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The Role of Exercises

Pacific Exercises and Training Ranges: Building Deterrence in Depth



1

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DETERRENCE IN DEPTH: THE ROLE OF ALLIED PACIFIC EXERCISES AND TRAINING	4
<i>Pacific Exercises and Ranges</i>	<i>7</i>
Exercise Maple Flag.....	7
The Cold Lake Range	7
Exercise Northern Edge	8
From the 2009 exercise:.....	8
Red Flag Alaska.....	9
RF Alaska 2013.....	9
Exercise Dawn Blitz	9
Dawn Blitz 2013:	9
Iron Fist	10
Exercise Rim of the Pacific (RIMPAC)	10
Tafakula	10
Exercise Tafakula 2013	10
Kiwi Flag.....	10
Alam Halfa.....	11
Alam Halfa 2012.....	11
Southern Katipo.....	11
Exercise Keen Sword	12
Keen Sword 2012.....	12
Keen Sword 2013.....	13
Forest Light	14
Forest Light 2013	14
Ssang Yong.....	14
SSANG Yong 2014.....	14
Key Resolve	15
Key Resolve 2014	15
Foal Eagle	16
Foal Eagle 2014	16
Ulchi Freedom Guardian	16
UFG 2013.....	16
Max Thunder	17
Forager Fury	18
Exercise Valiant Shield.....	19
Valiant Shield 2012.....	19
Cope North	20
Cope North 2014	20
Exercise Balikatan.....	21
Cobra Gold	21
Cobra Gold 2014	21
Cope Tiger.....	22
Cope Tiger 2014.....	22
Commando Sling.....	23
CARAT	23
CARAT 2013	23
Bersama Shield	24
Bersama Shield 2013	24
Gema Bhakti	25
Gema Bhakti 2013.....	25
Talisman Saber	25
Talisman Saber 2013	25
Exercise Koolendong 2013	26
Pitch Black	27
Pitch Black 2013.....	27
Woomera Test Range	31
Australian Training Ranges.....	31
GETTING READY FOR TRIDENT JUNCTURE 2018.....	31
INFORMATION SHARING IN CRISIS: A KEY FOCUS OF EXERCISE TRAINING	33
THE ROLE OF EXERCISES: HA/DR OPERATIONS	35

CROSS BORDER TRAINING NORTH AND DETERRENCE IN DEPTH	37
JOINT FORCIBLE ENTRY EXERCISE 2016	39
<i>The Objective</i>	<i>41</i>
<i>The Mission Briefing</i>	<i>42</i>
<i>Communication</i>	<i>42</i>
<i>Debriefing.....</i>	<i>45</i>
<i>The Future of JFE and the Weapons School.....</i>	<i>45</i>
<i>Weapons Officers or Patch Wearers back in the “Force”</i>	<i>46</i>
<i>The Air Force Opportunity.....</i>	<i>47</i>
PAST AS PROLOGUE: THE RETURN OF ROVING SANDS	48
EXERCISE JOINT WARRIOR: THE UK WORKS WITH ALLIES IN THE BREXIT TRANSITION	49

Deterrence in Depth: The Role of Allied Pacific Exercises and Training

In this edition of defense.info, we are looking at the role of exercises in training for the strategic shift.

In a later edition, we will with the evolution of training approaches and tools used in reshaping exercise regimes as well.

We will start with our look at the role of allied exercises in the Pacific.

The US and its allies are shaping a deterrence in depth strategy to deal with 21st century challenges.

We focused on this effort in our book published on Pacific defense.

This article first published April 26, 2014, highlighted the range of exercises engaged in by the US, the partners and the allies.

The US and its allies are shaping a deterrence in depth strategy to deal with 21st century challenges.

In our [book on the Pacific](#), we identified four key challenges shaping 21st century pacific policy: the rise of the People's Republic of China, the emergence of North Korea within the second nuclear age, the challenges of securing maritime trade and providing for sea lines of communication defense (protecting the conveyor belt of goods and services, and building out capabilities to deal with the Arctic opening. These challenges highlight a set of dynamic trends, which are shaping significant demand drivers for defense and security forces.

But these forces are being developed and shaped not simply by the United States but by core allies as well as various partners in the region.

There is significant convergent modernization going on among the allies, and as new systems and capabilities are introduced crafting ways to get these systems to work together is an important dimension of the re-shaping of Pacific defense.

There are significant 21st century technological and operational dynamics affecting those forces as well.

One is the [tighter integration](#) of defense with offense into a defense offense enterprise. At the heart of this effort are greater integration among missile and air defense systems shaping an evolving relationship between sensor and shooter systems.

Another is the coming of an F-35 fleet to the Pacific which will create much greater possibilities for collaboration and cooperation among the US and allied forces.

We have developed two images of the cross cutting of the two dynamics.

The first is to think of [Aegis as the wingman](#) for the F-35. Here the ability of fifth generation aircraft to work together and to leverage non-organic assets to shape deterrent capabilities is highlighted.

The second is the notion of the ["long reach of Aegis"](#) whereby missile defense systems can be enhanced by the operation of manned forward deployed sensor and C2 aircraft to extend the impact of an integrated air and missile defense force.

Another emergent force is the enhanced role of connectivity among joint and coalition platforms and systems.

It is no longer simply setting a goal for greater interoperability; it is building in to the Pacific defense effort greater capability for divergent platforms and systems to be connected in a dynamic defense and deterrent force.

One way to express this dynamic is the coming of the aerospace combat cloud and the ability to engage in collaborative operations much more effectively and fundamentally. The cloud concept has been highlighted by Lt. General (retired) Deptula, the Dean of the Mitchell Institute for Aerospace Studies of the Air Force Association, as a key focal point in shaping the way ahead in integrated combat power.

Rather than “integrating” separate platforms and separate services and domains, a joint and coalition force is emerging which can distribute through a battlespace and operate by cross connecting and shaping an offensive defensive enterprise. Shaping a force that is cloud-ready is a key to the effort and acquisition of new platforms in the future needs to proceed from an understanding that they need to connect to the cloud and operate flexibly in providing either offensive or defensive capabilities dependent on the mission and the priorities shaped by the decision-making process.

And that process itself is undergoing major changes as distributed capabilities populate the cloud and allow the force to operate in real time. The combat cloud provides situational dynamic decisions to be made by war fighters at all levels to get deep inside the adversary’s decision cycle.

The size of the Pacific poses its own challenges. Shaping scalable and modular forces among the US and the allies is crucial to operate at distance and to shape targeted forces to deal with local crises.

Also the constant challenge of dealing with humanitarian and disaster relief challenges in the region taxes US and allied forces. There is a frequent demand to come to mutual support and aid as well as to encompass a much wider range of partners in the region.

All of these dynamics require not simply the existence and development of forces in the abstract. It requires regular training among the allies and with the United States.

As a result, the exercise regimes are a crucial lifeblood for forging real capabilities and effective and innovative approaches to move forward.

The combat cloud will be shaped on the exercise ranges of the Pacific.

The following chart identifies the major Pacific exercises and locations for those exercises.

At the end of this article, each of these exercises is discussed briefly and that discussion makes it clear the diversity of those exercises which operate across the spectrum of operations.

It is also the case that in recent years new systems have been introduced into exercises and their capabilities for the joint and coalition force not only demonstrated but further developed.

The introduction of THAAD, F-22 and Osprey are three US examples and a recent allied example are Wedgetail and KC-30s by Australia into the effort as well. Certainly, the F-35 Pacific fleet will emerge from the exercise and training ranges in the Pacific.

For Lt. General Robling, the MARFORPAC commander, training and exercises are the lifeblood of shaping the evolution of the USN-USMC working the distributed laydown strategy in the Pacific.

The enhanced capabilities our partners are building through both training and hardware procurement will enable each of them to address individual security challenges while also providing us opportunities for partnerships that will naturally create a deterrence that covers large expanses of this large region.

The focus is not just on separate ground, naval and air forces.

The USMC is a very cost effective force within the overall defense budget spending over all less than 10% of the defense budget. 2/3s of the USMC force is deployed to the Pacific. And in the Pacific the USMC spends \$50 million per year on its exercises and of that 50% of the cost is for lift. It is clear that this touchstone for an ongoing commitment and deepening of

partner working relationships needs to be fully supported and enhanced in the years to come and not be part of salami cutting approach to cutting defense expenditures.

Filling power vacuums by ongoing presence is a lot more effective than having to rush in later to deal with a crisis generated by collapse or someone else trying to force their will in the region.

Allied modernization efforts are a key part of the building of a 21st century Pacific defense approach.

The PACAF Commander, General Carlisle, has coined the term “places not bases” as his command’s way of discussing working with partners and allies throughout the region providing logistical support and coordinated capabilities which allow the US and those partners to work together in a variety of contingencies.

The exercise regime is clearly part of this effort, as exercises provide the opportunity to test out and enhance logistical and support approaches as well as to shape convergent con-ops where appropriate.

With regard to modernization, General Carlisle noted “this AOR is the most rapidly growing military aviation market worldwide. Investments are being made and the willingness of our allies to work with us in rolling out a common fleet of F-35s is a key common investment which will significantly enhance our collective ability to provide for effective Pacific defense.”

Among the investments being made by the allies which we discussed beyond missile defense and F-35 were tankers and the Aussie Wedgetail.

Several allies are either adding new tankers or plusing up their inventory of tankers and, according to Carlisle, “the allied tanker contribution is being enhanced and a more robust tanker fleet is a hugely positive development.”

He cautioned that to get the full benefit of more allied tankers would require working together to shape effective concepts of operations for a US and allied fleet working together.

An important element of the shift is that the US, clearly the most important player in an allied system of Pacific defense, is becoming a facilitator as well as enabler of allied capabilities. The image of the shift was well illustrated by [this comment from a PACAF staffer](#) involved in the exercise process:

“Our role as a facilitator is growing in broadening the engagement opportunities for allies to work together. A good image of the change is that an Aussie Wedgetail was doing to Command and Control for Japanese and South Korean jets at the recent Red Flag exercise. For the first time, South Korean jets crossed through Japanese air space to come to fly with the participants in Red Flag.”

As we argued [earlier](#):

The recent search for the missing Malaysian airliner reminds us of the vastness of the Pacific and the challenges of operating in such a vast region. Covering a territory which covers so much of the earth’s surface and with thousands of islands present a tapestry of operational complexity.

This is no place for amateurs.

As Admiral Nimitz confronted the last century’s challenges he concluded a core lesson for this century’s Pacific warriors:

“Having confronted the Imperial Japanese Navy’s skill, energy, persistence, and courage, Nimitz identified the key to victory: ‘training, TRAINING and M-O-R-E T-R-A-I-N-I-N-G.’ as quoted in Neptunes’s Inferno, The U.S. Navy at Guadalcanal (James D. Hornfischer).”

The US and its core allies are shaping new capabilities to deal with the various threats and challenges in the Pacific in the time of the Asian century. Flexibility in operations and agility in inserting force with a proper calibration of effect will be enhanced as new systems come on line in the years ahead: the Royal Australian Air Force (RAAF) combination JSTRS and

AWACS platform (remember the E-10 we did not buy) Wedgetail, the KC-30A (remember the advanced tanker developed for the USAF being operated by the RAAF and soon by the Singapore Air Force, 11 to be clear), the F-35 (where there are as many allied aircraft as US aircraft coming to the region), the USS Ford, the USS America, new missiles, the Osprey in the hands of the US and its allies, etc.

But these systems will have the proper effect only in the hands of skilled warriors.

And in this century this will mean not only the US training effectively but doing so from the ground up with its core allies and partners.

Pacific Exercises and Ranges

Exercise Maple Flag

Maple Flag, a Canadian directed exercise conducted annually that provides training for warfighters in large-force employment of 50 aircraft at a time.

The exercise, which took place at Cold Lake, Canada, was designed to give real-world experience to participants and promote the ability of allied nations to work together. Ten nations, including Belgium, Germany and the Netherlands, came together to practice combat tactics in an international training environment.

<http://www.aetc.af.mil/news/story.asp?id=123355939>

The Cold Lake Range

Cold Lake (or Primrose Lake) Air Weapons Range (CLAWR) straddles the Saskatchewan-Alberta border along the 55th parallel, covering an area of 11,753.5 km²; 54% (totaling 1.6 million acres) of the range is situated in Saskatchewan, and 46% is in Alberta. The heavily forested terrain of this facility resembles European topography. With its unrestricted airspace, and equipped with state-of-the-art targets, Cold Lake Air Weapons Range is considered to be one of the finest combined air operations training ranges in the world. It contains an instrumented aerospace testing and evaluation range, a manned air-to-ground range (including a high explosive range), and an air-to-air gunnery range.

Construction of RCAF Station Cold Lake, located southwest of the range in Alberta, began in 1952. It became a major Cold War facility after 1954, eventually housing an establishment of more than 2,000 service personnel. In operational terms, an air armament division of the Central Experimental and Proving Establishment (CEPE) was formed at Cold Lake, and evaluation facilities were constructed on the accompanying range so that fighter pilots could test armament systems and fire their guns at various altitudes. During the 1950s, the No. 3 (All-Weather) Operation Training Unit moved to the site to train crews up to operational standard with the CF-100 all-weather interceptor. When this aircraft was phased out in 1961, the military created operational training units to convert pilots to Starfighter, CF-5, and later CF-18 aircraft.

In 1953, the federal government signed agreements with the governments of Saskatchewan and Alberta to perpetually lease the range. The leases, originally established for a twenty-year period, have been renewed continuously since 1954.

The latest agreements between the federal and provincial governments are automatically renewed on an annual basis until the federal government chooses to cancel them. In return, the federal government provides annual compensation to the provinces for loss of revenue from forest resources, fur, fish, and recreational, agricultural and related purposes.

Although the range was laid out to avoid First Nations reserves, it encompassed traditional Aboriginal and treaty areas. Five First Nations were affected by the creation of the CLAWR, including the Canoe Lake CREE Nation in Saskatchewan, who in 1975 and 1985 submitted land claims alleging inadequate compensation for the disruption to their rights and livelihoods.

In 1993, an Indian Specific Claim Commission inquiry recommended that the federal government negotiate an agreement for breaching treaty guarantees and its fiduciary duty by inadequately compensating and rehabilitating Aboriginal groups.

In 1997, the federal government reached with the Canoe Lake CREE a final settlement that provided an estimated \$12 million in compensation, as well as controlled access for traditional activities (hunting, fishing, trapping, and gathering), commercial fishing, and cultural heritage activities. Several other Saskatchewan First Nations and MÉTIS COMMUNITIES continue to push for monetary compensation, access, and support for economic development.

Non-military use of the CLAWR has increased over the last decade, and will continue to grow as various sectors vie for access to airspace, land and resources (such as natural gas, commercial fishing, and logging) in and around the range. 4 Wing controls land-based access to ensure that safety, operational and security requirements are met.

Recently, the province of Saskatchewan has established three environmental protected areas on the CLAWR, allowing 4 Wing Cold Lake and its clients to sustain the tempo and full scope of flying training on the CLAWR. The mission of 4 Wing is to train, deploy and support world-class tactical fighter forces to meet Canada's defense needs. Two operational CF-18 Squadrons and two training squadrons, as well as numerous support units, make 4 Wing Canada's largest and busiest fighter wing.

Every year Cold Lake hosts Exercise Maple Flag, an international air combat exercise promoting leadership, initiative, and self-discipline in the air; it provides air crew with realistic training in a modern, simulated air combat environment, combining large-scale operations with airborne and ground-based electronic threats. Since 2001, Phase IV of the NATO Flying Training in Canada (NFTC) program has been conducted at Cold Lake.

The relatively unrestricted Cold Lake Air Weapons Range represents one of the largest live-drop training ranges in the world and is the largest low-level flying area in North America. It continues to provide the air force with an unparalleled training environment. In 2004, the Cold Lake base reached a momentous milestone with 50 years of operation and service to the Canadian Forces—a testament to the enduring partnership between the armed forces and the provinces of Saskatchewan and Alberta.

http://esask.uregina.ca/entry/cold_lake_primrose_lake_air_weapons_range_4_wing.html

Exercise Northern Edge

Northern Edge is Alaska's premier joint training exercise designed to practice operations, techniques and procedures, and enhance interoperability among the services. Over 5,000 participants from all the services, Airman, Soldiers, Sailors, Marines and Coast Guardsmen from active duty, reserve and national guard units are involved.

<http://www.pacaf.af.mil/operationsandexercises.asp>

From the 2009 exercise:

The Joint Strike Fighter Program, which is heading the development of the F-35, conducted field testing for the aircraft's APG-81 radar system during the Northern Edge 2009 exercise in Alaska.

The exercise, which was the United States' largest and most complex airborne electronic warfare environment to date, presented real-world scenarios to test the fighter jets of today's military, as well as future aircraft like the F-35.

"Exercise Northern Edge presented a rare and valuable opportunity to observe the performance of the F-35 Joint Strike Fighter's APG-81 radar in an operational environment," said Michael Solomon, a representative from resources and experimentation, U.S. Pacific Command.

The F-35s APG-81 active electronically scanned array radar was integrated in the exercise when it was mounted on the front of a BAC 1-11, a Northrop Grumman test aircraft. The APG-81 test event represents a major milestone in protection testing in an operationally representative environment, accomplished years ahead of normal developmental timelines.

The airborne tests of Northrop Grumman's APG-81 radar validates years of laboratory testing versus a wide array of threat systems, showcasing the extremely robust electronic warfare capabilities of the world's most advanced fighter fire control radar.

<http://www.jber.af.mil/news/story.asp?id=123156090>

Red Flag Alaska

Red Flag-Alaska is a series of Pacific Air Forces commander-directed field training exercises for U.S. forces. It provides joint offensive counter-air, interdiction, close air support and large force employment training in a simulated combat environment.

The exercises are conducted on the Pacific Alaskan Range Complex with air operations flown out of Eielson and Elmendorf Air Force bases in Alaska.

<http://www.pacaf.af.mil/operationsandexercises.asp>

RF Alaska 2013

Red Flag-Alaska 13-3, which wrapped up Aug. 23, involved 60 aircraft and 2,600 people. The group included Air Force, Navy and Marine Corps troops, and military members from South Korea, Japan and Australia.

The training marked the first time Korean and Japanese forces trained together in Alaska or anywhere. The Republic of Korea Air Force brought F-15K Slam Eagles, with the Japanese Air Self-Defense Force flying its own version of the F-15 Eagle. Flights began Aug. 8 for the exercise.

“The exercise provides unique opportunities to integrate various forces into joint and coalition training from simulated forward operating bases,” said Capt. Joost Verduyn, chief spokesman of the 354th Fighter Wing at Eielson Air Force Base, which played host for the training.

The training let the participants simulate combat in a “realistic threat environment,” he said.

The Air Force part of the training included representatives from active duty, Air National Guard and Air Force Reserve, including F-15s, F-16s, F-22s and A-10s, along with KC-135s, KC-130s and F/A-18s.

The training involved “red” aggressor forces, “blue” coalition forces and “white” forces, a group that acts like a referee to oversee and control the exercises made up of the 353rd Combat Training Squadron at Eielson. The training took place at the 67,000-square-mile Joint Pacific Alaska Range Complex.

<http://www.armytimes.com/article/20130825/NEWS/308250005/Spared-from-sequestration-cuts-Red-Flag-Alaska-wraps-up>

Exercise Dawn Blitz

Operation Dawn Blitz is an annual military exercise orchestrated by the United States Navy and Marine Corps to simulate an amphibious assault by landing infantry and support on a beachhead. In recent years it has grown to incorporate the military of several US allies.

http://en.wikipedia.org/wiki/Operation_Dawn_Blitz

Dawn Blitz 2013:

For the first time, the Dawn Blitz amphibious exercise includes several of the U.S.’s Pacific partners, and China has taken notice — even going so far as to request that the U.S. and Japan cancel portions of the event.

About 5,000 ground and naval forces — Marines, sailors and troops from Japan, Canada and New Zealand — are participating in this year’s iteration of Dawn Blitz, which will be held ashore at Camp Pendleton and Twentynine Palms, Calif., and aboard ships off the coast of San Diego, from June 11 to 28.

Members of the 11th Marine Expeditionary Unit, 1st Marine Division, 1st Marine Logistics Group, 3rd Marine Aircraft Wing, and Marine Forces Reserve will take part.

Dawn Blitz began as a Navy-Marine Corps exercise in 2010, but was widened this year to include Pacific allies.

<http://www.marinecorpstimes.com/article/20130610/NEWS08/306100017/Dawn-Blitz-grabs-China-s-attention>

Iron Fist

Iron Fist is a bilateral training event designed to increase amphibious capabilities and interoperability between U.S. and Japanese forces.

The exercise is the ninth iteration of the annual training event, which began in 2006, and provides the opportunity to exchange knowledge, develop personal and professional relationships, and hone individual and small-unit skills through challenging, complex and realistic training.

<http://www.dvidshub.net/news/119576/opening-ceremony-begins-exercise-iron-fist#.U1uM3a1dVOE#ixzz2zzlhA2RL>

Exercise Rim of the Pacific (RIMPAC)

The world's largest international maritime exercise, RIMPAC provides a unique training opportunity that helps participants foster and sustain the cooperative relationships that are critical to ensuring the safety of sea lanes and security on the world's oceans.

For example, in 2012 with 22 nations and more than 40 ships and submarines participating the last time it was held off Hawaii in 2012. Not all the participants are treaty allies with the United States. Last year's participants included Russia and India.

Tafakula

This exercise is hosted by Tonga and includes US and allied forces in providing security in a tough operational setting.

Exercise Tafakula 2013

Platoons from Marine Rotational Force Darwin, the Tongan Defence Service and the French Foreign Legion searched car after car, looking for an “extremist” disguised as a service member during a vehicle checkpoint exercise as part of Exercise Tafakula 2013, in Tongatapu, Kingdom of Tonga, Sept. 10, 2013.

The troops were on high alert hunting for their suspect and used a series of poles in various sizes to create roadblocks and to siphon traffic to ensure a thorough search.

“Our main mission during the VCP was to provide security and have our weapon system oriented down the main avenue of approach for a possible high-valued target,” said Lance Cpl. Jeremy Coulon, machine gunner and squad leader, weapons platoon, Lima Company, 3rd Battalion, 3rd Marine Regiment, MRF-D, and native of San Marcos, Texas. “Everyone here today did their part to make sure the mission ran smoothly.”

<http://www.amwayhealthline.com/exercise/exercise-tafakula-2013-tests-security-skills-marine-corps-base-hawaii-news-article-display.html>

Kiwi Flag

Exercise KIWI FLAG is a multilateral, tactical air mobility exercise held at RNZAF Base Whenuapai, which aims to improve the interoperability and partnership of the participating nations.

Working alongside Royal Australian Air Force, New Caledonia French Defence Force, Republic of Singapore Air Force and RNZAF counterparts, as well as a KC-130 crew from the U.S. Marines, USAF Airmen conduct combined flight operations to include aircraft mission generation and recovery, low-level navigation and tactical airdrops.

<http://www.pacaf.af.mil/news/story.asp?id=123295545>

Alam Halfa

This is an exercise hosted by the New Zealand Defence Force (NZDF) and is a joint military exercise with the Australian and US militaries at the Waiouru Military Training Area in central North Island near Waiouru, New Zealand. Primarily designed to exercise a combined arms task group concept within both counter-insurgency and conventional environments, Exercise Alam Halfa features live-firing maneuvers in Waiouru training range followed by blank firing drills at the Wairarapa-Tararua area.

<http://www.army-technology.com/news/newsnzdf-australia-and-us-conduct-exercise-alam-halfa-2013>

Alam Halfa 2012

The New Zealand Defence Force has begun its biggest joint exercise involving the New Zealand's Navy, Army and Air Force since the late 1990s.

Exercise Alam Halfa will involve approximately 1500 people from the NZ Defence Force bringing together maritime, land and airmobile forces. Troops will practise in a high-end combat setting, with the scenario requiring them to restore peace and transfer control of a fictional country back to law enforcement and democratic authorities.

"These exercises form a vital part of the NZ Army's operational cycle," says 1 (NZ) Brigade Commander Colonel Chris Parsons. "They allow us to prepare for a variety of likely contingencies to ensure that New Zealand can play its part in our region or around the globe reducing conflict and improving stability.

"This is the biggest exercise involving all three Services of the Defence Force since the Exercise Green Fern series in 1997/98."

Several hundred personnel from the NZ Army's 2/1 Battalion, based in Burnham Military Camp, arrived in the Port of Napier earlier this week, disembarking from the amphibious sealift ship HMNZS CANTERBURY. This coincided with the arrival of over 900 personnel from Linton Military Camp who travelled by road.

The majority of the exercise will be conducted within the Waiouru Military Training Area; however local residents throughout the central North Island should not be surprised to see personnel and vehicles as they move between locations over the coming week.

"Well over half of the military personnel in the Brigade, which has its major bases in Linton and Burnham Camps, will be taking part in the exercise. They will be supported by Navy ships and Air Force helicopters," says Colonel Parsons.

<http://www.nzdf.mil.nz/news/media-releases/2012/20120501-lnzdfei15yu.htm>

Southern Katipo

Southern Katipo brings together force elements of the New Zealand Defence Force in a medium-scale joint exercise. Allies and partners join New Zealand forces to execute the mission objective, while accentuating interoperability of NZ assets.

<https://www.facebook.com/SouthernKatipo/info>

Southern Katipo 2013

The military exercise, involving 2200 personnel from 10 countries including crack US Marines, is being played out in South Canterbury towns, ports, and farms. Backroom staff at the New Zealand Defence Force have spent months concocting Exercise Southern Katipo 2013 - a scenario where the lower half of the South Island is a made-up Pacific nation called Mainlandia.

http://www.nzherald.co.nz/nz/news/image.cfm?c_id=1&gal_cid=1&gallery_id=139046#13061587

Exercise Keen Sword

Keen Sword allows the U.S. and Japan to practice coordination procedures and improve interoperability required to effectively defend Japan or respond to crises throughout the Asia-Pacific region.

<http://www.public.navy.mil/surfor/Pages/KeenSword2013.aspx#.U1uSFq1dVOE>

Keen Sword is a regularly-scheduled, joint, bilateral exercise between U.S. and Japanese forces at training locations throughout Japan. Keen Sword allows the U.S. and Japan to practice coordination procedures and improve interoperability required to effectively defend Japan or respond to crises throughout the Asia-Pacific region.

<http://www.dvidshub.net/news/97823/exercise-keen-sword-13-begins#.U1uSTq1dVOE#ixzz2zzOWgNqh>

Keen Sword 2012

*11/9/2012 - **MISAWA AIR BASE, Japan** -- Airmen from across Misawa Air Base are teaming up with their Japan Air Self-Defense Force counterparts in support of a Japan-wide, two week long exercise that will run from Nov. 5-16, 2012.*

Keen Sword is the twelfth flagship joint-bilateral field training exercise since 1986 involving United States military forces and Japan Self-Defense Forces.

During the exercise, servicemembers will practice responding to a wide range of realistic combat scenarios. These situations include defense of the region and reacting to a simulated contingency situation affecting Japan.

American and Japanese military leadership guarantee that the scenarios being executed in the next few weeks are not in preparation of immediate defensive or offensive operations. The planning for this year's bilateral program began a year ago, so it is not connected to any particular area of the world, nation or existing political and geographical situations.

"Misawa's role in this exercise is to lead the integration efforts with JASDF," said Col. Samuel Shaneyfelt, 35th Operations Group commander.

Not only does the exercise allow Airmen to improve their combat readiness skills, but it also helps build bilateral confidence and strengthen working relationships between the two militaries.

"It's an incredible opportunity to personally work with our Japanese counterparts and strengthen our relationship," said Capt. Matthew Hoyt, 13th Fighter Squadron Keen Sword officer. "Not only does this give us a chance to test tactics together, but allows us the opportunity to share cultures and insight into one another's operating styles. If we build that camaraderie now, then one day, when it's time to defend this country together, we'd have already solidified that trust between us."

Some of the challenges that will surface during the exercise are the differences in language and combat tactics.

"Although American and Japanese air forces run things relatively the same, there are some differences in tactics and weapons system," said Lt. Col. John McDaniel, 13th Fighter Squadron commander. "Learning to integrate and maximize each others' strengths and minimizing the weaknesses are all part of fortifying our working relationship."

Shaneyfelt agreed with the 13 FS commander and added that he was eager to see how well the two militaries work together during the exercise.

"We'll see what happens in the next couple of weeks," said the Shaneyfelt. "I'm really looking forward to it."

<http://www.pacaf.af.mil/news/story.asp?id=123325734>

Keen Sword 2013

MISAWA AIR BASE, Japan (AFNS) -- For four days, the U.S. and Japan Air Self-Defense Force pilots went through countless briefings and motivational speeches. On Nov. 8, 2012, more than 30 pilots sat in their jets, side-by-side, and waited for the crew chiefs to give them the signal to taxi-out. It was time to take to the skies.

Keen Sword 2013 is the 12th exercise of its kind held since 1986. It is designed to give service members the opportunity to evaluate coordination procedures and practice working together as one team. With U.S. forces and JASDF working closely together, the goal is to increase the skills needed to effectively defend Japan, or respond to a regional crisis.

"The overall objective of this exercise is to increase interoperability," said Capt. Bryan Zumbro, 14th Fighter Squadron Keen Sword participant.

One of the first scenarios was to protect and defend an area from a simulated enemy air attack.

U.S. and JASDF pilots were split into mixed groups called "blue air" and "red air." Blue air's objective was to defend the area, and red air's mission, as the rival team, was to simulate an attack.

To simulate an aircraft being "hit", the pilot relies on the jet's built-in air combat maneuvering instrumentation. The ACMI system records aircraft's in-flight data and is used for aerial combat training and analysis.

During the next hour, "blue air" held their ground while their adversary used every means necessary to strategically break their defenses and bomb the area.

Both air forces used their experiences from the exercise to strengthen their relationship with each other.

"I want to learn everything I can to be a better pilot," said Capt. Toshiaki Hasei, JASDF pilot.

Hasei, who is participating in his first Keen Sword exercise, said his experience was fun and hasn't left him overwhelmed.

"I think it went very well," said Capt. Matthew Hoyt, 13th FS Keen Sword planning officer. "There were no major issues and lessons were learned."

Some lessons learned were due to dissimilar training, engagements and how we communicate, added Hoyt. However, he stated these lessons will be used to improve our mutual understanding of how our forces can effectively operate together to get the job done.

"By openly working together with our partners, we have a better chance of improving," said Zumbro.

"Overall, [today's] exercise went well," said Hoyt. "We were able to execute the primary mission. I think we proved our current bilateral capabilities are outstanding and provide a great defense for Japan."

<http://www.af.mil/News/ArticleDisplay/tabid/223/Article/110070/keen-sword-one-team-one-fight.aspx>

Forest Light

Forest Light is a routine, semiannual training exercise that enhances the readiness of the U.S. Marine Corps and JGSDF and is in accordance with the U.S.-Japan Treaty of Mutual Cooperation and Security.

Forest Light 2013

Japan Ground Self-Defense Force members teamed with U.S. Marines to discuss a simulated attack plan Feb. 26-28 during the command post exercise portion of Exercise Forest Light 13-3 at the Hokkaido-Dai Maneuver Area in Hokkaido prefecture, Japan.

During the CPX, members of the 11th Infantry Regiment, 7th Armored Division, Northern Army, JGSDF, worked with Company I (Reinforced), 3rd Battalion, 6th Marine Regiment, which is assigned to 4th Marine Regiment, 3rd Marine Division, III Marine Expeditionary Force, under the unit deployment program.

Forest Light is a routine, semiannual training exercise that enhances the readiness of the U.S. Marine Corps and JGSDF and is in accordance with the U.S.-Japan Treaty of Mutual Cooperation and Security.

The CPX provided an opportunity for the JGSDF members and Marines to hone their communication skills and learn from each others' unique experiences and expertise, better preparing them for a unified approach to future contingencies.

"Coordination has been extremely thorough for this event," said JGSDF Sgt. 1st Class Ryo Komine, an interpreter with the regiment. "This portion of the exercise focuses on the continued commitment of our forces to work together. While the training will help with our readiness, we are also focused on gaining a mutual understanding of our allies, which we will do through cultural exchanges and training throughout the exercise."

Those participating worked through language barriers and procedures to strengthen bonds between each other and become more operationally ready for a real-world scenario.

"Since we have two different styles of doing things, we wanted to learn as much as we could from each other to increase our readiness," said JGSDF Capt. Tomoyuki Adachi, a liaison officer with the regiment. "While we have an extensive amount of cold-weather training to teach our allies, we have much to learn from their combat experiences."

While many of the Marines have deployed to a combat zone, for almost all of them this was their first time to train in Japan, according to Lt. Col. James A. Ryans, the commanding officer of 3rd Bn., 6th Marine Regiment.

"This kind of an opportunity and experience is irreplaceable for us," said Ryans. "Every opportunity that we get while deployed to Japan is one we are going to take full advantage of. Not only do we get to take advantage of the cold-weather training, but we also get to gain the experience of working with another military, both of which are very rare opportunities aboard our home camp, Camp Lejeune in North Carolina."

<http://www.dvidshub.net/news/102742/japan-us-begin-command-post-exercise-during-forest-light-13-3#.U1uSpa1dVOE#ixzz2zzP5HDt6>

Ssang Yong

Ssang Yong, Korean for "twin dragons," is an annual, bilateral amphibious assault exercise conducted in the U.S. 7th Fleet area of operation by Navy and Marine forces with the ROK in to strengthen interoperability and working relationships across the range of military operations from disaster relief to complex, expeditionary operations.

SSANG Yong 2014

"What Ssang Yong 2014 is all about is demonstrating the capabilities of the Navy and Marine Corps amphibious team," said Rear Adm. Hugh Wetherald, commander, ESG 7. "There is more than just amphibious warfare, and that is working

with our partners, working with our allies. This is one of those unique opportunities that we have to really integrate ourselves and work as an equal team as we project power."

The exercise was the first to include a joint, combined command and control headquarters which was led by Wetherald; ROK Rear Adm. Chun Jung-soo, commander, Flotilla 5; Brig. Gen. Paul Kennedy, commanding general, 3d MEB; and ROK Brig. Gen. Cho Kang-jae, deputy commander Landing Force.

More than 20 ships and 14,000 Sailors and Marines participated in the exercise.

"I've always said that our navies, any of our partners' navies, are stronger when we work together than when we work apart," said Wetherald. "As we brought the two flagships together, 500 yards apart from each other, that was really emblematic of the capability we have out here and how strong we are when we work together."

During Ssang Yong 2014, 13 landing craft, including Landing Craft Air Cushion and Landing Craft Utility transported 263 pieces of equipment weighing a total of 3,328,494 pounds. The equipment transported included, six M1A1 tanks; High Mobility Multipurpose Wheeled Vehicles; Medium Tactical Vehicle Replacements; Internally Transportable Vehicles; and other equipment between Marine Prepositioning Forces (MPF) and Navy assets.

"We moved more than three million pounds of equipment over five days via landing craft," said Capt. Michael Allen, commander, Amphibious Squadron 11 (PHIBRON 11) combat cargo officer. "During the rehearsal and 'D-Day,' the dynamic schedule came together and we executed perfectly. For two nations to come together and achieve what we did was phenomenal. We learned how to best communicate in order to identify priorities and get people and equipment to the beach."

ESG 7 and 3d MEB also flew more than 800 aerial missions in support of the exercise and 74 U.S. and Korean amphibious assault vehicles were used during the amphibious landing. For Ssang Yong 2014, ESG 7 included the Bonhomme Richard Amphibious Ready Group (ARG) and Boxer ARG and 3d MEB included the 31st Marine Expeditionary Unit (MEU) and the 13th MEU.

"This was a tremendously complex exercise with thousands of Marines and thousands of Navy Sailors, over 20 ships coming together and, then, immediately executing," said Wetherald. "It was a true and tried example of a mature relationship."

http://www.navy.mil/submit/display.asp?story_id=80158

Key Resolve

Key Resolve is the name (as of 2008) for the military exercise previously known as RSOI, which stands for Reception, Staging, Onward Movement, Integration (and even earlier as Team Spirit). It is an annual command post exercise (CPX) held by United States Forces Korea, and conducted with the Republic of Korea Armed Forces.

It is conducted between February and April and focuses on United States Pacific Command OPLANs that support the defense of South Korea. Additionally, US units are moved to Korea from other areas and they conduct maneuvers and gunnery exercises. ROK units also conduct maneuvers with some acting as the OPFOR.

http://en.wikipedia.org/wiki/Key_Resolve

Key Resolve 2014

Exercise Key Resolve came to an end March 6 following two weeks of training.

Exercise Key Resolve is an annual combined and joint command post exercise that is executed under various scenarios with the purpose of honing the skills necessary to defend the Republic of Korea. The exercise is designed to increase Alliance readiness, protect the region, and maintain stability on the Korean Peninsula.

Approximately 5,200 U.S. forces participated in KRI4, about 1,100 of which came from off peninsula. Forces from major ROK units representing all services participated in the exercise. Four United Nations Command Sending States also participated in the exercise: Australia, Canada, Denmark, and the United Kingdom.

<http://www.usfk.mil/usfk/press-release.exercise.key.resolve.2014.wraps.up.1204?AspxAutoDetectCookieSupport=1>

Foal Eagle

Exercise Foal Eagle is an combined Field Training Exercise (FTX) conducted annually by the Republic of Korea Armed Forces and the United States armed forces under the auspices of the Combined Forces Command. It is one of the largest military exercises conducted annually in the world. While defensive in nature and conducted primarily as a rear area security and stability training exercise.

http://en.wikipedia.org/wiki/Foal_Eagle

Foal Eagle 2014

The U.S. and South Korea quietly wrapped up their annual spring training drills on Friday, as the end of the massive Foal Eagle exercise was overshadowed by efforts to rescue passengers of a sunken ferry of the southwestern tip of the peninsula.

Some 12,700 U.S. troops took part in either the Foal Eagle field training exercise, which began Feb. 24 and ended Friday, or the Key Resolve command post exercise, which ran Feb. 24-March 6. About 200,000 South Korean troops participated.

This year's Foal Eagle exercise included the Ssang Yong amphibious landing, which, according to South Korean media reports, involved some 9,500 U.S. Forces and 4,500 South Korean sailors and marines.

A 7th Fleet ship that took part in Ssang Yong responded Wednesday to the sinking of the Sewol, a South Korean ferry carrying 475 passengers, nearly 270 of whom remain missing. The USS Bonhomme Richard was conducting routine maritime operations in the Yellow Sea when the sinking took place, and MH-60 helicopters on board the ship have been taking part in search-and-rescue operations.

The spring exercises are traditionally a time of heightened tension with North Korea, which routinely criticizes the drills as being provocative in nature. During this year's exercises, the North conducted several rocket and ballistic missile launches and the two Koreas on March 31 fired hundreds of shells across their disputed maritime border.

<http://www.stripes.com/news/us-south-korea-wrap-up-foal-eagle-exercise-1.278620>

Ulchi Freedom Guardian

Ulchi-Freedom Guardian (UFG) is the name (as of 2008) of the military exercise previously known as Ulchi-Focus Lens, a combined military exercise between South Korea and the United States. The exercise is the world's largest computerized command and control implementation which mainly focuses on defending South Korea from a North Korean attack. The exercise was initiated in 1976 and is conducted annually during August or September. The word 'Ulchi' comes from the name of a famous Korean general called Eulji Mundeok, who was the Commander-In-Chief of the army of Goguryeo.

http://en.wikipedia.org/wiki/Ulchi-Freedom_Guardian

UFG 2013

The Republic of Korea - United States Combined Forces Command announced today that it has successfully completed its annual computer-assisted simulation exercise, Ulchi Freedom Guardian.

"This year's Ulchi Freedom Guardian exercise further strengthened our combined defense and enhanced the readiness of Republic of Korea, U.S. Forces and the U.N. sending states," said Gen. James D. Thurman, Combined Forces commander.

"The exercise was based on realistic scenarios that enabled us to provide valuable training on our essential tasks and ensured we are fully prepared to defend the Republic of Korea."

This year's training event involved computer simulations hosted at various sites across the Republic of Korea and the U.S. UFG allowed senior leaders to exercise their decision-making capabilities and trained commanders from both nations in combined planning, military intelligence, logistics and command and control operations. UFG also allowed the ROK and U.S. to evaluate and improve joint air coordination procedures, plans and systems including Combined Space Operations.

Service members and civilians from the Republic of Korea and the United States took part in the exercise. Participants came from the Korean peninsula, the U.S., and elsewhere in the Pacific region. Seven United Nations Command sending states also participated in the exercise: Australia, Canada, Denmark, France, United Kingdom, New Zealand and Norway. Neutral Nations Supervisory Commission observers monitored the exercise to ensure it was in compliance with the Armistice Agreement.

The exercise is one of two annual Combined Forces Command peninsula-wide exercises and is named after Ulchi Mundeok, a Korean military leader who repelled an invasion by China's Sui dynasty in the 7th century

<http://www.usfk.mil/usfk/press-release.cfc.announces.end.of.ulchi.freedom.guardian.2013.1109>

Max Thunder

Exercise Max Thunder, the bilateral aerial training exercise that trains U.S. and Republic of Korea Air Force pilots to work closer together against a hostile force, ended on Kunsan Air Base, Republic of Korea, Nov. 8.

The exercise is held twice a year, once on Gwangju Air Base hosted by the ROKAF and once on Kunsan AB hosted by the U.S. Air Force.

In total, 97 aircraft from the ROKAF, U.S. Air Force and U.S. Marine Corps flew 849 sorties simulating a broad array of air-to-air and air-to-ground missions while U.S. and ROK air defense artillery units, including two batteries from the 35th Air Defense Artillery Brigade, exercised their air defense mission.

New to this year's exercise was the U.S. Marine Corps' Marine Air Group 12, who flew F/A-18C Hornets to Kunsan AB from bases in Japan to participate. Maj. Kendall Spencer, Exercise Max Thunder U.S. Air Force Exercise Lead, said the Marines fit right in and provided a valuable perspective to the exercise.

"We had much more joint integration this year," Spencer said. "It was the best integration in a joint and combined fashion that we've had yet. We had Marines here and also U.S. and ROK air defense artillery units participating. We also supported a special operations course so we worked with several different components in Combined Forces Command."

ROKAF Col. Min-Oh Seo, ROKAF 38th Fighter Group commander, said the exercise is indicative of the strength of the ROK-U.S. Alliance.

"Max Thunder provided us the opportunity to experiment and enhance ROK-U.S. Air Forces' combined war-fighting capability and reception and support of augmented forces," he said. "As we utilize more of these opportunities, the combined Air Power is committed to be the strong deterrence force and will be the first to strike the heart of the enemy with precision in combat."

The 8th Fighter Wing at Kunsan AB hosted Max Thunder participants, who came from all over Korea and Japan to train together. Col. Timothy Sundvall, 8th Fighter Wing vice commander, said the U.S. and Korean militaries have come a long way in combined training.

"Sixty years ago when the United States fought alongside of the Republic of Korea, we had to learn how to fight together during battle," he said. "Exercises like this allow us to train like we are going to fight if the defense of the Republic of Korea should ever be necessary in the future. Max Thunder provided invaluable training and enhanced U.S. and ROK interoperability to ensure we are ready for any contingency."

Spencer said the exercise could not have happened without the total team effort of the 8th FW.

"The 8th Fighter Wing supported this exercise in a world class manner," Spencer said. "The men and women of the Wolf Pack did an outstanding job. It was seen by all the Air Force personnel and every Marine I talked to."

Exercise Max Thunder is part of a continuous exercise program to enhance interoperability between U.S. and ROK forces and is not tied to any real-world or specific threats. These exercises highlight the longstanding military partnership, commitment and enduring friendship between the two nations, help ensure peace and security on the Korean Peninsula and reaffirm the U.S. commitment to stability in Asia.

<http://www.pacaf.af.mil/news/story.asp?id=123370487>

Forager Fury

Various units from the Air Force, Navy and Marine Corps came together to exercise their ability to conduct combat operations across the Pacific by participating in a nonstop operations surge Dec. 10 to Dec. 13 on Guam and the nearby island of Tinian.

The surge was part of Exercise Forager Fury II, a Marine Corps contingency exercise focusing on training units for combat situations in the Pacific theater. The exercise, which began Dec. 2, involved 1,200 Marines from Marine Corps Air Station Iwakuni, Japan, and was supported by approximately 400 Airmen and Sailors in various capacities. It is expected to end Dec. 18.

The recent surge component of Forager Fury II lasted 72 hours and kept a constant simulated fight between U.S. Armed Forces aircraft and enemy aircraft north of Tinian while simultaneously responding to simulated ground invasions on Guam.

The exercise also featured Marine aviation units assigned to Marine Aircraft Group (MAG)-12 - a subordinate unit of the Marine Aircraft Wing (MAW)-1 from Camp Foster, Japan. The aviation assets are made up of Marine Fighter Attack Squadron (VMFA)-112, deployed with MAG-12 and flying F/A-18A++ Hornets, VMFA-232, flying F/A-18Cs, VMFA-242, flying F/A-18Ds, Marine Air Refueler Transport Squadron (VMGR)-152, flying KC-130J Super Hercules and Marine Medium Tiltrotor Squadron (VMM)-262, flying MV-22B Ospreys.

Additionally, U.S. Air Force F-15C Eagles from the 18th Wing, Kadena Air Base, Japan, are training with the MAG-12 as part of their recurring Aircraft Training Relocation program, which allows U.S. military pilots from air bases in Japan to train in the Central Northern Marianas Island areas to fly more hours, drop live explosives and fire live munition rounds in training environments not available in Japan.

"The surge's goal is to maximize the amount of (missions) in a 72-hour period," said Marine Corps Lt. Col. Keith Topel, MAG-12 operations officer. "The surge is the main purpose of why we're here. We are expected to operate cohesively and fight as a joint task force."

The units continuously deploy aircraft into the air while also testing maintainers' skills on the ground to sustain aircraft for flight.

The aircraft launched from Andersen Air Force Base, Guam, refueled at North Field, Tinian, which served as the forward air refueling point, before defending the area north of Tinian. The fuel at North Field was transported from West Field, Tinian, which acted as the forward operating base.

Service members were also evaluated on their ability to protect Guam from a hostile invasion on Andersen South, a training area located several miles from the main base. "The most important thing here is the inter-service training," said Marine Corps Capt. Roy Agila, a MAG-12 assistant operations officer. "Each service has its own capabilities and the exercise gives us the ability to practice, without kinks or friction. Without practice, it's chaotic in a real-world combat situation."

The Navy's Helicopter Sea Combat Squadron 25, an Andersen-based unit, had Sailors who were involved in a simulated rescue mission in a hostile environment north of Tinian, where Marines and Airmen pilots defended the island with F-15s and F/A-18s. The fighter's mission ensured HSC-25's rescue swimmers performed their rescues without being in harm's way.

"This exercise also allows Marine and Air Force pilots to familiarize each other with many aircraft," said Air Force Capt. William Strohecker, a 18th Wing project officer. "It's a nonstop aircraft fight while also trying to defend the helicopter and the person in the water."

The Aviation Training Relocation Program, which tied the recurring program into the Marine exercise, increases operational readiness while managing the noise impacts of training in and around the local communities of Okinawa, Japan, according to Pacific Air Forces officials.

Operating out of Guam allows pilots the opportunity to exercise all of the aircraft capabilities without the regular airspace restrictions the unit complies with in Japan.

After the surge, the Marine Corps units are focusing on sustaining and maintaining equipment and aircraft until the exercise concludes Dec. 20. The Air Force ATR contingent is projected to depart Dec. 18.

<http://www.af.mil/News/ArticleDisplay/tabid/223/Article/467759/af-marines-navy-take-part-in-3-day-surge-during-exercise-forager-fury-ii.aspx>

Exercise Valiant Shield

The first Valiant Shield took place in 2006. The Valiant Shield series focuses on integrated joint training among U.S. military forces and enables real-world proficiency in sustaining joint forces' ability to detect, locate, track and engage units at sea, in the air, on land and in cyberspace in response to a range of mission areas.

http://pacificnewscenter.com/index.php?option=com_content&view=article&id=26971:aafb-valiant-shield-2012-starts-monday-carrier-strike-group-will-participate&catid=45:guam-news&Itemid=156

Valiant Shield 2012

More than 25 U.S. joint forces began Valiant Shield 2012 (VS12) in the Guam operating area, Sept. 11.

VS12 is a week-long, U.S.-only exercise with a focus on integration of joint training.

"Joint exercises such as Valiant Shield provide opportunities for integrated joint operations in a blue-water environment," said Rear Adm. J.R. Haley, commander, Task Force (CTF) 70. "Training opportunities as a joint force where we detect, locate, track and engage units across air, sea, land and cyberspace allow us to train as we fight, making us better prepared as a maritime force."

Such training isn't limited to responding to military conflicts.

"We are here to practice the full spectrum," said U.S. Navy Capt. Paul Krug, the exercise lead for the U.S. Pacific Fleet Command. "We're (training for a range of needs) from initial war fighting to humanitarian assistance relief."

The exercise will provide each branch the chance to prepare in case of a real life emergency.

"We don't get to operate on a scale this large very often," said U.S. Marine Corps Capt. Daniel R. Gutknecht, a pilot with Marine All-Weather Fighter Attack Squadron 225, Marine Aircraft Group 11, 3rd Marine Aircraft Wing. "It is really important for us to be able to operate effectively, not only with other Marine Corps units, but with the other services within the U.S. military."

VS12 gives all branches a unique opportunity to become familiar with one another.

"It's a great opportunity to work together jointly with the Navy, the Marine Corps and the Air Force," said U.S. Air Force Col. Jack Stokes, the Air Force lead for this exercise. "These chances are few and far between so any opportunity we get is a great chance to fine-tune our technique to become more reliable and more capable to meet any kind of contingency."

High-level, joint training among U.S. military forces ensures the U.S. military remains the preeminent military power in the U.S. 7th Fleet area of operations, capable of honoring its security commitments to its Asia-Pacific allies and partners.

"The U.S. seeks to reassure the [Asia-Pacific] region that the U.S. military is an engaged and trusted partner, committed to preserving security and maintaining regional stability," said Capt. Greg Fenton, George Washington's commanding officer. "Valiant Shield is a clear illustration that U.S. forces are prepared to rapidly respond to any crisis across the spectrum of operations from humanitarian assistance and disaster relief to armed conflict."

http://www.navy.mil/submit/display.asp?story_id=69600

Cope North

Cope North is a multilateral field training exercise, hosted by Pacific Air Forces, aiming to improve the ability of all three nations to work together across the spectrum of warfare.

Cope North 2014

More than 1,800 service members and approximately 50 aircraft from the Air Force, Navy, Japan Air Self-Defense Force, Royal Australian air force and South Korea air forces came together to kick off the 85th iteration of Pacific Air Forces' Cope North exercise Feb. 14 on Andersen Air Force Base, Guam.

The trilateral field training exercise features a full spectrum of fighters, bombers, transport, refueling and command and control aircraft from the U.S., Japan, and Australia designed to improve combat readiness, develop a synergistic disaster response, and increase interoperability between partner nations. This year, South Korea air forces will also join with the other nations to conduct humanitarian assistance and disaster relief training.

"Cope North is a tremendous opportunity for nations in our region to train together at Andersen (AFB) building a common set of tactics, techniques and procedures" said Brig. Gen. Steven Garland, the 36th Wing commander. "We live in a very dynamic region of the world and the Airmen participating this year in our largest Cope North to date, all recognize the value provided to the region from great team work."

"The flexibility and rapid response exhibited during the recent Philippine typhoon relief effort of Operation Damayan underscores the value of training opportunities during times of relative calm so nations are prepared to respond in times of crisis to support their nation," Garland said.

Exercise directors representing each nation's component all remarked on the uniqueness and quality of Andersen AFB's infrastructure, facilities and the Central Marianas airspace the units will use during the two-week exercise.

"We have great facilities, great airspace here and this exercise is all about getting better, learning from each other and doing it safely," said Col. John Parker, the U.S. Cope North exercise director and the 35th Operations Group commander at Misawa Air Base, Japan.

The three participating countries each feature an exercise director, leadership teams, planning sections, aviators, maintenance and other support members, said Maj. Micah Bell, an exercise planner from 5th Air Force at Misawa AB. Through interoperability, the three teams each assume the lead on various operations throughout the exercise and work closely with their counterparts.

"Interoperability is a word that gets used often during this exercise," he said. "We take that very literally. We want to not only get safe, effective training, but also want to learn from our partners and share lessons learned."

Unlike other exercises, Cope North combines air-to-air and air-to-ground combat training with allied partners and additionally incorporates a humanitarian aid and disaster response portion concurrently.

"We live in a region with lots of natural disasters," said Group Capt. Glen Beck, the RAAF exercise director. "The (Australian Air Force) isn't very large so we are always grateful for training opportunities; this is the largest international exercise we do and it's definitely the largest footprint."

Col. Hiroshi Kurata, the exercise director for JASDF, noted the significance of both training for disaster and building professional relationships.

"It's been three years since the earthquake hit eastern Japan and I appreciate all the support and cooperation we received during Operation Tomodachi," he said. "Additionally, I ask three things from all in attendance here: Do your best, enjoy your job and make as many friends as possible."

<http://www.af.mil/News/ArticleDisplay/tabid/223/Article/473354/cope-north-commences-on-guam.aspx>

Exercise Balikatan

Balikatan means "shoulder-to-shoulder," and characterizes the spirit of this bilateral Philippines-U.S. exercise. Exercise Balikatan 2014 (BK14), will take place from May 5-16, in various locations throughout the Philippines. Combined staff exercises and field training will take place at Camp O'Donnell and Crow Valley in Tarlac, Subic Bay, and Fort Magsaysay in Nueva Ecija.

Also a part of this year's exercise, members of the Philippines and U.S. armed forces will undertake joint humanitarian assistance projects in communities throughout Zambales province, and a multinational maritime tabletop exercise will be held in Camp Aguinaldo.

The Armed Forces of the Philippines and U.S. military have a longstanding relationship that has contributed to regional security and stability, and is deeply rooted in cooperation.

The multinational training that takes place during BK14 increases regional militaries' ability to respond quickly and work together efficiently to provide relief and assistance in the event of natural disasters and other crises that threaten public safety and health

<http://www.marforpac.marines.mil/Exercises/Balikatan.aspx>

Cobra Gold

Cobra Gold is the largest multinational and multiservice exercise in Southeast Asia, which takes places annually throughout the Kingdom of Thailand.

Cobra Gold 2014

Exercise Cobra Gold 2014 concluded Feb. 21 following a multilateral combined arms live-fire exercise at Royal Thai Navy Tactical Training Center Ban Chan Krem, Kingdom of Thailand.

This year's iteration included forces from the U.S., Kingdom of Thailand, Republic of Korea, Malaysia, Singapore, Japan, Indonesia, and several other observer countries.

"We are very delighted by Cobra Gold 2014," said W. Patrick Murphy, the deputy chief of mission at U.S. Embassy Bangkok.

"We congratulate the Kingdom of Thailand for partnering with us again this year, the 33rd year of this joint exercise. It is very much a multidimensional exercise with many different components and we contribute from the (U.S.) our Marines,

sailors, airmen and soldiers. (The U.S.) had almost 4,000 of our troops here this year with their counterparts from Thailand, so this year was a big success and I am quite confident that next year, Cobra Gold 2015, will also be a great success.”

The Cobra Gold exercises improve the capability to plan and conduct combined-joint operations, build and strengthen relationships between partner nations, and promote interoperability across the range of military operations.

“We’ve seen a lot of collective efforts by various allied countries participating and it has been proven we can work together, interoperate and produce a successful result,” said Royal Thai Gen. Thanasaka Patimaprakorn, the chief of defense forces for the Royal Thai Armed Forces.

CG 14 is designed to advance regional security and ensure effective response to regional crises by exercising a robust multinational force from nations sharing common goals and security commitments in the Asia-Pacific region.

“The first thing that strikes me is the amount of commitment in troops, material and equipment that you see demonstrated in Cobra Gold,” said U.S. Marine Brig. Gen. Richard L. Simcock, II, the executive agent senior representative of CG 14 and deputy commander of Marine Corps Forces, Pacific. “What you are seeing is an enduring commitment here in Thailand and the region by the participating nations.”

Cobra Gold provides an opportunity for allied nations in the Asia-Pacific region to operate and work together so they can respond more efficiently and effectively to potential crises in the future.

“It is these types of exercises that prepare countries to work together.” said Murphy. “Last year, many countries were able to respond to the very devastating typhoon in the Philippines, (which included) previous Cobra Gold participants; most notably, the Kingdom of Thailand.”

<http://www.marforpac.marines.mil/News/NewsArticleDisplay/tabid/919/Article/159214/exercise-cobra-gold-2014-concludes.aspx>

Cope Tiger

Cope Tiger is an annual, multilateral, aerial large force exercise conducted in the Asia-Pacific region. It takes place at Korat Royal Thai Air Force base in Thailand.

Cope Tiger 2014

Aviation and ground units from the U.S. Air Force, the Royal Thai Air Force, Navy and Army, and the Republic of Singapore Air Force is participating in the Cope Tiger 2014 Field Training Exercise (FTX) in Thailand March 10-21.

More than 760 personnel will participate in the exercise, including approximately 160 U.S. service members and 600 service members from Thailand and Singapore.

The FTX will involve a combined total of 76 aircraft and 42 air defense units, including 10 U.S. F-15C/D aircraft, and 15 F-16s, six JAS-39s, six F-5s, five ALPHA JETs, six L-39s, one C-130, one BELL 412, and one UH-1H from the Royal Thai Air Force. The Republic of Singapore Air Force will deploy eight F-16s, six F-15SGs, six F-5s, one G550, one KC-135, and two AS332 to the exercise.

The exercise enhances combined readiness and interoperability, reinforces the U.S. commitment to the Asia-Pacific region, and demonstrates U.S. capability to project combined and joint forces strategically in a multilateral environment.

<http://www.pacaf.af.mil/news/story.asp?id=123403175>

Commando Sling

The annual Commando Sling series began in 1990 and allows U.S. units to sharpen their air combat skills, improve procedures and readiness, and enhance relationships with the Republic of Singapore Air Force.

Commando Sling is one of a number of military training exercises, both bilateral and multilateral, where U.S. and Singaporean forces train together. These include exercises such as Cobra Gold, Cope Tiger, Cooperation Afloat Readiness and Training (CARAT) and Tiger Balm.

https://mbasic.facebook.com/notes/us-pacific-command/us-singapore-to-begin-commando-sling-air-exercise-series-this-week/221296847039/?_rdr

CARAT

Cooperation Afloat Readiness and Training (CARAT) is an annual, nine-country bilateral naval exercise series between the United States and Bangladesh, Brunei, Cambodia, Indonesia, Malaysia, Singapore, the Philippines, Thailand, and Timor Leste and is designed to enhance maritime security skills and operational cohesiveness among participating forces.

CARAT 2013

The 19th annual Cooperation Afloat Readiness and Training (CARAT) Singapore exercise concluded with a closing ceremony at Changi Naval Base, July 26.

Beginning nearly two weeks ago, the annual exercise with the Republic of Singapore consisted of shore-based and at-sea training events designed to address shared maritime security priorities, develop relationships, and enhance interoperability among the participating forces.

CARAT Singapore is part of a series of bilateral naval exercises between the U.S. Navy and the armed forces of nine partner nations in South and Southeast Asia. Training events in each CARAT phase are tailored based on available assets and mutual exercise goals. As one of the original exercise partners, CARAT Singapore is among the most complex in the series and features a highly sophisticated sequence of training events across the spectrum of naval capabilities.

“Every year we try to raise the bar a bit higher during the planning process, making each successive CARAT Singapore a bit more complex,” said Capt. Paul Schlise, Commander, Task Group 73.1.

This year’s CARAT Singapore featured 11 days of shore-based events and a lengthy 96-hour sea phase. Shore-based training included visit, board, search and seizure (VBSS) drills, military law enforcement expert exchanges and military operations in urban terrain (MOUT) training. The sea phase was a series of coordinated air defense, anti-submarine warfare, maritime patrol aircraft and surface warfare training scenarios led by a combined afloat staff embarked on the Singaporean frigate, RSS Intrepid (69).

“The multiple day sea phase was again the capstone course of CARAT Singapore, and given its enduring complexity, presented our Sailors, ships and aircraft with many opportunities to enhance interoperability among our forces,” said Schlise.

U.S. Navy and RSN sailors conducted a simulated shipboard helicopter and small boat medical evacuation, tracked submarines from both navies during multiple anti-submarine warfare scenarios, and conducted a coordinated air-to-surface missile in which a Republic of Singapore Air Force (RSAF) Fokker 50 fired a harpoon missile against a surface target tracked by ships in the Combined Task Group.

More than 700 U.S. Sailors and Marines participated in CARAT Singapore 2013.

Participating ships included the guided-missile destroyer USS Fitzgerald (DDG 62), the littoral combat ship USS Freedom (LCS 1) and the dry cargo ammunition ship USNS Washington Chambers (T-AKE 14).

Also participating in CARAT Singapore were staff from Commander, Task Group 73.1/Destroyer Squadron (DESRON) 7, a P-3C Orion maritime patrol aircraft from Patrol Squadron 62, a platoon of Marines from 3rd Law Enforcement Battalion, as well as VBSS evaluators from Maritime Civil Affairs and Security Training Command.

<http://navaltoday.com/2013/07/30/us-singapore-navies-conclude-carat-exercise/>

Bersama Shield

Bersama Shield is a major Five Power Defence Arrangements (FPDA) exercise designed to enhance regional security and foster cooperation among its member countries, namely Australia, Malaysia, New Zealand, Singapore and the United Kingdom.

http://www.mindef.gov.sg/imindef/mindef_websites/atozlistings/air_force/news_events/news/2013/16Apr13.html

Bersama Shield 2013

Exercise BERSAMA SHIELD 2013 was conducted on the South China Sea, Singapore and the Malaysian Peninsula between 8-18 April 2013.

Australia was the only nation to deploy a submarine in support of Exercise BERSAMA SHIELD 2013. Commanding Officer of HMAS Dechaineux Commander Glen Miles said operating as the enemy or “Red Force”, HMAS Dechaineux’s role in the exercise was to test the responses from participating nations’ navy vessels.

“We operated in shallow waters amongst high concentrations of fishing vessels conducting simulated attacks on surface ships from Malaysian, Singaporean and New Zealand Navies,” Commander Miles said.

“For the crew of HMAS Dechaineux, Exercise BERSAMA SHIELD 13 provided a fantastic opportunity to practice the ‘hide and seek’ of submarine warfare in busy waterways.”

Throughout the exercise the submarine was “hunted” by two AP-3C Orion aircraft from Royal Australian Air Force’s (RAAF) 92 Wing, based at RAAF Edinburgh in South Australia. The AP-3C Orion aircraft flew a total of seven sorties in support of the Five Power Defence Arrangements (FPDA)-led exercise, allowing the AP-3C crews to hone their skills in a complex multinational exercise environment involving naval and air forces.

The Five Power Defence Arrangements is the longest standing multilateral arrangement in South East Asia and has maintained relevance in the contemporary security environment. The Australian Defence Force was a founding member of the Five Power Defence Arrangements and this year marks the 42nd anniversary of our involvement in these exercises.

Exercises such as BERSAMA SHIELD 2013 continue to reinforce the relevance of this long-term relationship to the regional strategic environment.

92 Wing Exercise Detachment Commander Squadron Leader Jesse Laroche said “Exercise BERSAMA SHIELD further enhances the strength of the FPDA relationship, the aircraft and support personnel operated from Royal Malaysian Air Force Base Butterworth.

“The squadron regarded the AP-3C participation as a great success, testing exercise interoperability, capability expansion and communication between the Five Power Defence Arrangements Nations,” Squadron Leader Laroche said.

In addition to the AP-3C Orions and HMAS Dechaineux, the Royal Australian Navy and Royal Australian Air Force provided liaison officers who deployed to Royal Malaysian Air Force Base Butterworth.

<http://navaltoday.com/2013/04/22/australia-exercise-bersama-shield-2013-concludes/>

Gema Bhakti

The exercise is designed to create response planning to assist Indonesia in responding more efficiently should they experience a natural disaster.

Gema Bhakti 2013

United States forces also participated Gema Bhakti combined Humanitarian Assistance Disaster Relief staff exercise at the International Peace and Security Center in Sentul, Indonesia from June 6-10.

The Gema Bhakti exercise brought together forces from U.S. Army Pacific Command, U.S. Navy and Air Force to work side-by-side personnel from the TNI to create response planning to assist Indonesia in responding more efficiently to a natural disaster.

Experts in various disaster relief fields discussed issues, emergency responders and support services, face during an emergency and provided insights which allowed roughly 100 participants from both militaries to brain storm ideas to support national and strategic level decision making processes.

<http://www.antaranews.com/en/news/89303/us-ambassador-joins-opening-of-us-ri-military-exercise>

Talisman Saber

Exercise Talisman Saber (also spelled Talisman Sabre, the spelling alternating between US and Australia) is a biennial joint Australia-United States military exercise. Talisman Saber involves joint exercises performed by the Australian Defence Force and the United States Military across six locations in northern and central Australia, the Coral Sea, and in Honolulu, Denver, and Suffolk, Va., though the bulk of the exercises are concentrated at the Shoalwater Bay Military Training Area and other locations in northern and central Australia and Australia's territorial sea and exclusive economic zone.

To reflect its bilateral nature, leadership of the exercise switches between Australia and the US every 2 years; primary leadership is reflected in the varied spelling of Saber/Sabre.

The exercise focuses on crisis-action planning and contingency response, enhancing both nations' military capabilities to deal with regional contingencies and the War on Terrorism. Five exercises have been held in 2005, 2007, 2009, 2011 and 2013.

http://en.wikipedia.org/wiki/Exercise_Talisman_Saber

Talisman Saber 2013

As the biggest and most comprehensive of the five biennial iterations of Talisman Saber, the 2013 exercise going on now across the east coast of Australia involves about 20,000 U.S. troops and 15 ships, and — for the first time, — the “game-changing” MV-22 Osprey hybrid aircraft.

Portions of the exercise thus far have featured U.S. and Australian forces liberating a fictitious occupied country, according to participants.

Army paratroopers from the 501st Infantry Regiment, which joined in as a quick reaction force after years downrange in Iraq and Afghanistan, parachuted into northeast Queensland on Saturday after a long flight from Joint Base Elmendorf-Richardson, Alaska. At the same time, a full-scale amphibious assault was taking place.

“This year we’ve expanded our mission,” said Capt. Chase Spears, spokesman for 1st Battalion, 501st Infantry Regiment, 4th Brigade Combat Team, 25th Infantry Division. “We’re kind of at a turning point in brigade history. Now, we’re training to be the force of choice for the Pacific commander.”

About 400 paratroopers hit the ground, up from 300 during Talisman Sabre 2011, Spears said. The soldiers landed, seized territory, expanded it while coordinating with Australian forces and traveled to and seized the airfield. Each company had separate military and humanitarian missions.

The soldiers also will participate in similar operations in Thailand's Cobra Gold next year.

"This has been validating for us," Spears said. "We're doing everything you would do in an actual combat scenario minus shooting live rounds."

It was equally validating for Marine Corps Capt. Travis Keeney, operations officer of VMM-265 and an MV-22 pilot who landed the first Osprey in Australia before the exercises started. The Ospreys are on their first Pacific deployment aboard the amphibious assault ship USS Bonhomme Richard.

"I don't think people realized how useful it is [in this region]," Keeney said of the Okinawa-based hybrid aircraft.

The MV-22 was integral to the success of Saturday's amphibious assault, Keeney said. It featured about 600 U.S. servicemembers — mostly Marines — in support of Australian forces. Most of the Marines were ferried ashore in armored personnel carriers and Navy landing craft. About 180 were dropped in via helicopter.

Due to its larger capacity for both servicemembers and fuel, the Osprey delivered the Marines in half the number of flights of a conventional helicopter and from a greater distance, with the Bonhomme Richard positioned farther offshore.

"There's been some pretty good success in the opening stages [of the exercise]," said Keeney, who has been flying Ospreys for six years, including deployments downrange.

Keeney and the MV-22 will continue ship-to-shore maneuvers and non-combatant evacuation operations until the end of the exercise, Aug. 5.

Capt. Tad Drake, commander weapon's company, 2nd battalion, 4th Marines, 31st Marine Expeditionary Unit, had a different view of the amphibious assault, riding in on the first wave of Navy landing craft.

Drake's job was to make sure laser and GPS-guided ordnance had the desired effect in preparation for the assault. He directed naval and mortar fire once the Marines hit the beach. They then went inland and secured several objectives.

"For the MEU this is huge," he said. "The opportunity to practice without people shooting at you is a great opportunity... It's more valuable than a lot of guys probably realize."

<http://www.stripes.com/news/pacific/ospreys-enter-the-lineup-in-talisman-saber-exercise-1.232067>

Exercise Koolendong 2013

Following the successful completion of Exercise Talisman Saber 2013, around 1000 Australian Army and United States Marine Corps personnel are preparing to take part in Exercise Koolendong 2013, which will be conducted at the Bradshaw Field Training Area south-west of Darwin.

The Bradshaw Field Training Area is approximately 8710 square kilometres in size, and is located around 330 kilometres southwest of Darwin by air.

Exercise Koolendong 2013 was announced by the Prime Minister, the Minister for Defence, and the Minister for Defence Science and Personnel on 14 June 2013.

Exercise Koolendong will start on 28 August and conclude on 7 September 2013.

Around 700 Marine Corps personnel involved in Exercise Koolendong 2013 will be drawn from the 31st Marine Expeditionary Unit based in Okinawa, Japan and around 150 will be drawn from the Marines currently on a six month rotation in Darwin.

Around 150 Australian Army participants in Exercise Koolendong 2013 will be drawn from the 5th Battalion, The Royal Australian Regiment based at Robertson Barracks in Darwin.

Exercise Koolendong 2013 provides an opportunity for United States and Australian personnel to conduct a battalion-sized live-fire exercise in a remote and austere training environment.

Operating from the Bonhomme Richard Amphibious Ready Group, the 31st Marine Expeditionary Unit will deploy a range of capabilities in support of the exercise including MV-22 Ospreys; CH-53 Super Stallions; UH-1Y Hueys; and AV-8B Harriers. KC-130 Hercules may also provide external support, and FA/18D Hornets currently at RAAF Tindal for Exercise Southern Frontier will also participate. Ground vehicles will include 7 ton trucks, Humvees, light armoured vehicles and towed artillery.

The exercise will also help develop the United States Marine Corps' knowledge of the Bradshaw Field Training Area for use by future Marine Corps six month rotations.

The United States Marine Corps six month rotations through northern Australia will increase in size to around 1150 personnel from 2014, and will utilise Bradshaw as an exercise area.

Other Australian Defence facilities, including RAAF Base Tindal and RAAF Base Darwin, will provide limited support to the exercise.

<http://news.defence.gov.au/2013/08/24/preparations-underway-for-exercise-koolendong-2013/>

Pitch Black

Exercise Pitch Black is a biennial warfare exercise hosted by the Royal Australian Air Force (RAAF). The exercise is normally held in Northern Australia, primarily at RAAF Bases Darwin and Tindal. The aim of the exercise is to practice Offensive Counter Air and Defensive Counter Air combat, in a simulated war environment. It traditionally consists of a 'red team' and a 'blue team' based at separate locations, with one attacking the other.

International air forces with defence ties to Australia are invited, which normally consist of France's Armée de l'Air; the Royal Malaysian Air Force, the Republic of Singapore Air Force; the Royal Thai Air Force; the Royal New Zealand Air Force; the United States Air Force; and Britain's Royal Air Force; while the 2012 Pitch Black saw participation by the Indonesian Air Force for the first time.

http://en.wikipedia.org/wiki/Exercise_Pitch_Black

Pitch Black 2013

THE TOP END HOSTS A HIGH-END EXERCISE

Byline: Gordon Arthur / Darwin

In August, suburban dwellers near Darwin International Airport heard, and felt, the thunderous roar of high-performance jet engines on innumerable occasions. And the reason for the ongoing disturbance? Australia's large gathering of fast jets during Exercise Pitch Black, an event that takes place every two years, generally in the Northern Territory. The 2012 iteration of this major exercise occurred from 27 July to 17 August, and the hubs of activity were RAAF Bases Tindal and Darwin. Thanks to the presence of 94 aircraft and 2,200 personnel, these two bases were operating at almost full capacity.

As Australia's largest and most complex air exercise for more than a decade, Pitch Black saw the involvement of the Royal Australian Air Force (RAAF), Indonesian Air Force (TNI-AU), Royal New Zealand Air Force (RNZAF), Republic of

Singapore Air Force (RSAF), Royal Thai Air Force (RTAF) and United States Marine Corps (USMC). This year, Asia Pacific Defence Reporter was in attendance at these war games that achieved a number of milestones in terms of platforms and the range of participating countries.

Australia – a triple treat

Specific Australian milestones revolved around the maiden Pitch Black appearance of three new-generation RAAF platforms: the Boeing F/A-18F Super Hornet, Boeing 737 Wedgetail Airborne Early Warning and Control (AEW&C) aircraft, and Airbus KC-30A Multi-Role Tanker Transport (MRTT).

No. 1 Squadron, based at RAAF Base Amberley, is the first unit to operate the American-built Super Hornet, and Wing Commander Murray Jones said his squadron had effectively brought an entire flying complement of nine fighters to Darwin. The commander explained that approximately 30% of the squadron's pilots were new to the unit, so the exercise provided valuable training opportunities. Meanwhile, members of No. 6 Squadron continue to undergo the conversion course.

At the moment, F/A-18F aircraft cannot be distinguished by their tail flashes as they are all pooled until both squadrons become fully operational. The Super Hornet is proving a reliable aircraft, with the RAAF achieving an on schedule acquisition of a proven platform...unlike the Wedgetail, where Australia has had to endure the birth pangs associated with fielding a brand new and untested product.

Australia's 'Classic' and Super Hornets were able to operate in mixed packages throughout the exercise. A significant advantage of the F/A-18F is its APG-79 active electronically scanned array (AESA) radar, which provides far greater situational awareness than mechanically scanned systems. "It's a significant difference," WGCDR Jones concluded. For his part, Group Captain Mike Kitcher, Australia's Chief of Staff of the Air Combat Group, stated that, "AESA allows you to do what you used to do much more easily. AESA does make a difference but we're yet to find out if it's a game changer."

The F/A-18A Classic Hornet obviously comprises the bulk of the RAAF fighter fleet, and with the scheduled appearance of the Joint Strike Fighter (JSF) not set in concrete by any stretch of the imagination, this type will continue to play an important role for some time to come. After examining a Classic Hornet, one high-ranking Indonesian officer reportedly uttered the words, "Pretty impressive aircraft!" GPCAPT Kitcher asserted the Classic would remain a "decent bit of kit" in the forthcoming 2014 and 2016 Pitch Blacks, although it would definitely be long in the tooth by the time 2018 comes around. Other advantages of the new Super Hornet are more thrust and a greater fuel load that offers greater time on station.

However, these benefits are blunted somewhat by the greater drag that the larger aircraft possesses.

The F/A-18Fs predominantly performed offensive counter air missions, using their organic sensor mix to enhance the capability of larger packets containing the Classics. "The side with better situational awareness will have a better outcome," related WGCDR Jones. The Hornets and Super Hornets used their Link 16 data sharing capabilities within the unclassified-level confines of the exercise scenario. They operated together "fairly seamlessly and smoothly" according to one official. Super Hornets successfully dropped "a stack of munitions" on live-fire ranges during dynamic targeting missions directed by controllers on the ground.

Although the Wedgetail spent the initial part of the exercise on the tarmac because of an onboard equipment malfunction, it went on to provide "a pretty reasonable network", said the exercise director. There were some gripes, but this was to be expected from a system that is still in its pre-initial operating capability (IOC) stage, said one spokesman. Operating from Tindal, it provided an overall battlespace picture for both Red and Blue Forces. Technicians set up the system to offer secure and independent networks for the opposing sides. WGCDR Jones was enthusiastic about the AEW&C platform and its ability to fill gaps in coverage: "It's an extension of the Hornet – it extends situational awareness to a higher level."

As previously mentioned, the third RAAF debutant in this year's exercise was the KC-30A MRTT operated by No. 33 Squadron. Although the MRTT continues to undergo its operational test and evaluation, the type was forward based at Townsville to provide limited air-to-air refuelling for RAAF Hornets. This procedure only entailed hose-and-drogue delivery from wing-mounted pods, as a boom-refuelling capability still lies in the future. Although the KC-30A's involvement may have been limited, it marked an important step on its pathway towards achieving IOC later this year for hose-and-drogue refuelling and strategic transport. While there were definitely issues with the Wedgetail and KC-30A, these are entirely in line with their early development and they are being worked through.

GPCAPT Kitcher pointed out that these three new platforms “presented us with options that weren’t available in previous exercises.” With Australia’s large land mass, which easily surpasses all of Western Europe combined, such aircraft will form a vital cornerstone in the overall effectiveness of the RAAF. The force-multiplying KC-30A provides the ability to fly 1,800km, remain on station for four hours and deliver 50 tonnes of fuel to thirsty aircraft.

With this Pitch Black whetting its appetite, the MRTT will be ready to engage fully at the next drill in two years’ time by refuelling the Super Hornet, Wedgetail and aircraft of international allies.

While there was much excitement about these new aircraft, Pitch Black also bade farewell to one venerable workhorse that originally entered service in 1978. The Lockheed C-130H will be retired later in 2012, so this was the last Pitch Black for the trusty transport aircraft. In the meantime, the C-130H worked alongside the new C-130J-30 performing transport tasks plus inserting and extracting specialist personnel at Bradshaw. Meanwhile, stalwart King Air and AP-3C Orion platforms provided intelligence, surveillance and reconnaissance (ISR).

Singapore – a double debut

Exercise Pitch Black originally started between Singapore and Australia in 1984, so the island state has been a regular participant throughout the 22-year history of the war games. The RSAF contributed two new platforms to this year’s event, these being the Boeing F-15SG Eagle fighter and Gulfstream G550 Conformal Airborne Early Warning (CAEW) aircraft. It must be noted that the F-15SG has flown in Australia before, but this was its first cameo in Pitch Black. Singapore despatched six F-15SGs from 149 Squadron. Similarly, the G550 CAEW aircraft was heavily utilised throughout the exercise in support of Blue Force.

In addition to this pair of debutants, Singapore also contributed eight Lockheed Martin F-16C/D Block 52 fighters plus a Boeing KC-135R Stratotanker, which was kept busy refuelling Blue Force aircraft. RSAF pilots enjoyed flying in tight formations (perhaps to impress international partners?), but as per usual, the Singaporean military hierarchy was extremely coy about speaking to the media or allowing photography of its equipment.

Indonesia – special star

Perhaps the most significant and well-publicised aspect of the 2012 exercise was the maiden attendance of the TNI-AU. Indonesia has certainly been invited to Pitch Black a number of times before, but this was the first time its air force accepted. It did so by sending a detachment of four fighters from its base at Hasanuddin International Airport in south Sulawesi, the first ever Down Under deployment of Sukhois. The four aircraft all belonged to Skadron Udara 11 (SkU.11), nicknamed “The Thunders”. It is assumed that they flew legs from Indonesia on internal fuel only. The quartet comprised a pair of single-seat Su-27SMK and a pair of twin-seat Su-30MK2 fighters. It should be noted that the RAAF already trains alongside the TNI-AU, so the platform is not totally unfamiliar to Australian pilots. Indeed, air combat training between the two countries occurs every two to three years, with drills taking place most recently in Bali last year.

Since this was Indonesia’s debut at Pitch Black, and because its personnel are not well versed in multilateral exercises, Australia adopted a “crawl-walk-run approach”. This saw the Flankers working closely with Classic Hornets in 1v1 or 2v2 missions throughout the fortnight that Indonesia spent in-country. The two sides practised these bilateral engagements as a separate cell that did not necessarily follow the overall scenario of the exercise. However, on 9 August, the Sukhois reached the pinnacle of their exercise participation when they escorted Hornets during a major mission. It is believed the Flankers utilised their radar systems during their small-scale engagements.

Perhaps the question uppermost on everyone’s minds was how the Flankers compared to equivalent Western aircraft. There is something of a fascination with the legendary status of this aerodynamic fighter, but one official stated categorically that none of the international partners felt outclassed by it. When pressed about the capabilities of the Flankers during an interview, one spokesman remained suitably vague:

“The Hornets and Sukhois are having interesting fights with various outcomes. The Hornets have done fairly well, even during 1v1.” WGCdr Jones said Australian pilots were getting a “buzz out of working with a new platform,” but he too declined to offer an opinion on the capabilities of the Flankers. Instead he diplomatically said, “I remain very comfortable that we have the Super Hornet in RAAF service.” GPCAPT Kitcher assessed the Super Hornets as enjoying parity with the Flankers, but that “a pilot’s skill is the most important factor”.

Indonesia originally planned to attend just the Force Integration Training (FIT) week, but the TNI-AU extended its stay to encompass the public open day held in Darwin on 11 August. Relations between Australia and Indonesia are slowly recovering from tensions created over the issue of Timor Leste independence. Jakarta also expressed consternation over Prime Minister Julia Gillard and President Barack Obama's announcement in late December 2011 that US Marines would be deploying on a rotational basis to Darwin. Indeed, Australia has worked hard at trying to allay Indonesian concern over Darwin's eventual hosting of a complete Marine Air Ground Task Force (MAGTF) by 2017.

Thus, the TNI-AU's participation in Pitch Black seems to signal continuing rapprochement between the two neighbours. GPCAPT Kitcher enthused, "I certainly hope Indonesia will continue to attend Pitch Black in the future," and that the TNI-AU would be able to expand cooperation with other regional air forces. One RAAF officer said he believed the Indonesians "genuinely enjoyed the exercise and the interaction with the international partners." However, an Indonesian pilot is sure to have had his wrist slapped for dumping fuel on final approach on one occasion just one minute before landing at Darwin! Et al

Thailand has been a regular at Pitch Black for more than ten years, and this year the RTAF sent eight or so F-16A/B fighters from two separate squadrons. The USMC contributed F/A-18C Hornets from VMFA-232, which is currently deployed at Iwakuni in Japan as part of the Unit Deployment Program (UDP). Rumour has it that Marine airmen were not overly thrilled to be based at the isolated post of Tindal, 330km south of Darwin! Omega Air contributed a civilian Boeing 707 air-to-air tanker, which, as irony would have it, was an ex-RAAF platform!

While a number of countries in Asia are reticent, out of political expediency, to conduct war games directly with the USA, they are a lot more amenable to doing so in a third country like Australia. Under the banner of working with a regional neighbour, countries are more willing to contribute to security initiatives and work alongside the USA at the same time. In doing so, one of the main purposes of Pitch Black – fostering regional cooperation and trust – can be achieved. This is why the presence of the TNI-AU was such a significant highlight this year. GPCAPT Kitcher highlighted Malaysia as another country that the RAAF would like to see again at future Pitch Blacks. Mission and package commanders from various countries all took turns leading the formations and their operation was "pretty seamless", according to one eyewitness.

Although its involvement was minimal, another nation that should be mentioned is New Zealand. In a large combat air exercise, the 'fighter-less' RNZAF obviously cannot contribute a lot except for some combat support personnel. New Zealand has been frozen out of multilateral exercises involving the USA since the ANZUS split of 1984 over Aotearoa's stand against nuclear weapons. Therefore, the fact that it is being allowed back into the fold affirms continuing cooperation between New Zealand and the world's superpower.

Exercise scenario

As Australia's premier air combat exercise, the event unsurprisingly revolved around offensive counter air (OCA) operations for Blue Force and defensive counter air (DCA) for Red Force. The latter's missions were fairly scripted, although some room was left for individual flair and it became more aggressive as the opposition's confidence grew. Some of the larger engagements featured up to 50 aircraft in the air simultaneously. Red Force was based primarily at Tindal while its protagonist was located at Darwin, and participants utilised the vast Delamere Range Facility and Bradshaw Field Training Area to perform their missions, as well as the uncluttered airspace available over the Northern Territory.

The assembled Blue Force represented a robust coalition boasting 4- and 4.5-generation aircraft and tactics fighting against a "capable adversary". The scenario was extended compared to previous years simply because of the plethora of new aircraft types being fielded this year. Roles such as sweep, screen, air-to-ground strike, airborne early warning, refuelling and tactical air transport were all drilled over the three-week duration of the field exercise. Typically, two waves of aircraft flew daily during the exercise proper from 6-16 August, one from 1130 to 1530 hours, and another in the evening from 1900-2300 hours. Despite this schedule drawing noise complaints from some Darwin residents, GPCAPT Kitcher described the ability to fly safely at night as "a critical requirement". Perhaps the Australian Defence Force's announcement that the exercise had injected an estimated \$25 million dollars into the local economy may have assuaged some of this negative sentiment!

Mission scenarios grew progressively complex and larger as the exercise progressed. "Every Pitch Black is important to Australia as we use it as a tool. It's one of our higher-end training activities. It's one of the only times we can generate the size of packages with the airspace we've got here," said the exercise director.

Delamere witnessed the only real use of simulation, which encompassed ground-based air defence (GBAD). The emphasis was squarely on air combat operations, as it needs to be if the RAAF is to hone its primary air combat focus. The only joint warfare component occurred with some GBAD, joint battlefield airspace control, and joint terminal attack control (JTAC) operations. Indeed, a key objective of the exercise was for ground-based controllers to make use of the network provided by assets like Wedgetail. Basically, the full capability of No. 4 Squadron Combat Control Team was inserted and extracted by C-130 Hercules at Delamere during the running of the exercise.

However, GPCAPT Kitcher highlighted electronic warfare and GBAD as two spheres that could be enhanced in future exercises. Nevertheless, integrating electronic attack into the mix is a challenge since countries are understandably not willing to reveal their full capabilities. The RAAF also used the exercise to help select pilots for the Fighter Combat Instructor (FCI) course, thus giving individuals an inducement to perform well.

The exercise director concluded that, "Overall, the exercise was very successful," thanks to key achievements in integrating various new assets. Planning for the next event commences later this year.

<http://www.asiapacificdefencereporter.com/articles/250/Exercise-Pitch-Black>

Woomera Test Range

The RAAF Woomera Test Range (WTR, previously known as the Woomera Test Facility, the Woomera Rocket Range, and the Long Range Weapons Establishment, Woomera) is a weapons testing range operated by the Royal Australian Air Force (RAAF) Aerospace Operational Support Group.

The day-to-day operation and administration of the WTR is the responsibility of Headquarters, RAAF Woomera Test Range, based at RAAF Base Edinburgh. The range facility is located in South Australia, in that State's north-west pastoral region. The gateway to the Range is the Defence support base Woomera long referred to as 'Woomera Village'. Woomera is located approximately 500 kilometres (310 mi) north-west of Adelaide. The Range, however, covers a large area, and is the largest land-based weapons test facility in the western world.

http://en.wikipedia.org/wiki/Woomera_Test_Range

Australian Training Ranges

The Shoalwater Bay Training Area in northern Queensland, covers 270,000 hectares on land and 180,000 hectares at sea. It's the only area in Australia where the navy, army and airforce can engage in joint exercises, including those with international forces.

The Bradshaw Field Training Area in the Northern Territory covers more than 870,000 hectares.

The Delamere Air Weapons Range, also in the Northern Territory, covers 211,000 hectares. It's regarded as one of only a few air weapons ranges in the world able to accommodate training with all conventional weapons.

Getting Ready for Trident Juncture 2018

Recently, we looked at Trident Juncture 2015 and compared it with the upcoming Trident 2018 exercises.

Their evolution highlights the strategic shift whereby NATO needs to mobilize force more rapidly to deal with European threats, and Norway needs to enhance its Total Defence Concept capabilities to support NATO engagement in the Northern Tier in case of a crisis.

The Norwegian Ministry of Defence recently provided an update on the preparations for Trident Juncture 2018 in a story published on [July 10, 2018](#) on their website.

Last week, Norway's Chief of Defence visited the Allied Joint Force Command in Naples, Italy. There he met with Admiral James Foggo, chief of NATO's exercise Trident Juncture in Norway this autumn.

The largest military exercise in Norway since the cold war is getting closer. This October more than 40,000 soldiers from some 30 countries arrive in Norway for NATO's high-visibility exercise Trident Juncture. The exercise will be led by American Admiral James Foggo, Commander of the Allied Joint Force Command in Naples, Italy.

In February, Admiral Foggo visited Oslo and Norwegian Chief of Defence, Admiral Haakon Bruun-Hanssen. Last week, it was Mr Foggo's turn to welcome his Norwegian colleague to Naples. Trident Juncture 18 was naturally one of the main topics during the visit, and Admiral Foggo says that the preparations for the exercise are going well. "We are still on track thanks to thorough preparations. Now we look forward to speed things up after the summer", Admiral Foggo said during a press meeting in Naples on 3 July.

"EXCEPTIONALLY GREAT"

10,000 vehicles, 40,000 soldiers, 130 aircraft and 70 vessels will be coming to Norway for the exercise. The first shiploads arrive in southeast Norway after the summer, and from there the materiel will be transported to the main exercise area in central and eastern Norway.

"Norway is an exceptionally great place for an exercise like this, and Norway has been a faithful member of the Alliance since its start. Trident Juncture 18 will be an excellent opportunity to test both personnel and materiel", Foggo says, adding:

"And in October–November the weather can be really rough in Norway, so we look forward to be tested in cold weather operations".

Norwegian Chief of Defence, Admiral Haakon Bruun-Hanssen, is pleased that NATO accepted Norway's offer to host Trident Juncture 18.

"We have held several similar exercises in Norway earlier and NATO allies need to learn how to handle cold weather, so we are happy that NATO wanted to hold the exercise in Norway, Mr Bruun-Hanssen said.

TESTING NORWAY'S TOTAL DEFENCE

Both Foggo and Bruun-Hanssen have background as submarine officers, and their common background has created a great relationship between the two Admirals. Now they both look forward to Trident Juncture. The exercise will be challenging both for NATO and for Norway, who will be receiving materiel and personnel from over 30 countries.

"This allows us to test our total defence concept. Some things will probably not go exactly according to plan, but we will learn from it", says Mr Bruun-Hanssen.

A SIGN OF UNITY

The two Admirals point out transparency as an important aspect of the exercise. The Alliance has invited observers from all the countries in the Organization for Security and Co-operation in Europe (OSCE), including Russia.

"We are transparent in the way we speak about the exercise. We have no secrets; everyone knows when the exercise starts, and when it ends", Foggo says.

Equally important, Trident Juncture will be showing how the countries of NATO stand together.

"This is an exercise where all 29 member countries participate. It is hard to find a clearer sign of unity than that", says Admiral Bruun-Hanssen.

<https://forsvaret.no/en/newsroom/news-stories/admirals-meet-in-naples-ahead-of-trident-juncture>

According to the Norwegian Ministry of Defence:

The exercise will test the whole military chain – from troop training at the tactical level, to command over large forces. It will train the troops of the NATO Response Force and forces from other allies and partners, ensuring they can work seamlessly together.

WHY NORWAY?

This exercise has air, sea and land elements, and Norway offers the possibility to train realistically in all of these domains. The cold and wet weather will pose additional challenges for NATO troops, and will train them to operate in extreme conditions.

Norway offered to host Trident Juncture 18, and NATO accepted the offer more than four years ago. Norway has a long tradition of hosting major allied and multinational military exercises. Among them are Cold Response, Dynamic Mongoose and Arctic Challenge.

WHY DO WE EXERCISE?

Since 2014, collective defence has become a more prominent feature of NATO, due to the changes in the global security situation. In order to train and test NATO's ability to plan and conduct a major collective defence operation, the Alliance has held several large-scale exercises. This autumn, the turn has come to Norway.

Trident Juncture is also a great platform to cooperate with close partners like Finland and Sweden – exchanging best practices and working together to address crises.

<https://forsvaret.no/en/exercise-and-operations/exercises/nato-exercise-2018>

Information Sharing in Crisis: A Key Focus of Exercise Training

Exercises and training for allies to cooperate in a crisis is a key element for shaping the way ahead.

Information sharing is a key element.

In an article published on October 30, 2016, we highlighted Australian, Japanese and US focus on this key issue.

2016-10-30 With the evolution of defense capabilities in Australia, Japan and the United States, notably with the arrival of fifth generation aircraft in all three nations, there is a need to expand the capabilities to exercise together and to share data.

The challenge was well articulated by Rear Admiral Stuart Mayer in an interview earlier this year:

“There is no point designing a combat system capable of defeating supersonic threats and throttling it with a slow network or cumbersome C2 decision architecture.

“Achieving an effective network topology is so much more complex in a coalition context in which the potential for divergence is higher.

“The paradox is that a coalition network is much more likely a requirement than a national network, and yet what investment we do make is based on national systems first.

“If we don’t achieve the open architecture design that enables the synergy of a networked coalition force, then the effectiveness of the coalition itself will be put at risk.

“The moment we insert excess command and hierarchical decision authority into the loop we will slow down the lethality of the platforms in the network.

“Before we even get in the battlespace we have to agree the decision rights and pre set these decisions into the combat system and network design; the fight for a lethal effect starts at the policy level before we even engage in combat operations.

“The network and C2 rather than the platforms can become the critical vulnerability.”

“This is why the decision making process needs to be designed as much as the network or the platforms.

“If the C2 matrix slows the network, it will dumb down the platform and the capability of the system to deliver a full effect.”

“The nature of the force we are shaping is analogous to a biological system in which the elements flourish based on their natural relationship within the environment.

“We have an opportunity to shape both the platforms and the network, but we will only achieve the flourishing eco system we seek if each harmonise with the other, and the overall effectiveness is considered on the health of the ecosystem overall.

“For example, an ASW network will leverage the potential of the individual constituent platforms and that in turn will determine the lethality of the system.

“A discordant network connection will, at least, limit the overall Force level effect of the network and at worst break the network down to discordant elements.”

Clearly, a key part of the evolution is about shaping a weapons revolution whereby weapons can operate throughout the battlespace hosted by platforms that are empowered by networks tailored to the battlespace.

And that revolution will have its proper impact only if the network and C2 dynamics discussed by Rear Admiral Mayer unfold in the national and coalition forces.

“The limiting factor now is not our platforms; it’s the networks and C2 that hold the potential of those platforms down.

“When the individual platforms actually go into a fight they’re part of an interdependent system, the thing that will dumb down the system will be a network that is not tailored to leverage the potential of the elements, or a network that holds decision authority at a level that is a constraint on timely decision making.

“The network will determine the lethality of our combined system.”

At the heart of such a change is enhanced information sharing.

Recently, the Australian Ministry of Defence announced that the US, Australia and Japan have made progress in this regard.

In an MoD media release dated August 28, 2016:

Today, representatives of the Australian Department of Defence, Japan Ministry of Defense and the U.S. Department of Defense signed a Trilateral Information Sharing Arrangement (TISA) to further strengthen defence cooperation.

Officials of defence authorities of the three countries met in Honolulu, Hawaii together with representatives of diplomatic authorities, for the eighth trilateral Security and Defence Cooperation Forum where the TISA was signed.

The TISA will further enhance the strategic trilateral relationship and support peace and stability in the Asia Pacific by expediting information sharing to enable higher capability defence exercises and operations among the three nations, taking into account situational awareness in the region.

At the trilateral dialogue, officials pledged to enhance trilateral defence cooperation on maritime security and humanitarian assistance and disaster relief and continue to conduct high capability military exercises. The officials reaffirmed their strategic goals and commitment for trilateral cooperation to further peace and security in the Asia Pacific.

<http://news.defence.gov.au/2016/10/28/australia-japan-u-s-sign-trilateral-information-sharing-arrangement/>

The Role of Exercises: HA/DR Operations

By Robbin Laird

Humanitarian assistance and disaster relief operations are part of the military's DNA.

Working with partners and allies in times of crisis and war embraces working with their societies as well when natural disaster strikes.

Participating in these operations as well provides an broader exercise in crisis management.

In an article published on March 21, 2014, we looked at how the US Pacific Command looked at the challenge.

During my visit to Hawaii I had a chance to talk with senior PACAF staff working in the exercise and international affairs arenas.

The command is in a good position as they've focused on working out approaches in the disposition of forces, and shaping effective working relationships with both the key allies who are investing in modernization as well as partners who are working to provide for their security with less robust financial and force structure means.

Both types of relationships are central to a 21st century approach to Pacific strategy and both were discussed with the PACAF as well as with the MARFORPAC staffs.

The evolution of good working relationships with the partners in the region is a strong foundational element for the deterrence in depth strategy being forged in the region.

During the discussion, one senior member of staff underscored the importance of a "one government approach" to working with partners and allies in the region. "It is crucial that regional the trade relations allow for growth by all the members so there are not weak and failed states within the region which can be exploited by those who wish to do so."

By working in the region with the various agencies of the US government, the goal is to provide a range of means to provide for regional security.

With regard to the military component, the emphasis is on going beyond narrowly based bilateralism to shaping effective multilateral relationships and capabilities. The exercise regime is a key venue through which this change is being carried out.

As one participant put it:

We are going beyond a hub and spoke, bilateral exercise approach to a multilateral approach.

The purpose is not just to meet and work together but to build partner capabilities as well as our own and to be prepared to work effectively together in crises, either humanitarian or otherwise.

Seen from Washington and budgeters, exercises might seem the cherry on the cake.

And as one Marine noted later during my stay, “There are no jobs associated with funding exercises seen from the standpoint of Congressional districts.”

But the reality as seen from Hawaii is quite different.

Exercises are the venue through which the US actually can shape more effective US capabilities, partner capacity and crisis response approaches and capabilities.

There is another aspect to the centrality of exercises in shaping 21st century capabilities: core allies are adding new systems and capabilities.

How will these work with US forces and capabilities in the period ahead?

How will multiple sum force gains be achieved?

The answer in part is to leverage an exercise regime to add in the force re-shaping process.

For example, the Cope North exercise held in Guam was started as a US-Japanese exercise. Now the Australians are core members of the exercise.

In addition, new participants were invited to participate in the HA/DR parts of the exercise as well.

As one participant noted:

At this year's Cope North the South Koreans came with their CN-235s to participate as well as the Kiwis from New Zealand and Filipinos as observers.

Such participation provides a solid basis for expanding their roles as appropriate.

Another aspect has been illustrated by the evolution of Red Flag.

As one participant put it,

Our role as a facilitator is growing in broadening the engagement opportunities for allies to work together.

A good image of the change is that an Aussie Wedgetail was doing Command and Control for US, Japanese and South Korean jets at the recent Red Flag exercise.

And, for the first time, South Korean jets crossed through Japanese air space to come to fly with the participants in Red Flag.

The process of preparing for an exercise regime is part of the outcome as well. The USAF sits down with counterparts and sorts out a 3-5 year plan for specific national exercise participation. Through that process the partner nation can sort out its way ahead with regard to the operations of its forces and the USAF understands better where that partner is headed as well.

In other words, exercises fit the nature of the region well, in that the U.S. is the core bilateral partner to many states in the region.

Exercises allow other partners to join in without hosting permanent U.S. bases.

As one participant put it: “We don’t want to be parked throughout the region; and our partners do not necessarily want us to be either.”

This means in a world where “places not bases” is a key focus of activity, bilateral and multilateral exercises become a means to an end: shaping real deterrent capabilities with enhanced crisis response readiness.

An additional venue, which provides for real world collaborative efforts on a regular basis, is the frequent visit of forces which create humanitarian disasters. The region represents approximately 80% of the world’s natural disasters so it sees frequent need for partners and allies to work together in extreme circumstances.

The approach being shaped by US forces in the Pacific is not to just show up on an ad hoc basis, but to forge integrated capabilities to show up and work with partners to enhance their ability to effectively to take care of their needs or to be organized to accept multi-lateral force engagement in support of a relief effort.

Clearly, Operation Damayan is a case in point. And in this crisis, the USMC and USAF worked hand in glove with support from the US Navy to insert a force to help get the relief effort started and largely withdrew within three weeks.

We published a wide range of reports on Operation Damayan earlier and the conclusion of those reports underscored the evolving approach of the US military in the Pacific:

On the US side, the story is rather a straightforward one: the USMC, the USAF and the USN came rapidly, created infrastructure within chaos to allow for the relief effort to follow and then within two weeks the core insertion force had left.

This is a story of coming to the aide of the Philippines rapidly as only the military can do, and bringing core pieces to the effort which allowed the follow-on forces, in this case relief agencies and personnel to follow.

In short, exercises and shaping approaches to better organized responses to HA/DR events are not an add-on to operations, in many ways they are the operations which build deterrence in depth for the period ahead.

Cross Border Training North and Deterrence in Depth

By Robbin Laird

During a visit to Bodø Airbase on April 25, 2018, I had a chance to discuss Norwegian Air Force training with the Finns and the Swedes as they expand their cooperation to provide for enhanced regional defense.

Major Trond Ertsgaard, Senior Operational Planner and fighter pilot from the 132 Air Wing, provided an overview to the standup and the evolution of this significant working relationship.

With the Swedes and Finns, both not members of NATO, working with Norway, the lead NATO member in Northern defense, working more closely together, enhanced deterrent capability is being shaped in Northern Europe.

A very flexible capability has been put in place among the three nations through the Cross Border Training approach and one driven by innovations at the squadron level.

Indeed, the day I was there, I saw four F-16s take off from Bodø and fly south towards Ørland airbase to participate in an air defense exercise. The day before this event, the Norwegians contacted the Swedes and invited them to send aircraft to the exercise, and they did so.

The day before is really the point.

And worked out among the squadrons themselves to turning flying time into cooperation to train for combat is the means.

It is being done without a complicated day-to-day diplomatic effort.

This is a dramatic change from the 1990s, when the Swedes would not allow entering their airspace by the Norwegians or Finns without prior diplomatic approval.

“In the 1970s, there was limited cooperation.

“We got to know each other, and our bases, to be able to divert in case of emergency or other contingencies.

“But there was no operational or tactical cooperation.

“The focus was on safety; not operational training.”

By the 1990s, there was enhanced cooperation, but limited to a small set of flying issues, rather than operational training.

“But when the Swedes got the Gripen, this opened the aperture, as the plane was designed to be more easily integrated with NATO standards.”

Then in the Fall of 2008, there was a meeting of the squadrons and wing commanders from the Finnish, Swedish and Norwegian airbases to discuss ways to develop cooperation among the squadrons operating from national bases.

The discussion was rooted on the national air forces operating from their own bases and simply cooperating in shared combat air space.

This would mean that the normal costs of hosting an exercise would not be necessary, as each air force would return to its own operating base at the end of the engagement.

The CBT started between Sweden and Norway in 2009 and then the Finns joined in 2010.

By 2011, “we were operating at a level of an event a week.

“And by 2012, we engaged in about 90 events at the CBT level.”

That shaped a template, which allowed for cost effective and regular training and laid the foundation for then hosting a periodic two-week exercise where they could invite nations to participate in air defense exercise in the region.

“And that is how the Arctic Challenge Exercise (ACE) entered the picture and has evolved.”

Since 2015 the three air forces have shaped a regular training approach which is very flexible and driven at the wing and squadron level.

“We meet each November, and set the schedule for the next year, but in execution it is very, very flexible.

“It is about a bottom-up approach and initiative to generate the training regime.”

The impact on Sweden and Finland has been significant in terms of learning NATO standards and having an enhanced capability to cooperate with the air forces of NATO nations.

And the air space being used is very significant as well.

Europe as an operational military airspace training area is not loaded with good training ranges.

The range being used for CBT is very large and is not a cluttered airspace, which allows for great training opportunities for the three nations, and those who fly to Arctic Challenge or other training events.

And the range flies over land so there is an opportunity for multi-domain operational training as well.

The flag for the Arctic Challenge Exercise reflects the nature of the effort.

“The main center flag represents the national responsible for the planning of the event.

“In 2013, it was Sweden; last year it was Finland and in 2019, Sweden again.

“And then the flags of the participating nations are shown as well giving a sense of the collaborative scope of the exercise.”

He then discussed another exercise they have developed which they call Arctic Fighter Meet (AFM).

“We deploy to each other’s bases; so it is not the low cost end of CBT.

“We deploy four to five jets to each other’s base to do combat training.

“It is about getting to know each other; it is about making combat training more effective.”

What is most impressive can be put simply: “CBT was invented by the units and the wing commanders and squadron pilots.”

And given the strategic location of the air space in which training is occurring it is a key part of working deterrence in depth in the region and beyond.

Joint Forcible Entry Exercise 2016

By Todd Miller

The United States and Allies have few concerns higher than the proliferation of Anti-Access/Area Denial (A2/AD) capabilities among potential adversaries.

A2/AD systems deployed in the South China Sea, Middle-East, or along Europe’s eastern borders threaten US and allied freedom of movement and power projection.

A2/AD is not simply a defensive system to be overcome; it is an offensive threat that must be countered.

An A2/AD system placed near a border covers well over 100 miles of airspace of the bordering nation and facilitates “blitzkrieg” like offensive movements of ground forces into that nation.

Certainly, a Russian threat against the Baltic states comes to mind.

An adversary can seize territory, infrastructure, communication nodes and become fully embedded before US or Allied air forces are able to respond effectively.

U.S. Military strategists are considering multiple avenues to address and train to the A2/AD threat.

The USAF Global Strike Task Force (GSTF) considers the threat, as does the Joint Concept for Access and Maneuver in the Global Commons (JAM-GC).

Recognizing the threat and developing weapons and/or platforms as well as tactics, techniques and procedures (TTPs) is a significant priority for the U.S. and Allies.

One of the primary lessons the U.S. has learned from recent wars is the *critical need to train against realistic threats*.

Schools such as the US Navy “*Top Gun*,” and exercises like the USAF “*Red Flag*” are effective because participants train in realistic threat environments.

But dynamics of change are afoot and answering questions such as what does an F-35 Top Gun pilot look like are part of the evolving training and capabilities for the U.S. and its allies.

Training significantly increases the pilot’s success and survivability when faced with combat air operations.

The Joint Forcible Entry exercise (JFE, or JFEX) must be considered within the context of the A2/AD problem set and the value of realistic training within a very sophisticated A2/AD environment.

Second Line of Defense was granted the opportunity to observe the most recent JFEX (6-18-16) and interview the Commandant of the USAF Weapons School, Col. Michael “Johnny Bravo” Drowley, as well as Weapons School Instructors, Maj. Chris “Hobo” Lawler (*57th Weapons Squadron, McGuire AFB and JFE Exercise Lead*) and Capt. Andrew “Caddy” Standeford (*29th Weapons Squadron, Little Rock AFB*).

JFE takes place twice a year as one of the final “vuls” (short for “vulnerability period” – a term used by the Air Force similar to how the general public might use “mission”) prior to graduation for students of the U.S. Air Force Weapons School (USAFWS).

The “students” are actually tremendously accomplished instructors on their particular platform, many with a number of tours.

Beyond the flight experience, the students have demonstrated a commitment to leadership.

The first number of months of the Weapons School provide a Ph.D. level of instruction on the student’s particular platform.

The final portion of the course includes intense instruction on all the available platforms and their specific capabilities – including space, cyber, electronic warfare.

The goal for Weapons School graduates – that they will be advanced integration warfare specialists.

Commandant of the USAF Weapons School, Col. Michael Drowley explains:

“It’s just not enough to be that platform expert, you have to be an expert across all capabilities.

So the F-16 pilot has to know how Cyber is enabling their mission. He/She has to know how the Space domain is coming into play to help get the objectives that the Combined Forces Air Component (CFAC) and our combat commanders need.

At the same time the B-52 pilot needs to know how their effects are either helping or hindering those other capabilities as well.

It’s not enough to be able to manipulate your platform very, very well.

A student has to know how their platform integrates across all combat specialties and then helps get to those objectives that have been laid out for us.

The foundation underneath all of that is leadership.

It comes down to the ability to walk into a room that is a mix portfolio of Air Force and Joint specialties and lead the mission planning cell to a successful outcome.

If you strive to be the best at your craft, and your craft is aerial warfare, the USAF Weapons school is clearly the pinnacle of learning and achievement.

Drowley notes, *“The Air Force is being asked to go after more difficult, and dynamic targets.*

The targets are very mobile and peer or near-peer adversaries are trying to protect those targets in A2/AD environments.

We have fewer fighter and bomber aircraft than at the high points of Desert Storm and previous.

Graduates are facing more difficult problems with a smaller force size and the only way to be successful is to integrate across all of the available capabilities.

The Nevada Test and Training Range (NTTR) provides the ideal venue for the exercise.

The massive, restricted NTTR features advanced radar systems, surface to air missile sites (SAM), scores of ground targets, dynamic targets as well as the unimproved Keno airfield.

These systems are configured to create the most challenging and realistic A2/AD threat.

Maj. Lawler explains, *“It's the biggest piece of air space with the most sophisticated and realistic replication of threats anywhere in world.*

So the fact that as aircraft are flying in, onboard sensors are telling crews that there's something lethal out there that wants to kill them (even though there's not going to be a real missile flying) it still makes the hair on the back of their neck stand up and makes everybody operate at the highest level.”

The Objective

Planning and preparation for JFE starts as early as a year prior.

However, the weapons students are given the “mission objective” just a couple days prior to execution.

It takes students 10-12 hours to assess challenges, resources, and create a mission plan with rules of engagement (ROE), contracts and contingencies.

The JFE objective: Achieve an air and land drop of US Army paratroopers (82nd Airborne Division) and equipment on an unimproved airfield within contested space (an A2/AD environment protected by a capable “Red Air Force”).

The *friendly* or “Blue” force consisted of a Mobility Air Force (MAF) of 21 C-17As and 18 C-130H&Js and a Combat Air Force (CAF) of 33 aircraft including 9 platforms (F-16CM, F-15C, F-15E, EA-18G, B-52, A-10, E-3, RC-135J, E8, MQ-9).

The CAF objective: Create lanes and push back the adversary forces so the MAF can safely ingress to the airfield and make their drops.

Airborne Command and Control (C2) capabilities were complemented by Joint Terminal Attack Controllers (JTACs) on the ground in the vicinity of the airfield.

The *adversary* or “Red” force included 10 aircraft (8 F-16s and 2 A-4s) that integrated with an extensive ground force: integrated air defense system (IADS), surface to air missiles (SAMs), dynamic targets (including SAM sites), Cyber, Electronic Warfare, ground vehicles with heavy and light weaponry, and U.S. Army High Mobility Artillery Rocket Systems (HIMARS).

Capt. Standeford emphasized the joint aspect of the exercise:

“What the Air Force is doing is here is supporting the army because that's the end game, getting the Army on the ground allowing them to execute their objectives once they get on the ground.”

The JFE exercise involved 82 aircraft and just under 600 personnel.

The Mission Briefing

Drowley notes how difficult it is for the mission planners to perform the short briefing:

*“The mission planning needs to bring in all the aircrews who have had no exposure to the mission planning and really take them from zero to sixty in **one hour**.*

Those participants need to know the plan as well as everybody that mission planned for twelve hours, including all the options, contingencies and reasons why we're going to perform specific actions in order for everybody to be successful.”

Aside from the “layered” Blue CAF, it was no small task to coordinate the arrival of the MAF, 21 C-17s and 18 C-130s into airfield airspace.

Lawyer explains:

“The first layer of the plan is how are we going to deconflict from each other.

Once that piece is figured out then we take a look at how we will deconflict from the other Blue Air players that are out there.

And then, how do we deconflict once the enemy gets the threats active and we start deviating from the original plan.

It's a multilayered approach of deconfliction that the planners go through.

It's a lot of information for pilots to absorb. Once they go into execution they are focusing on what the planners have given them for each phase of flight.”

Communication

Communication is one of the key learning components of the exercise.

Drowley states, *“if somebody has the situational awareness to realize this is [may be] the one key that everybody needs, it's their responsibility as a leader to key the mike.*

They have to get that information out to pull assets together, to execute correctly in order to negate what the enemy is trying to do to them.

Many of the lessons learned that come out of the debrief are about communication.

Somebody knew a piece of information, was leadership exercised to ensure it got disseminated out to everybody?

It is great learning because these are very, very difficult problems that we're presenting the students.

We try and take realistic world problems from the some of the potential adversaries and we give them a booster shot of steroids and make them even more difficult.

So that way the enemy they face here on the NTTR is ten times tougher than whatever they may face in the real world.”

Information from data feeds from Remotely Piloted Aircraft (RPA), the E-8 JSTARS, RC-135 Rivet Joint, E-3 AWACS and space assets is complex and of a high volume.

Each platform is challenged to communicate relevant data, at the right time, even as time would appear to be of the essence.

Standeford commented on the communication/leadership philosophy of the C-130s: *“On the C-130 side we like to pride ourselves on the decentralized execution.*

So each individual aircraft is their decision authority amongst themselves.”

Every aircraft commander knows the parameters for the jump (airspeed, altitude etc.), as well as what and where they and everyone else is supposed to be. There is flexibility within the plan to deviate, for any number of reasons.

They simply must communicate effectively so everyone understands the what and why.

The “Vul” in Contested Space

The Blue air CAF unleash a choreographed symphony of smackdown on the target area.

Suppression of Enemy Air Defense (SEAD) Air to Air (A2A), Air to Ground (A2G), Offensive Counter Air (OCA), Intelligence, Reconnaissance, Surveillance (ISR) Close Air Support (CAS), Electronic Warfare (EW), Cyber, Space – a full spectrum force comes alive delivering blows from all sides.

Yet as Drowley explains the enemy is not static:

“The enemy gets a vote.

Their aggressors, SAMs, the high value mobile targets are very dynamic.

Students walk out the door with the best plan that can be executed, but as soon as they get out there, the enemy on the range does not want their targets hit, does not want Blue air coming into their airspace. Now the students must adapt the plan that they came up.

It requires strong leadership to see through all the fog and friction that's presented out there, whether it's the enemy doing it to us or sometimes us doing it to ourselves.

To be able to see through all that and identify what needs to be done or changed to be successful is the ultimate test.”

Simultaneously there are almost 40 C-17s and C-130s making their way from a number of locations around the country converging on a rally point for their ingress to Keno.

It can't be said better than Drowley expresses, *“...now they come from across the country, rejoin at a point and come into the range while this whole A2A and A2G battle is going on and they're getting updates.*

When you think about the joint command and control it's pretty impressive.

There is a strike (A2G) and A2A Mission Commander trying to clear the lanes so they can come in and do the air drop.

The MAF package commander is managing all the C17s and C130s as they come across the United States, and then in the back of the lead aircraft is the 82nd Airborne Division, on scene Commander who's about to jump out of the plane and take command of the battlespace from the ground.

The 82nd Airborne Commander is getting all these updates on how Blue air is taking out Red air, SAMs and what threats are on the airfield.

The C2 of the entire exercise is pretty phenomenal - a pure combat air component to a pure mobility component to the joint portion of the 82nd Airborne who are onboard the aircraft and then we have JTACs on the field for CAS.

It really does bring together a tremendous amount of joint capabilities to be able to execute.

And again, the problem that we are going against is not an easy one, we are bringing pretty vulnerable aircraft into a very contested environment.”

Throughout the JFE students must consider what constitutes a threat – and to whom.

Drowley explains, “So for the A2A players Red air is a primary threat, it's a primary threat to the C-17s and the C-130s that are on their way into the field.

However, for the 82nd Airborne that's jumping in, a five vehicle convoy is very threatening to them and so you really have the spectrum.

A CAF platform does not see that convoy as much of a threat, however it's a very real threat to the five or six guys that are in a parachute that are going to land in that vicinity.

So you really have to be able to go from a wide macro view of taking in the SAMs and the Red air all the way to a very micro view of a five vehicle convoy that's trying to get in and seize a part of the airfield and it needs to be neutralized.”

With primary air and ground threats neutralized, the force of C-17s and C-130s appeared over the field on cue.

Some of the transport aircraft have flown direct to the central Nevada location from distances as far as Fort Bragg, NC, and Dyess AFB, TX.

Throughout the operation, A-10s remained low and close to the airfield neutralizing any dynamic threats.

F-16CMs, F-15C & Es and B-52s circled high overhead responding to ongoing SAM and air threats.

A number of the C-17s and C-130s deviated from straight in approaches, their heavy banking, jinking and altitude shifts implied threat warnings.

That interruption of the direct flow could have presented a collision hazard, but the mission planners and pilots had it in hand.

Standeford explains the approach:

“We always say, ‘Aviate, Navigate, Communicate.’ So first thing is to get the airplane where it needs to be, take care of yourself.

Make sure you're avoiding everybody else visually and then start getting back into position and communicating that to the fellow flights. For our students the big piece to alleviate conflict is how they communicate the plan that they've built for the last three or four days to those out based crews that weren't sitting in and planning it.

That's a very key piece.

Not only planning and having a solid plan, but being able to communicate that plan.

When things start falling out and aren't going as planned they have a full understanding of what's expected of them and it is more of a reaction versus something they have to think about."

Debriefing

Once the exercise is complete those monitoring from Nellis AFB meet to validate missile shots that have been "tracked" electronically.

Kills and misses from both sides are identified so the learning is elevated.

Drowley unpacks the nature of the debrief: *"...here's what you did wrong, here's what you did right. We need them (debriefers) to punish our mistakes so that we can learn.*

They give a very accurate representation and then they give us phenomenal feedback on what was successful and what was unsuccessful so we can learn from it."

For the Weapons School "students" it is never just about the exercise.

It is about learning lessons that they can share with the rest of the Air Force to help all be successful in this environment.

The Future of JFE and the Weapons School

Given that warfare is evolving rapidly, and cyber and the space domain can be considered components of A2/AD, the range and training exercises are challenged to evolve to a higher state.

It begs the question of how committed the DOD is to funding range development as well as how the Air Force, and the Weapons School can create a realistic training environment moving forward.

Drowley comments, *"The range (NTTR) gives us great capability, it is the crown jewel of training facilities. And we want to make sure that it is always sharpened and refined to give us the best presentation possible."*

The time to "practice and refine TTPs" is prior to war – not during.

The F-22 and F-35 provide an entirely new level of information to the warfighter, and it will be a challenge to determine how best to disseminate.

Full spectrum capabilities give Commanders the opportunity to consider a number of potential effects (kinetic and non-kinetic) on a "target" with a wide number of outcomes. Replicating those effects, and the fusion of information within a training exercise is an evolving process.

The Live Virtual Constructive (LVC) training environment is emerging as the critical training methodology to encompass these new capabilities.

Drowley speaks to the future training environment of the warfighter:

"The A2/AD environment presents a tremendous amount of information that has to be collected, prioritized and then disseminated to the appropriate players so they can execute.

As we look forward to the evolution of the Air force warrior, the capabilities that bring that information fusion will be a large part of it.

*This is the next evolution for weapons officers. In the early ninety's they were **masters** of their combat specialty, now they're **integration experts**, the next evolution they will be **fusion experts** when it comes to kinetic, non-kinetic effects, information and dissemination. That is the next step that we're taking here at the weapons school, working towards that fusion expertise.*

That's the next evolution for the range and the adversaries in the training environment.

Right now we have the kinetic range and the non-kinetic construct (range) over it (as we talk about live virtual construct and bringing more sims into play). Our capabilities are getting to the point where we want to be able to actuate the things that we would execute in combat in such a manner that it's all integrated.

If a non-kinetic effect impacts a surface to air missile, or impacts a target on range a kinetic player would see that impact. Right now there's white space between those two ranges, that's the next evolution for training, where kinetic and non-kinetic effects can be seen on the range. But that's when we talk about LVC.”

Weapons Officers or Patch Wearers back in the “Force”

Weapons School students graduate shortly after JFEX and go back out into their squadrons having quite a high level of understanding.

However, they also go back to their units with the Weapons School creed seared into their hearts and minds, **Humble, Approachable, Credible**.

Col. Drowley strikes me as nothing less than living it. Absolutely humble, totally approachable, and without question, credible.

It is understood that Weapons School graduates are entirely service oriented. As Drowley states, *“Whenever I see another patch wearer (Weapons School graduate) out there, I know I'm about to run into another individual that espouses to being humble, approachable credible.*

They're all service oriented. What can I do to make others better? What can I do to help out the fight? What can I do to get the job done? I don't really care who gets the credit, I don't really care about the glory of it, I'm just here to help out the fight and that's really what it means to me.”

Reflecting back to his graduation from Weapons School Col. Drowley noted that he went immediately to the beginning of Operation Enduring Freedom (OEF), came back for a couple weeks to his squadron and then to the initial March 2003 wave of Operation Iraqi Freedom (OIF).

Drowley found himself writing back to Weapons School what seemed like every day: *“that one vul that I did in Weapons School - I saw it again in combat over here and it helped me lead this four ship. That one thing that you taught me at Weapons School, I taught it to these guys here and it saved them when a Roland shot at them.”*

A better warfighter, a better colleague, a better person. The outcome of Weapons School.

While it is an artificial argument to imply leadership development & realistic training is the most important priority, one must recognize the exponential value, the force multiplication provided by Weapons School outcomes, and the NTTR.

Cost to train an F-16 pilot - \$6 Million

F-16 - \$20 Million

NTTR & Weapons School - priceless.

A Force multiplier.

The difference between success and failure.

Of the highest priority.

The Air Force Opportunity

There's an incredible wealth to take away from the JFEX and the Weapons School experience.

It is really an open ended combat learning experience being adapted to real world dynamically developing threats.

The need for the U.S. Military Forces to work Jointly, integrate capabilities to address current and evolving threats. Check.

Developing the best tactical warfighting leadership to multiply the effectiveness and success of the USAF. Check.

Evolving Training and Warfighting capabilities to address kinetic, non-kinetic, Cyber, Space, Electronic warfare as well as Information Fusion. Check.

Each individual I had the privilege to engage referenced the Air Force as a career, a profession, and Weapons School as the mastery of that profession.

Col. Drowley expanded on just what the Air Force opportunity brings to the individual;

1. *The level of innovation and leadership exposure that people receive when they come into the Air Force is top notch. It's a great foundational if you want to stay and continue that leadership development. If you want to separate or transition, I know it's going to set a person up to be successful. The Air Force challenges its young Captains (such as Mission Commander for the JFE, Maj. Lawler) to go forth and conquer problem sets. Where else can a young person get that level of empowerment, that level of mastery?*
2. *The Air Force wants you to be the best at your job and provide whatever it takes to help you to be that best. We want to give you the resources, the time, the control. That's really what we're looking for here at Weapons School, we want Airman to be **masters of their craft**.*
3. *The last component the Air Force offers is purpose, **serving something that's greater than yourself**. Whether on an Airlift bringing humanitarian aid into a country that needs it, whether an A10 guy providing close air support for an 18 yr. old with a rifle that's taking fire, or whether a bomber pilot who goes and via a show of force to a particular country is going to stop them making noise - those in the Air Force are always doing something that's bigger than themselves.*

Exceptional leadership, a recognition of the A2/AD threat and a disciplined sound approach to preparing people and TTPs for the threat.

It brings to mind that the Leadership has considered Sun Tzu's words from the Art of War, *"The art of war is of vital importance to the State. It is a matter of life and death, a road either to safety or to ruin. Hence it is a subject of inquiry which can on no account be neglected."*

Not having been neglected, another class of Weapons School Graduates, Advanced Integration Warfighters assimilates back into their units.

Todd Miller: Heartfelt thanks for the support provided by the USAF ACC 99 ABW PAO, specifically SrA Joshua Kleinholz, Susan Garcia, U.S. Weapons School, Col. Michael Drowley USAF, Maj. Chris Lawler and Capt. Andrew Standeford.

Featured photo shows Colonel Michael “Johnny Bravo” Drowley, Commandant of the USAF Weapons School, stands in front of memorabilia recognizing his expertise as A-10 pilot. Credit: Todd Miller

This article was first published on July 11, 2016.

Past as Prologue: The Return of Roving Sands

The role of Army Air Defense Artillery is crucial in providing for key defense assets in the evolving offensive-defense enterprise.

Part of the shift from a primary focus in the land wars to the Middle East to dealing with a wider spectrum of conflict, including peer to peer conflict, is ramping up capabilities and training of the modernizing ADA force.

The revival of Roving Sands is a key part of the ramp up as well.

According to a [US Army](#) press release dated February 26, 2018, the Army has revived Roving Sands, a key training exercise for the Army and Marine Corps ADA community.

What is it?

Exercise Roving Sands is a three-week long joint air defense exercise held at Fort Bliss, Texas that focuses on training and certifying the Air Defense Artillery units of the [32d Army Air and Missile Defense Command](#). The exercise focuses on providing a combat training center-like evaluation where units simulate combat operations in an austere environment and refine their air defense skills in preparation for real world global response.

As part of the joint training, the Marines and Air Force also take part in the exercise as simulated enemy air threats.

What is the Army doing/has done?

The Army, specifically the 32d AAMDC, is reviving Exercise Roving Sands, after a 13-year hiatus. This was an annual exercise that ran from 1989 to 2005. Roving Sands 2018 is set to take place in the February-March time frame.

Units taking part in Roving Sands 18 involve elements of all four of the command's brigades. Units are "deploying" to Fort Bliss to be tested in a real-world, expeditionary type scenario as forces and equipment flow into "theater" via air and rail movement. In Fort Bliss they will conduct Reception, Staging, Onward-movement and Integrations operations prior to executing their missions.

During Roving Sands 18 units involved will focus on their ability to move, communicate and sustain over a large operational distance while providing air missile defense to protected assets. Throughout the exercise, units involved will be under the close scrutiny of Observer/Controller-Trainers, who will assess and ultimately validate them.

Major platforms involved in the exercise include the Patriot, THAAD and Avenger Systems and will culminate with a live-fire exercise to take place at White Sands Missile Range, New Mexico.

What continued efforts does the Army have planned for the future?

The goal is for Roving Sands to remain as an annual exercise that creates a venue forcing staff refinement of internal operational readiness procedures throughout the Air Defense Artillery community. This exercise will be a vehicle for 32d AAMDC to exercise mission command outside of the bi-annual Air Missile Defense Exercise conducted in the CENTCOM area of responsibility.

Why is this important to the Army?

Roving Sands creates an opportunity for the Air Defense Artillery community to conduct joint, maneuver-based exercises in a dynamic environment while validating readiness. With the growing threat from missiles, rockets, artillery and mortars, as well as unmanned aerial systems, Air Defense Artillery forces will continue to be forefront in the defense of America and her allies.

The background to reviving the exercise was highlighted in an article by [C. Todd Lopez](#) and published February 9, 2017.

The Roving Sands air and missile defense exercise, last held 28 years ago, served as a platform for doctrine development, a demonstration of technology, and ultimately as a validation of the expertise of the units who participated.

These days, Army air and missile defense exercises of that sort are a thing of the past, but that soon may change, if Brig. Gen. Christopher Spillman has his way.

"One of the things we in the air defense community don't have ... is a combat training center-like evaluation," said Spillman, who serves as commander of the 32nd Air and Missile Defense Command. "We don't have external evaluation."

Speaking at an Association of the U.S. Army event Tuesday in Arlington, Virginia, Spillman said the air defense community needs that validation back to demonstrate to the rest of the Army what the defense community already knows.

"Only we know if we are good or not," he said. "The rest of the Army doesn't, because they lack the expertise. We in the air defense artillery, we have the skills; we have the expertise; we know whether or not we're good. So we need an external evaluation. We need a combat training center-like evaluation."

The general said he has already made efforts toward rebuilding a large, collective training exercise like Roving Sands, and he speculated that such an event could be held at Fort Bliss, Texas.

"I'm going to try to figure out a way to resource that thing and demonstrate from a 32nd [Army Missile Defense Command] down to the lowest fire team ... our ability to execute air and missile defense ... So it's something I'm going to tee up here fairly soon," Spillman said.

Roving Sands involved multinational partners working together to hone their air and missile defense skills, and that's something Spillman said must return -- but it won't happen right away.

Initially, Spillman said, efforts toward rebuilding an air and missile defense training and validation exercise will involve "baby steps," but it's a goal worth working toward.

Exercise Joint Warrior: The UK Works With Allies in the Brexit Transition

The UK hosted a major European exercise on UK territory which tested ways to enhance collective defense.

According to a story in the [Daily Mail](#) published on May 3, 2018:

British troops have taken part in one of Europe's largest military exercises with nearly 12,000 personnel from across 17 nations attending Salisbury Plain.

Exercise Joint Warrior sees forces from around the world gather together to share strategies and take part in different training scenarios.

As part of the programme, UK soldiers were involved in a live demonstration held at Salisbury Plain Training Area, in Wiltshire, today with the Joint Expeditionary Force.

UK They conducted urban combat operations with air support provided by Chinooks, Wildcat helicopters and Tornado jets.

Forces involved in the live demonstration, attended by the Defence Secretary Gavin Williamson, included troops from the UK Parachute Regiment, the Danish Jutland Dragoon Regiment, the Lithuanian 'Iron Wolf' Brigade and the Latvian Mechanised Infantry Brigade.

All three British armed forces were incorporated in the exercises and 16 other countries were involved including Norway, Denmark, Estonia, the Netherlands, and the US.

The bi-annual exercise provides NATO allies and partner nations with the opportunity to train together across air, land, and sea.

Exercise Joint Warrior also hosted non-NATO partners such as Australia, Finland and Sweden and runs from April 21 to May 4.

According to a story published May 4, 2018 on the [Ministry of Defence website](#), the exercise was highlighted:

Britain remains more committed than ever to our longstanding allies in the face of evolving and intensifying threats, including chemical and biological weapons, reaffirmed Defence Secretary Gavin Williamson today.

Speaking from the Joint Expeditionary Force's (JEF) military exercise on Salisbury Plain, the Defence Secretary made clear the importance of the joint force in which the UK plays a leading role as the 'framework nation', working closely alongside Denmark, Estonia, Finland, Latvia, Lithuania, the Netherlands, Norway and Sweden.

Attending with Chiefs of Defence from all nine JEF member nations, Mr Williamson also commended the JEF's ability to react to the full spectrum of operations, from humanitarian assistance and conventional deterrence, through to combat operations.

Defence Secretary Gavin Williamson said:

"Nations are judged by the friends they keep. The exercise today sends a clear message to our allies and adversaries alike – our nations have what it takes to keep our people safe and secure in an uncertain world.

"From counter-terrorism and anti-smuggling to information warfare, we are stronger by sharing expertise and developing joint tactics across air, land, sea and cyber."

The live capability demonstration featured troops from the nine JEF nations, including troops from the UK Parachute Regiment, the Danish Jutland Dragoon Regiment, the Lithuanian "Iron Wolf" Brigade and the Latvian Mechanised Infantry Brigade, conducting urban combat operations with air support provided by Apaches, Chinooks, Wildcats and Tornados.

The exercise is the culmination of two weeks of intensive and specialised training across the country, ranging from amphibious and naval activity in Wales and Scotland to land based training in Wiltshire and air activity across the UK; all part of Exercise Joint Warrior.

Nearly 12,000 military personnel from 17 nations took part in the training scenarios involving multiple sovereign nations disputing resources and territories; counter-terrorism and anti-smuggling activity; information warfare; and evacuation operations.