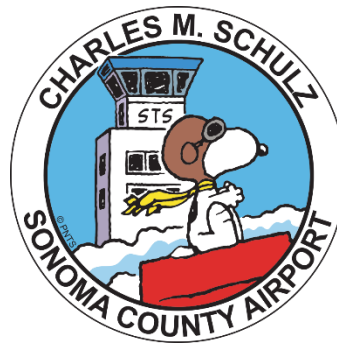


Air Traffic 101

Airspace Feasibility Study

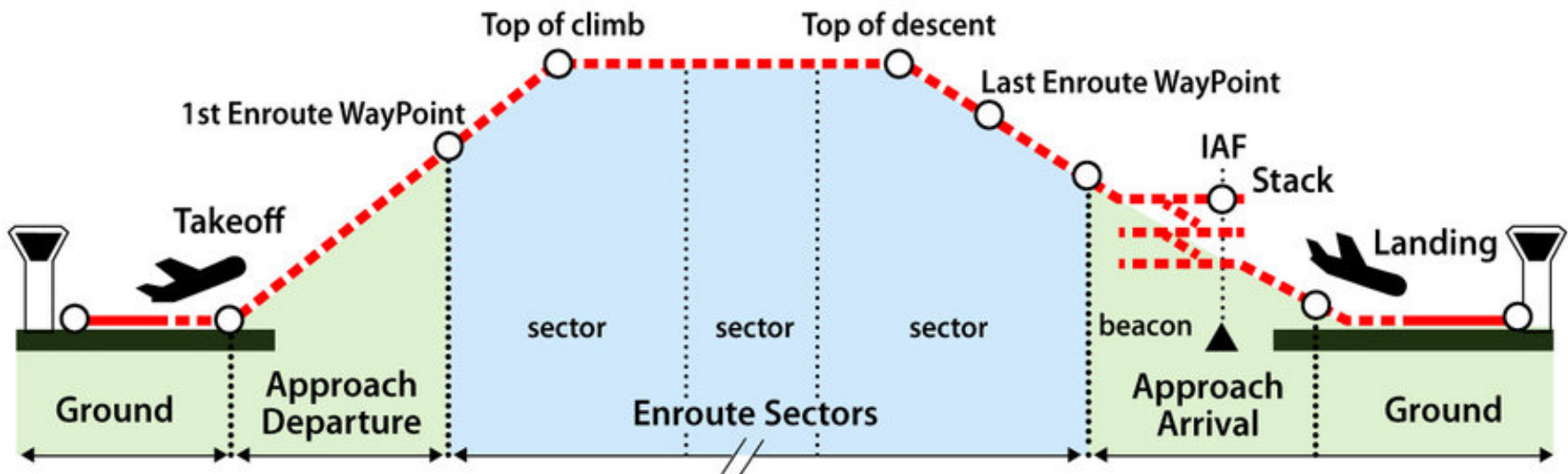
Charles M. Schulz – Sonoma County Airport



Overview - Airspace Access Rules

- **Instrument Flight Rules (IFR)** - All airliners and any pilot that want to have an Air Traffic Control (ATC) clearance to fly in instrument conditions (in the clouds) will file an IFR flight plan. Once the aircraft is released for take off, ATC has positive control of that aircraft through providing “Clearances” for routing and altitudes from the departure to the destination airports. An IFR Flight Plan automatically ensures that ATC will provide possible conflict alerts with other traffic and provide safe separation standards.
- **Visual Flight Rules (VFR)** - VFR flight plans are more a “safety net” for pilots that are flying in VFR (clear weather) conditions (Mostly for training pilots in light aircraft that is not equipped to fly in IFR conditions). VFR Flight Plans aren't required in the US. The pilot files the VFR flight plan stating the departure and destination airports, planned routing, and estimated time of arrival at the destination. With a VFR flight plan the pilot can pretty much choose his own destination and routing with the exception that the aircraft must remain outside of the various forms of “special use airspace” to include IFR airspace unless and until they get permission to enter.

Phases of Flight (IFR)



*IAF – Initial Approach Fix

Airport Traffic Control Tower (ATCT - “Tower”) - IFR

- **Prior to departure, an airline will file a flight plan**
 - Items evaluated to determine which route to fly are:

- Fuel
- Traffic Patterns
- Weather
- Required Routes

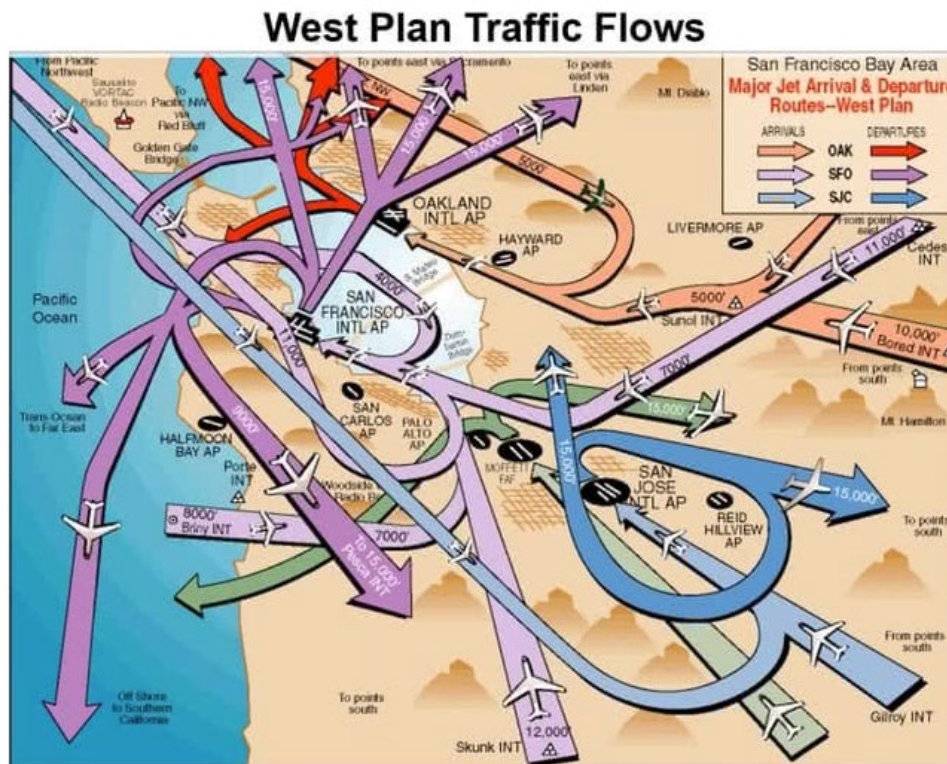
AWY MOCA	WPT NAME/FIR LAT/LONG	FRQ SHR	FL	MT	WIND	TAS	DIST	TIME	ETA	RQRD
			TRO	TT	SAT	MN	REMD	ACCT	ATA	ACCF
			SHR	VAR	TDV	G/S	ACCD	REMT	REV	FOB
VADEN1Y 044	TOC VADEN/-15NM N41557E027291		CLB	299 305 06E				58 0016 0921		80573 6223
VADEN1Y 044	VADEN LBSR SOFIA FIR N42039E027130		300 407 01	299 305 06E	314/027 M42 P2	491 .829 465	15 4427 102	2 0018 0919		80282 6514
L610 052	UTEKA LYBAF BELGRADE FIR N43547E022235		300 414 01	294 299 05E	252/028 M43 P1	490 .829 471	240 4187 342	31 0049 0848		75685 11111
DCT 053	S/C (320) ESIRI/-33NM N44026E022058		CLB	297 302 05E			15 4172 357	1 0050 0847		75242 11554
DCT 058	ESIRI ESIRI N44195E021278		320 404 01	297 302 05E	240/032 M48 P0	486 .831 471	33 4139 390	5 0055 0842		74636 12160
DCT 025	PARAK LHCC BUDAPEST FIR N46098E020057		320 401 01	327 332 05E	228/040 M48 P0	486 .831 494	125 4014 515	15 0110 0827		72452 14344

- **Once the aircrew is ready to depart, they will contact the Tower.**

Clearance Delivery  Ground Control  Local Control

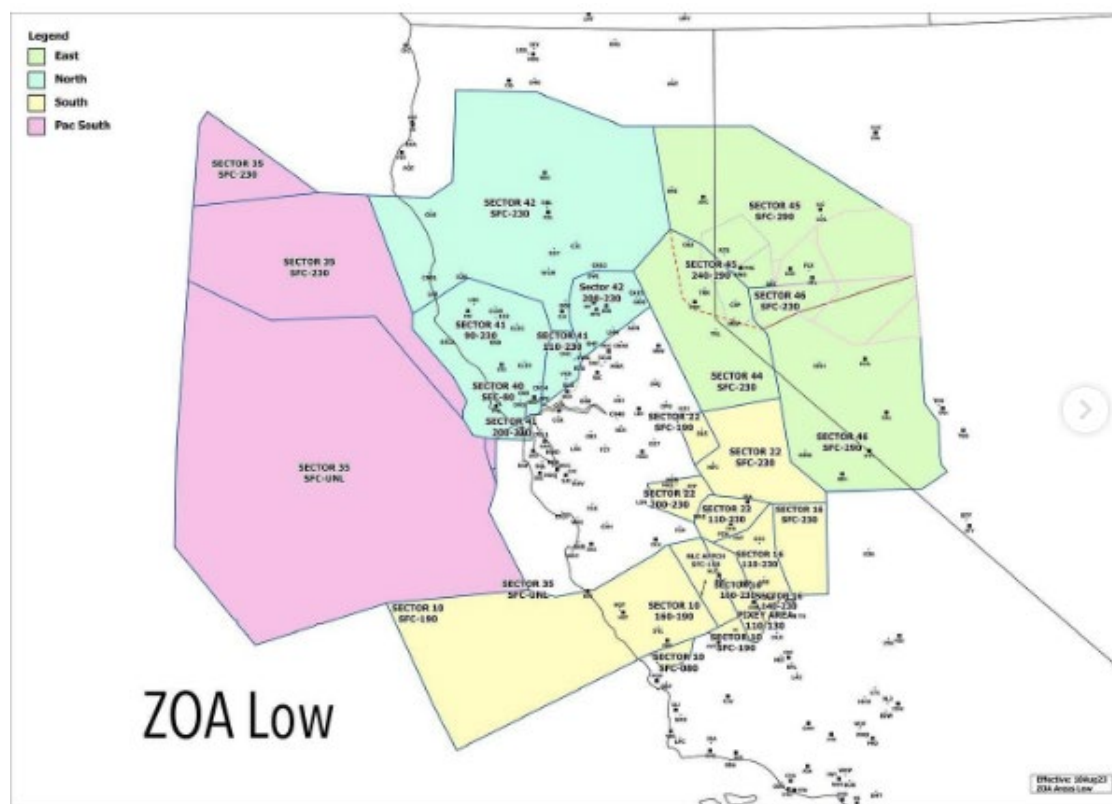
Terminal RADAR Approach Control (TRACON)

- Once the flight is airborne, the tower controller will turn communications and control of the flight over to Northern California TRACON (NCT) controller.
- NCT is located in Mather CA and handles flights throughout Northern California up to 23,000 feet.
- NCT is one of the busiest TRACON's in the world.



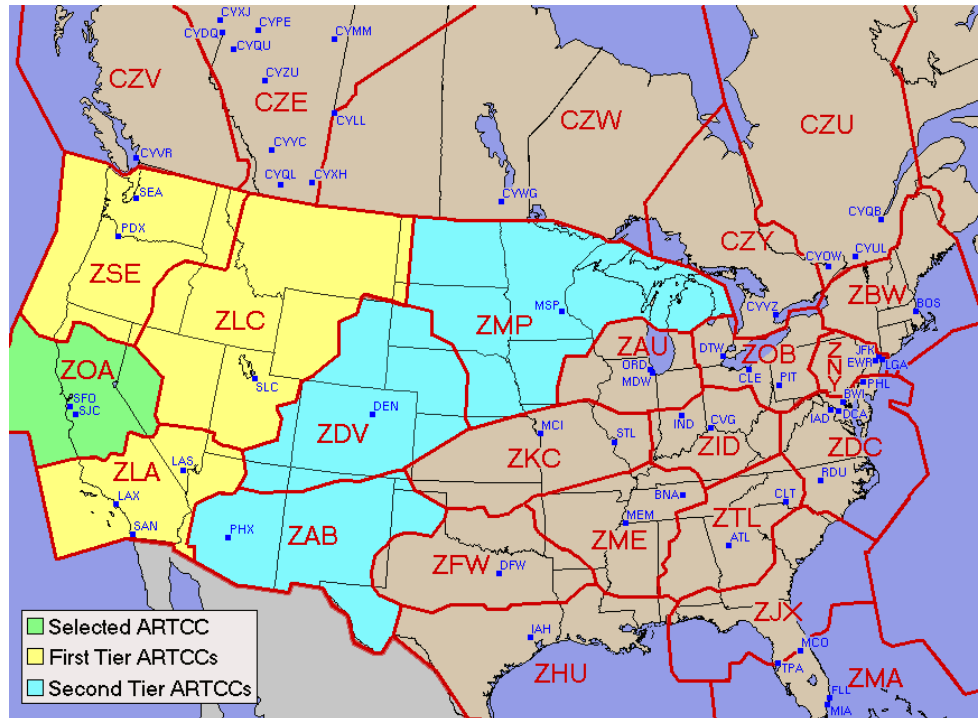
Air Route Traffic Control Center (ARTCC – “Center”)

- When the flight climbs out of the vertical limits of NCT’s airspace, communications transfer to Oakland Center (ZOA) located in Fremont, California.
- During all stages of flight, controllers will ensure the flight is clear of any other aircraft and known bad weather.



National Airspace Boundaries

- There are 22 Air Traffic Control Centers
- Within each Center airspace, there are one or more Terminal Radar Approach Control (TRACON).
- Within each TRACON, there can be numerous airports. For example, NCT TRACON has 24 Air Traffic Control Towers.



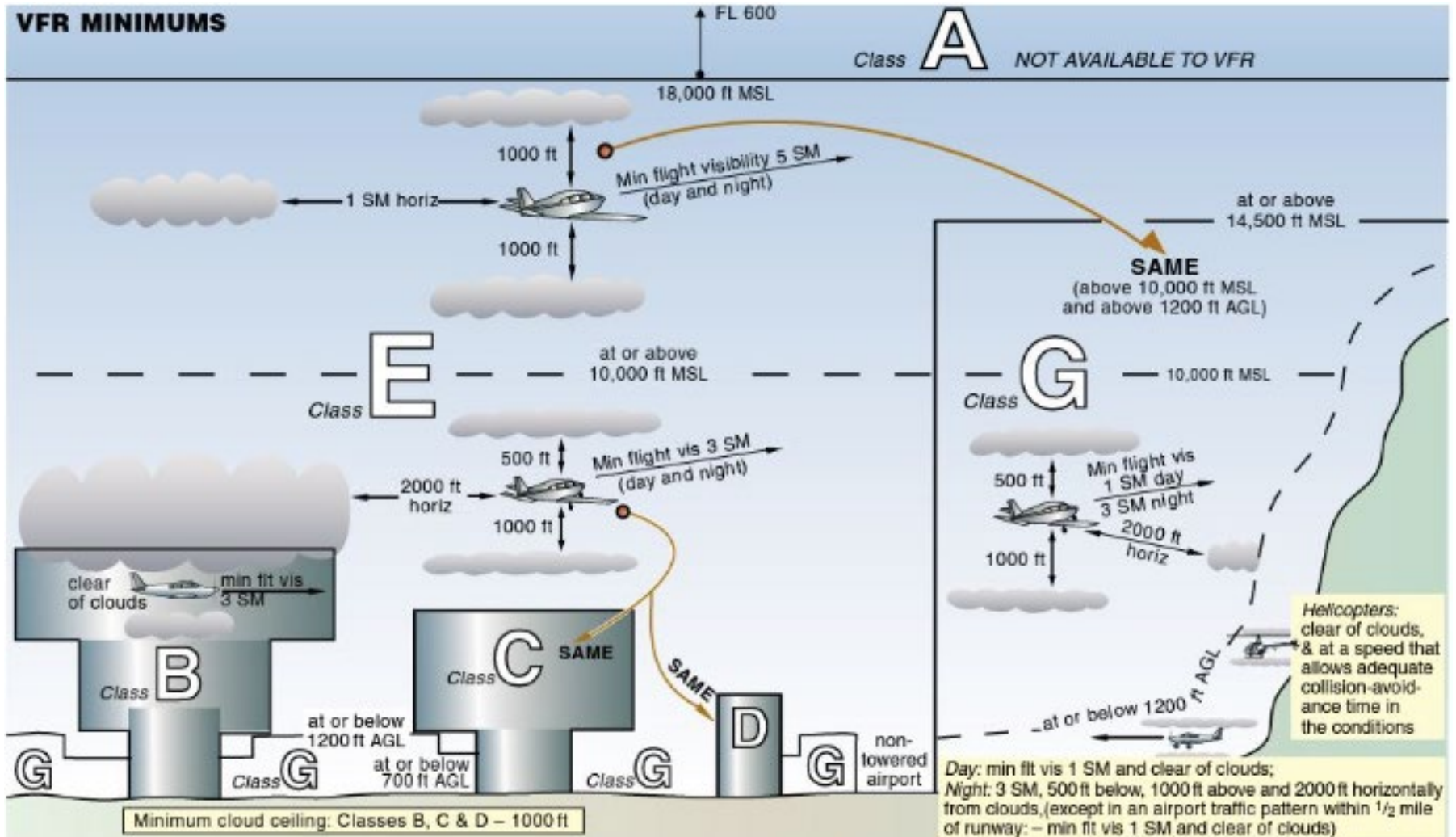
Visual Flight Rules (VFR)

Visual Flight Rules (VFR) are a set of regulations that govern how pilots operate aircraft in clear weather conditions. VFR pilots must maintain a certain level of visibility and distance from clouds to avoid collisions and maintain situational awareness.

Some VFR flight rules include:

- Visibility: Pilots must maintain a minimum of three miles of horizontal visibility during the day and five miles at night;
- Navigational Aids: Pilots must rely on ground landmarks, visual references, and charts, enabling them to determine their position and navigate accordingly.
- Distance from clouds: Pilots must remain clear of clouds.
- Altitude: Pilots must maintain a minimum of 1,000 feet above ground level (AGL) during the day and 2,000 feet AGL at night.
- Obstacle avoidance: Pilots must visually avoid obstructions and other aircraft, maintaining a minimum of 500 feet vertical separation with other aircraft.
- Route and altitude: Pilots can fly any route and altitude they choose, barring specific airspace limitations.
- Restricted airspaces: Pilots must verify that restricted airspaces are not active before entering

Visual Flight Rules (VFR)



QUESTIONS OR COMMENTS

 Court Reporter Present OR Scan QR code below

 <https://stsgoodneighbor.com/>



APPROACH FEASIBILITY WORKSHOP

Scan the QR code or visit:
<https://linktr.ee/stsairport>
to view workshop materials, submit comments or questions, submit a noise complaint, or access our website.

Responses will be compiled and published at a later date.



TALLER DE VIABILIDAD DE LA APROXIMACIÓN

Escanear el código QR o visitar
<https://linktr.ee/stsairport>
para ver los materiales del taller, enviar comentarios o preguntas, enviar una queja por ruido o acceder a nuestro sitio web.

Las respuestas se compilarán y publicarán en una fecha posterior.

