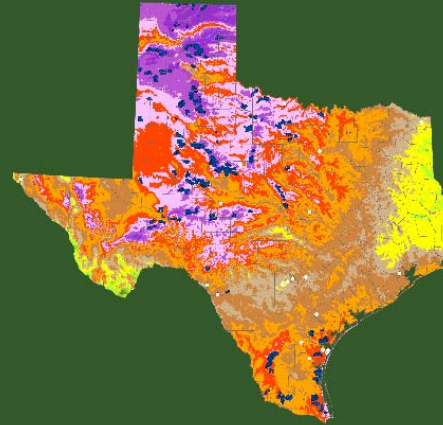




Coordination of Wind Energy & Military Operations in Texas



13 January 2020

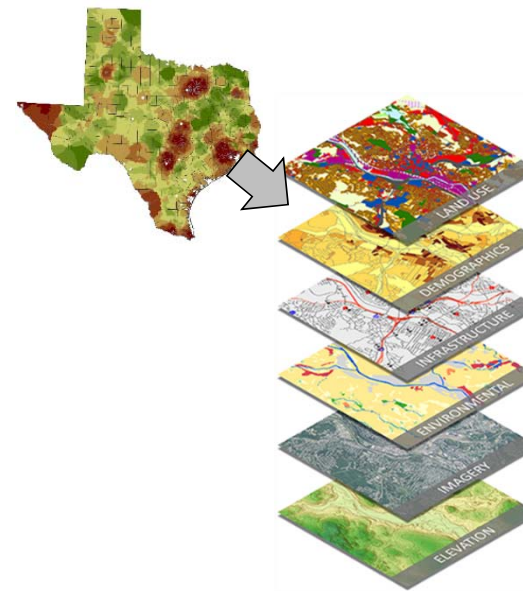
Tony Parisi, CAPT, CEC, USN (Retired)

parisit48@gmail.com

tony.parisi@ag.tamu.edu

Agenda

- Background
- Accomplishments
- Report
- Notification Areas
- Web Tool
- Additional Info



Background

- DoD Office of Economic Adjustment grant with matching funds from Texas Military Preparedness Commission
- Goal: Identify present and future incompatible land use activities that may limit the military's test and training mission, with an emphasis on wind energy development

Approach

- Develop/update tools that **facilitate early engagement** among industry, military and community stakeholders
 - Report
 - Web based tool

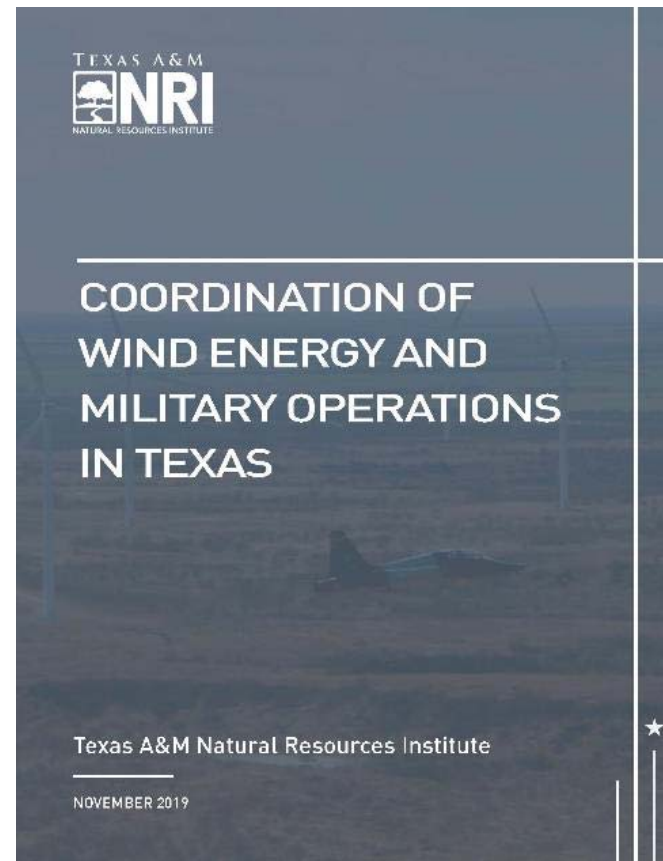
**We did not identify exclusion areas
or produce Red-Yellow-Green maps**

Accomplishments

- Stakeholder engagement
 - Workshops/conference calls with military, industry (individual developers & AWEA) & communities
 - Last workshop at Sheppard AFB on 8 AUG
 - Input on draft report
 - Demonstrate initial version of web tool
 - Base tour
 - Windfarm tour
- Report
- Texas Early Notification Tool (TENT)
- Joint TMPC/AWEA/NRI Press Release & Media Kit

Report

- Military Assets in Texas
 - Military Installations & Radars
 - Military Airspace
 - Additional Operating Areas
- Weather Radars
- Wind Energy
 - Competitive Renewable Energy Zones
 - Impacts of Wind Energy on Military Missions
 - Mitigations
- Texas Early Notification Areas
- Other Encroachment Issues
 - Solar Energy
 - Tall Structures
- Legislation And Regulations
- Texas Early Notification Tool

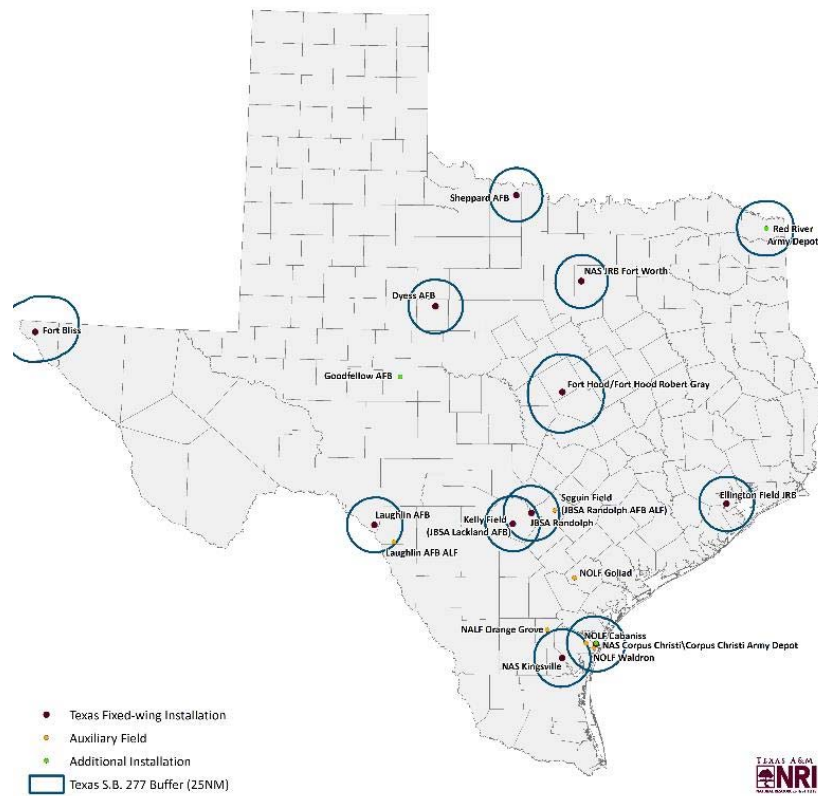


Early Notification Areas

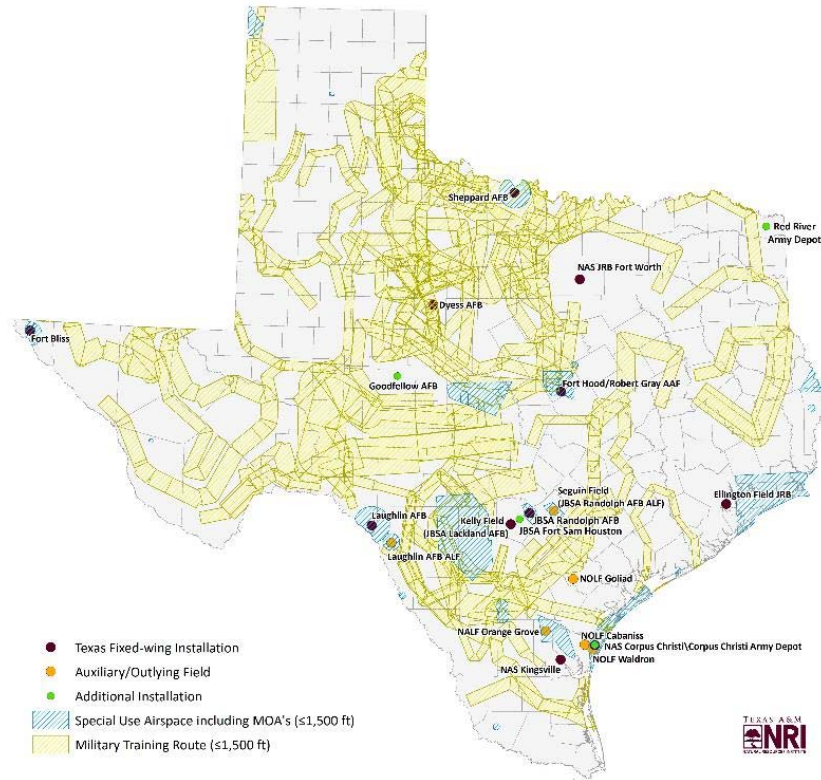
- Installations
 - 25 nm: consistent with SB277
- Special Use Airspace & Military Training Routes
 - ≤1,500 ft AGL
- Radars
 - Line of sight for structures ≥ 750 ft AGL
- Additional Operating Areas
 - Dyess AFB Tennyson C-130 Drop Zone
 - Snyder Electronic Scoring Site (ESS): 1 nm
 - Dyess AFB Remote Threat Emitter sites: ½
 - Dyess AFB Low Altitude Tactical Navigation (LATN) area
 - Sheppard AFB Radar Approach Control (RAPCON) airspace
 - Fort Bliss Maintenance Test Flight (MTF) areas
 - Fort Bliss High Altitude Mountainous Environmental Training Site (HAMETS)
 - Fort Hood Western Training Area (WTA)

These are not exclusion areas

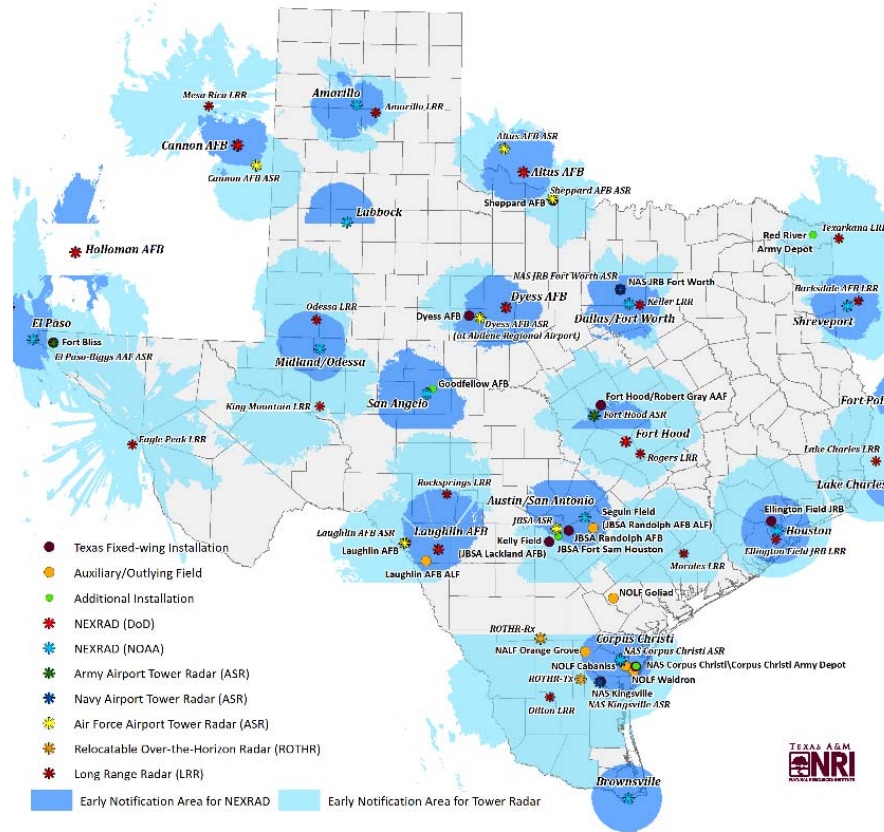
Installation Notification Areas



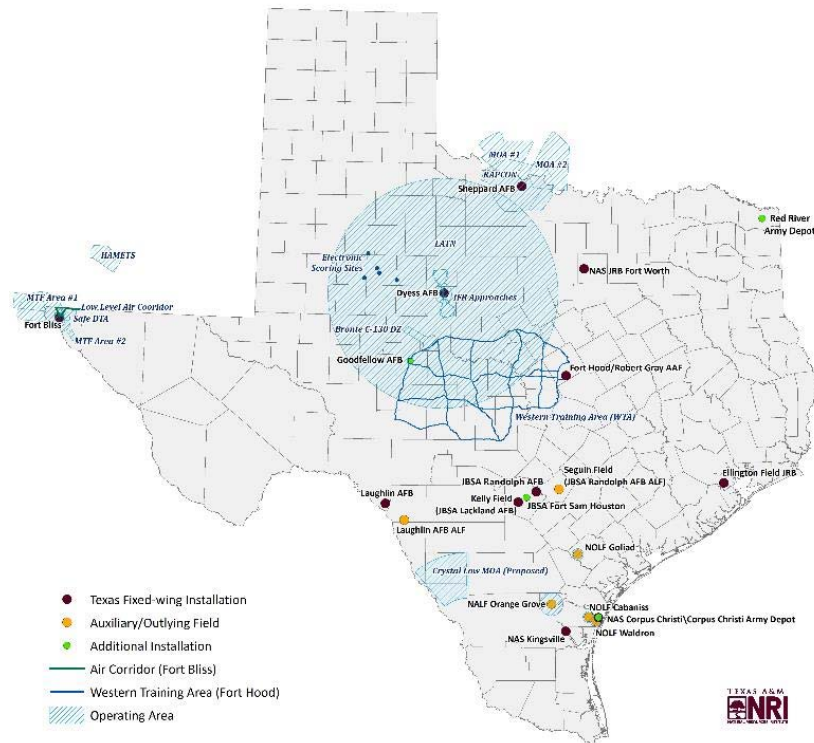
SUA & MTRs ≤ 1,500 ft AGL



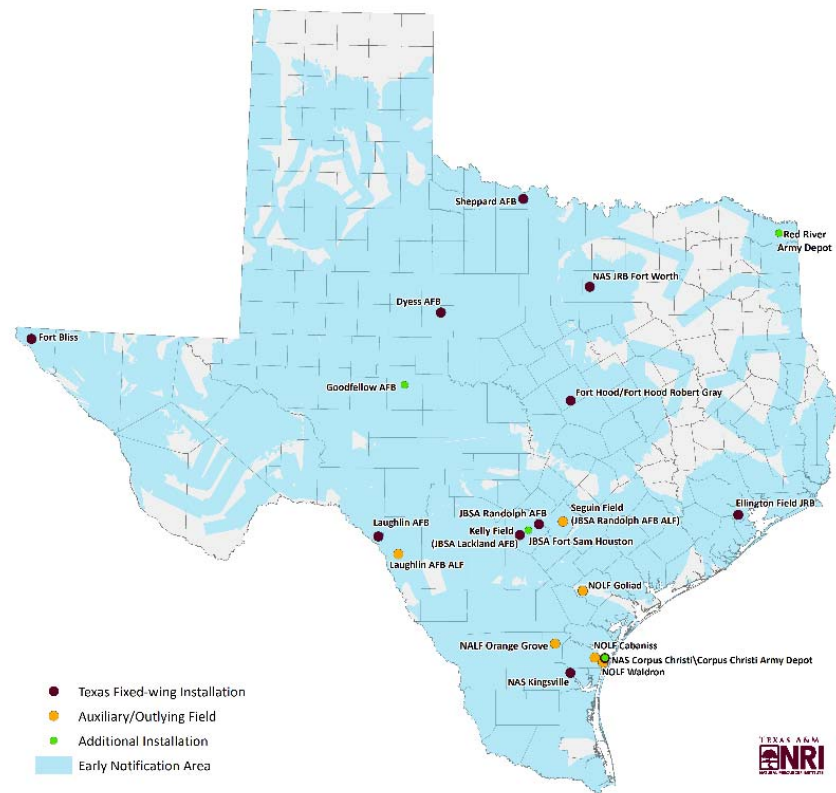
Radar Line of Sight



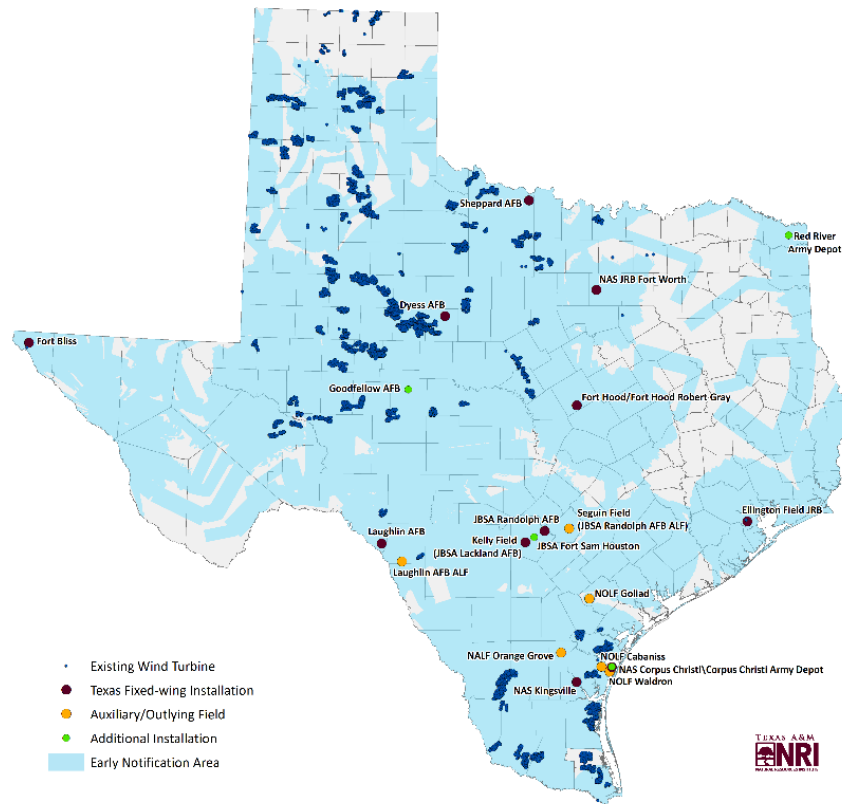
Additional Operating Areas



Combined Notification Area



Combined Notification Area & Existing Wind Turbines



Texas Early Notification Tool

<https://tent.nri.tamu.edu/>

Link to report is available on the tool website

Follow-on Efforts

- OEA proposal pending
- Additional workshops/engagement
- Maintain/update TENT
- Reports/web tool on additional encroachment issues



<http://nri.tamu.edu/>

Tony Parisi

parisit48@gmail.com

tony.parisi@ag.tamu.edu

(805) 444-4567

Web Tool Screenshots

TENT Tool Texas Early Notification Tool

User Guide Project Report Download Data

Find address or place

Create Report

Step 1: Data
Please upload a shapefile or draw an area you would like to have an analysis run on.
Draw Upload Clear
Buffer New Graphics:


Step 2: Run Analysis
Graphics specifically drawn and uploaded to this widget will be used for the analysis.
Run Intersect

Step 3: Results

TEXAS A&M NRI
NATURAL RESOURCES INSTITUTE

Welcome to the Texas Early Notification Tool!

The purpose of this website is to facilitate early engagement with the military. That engagement, and any input from local military representatives, will assist in identifying potential issues and mitigations early in the planning process, but does not constitute an informal or formal review as defined by Part 211 of Title 32 CFR. Any official Department of Defense position on a proposed project must come from the Military Aviation and Installation Assurance Siting Clearinghouse or through the FAA OE/AAA process. The identified areas are not intended for use in project specific analysis or designation of exclusion areas but rather are for preliminary evaluations and early outreach efforts.

Links to the user guide, report and data are located above the map. Links to airspace information and the DoD Clearinghouse are located in the  tab.

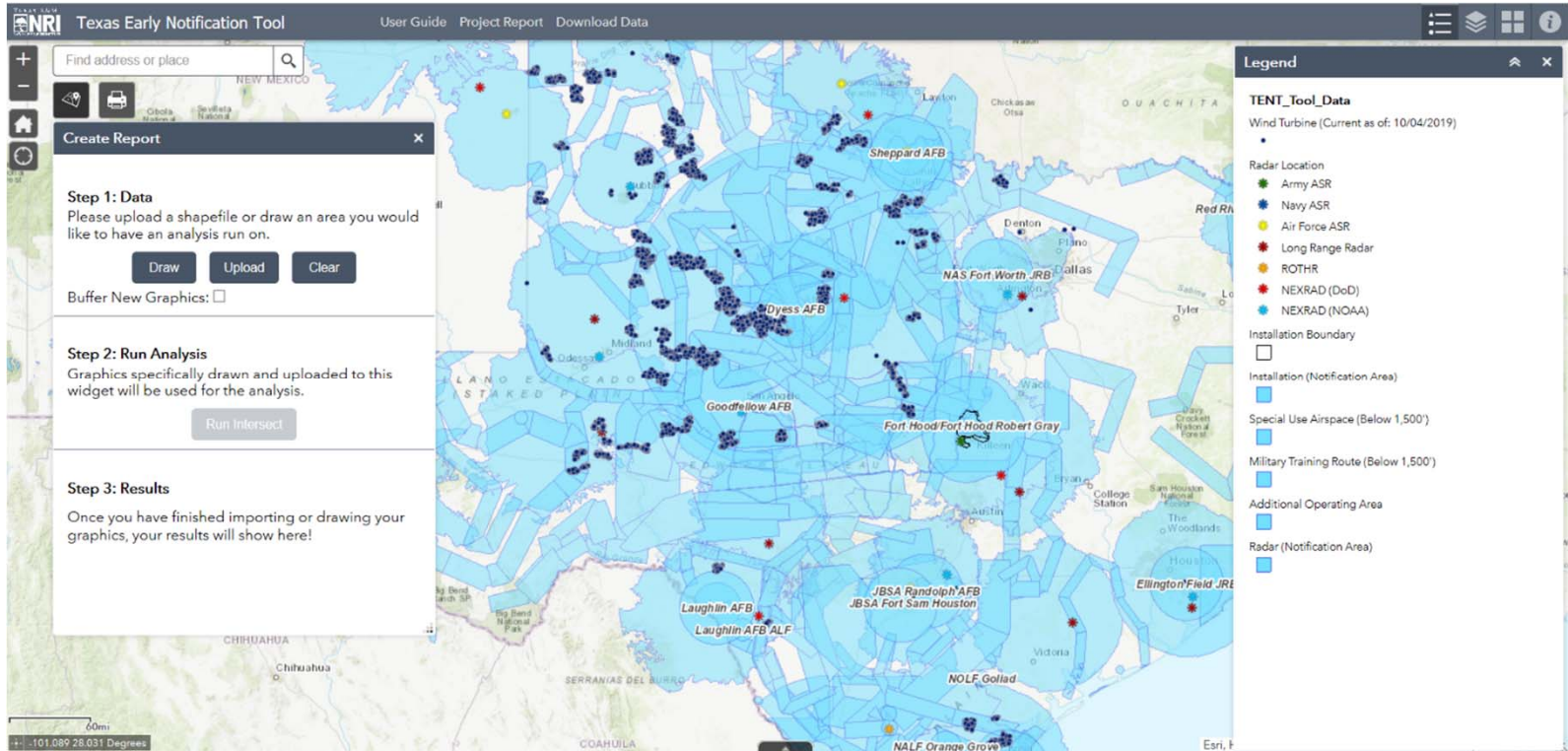
OK

Legend

TENT_Tool_Data

- Wind Turbine (Current as of: 10/04/2019)
- Radar Location
 - Army ASR
 - Navy ASR
 - Air Force ASR
 - Long Range Radar
 - ROTHR
 - NEXRAD (DoD)
 - NEXRAD (NOAA)
- Installation Boundary
- Installation (Notification Area)
- Special Use Airspace (Below 1,500')
- Military Training Route (Below 1,500')
- Additional Operating Area
- Radar (Notification Area)

App State
Click to restore the map extent and layers visibility where you left off.



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Once you have finished importing or drawing your graphics, your results will show here!

Layers

- TENT_Tool_Data
- Wind Turbine (Current as of: 10/04/2019)
- Radar Location
- Installation Boundary
- Installation (Notification Area)
- Special Use Airspace (Below 1,500')
- Military Training Route (Below 1,500')
- Additional Operating Area
- Radar (Notification Area)

60mi
-104.681 27.895 Degrees

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About

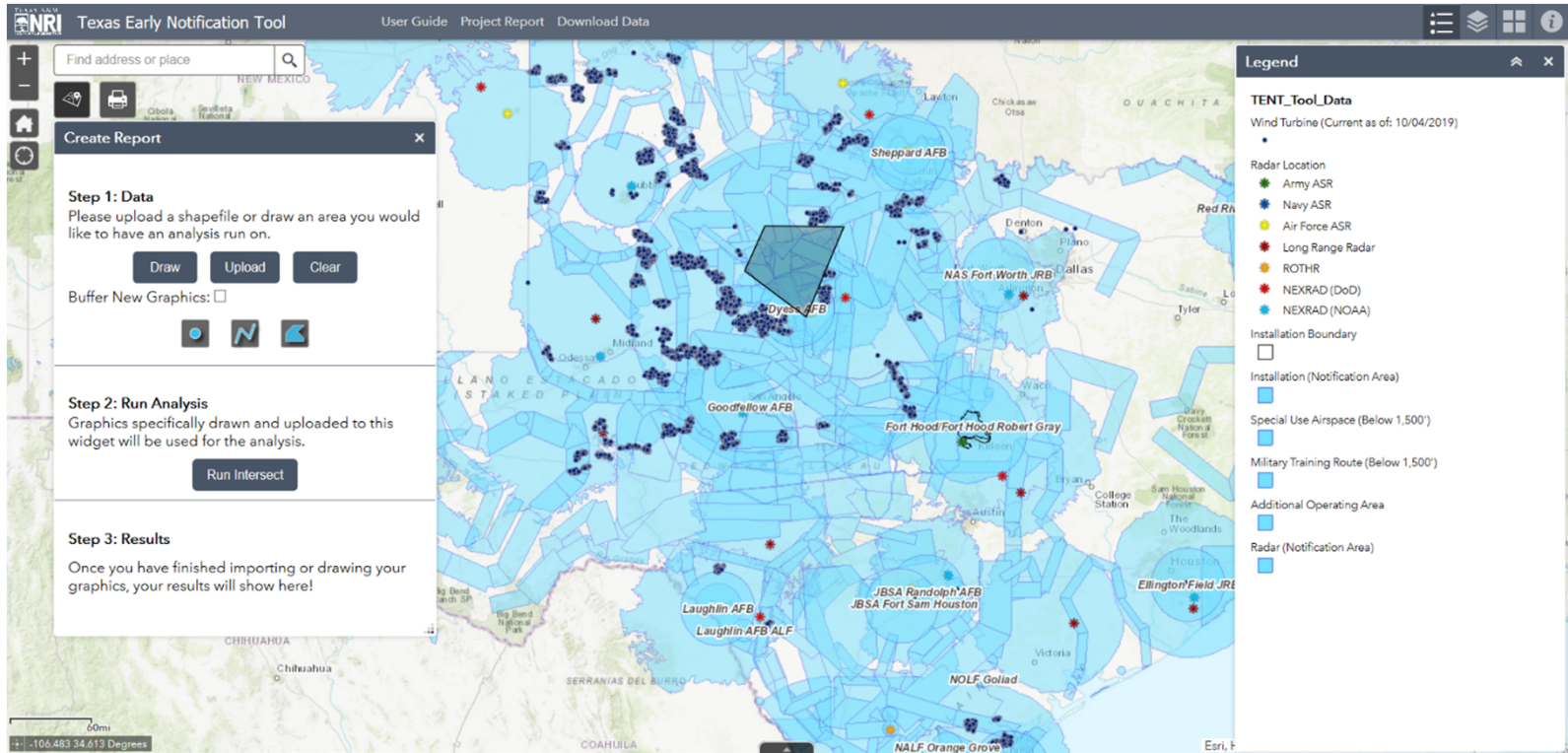
If an area of interest intersects a military asset notification area which warrants early notification, the tool will generate an output with the notification areas and associated point of contact information. These data are displayed through interactive mapping and general text.

Texas A&M Natural Resources Institute has identified "Notification Areas" in which wind turbines could have an adverse impact on the military mission and would warrant early engagement among stakeholder groups. These areas are based on criteria provided by the military, industry, and community. These areas are not intended to be exclusionary and the military may determine that wind turbines could be compatible with the missions in those areas, with or without mitigation. In addition, they are not intended for use in project specific analysis and are solely for promoting coordination, preliminary evaluations, and early outreach efforts.

Information about specific airspace can be found in the **AP-1A** (SUAs) and the **AP-1B** (MTRs).

Information about the Department of Defense's evaluation process is located at the **DoD Clearinghouse**.

For questions or comments about the tool, please email us [here](#).



Texas Early Notification Tool | User Guide | Project Report | Download Data

Find address or place

Create Report

Step 1: Data
Please upload a shapefile or draw an area you would like to have an analysis run on.

Draw Upload Clear

Buffer New Graphics:

Step 2: Run Analysis
Graphics specifically drawn and uploaded to this widget will be used for the analysis.

Run Intersect

Step 3: Results
Results are ready!

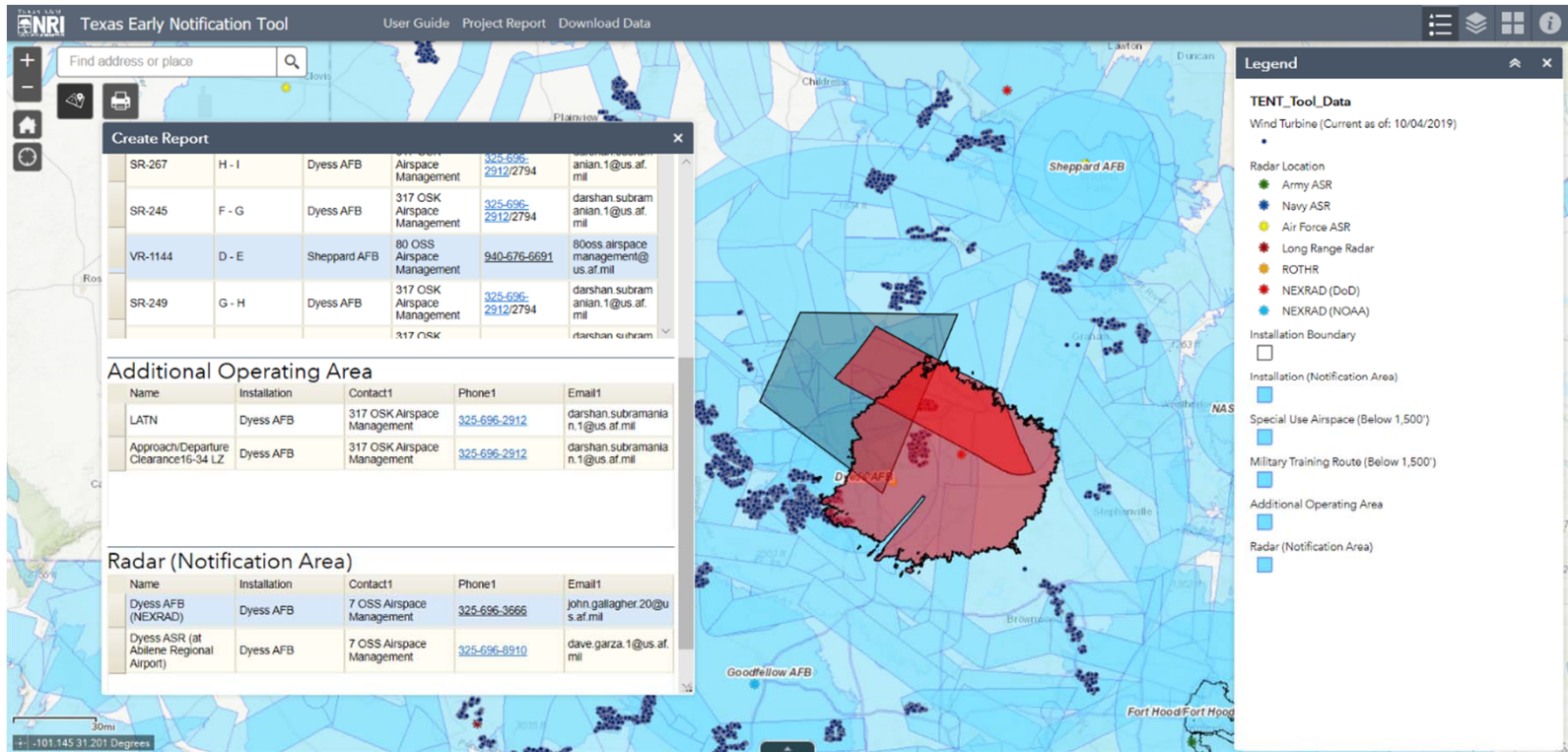
Get Printout Show Table Results

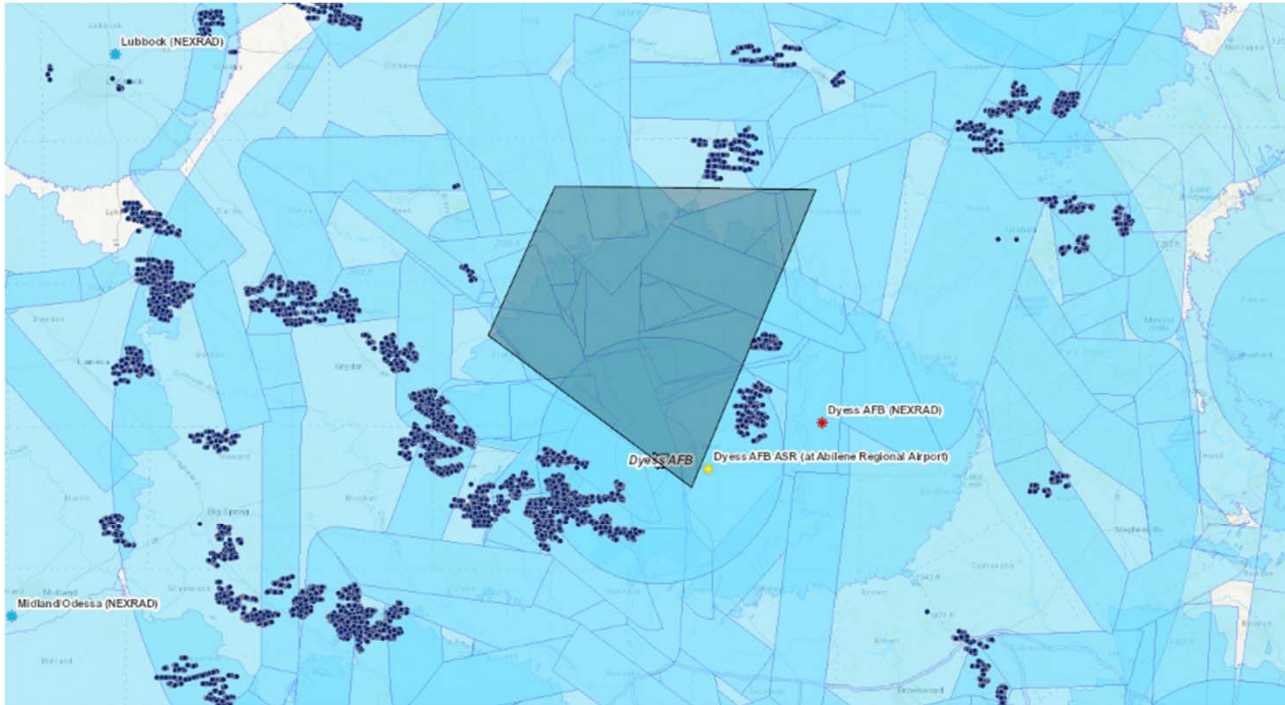
Legend

TENT_Tool_Data

- Wind Turbine (Current as of: 10/04/2019)
- Radar Location
 - Army ASR
 - Navy ASR
 - Air Force ASR
 - Long Range Radar
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 - NEXRAD (DoD)
 - NEXRAD (NOAA)
- Installation Boundary
- Installation (Notification Area)
- Special Use Airspace (Below 1,500')
- Military Training Route (Below 1,500')
- Additional Operating Area
- Radar (Notification Area)

Midland/Odessa (NEXRAD) | -100.953 31.962 Degrees | Esri





Overview

The military requires the use of several assets, including installations, airspace, radars and additional operating areas to maintain its operational capability. In addition, weather radars called NEXRAD, are critical in weather forecasting for both the military and public at large. Early engagement among military, industry, NOAA and community stakeholders has proven to be the most effective approach to ensuring any development is compatible with the military mission while minimizing both delays in project completion and additional financial burdens to energy developers. Based on the study area you selected, the following sections identify military assets that could be impacted and provide points of contact. You should contact them as soon as possible to discuss potential impacts and possible solutions.

Installation (Notification Area)

Some or all of the study area you selected is close to the installation(s) shown and could impact operations at that installation.

Name	Installation	Contact1	Phone1	Email1
Dyeess AFB - SB 277 (25NM)	Dyeess AFB	7 OSS Airspace Management	325-696-3666	john.gallagher.20@us.af.mil

Military Training Route (Below 1,500')

Some or all of the study area you selected is within the footprint of one or more Military Training Routes with floors of 1,500 feet or less above ground level.

Name	Segment	Installation	Contact1	Phone1	Email1
VR-1143	C - D	Sheppard AFB	80 OSS Airspace Management	940-676-6691	80oss.airspacemanagement@us.af.mil
SR-251	E - F	Dyess AFB	317 OSK Airspace Management	325-696-2912/2794	darshan.subramanian.1@us.af.mil
SR-234	E - F	Dyess AFB	317 OSK Airspace Management	325-696-2912/2794	darshan.subramanian.1@us.af.mil
SR-233	H - I	Dyess AFB	317 OSK Airspace Management	325-696-2912/2794	darshan.subramanian.1@us.af.mil
SR-249	A - B	Dyess AFB	317 OSK Airspace Management	325-696-2912/2794	darshan.subramanian.1@us.af.mil
SR-245	A - B	Dyess AFB	317 OSK Airspace Management	325-696-2912/2794	darshan.subramanian.1@us.af.mil
SR-242	G - H	Dyess AFB	317 OSK Airspace Management	325-696-2912/2794	darshan.subramanian.1@us.af.mil
SR-240	A - B	Dyess AFB	317 OSK Airspace Management	325-696-2912/2794	darshan.subramanian.1@us.af.mil
SR-249	F - G	Dyess AFB	317 OSK Airspace Management	325-696-2912/2794	darshan.subramanian.1@us.af.mil
SR-236	A - B	Dyess AFB	317 OSK Airspace Management	325-696-2912/2794	darshan.subramanian.1@us.af.mil
SR-267	A - B	Dyess AFB	317 OSK Airspace Management	325-696-2912/2794	darshan.subramanian.1@us.af.mil
SR-273	A - B	Dyess AFB	317 OSK Airspace Management	325-696-2912/2794	darshan.subramanian.1@us.af.mil
SR-244	A - B	Dyess AFB	317 OSK Airspace Management	325-696-2912/2794	darshan.subramanian.1@us.af.mil
SR-234	A - B	Dyess AFB	317 OSK Airspace Management	325-696-2912/2794	darshan.subramanian.1@us.af.mil

Additional Operating Area

Some or all of the study area you selected is close to a special operating area used by the military for training and/or testing.

Name	Installation	Contact1	Phone1	Email1
LATN	Dyess AFB	317 OSK Airspace Management	325-696-2912	darshan.subramanian.1@us.af.mil
Approach/Departure Clearance16-34 LZ	Dyess AFB	317 OSK Airspace Management	325-696-2912	darshan.subramanian.1@us.af.mil

Radar (Notification Area)

Some or all of the study area you selected is within the line-of-sight of military or weather radar(s) and could impact its capability.

Name	Installation	Contact1	Phone1	Email1
Dyess AFB (NEXRAD)	Dyess AFB	7 OSS Airspace Management	325-696-3666	john.gallagher.20@us.af.mil
Dyess ASR (at Abilene Regional Airport)	Dyess AFB	7 OSS Airspace Management	325-696-8910	dave.garza.1@us.af.mil