



JIFX

Joint Interagency Field Experimentation

JIFX 25-4 Coordination Calls

"Other experimentation events say that they encourage collaboration and failure, but JIFX truly means it. Every experimenter is eager to collaborate with others to demonstrate capabilities that have never been seen before. Similarly, the true bleeding edge can be seen live in the making at JIFX because of a lack of fear of failure. Only when failure is encouraged do experimenters truly push the bounds of what is possible in hopes of all kinds of discovery, both good and bad."

-JIFX 2024 Participant

Agenda

<u>7/16/2025</u>	<u>7/23/2025</u>	<u>7/30/2025</u>	<u>8/6/2025</u>
JIFX Overview	Logistics	Reminders	Vulcan Status
Introductions: <ul style="list-style-type: none">• JIFX Team• JIFX Overview• Facilities	Safety <ul style="list-style-type: none">• Event Safety• Airspace Safety• Hazmat	Vulcan Overview	Finalized Schedule of Events
Logistics <ul style="list-style-type: none">• Travel• Registration & Gate Access	Networks & Frequencies	Experiment Introductions	Logistics & Reminders
	Joint Vulnerability Assessment Branch Overview		

JIFX 25-4

Dates: 11 – 15 August

Location: NPS Field Laboratory at Camp Roberts (near Paso Robles, CA)

Visit the event webpage for more details,

<https://nps.edu/web/fx/upcoming-jifx>

- Event slides are posted on this page
- Recordings available by request (Ashley.book@nps.edu)

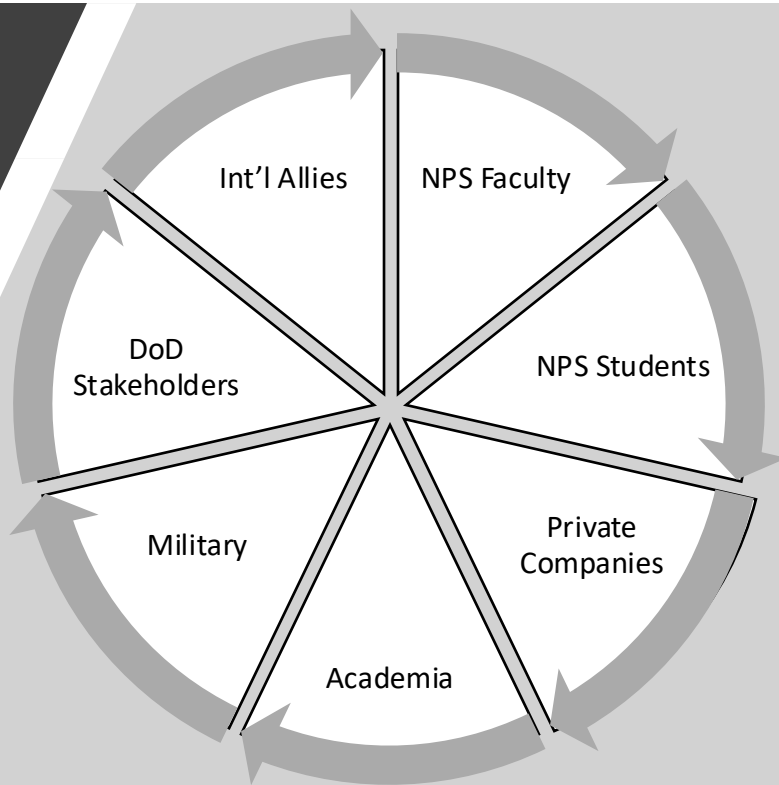


JIFX

Joint Interagency Field Experimentation

What is JIFX?

WHAT IS JIFX?



The JIFX team leads experimentation in alternative methods to enable rapid technological development by cultivating a **community of interest** and hosting broadly scoped **quarterly collaborative field events**.

Goal: Enable DoD, US government, and allied stakeholders to identify, influence, and accelerate early-stage technology development that address national and collective security challenges.
















JIFX provides researchers a turn-key solution for **safe, secure, legal,** and **collaborative** experimentation

What JIFX isn't:

- Tradeshow
- Conference
- Sales Event
- Demonstration
- Lectures
- Presentation
- Acquisition Event



JIFX is not a marketing event or trade show, so send your engineers!



and Illustrate Your Own Stories	Rachel Winterberg	 
ancing through STEAM	Elizabeth Peterson	 
onia - More than Just a Gallery!	Donna Staten	 
11:00AM BRAIN BREAK #1		
.terns in Music, Dance and Mathematics	Marcia Daft	 
Exploring the Creative Process with Dance	Deirdre Moore	 
Experimenting with Color	Beth Elliston	 
Partner Showcase: Art to Remember		
Partner Showcase: Buncee		
12:35PM BRAIN BREAK #2		
Building an Arts Magnet School	Bobby Riley & Judy Kilma	
Put on Your Math Goggles: Seeing Math in Art	Robin Ward	
.PM Design Brain-Friendly Learning Spaces	Erin Klein	
1:50PM BRAIN BREAK #3		

BIG SALE

Experimentation vs. Demonstration



Experiment:

- “I need to learn something new about...”
- Several variables, looking for the relationships between them
 - “Does a change to A impact B?”
- Hypothesis: “I think I know what will happen...”
- Intent: **Gain knowledge**

Demonstration:

- “Let me show you what I can do”
- “I’ve done this before”
- No variables
- Confident of outcome even before starting
- Intent: **Share knowledge**

Source: Department of the Navy Small Business Innovation Research (SBIR), Guidebook to Experiment Analysis & Reporting

Tips for Success at JIFX

Define a Clear Experimentation Plan

- Set Specific Objectives: Know what you want to achieve, whether it's data collection, networking, or demonstrating technology.
- Align with JIFX Objectives: Frame your goals to contribute to the joint, interagency, and field experimentation environment.

Prepare Thoroughly

- Test Equipment: Ensure your technology is operational and troubleshoot potential issues beforehand.
- Understand the Environment: Review site conditions and logistical details provided in pre-event materials.

Engage with Stakeholders

- Network Strategically: Build connections with participants, sponsors, and government representatives.
- Seek Feedback: Engage observers and stakeholders to gather insights for improvement.

Be Flexible

- Adapt to Challenges: Prepare for unexpected variables such as weather, technical failures, or schedule changes.
- Iterate Rapidly: Use on-the-spot findings to refine your setup or approach.

Leverage Opportunities

- Participate in Collaboration: Engage in multi-experiment interactions to maximize value.
- Showcase Innovation: Present your technology's unique value to potential partners and sponsors.

Follow-Up Post-Event

- Document Results: Collect and analyze data to measure success.
- Maintain Connections: Reach out to participants to build long-term relationships and partnerships.

FUNDAMENTAL TENETS

AUSTERE BY DESIGN

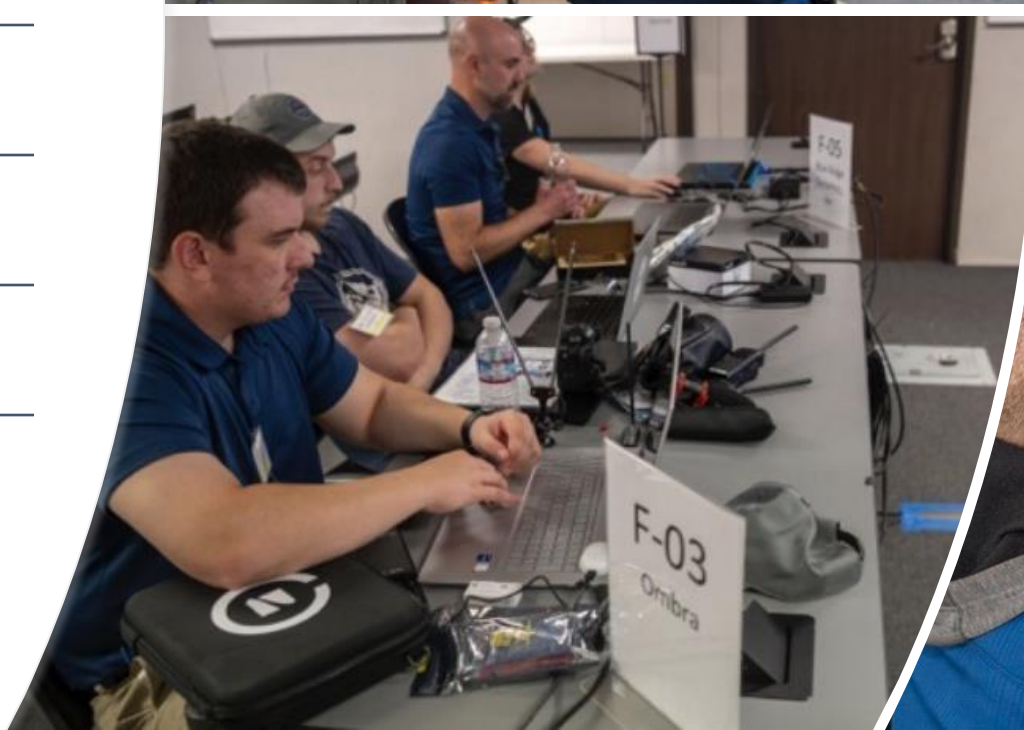
COLLABORATION IS EXPECTED

BOUNDED, NOT CONTROLLED

DEVELOP NOW

FAILURE = LEARNING

INCLUSIVE



JIFX Team

Dr. Mike Richardson, JIFX Director

Ashley Book, Event Operations

Jonathan Coon, Data Management

Aurelio Monarrez, Air Operations

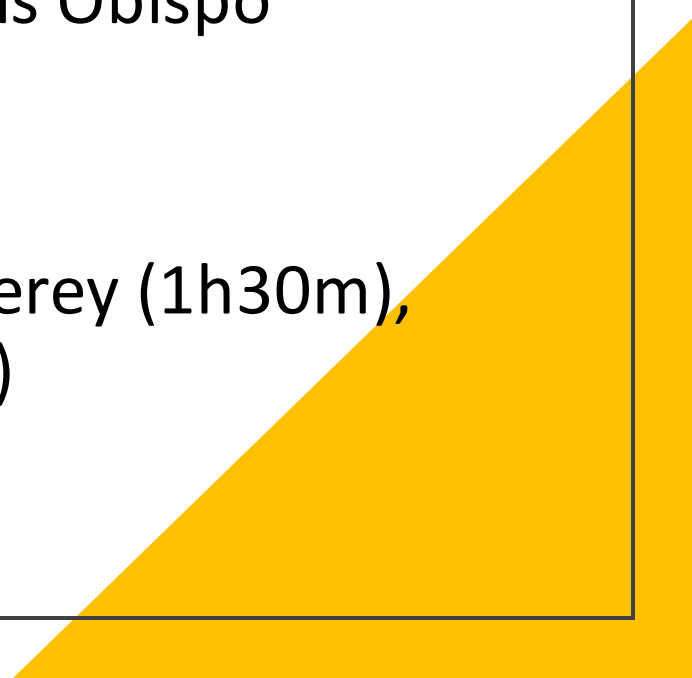
Joseph Lukefahr, Tech & Network Management

Grady Gatoloai, Camp Roberts Facilities

James Martin, Joint Vulnerability Assessment Branch (RF Lead)

Ruben Villanueva, Joint Vulnerability Assessment Branch (Cyber Lead)

General Location

- McMillan Airfield at Camp Roberts
 - Closest Town: Paso Robles, Atascadero, San Luis Obispo
 - Hotels, Vacation Rentals, etc.
 - Closest Airports: San Luis Obispo (45m), Monterey (1h30m), Bakersfield (2h), San Jose (2h15m), SF (2h40m)
- 
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JIFX Website

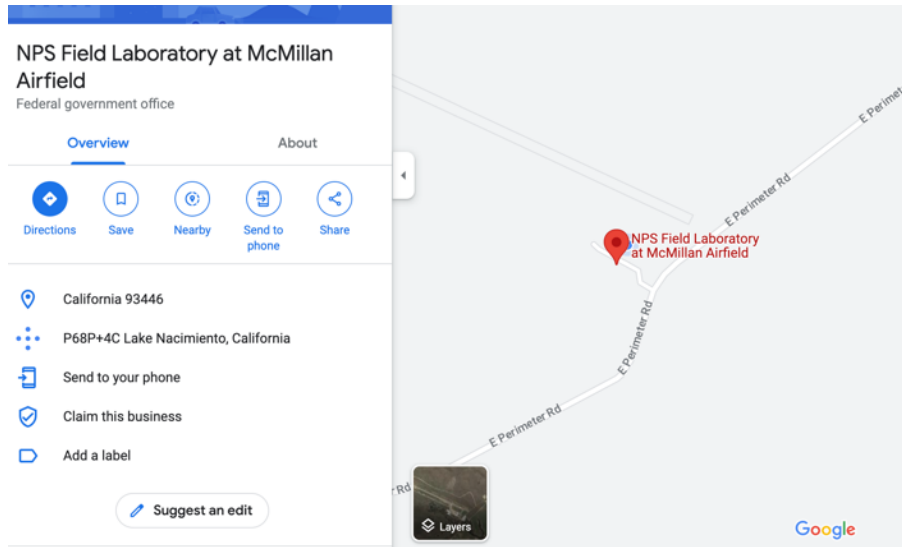
- Lot's of helpful information!

www.nps.edu/fx

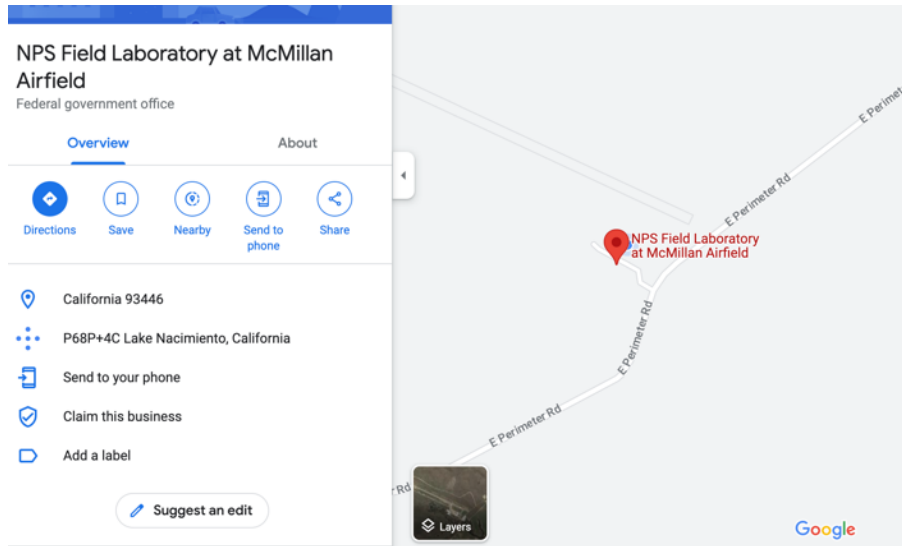


Event Facilities

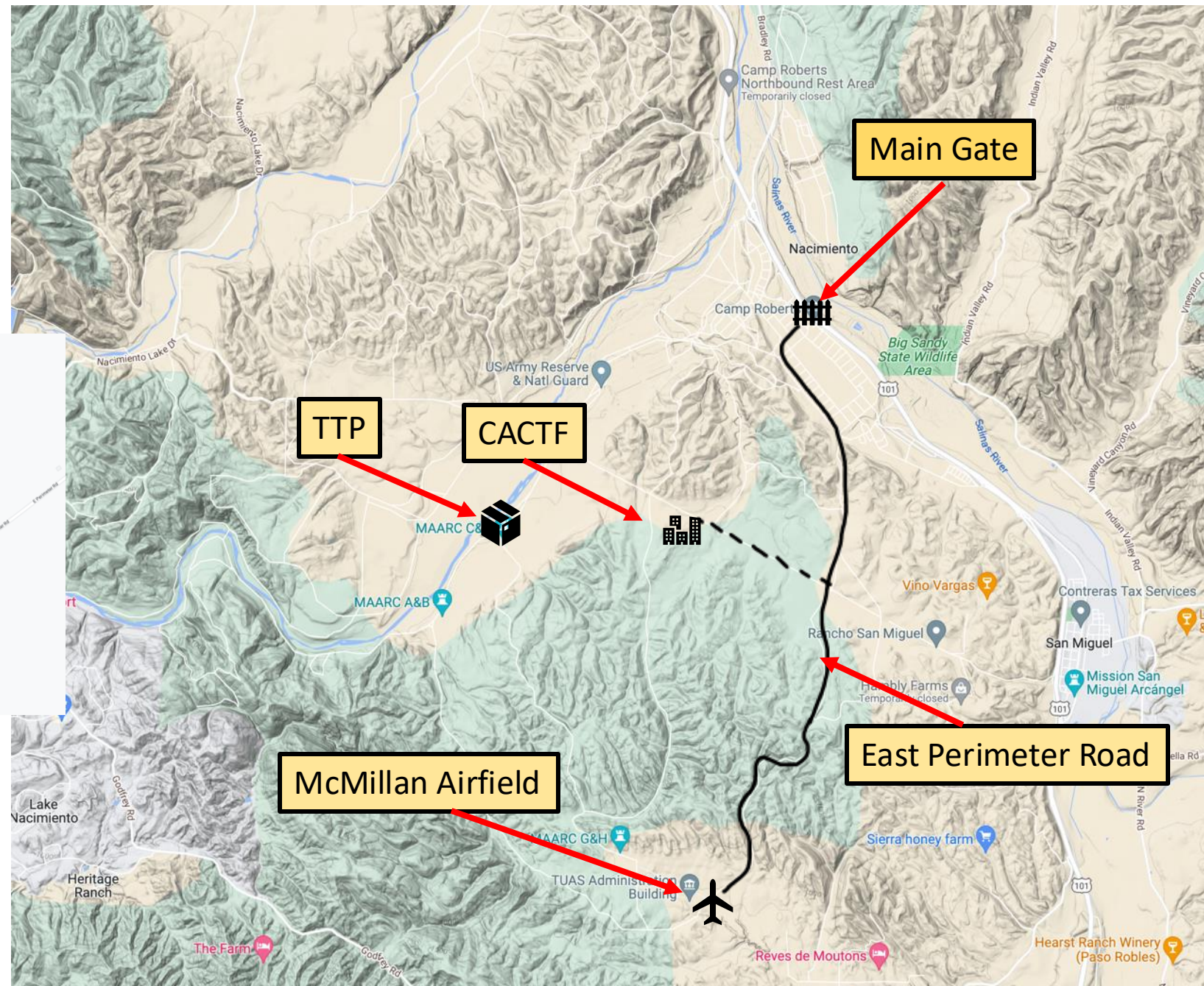
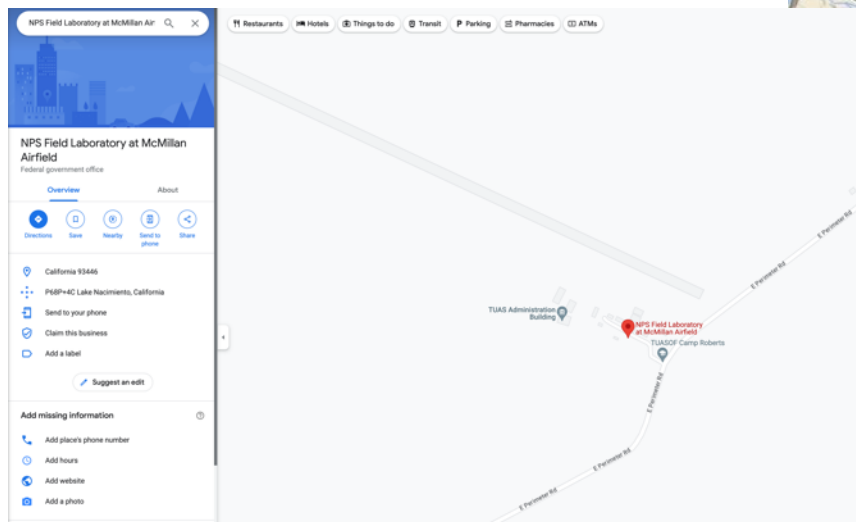
Event Location



Event Location



Camp Roberts Orientation



McMillan Airfield



McMillan Airfield



McMillan Airfield



McMillan Airfield





CACTF

Combined Arms Collective Training Facility:
26-acre full-scale urban operations training facility including a mock church, police station with underground jail, three-story hotel, businesses, residential buildings, underground tunnels, and a rubble pile.

TTP / FOB

Forward Operating Base



McMillan Airfield

Runway

Vehicle Barn

SIP
Hut

Briefing
Trailer

Hangar

TOC

Registration

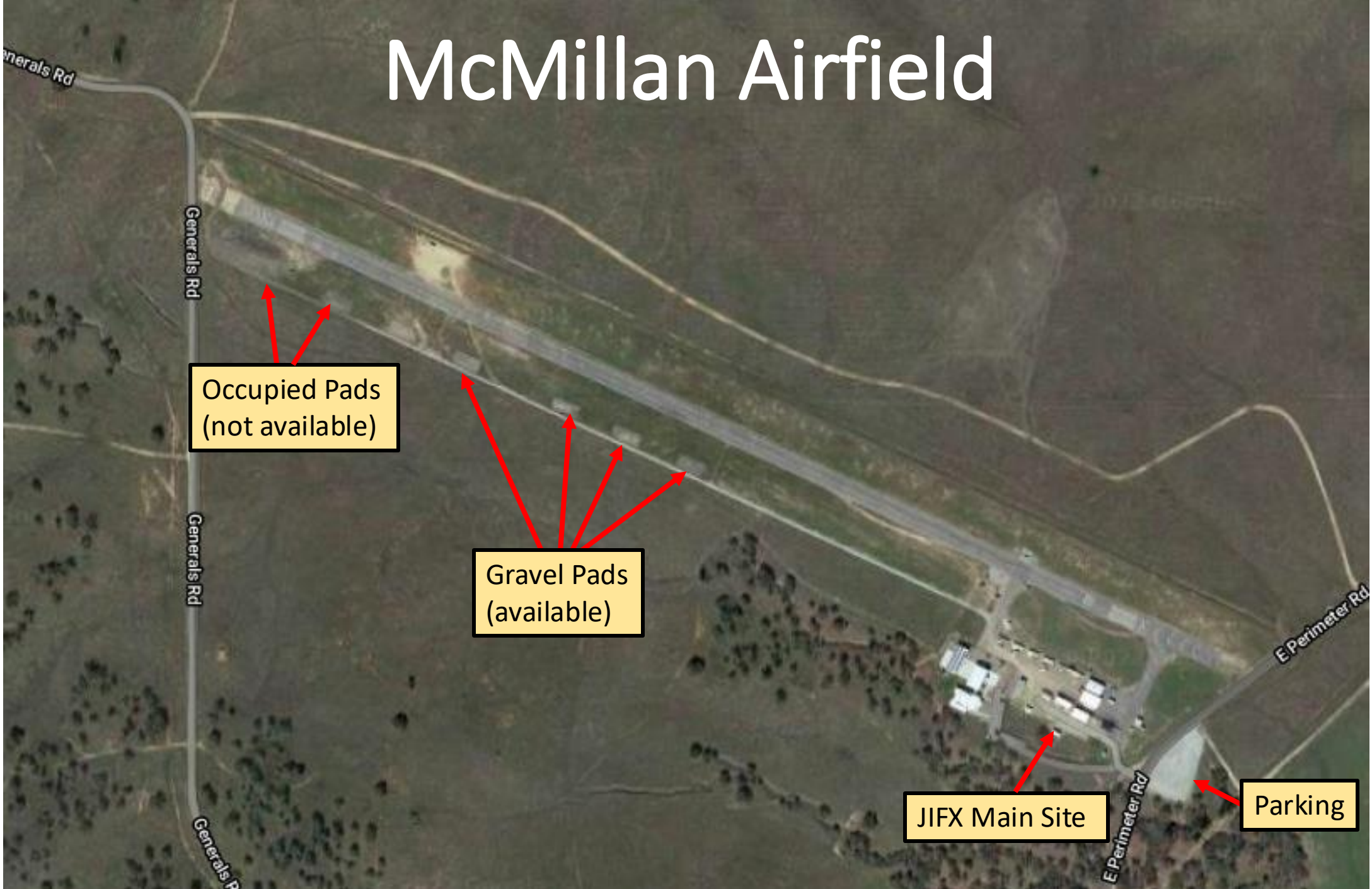
Restrooms

E Perimeter Rd

Parking



McMillan Airfield



Occupied Pads
(not available)

Gravel Pads
(available)

JIFX Main Site

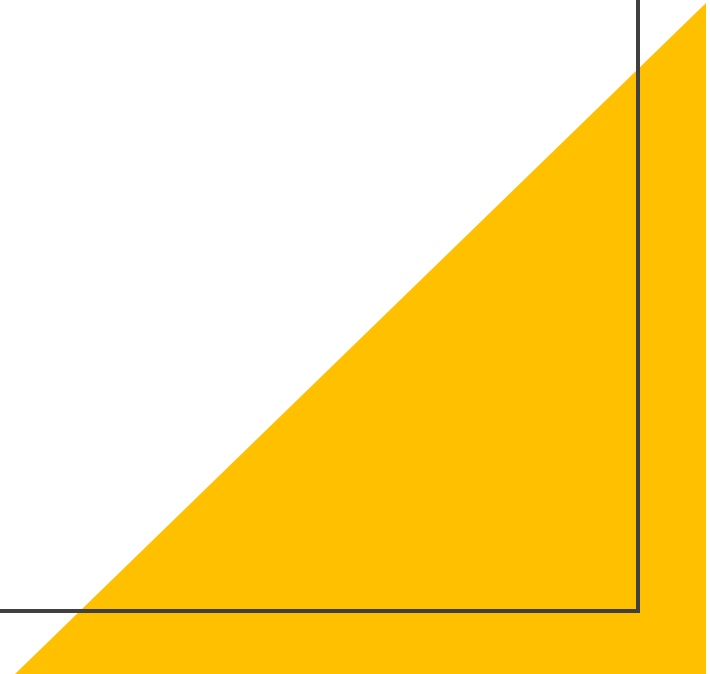
Parking



JIFX

Joint Interagency Field Experimentation

Logistics



Event Schedule

Monday:

0900: Venue and registration open

1000: Event kick-off brief

Experimentation, Frequency Verification

1630: Afternoon debrief

1730: Venue Closed

Tuesday:

0730: Venue and registration open

0800: Morning brief / Flyers Meeting

Experimentation

1200: Lunchtime Brief

1630: Afternoon debrief

1730: Venue Closed

Wednesday

0730: Venue and registration open

0800: Morning brief / Flyers Meeting

Experimentation

1200: Govt-Only Planning Meeting

1630: Afternoon debrief

2000: Venue Closed

Thursday:

0730: Venue and registration open

0800: Morning brief

0830: Flyers meeting

Experimentation

1200: Afternoon debrief

1700: Venue Closed

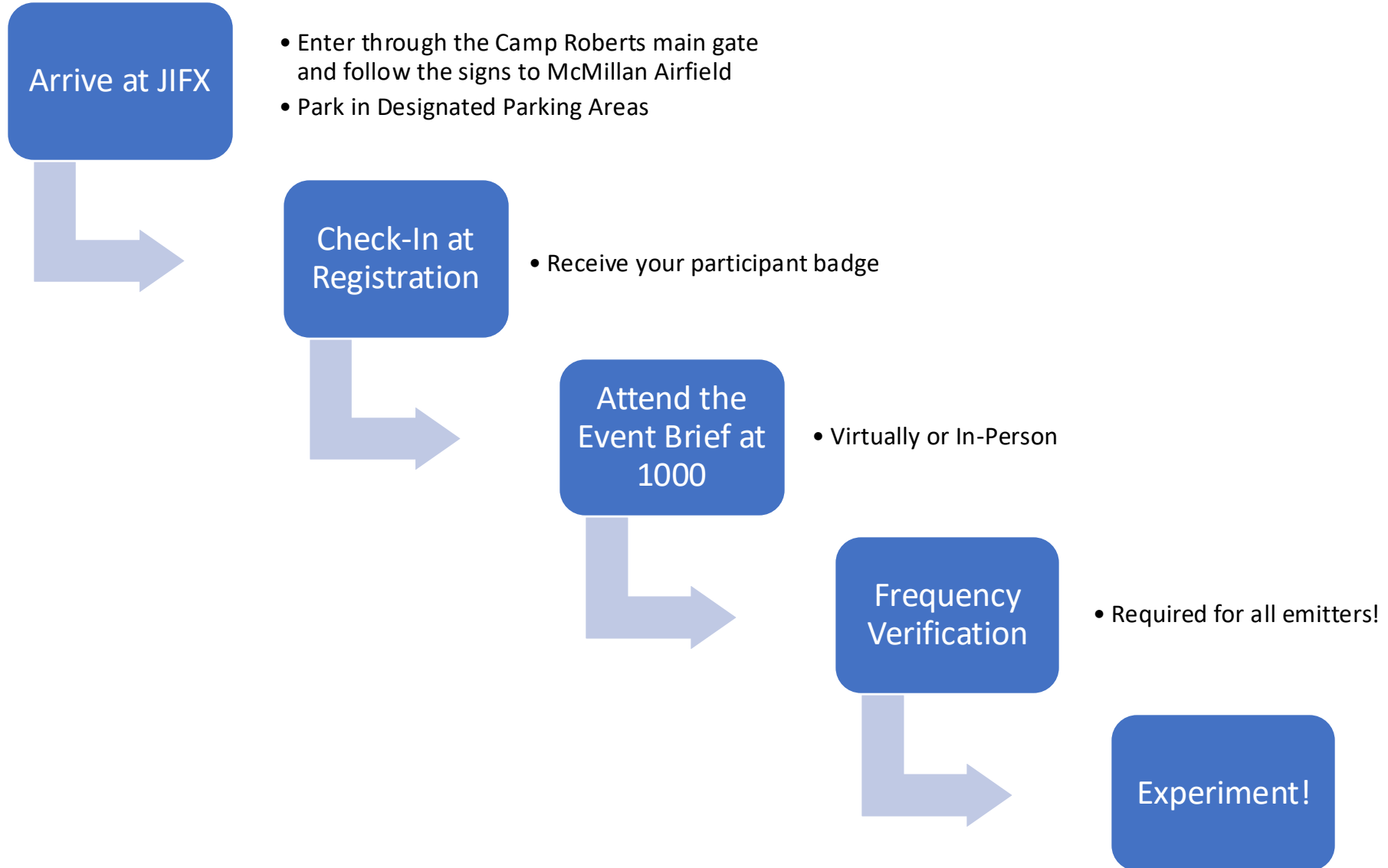
Friday

0800: Venue Opens

Experimentation

*All Briefs will be in-person & broadcast for virtual participation.

Monday Schedule



Registration & Gate Access

- **Registration is required for all participants**
 - www.nps.edu/web/fx/register
 - Be sure to scroll all the way through the safety brief!
- REAL ID or PASSPORT required at front gate
- Vehicle Registration
- Non US Citizens – Register by 24 July

Government Stakeholders/Observers

Naval Postgraduate School Students:

- Applied Design for Innovation
- Information Strategy and Political Warfare
- Special Operations and Irregular Warfare
- Information Technology Warfare
- Network Operations and Technology
- Applied Cyber Operations
- Information Warfare Systems Engineering

~100 Students/Faculty!

Air Force Special Operations Command – AFSOC

Naval Special Warfare – NSW

US Special Operations Command (USSOCOM)

Dept. of Navy SBIR Experimentation Cell

SOFWERX

NATO Allied Special Operations Forces Command (SOFCOM)

Naval Postgraduate School

Naval Special Warfare Command

Office of Naval Research (ONR)

OUSD A&S Operational Energy Innovation

The MITRE Corporation

US Army

US Army Combat Capabilities Development Command (DEVCOM)

US Army Futures Command

US Army Geospatial Center

US Central Command (USCENTCOM)

US Special Operations Command (USSOCOM)










US Strategic Command (USSTRATCOM)

US Transportation Command (USTRANSCOM)

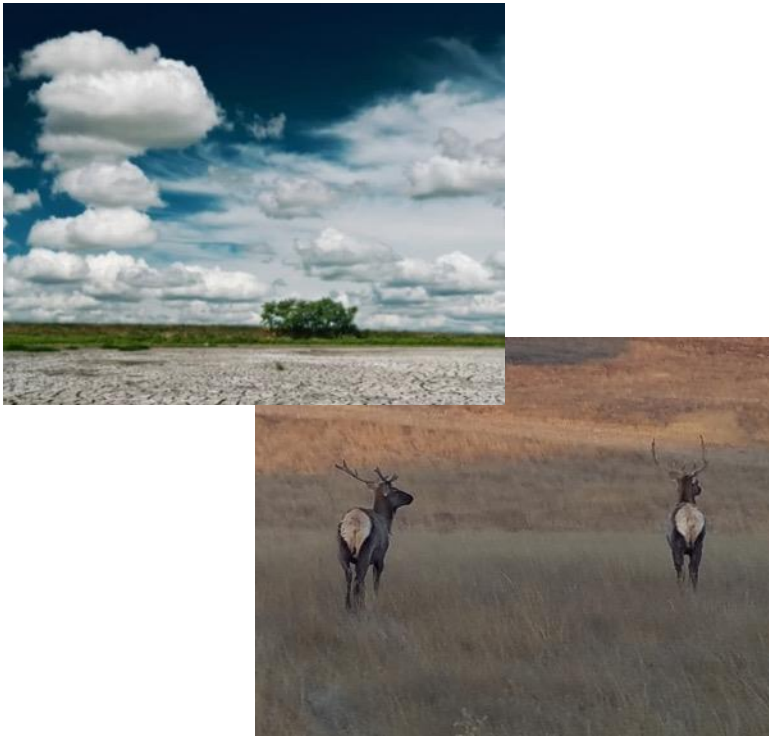
Badges

Safety info on the back:

- Emergency Number – Camp Roberts Range Control
- POC Numbers – Ashley B., Mike R., etc.

 <p>Staff</p> 	 <p>Stakeholder</p> 
 <p>Government</p>	 <p>Private Industry / Academia</p> 
 <p>Foreign National</p> 	

Event Info



- Weather
 - Hot!
 - Fires are a major concern
- Emergencies
 - **Emergency Services are 30-45 minutes away**
 - Emergency Phone Numbers will be on the back of all participant name badge
- Wildlife
- Food options limited: bring what you need
- Hazmat: *pack out what you bring in!*



Weather

Weather Conditions

- Highs: 90–110 °F — hot and dry
- Lows: 50–55 °F — cool evenings
- Humidity: Very Low

What to Expect

- Hot, dry days — schedule intensive activities early or late
- Cool mornings & evenings — pack layers
- No rain gear needed
- Stay hydrated & use sun protection
 - Lightweight, breathable clothing
 - Hat, sunglasses, sunscreen
 - Reusable water bottles or hydration packs
 - Light jacket or sweatshirt for nighttime

Event Info

Photography:

- Okay to photograph/video your own equipment
- Ask for permission before capturing imagery of any other experiments/people
- No photos of personnel in uniform
- No photos of sensitive sites
- NPS Public Affairs Office



Shipping

Parcel Service (Individual packages, less than 150 lbs)

NPS Field Laboratory - McMillan Airfield

Attn: (*Your Company / Your Name*)

Bldg 914, Shipping & Receiving

Camp Roberts, CA 93451-5000

Ph 805-227-1314

Directly to the Airfield: Freight

NPS Field Laboratory - McMillan Airfield

Attn: (*Your Company / Your Name*)

McMillan Airfield, East Perimeter Rd

Camp Roberts, CA 93451-5000

Ph 805-227-1314

Addresses are posted on
the website!

www.nps.edu/fx

Airspace Safety



Found on “Upcoming Events” Page

- [Airspace Control Plan \(ACP\)](#)
- [Pre-Mishap Plan \(PMP\)](#)

Airspace Control Plan (ACP)

This **Airspace Control Plan (ACP)** outlines airspace procedures for NPS activities aboard Camp Roberts CA ARNG base and within Restricted Area R-2504A/B. The ACP is directive for all NPS JIFX event participants.

Airspace Boundaries and Buffers must be displayed on your Ground Control Station (GCS)

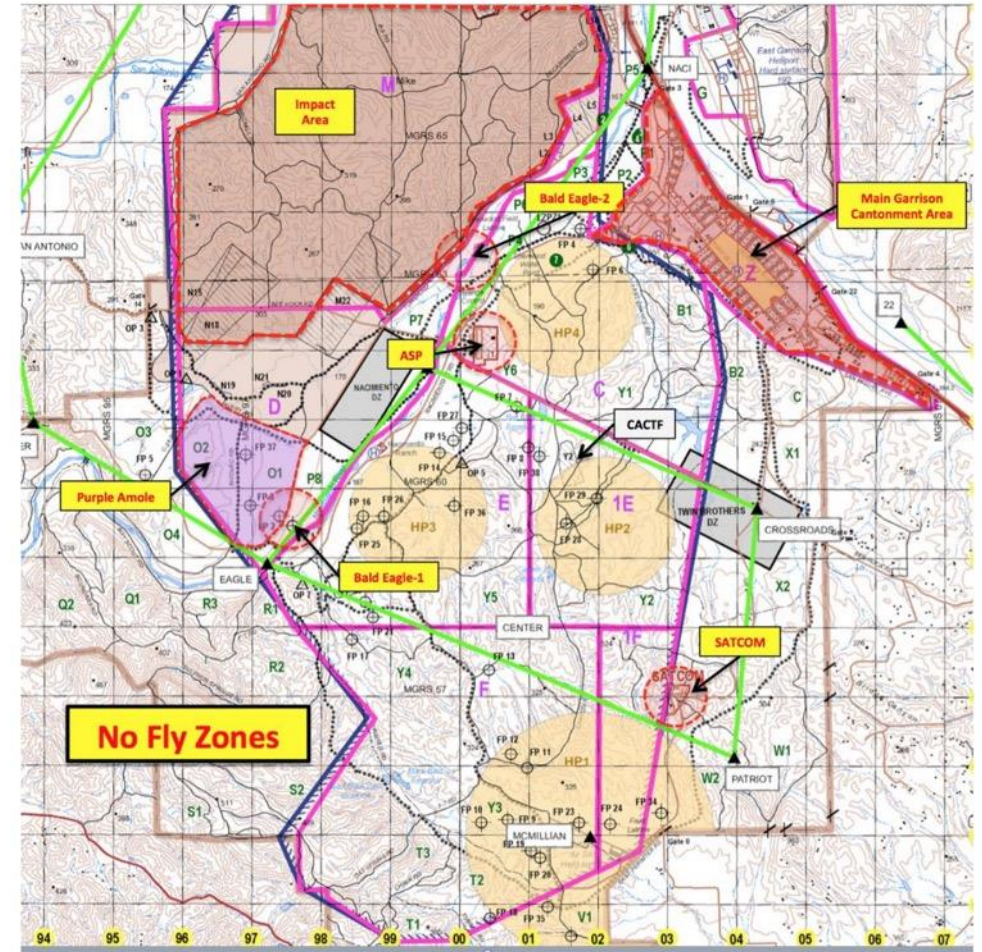


Figure 3: Camp Roberts Restricted Operating Zones (A-F, M, Z), No Fly Zones, and Holding Points within the R-2504

Pre-Mishap Plan

The PMP established procedures that will assist personnel immediately following a mishap.

“In case of a mishap, or any unintended impact with the ground or another vehicle, the flying unit will immediately notify the Air Boss via Radio or phone.”

Air Operations



No flight operations are permitted unless the RED RANGE FLAG is flying

Flyers Meeting – Every morning!

- An “Airboss” will manage all UAVS and always maintain safety in the airspace.
- JIFX Radios for communications
- Always remain clear of runway, unless permission granted from airboss

JIFX Networks



Communications

Local IP networking (Ethernet, WiFi)

- McMillan Airfield
- CACTF

**Limited Internet
connectivity**




Information Technology (Camp Roberts)

Printing @ McMillan Airfield

Tactical Assault Kit (TAK)

**Cursor-on-Target
debugging/routing**

Before You Connect...

- JIFX network is intended for:
 - Event administration
 - Rapid collaboration & integration
 - Acceptable use:
 - Respect others' operations, privacy, security
 - No malicious activity
 - Consult your organization's IT & security policies before connecting
 - Coordinate with network manager before connecting systems (Joseph Lukefahr)
- 
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U.S. ARMY COMBAT CAPABILITIES DEVELOPMENT COMMAND – C5ISR CENTER

- Joint Vulnerability Assessment Branch (JVAB)
- Capabilities Brief

- James Martin
- Ruben Villanueva





MISSION



Replicate and create open-source and commercially available adversary-specific threat and attack methodologies:

- Cyber
- Radio Frequency/Electronic Warfare (RF/EW)
- Electromagnetic Spectrum (EMS)

Identify vulnerabilities and mitigations for rapidly developed, experimental, and fielded technologies in support of CCMDs, DoD and other government agencies

Reduce development time, costs, and commitment of resources while enhancing systems for the Warfighter

Provide full mission profile analysis and contested comms environments to assist with TTP development during operational scenarios



CUSTOMERS





JIFX FOCUS AREAS



1) Frequency Verification

- Purpose is to verify individual technologies emit on intended frequencies as designed and authorized.
 - Ensures spectrum emission compliance based off preapprovals & current laws; deconflicting spectrum co-use.

2) Cyber Vulnerability Assessment for UAS

- The term "CVA" is in reference to enumerating/documenting UAS data links, to include external connections, if any, to assess data leakage concerns.
 - Used for ETPs



JIFX FOCUS AREAS



3) CEMA Vulnerability Assessment

- The term "Vulnerability Assessment" for Cyberspace and Electromagnetic Activities (CEMA) Vulnerability Assessment is a red team analysis to enumerate potential attack surfaces based of configuration of the technology.
- Performed on any participating technology to include Blue UAS/NDAA compliant flyers.
- Examples of this type of assessment includes:
 - Radio Frequency Detection / Characterization
 - Signals of Interest Geolocation
 - Electronic Attack Resiliency
 - Cyber Exploitation Enumeration



QUESTIONS



Collaborations

Request

We're testing a distributed state management platform that should be able to integrate with your platform and any network or autonomy software you're testing. We aren't experts ourselves in the hardware or ArduPilot etc.

If folks are interested in resilient onboard orchestration for swarming but have run into issues with consensus and the network impact of all those messages keeping state synced - we bring that capability.

Contact Information

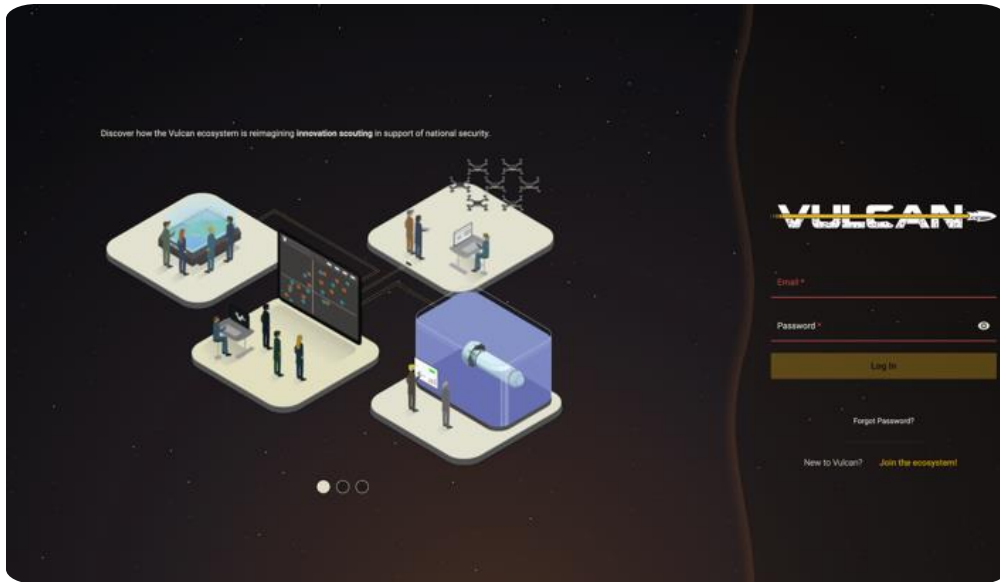
Emma@Cachai.io



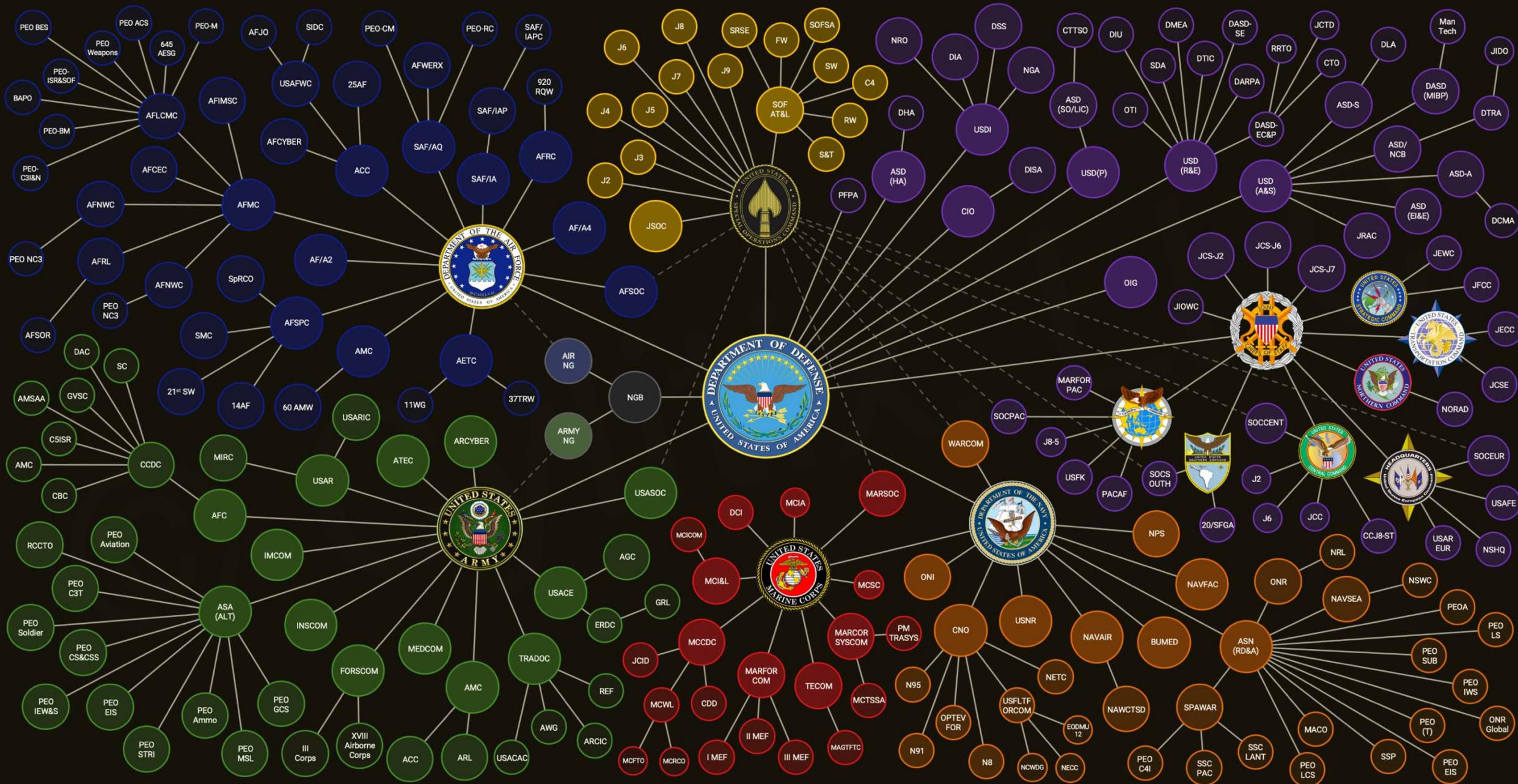
Experiment Introductions

- Introduction of Experiment
 - 1-2 minutes each
1. What is your technology
 2. What is your experiment
 3. How can you support other experiments
 4. How can other experiments support you

Vulcan



- Vulcan is an innovation scouting platform that serves a diverse ecosystem and provides networked capabilities for the discovery and assessment of capabilities of interest to U.S. National Security.
- Non-Government users engage Vulcan with their innovations to address U.S. Government needs.
- Visit www.Vulcan-sof.com to request an account and create your Scout Card.



Experiment Status – Approved Experiments

B-18	Advanced Materials for Uncrewed Systems (UxS) Exploitation and Signature Management	Advanced Material Development
B-06	AQUILA	Air Force Research Laboratory's Transformational Capabilities Office (AFRL/RST)
B-05	Cognitive Autonomous Software	AIVOT Robotics, Inc.
I-03	AeroVitalGuard Enroute Care Management System	Applied Research Associates, Inc.
G-03	WearTAK-Mil Voice-Controlled TAK-Enabled Smartwatch for Tactical Operations	Ascent Integrated Tech
I-04	Harvesting Water from Air	Atmosphereh20
D-02	Gesture Based Human-Machine Interface (ATAK Manipulation)	AugSense
I-09	Assessing Role 2 combat medic trust for a virtual reality system that delivers military-specific multisensory and cognitive rehabilitation in service-members post mild traumatic brain injury	AV Inc. (Formerly, BlueHalo)
	Ally Identification Experiment (Preventing Friendly Fire)	BlueForce
B-11	Development & Assessment of Off-Road GPS-Denied Navigation and Mapping Capabilities	BlueSpace.ai
K-05	Ground Vehicle Equipped with Hybrid Electric Power System	Burgess Aerospace Innovations
M-01	Transforming Narrative Intelligence into Actionable Insights	Clara Copilot
G-01	DataShapes: Advanced Spectrum Awareness with Automated Threat Detection Algorithms	DataShapes AI
I-05	Canary Smart Mask – AI-Powered Wearable Sensor Platform for Soldier Protection	Deeper Breath Inc
G-08	AI Enabled Role Player Training	Delta Learning AI
J-01	Multi-Echelon UI for Chat, SA, and COP Management	DeVilliers Technology Solutions LLC
G-06	SEnPAI	EpochGeo
G-10	Zeta: Collaborative AI for military planners	Fairwater Labs
L-01	Regenerative Suspension Systems to Extend Tactical Vehicle Mission Time and Reduce Fuel Resupply Needs	Ganaio, Inc.
B-08	Virtual Maritime Picture for UxS	Gradient Marine
A-08	Samson	Greensight
F-01	Intelligence Automation - Target Custody	GRVTY
H-03	LAMA: Localization and Mapping Artificial Intelligence Application	Holochip Corporation

K-03	Energy IQ-Powered Warfighter Interface for Tactical Power Visibility and Decision Support	Inergy
B-12	Agentic AI Aviator	Innovaix Corp
B-19	Phalanx Shield Multi-Domain Sensor Systems	Innovative Algorithms
B-14	Latent AI Ruggedized AI Kit	Latent AI
H-02	Evaluating Remote Telementoring Capabilities Using a VR Surgical Simulator	Marion Surgical US Inc
E-03	Maxar x Intertial x Firestorm	Maxar Intelligence
B-13	Increasing The Durability and Reliability of Navy Defense Electronics	NanoFlowX Inc.
E-02	Machine Learning Aided Gait Recognition for Inertial Navigation and Orientation (MARIO)	Naval Information Warfare Center Pacific (NIWC Pacific)
C-01	Onboard Multi-Sensor UAS Detection and Operator Interface Validation for Maritime SOF Platforms	Naval Postgraduate School
D-04	Athena	Naval Postgraduate School Foundation
G-04	Tactile Augmentation System for Enhanced Situational Awareness	Neurocom
A-01	Remote Split Operations for Heavily Automated UAV Flights with TAK Interface	Odys Aviation
F-04	Prometheus Torch AI Field Test: Evaluating Voice-to-Voice Interview Performance in High-Noise, Disruptive Environments	Prometheus Intelligence
G-02	Stylo News AI Powered OSINT	ProWave AI, LLC
B-15	Touch Screen Surfaces: Converting Any Material into a Pressure-Sensitive Interface using Flexible Piezoelectric Film	Scorpion Protective Coatings, Inc.
B-07	Scorpion Smart Films	Scorpion Protective Coatings, Inc.
B-09	Voice-Activated Interfaces with Auditory Feedback Using Flexible Loudspeaker Film	Scorpion Protective Coatings, Inc.
I-10	Evaluating Sempulse Halo on Naval Assets	Sempulse Corporation
E-01	HunterX - AI-Teaming for Cyberspace Operations	SIXGEN
F-02	Automated Threat Recognition and Autonomy	TurbineOne
A-04	Next-Generation Path Planning for Uncrewed Aerial Systems	UBIQ Aerospace
B-04	Man-Portable Kinetic ISR USV for Tactical Maritime Operations	Vectron Industries
	Tibesius CUAV	Ziz

Experiment Status – Pending

G-07	Distributed Autonomy Coordination with Altiro X in a Degraded Network Swarm Scenario	Cachai	RF
F-06	ZombieCam sniffs around	Chiral Software	RF
D-01	Decentralized Tactical Mesh and Edge AI for Persistent Mission Data Fusion	CI-PHER	
K-01	Fast Foam Firefighting Unit	Fast Foam Suppression	Environmental Review
B-20	Tactical Edge Embodied AI Mesh (TEEAM)	Gambit Defense Inc.	RF
I-06	Real-Time Ocular-Based Fatigue Detection in Warfighters Using Blink Frames Technology	Globe Biomedical, Inc.	Requires IRB Approval
	CASSEE	GreenSight	UAS Waiver
G-09	KongMing – Intelligent machine agents to enable better decisions	Husmann Technologies, LLC	RF
D-03	Long Range Free Space Optical Communications	Intellisense Systems, Inc.	Lasers
C-02	Mara: Autonomous, Low Cost, Portable CUAS	Mara Solutions, inc	UAS Waiver
I-08	User-Adjustable Propulsion in Exoskeleton Footwear for Warfighter Mobility Enhancement	Results Group LLC dba Motive Labs	IRB Conditions
I-07	Powered Exoskeleton for Enhanced Combat Support and Logistics	Roam Robotics	IRB Conditions
D-06	ShadowGen Field Test: AI-Based Sub-1kbps Voice Protocol Under Degraded Tactical Network Conditions	ShadowGen	RF
G-05	Signal Sight: Augmented Reality RF Detection for Tactical Awareness	Signal Sights Technologies	RF
D-07	Distributed Tactical Radio based jammer detection, threat library creation, cancellation	Silvus Technologies	RF

Agenda

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	Joint Vulnerability Assessment Branch Overview		



Message from the JIFX Director



JIFX

Joint Interagency Field Experimentation

Questions?

Slides available on Website – “Upcoming JIFX”

Recording available by request (Ashley.book@nps.edu)