

Six Sacred Skills *Cirrus Perspective*



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Let's teach
them how to
build a GPS.

There's got to
be a better
way.





The Six Sacred Skills

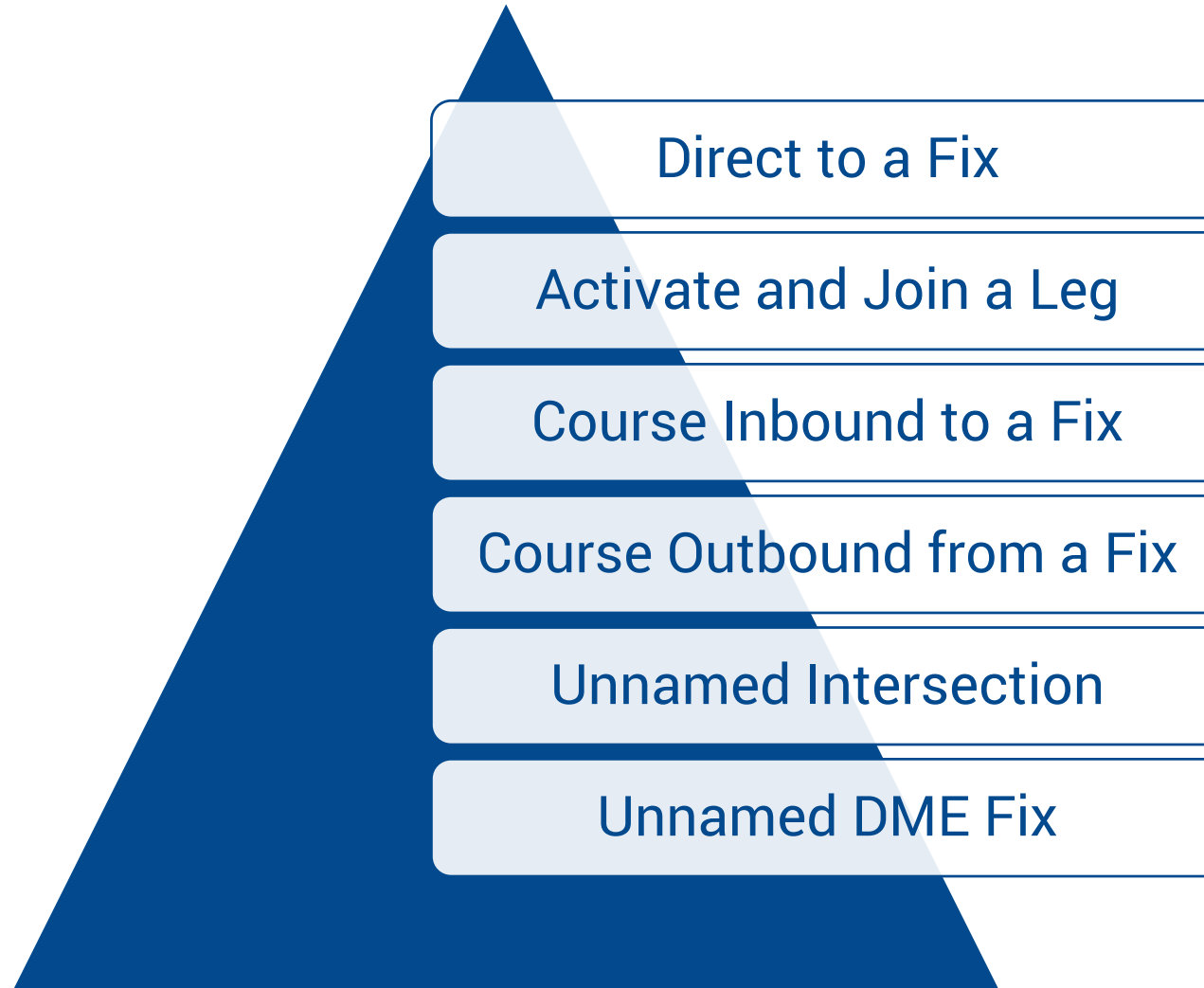


Shouldn't
there be
seven?

I'm warning
you.



The Six Sacred Skills





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A Trip Around the World

- Nice, FR
- Wollongong, AU
- Santa Monica, US
- Atlantic City, US

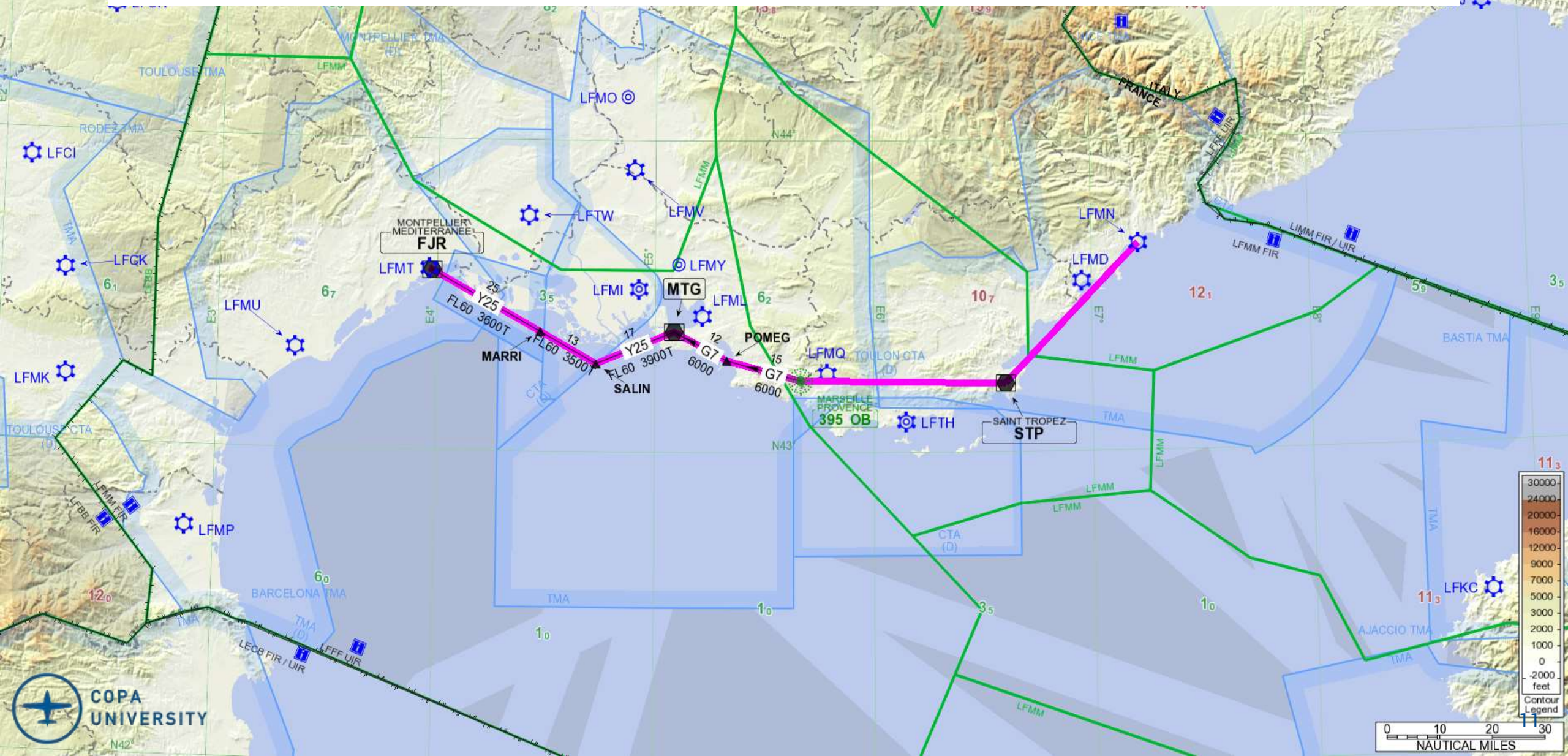
Differences

- Airway identifiers
- VOR identifiers
- NDBs still exist

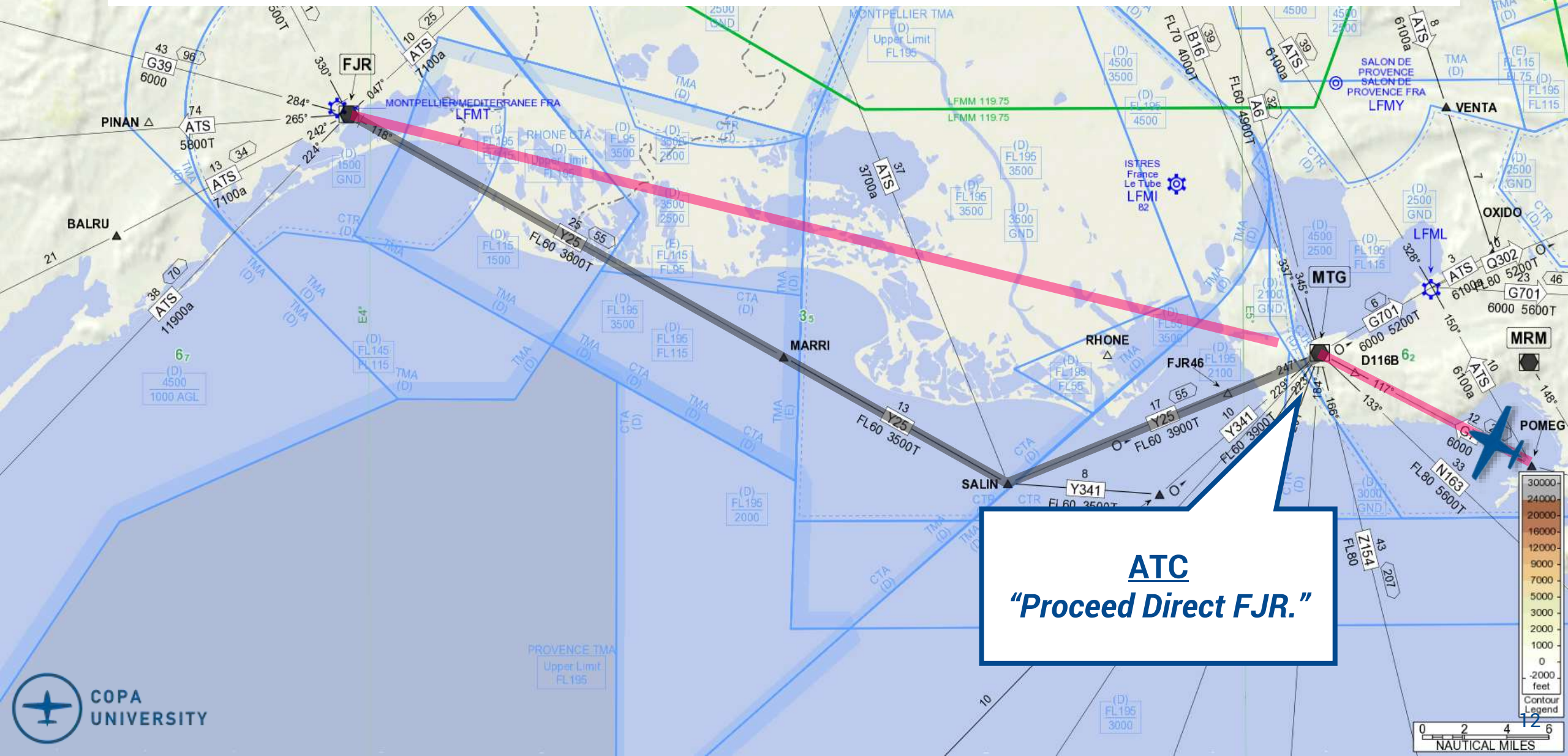


Direct to a Fix

LFMN STP OB G7 MTG Y25 FJR LFMT



LFMN STP OB G7 MTG Y25 FJR LFMT



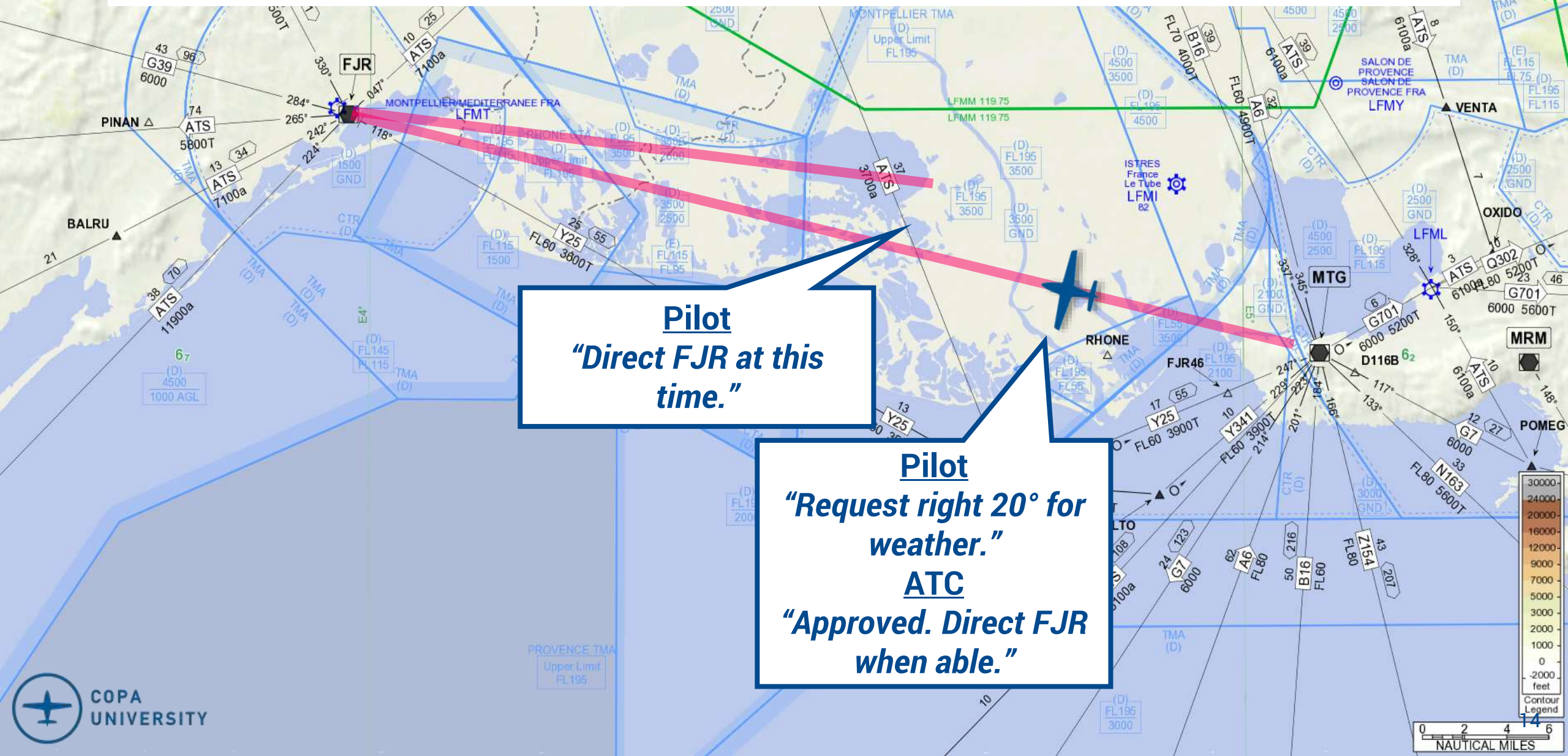
Direct-To (FPL)

ATC
"Proceed Direct FJR."

1. 
2. Select FJR
3.   



LFMN STP OB G7 MTG Y25 FJR LFMT



Direct-To (Active Waypoint)

Pilot

"Request right 20° for weather."

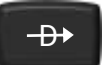
ATC

"Approved. Direct FJR when able."

1. Sync heading bug
2. AFCS HDG mode
3. Set heading bug

Pilot

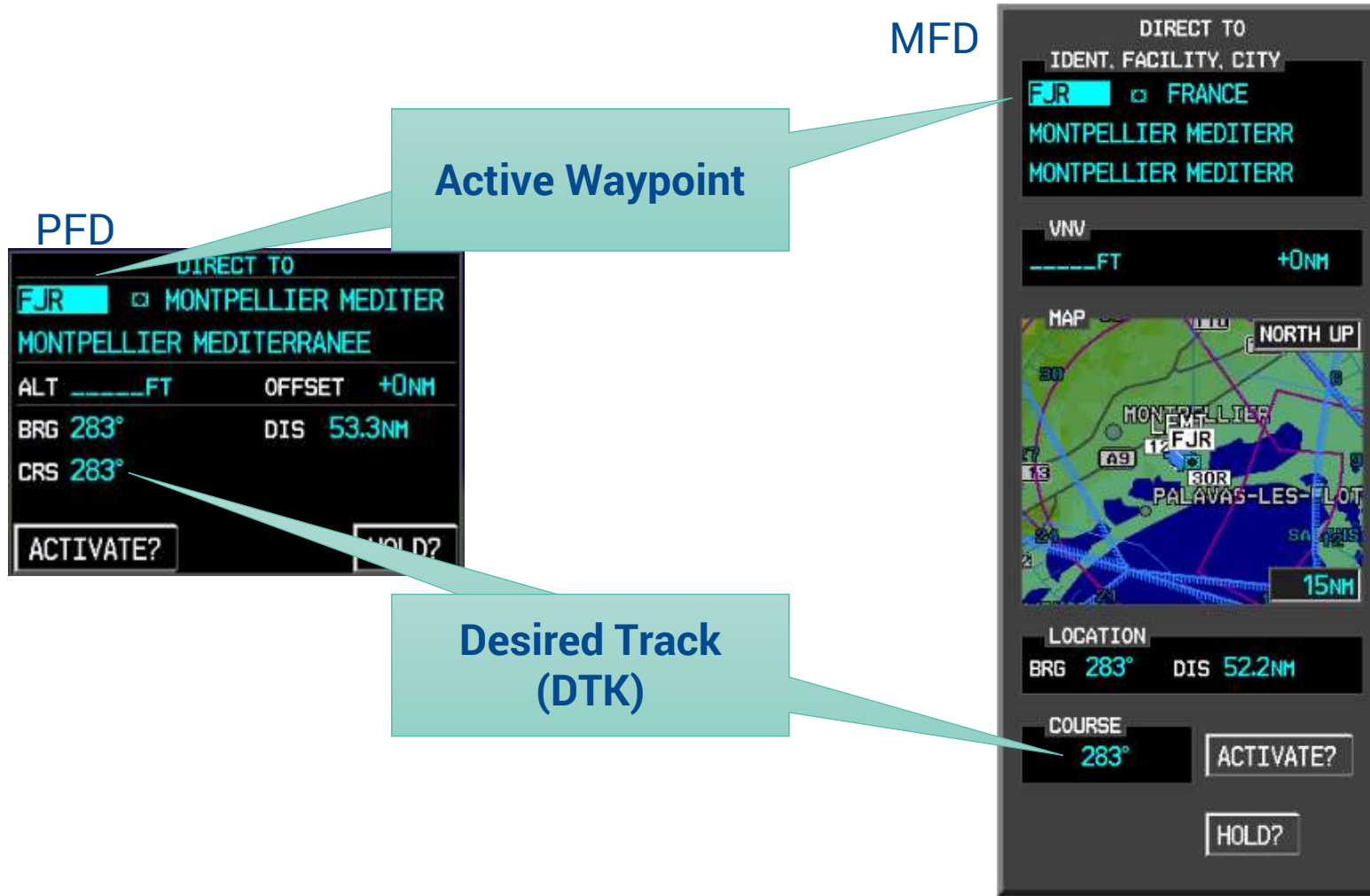
"Direct FJR at this time."

1.   
2. AFCS NAV mode





– *Manual Control*



Where to -D>?

FLIGHT PLAN
LFMN / LFMT

	DTK	DIS
SALIN	247°	11.7NM
MARBT	297°	12.7NM
FJR	283°	21.7NM
LFMT	296°	0.7NM

DIRECT TO
FJR MONTPELLIER MEDITER
MONTPELLIER MEDITERRANEE

ALT	_____FT	OFFSET	+0NM
BRG	283°	DIS	53.3NM
CRS	283°		

ACTIVATE? HOLD?

ACTIVE FLIGHT PLAN
LFMN / LFMT

	DTK	DIS	ALT
LFMN			
STP	___°	___NM	___FT
OB	___°	___NM	___FT
Airway - G7.MTG			
POMEG	___°	___NM	___FT
MTG	296°	2.5NM	___FT
Airway - Y25.FJR			
SALIN	247°	16.8NM	___FT
MARBT	297°	12.8NM	___FT
FJR	283°	21.7NM	___FT
LFMT	296°	0.7NM	___FT

DIRECT TO
IDENT. FACILITY, CITY
FJR FRANCE
MONTPELLIER MEDITERR
MONTPELLIER MEDITERR

VNV
_____FT +0NM

MAP
NORTH UP
MONTPELLIER
FJR
PALAVAS-LES-LOT
15NM

Where to -D>?

FLIGHT PLAN
LFMN / LFMT

	DTK	DIS
Airway - G7.MTG		
POMEG	---	---NM
MTG	296°	6.7NM
Airway - Y25.FJR (collapsed)		
FJR	---	0.0NM

DIRECT TO
MTG MARTIGUES

ALT	---FT	OFFSET	+0NM
BRG	296°	DIS	6.4NM
CRS	297°		

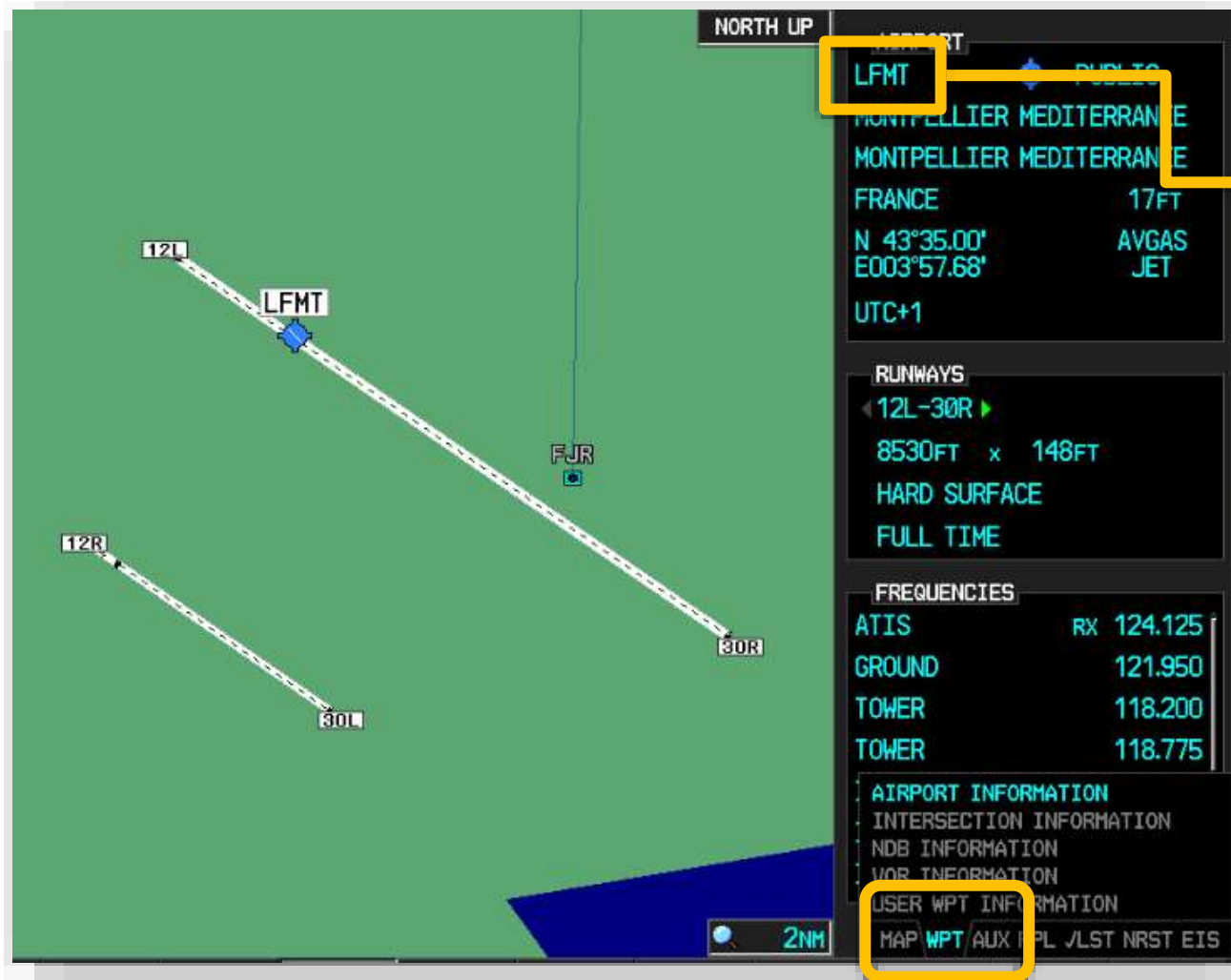
ACTIVATE? HOLD?

ACTIVE FLIGHT PLAN
LFMN / LFMT

	DTK	DIS	ALT
LFMN			
STP	---	---NM	---FT
OB	---	---NM	---FT
Airway - G7.MTG			
POMEG	---	---NM	---FT
MTG	296°	7.7NM	---FT
Airway - Y25.FJR			
SALIN	247°	16.8NM	---FT
MARRI	297°	12.8NM	---FT
FJR	297°	24.7NM	---FT
LFMT	296°	0.7NM	---FT



Where to -D>?

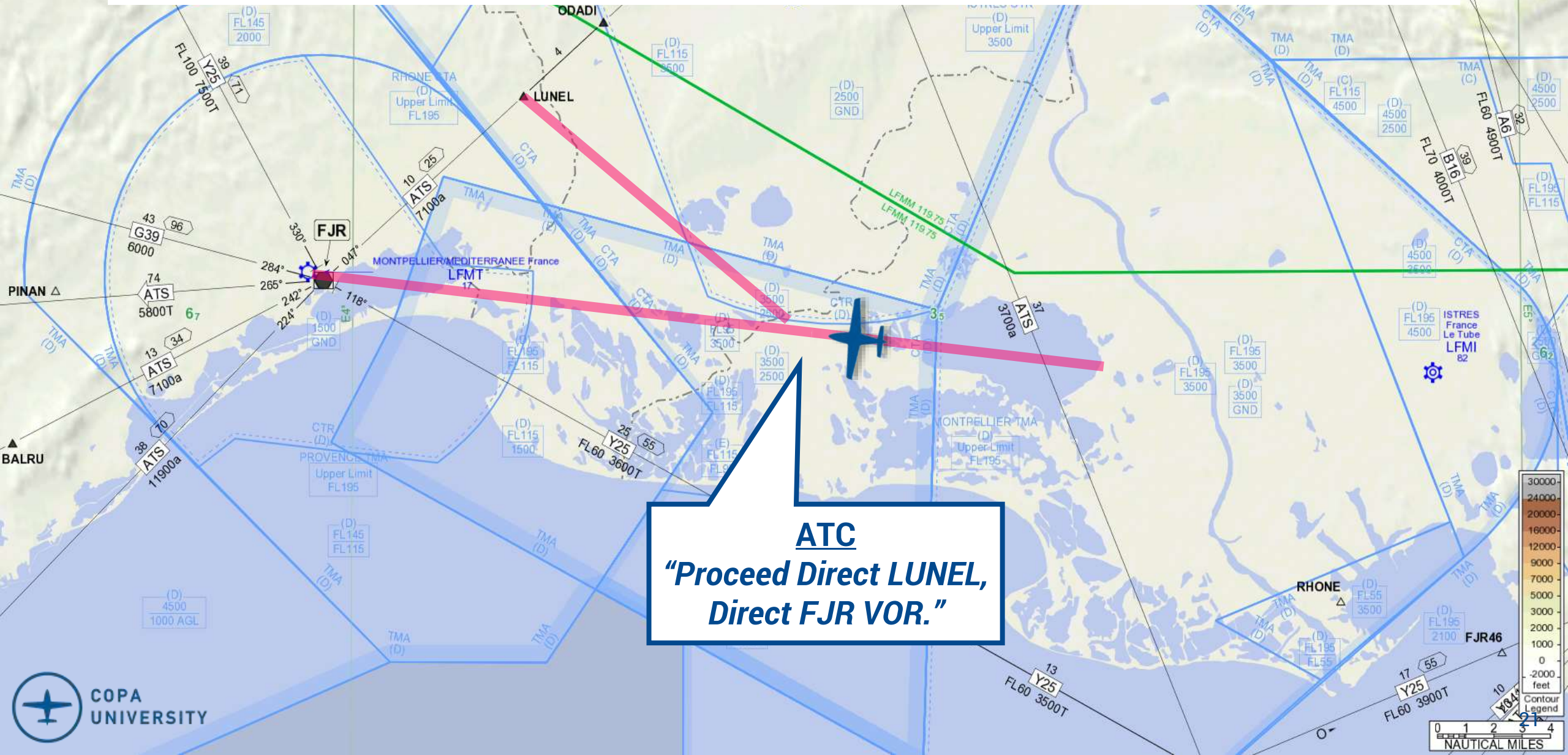


Discontinuous Direct-To Legs

- Independent legs create a route discontinuity
 - Flight plan removed from MFD
 - No sequencing
 - Airplane continues tracking straight FROM waypoint

ACTIVE FLIGHT PLAN			
↔ LUNEL			
	DTK	DIS	ALT
STP	___°	___NM	___FT
OB	___°	___NM	___FT
Airway - G7.MTG			
POMEG	___°	___NM	___FT
MTG	___°	___NM	___FT
Airway - Y25.FJR			
SALIN	___°	___NM	___FT
MARRI	___°	___NM	___FT
FJR	___°	___NM	___FT
LFMT	___°	___NM	___FT

Discontinuous Direct-To Legs

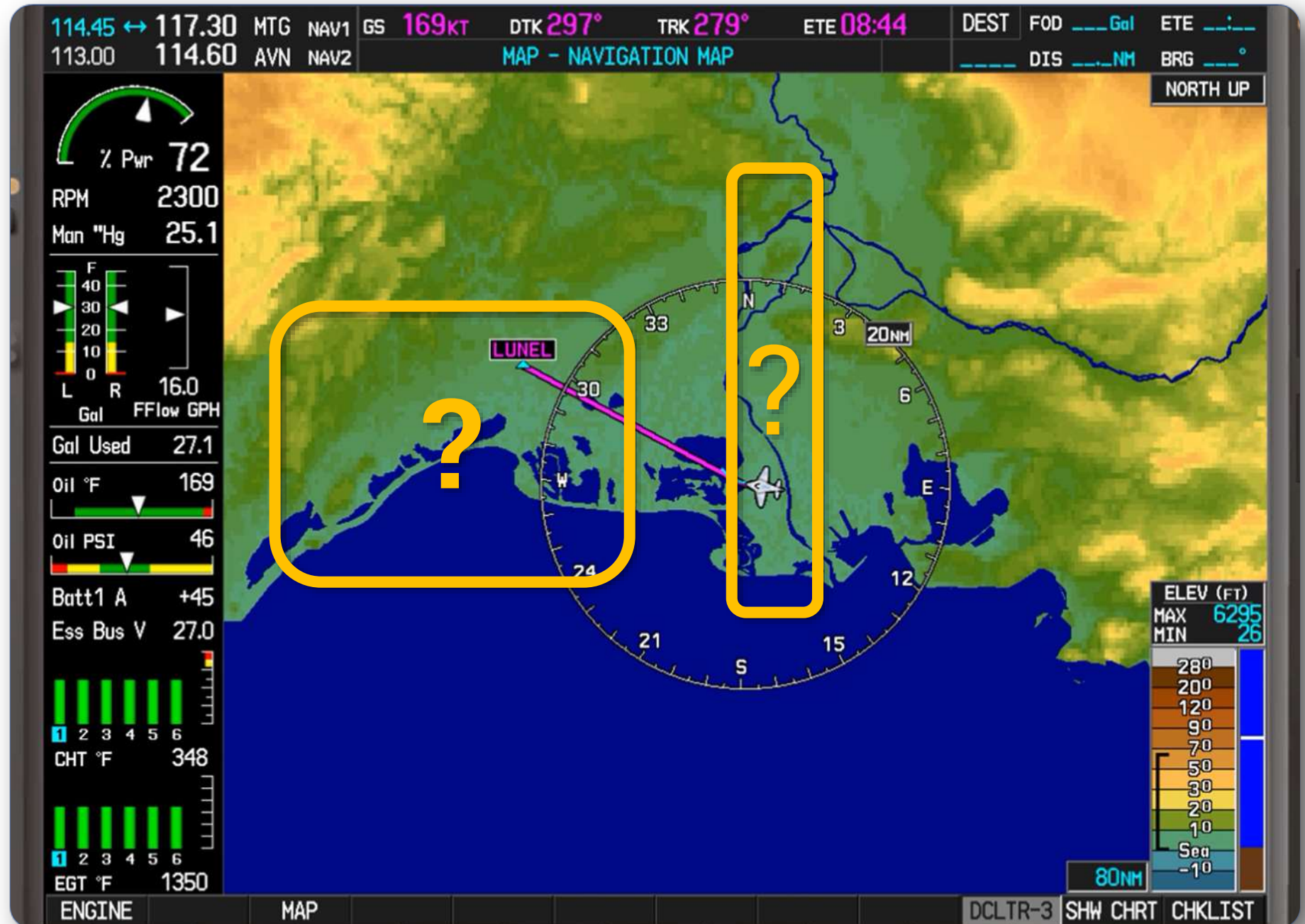


Discontinuous Direct-To

ATC

"Proceed Direct LUNEL,
Direct FJR VOR."

1.  **LUNEL**
creates
discontinuity
2. Adding **LUNEL** to
flight plan restores
continuity



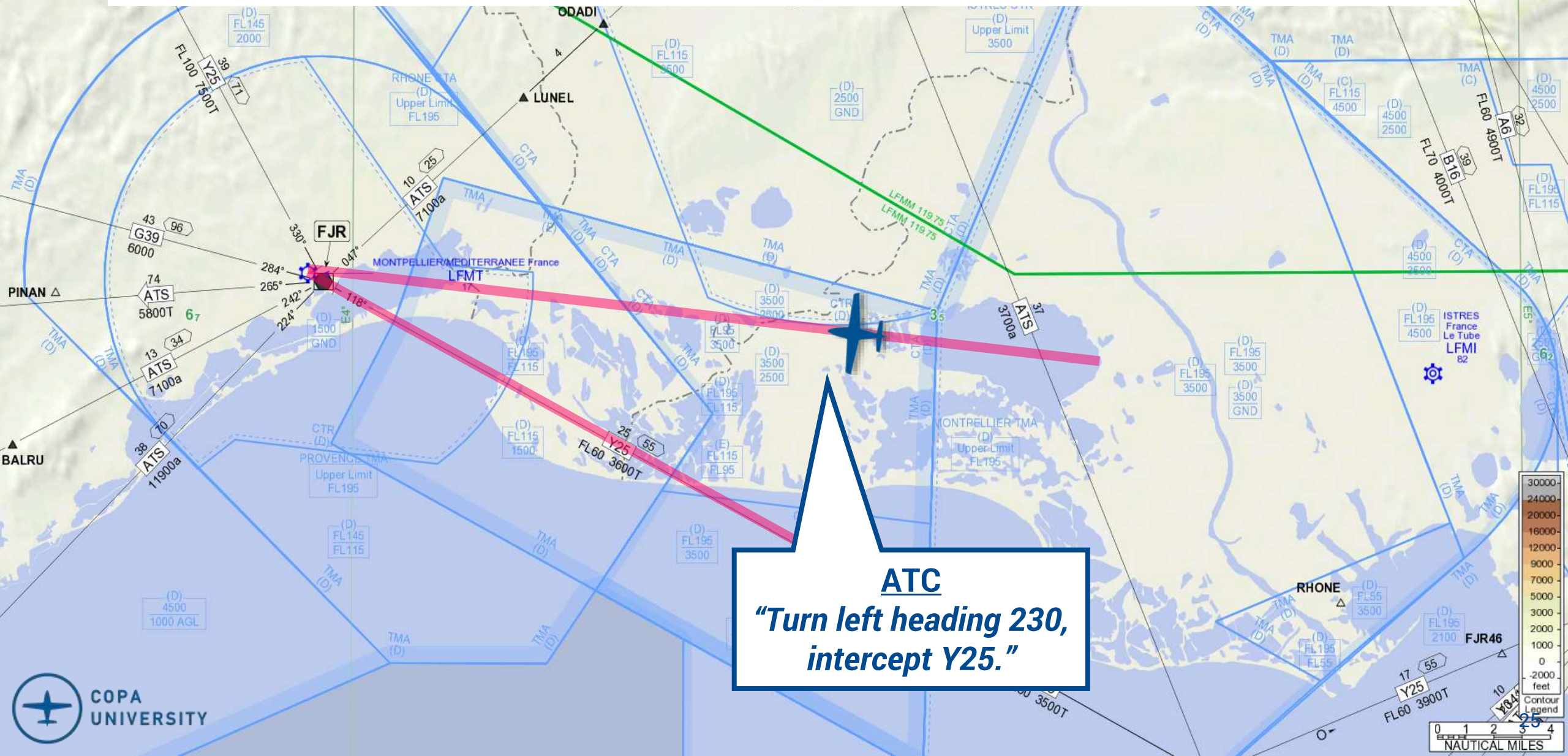
COPA-U TIP

Better to add new legs to the flight plan before activating them.

This requires fewer key strokes and can prevent discontinuities.

Activate and Join a Leg

LFMN STP OB G7 MTG Y25 FJR LFMT



ATC

***"Turn left heading 230,
intercept Y25."***

Activate Leg (MFD)

ATC

*"Turn left heading 230,
intercept Y25."*

1. Sync heading bug
2. AFCS HDG mode
3. Set heading bug
4. 
5. Select end of leg (FJR)
6.  "Activate Leg"
7. Arm AFCS NAV mode



Activate Leg (PFD)

ATC

*"Turn left heading 230,
intercept Y25."*

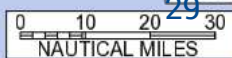
1. Sync heading bug
2. AFCS HDG mode
3. Set heading bug
4. **FPL**
5. Select end of leg (FJR)
6. **MENU** "Activate Leg"
7. Arm AFCS NAV mode



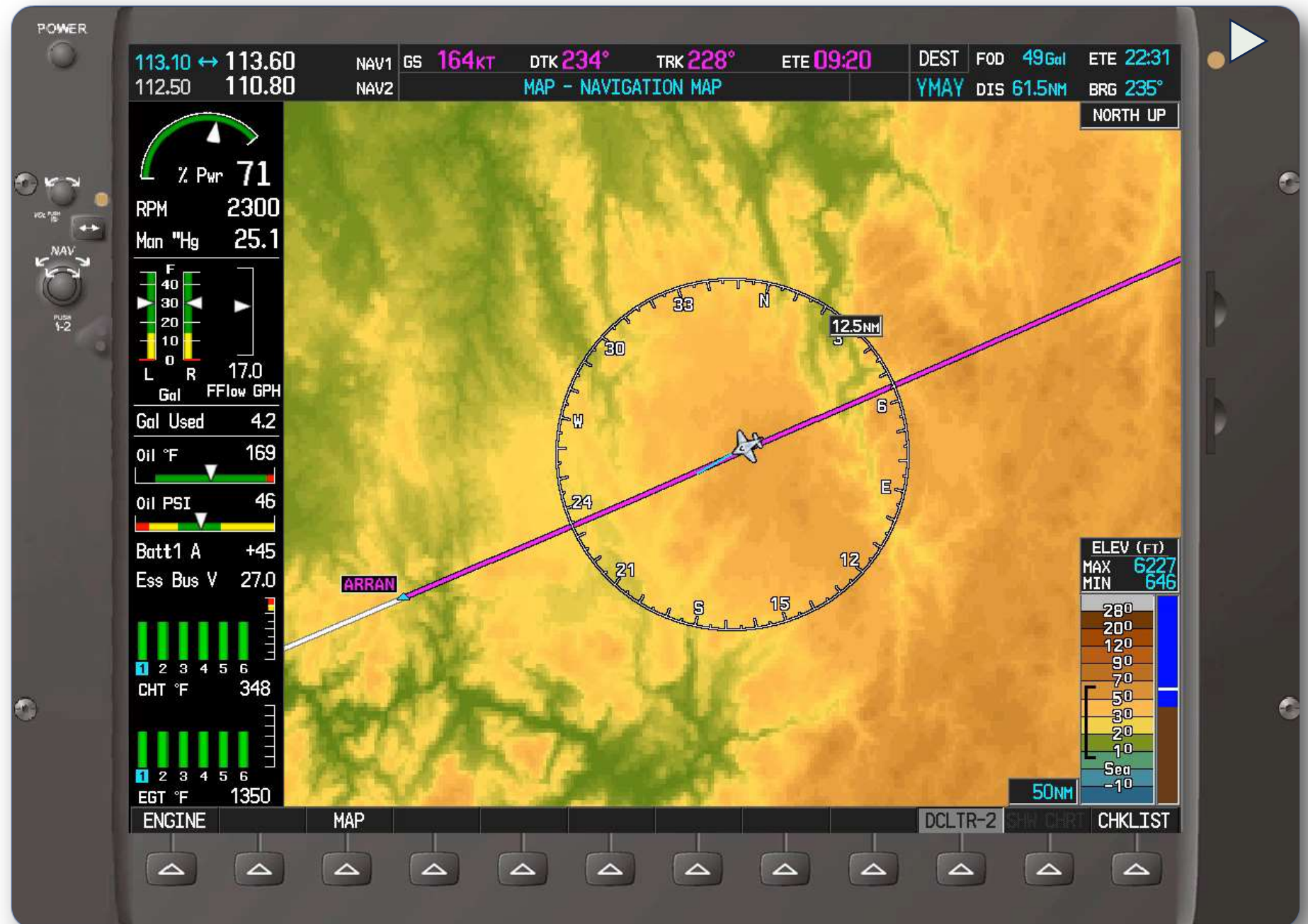
Course Inbound to a Fix

YWOL WOL
J42 AY
YMAY

Map showing flight paths and various airports (YWOL, WOL, J42, AY, YMAY, YCWR, YSSY, YSNW, YCOM, YMER, YWGT, YCOR, YSWG, YTEM, YNAR, YGTH) in the Western Isles region. The map includes a color-coded elevation scale (0 to 30000 feet) and a scale bar in nautical miles.



YWOL WOL J42
AY YMAY



***“Turn right heading 260.
Intercept AY 031 radial.”***

Direct Course Entry

ATC

"Turn right heading 260.
Intercept AY 031 radial."

1. Sync heading bug
2. AFCS HDG mode
3. Set heading bug

4. **FPL**

5. Select Fix

6. **D** **ENT**

7. Enter Course

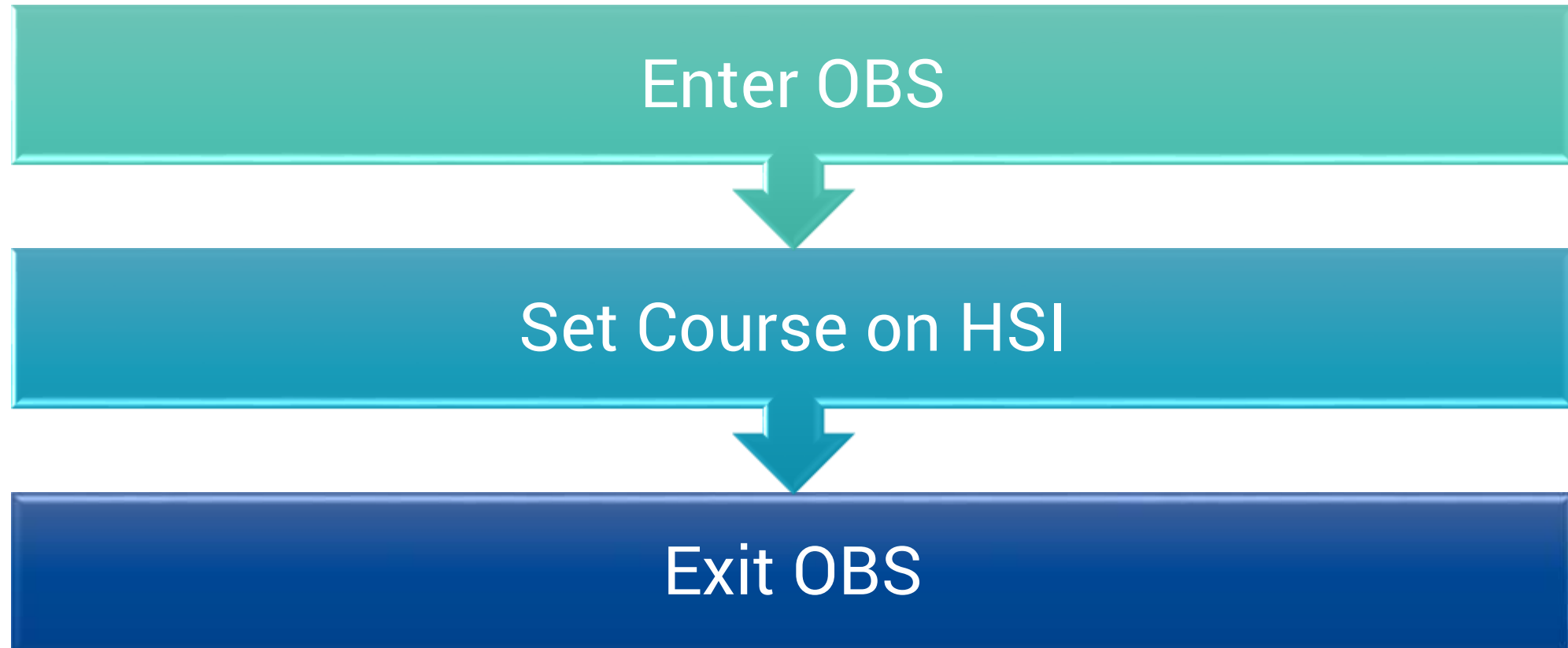
8. Activate

** COURSE-TO-FIX LEG*
* CREATED **

9. AFCS NAV mode

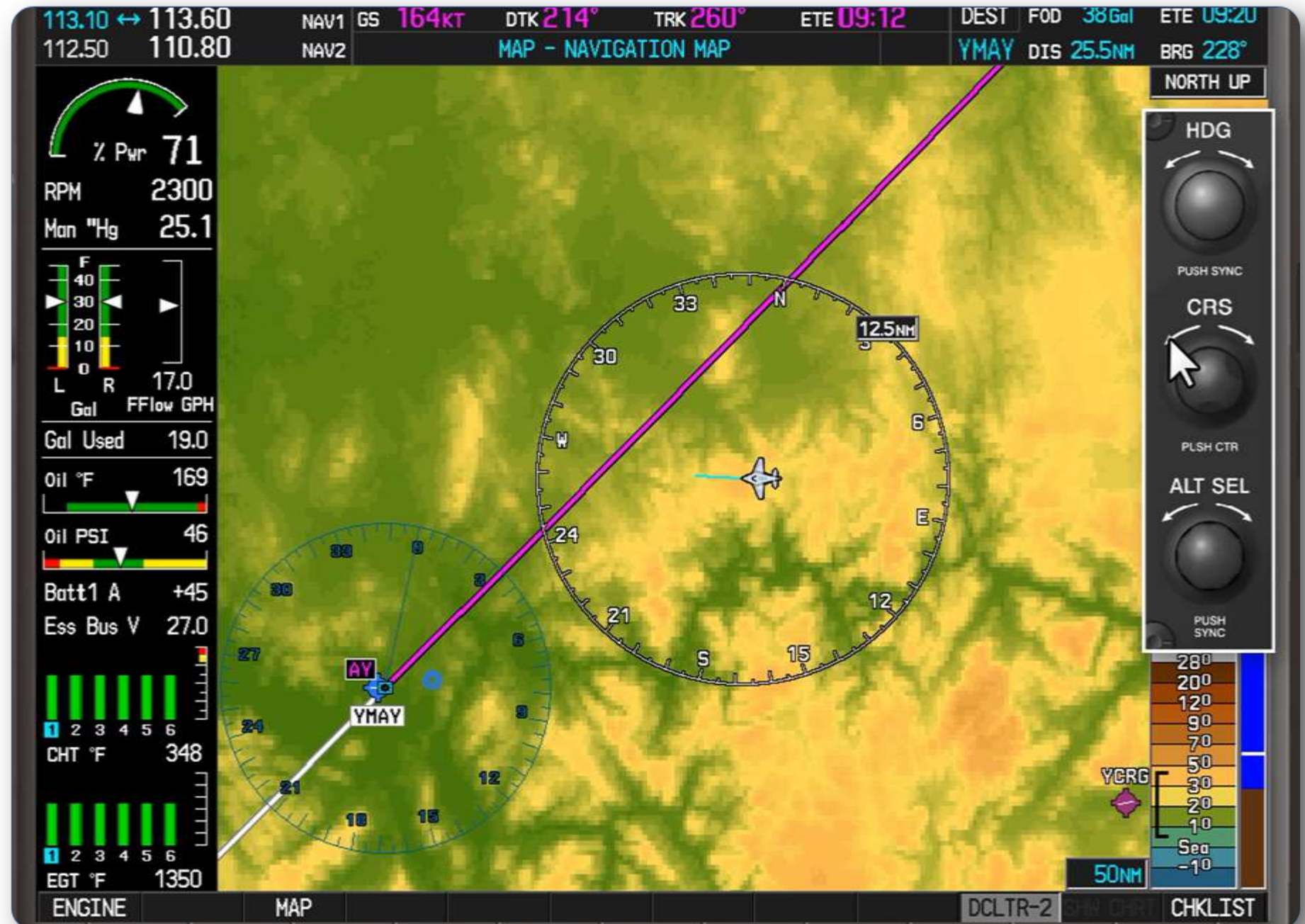


Alternative Method: The OBS Trick



The OBS Trick

1. Select **OBS**
2. Set **CRS** on HSI
3. Deselect **OBS**
* *COURSE-TO-FIX LEG* *
* *CREATED* *
4. AFCS NAV mode



OBS Mode

The active waypoint behaves just like a virtual VOR.

CRS Knob Alive

- GPS Course Manual Control
- Visual Direct Course Entry

Suspends Sequencing

- Tracking FROM a Fix
- Manual holding

Course Outbound from a Fix

YWOL WOL
J42 AY
YMAY

ATC
"After crossing AY,
track 239° outbound,
expect ..."

Enter OBS

Track TO

Turn to Heading

Twist Course

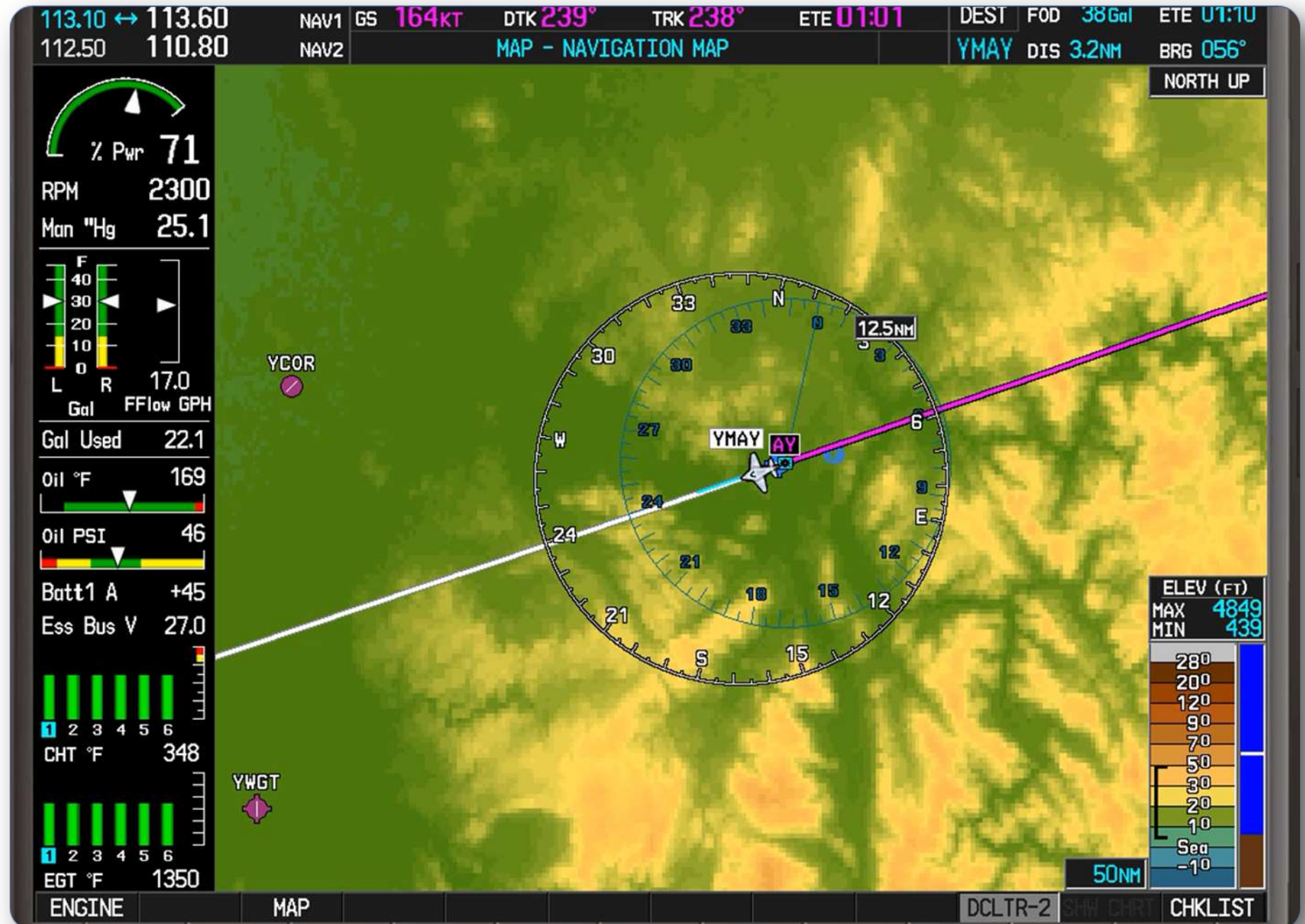
Track FROM

Course Outbound

ATC

"After crossing AY, track 239° outbound."

1. Select **OBS**
2. Set heading bug to outbound
3. Arriving at waypoint, AFCS HDG mode
4. Set **CRS** on HSI
5. AFCS NAV mode



COPA-U TIP

**Beware deselecting OBS on the FROM side.
It triggers an immediate SUSPend.**

The Mystery Suspend

1. Deselect **OBS** on the FROM side triggers immediate **SUSP**
 - Course guidance still valid, but
 - Map doesn't show course flown
2. Manually activate some other leg to proceed



Unnamed Intersections

**(SoCal TEC
Route
SMON39)**



KSMO LAX

V23 V186

DEANO V27

KWANG

KSBA

No Fix!

COPA
UNIVERSITY

No Fix!

No Fix!

V186-597
6000

16 21

10.4

CHATY
MCA V23 5400 NW

6 25

1326
5000

CANOG

MAA 5000
17500

T247

14

IPIHO 5

278°
255°

VAN NUYS CA
KVNY
802

4000

V223
20

56

SILEX

ИПНО 5

VAN NUYS CA
KVNY
802

BURBANK C
Bob Hope
KBUR
778

BERRI
MCA V201 76

DARTS

SILEX

MAA	5000	17500
-----	------	-------

4000

20



17 46
V20

0000

DA

ARTS

7000
5000
3000
2000

1

1

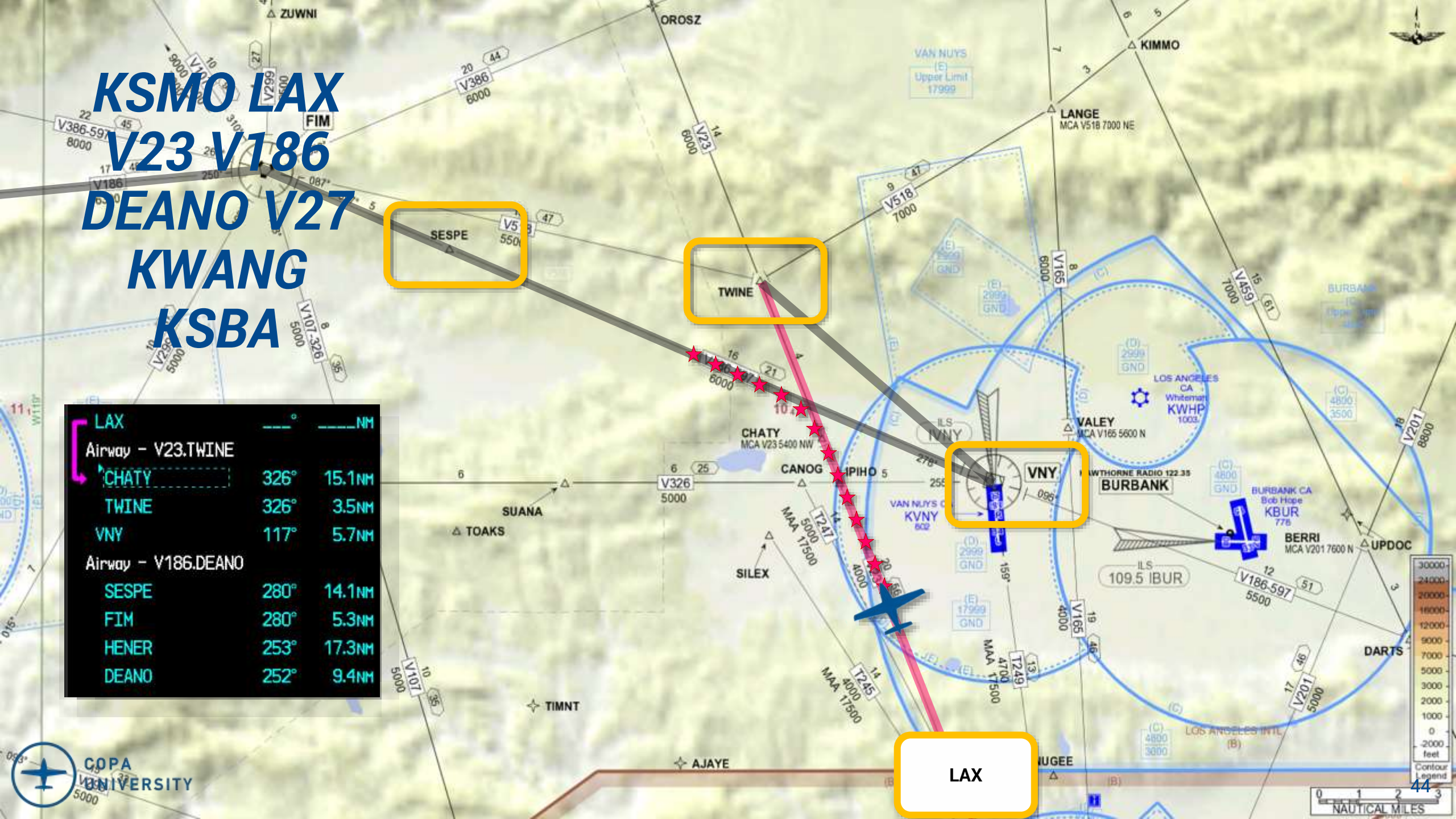
43

ES

25

KSMO LAX
V23 V186
DEANO V27
KWANG
KSBA

LAX		
Airway - V23.TWINE		
CHATY	326°	15.1NM
TWINE	326°	3.5NM
VNY	117°	5.7NM
Airway - V186.DEANO		
SESPE	280°	14.1NM
FIM	280°	5.3NM
HENER	253°	17.3NM
DEANO	252°	9.4NM



LAX

Triangle Technique

1. Load and Review
2. Map Integrity Check



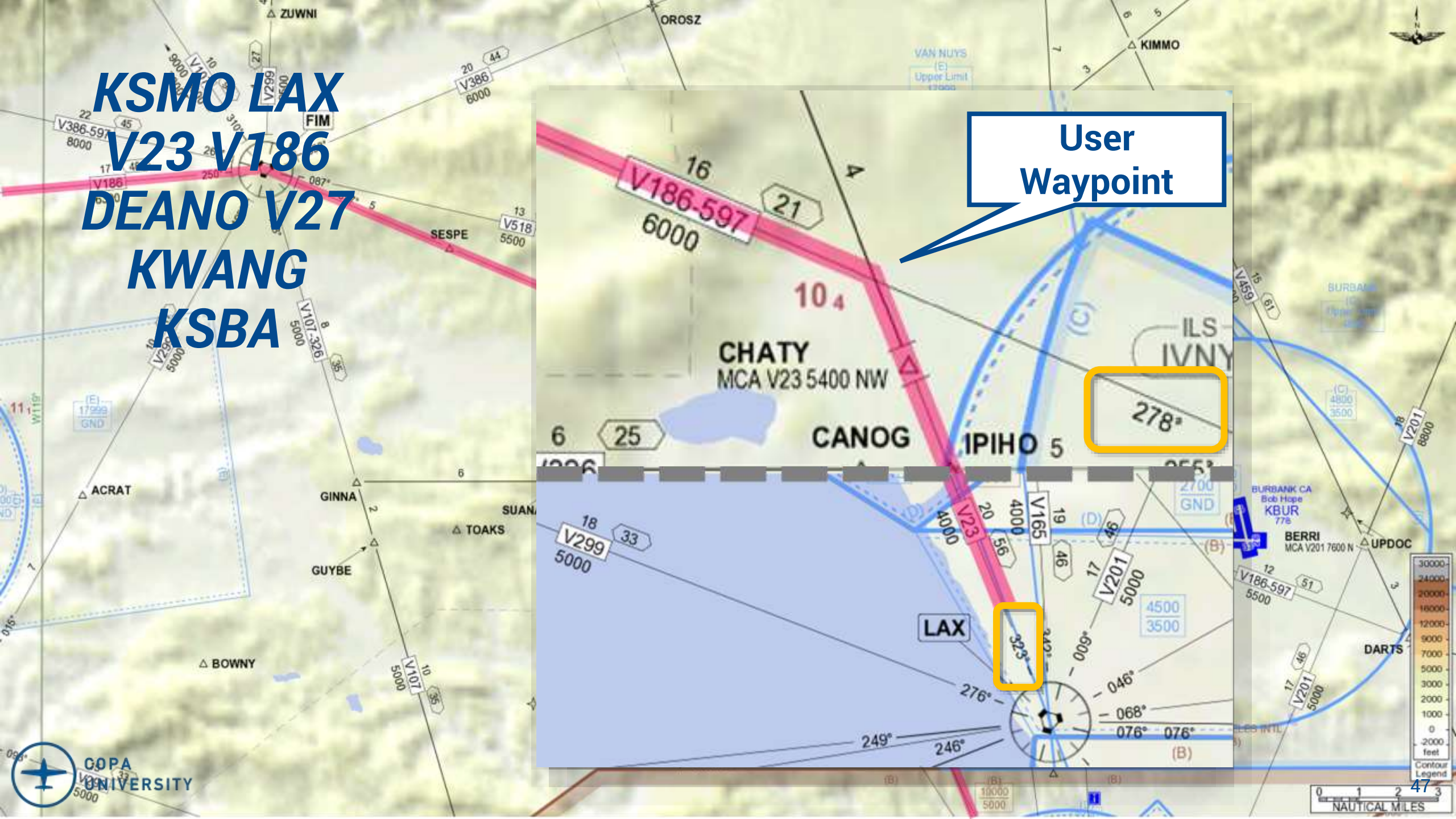
Triangle Technique

1. Load and Review
2. Map Integrity Check
3. Approaching intersection, manually activate next leg



KSMO LAX
V23 V186
DEANO V27
KWANG
KSBA

**User
Waypoint**



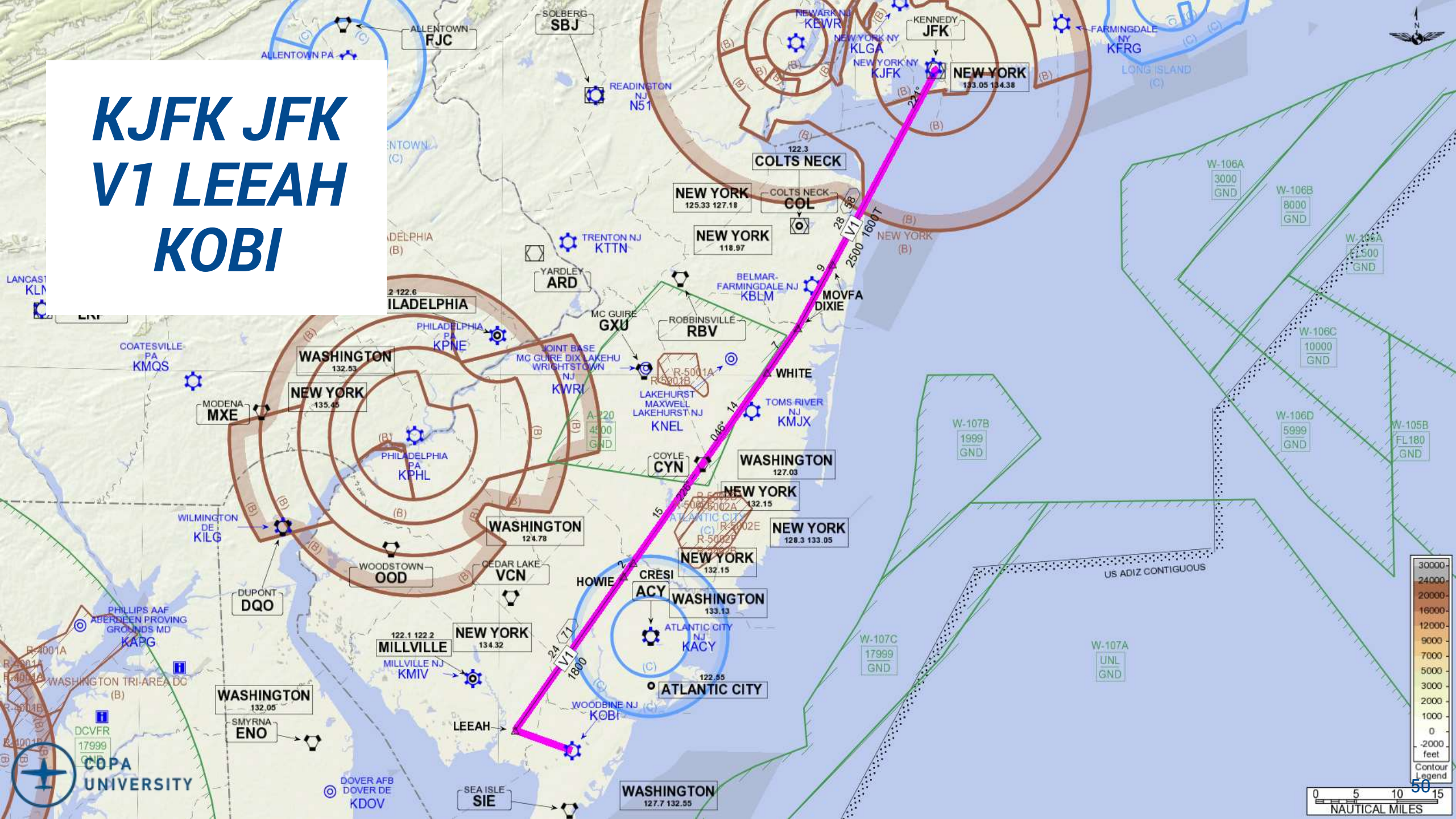
User Waypoint

1. Start entering flight plan
2. NEW WPT to create RAD/RAD user waypoint
3. Finish rest of flight plan



Unnamed DME Fix

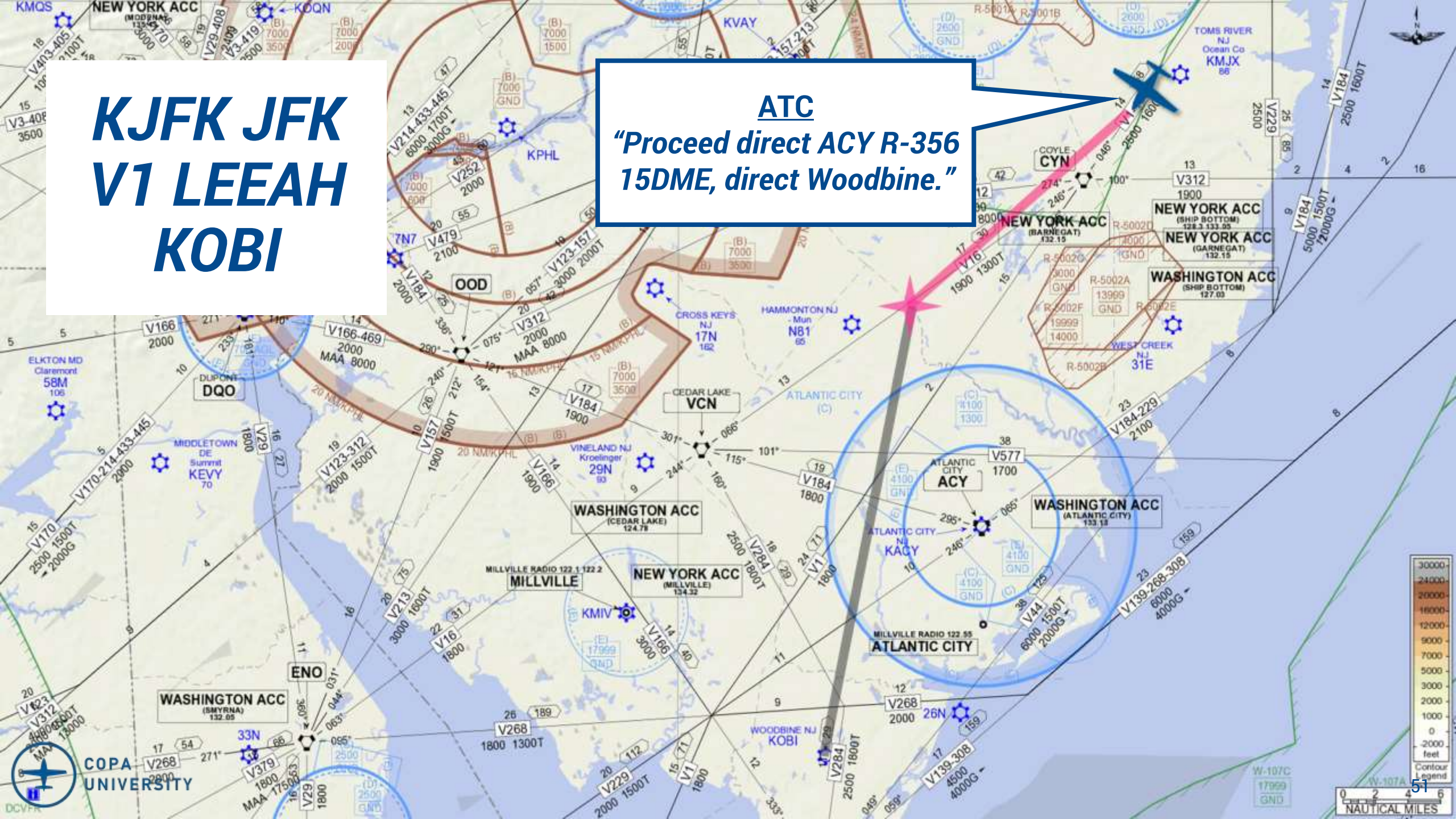
KJFK JFK
V1 LEEAH
KOBI



KJFK JFK
V1 LEEAH
KOBI

ATC

*"Proceed direct ACY R-356
15DME, direct Woodbine."*



Unnamed DME Fix

ATC

*"Proceed direct ACY R-
356 15DME, direct
Woodbine."*

1. Bring up flight plan
2. Select insertion point
3. **NEW WPT**
4. Name
5. RAD/DIS type
6. Position
7. **Load WPT to FPL**
8. Select new waypoint
9.   



Thank You

Acknowledgements

- Trip Taylor – Six Sacred Skills Inspiration
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