

# Keeping the Pressure On

Editor's note: This article was mistakenly attributed to LTC Thomas James as the author in the printed version. The article is a product of ASJ staff. We regret this error.

## 1st Space Battalion support in OEF/OIF

The slogan "24/7/365 support to the warfighter," is taken very seriously by members of the 1<sup>st</sup> Space Battalion. That slogan carries Space Soldiers across the globe to support ongoing combat operations and a wide variety of exercises.

"We have had a continuous presence in the war since it began," said LTC Lee Gizzi, former 1st Space Battalion commander. "Our people continue to be in harm's way to support the Joint warfighters on the ground and they do a magnificent job."

The testament to Gizzi's comment is that the coalition forces continue to support the deployment of Space Soldiers. The Joint Tactical Ground Stations (JTAGS), Commercial Exploitation Team (CET) and Army Space Support Teams (ARSST) in Operation Iraqi Freedom and Operation Enduring Freedom provide key planning and operational capabilities for commanders on the ground.

The current Battalion Commander, LTC Tom James, notes that "the Space forces we have deployed with Army, Joint, and Combined Commands provide more than just products. They have a key role in educating leaders and staff personnel on the myriad of satellite technologies available to support land component operations, and the processes to integrate them most effectively. In addition, 1<sup>st</sup> Space Battalion Soldiers bring an understanding of how enemy forces may rely on these same technologies to the commander's planning process." He goes on to add that "much of the support ARSSTs, JTAGs, and CET provide is not just focused on supporting U.S. military operations. They also support coalition and civilian agencies with access to satellite-based products, such as support to Katrina relief efforts, and commercial imagery support to the Iraqi civil government."

The number of deployed Soldiers is small, but in this business it does not have to be a large number. It is the level of support that matters. Whether it is a JTAGS operator sitting behind a screen scanning for missile launches, ready to

warn units in the impact areas, or an ARSST member producing a 3-dimensional fly-through for mission rehearsal, the contributions of Space and Space-based products continues to help land component forces, in James' words, "kill the enemy while protecting our forces. That's our focus."

The JTAGS system was developed as an after effect of the first Gulf War. Saddam Hussein had fired SCUD missiles at coalition forces, Israel and Saudi Arabia. He essentially let the offensive theater missile genie out of the bottle. The U.S. military recognized the need for a system that would provide early warning to the specific area where a missile would likely impact. Without JTAGS during Operation Desert Storm, the entire theater would stop what they were doing once a launch was detected and go into their protective gear until an all clear was sounded. This requirement played havoc with operational tempo.

Not long after the war, an embryonic system was demonstrated to LTG Donald M. Lionetti, then commanding general, U.S. Army Space and Strategic Defense Command. He recognized the system's potential and within two years the first prototype was completed. A second was completed shortly thereafter. These systems were demonstrated to the European and Pacific theaters respectively and were so well received that they remained in those theaters and began operations.

In the late 1990's the first objective systems were emplaced in Europe and Asia, improving the capabilities of the original prototype systems. Today there are five systems, with one being used as a classroom for the military occupational specialty training. All the systems are deployable and all are manned by a crew of Soldiers and Sailors on a 24/7/365 basis.

JTAGS operators work in an enclosed shelter, constantly monitoring their given area of interest. Their mission is simple, according to SPC Amanda L. Dobbs, a JTAGS operator stationed in Korea.

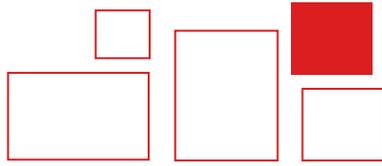
"We use satellites to watch the world and detect missile events (launches). We can tell the Patriot batteries that (a missile) is coming before they even see it with their radars. That is the advantage of using satellites. We see it first and warn the defenders as well as warn units in the potential impact area."

# Report Documentation Page

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## “We see it first and warn the defenders as well as warning units

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JTAGS elements are currently stationed at strategic locations around the world to provide early warning to U.S. and coalition forces of any missile launches that occur.

“Our system provides early warning in-theater,” Dobbs added. “We are forward deployed and provide an in-theater capability ready to react. It is about immediacy. By being in-theater we reduce single points of failure in the early warning system.”

JTAGS operators get very specific training in a course held in Colorado Springs. This qualifies them to operate the system; however, it is just a beginning, an apprenticeship. It requires a certain amount of field experience to master the job.

“After I got the training, I wanted more operational experience,” said SSG Aaron Donaldson. “So I volunteered to go back in-theater to get that unique experience.”

Dobbs added, “You can be a JTAGS operator for years and still learn new things about the system and its capabilities. Additionally, each site has its own unique characteristics. If you are looking at the world from two different sites you will see something different at each one.”

JTAGS systems are only one way that Space supports the warfighter. Early warning is only one of the pillars in the Space support construct. Another aspect of the Space support provided by 1st Space Battalion is the Army Space Support Teams.

ARSST also evolved from an immediate need. During Operation Desert Shield the Army realized that they needed a way to navigate accurately across that part of Iraq called the “empty quarter.” A compass is absolutely dependable as long as there is a point in the distance at which to shoot an azimuth. In the open desert there are none. In the late 1980s the Army Space Exploitation Demonstration Program (ASEDP) had been carrying around something called a Small, Lightweight Portable Global Positioning Satellite Receiver (SLGR) that would become affectionately known as “Slugger.” This device used satellites to find and identify the user’s position on the ground. Indeed, during Operation Desert Storm there was a battle, the battle of 93 Easting, which is named after a GPS point on the ground since there is no other way of identifying the location where the battle took place.

The ASEDP was able to take emerging, off-



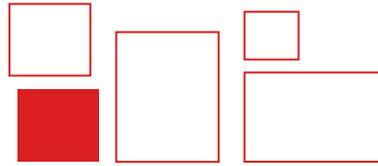
Top, Soldiers with 1st Space Company, 1st Space Battalion set up an antennae that support the Joint Tactical Ground Station. Bottom, Soldiers inside the station provide in-theater early missile

the-shelf technologies and put them directly into the hands of Soldiers. Those things that the Soldiers deemed useful or necessary, the ASEDP team members made available to the force. One key example is the International Maritime Satellite (INMARSAT) capability. This suitcase sized satellite telephone was carried into many places allowing immediate communications access to the user. From literally anywhere, planners and operators were able to connect and get things done. This was a huge success with the troops from the top down.

Eventually the ASEDP grew to a point where teams were assembled and they were given solid, proven technologies to bring Space support directly to the warfighter. Today the teams continue to provide day-to-day Space support to the warfighter and to natural disaster responders and humanitarian aid missions as they have since the mid- 1990s. Their missions became even more visible when the 1st Space Battalion was activated.

In the beginning, the teams were known for the INMARSAT, weather and imagery capabilities they brought to the table. With the imagery, the supported units were getting 2-dimensional and 3-dimensional images of the actual ground they would be moving over. The 2-dimensional aspect gave them a literal image of the ground taken from commercial satellites. The computer programs they used then put the same data that a military map would have on it, using the same symbols and even drawing to scale with grid lines appropriate to the scale. So, instead of relying on maps that might not have been updated in 20 or 30 years, they had an actual picture of the earth that might only be a few months old. This was a vast improvement that every planner and operator appreciated instantly.

In the 3-dimensional aspect, a commander or an operator could see an actual video of what it would look like to fly through the terrain. This could be done at varying



altitudes and speeds and enabled pilots and ground commanders to see what the enemy sees as they approach friendly positions.

From Iraq, SGT Kelli Holmes described the imagery support provided. “We do more things for S2s and the G2 than for any other shop. We provide them a lot of imagery support.”

Army Space Support Teams have been deployed to combat operations and disasters ranging from hurricanes to earthquakes. They provide products, capabilities and Space education to the supported units. The educational piece can be a constant effort that helps the commanders and their staffs understand what Space can and can’t do, and how to use Space capabilities in the best ways to support their missions.

“Our team provided a detailed capabilities briefing to anyone who asked and to some who didn’t,” said SGT Joshua Foye from his duty station in Iraq.

“The units we support greatly appreciate the products and services we offer them,” said SFC Dustin Swinney who deployed for Operation Iraqi Freedom. “And once we explained the products and what value their units could get from them, they were very excited to start receiving them.”

In another location, SSG Jay Stephenson said, “For the most part, education has had to focus on what technology cannot provide. A lot of our customers tend to see Space as a magic silver bullet that can solve any problem and detect anything anywhere.” And so the educational efforts go on as needed depending on the unit being supported and their familiarity with the technology.

SGT Chris Mavec said, “The only ‘Space’ related support we provide that we have had prior training on is GPS constellation health and welfare, GPS navigational accuracy and satellite imagery products. We have been put in charge of Theater Missile Detection for the theater as well as Personnel Rescue. Both capabilities are provided by pieces of equipment that we all had to learn on-the-job. Much of the support we currently provide has been learned on the fly.”

ARSST team leader MAJ John Hennessey describes the support to Operation Iraqi Freedom as compared to the exercises he has supported. “The work I am doing in-theater is very unlike the exercises I have participated in. Real world operations are much more dynamic and require much more thinking outside of the box. The exercises were often set-piece situations with spoon-fed inputs and textbook answers. In real world operations it is necessary for the Space team to



*Photo courtesy of the Commercial Exploitation Team*

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“In real world operations,  
it is necessary for the Space  
team to think on their toes.”

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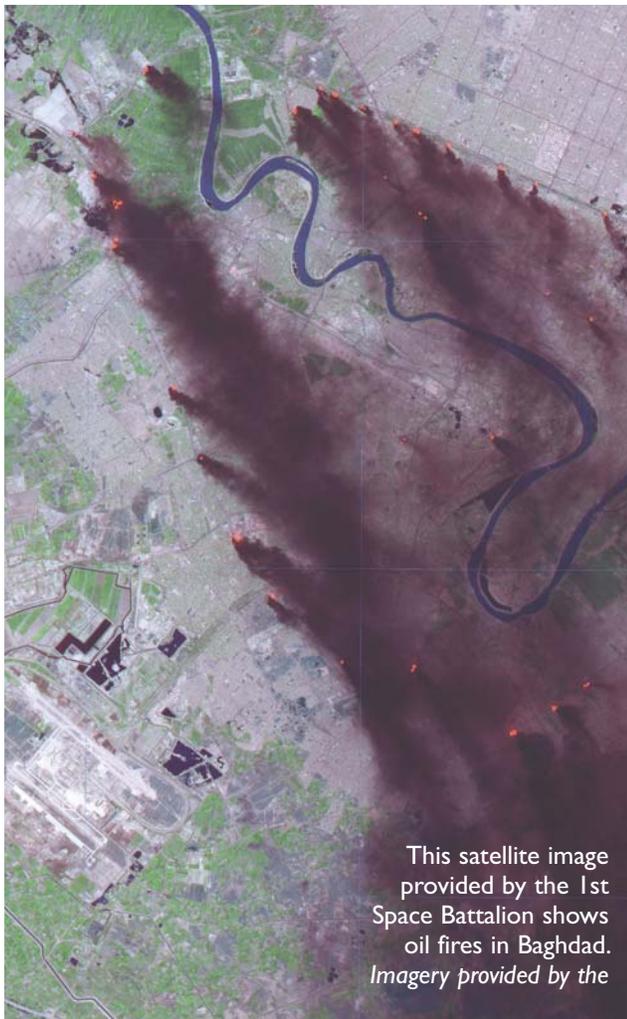
understand what is going on around them and develop ideas on how to assist.”

Ssg James Wayman, a volunteer on his team spoke of how this deployment helped him as a leader. “This is my second deployment to Southwest Asia and much like each exercise has been different, so too has this deployment. As the only Active Duty Soldier on this team, it has been a very unique experience working with the Reserve Soldiers. I think having served with them in this capacity has added another facet to my capabilities as a leader. My approach to work has not changed, however my methods of motivation and accomplishing the mission have,” Wayman said.

The support the Army Space Support Teams have provided has spread out from the Army to the U.S. Marines and today, one ARSST provides dedicated support to U.S. Marine elements in Iraq.

Some of the skills they now use had to be learned in-theater as missions evolved. Space Soldiers adapted, learned and overcame in order to succeed in their mission.

“One of the key benefits that ARSST Soldiers bring to a land component force is the ability to look at integrating



This satellite image  
provided by the 1st  
Space Battalion shows  
oil fires in Baghdad.  
Imagery provided by the



satellite technology into planning and operations from a comprehensive point of view,” said James. “They are not just focused on the signal, intelligence, navigation and timing, or missile warning areas of Space force enhancement. This allows them to discover innovative ways to use satellite systems designed to fight the Cold War, or new emerging technologies of both government and commercial satellites, to assist forces engaged in counter insurgency operations. Our Soldiers aggressively pursue these solutions in support of warfighters in that fight today.”

The CET has been deployed to Southwest Asia since 2004 with Active, Reserve and National Guard Teams sharing the year-long rotations. The CET provides a unique capability to the Warfighter. The team is focused on imagery exploitation and mainly uses commercial imagery to produce many different products. They have been tasked to provide soil moisture analysis, change detection in search of cache sites, slope analysis, and vegetation analysis – functions that the ARSSTs are not as well versed in. The benefit of using commercial imagery is that it is easily releasable to Iraqi Forces (as well as other Coalition forces).

The CET obtains bent pipe imagery data directly from Digital Globe, owner of QUICKBIRD and newly launched WORLDVIEW satellites, within a few hours of collect. The team is then able to process the data into a usable image file and distribute to the Warfighter much faster than the normal collection management channels. The CET also has the capability to exploit SPOT and RADARSAT imagery. SPOT is a much lower spatial resolution than QUICKBIRD but has better spectral resolution – better for spectral analysis. RADARSAT has the added benefits of providing imagery in almost all weather conditions, day or night, including limited use during sandstorms. The CET adds to the Warfighter’s tool kit bag of ways to gain useful information in the Area of Operations.

The battalion has a short but eventful history and its capabilities are continuously evolving and adapting to a variety of support situations. Its Soldiers are rightly proud of what they have accomplished. As they continue to serve in-theater and around the world they are practicing their chosen profession, enabling U.S. Forces to win decisively on the battlefield.