



ERAU
Massive Open Online Course
MOOC

Small Unmanned Aircraft Systems:
Module 2 Introduction
and Lecture 1

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Module 2 Preview



- **Lecture 1: National Airspace System (NAS) Basics**
 - How it works
 - Classes of Airspace
 - A, B, C, D, E, G, and Special Use Airspace
 - Notice to Airmen (NOTAM)
 - General Restrictions
- **Lecture 2: Planning Process**
 - Using easily accessible online applications
 - Using mobile applications
 - Dos and Don'ts of Recreational UAS Ops in the NAS
- **Lecture 3: International regulations and outlook**



NAS: How does it work?



Source: Federal Aviation Administration



Controlled

Has specific defined dimensions (horizontal and vertical boundaries clearly established)

Uncontrolled

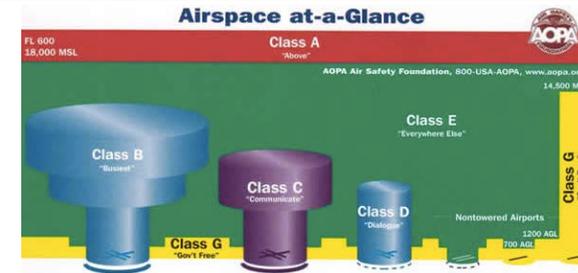
Everything that isn't controlled; varies greatly across the United States

Airspace



Class A Airspace

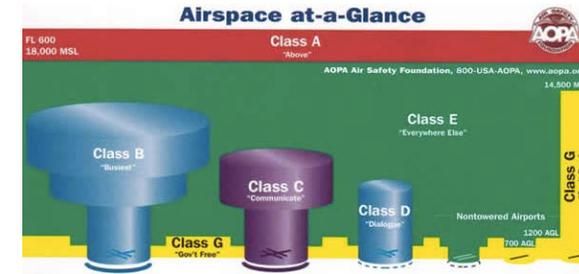
- Remember: “ABOVE ALL”
- 18,000 – 60,000 feet Mean Sea Level (MSL)
- Not an issue for the vast majority of public and commercial UAS users
- Cannot be used by recreational users
 - Even if you you launched your UAS from near the summit of one of Alaska’s two highest mountain tops, if 400 feet AGL puts you above 18,000 feet MSL, you’ve entered Class A airspace



Class B Airspace



Source: www.cbp.gov



Remember: “BUSIEST”
Examples:

- LAX and ORD

Class C Airspace

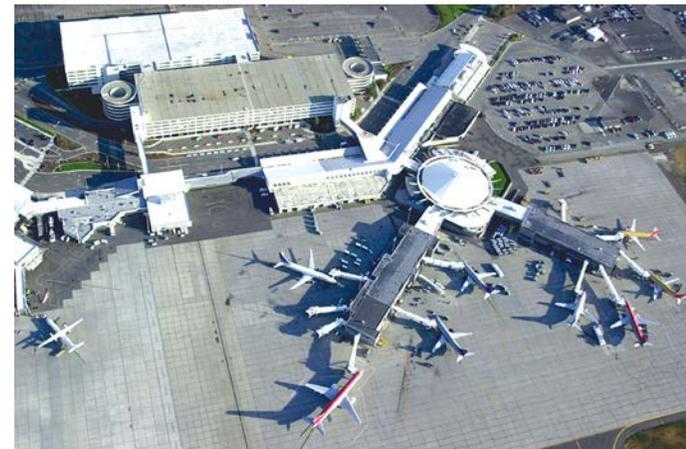
Remember: CONGESTED

Examples:

- MRV and GEG



Source: montereyairport.com



Source: airportjournals.com

Class D Airspace

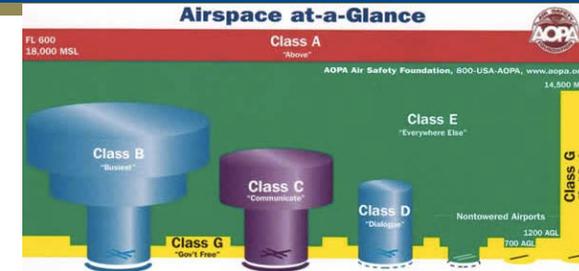
Remember: DIRECTED

Examples:

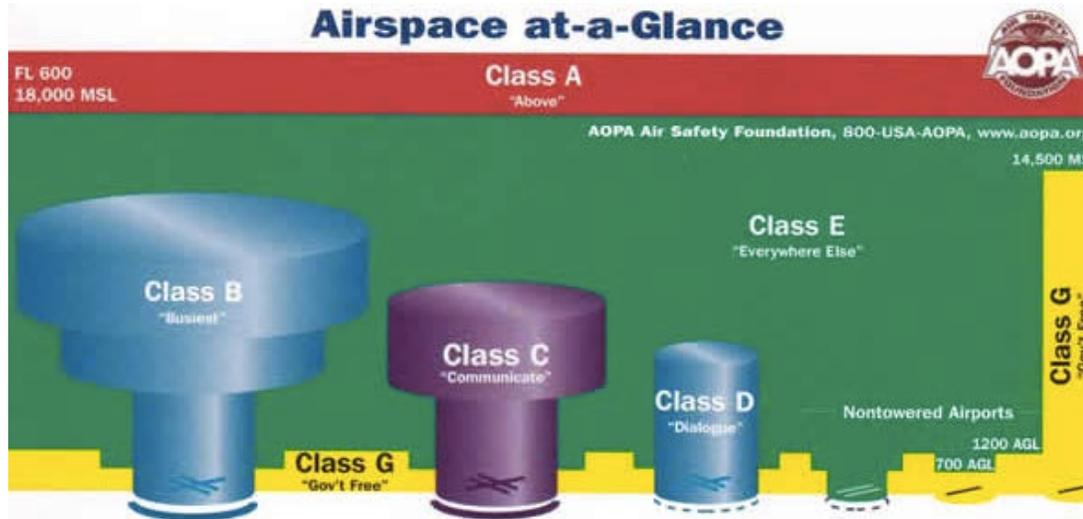
- MWH and ESN



Source: www.stardem.com



Class E Airspace

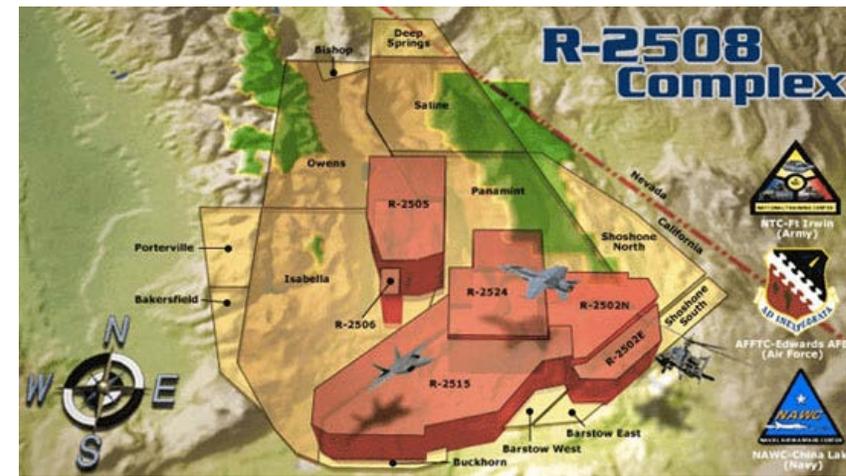
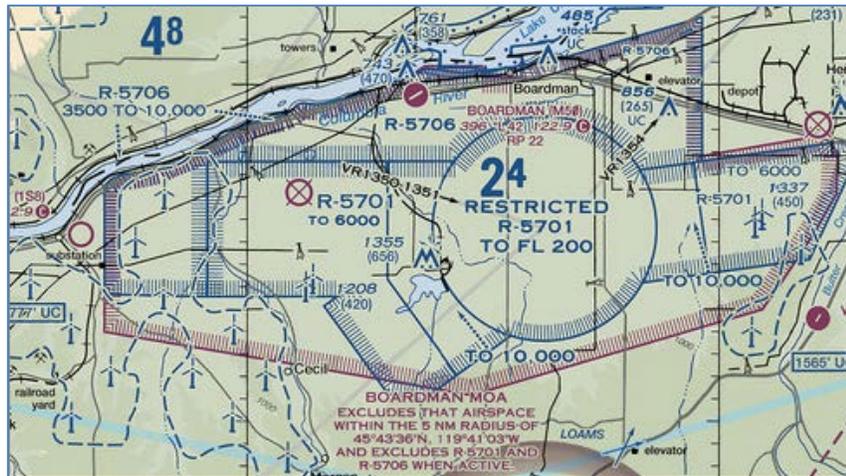
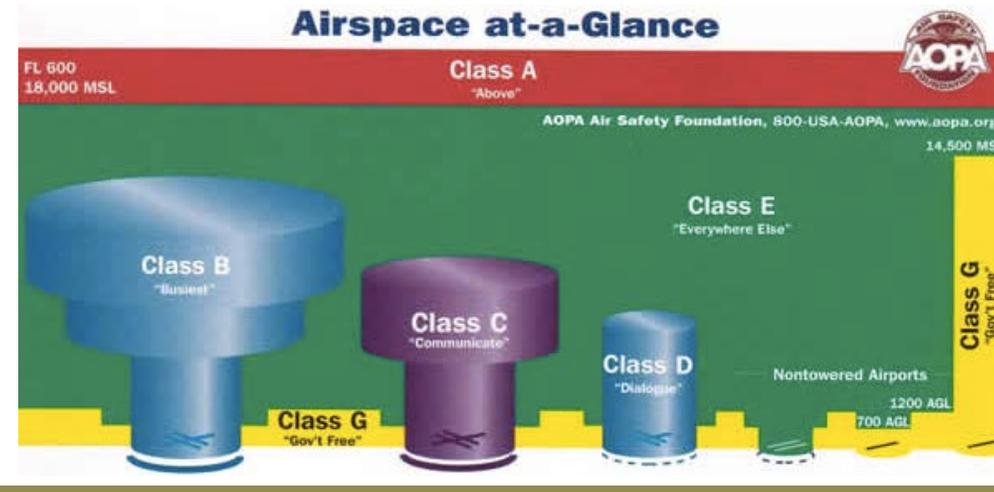


Remember: ENCLOSURE

Class G Airspace

Remember: GOOD-TO-GO

Special Use Airspace (SUA)



NOTAM and TFR



A Notice To Airmen (NOTAM) is a notice containing information (not known sufficiently in advance to publicize by other means) concerning the establishment, condition, or change in any component (facility, service, or procedure of, or hazard in the National Airspace System) the timely knowledge of which is essential to personnel concerned with flight operations.

Source: <https://notams.aim.faa.gov/notamSearch/nsapp.html#/>

A Temporary Flight Restriction (TFR) is a type of NOTAM that defines an area restricted to air travel due to a hazardous condition, a special event, or a general warning for the entire FAA airspace.

Source: <http://tfr.faa.gov/tfr2/list.html>

Can I fly there?



Other **conditions and restrictions**, that need to be considered, can be e.g.

- Stadiums and Sporting Events, Wildfires
- national parks, hospitals, schools
- Prisons, power plants
- Consider landownership !

Can be static (prison) or dynamic (VIP visit or major event)

Reasons for restrictions can come from aviation safety, security issues, public order and privacy considerations.



Conclusion



End of Lecture 1 in Module 2