

NOVEMBER 15, 2012

A Space & Missile Defense NewsWire

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Back from space...



Photo by Jason B. Cutshaw

Lt. Gen. Richard P. Formica, commanding general, U.S. Army Space and Missile Defense Command/Army Forces Strategic Command, shows Under Secretary of the Army Dr. Joseph W. Westphal the SMDC flag that retired Army astronaut Col. Timothy J. Creamer took aboard the International Space Station for about six months. During his visit to the command headquarters at Redstone Arsenal, Ala., Nov. 14, Westphal received a command overview and got a first-hand look at the command's major capabilities for today, tomorrow and the future. For the story about Westphal's visit, see Page 3.



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U.S. Army Space and Missile Defense Command/Army Forces Strategic Command publishes the Eagle bi-weekly as a digital newswire. The newswire is an authorized publication of the USASMDC/ARSTRAT in accordance with AR 360-1. The SMDC commanding general has directed that the publication of this periodical is necessary in the transaction of the public business as required by law. The views and opinions expressed in the Eagle are not necessarily those of the Department of the Army or SMDC. The Eagle is intended to inform members of the command on happenings within the Army space and missile defense community. Distribution is made to the service members, civilians and contractors, and the general public.

COMMANDING GENERAL

Lt. Gen. Richard P. Formica

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Command Sgt. Maj. Larry S. Turner

DEPUTY TO THE COMMANDER

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DEPUTY COMMANDING GENERAL FOR OPERATIONS

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Congratulations

Please join the command in congratulating the following officers on their recent selection for promotion:

Lt. Col. Morris L. Bodrick, U.S. Army Space and Missile Defense Command/Army Forces Strategic Command, deputy, Technical Center, Huntsville, Ala.

Lt. Col. John P. Mullin, USASMDC/ARSTRAT, commander, 1st Space Battalion, Colorado Springs, Colo.

Lt. Col. Jacqueline L. Patten, SMDC G33, Colorado Springs.

Lt. Col. J. Dave Price, US Army Pacific, Hawaii.

Lt. Col. Shelley Volkwein, Air War College, Montgomery, Ala.

Maj. Karen W. Riddle, SMDC staff judge advocate, Colorado Springs.

Open season for health

The dates for the Federal Employee Health Benefits open season are Nov. 12 through Dec. 10. If you have questions, contact a counselor at the Army Benefits Center at (877) 276-9287.

FEW helping many

The North Alabama chapter of Federally Employed Women will be volunteering at the Downtown Rescue Mission for its annual community outreach activity Nov. 18 at 6 p.m. The Downtown Rescue Mission needs help loading turkey boxes that will be handed out to those who cannot afford to purchase a Thanksgiving meal of their own. This is a fun event for all ages so please bring your family and friends out to help support the community. For more information, please contact us at northalabamafew@gmail.com.

Toys for Tots marches on

Toys-for-Tots is beginning its 2012 campaign. Boxes are located across from the first floor elevators in Bldg. 5220 on Redstone Arsenal, Ala. There is also a box for donations at 6000 Technology Drive in Huntsville, Ala. Cash or check donations are also accepted. The toys will be presented to the Marines on Dec. 13 at 10 a.m. in the lobby of Bldg. 5220. For more information, call (256) 955-2430 or 955-4931 or (256) 799-4445.

Remember: Don't do drugs

As of Oct. 5, the State of Colorado passed a law making marijuana possession legal. Please note from a personnel security standpoint, even though a state may make restricted usage of marijuana legal, federal employees should still adhere to the provisions of Department of Defense adjudicative guidelines for maintaining security eligibility. Therefore, any use of marijuana is still considered a reason for immediate denial/revocation of security eligibility. Marijuana is still considered a mind-altering drug. These guidelines apply to Army civilians, military and contractor personnel.

Army under secretary visits SMDC

Jason B. Cutshaw
SMDC Public Affairs

REDSTONE ARSENAL, Ala. – The under secretary of the Army received a detailed and succinct depiction of how the U.S. Army Space and Missile Defense Command/Army Forces Strategic Command supports America’s Warfighters during a brief visit here Nov. 14.

Under Secretary of the U.S. Army Dr. Joseph W. Westphal spent the day at Redstone Arsenal and visited USASMDC/ARSTRAT Wednesday. During his visit, Westphal received a command overview and got a first-hand look at the command’s major capabilities for to-

day, tomorrow and the future.

“I think it is important that I came here to learn more about the support Space and Missile Defense Command provides our Army, combatant commanders and the Department of Defense,” Westphal said. “I am truly impressed with the work being done here, and with the leadership at all levels. Lt. Gen. (Richard) Formica has formed a team of professionals here who are expertly harnessing cutting-edge technology and leveraging space-based capabilities to support our national interests.

“This critical command is providing these capabilities in support of our Warfighters and is vital as the Army transforms to meet the challenges of the future,” he added.

Shortly after arriving at SMDC’s headquarters on Redstone Arsenal, the under secretary had a meeting with the command’s leaders and learned how the command provides trained and ready space and missile defense forces.

SMDC’s commanding general talked about the importance of the visit and what it means to the command.

“We were very pleased to have Under Secretary of the Army Westphal visit SMDC/ARSTRAT in Huntsville,” said Lt. Gen. Richard P. Formica, SMDC commanding general. “We are proud of the many capabilities we provide to our Army and to U.S. Strategic Command across our three core tasks. It was good to share a glimpse of what we do with the under secretary of the Army.

“He is very active in space issues (in particular) at the Department of the Army Headquarters and the Office of the Secretary of Defense,” he added. “It was good for him to see what we do first hand.”

Formica told how he appreciated Westphal’s interest in not only the command, but also the SMDC team members who contribute to its success.

“Secretary Westphal was very interested in the command, what we do and the capabilities we provide,” Formica said. “He was happy to interact with those who had the opportunity to brief him and show him what they do. And it was good for him to interact with the interns.

“This was a very good visit,” he added. “We invited

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Photo by Jason B. Cutshaw

Under Secretary of the Army Dr. Joseph W. Westphal receives a briefing on Kestrel Eye by John R. London III, small satellite program manager, in the U.S. Army Space and Missile Defense Command/Army Forces Strategic Command’s Concepts Analysis Laboratory during his visit to Redstone Arsenal, Ala., Nov. 14.

VISIT from Page 3

Secretary Westphal to visit us in Colorado Springs to see some of the operational issues firsthand – and to both Kwajalein Atoll and Fort Greely, Alaska. He’s busy – and there’s a big Army for him to see – so chances of getting visits to all three places are low – but it’s worth noting his interest in the command.”

After meeting with Formica, Westphal learned about Army space, high-altitude and missile defense research and development technologies.

“It is very important for him to be here because we get an opportunity to tell him about our command,” said Gisele Wilson, chief of the SMDC Technical Center’s Space Superiority Division. “We get an opportunity to show him the wonderful work that we do here.

“It is great for the people who work here to see that he understands that our work that we’re doing is ultimately getting products out to support the Warfighter,” she added.

Westphal also received a Joint Air Defense Operations Center-Development Test Lab overview and demo, and a Concepts Analysis Lab tour and briefing.

“It was very exciting and a little bit nerve-racking to brief the under secretary (of the Army,)” said Stephanie Cleveland, a general engineer in the CAL. “But it was important that we got our message across to him. I think he got a better understanding of what we do here.

“I personally work with radar in the CAL, so I explained what the radar does and why we use it to support counter-rockets, artillery and mortars and how C-RAM in turn supports the Warfighter,” she added. “I am just glad to have had



Photo by Jason B. Cutshaw

Under Secretary of the Army Dr. Joseph W. Westphal meets with members of the college intern program at the U.S. Army Space and Missile Defense Command/Army Forces Strategic Command’s Concepts Analysis Laboratory during his visit to Redstone Arsenal, Ala., Nov. 14.

the opportunity to brief him. It was an honor.”

After his visit at SMDC headquarters, Westphal met with other Redstone Arsenal organizations before returning to Washington, D.C. Before leaving he explained what he took away from his experience at the command.

“First, the Army appreciates the expertise of the Soldiers and Department of the Army civilians assigned to the Space and Missile Defense Command, and the support of all those Family Members who unconditionally support these men and women,” The under secretary said. “I would like to add that the contributions of Department of the Army civilians are crucial, important, and a valuable part of our force. Attracting and retaining talented people, Soldiers and civilians, will remain a top priority despite the challenges ahead. It would be impossible to run the Army without the experience

and depth of knowledge that our civilian workforce provides. Lastly, as dollars get tighter, we need to ensure that we don’t compromise on the very things that we’ve been saying, which is that we’re going to always support our Families and our Soldiers. We’re going to stand by them.

“Again, I’m very glad that I had the opportunity to visit Space and Missile Defense Command, and Redstone Arsenal, and see firsthand the incredible work being done here,” Westphal added. “After 11 years of combat operations, we have the most capable force this country has ever had. We have a highly educated force. We have a force that has been through quite a lot of turmoil, so this Army transformation and modernization is an opportunity for us to really harness technology and spaced-based capabilities as we reshape the Army of the future.”

Huntsville Heroes Week brings Cheshire natives together

Dottie White
SMDC Public Affairs

HUNTSVILLE, Ala. – Each year in November, the Semper Fi Community Task Force of Huntsville brings 30 wounded warriors, representing all service branches, to Huntsville for a week of fun, relaxing activities, and recognition.

Known as Heroes Week, this year from Nov. 7-12, the service members are honored at numerous events throughout the community.

This year's highlights included a Veterans Day breakfast and parade, a Marine Corps Ball, a fishing tournament, a University of Alabama football game, a parade of boats, and numerous lunches and dinners hosted by community groups and businesses.

Cheshire, Conn.-native, Army Lt. Gen. Richard P. Formica, commanding general, U.S. Army Space and Missile Defense Command/Army Forces Strategic Command, along with local veterans groups, other military representatives and several members of the community, was there to greet these wounded warriors as they arrived at the Huntsville International Airport Nov. 7.

"This is a great opportunity to greet our wounded warriors and welcome them to Huntsville," Formica said. "When you look around and see all the moms and dads and the children cheering, there's just no place I'd rather be."

There was one wounded warrior in the group Formica has met and spent time with before Heroes Week. Formica first met Army Spc.



Photo by Dottie White

Cheshire, Conn.-native, Army Lt. Gen. Richard P. Formica, commanding general, U.S. Army Space and Missile Defense Command/Army Forces Strategic Command, greets Army Spc. Josh Budd, also from Cheshire, upon his arrival to Huntsville, Ala., for Heroes Week.

"This is a great opportunity to greet our wounded warriors and welcome them to Huntsville. When you look around and see all the moms and dads and the children cheering, there's just no place I'd rather be."

*Lt. Gen. Richard P. Formica
 Commanding General
 U.S. Army Space and Missile
 Defense Command/Army Forces
 Strategic Command*

Josh Budd, also a Cheshire native, during a visit to Walter Reed Medical Center in Bethesda, Md., where he has been recuperating for the

past year-and-a-half after being injured in Afghanistan.

Budd said Formica has visited him three or four times at Walter Reed.

"It means a lot that we have top-ranking officials caring about the little guys," Budd said. "I've been to a lot of places as a wounded warrior, and this is the best welcome we've ever received.

"The first time I stood and saluted (since being injured) was for Lt. Gen. Formica," he added. "He has been a huge help in my recovery and making me feel closer to home."

53rd Signal Battalion (SATCON) engages growing satellite constellation

Capt. Becky Bort and Capt. Jay Sharitt
53rd Signal Battalion (SATCON)

JOINT BASE PEARL HARBOR-HICKAM WAHIAWA ANNEX, Hawaii – President Abraham Lincoln’s Soldiers relied on flags and torches in the beginning of the Civil War to relay dispatches across long distances. Conceived by Maj. Albert J. Myer, visual signaling required that the two communicating parties be able to see one another, or have a “line-of-sight” between points to receive and pass along important messages.

For extreme distances, an intermediary group was required to re-transmit information. While times have changed, the concept remains the same – the Army has exchanged the symbols of the Signal Corps in favor of satellite retransmission technology to meet its long-haul communication needs.

The 53rd Signal Battalion (SATCON) comprises of five forward-deployed, geographically-dispersed companies providing 24/7 year-round continuous communications transmission and satellite payload management of the Department of Defense’s wideband constellations for customers from the president of the United States, secretary of defense to joint operators and tactical Warfighters anywhere in the world.

Each of the five companies is known as a Wideband Satellite Operation Center. Each WSOC is staffed with satellite control operators, an elite group of Soldiers responsible for monitoring the entire space network and providing pertinent customer service to ensure all real-world communication missions are supported across both the Defense Satellite Communication System and the Wideband Global Satellite constellations.

The WGS constellation, currently at four satellites and planning to grow to 11, offers high capacity satellite communications capabilities to the U.S. and its international partner’s militaries including Australia, Canada, Netherlands, Luxemburg, Denmark and New Zealand.

Each WGS vehicle provides more than nine times the amount of bandwidth and communications capabilities for tactical command and control, communications, and computers, intelligence, surveillance, and reconnaissance (C4ISR) than the aging DSCS counterpart vehicles it is replacing.

With the activation of the fourth Wideband Global



U.S. Army photo

Soldiers of E Company, 53rd Signal Battalion (SATCON) gather at a ground station in Okinawa, Japan.

Satellite, the 53rd Signal Bn. significantly increased the DoD’s satellite communications capabilities. The newly activated WGS-4 is the first of the enhanced second-generation (block II) satellites that features a new radio frequency bypass that supports communication transmissions at data rates three times greater than the three previous WGS vehicles.

D Company, 53rd Signal Bn., in Wahiawa is the testing ground for every WGS launched into space.

Following the January launch, the satellite was flown to a testing slot where engineers and personnel from Boeing, Northrop Grumman, Joint Satellite Engineering Center and U.S. Strategic Command spent weeks sending commands to the satellite and performing payload characterization and verification, ensuring that the satellite itself was healthy and ready to become part of the DoD constellation.

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3-D printer offers numerous benefits

Carrie E. David
SMDC Public Affairs

REDSTONE ARSENAL, Ala.

The mission of U.S. Army Space and Missile Defense Command/Army Forces Strategic Command, or SMDC, engineers is to seek, develop and shape technology to benefit the American warfighter, and oftentimes those ideas can be applied to commercial applications as well.

A recent project being worked by SMDC's Future Warfare Center Innovative Ventures Office since mid-September is a smaller and cheaper 3-D printer than those currently available.

"The ability to replicate parts quickly and cheaply is a huge benefit to the warfighter," said D. Shannon Berry, operations research analyst with the Innovative Ventures Office. "Instead of needing a massive manufacturing logistics chain, a device that generates replacement parts is now small and light enough to be easily carried in a backpack or on a truck."

The printer was developed with the goal of a "3-D printer in every home."

"It's made from easily replicable parts in printed plastic and laser-cut wood, so the entry price is staggeringly low: \$695 compared to more than \$3,000 for comparable systems," Berry said. "Considering the calibration and attention to detail needed to operate it, I think it's still short of the idea of having one in every home, but that goal is definitely something achievable in the next 10 years."

According to Berry, creating low-cost replacement parts was central to the printer's purpose.

"We do a lot of work with space-borne sensors, and we use small air-

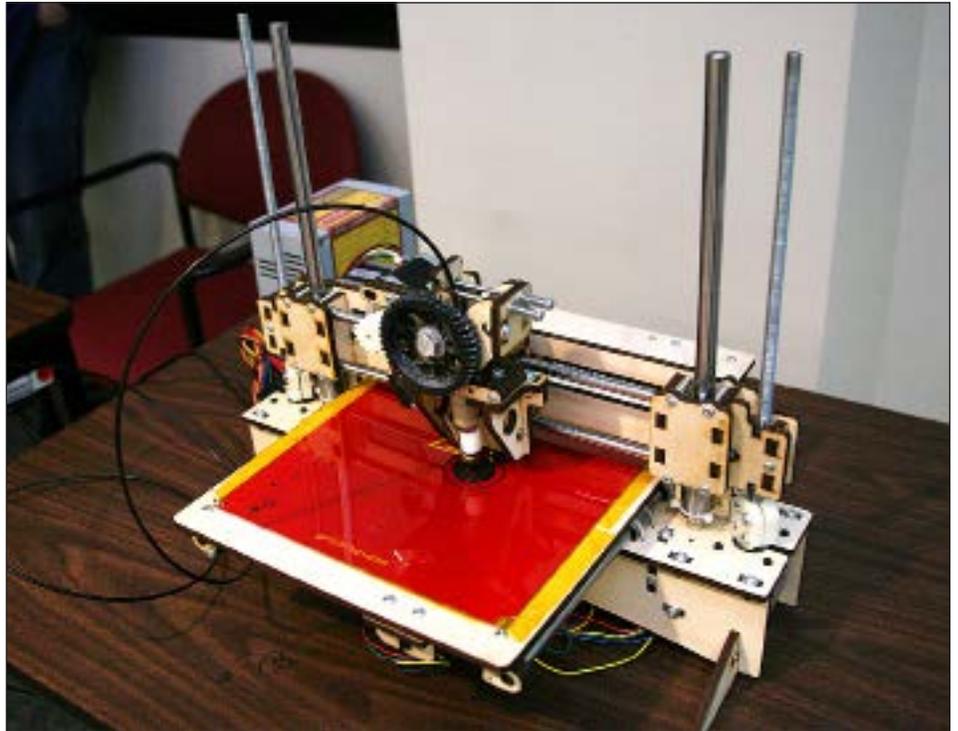


Photo by Carrie E. David

The 3-D printer developed by the U.S. Army Space and Missile Defense Command/Army Forces Strategic Command Future Warfare Center's Innovative Ventures Office is not the first 3-D printer in the command, but is significant because of its small size and greatly reduced cost.

borne platforms as an inexpensive stand-in when we're experimenting," Berry said. "Parts for these systems break frequently, and many of them are produced overseas, so there's a long lead time for replacement parts. The concept was that a 3-D printer could replicate those parts with less overhead in terms of time and money."

As with much of the technology developed by government agencies, there are possible commercial applications for the printer as well.

"The impact is even more significant when you look at small businesses that have great concepts for physical systems that could benefit the warfighter, but they do not have the funds or support in the present acquisition environment to make that system a reality," Berry said.

"The 3-D printer could strongly impact the acquisitions chain, offering the ability of rapid prototyping and low-cost initial operations capability to more development teams."

SMDC's engineers have already practically used the 3-D printer.

"We are honestly still working on calibrating and scaling production with our printer," Berry said. "However, to date, we have modeled and manufactured custom sensor housings and custom casings for control boards and other exposed electronics. The machine also has the ability to replicate its own parts, so we've used it to generate spares for itself."

Although this is not the first 3-D printer at SMDC, Berry said this one is significant because of its smaller size and reduced cost.

Today in SMDC History, Nov. 15, 1967

SMDC Historical Office

Over the past 55 years, the command's name has changed 10 times. Each iteration has corresponded to a significant change in our organizational mission.

On Nov. 15, 1967, the NIKE-X Project Office was reorganized and established as the SENTINEL System Command (SENSCOM). The changes reflect the decision to deploy the anti-ballistic missile system which had been under development since the command began in 1957.

A SENTINEL system manager was created within the office of the chief of staff. Brig. Gen. Ivey O. Drewry, the NIKE-X project manager, became the SENSCOM Commander and the deputy system manager.

With the deployment decision SENSCOM would focus upon the development, acquisition, installation and logistical support of the SENTINEL Ballistic Missile Defense System while a separate Advanced Ballistic Missile Defense Agency would assume the research and development missions performed by the project office.

The year 1967 was a pivotal year for missile defense. The Soviet Union had



deployed their ABM system around Moscow in 1966. Negotiations with the Soviet Union to eliminate these systems were unsuccessful. As a result, President Lyndon Johnson argued that the United States would be forced to increase its nuclear arsenal.

At the same time, potential threat from China was realized as the Chinese exploded their first thermonuclear device in June and successfully launched a nuclear tipped missile in October.

The focus of the SENTINEL deployment was threefold. The first mission was to defend urban and industrial areas against potential attack by China; second, it would provide a defense against accidental launches by any nation; and third, the plan included an option to defend the Air Force's Minuteman missile sites.

The SENTINEL system involved the deployment of NIKE-X components – the Spartan and Sprint missiles and the Perimeter Acquisition Radar and the Missile Site Radar. The initial deployment called for six PARs, 17 MSRs and 480 Spartan and 220 Sprint missiles.

The first 10 SENTINEL potential sites were also announced Nov. 15, 1967. These were in Boston, New York, Detroit, Chicago, Albany, Georgia; Dallas, Salt Lake City, Seattle, Oahu, Hawaii; and Grand Forks Air Force Base, N.D.

The deployment survey concept would also add sites in San Francisco; Los Angeles; Cheyenne, Wyo.; Great Falls, Mont.; and Sedalia, Mo.

Thank you for your service



Photo by Dottie White

Lt. Gen. Richard P. Formica, commanding general, U.S. Army Space and Missile Defense Command/Army Forces Strategic Command, shakes hands with Dr. George Painter, a dentist at Fox Army Health Center and a Korean War veteran, Nov. 8 at Huntsville International Airport as he thanks each veteran for their service. Painter is one of nine Korean War Veterans who departed for South Korea for the Legacy 4 Korean War Veterans Foundation's Revisit Korea Trip.

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During this period, additional testing was conducted for special projects and demonstrations, as well. For example, the engineers successfully transmitted a 1.3 gigabits/sec carrier signal through WGS-4, setting the record for the largest carrier in the world.

What makes WGS-4 unique is that it is being managed remotely through IP-based ground terminals located in Australia.

In the past, a WSOC could only conduct mission control for satellites in its field of view; however, this new IP technology is already significantly increasing the capabilities of the WSOCs and the robustness of the space communications network due to built-in redundancy.

With the new technology, C Company located in Germany and D Company located in Hawaii can remotely engage and monitor this spacecraft as well.

In all, three WSOCs can provide controlling functions for D Company, controlling a satellite above the Indian Ocean is a feat never achieved before WGS-4 was launched.

“This is a significant step for the SATCON community as we are able to provide robust, reliable, redundant communications support and payload control over the WGS constellation,” said Lt. Col. Karen Roe, 53rd Signal Battalion (SATCON) commander, referring to the ability to remotely run the satellites.

Remote monitoring in the military is currently in its infancy and the plan is to increase the amount of remote monitoring terminals across the globe.

Ultimately, each WSOC within the 53rd Signal Bn. will maintain the ability to manage and monitor any DoD satellite anywhere in the world at any time.

Safety first, safety always

What to do when it's C-C-Cold

For many people, working or playing in cold weather can be a positive experience. People may feel invigorated by the bracing air and feel like doing work with more physical energy than usual. When it comes to leisure, cold weather offers many enjoyable activities whether it's skiing, skating, snowmobiling or ice fishing.

When at work or play outdoors or in unheated structures during the winter months, people are at risk for serious health problems including trench foot, frostbite and hypothermia. In extreme cases, including cold water immersion, exposure can lead to death. Some danger signs include uncontrolled shivering, slurred speech, clumsy movements, fatigue, and confused behavior.

Here are some cold weather tips that all need to be familiar with:

- Learn to recognize some of the environmental and workplace conditions that may be dangerous. For example, it does not have to be bone chillingly cold, with a howling wind, to be at risk for developing hypothermia. It can happen in above-freezing temperatures.

- Learn the signs and symptoms of cold-induced illnesses and injuries and what to do to help others.

- Wear proper clothing for cold, wet, and windy conditions, including layers that can be adjusted to changing conditions. If you run the risk of sweating, you should be bring additional layers of clothing so you can change into layers.

- When in extreme conditions, take frequent short breaks in a warm dry shelter to warm up.

- Try to schedule outside work or play for the warmest part of the day.

- Avoid exhaustion or fatigue



because energy is needed to keep muscles warm.

- Use the buddy system – work in pairs so that others can recognize danger signs.

- Try to keep moving while in the cold; don't be still. This helps to keep body temperature up and circulation moving. If experiencing symptoms of hypothermia or frostbite, get to a shelter and seek medical help.

- In addition to dressing properly for cold conditions, its important to eat regularly when in cold temperature, especially foods high in carbohydrates and fats.

- Drink warm, sweet beverages and avoid drinks with caffeine and alcohol.

- Remember, there are increased risks when taking certain medications, are in poor physical condition, or suffer from illnesses such as diabetes, hypertension, or cardiovascular disease.

Remember: working or playing in cold weather can be a positive experience when dressed warmly and using common sense about safety.

Service with a smile



Photo by Dottie White
Col. Jimmy Jenkins, U.S. Army Space and Missile Defense Command/Army Forces Strategic Command chief of staff, spends time with Virgil Mitchell, a Marine Corps World War II and Korean War veteran following a Veterans Day ceremony at Floyd E. "Tut" Fann State Veterans Home in Huntsville Nov. 12.

Marching in honor



Photo by DJ Montoya

Around 140 Soldiers from the Army's first and only space brigade, the 1st Space Brigade, took their place in a formation of more than 100 entries honoring veterans – past and present – by marching in the 2012 Colorado Springs Veterans Day parade Nov. 10. The event took place in downtown Colorado Springs on Tejon Street between St. Vrain Street and Vermijo Avenue. The theme for this year's parade was, 'Iraq veterans: Courageous defenders of freedom.'

View SMDC's photos at www.flickr.com/armysmdc

Service comes in all sizes



Photo by Dottie White

Hunter Mosley, 3, asks Command Sgt. Maj. Larry S. Turner, U.S. Army Space and Missile Defense Command/Army Forces Strategic Command command sergeant major, to close his eyes before handing him a card that was colored by his 4-year-old sister, Lauren, to thank him for his service to the nation. The two children were with their mother Amy and grandfather, Bob, at Huntsville International Airport Nov. 7 to greet wounded warriors as they arrived for Heroes Week.

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