

Charts/Airspace

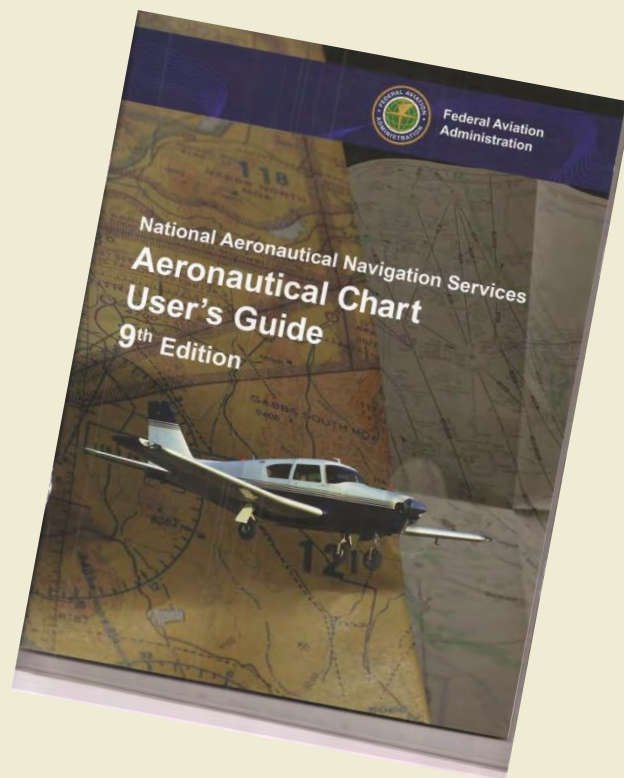
Judy Phelps ♦ Master CFI-Aerobatic, CFI



Aeronautical Charts

Charts provide information which allows pilots to track their position and provides information which enhances safety.

- Airport Data
- Navigation Aids
- Airspace
- Topography



And much more!

Types of VFR Charts

Sectional

- Most common
- Scale of 1:500,000 (1 inch = 6.86 Nautical miles (NM) or approximately 8 statute miles (SM))
- This allows for detailed information
- Updated semiannually

Types of Charts

Terminal Area Charts (TAC)

- Used for flying in or near Class B airspace
- Scale of 1:250,000 (1 inch = 3.43 NM or approximately 4 SM)
- Transition routes
- Updated semi-annually

Types of Charts

VFR Flyway Planning Charts

- On the back of the TAC
- Help VFR pilots avoid major traffic flows
- Depicts routing throughout the busy area
- Ground references for improved visual navigation
- Designed solely for planning purposes –not navigation!

COASTAL ROUTE

VFR ONLY



REQUIREMENTS OF FAR 91.215 AND 91.131 SHALL BE MET

REMAIN OUTSIDE BRAVO AIRSPACE UNTIL RECEIVING BRAVO CLEARANCE

COASTAL ROUTE NORTHBOUND: Enter the Los Angeles Class B northbound abeam the Vincent Thomas Bridge established on the Los Angeles 123 radial. After crossing the Los Angeles VOR, proceed outbound on the Los Angeles 323 radial until exiting the Los Angeles Class B near the Sepulveda Pass. Maintain altitude as assigned by ATC.

COASTAL ROUTE SOUTHBOUND: Enter the Los Angeles Class B southbound abeam the Sepulveda Pass established on the Los Angeles 323 radial. After crossing the Los Angeles VOR, proceed outbound on the Los Angeles 123 radial until exiting the Los Angeles Class B near the Vincent Thomas Bridge. Maintain altitude as assigned by ATC.

Note: Aircraft departing Long Beach, Torrance, Hawthorne, or Santa Monica airport, please contact So Cal Traccon 134.9 or 363.2 for clearance.

Flight Following Services are available on request and highly recommended in and around Class B, C, and TRSA areas.

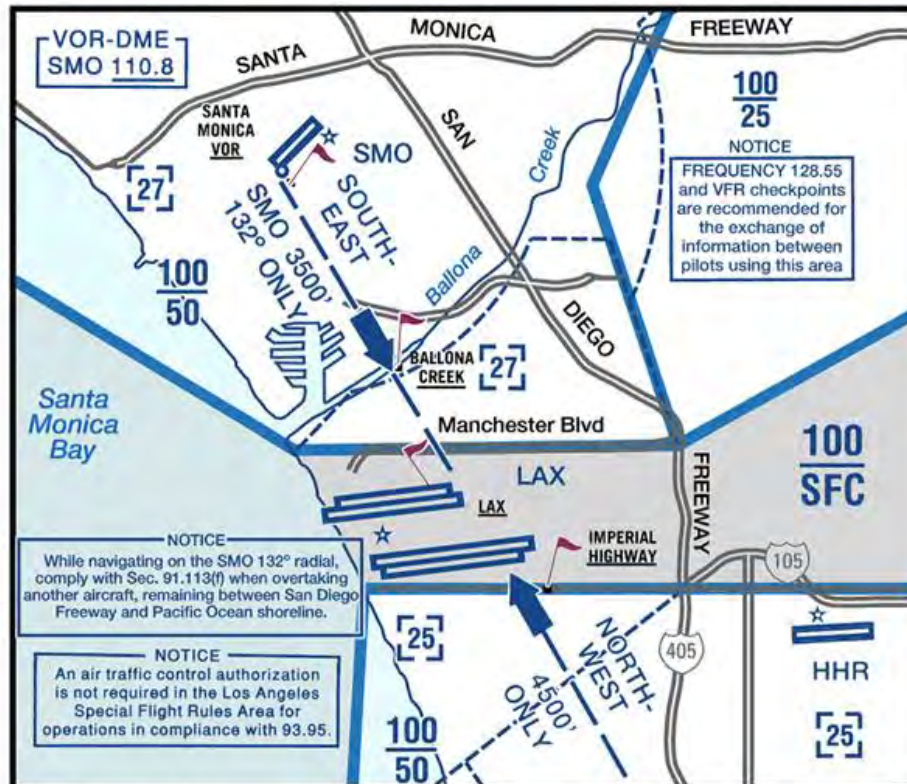
VFR TRANSITION ROUTE
(ATC CLEARANCE REQUIRED)
ALTITUDE ASSIGNED BY ATC



LOS ANGELES SPECIAL FLIGHT RULES AREA

ALTITUDE
Southeasterly 3500 feet MSL
Northwesterly 4500 feet MSL

LATERAL LIMITS
North - Manchester Boulevard
East - San Diego Freeway
South - Imperial Highway
West - Pacific Ocean Shoreline



The following rules shall be adhered to when utilizing the LOS ANGELES SPECIAL FLIGHT RULES AREA:

The flight must be conducted under VFR and only when operation may be conducted in compliance with Sec. 91.155.

The aircraft must be equipped as specified in Sec. 91.215 replying on code 1201 prior to entering and while operating in this area.

The pilot shall have a current Los Angeles Terminal Area Chart in the aircraft.

The pilot shall operate on the Santa Monica very high frequency omni-directional radio range (VOR) 132° radial.

Aircraft navigating in a southeasterly direction shall be in level flight at 3500 feet MSL.

Aircraft navigating in a northwesterly direction shall be in level flight at 4500 feet MSL.

Indicated airspeed shall not exceed 140 knots.

Anti-collision lights and aircraft position/navigation lights shall be on. Use of landing lights is recommended.

TURBOJET AIRCRAFT ARE PROHIBITED FROM VFR OPERATIONS IN THIS AREA.

Chart Supplement

(Airport Facility Directory)

Use in conjunction with charts

- Airport information
- Phone numbers
- VFR waypoints
- LAHSO
- Airport diagrams for selected towered airports



Legends

LOS ANGELES LEGEND

AIRPORTS

- Other than hard-surfaced runways
- Hard-surfaced runways 1,500 ft. to 8069 ft. in length
- Hard-surfaced runways greater than 8069 ft. or some multiple runways less than 8069 ft.
- Open dot within hard-surfaced runway configuration indicates approximate VOR, VOR-DME, or VORTAC location
- All recognizable hard-surfaced runways, including those closed, are shown for visual identification. Airports may be public or private.

ADDITIONAL AIRPORT INFORMATION

- Private (Pvt)
- Military - Other than hard-surfaced. All military airports are identified by abbreviations AFB, NAS, AAF, etc. For complete airport information consult DOD FLIP
- Unimproved
- Abandoned - paved, having landmark value, 3000 ft. or greater
- Ultraflight Flight Park Selected
- Services-fuel available and field tended during normal working hours depicted by use of ticks around basic airport symbol. (Normal working hours are Mon. thru Fri. 10:00 A.M. to 4:00 P.M. local time.) Consult A/FD for service availability of airports with hard-surfaced runways greater than 8069 ft.
- Rotating airport beacon in operation Sunset to Sunrise

AIRPORT DATA

Box indicates F.A.R. 93 Special Air Traffic Rules & Airport Traffic Patterns

NO SVFR - Fixed-wing special VFR flight is prohibited.

CT - 118.3 - Central Tower (CT) - primary frequency

NFCT - Non-Federal Control Tower

* - Star indicates operation part-time (see tower frequencies)

Ⓢ - Indicates Common Traffic Advisory Frequencies (CTAF)

ⓐ - Automatic Terminal Information Service

ATIS 123.8 - Automated Surface Weather Observing Systems. NDBs broadcasting ASOS/AWOS data may not be located at the airport.

UNICOM - Aeronautical advisory station where ATIS not available

VFR ADVISY - VFR Advisory Service shown where ATIS not available and frequency is other than primary CT frequency

285 - Elevation in feet

L - Lighting limitations exist, refer to Airport/Facility Directory.

72 - Length of longest runway in hundreds of feet; usable length may be less.

When facility or information is lacking, the respective character is replaced by a dash. All lighting codes refer to runway light. Lighted runway may not be the longest or lighted full length. All times are local.

RADIO AIDS TO NAVIGATION AND COMMUNICATION BOXES

VHF OMNI RANGE (VOR)

VORTAC

VOR-DME

Non-Directional Radiobeacon (NDB)

NDB-DME

Other facilities, i.e., Commercial Broadcast Stations, FSS Outlets, RCO, etc.

COMMUNICATION BOXES

OAKDALE 122.1R 122.6 123.6

CHICAGO CHI 122.1R

Underline indicates no voice on this freq

• - Operates less than continuous or On-request

TW - TWES

R - Receive only

MIAMI

FSS providing voice communication

Frequencies above thin line box are removed to NAVIAID site. Other frequencies at FSS providing voice communication may be available as determined by altitude and terrain. Consult Airport/Facility Directory for complete information.

AIRPORT TRAFFIC SERVICE AND AIRSPACE INFORMATION

Only the controlled and reserved airspace effective below 18,000 ft MSL are shown on this chart. All times are local.

Class B Airspace

Class C Airspace (Mode C) (See F.A.R. 91.215/AIM.)

Class D Airspace

Class E Airspace (See F.A.R. 91.215/AIM.)

Class G Airspace

MODE C (See F.A.R. 91.215/AIM.)

National Security Area

Terminal Radar Service Area (TRSA)

MTR - Military Training Routes

OBSTRUCTIONS

1000 ft and higher AGL

TOPOGRAPHIC INFORMATION

Roads

Road Markers

Railroad

Bridges And Viaducts

Power Transmission Lines

Aerial Cable

Landmark Feature - stadium, factory, school, golf course, etc.

Outdoor Theatre

Lookout Tower P-17 (Site Number) 618 (Elevation Base of Tower)

CG Coast Guard Station

Race Track

Tank-water, oil or gas

Oil Well

Water Well

Mines And Quarries

Mountain Pass

11823 (Elevation of Pass)

Rocks

Dams

Perennial Lake

Non-Perennial Lake

RADIO AIDS TO NAVIGATION AND COMMUNICATION BOXES

OAKDALE 122.1R 122.6 123.6

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AIRPORT TRAFFIC SERVICE AND AIRSPACE INFORMATION

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Class B Airspace

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Class D Airspace

Class E Airspace (See F.A.R. 91.215/AIM.)

Class G Airspace

MODE C (See F.A.R. 91.215/AIM.)

National Security Area

Terminal Radar Service Area (TRSA)

MTR - Military Training Routes

OBSTRUCTIONS

1000 ft and higher AGL

below 1000 ft AGL

Group Obstruction

Obstruction with high-intensity lights may operate part-time

2049 - Elevation of the top above mean sea level

1149 - Height above ground

Under construction or reported; position and elevation unverified

NOTICE - Guy wires may extend outward from structures.

MISCELLANEOUS

10E - Isogonic Line (1995 VALUE)

Ultraflight Activity

Hang Glider Activity

Glider Operations

Parachute Jumping Area (See Airport/Facility Directory)

Visual Check Point

Special Airport Traffic Areas (See F.A.R. Part 93 for details)

TOPOGRAPHIC INFORMATION

Roads

Road Markers

Railroad

Bridges And Viaducts

Power Transmission Lines

Aerial Cable

Landmark Feature - stadium, factory, school, golf course, etc.

Outdoor Theatre

Lookout Tower P-17 (Site Number) 618 (Elevation Base of Tower)

CG Coast Guard Station

Race Track

Tank-water, oil or gas

Oil Well

Water Well

Mines And Quarries

Mountain Pass

11823 (Elevation of Pass)

Rocks

Dams

Perennial Lake

Non-Perennial Lake


Aeronautical Charts


- Using obsolete charts is dangerous
- Information changes rapidly
- FDC NOTAMs – reflect changes





Aeronautical Charts



OBSTRUCTIONS

 1000 ft. and higher AGL

 below 1000 ft. AGL

 or 

Group Obstruction

 or 

Obstruction with high-intensity lights; may operate part-time.

2049 ← Elevation of the top above mean sea level
(1149) ← Height above ground
UC ← Under construction or reported: position and elevation unverified

NOTICE: Guy wires may extend outward from structures.

Aeronautical Charts

Obstructions on Sectional and TAC

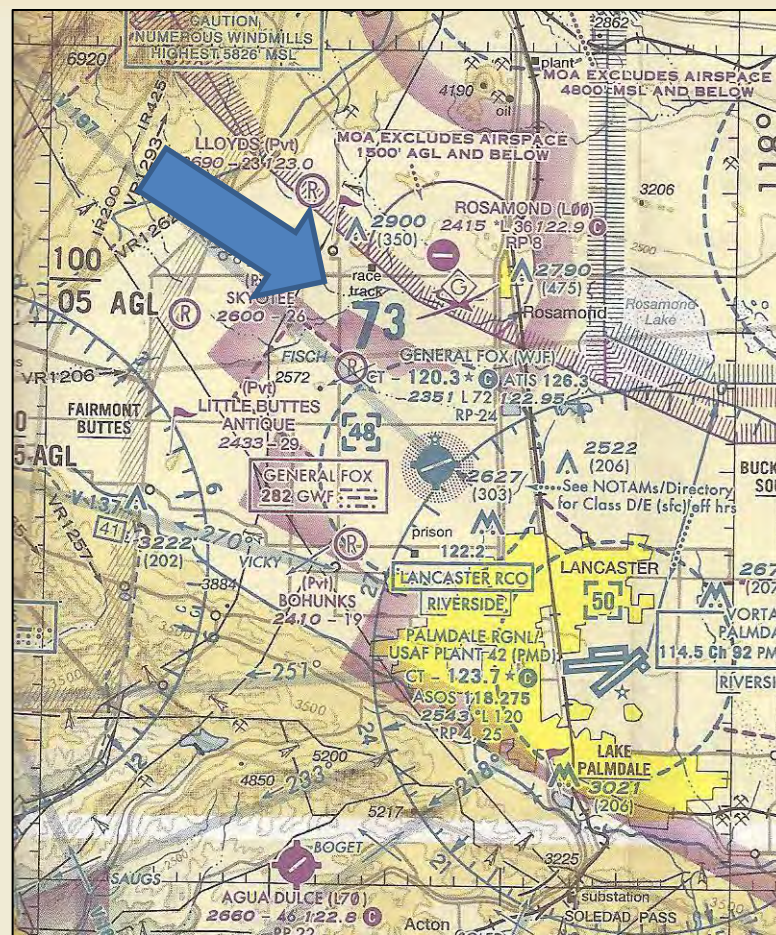
- Generally - 200' AGL are charted
- Objects less than 200' are charted only if considered a hazard very near an airport

Examples - smoke stacks, tanks, antennas

Aeronautical Charts

Maximum Elevation Figure

Highest Obstacle + 300'

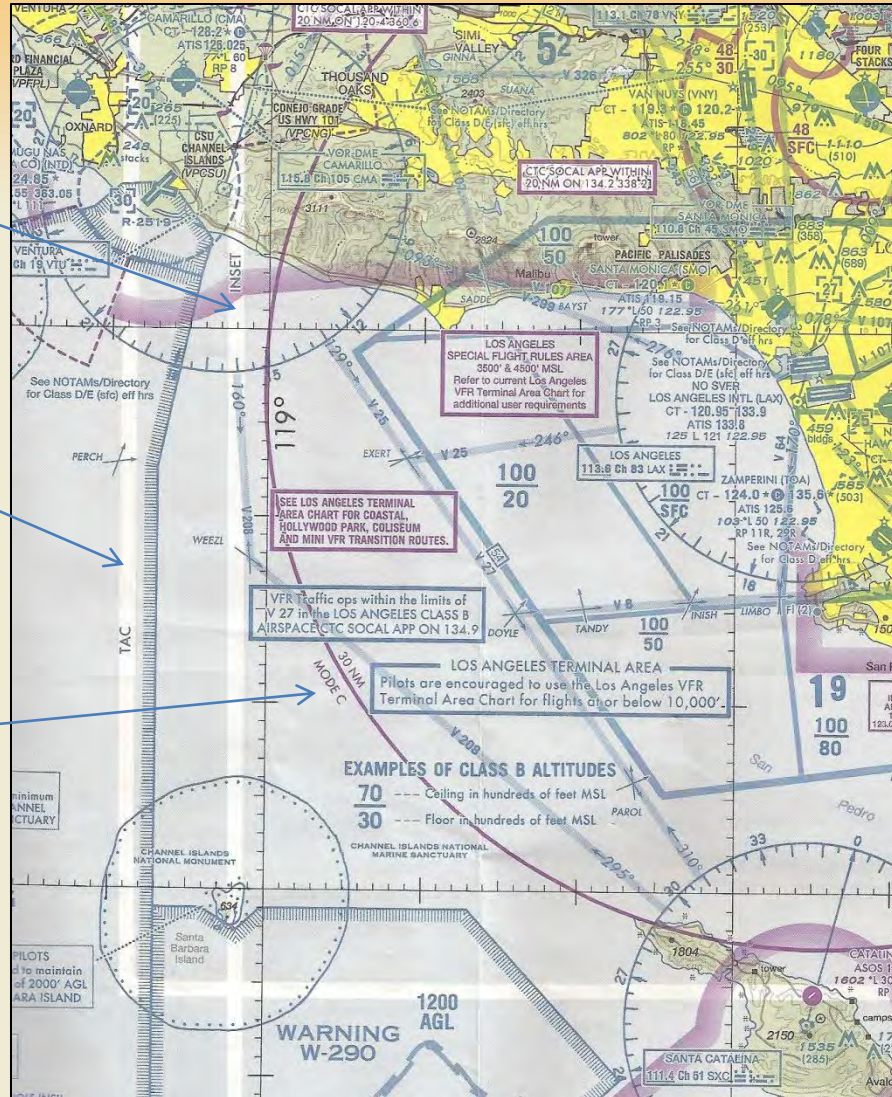


Aeronautical Charts

Inset

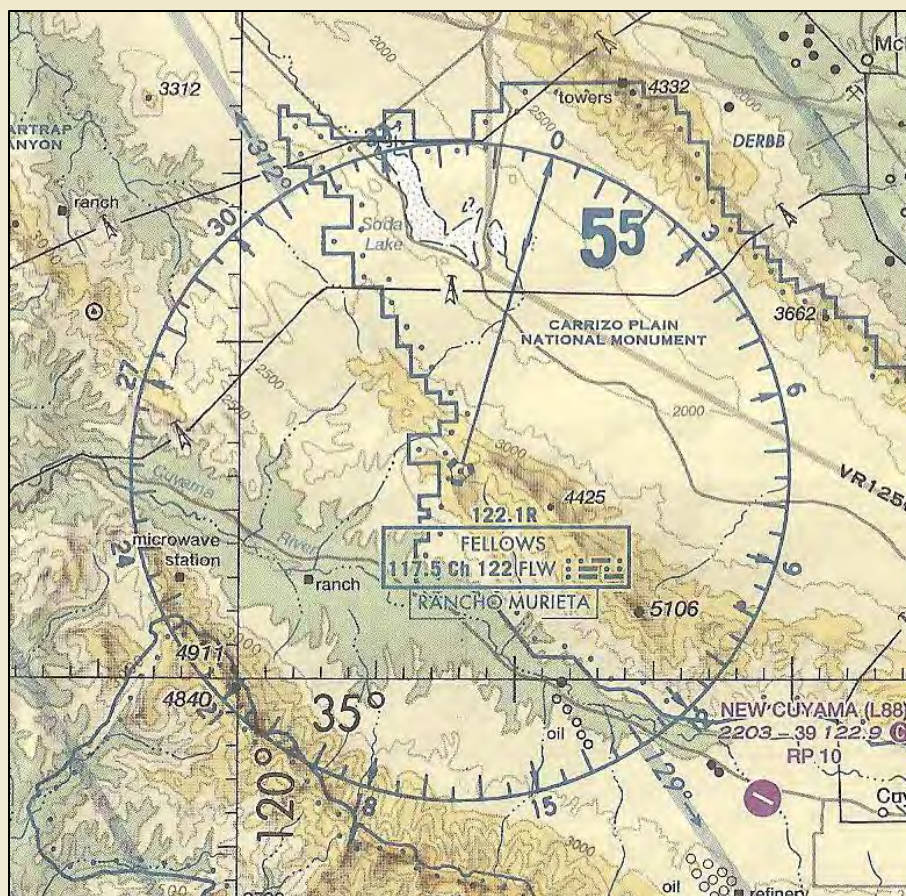
TAC

30 NM Mode C



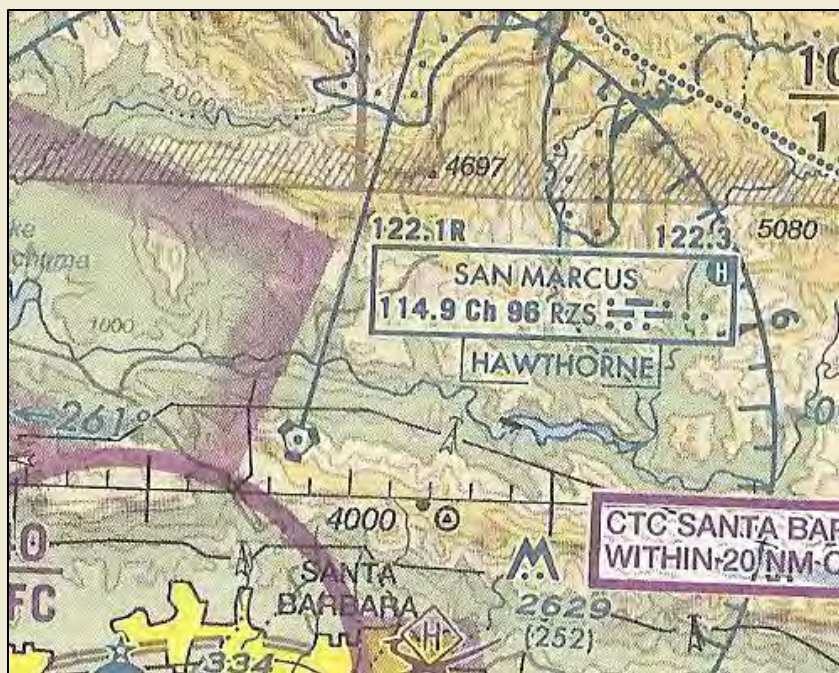
Aeronautical Charts

Compass Rose is oriented to Magnetic North



Aeronautical Charts

Radio Aids to Navigation

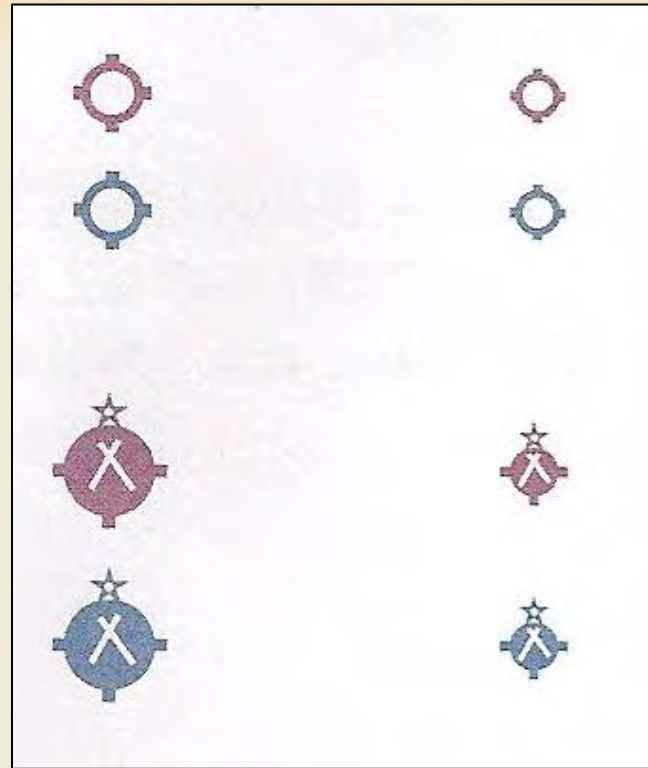


Aeronautical Charts

Public use airports

Blue - Control Tower

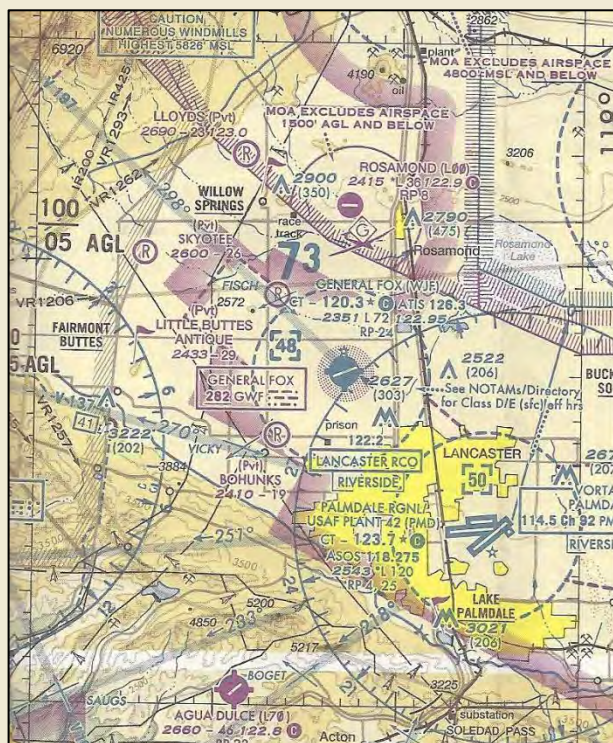
Magenta - No Tower



Aeronautical Charts

Services Available

Tick marks – fuel available



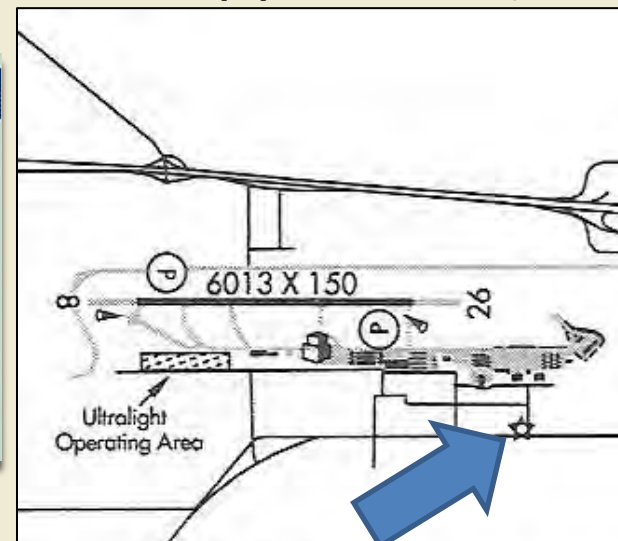
Aeronautical Charts

Rotating Beacon

Is there one (chart)

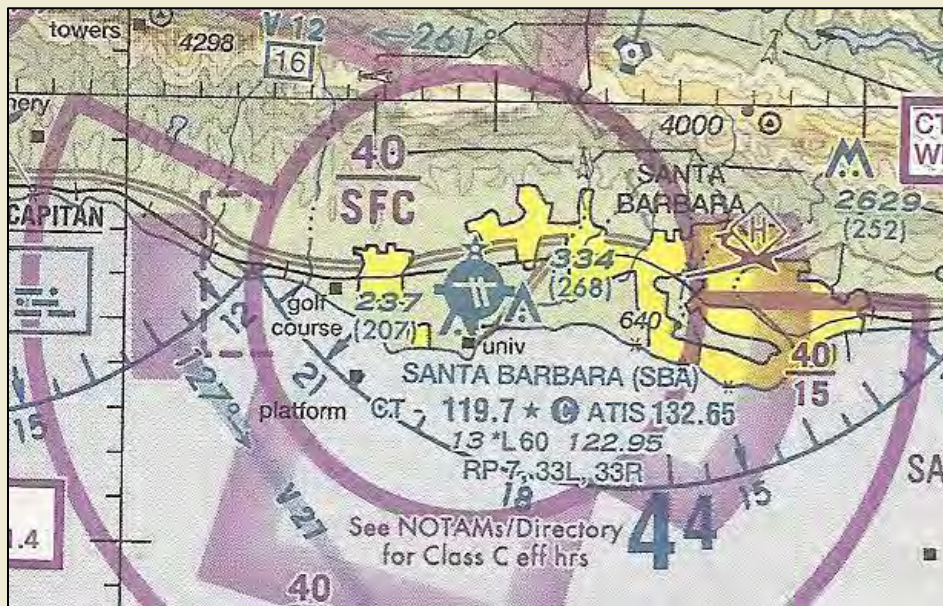


Where is it located on airport (Chart Supplement)



Aeronautical Charts

Airport Information



AIRPORT DATA

Box indicates FAR 93 Special Air Traffic Rules & Airport Traffic Patterns. **NAME** (NAM) (PNAM) ← Location Identifier ICAO Location Indicator shown outside contiguous U.S.

Runways with Right Traffic Patterns (public use) → **CT - 118.3** * **ATIS 123.8** **285 L 72 122.95** **RP 23, 34** **VFR Advsy 125.0** **UNICOM** **AOE** ← Airport of Entry

← FSS ← FAR 91

← NO SVFR ← FAR 91

← - see A/FD.

FSS - Flight Service Station

NO SVFR - Fixed-wing special VFR flight is prohibited.

CT - 118.3 - Control Tower (CT) - primary frequency

* - Star indicates operation part-time. See tower frequencies tabulation for hours of operation.

Ⓢ - Common Traffic Advisory Frequencies (CTAF)

ATIS 123.8 - Automatic Terminal Information Service

ASOS/AWOS 135.42 - Automated Surface Weather Observing Systems (shown where full-time ATIS not available). Some ASOS/AWOS facilities may not be located at airports.

UNICOM - Aeronautical advisory station

VFR Advsy - VFR Advisory Service shown where full-time ATIS not available and frequency is other than primary CT frequency.

285 - Elevation in feet

L - Lighting in operation Sunset to Sunrise

*L - Lighting limitations exist; refer to Airport/Facility Directory.

72 - Length of longest runway in hundreds of feet; usable length may be less.

When information is lacking, the respective character is replaced by a dash. Lighting codes refer to runway edge lights and may not represent the longest runway or full length lighting.

Air Defense Identification Zone

The contiguous Air Defense Identification Zone (ADIZ) is designed to allow ATC to identify aircraft in the vicinity of U.S. and international airspace boundaries.

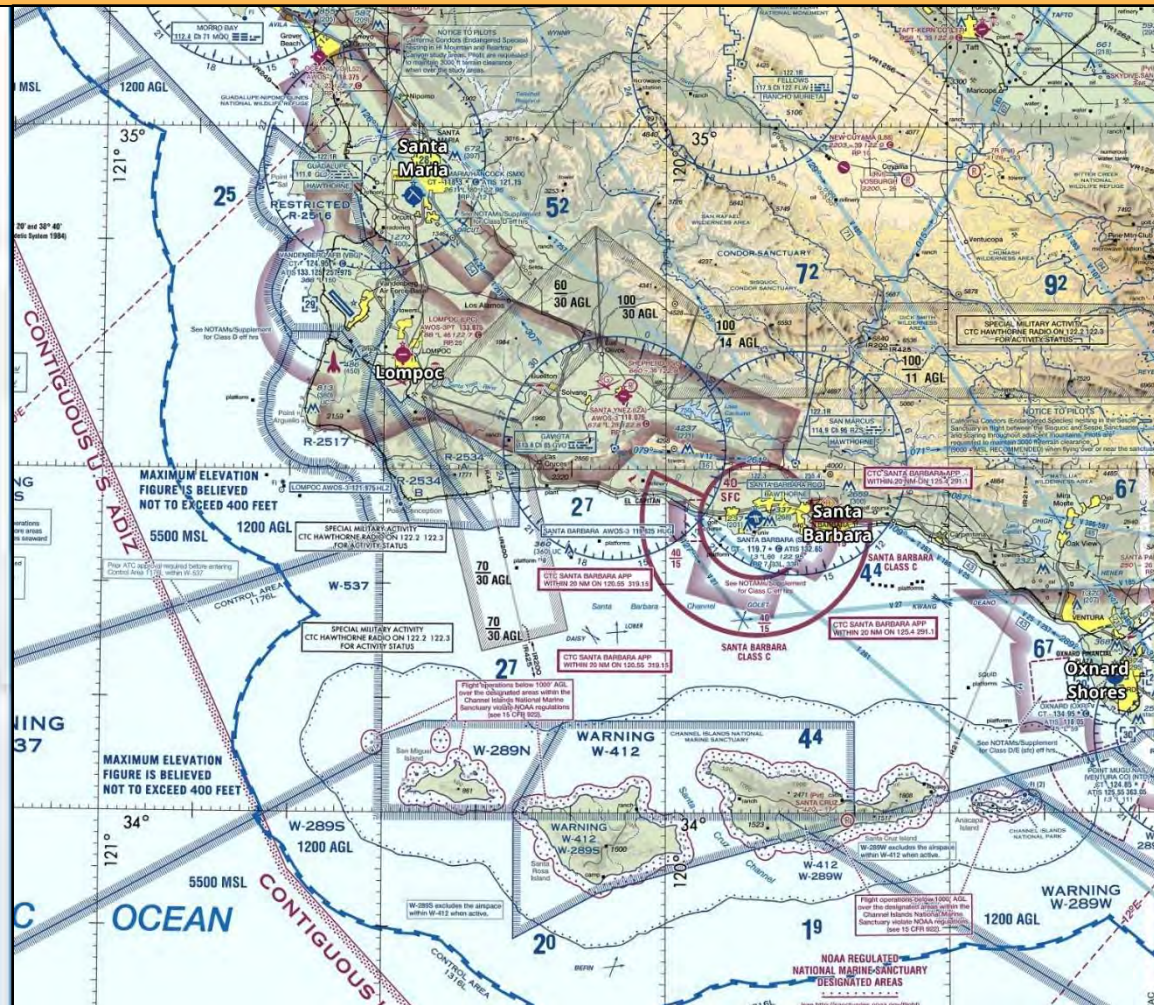


Contiguous ADIZ

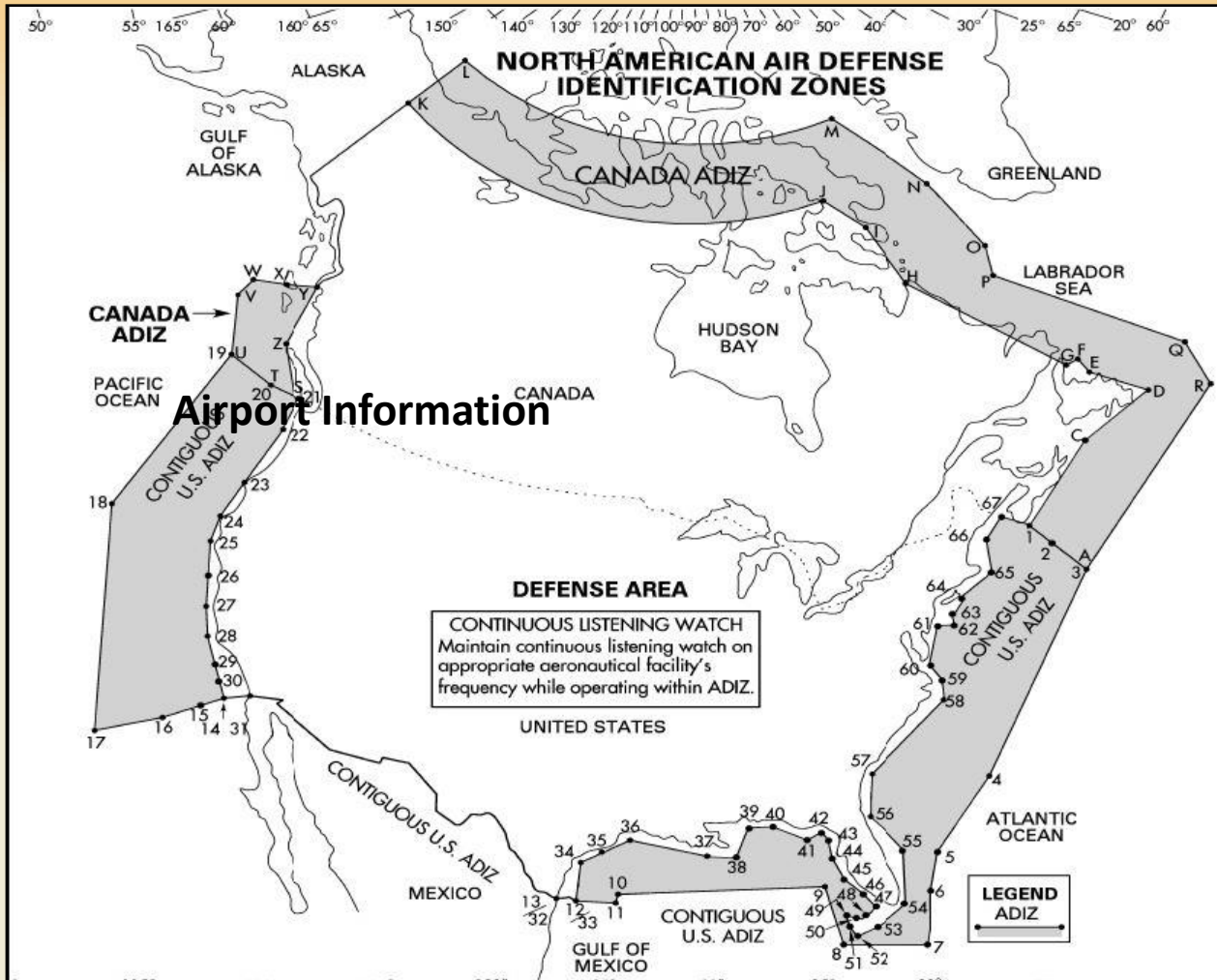
The Contiguous ADIZ lies off the east and west U.S. coastlines and follows the U.S. - Mexico border. Aircraft crossing the ADIZ must:

- Be on an IFR or DVFR flight plan
- Be equipped with a two-way radio and Mode C transponder
- Have registration numbers at least 12" tall

See the **Learn More** for information about international travel requirements.



The U.S. & Canada jointly operate an ADIZ



Contiguous ADIZ

The Contiguous ADIZ lies off the east and west U.S. coastlines and follows the U.S. - Mexico border. Aircraft entering the ADIZ must:

- Be on an IFR or DVF
- Be equipped with a transponder and Mode C transponder
- Have registration number 12" tall

See the **Learn More** for international travel requirements.



TIP:

International travel with a "pink slip," or temporary aircraft registration, is prohibited by law. When planning an international trip with a newly purchased aircraft, a permanent registration certificate from the FAA must be on board before crossing the border.



Military Training Routes (MTRs)

Military Training Routes (MTRs) were developed to conduct low-altitude, high-speed training. Operations along MTRs regularly exceed 250 knots.

MTRs with three numbers indicate that routes can be flown **above** 1,500 agl.

MTRs with four numbers indicate that operations are flown at 1,500 agl and **BELOW**.



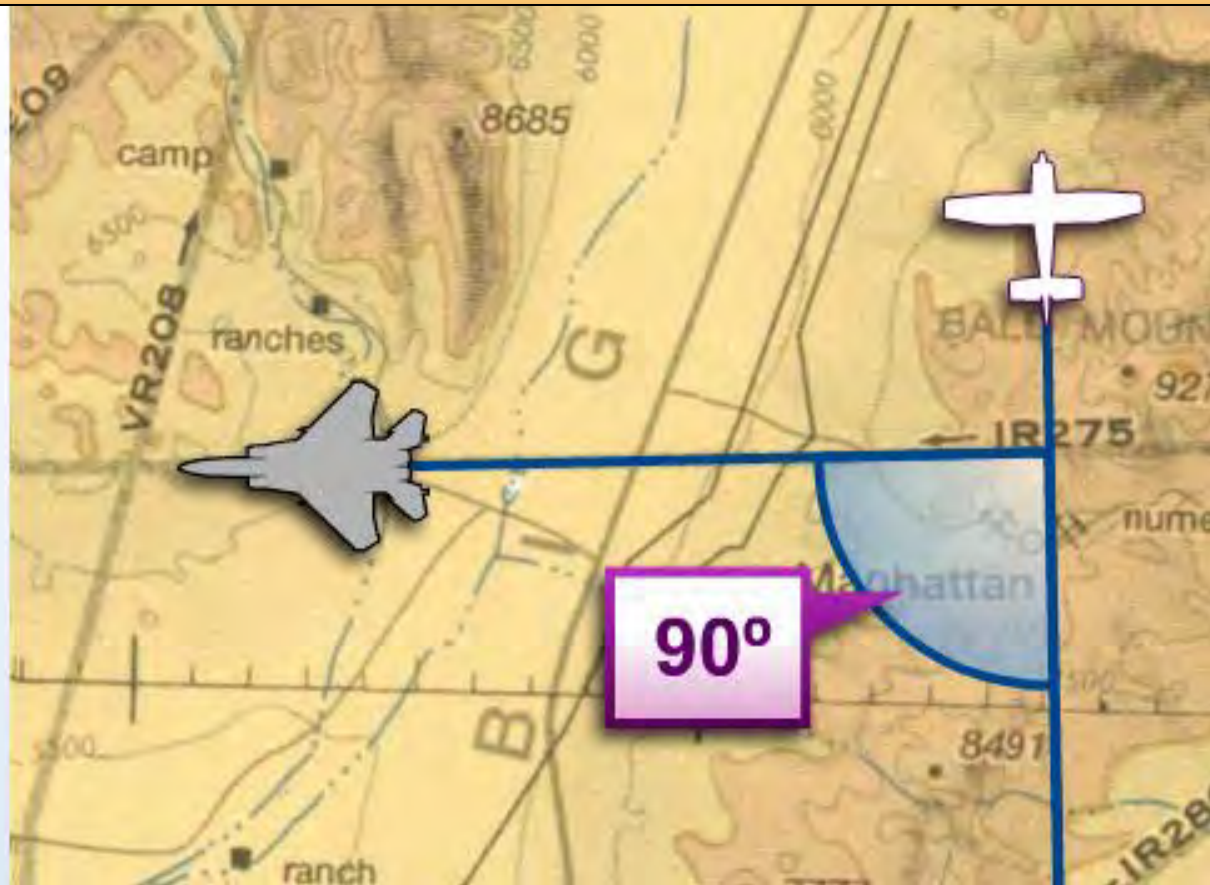
See in Slow Motion



PLAYING

Flying Near MTRs

If your route takes you near or over an MTR, cross it at a 90-degree angle to spend as little time as possible exposed to the high-speed traffic.



Flying Near

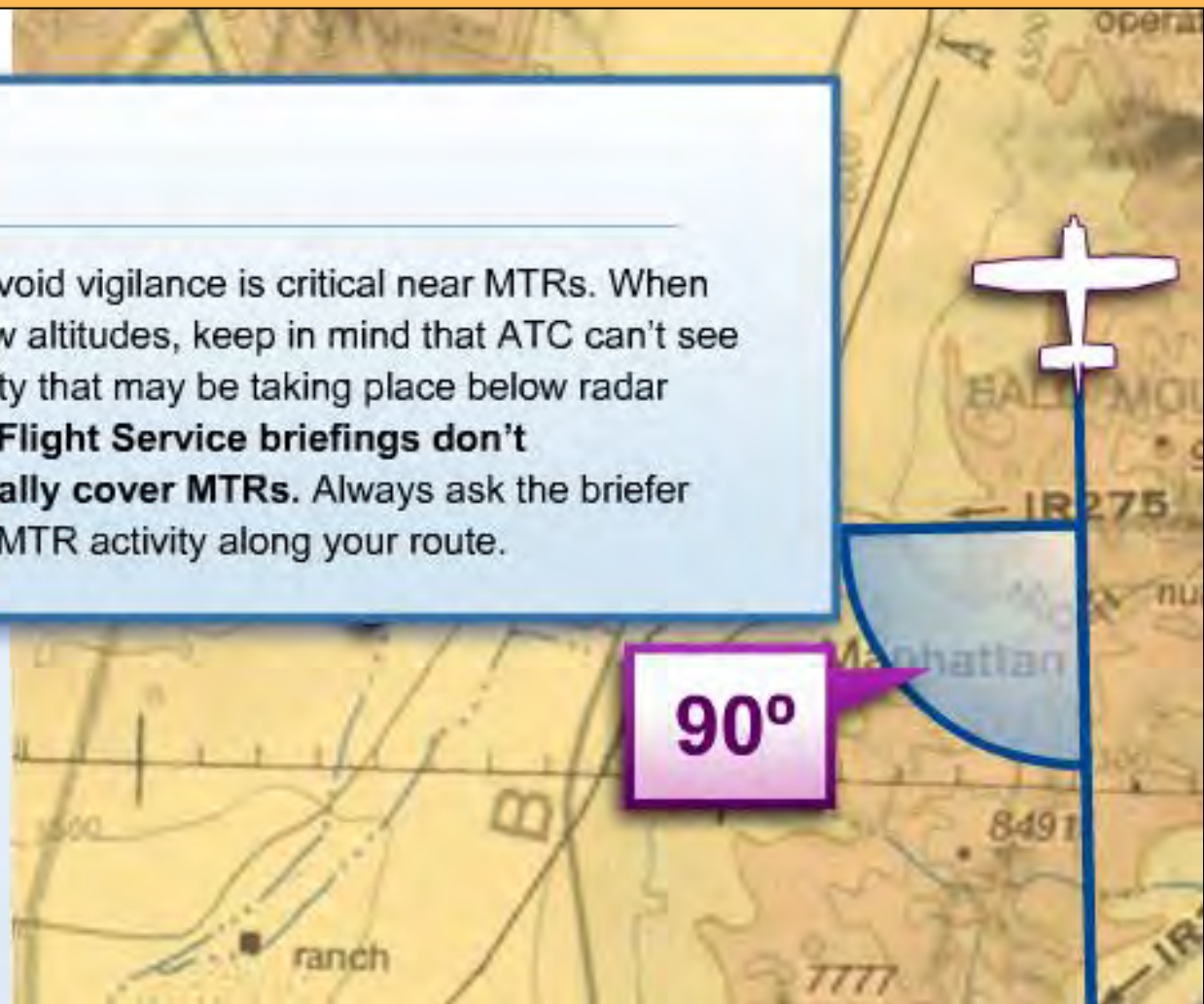
If your route takes over an MTR, cross degree angle to save time as possible and high-speed traffic.

TIP:

See-and-avoid vigilance is critical near MTRs. When flying at low altitudes, keep in mind that ATC can't see MTR activity that may be taking place below radar coverage. **Flight Service briefings don't automatically cover MTRs.** Always ask the briefer about any MTR activity along your route.



90°



Special Use

 **Federal Aviation Administration**

[Disclaimer](#) [Release Notes](#) [FAA Home](#) [NOTAM Search](#) [TFR](#) Auto-Refresh

[View FAA Order JO 7400.10](#) ?

ALERT: Due to high traffic volume on the website, non-supported browsers (Chrome, Edge, Safari) may show incomplete map layer data. The supported IE11 browser is operating normally. To see all active SUA airspaces and TFR data, only use the IE11 browser. A Website update is pending to support additional browsers.

Text List **Graphic Map**

Print Map Map as of: Sep 15, 2020 00:02 (Z)

Custom Zoom      

Menus Centers States Map Layers Airports



500 km
200 nm

Permalink
-111.31348, 25.79174

Legend:

- Active
- < 1 hour
- 1h - 2h
- 2h - 4h
- 4h - 8h
- 8h - 24h
- Not Scheduled
- Airport
- Waypoint
- Mapped Airport
- City
- FIR Boundary
- Center Boundary

 U.S. Department of Transportation
Federal Aviation Administration
800 Independence Avenue, SW
Washington, DC 20591
1-866-TELL-FAA (1-800-835-6322)

Readers & Viewers
    

Web Policies
[Web Policies & Notices](#)
[Privacy Policy](#)
[Accessibility](#)

Government Sites
[Transportation.gov](#)
[USA.gov](#)
[Plainlanguage.gov](#)
[Regulations.gov](#)
[Data.gov](#)

Contact Us
Customer Support: 1-866-466-1336
Email: 7-AWA-NAIMES@faa.gov

Temporary Flight Restrictions (TFRs)

Other TFRs

Sporting events (3 mi/3000 ft)

Other places (Disneyworld, Super Bowl, UN General Assembly)



Presidential TFRs

Can pop up anytime, and on very short notice. Virtually zero tolerance for incursions.



The official sources for TFR information are the [FAA's Graphic TFR web page](#) and the FDC NOTAMs.

Prohibited Areas

Prohibited Areas are usually established for security or other reasons associated with the national welfare. P=Prohibited:
Do not fly here! Specific information for each area is provided on the inside chart panel of VFR and IFR charts.

Chart

Panel

◀ Click on each tab for more information.



Prohibited areas can be established for reasons other than national security, such as protecting the Boundary Waters Canoe Wilderness Area in Minnesota.

- Dimensions can also be expanded by notam (notice)



Back P-49 Special Use Airspace	
Type	Prohibited Area
Designator	49
Name	P-49
Upper Limit	2,000' MSL
Lower Limit	Surface
ADDITIONAL INFORMATION	
Activation	Continuously (excl holidays)
Hours	Continuous

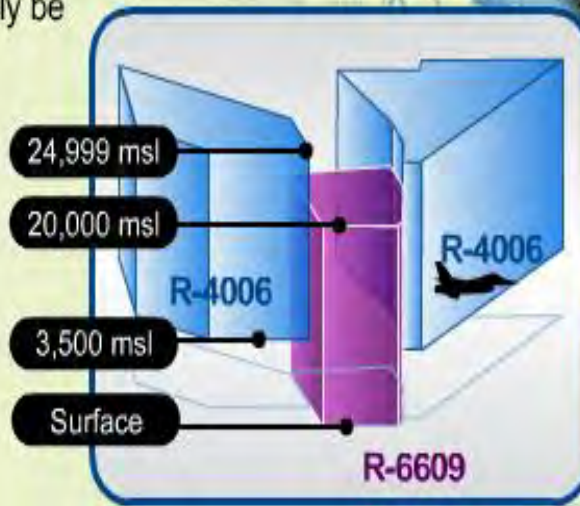
Restricted Areas

Restricted Areas indicate the existence of unusual, often invisible, hazards such as:

- Artillery firing
- Aerial combat
- Guided missiles

Flight through a Restricted Area can be authorized, but will most likely be denied if the area is "hot".

See the *Learn More* for additional information on controlling agencies.



Restricted areas are either "hot/active" or "cold/inactive."

R-4006	3500 TO BUT NOT INCL FL 250	0700-2300† EXCLD R-4002, R-4005 AND R-6609	WASHINGTON CNTR	133.9 281.4
R-6609	TO FL 200	0800-2300 †48 HRS IN ADVANCE	WASHINGTON CNTR	132.55 256.8





CAMP PENDLETON MCAS (MUNINI)	127.3 323.0	CONTINUOUS
CHINA LAKE NAWS (ARMITAGE)	133.65 348.7	CONTINUOUS
EDWARDS AF AUX NORTH BASE	133.65 348.7	CONTINUOUS
IMPERIAL BEACH NOLF (REAM)	125.15 317.55	CONTINUOUS
PAINDALE USAF PLANT 42	124.55 363.0	CONTINUOUS
POINT MUGU NAS (VENTURA CO)	128.65 307.275 335.5	0700-2300
	O/T 135.5 327.1 LOS ANGELES CNTR	
SAN CLEMENTE ISLAND NOLF	127.05 292.15	0800-1800 MON-THU 0800-1600 FRI CLSD HCL O/T BY NOTAM
VANDENBERG AFB	124.15 327.8	0600-2300
	O/T 119.05 269.5 LOS ANGELES CNTR	

SPECIAL USE AIRSPACE ON LOS ANGELES SECTIONAL CHART

Unless otherwise noted altitudes are MSL and in feet. Time is local.
 "TO" an altitude means "to and including."
 FL - Flight Level
 NO A/G - No air to ground communications.
 Contact Flight Service for information.

† Other times by NOTAM.
 NOTAM - Use of this term in Restricted Areas indicates FAA and DoD NOTAM systems. Use of this term in all other Special Use areas indicates the DoD NOTAM system.

U.S. P-PROHIBITED, R-RESTRICTED, W-WARNING, A-ALERT, MOA-MILITARY OPERATIONS AREA

NUMBER	ALTITUDE	TIME OF USE	CONTROLLING AGENCY/ CONTACT FACILITY	FREQUENCIES
R-2501 A, B, C	UNLIMITED	CONTINUOUS	LOS ANGELES CNTR	126.35
R-2501 D, E	UNLIMITED	CONTINUOUS	LOS ANGELES CNTR	128.15
R-2502 A	TO 16,000	CONTINUOUS	LOS ANGELES CNTR	
R-2502 E	UNLIMITED	CONTINUOUS	LOS ANGELES CNTR	132.5 284.7
R-2502 N	UNLIMITED	CONTINUOUS	JOSHUA CON FAC	120.25
R-2503 A	TO 2000	0600-2400†	LOS ANGELES CNTR	125.65
R-2503 B	TO 15,000	0600-2400†	LOS ANGELES CNTR	125.65
R-2503 C	15,000 TO FL 270	INTERMITTENT BY NOTAM 24 HRS IN ADVANCE	LOS ANGELES CNTR	125.65
R-2503 D	2000 TO 11,000	INTERMITTENT BY NOTAM 24 HRS IN ADVANCE	SOCAL TRACON	124.1 127.3
R-2504 A	TO BUT NOT INCL 6000	0600-2400	OAKLAND CNTR	128.7 307.0
R-2504 B	6000 TO 15,000	0600-2400	OAKLAND CNTR	128.7 307.0
R-2505	UNLIMITED	CONTINUOUS	JOSHUA CON FAC	120.25 133.65
R-2506	TO 6000	SR-SS MON-FRI	JOSHUA CON FAC	120.25 133.65

R-2507 E	TO FL 400	0700-2300†	LOS ANGELES CNTR	
R-2507 N, S	TO FL 400	CONTINUOUS	YUMA MCAS/YUMA INTL	124.15
R-2507 W	TO FL 230	CONTINUOUS	LOS ANGELES CNTR	
R-2510 A	TO 15,000	0700-2300 124 HRS IN ADVANCE	LOS ANGELES CNTR	128.6
R-2510 B	15,000 TO FL 400	0700-2300 SAT-SUN WHEN ACT BY NOTAM 24 HRS IN ADVANCE	LOS ANGELES CNTR	128.6
R-2512	TO 23,000	0600-2300 124 HRS IN ADVANCE	YUMA MCAS/YUMA INTL	124.15
R-2513	TO FL 240	CONTINUOUS	OAKLAND CNTR	128.7 307.0
R-2515	UNLIMITED	CONTINUOUS	JOSHUA CON FAC	120.25 133.65
R-2516	UNLIMITED	CONTINUOUS	LOS ANGELES CNTR	119.05
R-2517	UNLIMITED	CONTINUOUS	LOS ANGELES CNTR	119.05
R-2519	UNLIMITED	CONTINUOUS	LOS ANGELES CNTR	135.5
R-2524	UNLIMITED	CONTINUOUS	JOSHUA CON FAC	120.25 133.65
R-2534 A, B	500 AGL TO UNLIMITED	INTERMITTENT BY NOTAM 4 HRS IN ADVANCE	LOS ANGELES CNTR	119.05
R-2535 A, B	TO 100,000	0600-2200 MON-FRI 124 HRS IN ADVANCE	LOS ANGELES CNTR	132.15
W-285 A	TO FL 450	0630-2100 MON-FRI†	OAKLAND CNTR	134.15 355.6 (N) 134.55 290.5 (S)
W-285 D	TO FL 190	0630-2100 MON-FRI†	OAKLAND CNTR	134.15 355.6 (N) 134.55 290.5 (S)
W-289 S, E, W	UNLIMITED	INTERMITTENT BY NOTAM	LOS ANGELES CNTR	132.15
W-289 N	TO FL 240	INTERMITTENT BY NOTAM	LOS ANGELES CNTR	132.15
W-291 E	TO FL 800	INTERMITTENT BY NOTAM	LOS ANGELES CNTR	132.15 [E OF 120 W]
W-292 E, W	UNLIMITED	INTERMITTENT BY NOTAM	LOS ANGELES CNTR	132.15
W-412	TO 3000	SR-SS	LOS ANGELES CNTR	132.15
W-532 E, N, S	UNLIMITED	INTERMITTENT BY NOTAM	LOS ANGELES CNTR	
W-537	UNLIMITED	INTERMITTENT BY NOTAM	LOS ANGELES CNTR	132.15

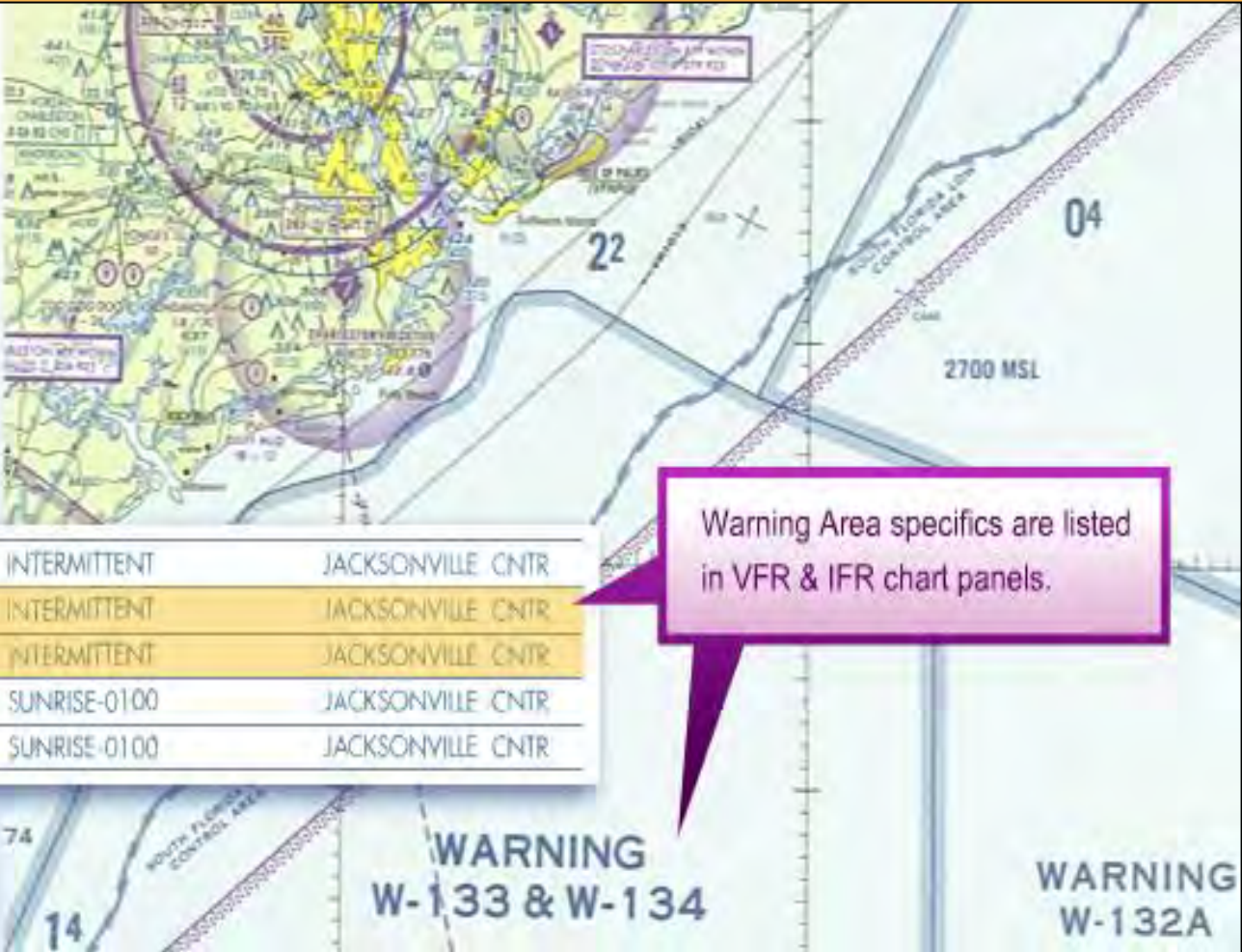
MEXICO P-PROHIBITED, R-RESTRICTED

NUMBER	LOCATION	ALTITUDE	TIME OF USE	CONTROLLING AGENCY
MMR412		TO 16,000	BY NOTAM	DGAC SENEAM



Warning Areas

Warning Areas contain activities that may be hazardous to aircraft, such as air-to-air intercept training and live missile firing. They normally extend outward from 3 nm off the U.S. coast.

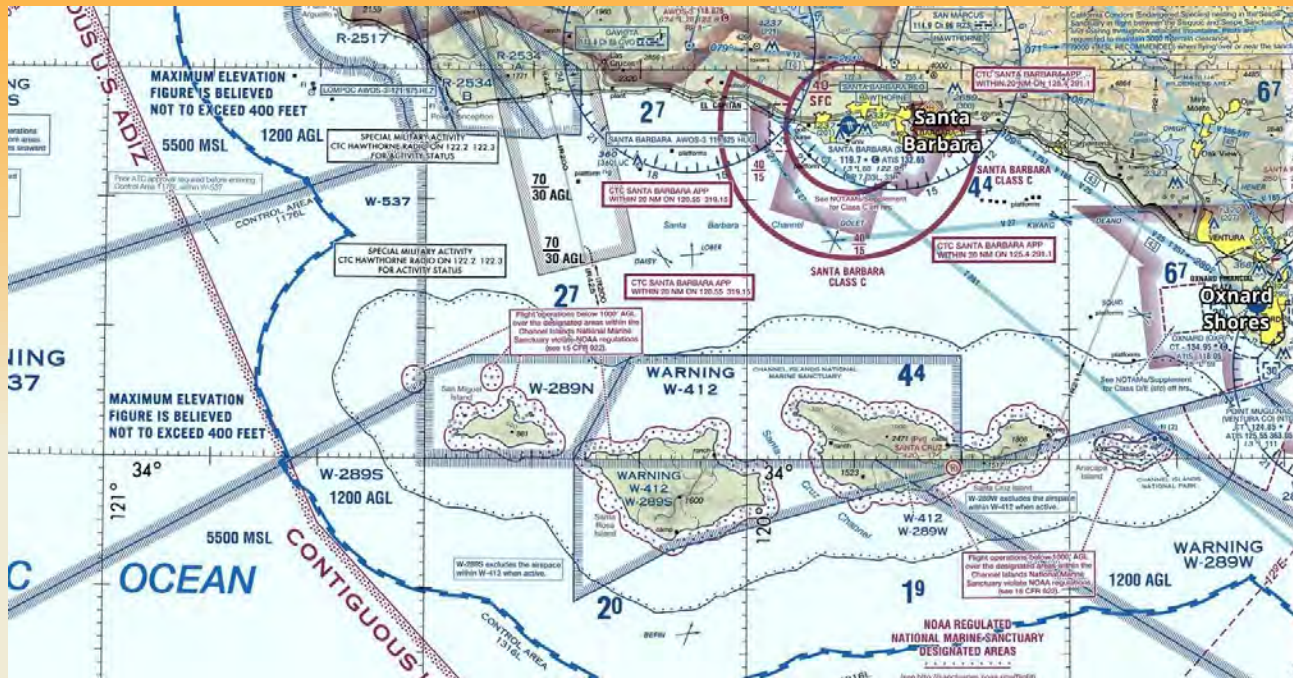


W-132 B	TO FL 240	INTERMITTENT	JACKSONVILLE CNTR
W-133	TO 4500	INTERMITTENT	JACKSONVILLE CNTR
W-134	4500 TO UNLIMITED	INTERMITTENT	JACKSONVILLE CNTR
W-161 A	TO FL 620	SUNRISE-0100	JACKSONVILLE CNTR
W-161 B	TO FL 300	SUNRISE-0100	JACKSONVILLE CNTR

Warning Area specifics are listed in VFR & IFR chart panels.

WARNING W-133 & W-134

WARNING W-132A



R-2515	UNLIMITED	CONTINUOUS	JOSHUA CON FAC	120.25 133.65
R-2516	UNLIMITED	CONTINUOUS	LOS ANGELES CNTR	119.05
R-2517	UNLIMITED	CONTINUOUS	LOS ANGELES CNTR	119.05
R-2519	UNLIMITED	CONTINUOUS	LOS ANGELES CNTR	135.5
R-2524	UNLIMITED	CONTINUOUS	JOSHUA CON FAC	120.25 133.65
R-2534 A, B	500 AGL TO UNLIMITED	INTERMITTENT BY NOTAM 4 HRS IN ADVANCE	LOS ANGELES CNTR	119.05
R-2535 A, B	TO 100,000	0600-2200 MON-FRI †24 HRS IN ADVANCE	LOS ANGELES CNTR	132.15
W-285 A	TO FL 450	0630-2100 MON-FRI†	OAKLAND CNTR	134.15 355.6 (N) 134.55 290.5 (S)
W-285 D	TO FL 190	0630-2100 MON-FRI†	OAKLAND CNTR	134.15 355.6 (N) 134.55 290.5 (S)
W-289 S, E, W	UNLIMITED	INTERMITTENT BY NOTAM	LOS ANGELES CNTR	132.15
W-289 N	TO FL 240	INTERMITTENT BY NOTAM	LOS ANGELES CNTR	132.15
W-291 E	TO FL 800	INTERMITTENT BY NOTAM	LOS ANGELES CNTR	132.15 (E OF 120 W)
W-292 E, W	UNLIMITED	INTERMITTENT BY NOTAM	LOS ANGELES CNTR	132.15
W-412	TO 3000	SR-SS	LOS ANGELES CNTR	132.15
W-532 E, N, S	UNLIMITED	INTERMITTENT BY NOTAM	LOS ANGELES CNTR	132.15
W-537	UNLIMITED	INTERMITTENT BY NOTAM	LOS ANGELES CNTR	132.15

Alert Areas

Alert Areas contain a high volume of pilot training or some other type of unusual activity. Flight through an Alert Area is not restricted, but pilots should exercise caution when flying in these areas.

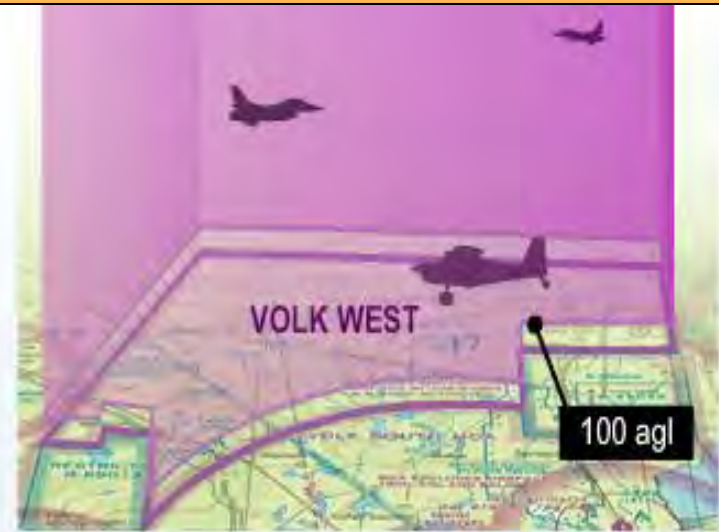


Alert Area specifics are listed in VFR & IFR chart panels.

R-2916	TO 14,000	CONTINUOUS	MIAMI CNTR
R-2936	TO 10,000	INTERMITTENT BY NOTAM	PALM BEACH ATCT
A-291 A,C	TO 2500	0600-2400	NO A/G
A-291 B,D	TO 3900	0600-2400	NO A/G
W-168	UNLIMITED	INTERMITTENT	MIAMI CNTR
W-174 A,F	TO FL 700	INTERMITTENT 0700-2300	MIAMI CNTR
W-174 B,C	TO FL 700	INTERMITTENT 0700-2300†	MIAMI CNTR
W-174 E	TO 10,000	INTERMITTENT 0700-2300†	MIAMI CNTR
W-174 G	TO FL 700	INTERMITTENT 0700-2300†	MIAMI CNTR

Military Operations Areas (MOAs)

MOAs contain activities such as air combat tactics and aerobatics, with some operations exceeding 250 knots near the surface. They exist to separate military training activities from IFR traffic, which is normally routed outside active MOAs. VFR traffic is permitted, but extreme caution should be used when these areas are active.



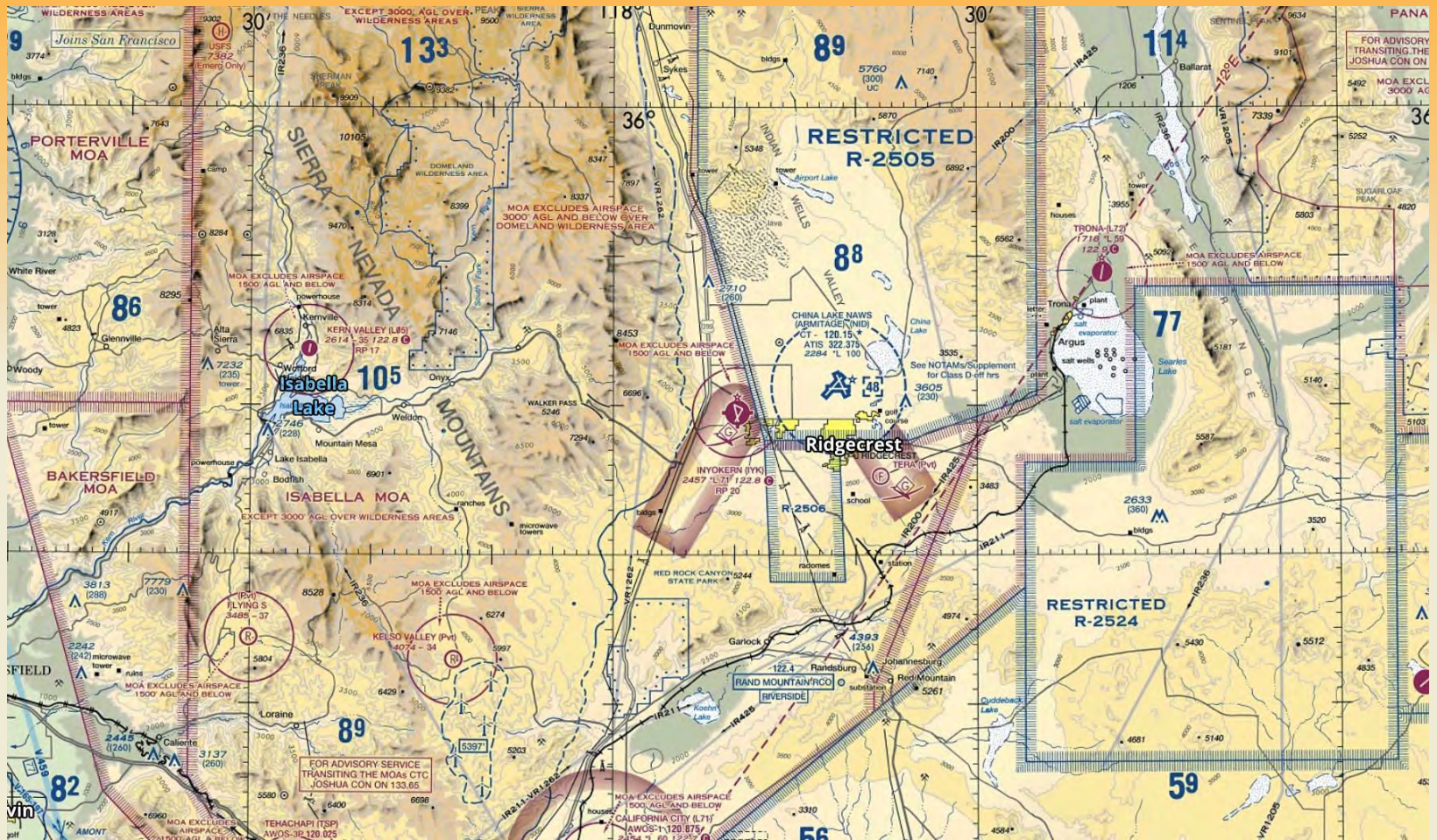
▼ Roll over each area below to review

MOA specifics are listed in VFR & IFR chart panels.



SNOOPY WEST	6000	BY NOTAM NORMALLY INTERMITTENT 0800-2200 MON-SAT	MINNEAPOLIS CNTR	127.9 281.45
VOLK EAST	8000	INTERMITTENT BY NOTAM 0800-1600 TUE-SAT	CHICAGO CNTR	133.3 380.35
VOLK SOUTH	500 AGL	INTERMITTENT BY NOTAM 0800-1600 TUE-SAT	CHICAGO CNTR	133.3 380.35
VOLK WEST	100 AGL	INTERMITTENT BY NOTAM 800-1600 TUE-SAT	MINNEAPOLIS CNTR	124.4 128.6 317.7 363.0

*Altitudes indicate floor of MOA. All MOAs extend to but do not include FL 180 unless otherwise indicated in tabulation or on chart.
†Other times by DoD NOTAM.



HUNTER LOW C	3000 AGL TO BUT NOT INCL 11,000	INTERMITTENT BY NOTAM	OAKLAND CNTR	128.7 307.0
HUNTER LOW D	1500 AGL TO 6000	INTERMITTENT BY NOTAM	OAKLAND CNTR	128.7 307.0
HUNTER LOW E	1500 AGL TO 3000	INTERMITTENT BY NOTAM	OAKLAND CNTR	128.7 307.0
ISABELLA	200 AGL	0600-2200 MON-FRI	JOSHUA CON FAC	133.65
KANE EAST, SOUTH & WEST	10,000	0500-2100	YUMA MCAS/YUMA INTL	124.15
LEMOORE B	13,000	0800-2300 MON-THU 0800-1800 FRI	LEMOORE NAS (REEVES) ATCT	134.225 290.325

Special Conservation Areas

Pilots are recommended to stay at least 2,000 agl above these areas:

- National Parks
- Wildlife Refuges
- Wilderness Areas
- National Monuments
- Recreation Areas





LAKE
114.35 Ch
HAW

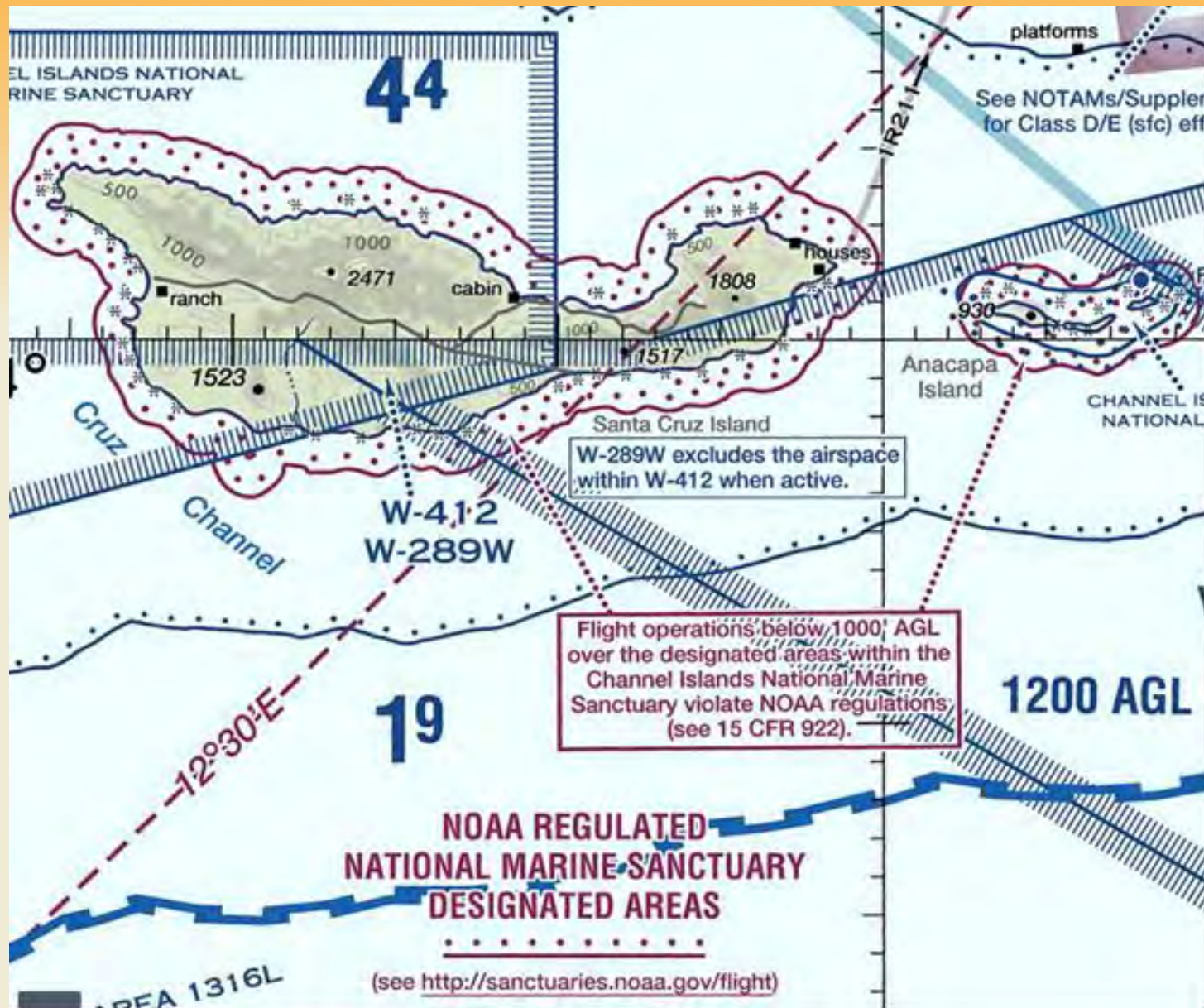
NOTICE TO PILOTS
 California Condors (Endangered Species) nesting in the Sespe Sanctuary in flight between the Sisquac and Sespe Sanctuaries and soaring throughout adjacent mountains. Pilots are requested to maintain 3000 ft terrain clearance (9000 + MSL RECOMMENDED) when flying over or near the sanctuaries.

CAUTION
 INTENSIVE AEROBATIC TRAINING
 122.775 BE LOW 5500'
 SEE SUPPLEMENTAL SPECIAL NOTICES
 SANTA PAULA WAIVER REQUIRED

CTC SOCAL APP WITHIN

CAUTION

FILLMORE
 5 Ch 72-FIM
 HAWTHORNE





Pilots: Know Before You Go!



NOAA Twin Otter over Point Sur, California. Credit: Kip Evans

Overflight regulations within [Olympic Coast](#), [Greater Farallones](#), [Monterey Bay](#) and [Channel Islands](#) National Marine Sanctuaries require that motorized aircraft maintain minimum altitudes above specified coastal waters. Failure to comply with these minimum altitude limits is presumed to disturb marine mammals and seabirds and is a violation of federal regulations for the sanctuaries.

Overflight Regulation

[Overview](#)

[NOAA Regulated Overflight Zones](#)

[Olympic Coast](#)

[Greater Farallones](#)

[Monterey Bay](#)

[Channel Islands](#)

[FAQs](#)

Why Fly Higher?



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Fly High for Safety, Fly High for Wildlife



Airspace

- Identifying Airspace
 - Uncontrolled
 - Controlled
- Cloud Clearance and Visibility
- Speed Limits
- Equipment

Why?



Controlled Airspace

A

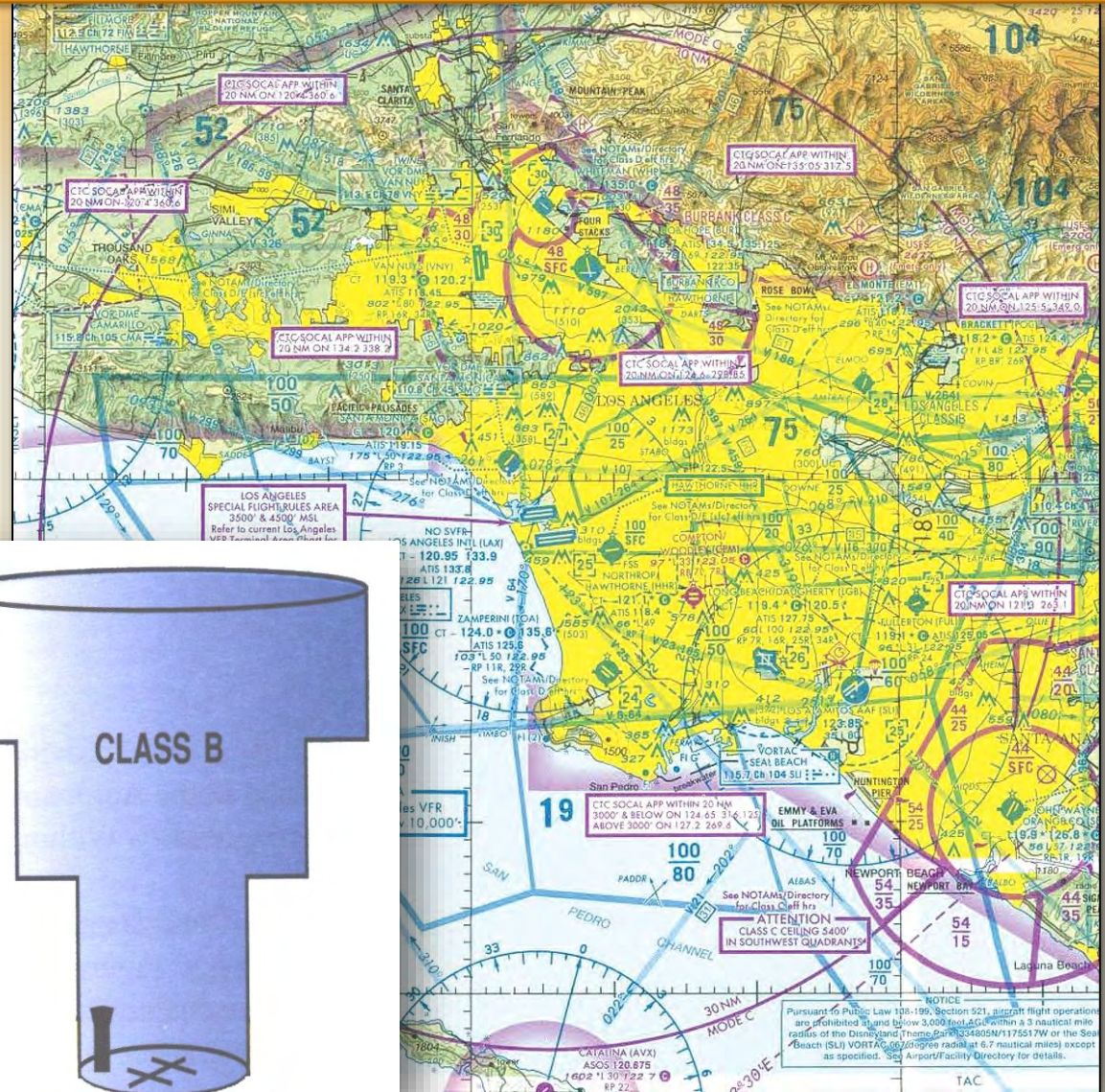
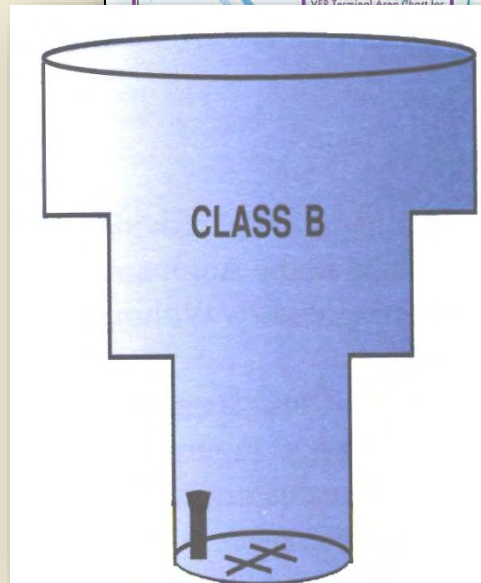
- 18000' MSL + to FL600
- IFR



Controlled Airspace

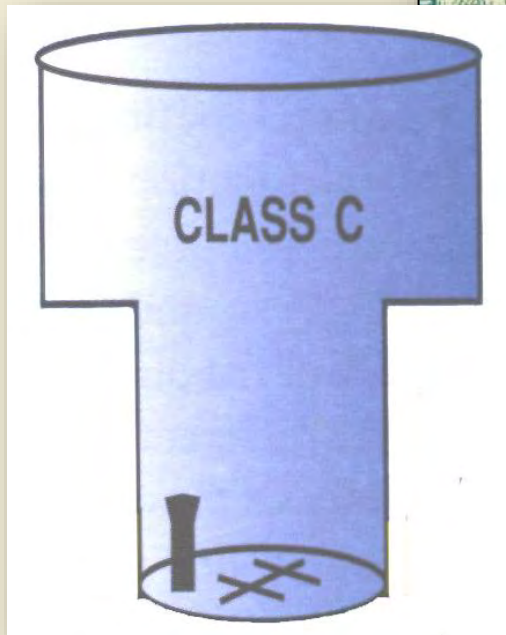
B

- **BIG**
- Big airspace
- Big airplanes
- Big airports
- **LAX**



Controlled Airspace

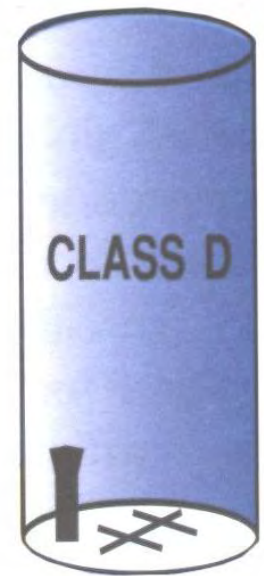
- Congested, radar assistance, talk to approach control
- BUR, SBA



Controlled Airspace

D

- Dialogue, not big or crowded but has a control tower.
- CMA, OXR, SMX, SBP



Controlled Airspace

E

- Everything Else

- Starts at surface
- 18,000' top
- PRB
- Weather
ASOS/AWOS



Controlled Airspace

- Everything Else

- Floor 1200' AGL or greater
- 18,000' top
- Abuts Class G airspace



Controlled Airspace

E

- Everything Else

- Floor 700' AGL
- 18,000' top
- IZA



G

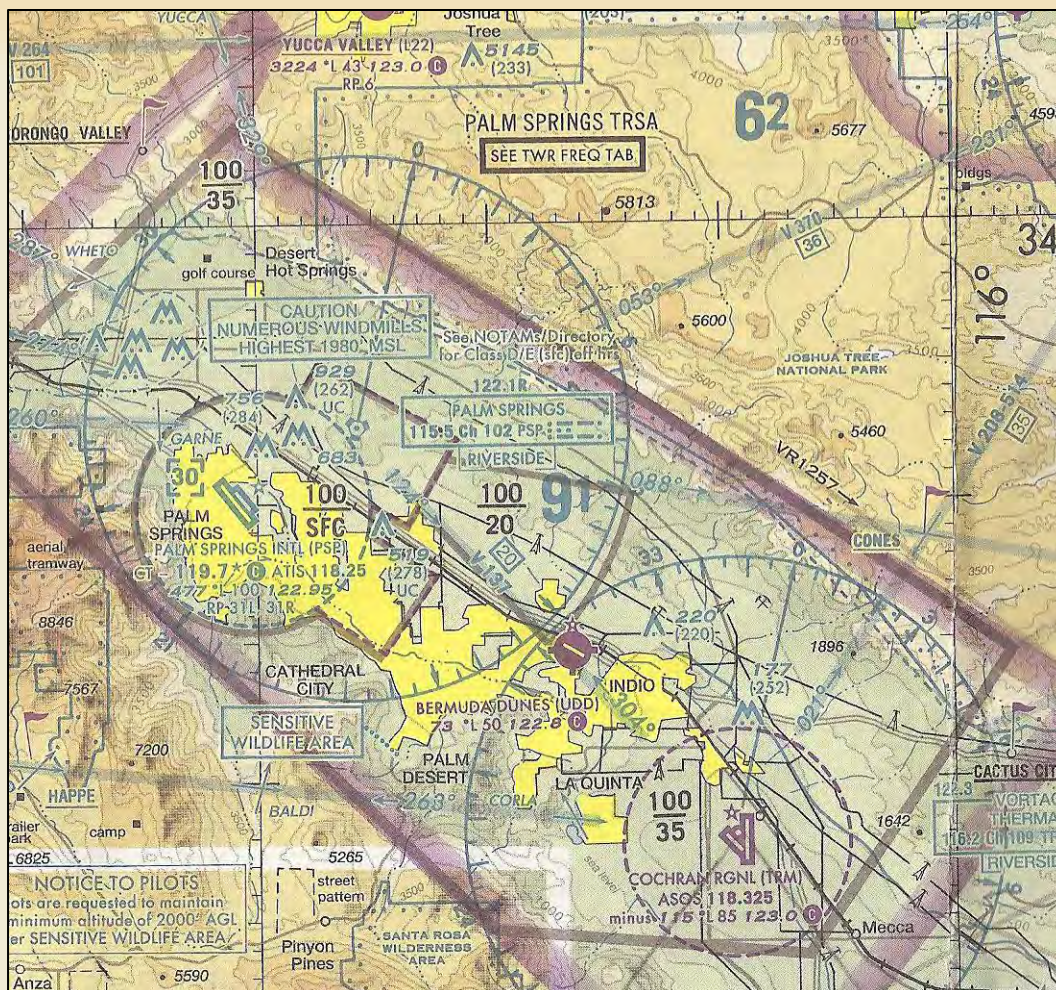
Uncontrolled Airspace

- The Airspace in which ATC has no authority or responsibility to control air traffic, but remember there are VFR weather minimums which apply.
- Always starts at sfc up to 1,200
- SZP



Aeronautical Charts

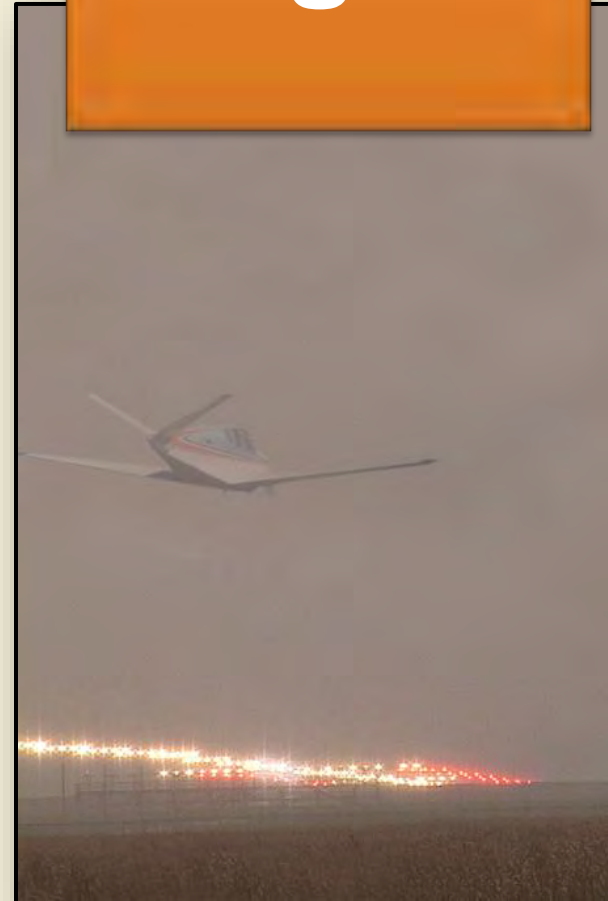
- Terminal Radar Service Areas (TRSA)



Cloud Clearance and Visibility Requirements

- Visual Flight Rules (VFR) or Instrument Flight Rules (IFR)
- IFR if less than 3 miles visibility and or 1,000' Ceiling in controlled airspace to the surface associated with an airport
- IFR Traffic Separation

Why
?

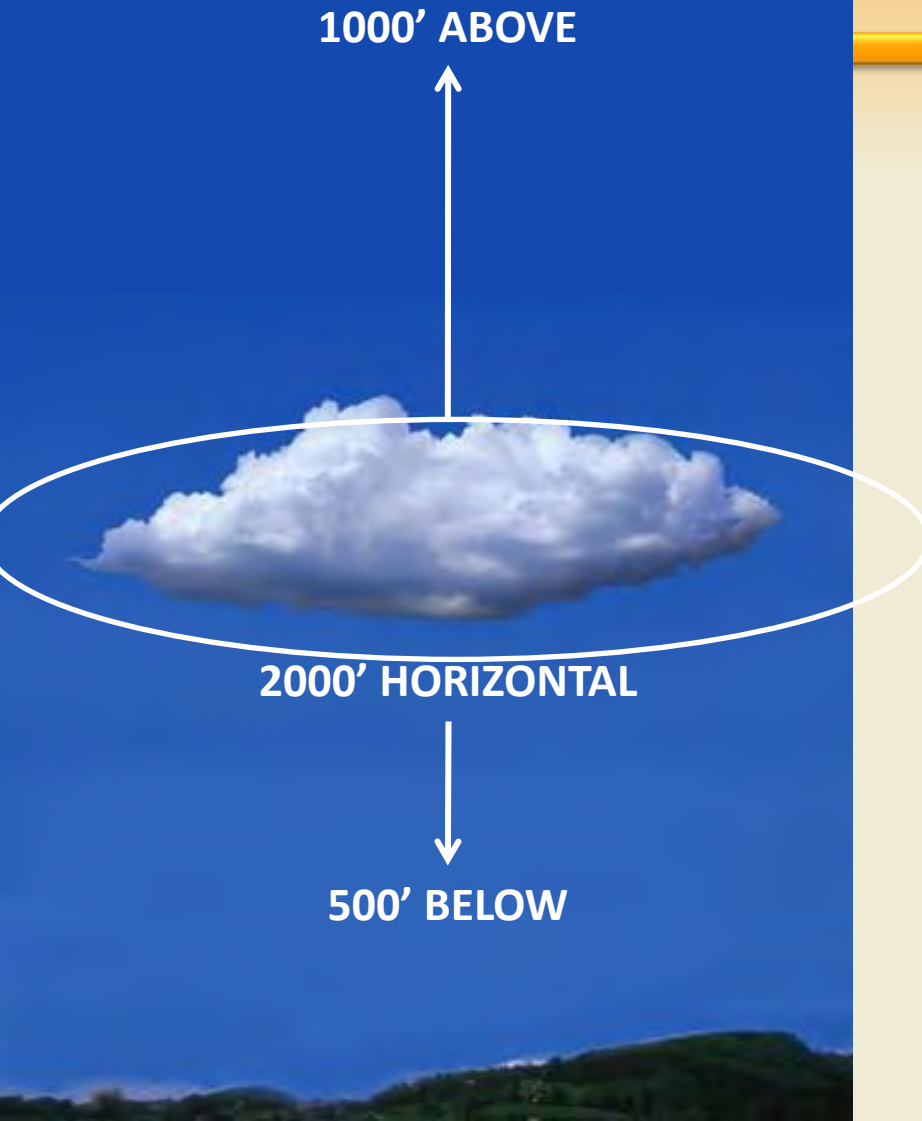


Cloud Clearance & Visibility



- **Class B**
 - 3 miles visibility
 - Clear of clouds

Cloud Clearance & Visibility



- **Class C, D & E**
 - 3 miles visibility
 - 1000' above
 - 500' below
 - 2000' horizontal

Cloud Clearance & Visibility

- **Class G - Day**

- Below 1200' AGL

- 1 mile visibility
- Clear of clouds

- Above 1200' AGL

- 1 mile visibility
- 1000' above
- 500' below
- 2000' horizontal

- **Class G - Night**

- 3 miles visibility
- 1000' above
- 500' below
- 2000' horizontal



EXCEPTION: Sport Pilots, or pilots operating under Sport Pilot Rules, Cannot Fly at Night OR with Visibility < 3 miles and ALWAYS Within Sight of the Ground.



Cloud Clearance & Visibility

- 10,000' MSL and above
 - 5 miles visibility
 - 1000' above
 - 1000' below
 - 1 mile horizontal

EXCEPTION: Sport Pilots, or pilots operating under Sport Pilot Rules, May Not Fly Over 10,000 ft or 2000 ft AGL if terrain is above 10,000 feet

Speed Limits

- **Above 10,000'**
 - No speed limit
- **Below 10,000'**
 - 250 knots
 - Under Class B, 200 knots
 - In Class C or D, 200 knots



Equipment



- **Transponder**
 - 10,000' and above
 - In or above Class C
 - 30NM Mode C
- **Radio**
 - Class B (clearance)
 - Class C and D (establish communications, must hear N-number)

Automatic Dependent Surveillance – Broadcast (ADS-B)

- Starting January 1, 2020, you must be equipped with ADS-B Out to fly in most controlled airspace.



Quiz: SZP

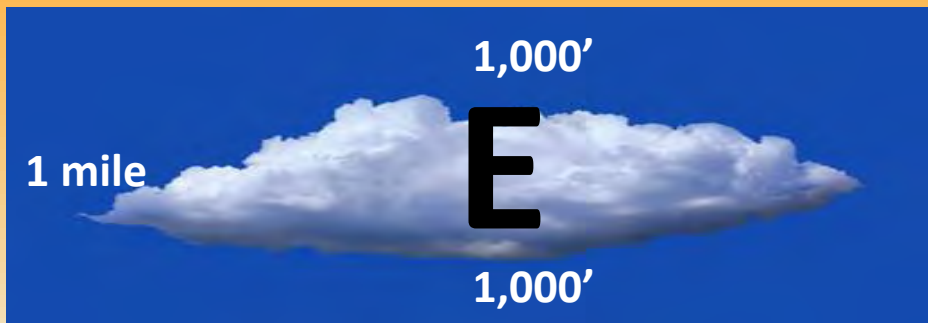


- Define airspace
 - Surface to 18,000'
- Cloud clearance?
- Requirements?
 - Transponder
 - Radio
- Speed limits?

18,000' MSL

5 miles
visibility

1 mile



No speed restrictions

No radio

Yes transponder

10,000' MSL

3 miles
visibility

2000'



250 knots speed

No radio

No transponder

1200' AGL

1 mile visibility

Clear of clouds



250 knots speed

No radio

No transponder



Quiz: CMA



Define airspace

- Surface to 18,000'

Cloud clearance?

Requirements?

- Transponder
- Radio

Speed limits?

A - IFR

18,000' MSL

5 miles
visibility



No speed restrictions

No radio

Yes transponder

10,000' MSL

3 miles
visibility



250 knots speed

No radio

No transponder

2000' MSL

3 miles
visibility



200 knots speed

Yes radio

No transponder



Quiz: SBA



A - IFR

18,000' MSL

5 miles
visibility



No speed restrictions

No radio

Yes transponder

10,000' MSL

3 miles
visibility



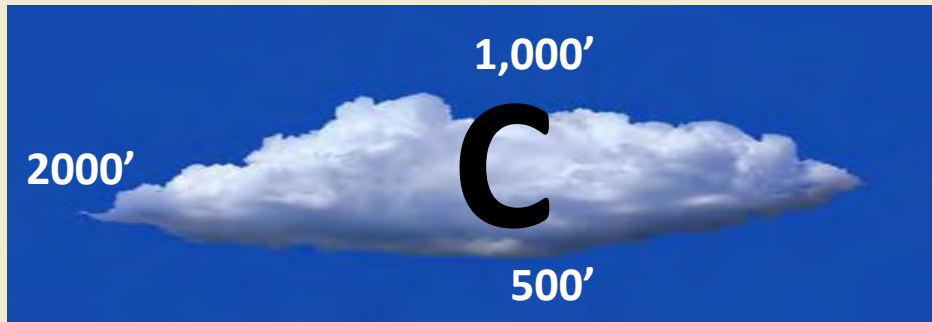
250 knots speed

No radio

Yes transponder

4000' MSL

3 miles
visibility



200 knots speed

Yes radio

Yes transponder



A - IFR

18,000' MSL

5 miles
visibility



No speed restrictions

No radio

Yes transponder

10,000' MSL

3 miles
visibility



250 knots speed

No radio

No transponder

700' AGL

1 mile visibility

Clear of clouds



250 knots speed

No radio

No transponder



Quiz: PRB



A - IFR

18,000' MSL

5 miles
visibility



No speed restrictions

No radio

Yes transponder

10,000' MSL

3 miles
visibility



250 knots speed

No radio

No transponder



A - IFR

18,000' MSL

5 miles
visibility

1 mile



No speed restrictions

No radio

Yes transponder

10,000' MSL

3 miles
visibility
Clear of
Clouds



250 knots speed

Yes radio

Yes transponder



Regardless if you are in controlled or uncontrolled airspace it is the responsibility of the pilot-in-command to see and avoid other aircraft.



Emergency Maneuver Training Scholarship



In Memory of Vicki Cruse
www.cpaviation.com