:00
15:20:00
15:40:00
16:00:00
16:20:00
16:40:00
17:00:00
Rounded Top
Rollover
Huh?
5000
4500
4000
3500
3000
2500
2000
1500
alt [ft]
09Falco
33Satur
CN Time Alt. Vario Gsp. dt dH AVario AGsp Dis.Done L/D Dis.Task Vt Vavg. L/D Finish
JS1 14:27:39 1121ft ---kts ---mph 7546
W A V R N34°56'39" W086°36'02" 795ft, D=47.4mi E=768

SeeYou 4.12 - Bill Elliott - [865_WpElliott.igc]

File Edit View Animate Tools Window Help

Altitude

Flight | Task | Selection | Phases

09Falco - 33Satur - 09Falco

Distance: 107.2mi
Start: 15:11:37 at 4544ft
Finish: 17:10:24 at 1627ft
Duration: 01:58:47
Speed: 54.14mph, XC Speed: 49.15mph

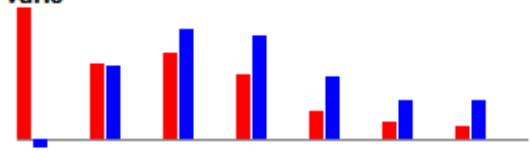
Circling:	Time	Vario	Alt.Gain	Alt.Loss	Thermals
Total	00:33:24 (28%)	2.5kts	9344ft	-981ft	15
Left	00:21:08 (63%)	2.4kts	5712ft	-620ft	10
Right	00:12:16 (37%)	2.6kts	3632ft	-361ft	5
Tries (<45s)	00:02:24 (2%)	2.2kts	722ft	-184ft	7

Straight:	Time	Dis.Done	Alt.diff	Netto	Avg.GS	IAS	Glides	Avg.Glide	Mean L/D
Total	01:25:24 (72%)	132.1mi	-11296ft	2.2kts	93mph	90mph	16	8.3mi	62
Rising	00:24:44 (29%)	33.8mi	11775ft	6.2kts	82mph	80mph			-15
Sinking	01:00:40 (71%)	98.4mi	-23071ft	0.5kts	97mph	94mph			23
Netto rising	01:02:52 (74%)	96.3mi	1240ft	3.7kts	92mph	89mph			-410

Wind

<2250	2500	3000	3500	4000	4500	5000	5250>	[ft]
1.3	1.7	13.4	35.7	31.1	22.4	11.0	2.1	[min]
189°/19	190°/18	193°/16	192°/17	192°/18	195°/16	201°/16	201°/16	[°/mph]

Vario



<1.5	2	3	4	5	6	6.5>	[kts]
10.5	6.1	6.9	5.2	2.3	1.3	1.0	[min]
-187	1470	2195	2077	1250	778	781	[ft]

- Analyze your flights, every flight.
- Compare to your buddies & experienced pilots that flew the same weather.
- You might be amazed & inspired.

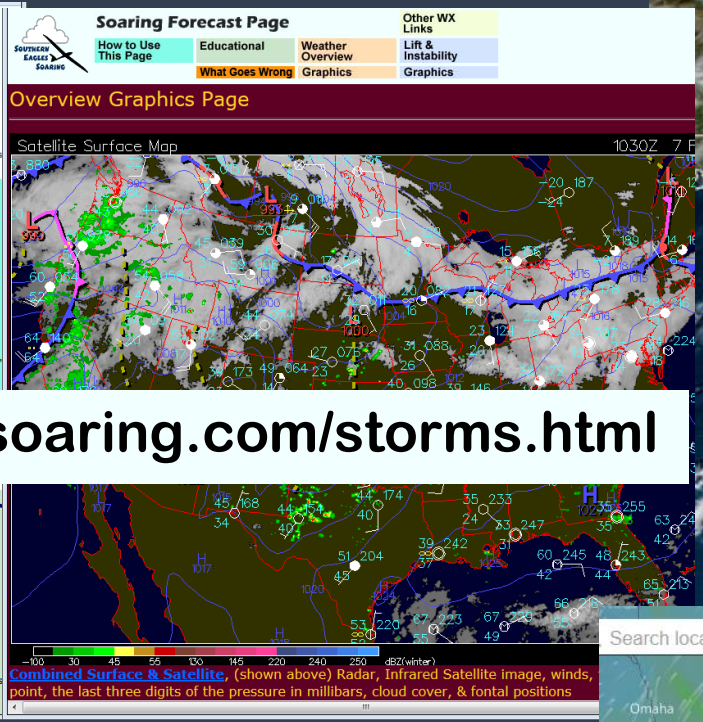
CN	Time	Alt.	Vario	Gsp.	dt	dH	AVario	AGsp	Dis.Done	L/D	Dis.Task	Vt	Vavg.	L/D Finish
JS1	14:27:39	1121ft	---kts	---mph										7546


CONDOR
The Competition Soaring Simulator
FLIGHT PLANNER
TASK
WEATHER
PLANE
NOTAM
START
TAKEOFF
FINISH
179 km/h
-1.30 m/s
E=35.9
Cancel
Start flight
New
Load
Save
Add
IGC export
Exit
CONDOR
The Competition Soaring Simulator
condorsoaring.com

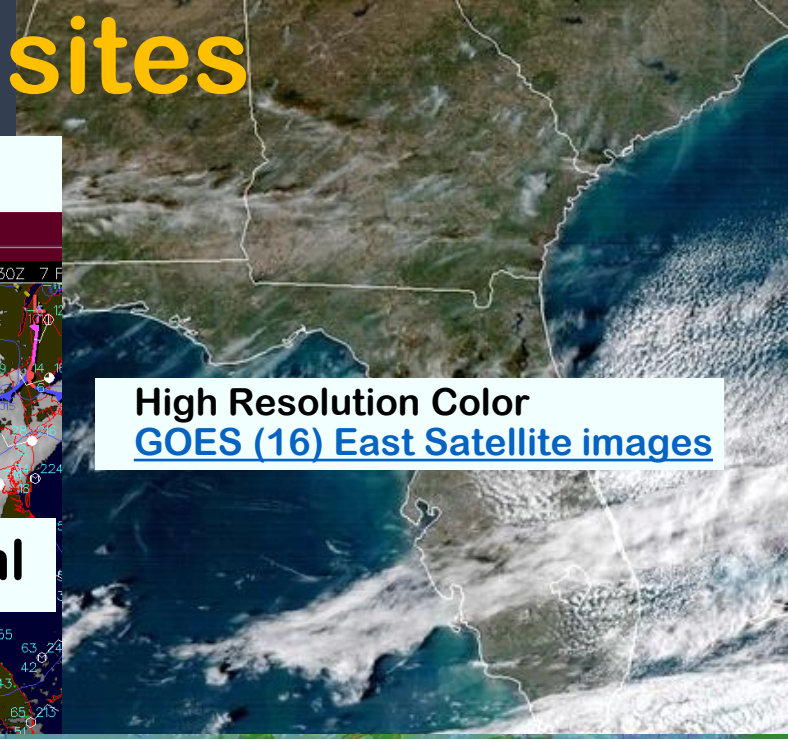

CONDOR
The Competition Soaring Simulator

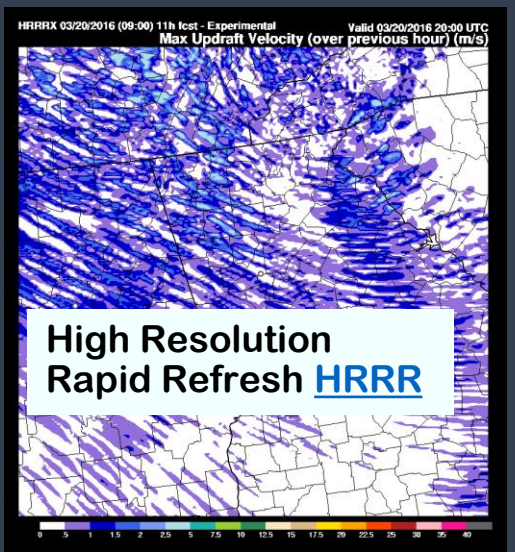

Now includes Georgia scenery.
CONDOR2

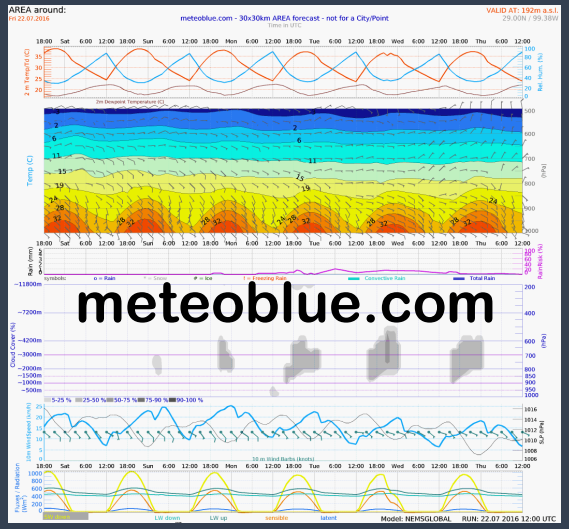
Weather Overview sites



southerneaglessoaring.com/storms.html







Soaring Forecast sites

drjack.info Hcrit, free

BLIPMAP UniViewer

Created by John Whitney, E. Mancini, Jack Glendening

BLIPMAP™ = Boundary Layer Information Prediction MAP created by Dr. John W. (Jack) Glendening, Meteorologist
This UniViewer requires: Javascript, Registration (free), a valid registration cookie, browser acceptance of "www.drjack.info" cookies, and basic BlipMap knowledge.
Registered users can view all BLIPMAPs.
Registered users can Logon (get a new cookie) here) or check their registration cookie status here.
UniViewer Notes give usage information. BlipMap News and helpful BlipMap links are below the viewer.
If this new overlay-capable UniViewer does not funcion properly with your browser, please post a report to the BLIPMAP Forum and instead use the old non-overlay UniViewer.

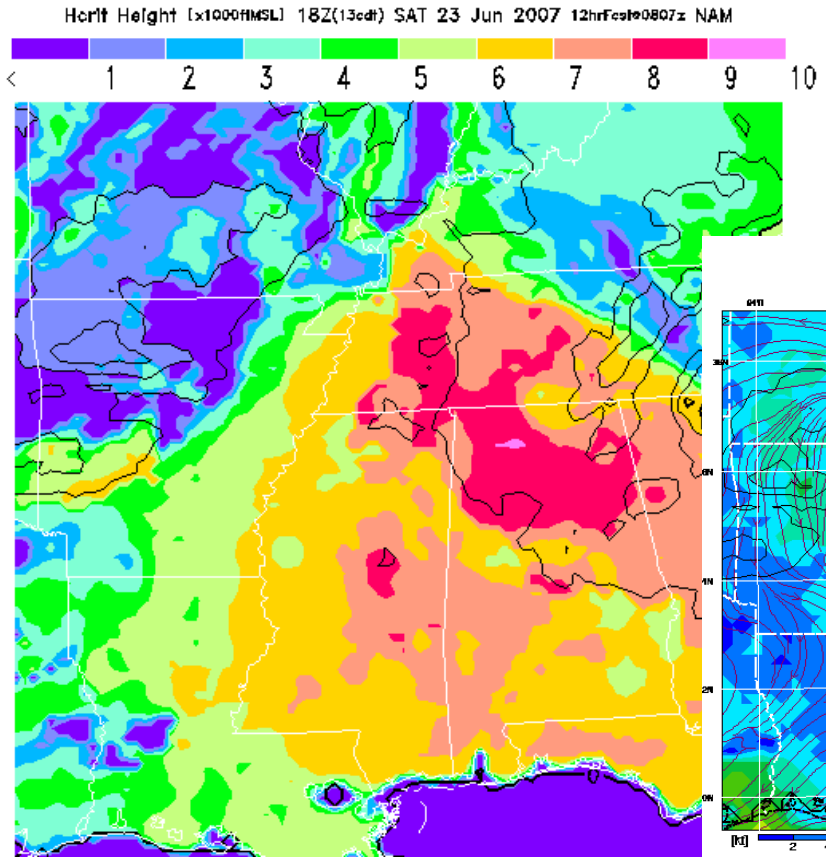
Region:
NE SE NC SC GP OK/TX
NW SW CA/NV USA

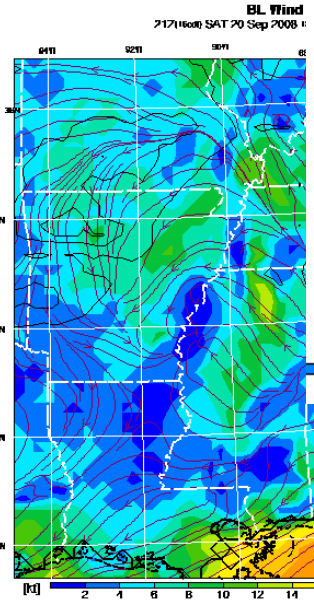
Model+Day+Time:
RAP: CurrentDay
Previous(-1)
RAP: 12z 15z 18z 21z 00z
03z

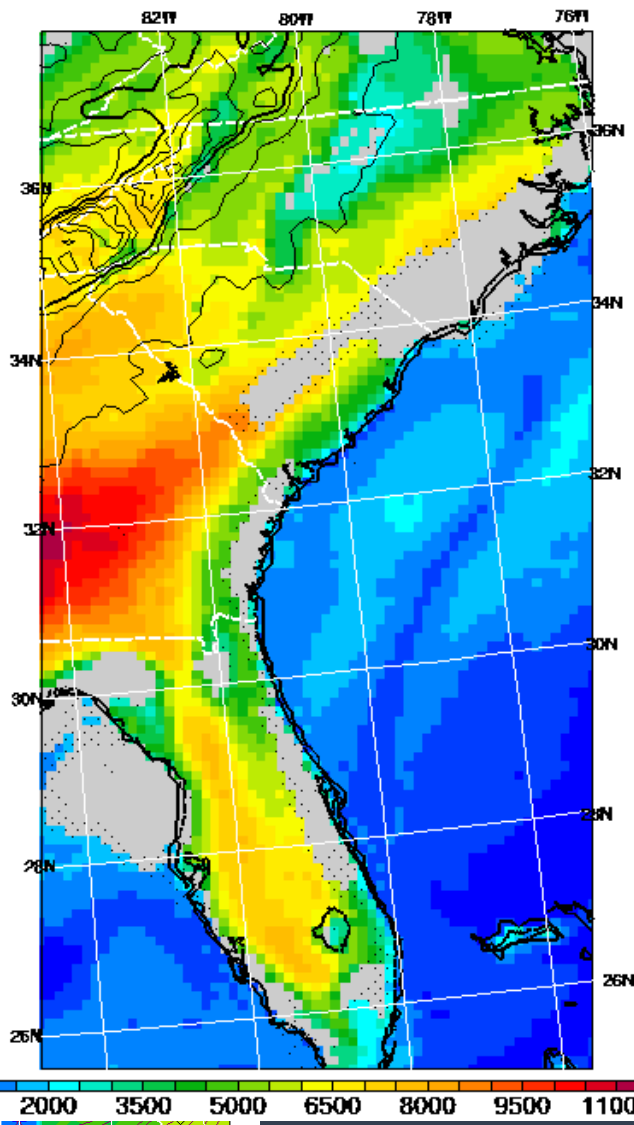
NAM: CurrentDay +1 +2 -1
NAM: 18z 21z

Parameter:
Thermal Velocity + B/S Ratio
Thermal Updraft Velocity
Buoyancy/Shear Ratio
Critical Updraft Height
BL Top Height (TI=0)
BL Depth
Thermal Hgt. Variability
BL Wind
BL Wind Speed
BL Wind Direction
BL Vertical Wind Shear
BL Max Up/Down Motion
CU Cloudbase for CUpot>0
CUmulus Potential
CUmulus Cloudbase
OD Cloudbase for ODpot>0
OD Potential
OD Cloudbase

Mouse-Click Popups:
MiniBLIPSPOT ☑ BLIP SkewT ☑ Nonjava FSL SKewT ☐ Java FSL SkewT ☐





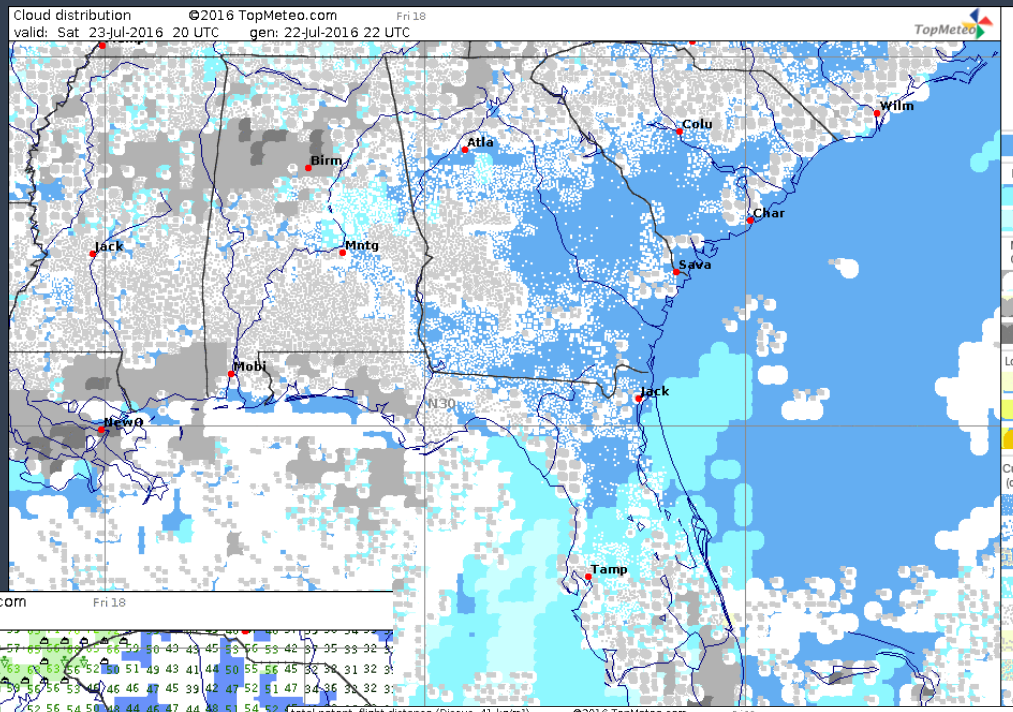


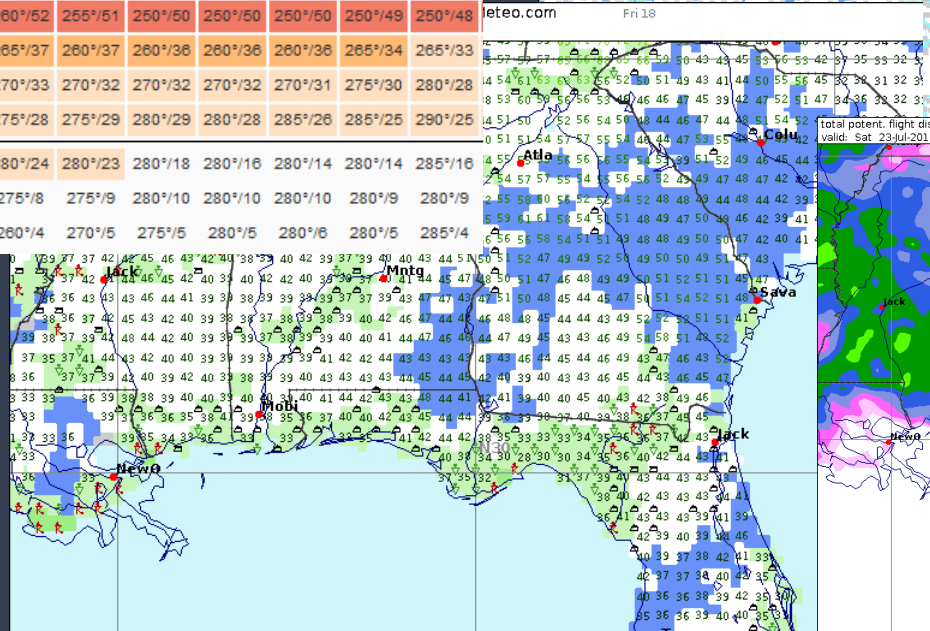
Soaring Forecast sites

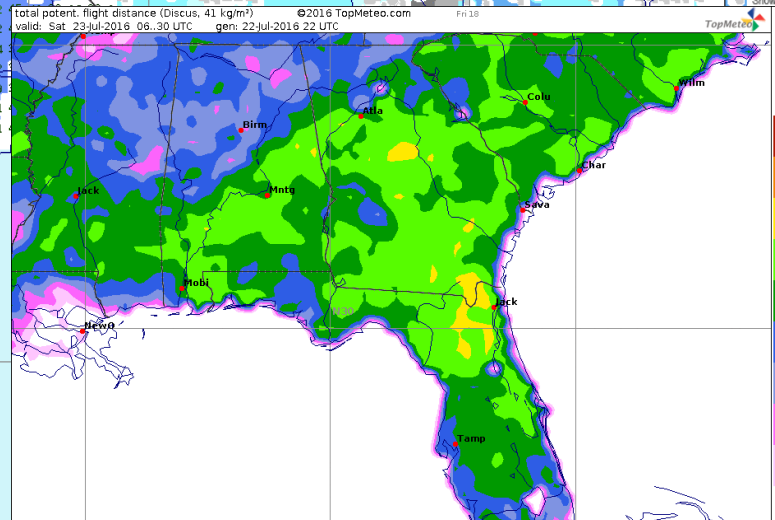
topmeteo.com paid. Integrates into SeeYou, site forecasts

Info Explanations | Chilhowee — Tu, 23.01.18 — 07:43 17:56

EST	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00
Solar radiation [W/m²]	420	550	620	620	550	430	250	50
High clouds								
Midlevel clouds								
Spread tendency								
Octas of Cumulus								
Cumulus tops [ft MSL]			3,900	4,300	4,600	4,600	4,300	
Flight top [ft MSL]	2,300	3,000	3,600	3,900	4,300	4,300	3,900	
Mean climb [kt]		1.3	1.9	2.2	1.8	1.2		
PFD (18m, 46kg/m²) [km]		30	65	75	70	55		
PFD (Std, 41kg/m²) [km]		25	60	70	65	50		
Weather conditions								
Total precipitation [mm/h]								
Wind 18,000 ft [kt]	250°/69	250°/68	250°/65	245°/63	245°/62	240°/62	240°/65	245°/68
Wind 13,000 ft [kt]	260°/53	260°/52	255°/51	250°/50	250°/50	250°/50	250°/49	250°/48
Wind 8,500 ft [kt]	265°/39	265°/37	260°/37	260°/36	260°/36	260°/36	265°/34	265°/33
Wind 6,500 ft [kt]	270°/34	270°/33	270°/32	270°/32	270°/32	270°/31	275°/30	280°/28
Wind 5,000 ft MSL [kt]	270°/28	275°/28	275°/29	280°/29	280°/28	285°/26	285°/25	290°/25
Wind 3,500 ft AGL [kt]	280°/24	280°/24	280°/23	280°/18	280°/16	280°/14	280°/14	285°/16
Wind 1,500 ft AGL [kt]	285°/12	275°/8	275°/9	280°/10	280°/10	280°/10	280°/9	280°/9
Wind 30 ft AGL [kt]	245°/4	260°/4	270°/5	275°/5	280°/5	280°/6	280°/5	285°/4



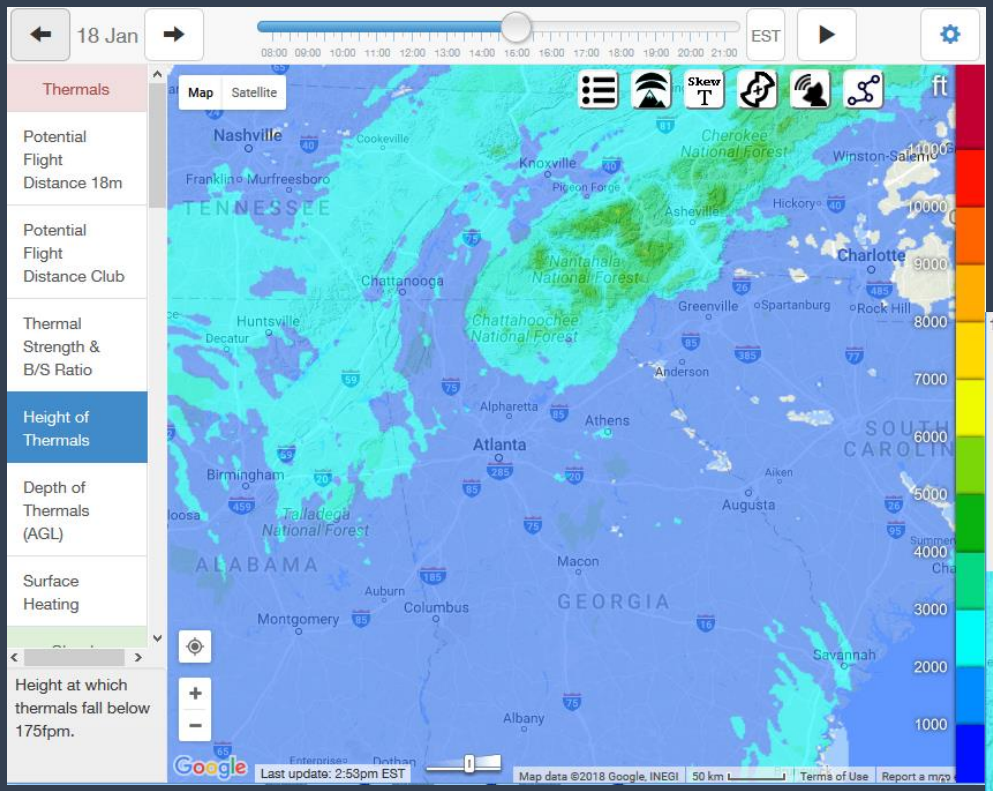


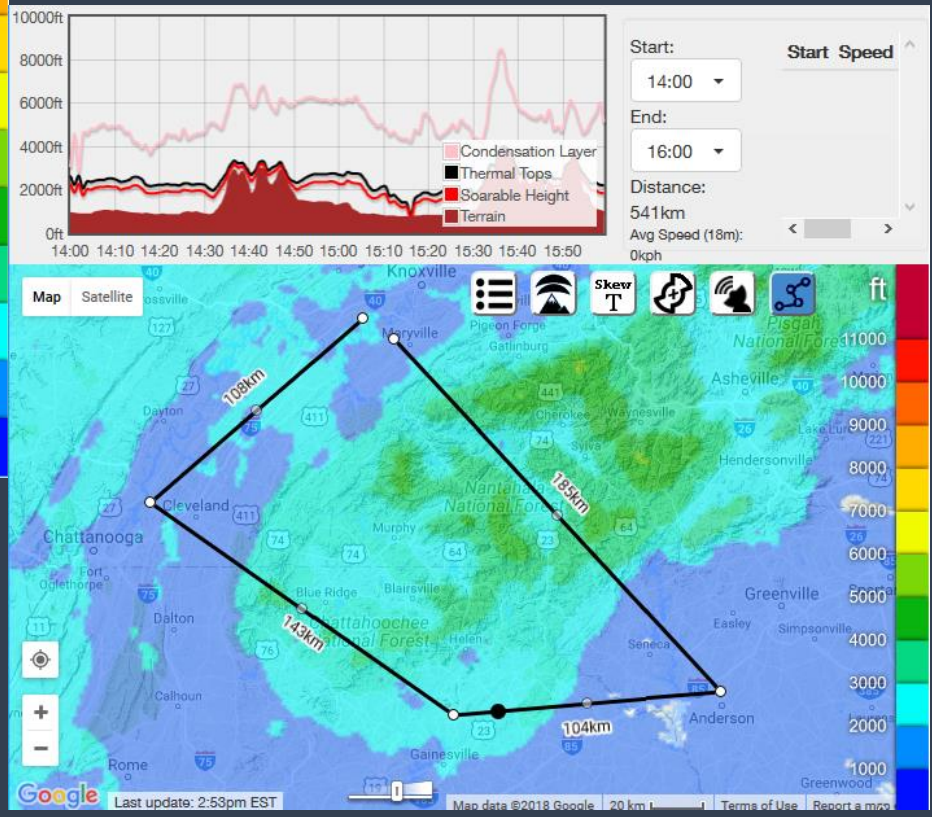


Soaring Forecast sites

skysight.io **paid after trial. Integrates into SeeYou, Most Modern**

plot course and see forecast along course





landing out

Don’t forget that the trailer can bridge a ditch if needed.

Found on the web, story unknown

landing out

Chris Ruf, Sequatchie Valley.

Ridge lift can disappear and you have to transition from Happy High speed cruise to OMG I am below pattern height and need somewhere to land in about 4 seconds.

This wide angle photo is taken from the fence, It was a small field, the powerful dive brakes on the Mosquito helped get into the short field.

landing out

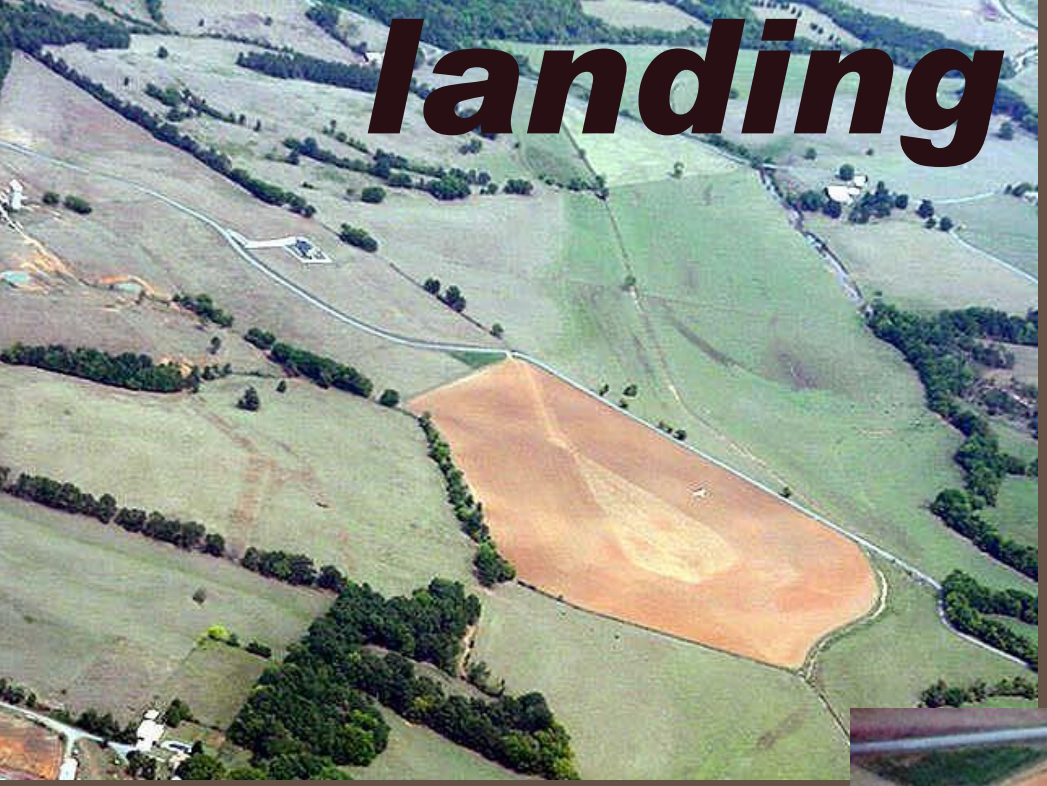
High crops result in a ground loop & damage much of the time. Sequatchie Valley. Ridge lift can disappear and you have to transition from Happy High speed cruise to OMG I am below pattern height and need somewhere to land in about 4 seconds.

landing out

Doing this will result in a ground loop & damage most of the time, and maybe this time too! (Not sure if there is a left wing still attached).

Found on the web, story unknown

landing out

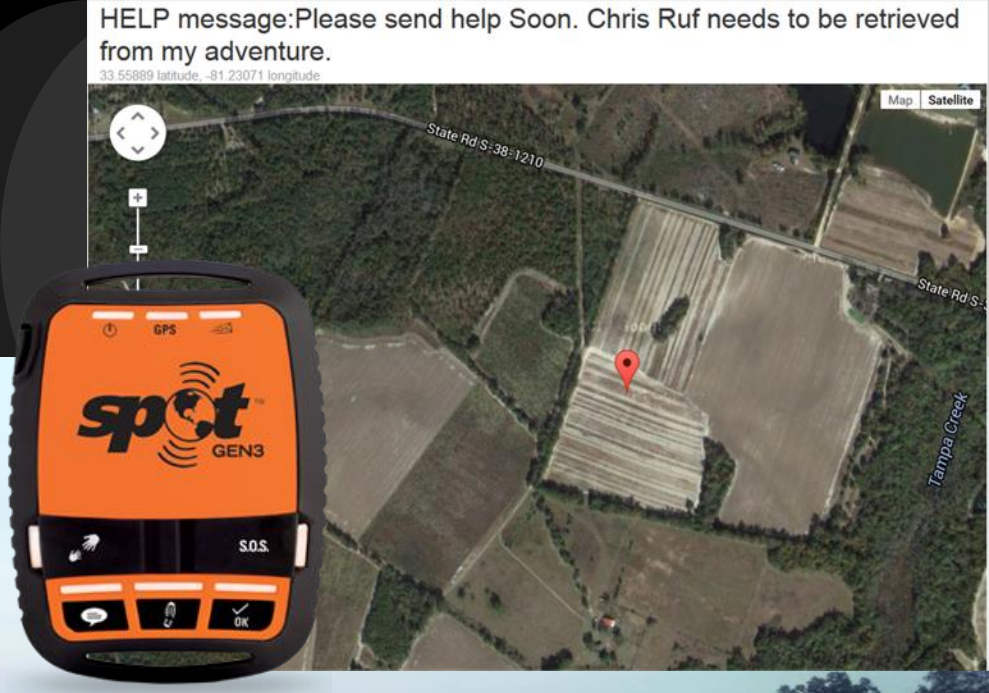


You won't get hurt landing in soft dirt

Conrad Suechting in PW-5 FP2, Fall 2000
NE of Chilhowee, TN
John took these photos with a zoom lens from high altitude in his Junior ☺
photo credit: John McClary

Landing Out

Chris Ruf, Mosquito, SE of Perry, SC



Decide early:
stop soaring
start landing.

Wires
Wind
Slope
Surface

You won't get hurt landing in soft dirt.
Avoid crops on wingtip, landed right wing low – got lucky on this aspect.

You should already be comfortable with landouts.
Steep approach & pattern at home like landout every time.

Crew

Crews help a lot, and crewing is a good way to learn - try it.

Now common to create a ***Crew-for-Each-Other-Group*** as secondary plan at contests and common for daily XC tasks at the home gliderport.

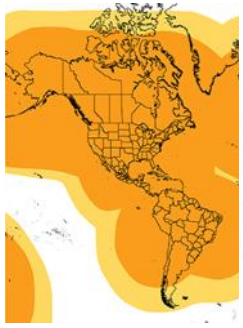
Nobody has been left in a field forever *as far as we know.*

Outlanding Preparations, Landing Out, reporting in, tracking systems & ELTs

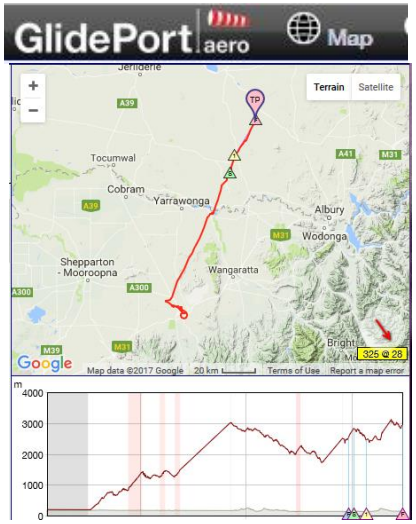
Get a tracking system & register it on SSA's "Sailplane locator". FYI there are 2 tracking systems on SSA, the "locater" is better for friends & family to find you.

SSA
SOARING SOCIETY OF AMERICA

SPOT Gen3 Satellite Messenger



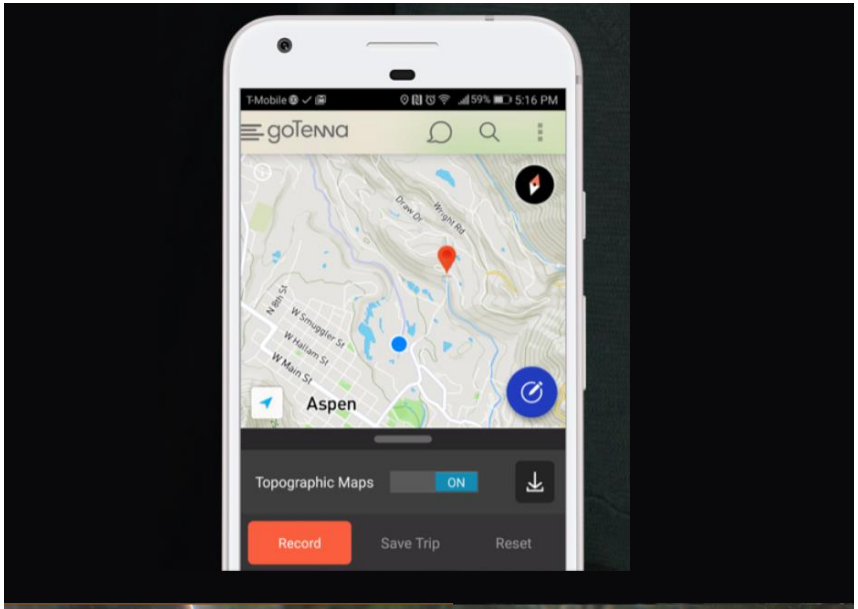
DeLorme inReach Explorer 2-way Satellite Communicator, GPS & Navigation



Interesting New tracking system

Mesh networking promises basic communication where cell phones don't work.

goTenna MESH



Contest Radio Usage – similar in cross country

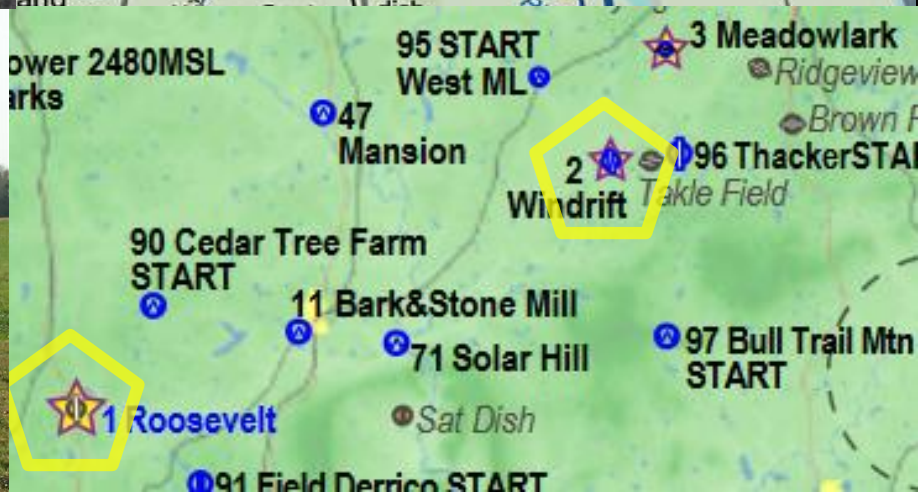
- 123.3 Contest, CD, Pilot to Pilot Safety
  - Where you find XC pilots most days

- 123.5 Pilot to Crew
  (pilot must initiate - cannot start with crew calling pilot.)

- Unicom at public airports

SES Landing Out Practice day

If there is interest we can ask Joy to let us fly at Windrift for a day of grass runway practice – great to simulate off-field landing.



Equipment

- **A good audio vario and a moving map navigation system are essential for XC & contest flying.**
  - **Need not be state of the art or expensive!**

Equipment

Your **trailer & tow vehicle** should function well

- Adequate tow vehicle!
- **WITH gas & keys!!!!**
- Instructions for anything weird

- Lights working
- Proper hitch and ball
- Spares and tools
- Keep a rope in the glider so tractor or 4x4 can tow you to edge of field.

Self Rigger is optional
- but can allow self retireve

Staying comfortable, and Safe:

- Drinking Water
- Snacks keep your blood sugar in the right range, and backup food for a landout.
- Pilot Relief
- Oxygen in Western US

Checklists

Suggested checklists:

- **Equipment to take to the airport (it's discouraging to find that you left your battery charger at home)**
- **A thorough assembly checklist**
- **A pre-flight checklist**
- **A pre-landing checklist**
- **A trailering checklist (showing how to hook up your trailer & start your tow vehicle)**
- **Cell phone belongs on checklist.**

Your pre-flight checklist should include several task-specific items, such as the need to ensure that a task sheet are in your cockpit, and that the keys to your tow vehicle are not in your pocket. Your landing checklist is one you may wish to commit to memory, since outlandings & contest landings can get busy

When & Where are the XC events & contests?

The SSA website has a schedule for nearly every race in North America AND many other fun meets, camps and other events.

SSA
SOARING SOCIETY OF AMERICA

Membership Number: Password: Rem

About Soaring | The SSA | Member Resources | Soaring Safety | Sailplane Racing | Soaring Achieve

Contest Calendar

Select Type of Event

Visit the graphical calendar

- ☑ SSA Contests (Click here for contest results) ICAL
- ☑ Fun Meets, Camps, & Other Flying Events ICAL
- ☑ Conventions, Seminars, & Meetings ICAL

Check these 2 boxes for more events!

Events

Click on an event for additional details

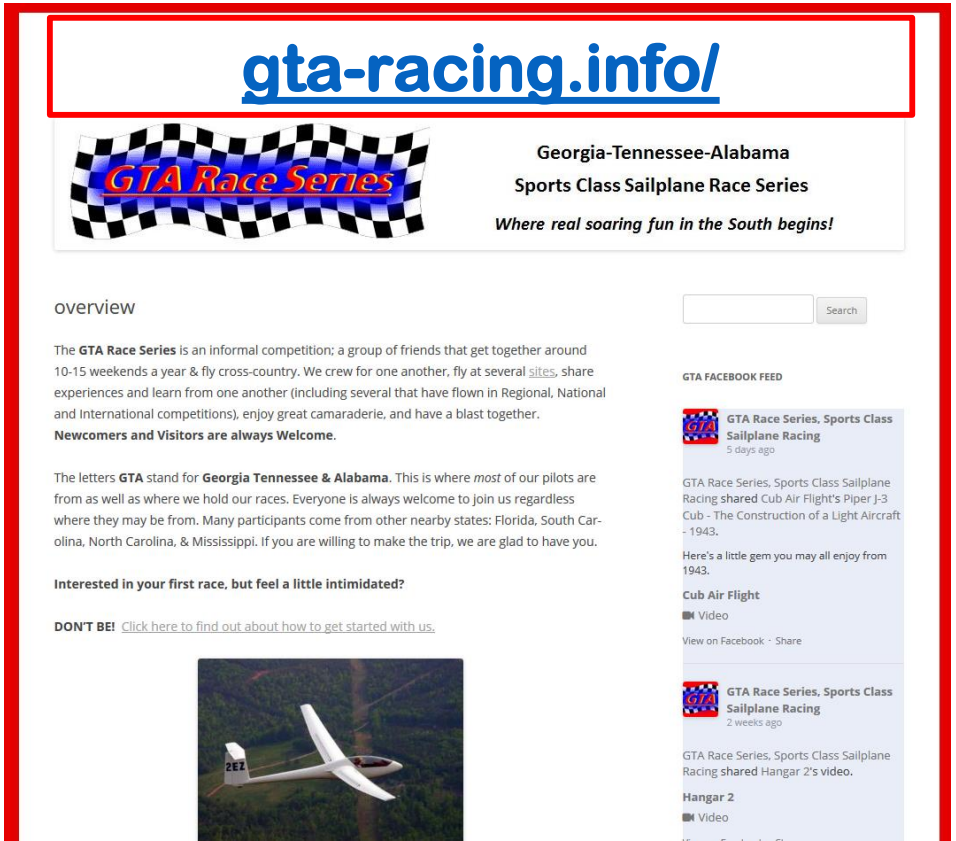
Date(s)	Event	Location
2/27/2018 - 2/28/2018	FIRC	Reno, NV
3/1/2018 - 3/3/2018	2018 SSA Convention	Reno, NV
3/1/2018 - 3/3/2018	Soaring Society of America Convention	Reno, NV
3/2/2018	Annual SSA Membership Meeting	Reno, NV
3/9/2018 - 3/11/2018	AGCSC Winch Clinic	San Diego County, CA
3/10/2018 - 3/16/2018	Senior Soaring Championship	Groveland, FL
3/20/2018 - 3/29/2018	Sequatchie Badge & Record Camp	Jasper, TN
4/6/2018 - 4/8/2018	AGCSC Winch Clinic	San Diego County, CA
4/16/2018 - 4/21/2018	Region 5 North	Perry, SC
5/1/2018 - 5/10/2018	18-Meter National Championships	Groveland, FL
5/4/2018 - 5/6/2018	Eastern Vintage/Classic Regatta	Benton, TN
5/14/2018 - 5/22/2018	20m Multi-Seat Nationals	Reedsville, PA
5/21/2018 - 5/26/2018	Region 7 Soaring Contest	Albert Lea, MN
5/23/2018 - 5/30/2018	1-26 National Championships	Waynesville, OH
5/25/2018 - 5/28/2018	Western Vintage/Classic Regatta	Tehachapi, CA
5/28/2018 - 6/1/2018	24th Annual Thermal Camp	Air Sailing Gliderport, Reno,
6/3/2018 - 6/8/2018	32nd Annual Cross Country Camp	Air Sailing Gliderport, Reno,
6/4/2018 - 6/9/2018	Region 5 South	Cordele, GA
6/11/2018 - 6/16/2018	Region 10 North	Yoder, KS
6/14/2018 - 6/17/2018	Midwest Vintage/Classic Regatta	Lawrenceville, IL
6/14/2018 - 6/17/2018	Midwest Vintage/Classic Regatta	Lawrenceville, IL
6/19/2018 - 6/28/2018	2018 Sports Class Nationals	Nephi, UT
6/19/2018 - 6/24/2018	2018 Nephi Region 9 Sports Class	Nephi, UT
6/25/2018 - 6/30/2018	2018 Region 10 Championship	Waller, TX
7/2/2018 - 7/7/2018	2018 Region 8 Championships	Ephrata, WA
7/2/2018 - 7/7/2018	U.S. Junior Camp Contest	Adrian, MI
7/2/2018 - 7/7/2018	New England Region 1 Contest	Springfield, VT
7/2/2018 - 7/7/2018	Region 6 North	Adrian, MI
7/8/2018 - 7/14/2018	Sugarbush Soaring Youth Soaring Camps	Warren, VT
7/9/2018 - 7/14/2018	Air Sailing Sports Class	Reno, NV
7/16/2018 - 7/21/2018	Region 11 FAI Class	Truckee, CA
7/22/2018 - 7/28/2018	Sugarbush Soaring Youth Soaring Camps	Warren, VT
7/23/2018 - 8/5/2018	2018 Mackay ID Annual Regatta	Mackay, ID
7/23/2018 - 7/27/2018	Women Soaring Pilots Annual Seminar	Truckee, CA
7/31/2018 - 8/8/2018	Standard Class Nationals	Midlothian, TX
8/4/2018 - 8/12/2018	2018 Club Class Nationals	Dansville, NY
8/5/2018 - 8/11/2018	Region 3 Sports Class	Dansville, NY
8/5/2018 - 8/11/2018	Sugarbush Soaring Youth Soaring Camps	Warren, VT
8/11/2018 - 8/19/2018	15-Meter and Open Class Nationals	Uvalde, TX
9/1/2018 - 9/3/2018	Experimental Soaring Association Wester Workshop/Vintage Sailplane Regatta	Tehachapi, CA
9/20/2018 - 9/23/2018	Great Plains Vintage/Classic Regatta	Wichita, KS
10/13/2018 - 10/14/2018	Hood River Glider Weekend	Hood River, OR

To have your event listed in the calendar send an email to webmaster@ssa.org

When & Where to Race Your First Contest?

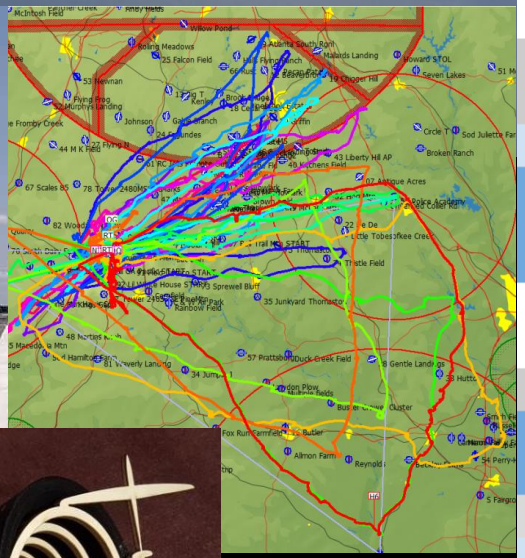
GTA is a local race series that provides a perfect way to begin racing.

- GTA is ideal. Usually only 4-8 gliders
- Regional with 6-12 in sports class is another good option.
- Smaller regional is good but not a “Super Regional” contest or National. (NOT Perry with 65 gliders!)



GTA Race Series

$22 for 28 race days.

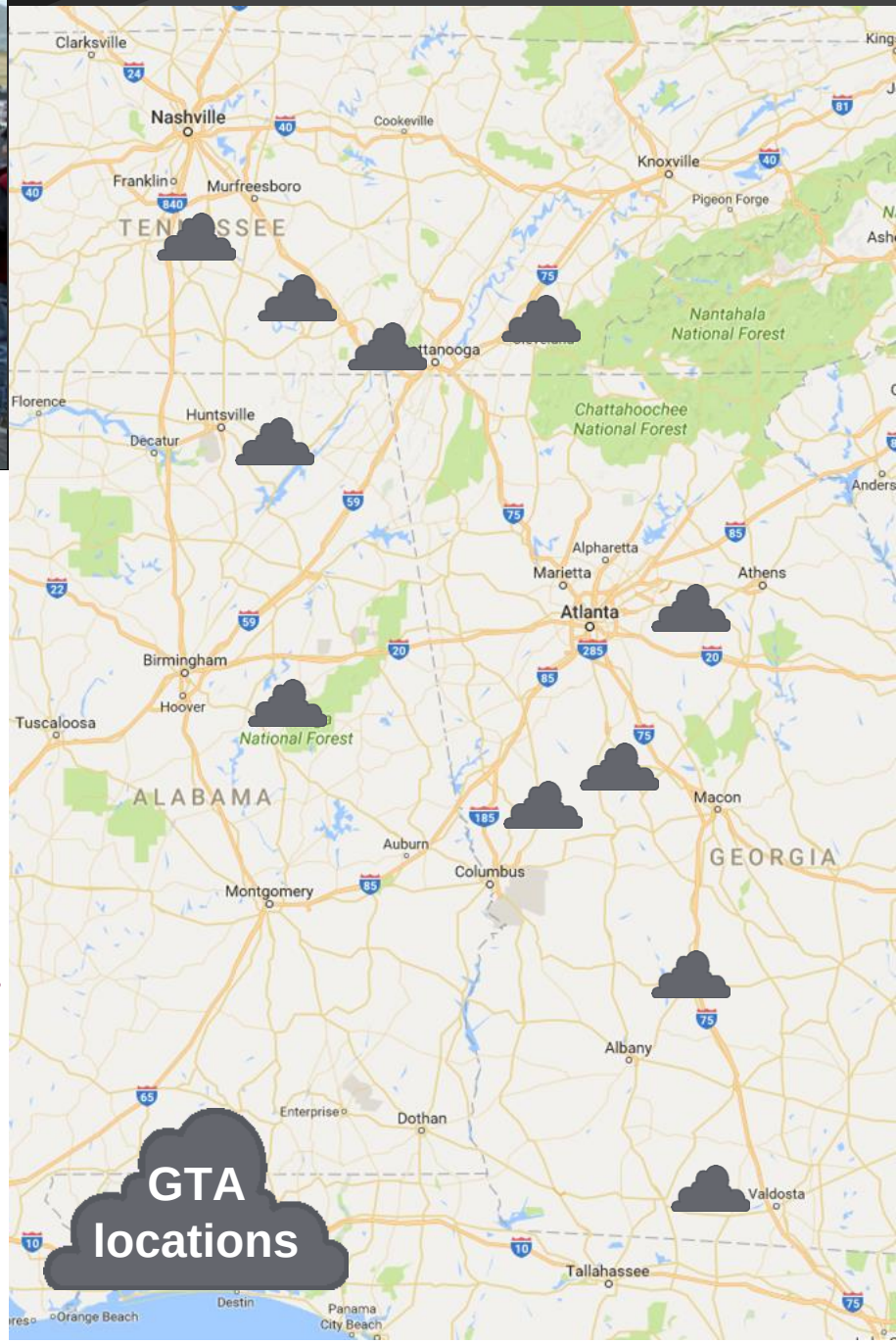


GTA 2018 Schedule draft

#	Area	Location	Dates	Days
		Seniors FL	March 10-16	
		Sequatchie, TN	March 20-29	
1	**S**	**Warm Springs**	**March 24-25**	**2**
		Easter	April 1	
2	**SW**	**Sylacauga**	**April 7-8**	**2**
		Perry Region V N	April 14-21	
3	**N**	**Chilhowee**	**April 28-29**	**2**
4	**NW**	**Moontown**	**May 5-6**	**2**
		Mother's Day	May 13	
5	**NW**	**Eagleville**	**May 19-20**	2
6	**S**	**Cordele**	**May 26,27,28**	**3**
		Skip/rain make up	June 2-3	
		Cordele R5S	June 9-10	
			June 16-17	
7	S	Warm Springs	June 23-24	2
8	N	**Chilhowee** Canada Day	**June 30 - July 1 (July 7-8 backup)**	2
9	**NW**	**Eagleville**	**July 14-15**	**2**
?		Rain make up	July 21-22	
		Rain make up	July 28-Aug 19	
			August 25-26	
10	**N**	**Chilhowee**	**Sept 1,2,3**	**3**
			Sept 9-10	
11	**E**	**Monroe**	**Sept 15-16 / TBD**	**2**
12	**W**	**Sylacauga**	**Sept 22-23**	**2**
13	S	Windrift/ Chilhowee as backup	Sept 30-Oct 1	2
			October TBD	
			October TBD	
		Chilhowee Oktoberfest	October TBD	
			total race days	**28**

Why racing?

- Racers & XC record and badge pilots stay in soaring longer and enjoy it more.
- Explore different soaring sites = many learning opportunities.
- You will learn more, faster, flying with other pilots.
- Amazing to see what other pilots can do.
- Camaraderie with fellow racers.
- Great memories & Stories



The Unwritten Rules

For any sport, the rules that aren't written can be as important as those that are. A brief list of the things you should be trying to achieve in soaring competition, in decreasing order of importance. The first four should be considered mandatory on every flight.

- **Don't endanger people on the ground**
- **Don't endanger other pilots**
- **Don't endanger yourself**
- **Don't endanger your glider**
- Learn from the flight
- Enjoy the flight
- Go Far, Fast, Score well

Faster, Further, Higher, Funner

Southern Eagles Soaring

This Year… What is YOUR Goal?

END

Agenda

SES Cross Country 101 Seminar

Beginners learn how to comfortably fly their first distance flight.

Date: **Saturday January 27, 2018**
Time: **9:15am -2:45pm EST**
Location: **Southern Eagles Soaring, Warm Springs Roosevelt Airport** southerneaglessoaring.com
What: A seminar (and lunch!) to prepare pilots to fly their first cross country.
Who: **Any glider pilots interested in learning how leave glide range of the pattern - now or in the future.**
Why: Pilots who learn to fly XC & Racing tend to get more out of soaring , stay in the sport longer, and enjoy years of camaraderie with fellow pilots. Cross country soaring skills will take your flying to the next level.
Cost: Attendees are asked to contribute $15 for lunch and expenses.

Preliminary program - subject to adjustment:

9:30-11:40

- **Silver planning: How to plan & execute that first x-country/Silver C 50 km/31 mile Flight. Planning, nav, decision heights, landing out, flight documentation.** *(Wally, & Chris)*
- **Prerequisite skills before trying this, basic skills.** *(Wally)*
- **Thermalling better** *(Eric)*
- **badge ladder.** *(Chris)*
- **Courses that make sense from Warm Springs.** *(Chris)*
- **Dual practice you can do with an instructor or experienced pilot.** *(Chris)*
- **Posting to OLC.** *(Chris)*
- **Good reference books.** *(Wally & Chris)*

11:45-11:55

- **Touch on flight computers like XCSoar and flight analysis in SeeYou.** *(Chris)*

12:00-12:30

- **Landing out, better. Having never landed out is a barrier to feeling comfortable leaving the nest.** *(Wally)*
- **Learn some best practices and some stories.** *(Wally)*
- **Hear about are upcoming outlanding practice day - with instructor and club 2 seater.** *(Chris)*

12:30-1:30 Lunch

1:40-2:45

- **How to communicate you location, contact crew, help your crew with a checklist** *(Chris)*
- **Glider assembly/disassembly and trailering - until you have done it - it seems like a big scary barrier. Learn how to retrieve yourself or your buddy (and occasionally both).** *(Wally & Chris)*

Depending on the weather we can also fly afterwards.

RSVP by January 20th to reserve your spot and so we know how many burgers to make. rufchris@gmail.com 404-312-6377. Space is limited so RSVP now. Plan to bring a chair.
please forward this invite anyone interested in flying cross country some day...

Presentation by **Chris Ruf, Eric Carden & Wally Berry**
Chris has flown state records in GA & TX, and hopes to fly more than the 500km. He helps organize the GTA - Georgia Tennessee & Alabama race series and often serves as Competition Director. He has flown many GTA, as well as SSA Regional and National Competitions.
Wally has flown many long flights in GA - looking for any excuse to head for Cordele or Alabama. He has been a Regional Soaring Champion multiple times. He served as Competition Director at the 2017 Cordele 15m, Standard & Open Class National Races, and has flown several National Competitions.
Eric Carden - soaring coach, will be speaking on the art of thermalling.

Previous Seminars are archived: http://www.southerneaglessoaring.com/seminars.html