



NORTH CAROLINA Department of Transportation



How do I manage drones near my airport?

Basil Yap, UAS Program Manager

Jan. 19, 2018

UAS Program Office Role



Regulatory

Permitting commercial N.C. UAS operators



Education

Safety, opportunity



Research

Technology benefiting state



Flight Services

NCDOT, other state agencies, local governments

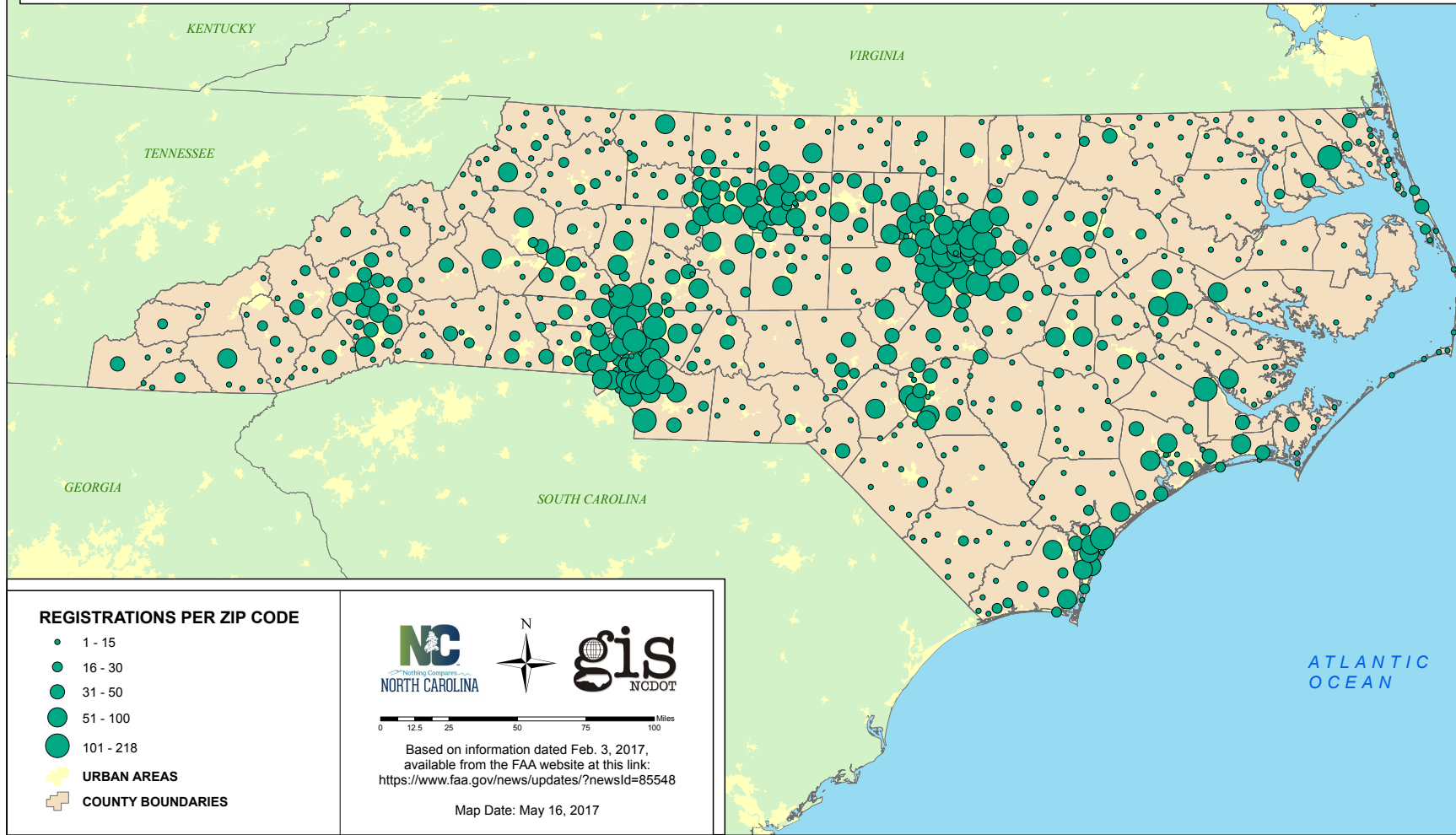


Government Agency Integration

UAS program development and support

HOBBYIST DRONE REGISTRATIONS - NORTH CAROLINA

TOTAL REGISTRATIONS IN STATE: 18,934



Drones at Airports



Who must notify the airport operator?

- **Hobbyist**

- 14 CFR Part 101 (E) – Special Rule for Model Aircraft
- § 101.41 (e) When flown within 5 miles of an airport, the operator of the aircraft provides the airport operator and the airport air traffic control tower (when an air traffic facility is located at the airport) with prior notice of operation
- § 101.43 No person may operate model aircraft so as to endanger the safety of the national airspace system.

Who must notify the airport operator?

- **Non-Hobbyist (Commercial/Government)**
 - 14 CFR Part 107 (E) – Small Unmanned Aircraft Systems
 - § 107.41 No person may operate a small unmanned aircraft in Class B, Class C, or Class D airspace or within the lateral boundaries of the surface area of Class E airspace designated for an airport unless that person has prior authorization from Air Traffic Control (ATC).
 - § 107.43 No person may operate a small unmanned aircraft in a manner that interferes with operations and traffic patterns at any airport, heliport, or seaplane base.

Who must notify the airport operator?

- **Hobbyist**

- 14 CFR Part 101
- If within 5 mile radius
- Must notify the airport operator and tower
- Must not endanger the NAS
- **Distance based**

- **Non-Hobbyist**

- 14 CFR Part 107
- If within Class G airspace, no notification required
- If in Class B, C, D, and/or surface E airspace, must coordinate with FAA ATC
- **Airspace based**

Region One Airports

- Halifax North-Hampton
- Tri-County
- Currituck County
- Elizabeth City CGAS
- Plymouth Municipal
- Martin County
- Tarboro Edgecombe
- Dare County
- Rocky Mount - Wilson
- Pitt Greenville
- Washington Warren Field
- Hyde County
- Kinston Regional
- Wayne Executive
- Mount Olive
- Duplin
- Henderson
- Coastal Carolina
- Albert J. Ellis
- Michael J. Smith
- Wilmington
- Cape Fear Regional

How do I keep track of drone operations?

- Use PDF form provided by NCDOT online
- Initiate conversation
- Location, time, duration
- Paper or electronic record
- Link here:
<https://connect.ncdot.gov/resources/Pages/Aviation-Division-Resources.aspx>

Notice of intent to fly at or near Airport for UAS Operators

This document is an example of information to be submitted by the UAS operator to the Airport of interest. Please complete the following information on this form and submit for review to the airport of interest:

Check one: Individual Company Agency

Applicant name and address below and _____

Phone _____ Email _____

UAS Operator's/PIC Information:
Name _____ Insurance Information _____
FAA UAS License #: _____ North Carolina UAS Permit #: _____

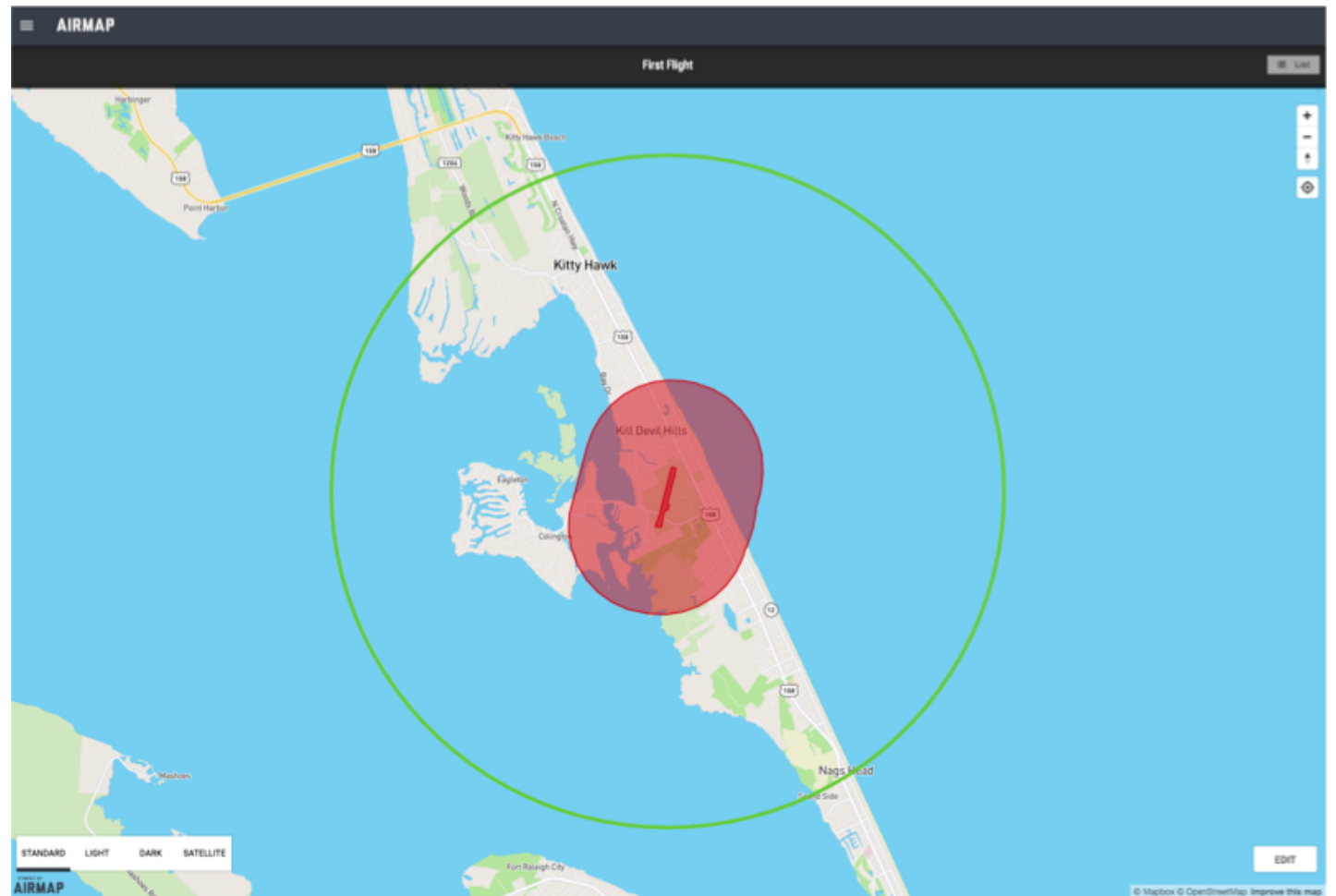
Type of Request (Check one):
 Hobbyist Commercial Academic Government Military

UAS Make & Model _____
UAS Weight _____ UAS registration no. _____
Flight Dates _____ Flight Times _____
Flight Location(s) (Give Coordinates, Altitude & Distance and Bearing Relative to Airport)

Airport Office Use:

How do I keep track of drones operations?

- Use online Airspace Management system
- NCDOT currently utilizing AirMap D-NAS
- [AirMap Link](#)
- [Video Example](#)



Contact Info

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AIRMAP.COM

AIRMAP

Can I tell an operator “no”?

- **FAA - Interpretation of the Special Rule for Model Aircraft**
- If the model aircraft operator provides notice of forthcoming operations which are then not authorized by air traffic or objected to by the airport operator, the FAA expects the model aircraft operator will not conduct the proposed flights. The FAA would consider flying model aircraft over the objections of FAA air traffic or airport operators to be endangering the safety of the NAS.
- [Link](#)

Airspace Waivers and Authorizations

A screenshot of the FAA website's "Request a Part 107 Waiver or Operation in Controlled Airspace" page. The page has a blue header with the FAA logo and navigation links. A search bar is present. Below the header is a navigation menu with categories like Aircraft, Airports, Air Traffic, etc. The main content area shows the page title, a breadcrumb trail, and a yellow warning box stating that the previous Part 107 waiver and authorization form has been split into two separate request forms. A "Top Tasks" sidebar lists actions like "View the 2017 Symposium Presentations" and "Register your UAS". A "More Information" sidebar lists "14 CFR Part 107" and "§ 107.205 List of Regulations Subject to Waiver".

United States Department of Transportation

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Where to Fly

Wildfires

Frequently Asked Questions

Programs, Partnerships and Opportunities

Research & Development

Resources

Contact Us

Report an Accident

Request a Part 107 Waiver or Operation in Controlled Airspace

Part 107 Waivers Granted

UAS Facility Maps

FAA Home > Unmanned Aircraft Systems > Request a Part 107 Waiver or Operation in Controlled Airspace

Request a Part 107 Waiver or Operation in Controlled Airspace

The previous Part 107 waiver and authorization form has been split into two separate request forms — one for airspace waiver/authorization requests, and another for non-airspace Part 107 waiver requests.

If you need both an airspace waiver/authorization **and** a non-airspace waiver, you will need to submit each form separately. See directions below.

[View instructions for extending an Airspace Authorization.](#)

The FAA will strive to review and issue decisions on waiver and authorization requests within **90 days**. Processing times will vary based on the complexity of your request.

Directions

Top Tasks

- [View the 2017 Symposium Presentations](#)
- [Register your UAS](#)
- [Become a UAS pilot](#)
- [Request a Part 107 Waiver or Operation in Controlled Airspace](#)
- [Report an Accident](#)

More Information

- [14 CFR Part 107](#)
- [§ 107.205 List of Regulations Subject to Waiver](#)

https://www.faa.gov/uas/request_waiver/



Future of Airspace Authorizations

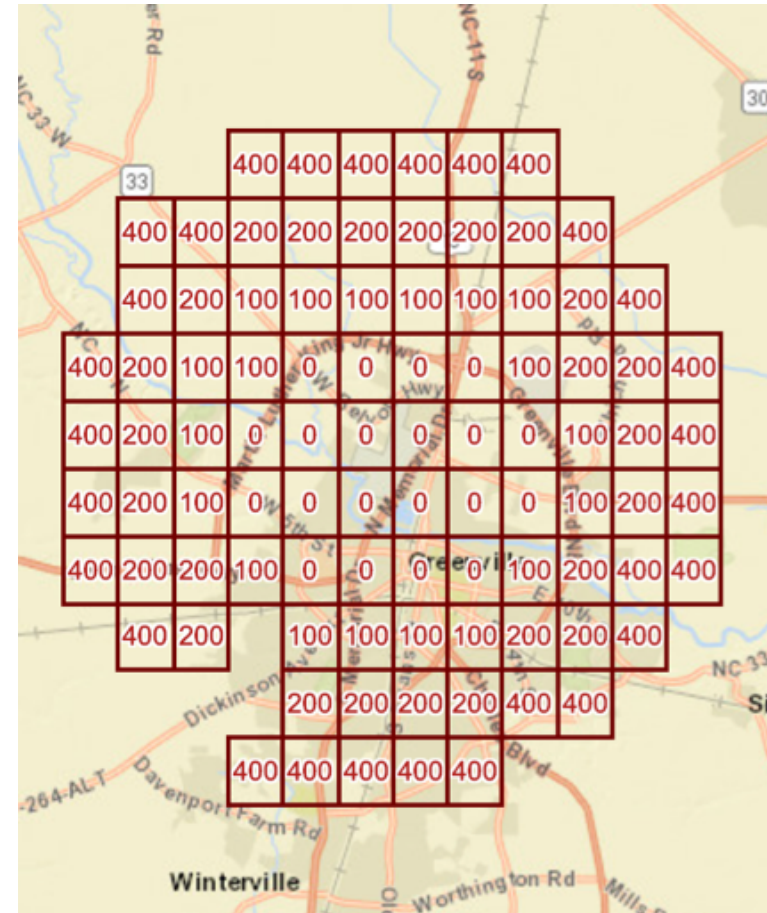
Waiver/Airspace

Currently

- Online Portal
- 90 days or less
- Prototype Evaluation (no NC airports)

Future

- LAANC should help with Airspace Authorizations
- NC airports to be added this summer



UAS Operator Permits

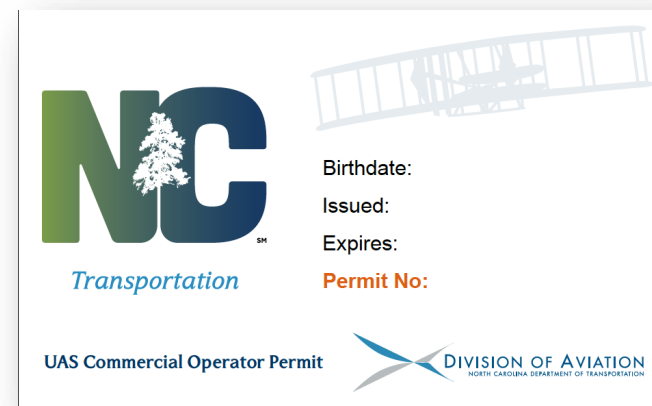
Federal

- Pass a UAS knowledge test at FAA testing center and TSA background check
- Apply for Remote Pilot Certificate



North Carolina

- Pass NC UAS Knowledge test online
- Apply for commercial or government NC Operator Permit online
- www.ncdot.gov/aviation/uas





Federal Updates

- UAS Registration Reinstated
 - Struck down in court in May
 - Reinstated in National Deference Authorization Act
 - [FAA Drone Zone](#)
- FAA UAS Integration Pilot Program
 - NCDOT submitted a proposal
 - Focus on medical package delivery
 - [FAA Pilot Program Website](#)

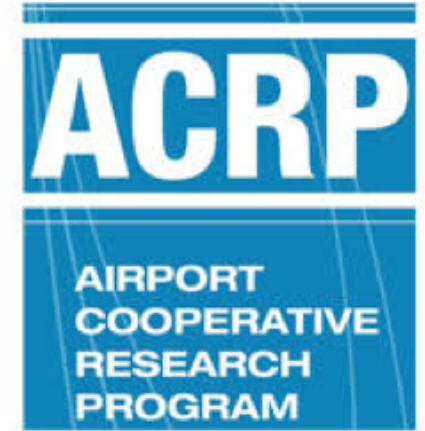
State Legislative Updates



- **HB337**
 - Clarifies model aircraft applicability
 - Remove restrictions around special imaging
 - Adds emergency management exception
 - Brings the NC UAS Permit inline with Federal requirements(age and Identification)
 - Effective December 1, 2017
- **HB128**
 - Establishes § 15A-300.3. Use of an unmanned aircraft system near a confinement or correctional facility prohibited.
 - Exceptions for commercial operators
 - Effective December 1, 2017

ACRP 03-42 : Airports and UAS

- Topic A – Managing UAS Operations at an Airport
- Topic B – Engaging Stakeholders in UAS
- Topic C – Incorporating UAS into Airport Infrastructure and Planning
- Topic D – Potential Use of UAS by Airport Operators
- Topic E – Regulatory Implications and Update to ACRP Report 144
- Topic F – Research Results, Deliverables and Tools



Applications of UAS at Airports - JNX

- Objectives of Demonstrations
- Demonstrate operations of sUAS within uncontrolled airspace
- Operations of two drone operators concurrently with GA traffic
- Aerial drone data capture of wildlife, pavement, and infrastructure facilities
- Develop methods to post process data for use in VR applications



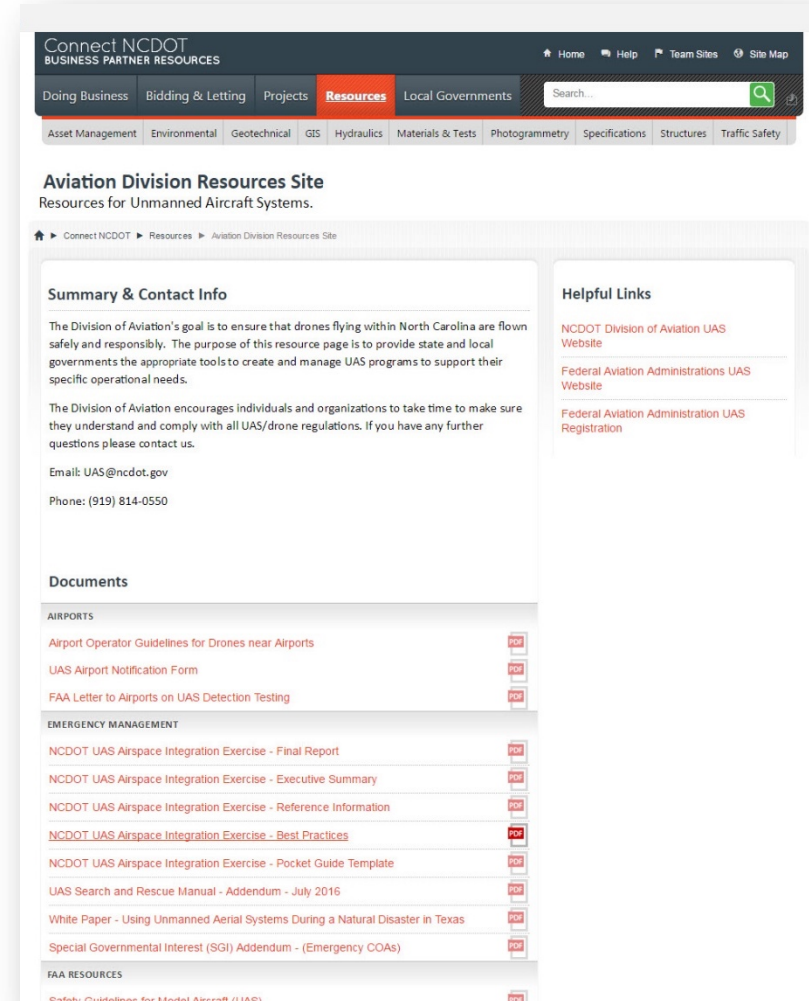
Booz | Allen | Hamilton



NCDOT UAS Resource Page

Publicly available online:

- Best Practices
- UAS Research Reports
- UAS Related Links
- FAA Resources
- Public Safety Resources
- Airport Operator Resources
- <https://connect.ncdot.gov/resources/Pages/Aviation-Division-Resources.aspx>



The screenshot displays the 'Aviation Division Resources Site' on the NCDOT website. The page header includes 'Connect NCDOT BUSINESS PARTNER RESOURCES' and navigation links for Home, Help, Team Sites, and Site Map. A main navigation bar features 'Doing Business', 'Bidding & Letting', 'Projects', 'Resources' (highlighted), and 'Local Governments'. Below this is a secondary navigation bar with categories like Asset Management, Environmental, Geotechnical, GIS, Hydraulics, Materials & Tests, Photogrammetry, Specifications, Structures, and Traffic Safety. The main content area is titled 'Aviation Division Resources Site' and 'Resources for Unmanned Aircraft Systems'. It includes a breadcrumb trail: 'Connect NCDOT > Resources > Aviation Division Resources Site'. The page is divided into three columns: 'Summary & Contact Info', 'Helpful Links', and 'Documents'. The 'Summary & Contact Info' section provides an overview of the division's goals and contact information (Email: UAS@ncdot.gov, Phone: (919) 814-0550). The 'Helpful Links' section lists external resources like the NCDOT Division of Aviation UAS Website, Federal Aviation Administrations UAS Website, and Federal Aviation Administration UAS Registration. The 'Documents' section is organized into three categories: AIRPORTS (Airport Operator Guidelines for Drones near Airports, UAS Airport Notification Form, FAA Letter to Airports on UAS Detection Testing), EMERGENCY MANAGEMENT (NCDOT UAS Airspace Integration Exercise - Final Report, Executive Summary, Reference Information, Best Practices, Pocket Guide Template, UAS Search and Rescue Manual - Addendum - July 2016, White Paper - Using Unmanned Aerial Systems During a Natural Disaster in Texas, Special Governmental Interest (SGI) Addendum - (Emergency COAs)), and FAA RESOURCES (Safety Guidelines for Model Aircraft (UAS)).

Upcoming Events

- Drone Workshop for Public Safety Agencies – Gastonia – Jan. 24
- [View our UAS Event Page](#)
- [Sign up for our UAS Newsletter](#)



Questions

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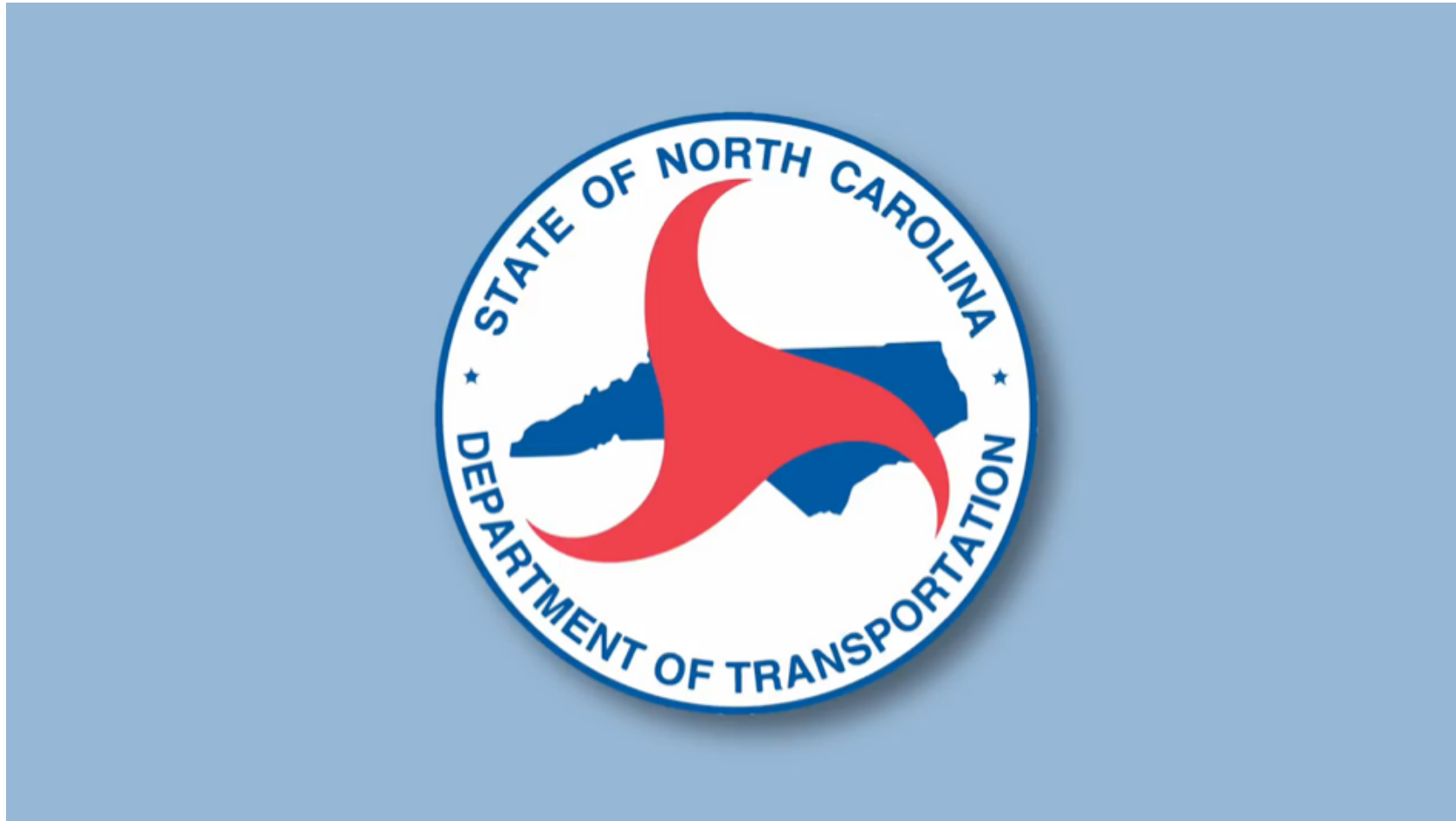
ddivakaran@ncdot.gov

www.ncdot.gov/aviation/uas

UAS@ncdot.gov



Video Footage





Military Airspace

- National Security UAS Flight Restrictions
- FAA and DoD have restricted UAS operations over 132 military facilities.
- The restrictions are up to 400' AGL, 24 hours a day, 7 days a week.
- Facilities can be found here: <http://uas-faa.opendata.arcgis.com/>
- Other FAA restricted areas for civil operations apply to UAS operators



County	Base	FAA ID
Onslow	Marine Corps Air Station New River	20170410-DOD-New River-MCAS New River 2
Carteret	MCALF Bogue, Marine Corps Air Station Cherry Point	20161222-DOD-MCALF Bogue-Auxiliary Landing Field (ALF) Bogue CDSA by NOTAM during scheduled operations only.
Jones	MCOLF Oak Grove, Marine Corps Air Station Cherry Point	20161222-DOD-Oak Grove-Outlying Landing Field (OLF) Oak Grove CDSA by NOTAM. Heavy use as an uncontrolled airport.
Richmond	Fort Bragg, NC	20161222-DOD-Fort Bragg-Mackall AAF
Cumberland	Fort Bragg, NC	20161222-DOD-Fort Bragg-Simmons AAF
Stanly	Stanly County, NC	20161222-DOD-Stanly County-Stanly County
Onslow	MCB Camp Lejeune	20170508-DOD-MCB Camp Lejeune



Federal UAS Regulations

	Recreational Operations	Non-recreational/Commercial Operations
Pilot Requirements	<ul style="list-style-type: none"> No pilot requirements 	<ul style="list-style-type: none"> Must have Remote Pilot Airman Certification Must be 16 years or older Must pass TSA vetting
Aircraft Requirements	<ul style="list-style-type: none"> Must be registered if over 0.55 pounds 	<ul style="list-style-type: none"> Must be less than 55 pounds Must be registered if over 0.55 pounds Must undergo pre-flight checklist
Location Requirements	<ul style="list-style-type: none"> Must notify all airports and air traffic control (if applicable) within five miles of proposed area of operations 	<ul style="list-style-type: none"> Class G airspace without ATC permission Class B, C, D, and E require ATC permission
Operating Rules	<ul style="list-style-type: none"> Must ALWAYS yield right of way to manned aircraft Must keep aircraft in visual line-of-sight Must follow community-based safety guidelines 	<ul style="list-style-type: none"> Must keep aircraft in visual line-of-sight* Must fly under 400 feet* Must fly only during daylight hours* Must fly at or below 100 mph* Must yield right of way to manned aircraft* Must NOT fly over people* Must NOT fly from a moving vehicle*
Definitions	<ul style="list-style-type: none"> Education or recreational flying only 	<ul style="list-style-type: none"> Flying for commercial use Flying incidental to a business Flying public aircraft operations