

VOLUME 56 NUMBER 23

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# THE KWAIALEIN HOURGLASS



Kwajalein Jr./Sr. High School graduate Dori deBrum celebrates after the May 29 commencement ceremony with USAG-KA Command Sgt. Maj. Reginald Gooden, right, and his wife Princess.

*Photo by Jordan Vinson*





HOURLASS REPORTS

This **stonefish** (*Synanceia verrucosa*) was photographed by Roi resident Jim Bennett recently. “I found it on a coral head off Fifth Island up by Roi,” Bennett said. “It’s a nice little stone fish, about 4.5 inches long.”

A solitary species that feeds on other fish and crustaceans, stonefish are known for their very painful—and sometimes fatal—venomous stings they deliver to predators via syringe-like grooves attached to their dorsal fins. Simply put, if you try to mess with a stone fish and it pricks you, you’re going to feel it.

Despite its danger to humans, the species is considered a delicacy in certain parts of China and Japan. It also has a presence in the commercial aquarium trade.

Native to the oceans of the Indo-Pacific, stone fish can be found along coastlines as far west as the Red Sea and East Africa and as far east as French Polynesia. They are often found in shallow lagoons along reef flats in sandy patches or among rubble and debris.

The species has not yet been evaluated by the International Union for the Conservation of Nature.



Photo of a **stone fish** by Jim Bennett.

DON'T FORGET TO DO YOUR CHORES BEFORE LEAVING FOR VACATION

HOURLASS REPORTS

It’s about that time of the year when USAG-KA folks take off for extended vacations to take in the sights in foreign countries and visit with their families back home. Whatever your plans are, if you plan on giving a friend access to your living quarters during your absence, do not forget to fill out Security and Access Control’s Designation of Caretaker Form 107.

Available at the Security and Access Control Headquarters or via download from the garrison’s intranet network, the form advises Security and police officers whether or not a caretaker will be permitted within your living quarters and whether there will be any limitations placed on his or her access.

Another important errand to take care of before hopping on the plane is to make sure you fill out the appropriate form at the Post Office, advising staff that you will not be on island to pick up packages during your absence. It’s important to remember that there is a limit on the amount of mail that staff can hold for you, so plan accordingly.

PLAN ON PCS ING SOON?

HOURLASS REPORTS

For island residents who are planning to PCS, and who will require a pack-out, there are new procedures in place. All residents, including USAG-KA personnel and contractors, will require a counseling session prior to being packed out in order to complete important customs documents. Please follow the steps to schedule a pack-out:

1. Contractors should contact Human Resources to get a pack-out worksheet. USAG-KA personnel must go the extra step and forward orders via email to [usarmy.bucholz.311-sig-cmd.list.shipping-receiving@mail.mil](mailto:usarmy.bucholz.311-sig-cmd.list.shipping-receiving@mail.mil)
2. Call Shipping and Receiving at 52180 or 53444 to schedule your pack-out counseling.
3. After scheduling a counseling, contact Packing and Crating at 51136 to schedule your pack-out date.

NOTE: A pack-out will not take place unless the counseling session has happened, even if a pack-out date is scheduled.

THE KWAJALEIN HOURLASS

The *Kwajalein Hourglass* is named for the insignia of the U.S. Army 7th Infantry Division, which liberated the island from the forces of Imperial Japan on Feb. 4, 1944.

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WORLD OCEANS DAY TO DRAW ATTENTION TO CONSERVATION

BY JORDAN VINSON

World Oceans Day returns Monday. Officially recognized by the United Nations and governments around the planet every June 8, the event draws millions of people out onto the world’s beaches and into its seas for ocean conservation and education efforts.

U.N. Sec. Gen. Ban Ki-Moon, in a statement leading up to the event, implored the global community to place a greater emphasis on prioritizing measures to bolster the health of the planet’s oceans.

“We have to ensure that oceans continue to meet our needs without compromising those of future generations,” Ban said. “They regulate the planet’s climate and are a significant source of nutrition. Their surface provides essential passage for global trade, while their depths hold current and future solutions to humanity’s energy needs.”

First proposed in 1992 by the Government of Canada at the Earth Summit in Rio de Janeiro, the annual event has achieved a steady increase in interest since its inception. More recently, in 2008, hundreds of thousands of volunteers from all corners of the planet came together online to petition the U.N. to officially recognize the event as a U.N.-endorsed day of ocean celebration. Since 2002, the event has been supported by The Ocean Project—a network of about 2,000 aquariums, zoos and museums worldwide that focus on ocean conservation—and other global organizations like the World Ocean Network, The Ocean Foundation, the National Oceanic and Atmospheric Administration, the World Association of Zoos and Aquariums and more.

Together, the event’s supporters have reached populations in more than 70 countries, giving way to more than 600 individual events on the ground carried out by youth groups, schools, businesses, scuba clubs, government agencies and more, according to leaders at The Ocean Foundation.

World Oceans Day activities vary widely from event to event. Last year many groups, such as the Marshall Islands Marine Resources Authority, participated in beach and underwater trash collection parties and asked volunteers to make promises to reduce the use of plastics in their daily lives. Malaysia’s Ministry of Science, Technology and Innovation hosted ocean conservation film screenings, a career fair, photo contests and more. And aquariums and zoos around the world held many events to educate adults and children on dangers impacting the oceans like ocean acidification, overfishing, coral reef degradation and rising water temperatures.

While there is no particular event planned for the Kwajalein or Roi communities, there are plenty of activities that you and your friends and family can organize to do the oceans a solid. Read on for activity ideas thought up by World Oceans Day volunteers, or visit [www.worldoceansday.org](http://www.worldoceansday.org) for more information.

WORLD OCEANS DAY ACTIVITY IDEAS

**The Better Bag Challenge**

Take the Better Bag Challenge: Promise not take any disposable plastic bags for a whole year. Take a reusable bag instead. Challenge your friends, family, coworkers, or club members to join you.

**Petition to Recognize World Oceans Day in Your Community**

Is World Oceans Day officially observed in your town or city, state, district, province or nation? If not, follow our easy five-step Community Proclamation & Petition Step By Step Guide to help your community join the growing list of those around the world who are making this unique celebration on June 8 an officially recognized annual event.

**Clean up your favorite spot**

It’s great to get hundreds of community members out cleaning the beach or river, but it’s not the only kind of cleanup that makes a difference. Grab a few friends or family members and make an outing of it. Go visit your favorite beach, river, lake, or park for a picnic and bring some bags for trash.

**Spread the word about sustainable seafood**

Invite friends and family over for a dinner party featuring locally, sustainably caught or farmed seafood and other local foods. Send your guests on their way with a full stomach and a newly downloaded copy of a sustainable seafood app for their phones. Try Seafood Watch if you’re in the U.S.

**Wear Blue, Tell Two: Promise For the Ocean**

Wherever you work or play, you can make talking about World Oceans Day and ocean conservation easy. Just wear a blue shirt or other noticeable article of clothing and ask people if they know why. Share two facts about the ocean, or two ways that they can help protect it and its wildlife. Then ask them to pass it on.

**Use social media to share your ocean pride.**

Share World Oceans Day with your friends and family. If you use social media, try writing a post about World Oceans Day. For Facebook users, change your cover photo to this Healthy Oceans, Healthy Planet banner in solidarity with this year’s World Ocean’s Day Theme.

**Make an Ocean Promise in a Selfie for the Sea**

Leading up to World Oceans Day on June 8, people all over the world are taking “Selfies for the Sea.” Have an Ocean Promise Party and take a photos and selfies of yourself doing something for the ocean or making a promise to do something that benefits our oceans and share it on social media with the tag #WorldOceansDay.



See OCEANS, page 9



# CLASS OF 2015 GRADUATES FROM KWAJALEIN JR./SR. HIGH SCHOOL

## HOURGLASS REPORTS

**T**he 2015 Kwajalein Jr./Sr. High School graduating class marked the end of an era last week. The seniors completed their high school tenures and, with diplomas in hand, took their first steps toward the next chapters in their lives: college and careers.

Crowded together in the Davye Davis Multi-Purpose Room May 29, hundreds of Kwajalein and Ebeye friends, teachers and family members attended the festive commencement ceremony to congratulate the graduates and award scholarships to help the young men and women along their post-Kwaj lives.

Class salutatorian Molly Premo welcomed the guests in Marshallese, pronouncing each phrase with a careful but confident diction, and elicited cheers from the crowd, especially the throngs of guests from Ebeye. Classmate Mamolyn Anni followed, repeating the greeting in English.

"My classmates and I are overjoyed that you chose to spend this night with us," Anni said. "The support we have received from the Kwajalein and Ebeye communities through our high school years is nothing short of spectacular. The road to graduation has finally ended, and the light at the end of the tunnel is shining so bright. I can feel the anticipation growing by the second."

Mereille Bishop, the valedictorian of the 2015 class, took to the stage for her address, talking directly to her fellow graduates about how far the group had come since childhood.

"Throughout our years, sometimes we struggled, and sometimes we failed," Bishop said. "But most importantly, we learned from these failures. It wasn't easy learning how to ride a bike without training wheels. We fell a lot. We scraped our knees. We cried because we were frus-

trated. Look at us now. We don't even need to use our hands to ride a bike—but don't do that, because that's dangerous. However, even though we believe we have mastered this concept, we continue to fall on occasion. Rather than getting frustrated, we get back on our feet, rub the dirt off our elbows and then look around to make sure no one was around to see us fall. I know we've all been there. And despite all these failures, we've had just as many successes. ... Over the years, we have learned to push through our difficulties, overcome our obstacles and keep our eyes on the end game—graduation. Now that day has finally come, and we are no longer children, but young adults entering the

real world. So take a minute to look around and take mental pictures. Because at this moment, we are the oldest we've ever been and the youngest we will ever be again."

The honor of awarding the graduates their diplomas went to U.S. Army Garrison-Kwajalein Atoll Commander Col. Nestor Sadler and Command Sgt. Maj. Reginald Gooden. Preceding the awarding of diplomas was a personal address by Kwajalein Schools Superintendent Allan Robinson, who acknowledged the tough scholastic standards to which the graduates had been beholden over the years.

"The students all say the same thing: 'Wow, I've never worked this hard. This



**ABOVE:** USAG-KA Commander Col. Nestor Sadler hands valedictorian Mereille Bishop her diploma May 29. **LEFT:** Graduates Trey Tomas and Dori deBrum tell stories about their peers to the audience. **BELOW:** Masina McCollum, on behalf of Rick Fullerton, announces the winners of the Marshall Islands Club Scholarship.



is really tough here," Robinson said. Being forced to give the extra effort that his schools demand inevitably makes graduation an even sweeter prize, he said.

A lengthy line of community group and business leaders awarded the graduates several scholarships to go toward tuition,



**TOP ROW:** The Premo family celebrates with 2015 salutatorian Molly Premo outside the MP Room May 29. Roanna Zackhras gets hugs and candies from friends and family after the graduation ceremony. Mamolyn Anni, Daisy Wilttrout and Angelo Lelet express special thanks to teachers and senior advisers who helped them throughout their tenure at Kwajalein Jr./Sr. High School.



**MIDDLE ROW:** Graduate Mamolyn Anni is enveloped, waist to face, with leis made from candy, chips, money and more; her family and friends gather around to congratulate her. Kwajalein Range Services President Cynthia Rivera announces the winners of the 2015 KRS Scholarship Program, awarding valedictorian Mereille Bishop with a monetary prize that will go directly to her university of choice. **BOTTOM ROW:** Graduate Angelo Lelet, middle with ukulele, and his brothers perform "Ke Iar Juon Ajri" by Leit Nikko Daniel following Bishop's valedictorian address; it was one of several musical performances the graduating class organized for the ceremony. Sadler hands Daisy Wilttrout a Kwajalein Jr./Sr. High School diploma, one of nine that were awarded May 29 at the MP Room.



room and board during their college years. Groups ranging from the Kwajalein Art Guild and Kwajalein Scuba Club, to the Jinetip Club, KRS and Berry Aviation all chipped in to help out the graduates.

As for entertainment, graduate Angelo Lelet and his younger brothers Auguston and Logan performed a sentimental acoustic piece by Leit Nikko Daniel titled "Ke Iar Juon Ajri." With their father Harden announcing English translations of the verses, the crowd heard the story of a young man acknowledging and honoring his parents for all of the help he received before adulthood. Graduate Roanna Zackhras provided more entertainment, performing a hula dance to Te Vaka's "Te Tama Maohi." And Bishop sang Josh Groban's "You Raise Me Up." In addition to the seniors' dancing and singing acts, a thoughtful and funny class history story by graduates Trey Tomas and Dori deBrum and a 20-minute slideshow of family and school photos gave the hundreds in the crowd unique perspectives into the graduates' personalities and the camarade-



rie of the group over the years.

With the diplomas and scholarships awarded, there remained nothing left for the graduates to do but turn their tassels and dance their way out of the MP Room to Rusted Root's "Send Me on My Way." Outside under a starry sky and in the schoolyard the seniors had come to know so well over the years, hundreds of Kwaj and Ebeye residents gave gifts to the graduates and wished them nothing but the best in the years to come.





# GOLFERS COMPETE FOR HONORS AT CORAL OPEN

## HOURLASS REPORTS

Kwajalein and Roi golfers hit the links at Holmberg Fairways on Kwajalein May 24 and May 31 for the 46th annual Coral Open Golf Tournament. Co-hosted by the Kwajalein Golf Association and Kwajalein Range Services Community Activities, the tournament pitted competitors against one another over 36 holes of golf and a series of side games designed to test participants’ putting, driving and chipping skills.

Several familiar faces took home the top honors at the tournament. Rita Dominguez earned the top prize for both the women’s loss gross and the women’s longest drive competitions. Glenn Hibberts placed first in the men’s longest drive category, and Akiyo Kaneko and Vernon Adcock won the mixed horse race event that took place Sunday. Taking home the first-place prize in his or her respective flights were Fred Cunningham, Malcolm Gowans, Kaneko and Rob Ewbank.

In addition to taking first place in the B Flight, Ewbank experienced a special moment that few who play the sport ever get the opportunity to enjoy. Teeing off on hole 6 Sunday, Ewbank drove his Titleist down the course, clearing sand traps, and plunking it down on the green where it rolled right against the pin and into the hole. It was his first hole-in-one and the first hole-in-one ever achieved in 46 years of the Coral Open tournament.

170 yards away, back at the tee-off box, Ewbank couldn’t believe it. He and his playing partners, Derek Miller and Steve Prudence, initially thought the ball went off the back of the green, Ewbank said. It did, after all, hit the green at a steep angle and disappear.

“I went to look for it but did not find it over the small hill be-

See CORAL, page 8

## 2015 CORAL OPEN WINNERS

### CLOSEST TO THE PIN:

1ST WEEK - Steve Prudence  
2ND WEEK - Tony Jones

### LONGEST DRIVE:

Men - Glenn Hibberts  
WOMEN - Rita Dominguez

### STRAIGHTEST DRIVE:

Michelle Lamoia  
Kenny Leines

### LOW GROSS:

Women - Rita Dominguez  
Man - Mark Kaneko

### A FLIGHT:

1st - Fred Cunningham  
2nd - Geary Shotts  
3rd - Paul Sadowski

### B FLIGHT:

1st - Rob Ewbank  
2nd - Ralph Gary  
3rd - Glenn Hibberts

### C FLIGHT:

1st - Malcolm Gowans  
2nd - Carmel Shearer  
3rd - Tony Jones

### D FLIGHT:

1st - Akiyo Kaneko  
2nd - Ray Drefus  
3rd - Deb Crawford

### MIXED HORSE RACE:

Win - Akiyo Kaneko & Vernon Adcock  
Place - Mistee Julian & John Brown  
Show - Michelle Lamoia & Fred Cunningham



Photos by Jordan Vinson

**TOP: Deb Crawford chips onto the Hole 6 green Sunday, the last leg of the 46th annual Coral Open Golf Tournament at Holmberg Fairways. BOTTOM: Danny Bittner drives his ball down range Monday while Malcolm Gowans looks on.**

## The odds behind a hole-in-one

Ewbank accomplished the elusive feat using a 5-wood on the 170-yard par-3 number 6 hole. His accomplishment was unique in a number of ways. It was not only Ewbank’s first hole-in-one, but also the first hole-in-one ever scored during the Coral Open.

The odds of making a hole-in-one vary depending on the source and the numbers used for calculating the odds, but regardless of how the odds are calculated, Ewbank certainly beat them.

- In 1999, Golf Digest reported, “One insurance company puts a PGA Tour pro’s chances at 1 in 3,756 and an amateur’s at 1 in 12,750.”

- Ireland’s National Hole-in-One Club puts the odds a little longer for one ace: “The estimated odds of acing a hole with any given swing are 1 in 33,000.”

- In 2000, Francis Scheid, Ph.D., the retired chairman of the math department at Boston University, calculated the odds of an average player acing a 200-yard hole as 150,000 to 1.

## DISPATCH FROM ROI





# USAG-KA civilians recognized for service to government

Five U.S. Army Garrison-Kwajalein Atoll civilian personnel were recognized by the Command last week for their lengthy service to the federal government over the years.



Sophia Blocker  
Years of service: 15



Michael Sakaio  
Years of service: 10



Derek Miller  
Years of service: 5



Kenneth Gibson  
Years of service: 10



Brian Richey  
Years of service: 20

# Command recognizes outgoing USAG-KA engineer with Commander’s Award

## HOURLASS REPORTS

Timothy Merrymon received the Commander’s Award for Civilian Service for his outstanding contribution to U.S. Army Garrison-Kwajalein Atoll February 2013-June 2015. During this period Merrymon served as the Chief of the Planning Branch and also as the Acting Director for the Directorate of Public Works. As a master planner, he was responsible for the development and management of the installation’s real property master plan. Among his many accomplishments was the outstanding management and coordination he provided in support of the \$63 million Echo Pier military construction project. Merrymon and his family—spouse Sarah; sons Jason, Reuben, Josiah, and Livai; and daughter Kathryn—departed USAG-KA this week for their next assignment at Fort Huachuca, Arizona.



Tim Merrymon, former USAG-KA chief of the Planning Branch and acting director for the Directorate of Public Works, receives the Commander’s Award for Civilian Service.

## CORAL, from page 6

yond the flagstick. Maybe it was a lost ball or went farther than we thought,” he said. “On a whim, I asked the guys to check the hole, half-jokingly, as I told them that I did not want to look. Steve and Derek both went to check. “There it is,” they said. High fives, all around. It was a little surreal. Somehow, the stars aligned; the earth was turning at the right speed; gravity did it’s magic; and everything fell in to place.”

Several new faces joined the atoll veterans for the tournament. For Derek Glasscock, the competition was his first since arriving on USAG-KA. While he didn’t score any hole-in-ones or decimate the competition, he said it was a swell couple of weekends of golf.

“I thought the competition was great. Everyone seemed to be having a good time while playing at a competitive level,” Glasscock said. “I didn’t fare so well in the second round as I did in my first, but it’s alright. I played with a bunch of great people in my flight, and Akiyo Kaneko took first place.”

Unlike previous tournaments at Holmberg Fairways, strong winds and bad weather didn’t rise up to thrash the course and pepper it with palm fronds, coconuts and other debris. Under sunny skies and on a clear course, the golfers had no excuse to not have a good time.

“Just seeing the community of golfers come together for two great weekends of golf was a blast,” Glasscock said. “It also doesn’t hurt teeing off next to the ocean every morning. The unique thing about playing on this course is you’re playing on a piece of coral with an open view of an ocean and runway next to you the whole time, and with that being said, you feel like you’re playing stateside. So hats off to the grounds crew and other Community Activities workers. The greens and fairways were awesome.”

## OCEANS, from page 3

### ACTIVITIES YOU CAN DO AS A SCUBA DIVER

1. Cleanup the ocean floor with fellow divers. Visit [www.worldoceansday.org](http://www.worldoceansday.org) to see the significant cleanup help that divers have done. You can take your cleanup to the next level and do some outreach in a public place with the trash. An eye-catching trash sculpture or community art project can draw people in and turn them on to the cause.
2. Organize a purposeful dive meet-up. World Oceans Day is a great time to celebrate. In addition to enjoying diving together, ask everyone to commit to doing something to help preserve the ocean you love. Divers can take the Better Bag Challenge, fund-raise for a good cause, or join a group like the NAUI Green Diver Initiative or Project Aware.
3. Inspire kids. Kids go crazy for the mystery of the deep and its weird creatures. Take some kids snorkeling, or go all-out and host a live dive event to introduce them to ocean creatures. On land, you can go on a cartoon dive featuring, for instance, the “Octonauts”—a team of underwater heroes on a mission to explore, rescue and protect ocean animals. [www.worldoceansday.org](http://www.worldoceansday.org) hosts free “Octonauts”-themed World Oceans Day downloads with a strong conservation message, and young kids love them.
4. Collect local conservation data with a reef survey. Connect with local organizations that help protect the ocean, and if there is anything you can do to help them. Partnering with a local organization for a big World Oceans Day survey could make a big difference for your favorite spot’s future.
5. Learn about invasive species at your favorite dive spot. Organize a workshop to inform other divers.
7. Participate in an ocean photography challenge. As a diver you have the opportunity to see beautiful underwater scenes; share these with others. Get your dive friends together and trawl your photo collections for your best shots to submit.

For more information, visit [www.worldoceansday.org](http://www.worldoceansday.org)

# SMDC Nanosatellites to communicate with Soldiers from low Earth orbit

## ARMY NEWS SERVICE REPORT

—By David Vergun

Tiny Army satellites may someday provide Soldiers with voice, data and even visual communications in remote areas, which lack such communications. Already some of that technology has been successfully tested, Dr. Travis Taylor said.

Taylor is the senior scientist for Space Division, U.S. Army Space and Missile Defense Command/Army Forces Strategic Command - Technical Center, at Redstone Arsenal, Alabama. He spoke during Lab Day at the Pentagon recently.

### VOICE AND DATA

In many remote areas, where Soldiers operate today, Army radio over-the-horizon communication from the field to higher headquarters like the brigade is nonexistent, Taylor said.

To address this gap in coverage, Army scientists and researchers built the SMDC-ONE nanosatellite, he said, the ONE standing for Orbital Nanosatellite Effect.

“It’s basically a cell phone tower in space, except it’s not for cellphones, it’s for Army radios,” Taylor said.

SMDC-ONE is a technology demonstration, he said, adding that one has been successfully tested. It is up in space right now communicating. Three more are scheduled to go up this year and an undetermined number will go up next year as well.

“Hopefully, we’re at a point in the process where the technology is proven and they’re wanted, perhaps three to five years from now,” Taylor said.

“If we put five to 12 of these small satellites in orbit, it will cover most areas Soldiers are operating, providing them real-time, all the time communications,” he said. “Once it has been proven it can be done, it will be time to start to deploy a ‘real constellation’ of them, which the Warfighters can use.”

### IMAGERY

What if a Soldier not only wants to communicate, but wants to see if there is a threat or something of interest over the next hill or the other side of a city, Taylor asked rhetorically.

The answer is an imaging satellite, which is several times larger than SMDC-ONE, but still considered nano, he said. This satellite, which is still unnamed, will be given a space test-flight in February, launched from the International Space Station.

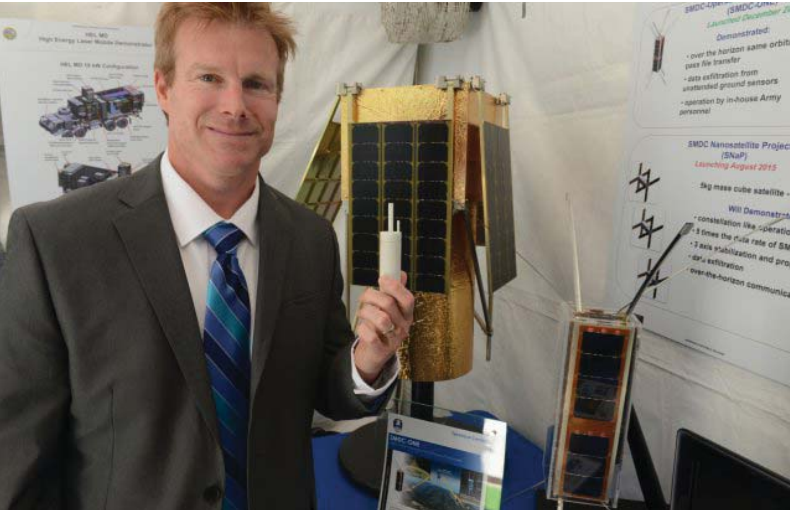
The imaging satellite will produce a ground resolution of two to three meters, he said. That is high enough resolution to inform a Soldier if he is looking at a tank or a truck. Or, if there is smoke in an urban area, the Soldier will be able to tell which building it’s coming from.

“This is capability the Army doesn’t have right now,” Taylor said.

Once the technology is successfully demonstrated, the next step will be to establish the process for how it works and provide training to the Soldiers.

“The first step is proving we can collect [the data] and the next step is disseminating it,” Taylor said. “For example, a squad leader might need to ask [a] brigade for an image over the next hill. Someone at brigade would need to prioritize that request, because the satellite can only process one image at a time, usually in about a minute.”

Then, the data from that image or even the image itself would need to be pushed out to the Soldier on the ground, he said. The



Dr. Travis Taylor, senior scientist for Space Division, U.S. Army Space and Missile Defense Command/Army Forces Strategic Command - Technical Center, at Redstone Arsenal, Alabama, discusses Army space satellites during Lab Day at the Pentagon, May 14. He is shown holding a plastic and liquid nitric oxide container, which propels the satellite into low-Earth orbit after it leaves the mothership.

details are still fuzzy about how all of that would work, so the focus for now is getting through the demonstration phase.

### HOW IT’S DELIVERED TO LOW EARTH ORBIT

The technology is already proven, Taylor said. The biggest challenge is getting the satellites hitched on a ride into space, where they would be in low-Earth orbit. Most are launched now by piggybacking them as part of a larger payload of a spaceship.

One problem is, you cannot put rocket motors on these to change their orbits, because it is considered too dangerous for the mothership and the other payloads, he said, meaning it could inadvertently explode. So, when the mothership drops off its payloads, the Army satellite might not be in an optimal position in space since the mothership cannot zigzag around dropping off each payload in different places where their optimal orbits are located.

“So we developed a clever way around that,” Taylor said, holding up a plastic container about the size and shape of a fancy pill bottle.

“This is an actual rocket motor, made from a plastic printer,” he said. “Inside is liquid nitric oxide and a sparker - just like a barbeque lighter inside - so the nitric oxide combusts with the plastic,” and when the sparker is fired, “That’s your rocket fuel. Then you have a very good rocket motor.”

Once the rocket motor puts the satellite in correct orbit, the satellite still needs to orient its solar panel array so it is continuously tracking the sun and collecting energy, he said.

To do that, the satellite contains three wheels spinning in the x, y and z axis called momentum wheels, he said. They act like gyros and can be programmed by speeding or slowing each one to adjust the orbit or orientation of the spacecraft. There are also magnetic torque rods in the satellite that interact with the magnetic field of the Earth to help align it.

Once in space, the satellites are not completely immune from damage, Taylor said. Besides space debris, there is solar flares and coronal mass ejections that could penetrate the satellite’s shielding. “But we do everything we can to harden and ruggedize them.”



HELP WANTED

KRS and Chugach listings for on-Island jobs are posted at: Kwajalein, Roi-Namur and Ebeye Dock Security Checkpoint locations; outside the United Travel Office; in the Roi Terminal/Post Office; at Human Resources in Building 700 and on the USAG-KA webpage under Contractor Information>KRS>Human Resources>Job Opportunities. Job listings for off-island contract positions are available at [www.krsjv.com](http://www.krsjv.com).

A number of positions are available in the Community Services group, including teachers, clubs supervisor, nurses and more. Please see Human Resources for the file of available on-island positions or [www.krsjv.com](http://www.krsjv.com) for contract slots.

KRS is searching for available, on island licensed registered nurses, individuals with medical billing and coding experience, and dental hygienists. For more information, please contact HR/Julie Gooch at the Temp Pool at 50777.

LOST

MEDIUM-SIZED BLACK BACKPACK, last seen at Pavilion 5, or the A-Frame Pavilion

Religious Services

Catholic

- 5:30 p.m., Saturday, Small Chapel
- 9:15 a.m., Sunday, Island Memorial Chapel
- Roi-Namur service, 4:45 p.m., second and fourth Friday of each month. Appointments with Fr. Vic available after dinner.

Protestant

- 8 a.m., Sunday, Island Memorial Chapel
- 9:15-10:15 a.m., REB, Sunday School
- 11 a.m., Sunday, Island Memorial Chapel
- 6 p.m., Thursday, Christianity Explored, quarters 203-A (Robinson's).
- 6:30 p.m., Friday, Roi Chapel

Latter-day Saints

- 10 a.m., Sunday, CRC Room 3
- Contact the chaplain's office at 53505 for more information.

on Emon Beach, Tuesday night at 10 p.m. Still missing by Wednesday morning 8 a.m. Contains many important items for the owner. Reward if returned; no questions asked. Please contact Damien Henning at 62456 or 53348, or contact KPD.

FOR SALE

PHIFERTEX PLUS Vinyl Mesh White 54-inch fabric, one continuous length with 6 feet by 54 inches and 10 feet by 18 inches, \$35 OBO; new Scubapro inflator, part number 21.6310.000, MSRP \$109, selling for \$60 OBO; Peavey E208 acoustic guitar amplifier, mint condition, \$150 OBO Call 53470.

CABRIHNA 12M KITE, 2007 Omega, well used but in good condition, comes with original manuals, kite bag, high depower 2N1 bar, and 22m control lines, has several sailcloth patches from small dings but never any structural damage or big rips, perfect for local conditions, \$225. Call 56032 and leave message.

HOMEDICS SHIATSU MASSAGE cushion, model MCS-110HA-2, \$30. Call 53470.

AIRUSH SQUARE THREE Kiteboard, 149 cm by 43 cm, very good condition, complete with padded handle, footstraps, six fins, a padded deck, and an extra pair of fins on the heel edge, great board for learning to stay upwind, \$175. Call 56032 and leave message.

DISHWASHER WITH NEW CONTROL panel, \$150; 11-feet by 11-feet canopy, \$80; 12-feet by 14-feet canopy, \$80; new-in-box vinyl blinds, 39 inches by 64 inches, \$5; room-darkening vinyl blinds, 36 inchers by 64 inches, set of two, \$10 each; Pampered Chef food chopper, \$8. Call 51795.

24-INCH TV and speaker system, \$175; fridge and freezer, \$100; iron and tabletop board, \$8; laptop desk/table, \$10; humidifier, \$20; bike trailer, \$100; toaster oven, \$10; blender, \$10; skillet, \$10; other kitchen items. Call 52524 or 59502.

CABRINHA WAIST HARNESS, for kite or windsurf, size large, mostly black, with red and gray trim, 3D impact mesh and spread-

er bar, new/unused, too big for me, \$100 Call 56032 and leave message.

WATERFORD CRYSTAL at 1970 and 1980 original prices, footed cake plate, \$45; gravy dish with drip plate and spoon, \$30; oval butter dish, \$21; round butter dish, \$25; mustard jar with spoon, \$20; 9.5-inch curved-lip serving bowl, \$73; biscuit barrel, \$61.50; individual salt dish with spoon, \$15; Aynsley fine English bone china cake platter and knife, \$40; all in perfect condition. Call 53640 and leave message.

COMMUNITY NOTICES

DUE TO MISSION REQUIREMENTS, all available billeting space (Kwaj Lodge and Jabro) have been committed to support the expected influx of TDY personnel. The Housing Office is unable to accept any lodging requests during the following time span: June 2-11. Residents sponsoring unofficial guests during this time will need to make alternate housing arrangements. The Housing office regrets any inconvenience this may cause for the residents of Kwajalein.

KWAJALEIN'S RECOMPRESSION chamber will be down for maintenance June 7-18. All KSC recreational diving will be limited to a depth of 50 feet during this time.

CAMP COCONUTS runs this year June 9-Aug. 15, 2015. Registration for weeks 1-10 is open. Registration is open until the Friday before each week of camp you register for. Camp hours are 8:30-11:30 a.m. and 12:30-4:30 p.m. Extended care hours from 7 to 8:30 a.m. and from 4:30 to 5:30 p.m. are available upon request. Camp is open to all CYSS children who have completed kindergarten-fifth grade. The location of the camp sessions will be the MP Room or the Youth Center. Please contact CYSS for further information at 52158 or at [katrina.m.ellison.ctr@mail.mil](mailto:katrina.m.ellison.ctr@mail.mil).

KSC MONTHLY MEETING. 7 p.m.,

READY AND RESILIENT WELLNESS CALENDAR

Events are sponsored by the Community Health Promotional Council and are free of charge to the community.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<b>1. Spiritual Resilience, see Page 10. All welcome.</b>	<b>1. Circuit Training, 8 a.m., at Ivey Gym.</b>	<b>1. Cross Fit, 5:15 a.m., at the Adult Pool.</b>	<b>1. Circuit Training, 5 a.m., at Ivey Gym.</b>	<b>1. Cross Fit, 5:15 a.m., at Ivey Gym.</b>	<b>1. Circuit Training, 5 a.m., at Ivey Gym.</b>	<b>1. Cross Fit, 5:15 a.m., at Ivey Gym.</b>
<b>2. Smoking Cessation classes ongoing. Call 55362.</b>	<b>2. Kwajalein For Christ, 3:30 p.m., at the Youth Center.</b>	<b>2. Pick-up tennis, 5:30 p.m., at the tennis courts.</b>		<b>2. Interval Training, 5:15 p.m., at Emon Beach.</b>		<b>2. Merebabes Swim Class, 9 a.m., at the Family Pool.</b>
	<b>3. Pick-up ultimate frisbee, 5 p.m., near the soccer fields.</b>			<b>4. Pick-up tennis, 5:30 p.m., at the tennis courts.</b>		<b>2. Family Swim Time, 9:30 a.m., at the Family Pool.</b>
	<b>4. Pick-up soccer, 6 p.m., at Brandon Field.</b>			<b>5. AA Program, 6:30 p.m., at the REB.</b>		<b>3. Pick-up tennis, 5:30 p.m., at the tennis courts.</b>

Wednesday, at the Pacific Club. Enter your best underwater photo for a chance to win \$100 Worth of Dive Locker treasurers. Send entries to Dan Farnham.

BINGO AT THE VET'S HALL. June 11. Card sales begin at 5:30 p.m.; Bingo begins at 6:30 p.m. Windfall completion at 30 numbers, \$2,500 payout; blackout completion at 52 numbers, \$1,900. Payout Packet price, \$25. There will be no shuttle service this week. No outside alcoholic beverages permitted. Must be 21 to enter and play; bring your ID.

CHECK OUT IGOR & the Red Elvises LIVE. The group's tour schedule is as follows: June 12, Roi Outrigger, 7:30 p.m.; Saturday, June 13, Emon Beach, 7:30 p.m.; June 14, Vets Hall, 9 p.m. It'll be a rockin' good time. Sponsored by QOL. Questions? Call 53331.

GREAT KWAJ SWAP MEET. June 13, 4:30 p.m. at Emon Beach. This is a rescheduled event. Join us to sell or buy. There is still time to sign up. New sign up deadline is Tuesday. No oversized items please. Call Community Activities at 53331 to reserve your table.

WORLD'S LARGEST SWIM LES-

SON. June 18. Final registration begins at 9:30am. Lesson begins at 10 a.m. sharp. Imagine being part of a world record setting team. The Millican Family Pool is an official host location for The World's Largest Swimming Lesson—an international Guinness World Record attempt taking place at pools and water parks around the globe to focus attention on the vital importance of teaching kids to swim. Tragically, drowning is the leading cause of unintended, injury related death of children ages one to five. The World's Largest Swimming Lesson was created to help spread the word that swimming lessons save lives. Children under four years of age must be accompanied by an adult in the water. For questions and to register, contact Cliff Pryor 52848 or Mandie Morris 51275.

ULTIMATE FRISBEE. 5 p.m. every Monday and 6 p.m. Friday near the soccer fields. If you've played before then you know how much fun this great workout is. If you haven't, it's combination of soccer and no-contact football played with a Frisbee. For questions or more information please email [BenGleich@hotmail.com](mailto:BenGleich@hotmail.com).

BEWARE OF heavy equipment around construction sites located at

Space Fence, Building 602, and the Yuk Club. Non-essential personnel should avoid these areas.

SBM PIER ACCESS. Both the middle and North piers have been taken out of the water after sustaining damage. The schedule for their return is undetermined at this point. In the meantime, to service the whole boating community while working from one pier, we will maintain one slot for loading and unloading only of private boats. Overnight parking will not be permitted. Please be considerate of other boaters and minimize your time at the pier. Weather permitting, the Small Boat Marina will offer rentals and dingy services during our normal hours of operation.

E-Talk: USAG-KA's Environmental Standards define protected animal species and habitats. Transporting protected species can result in heavy fines. Contact Environmental at 51134 for more information.

Safely Speaking: Always report to work fit for duty. Never use, possess, distribute, sell or be under the influence of illegal drugs and/or abuse controlled substances (including prescription drugs not authorized by a physician). Never consume or be under the influence of alcohol at work.

Captain Louis S. Zamperini Dining Facility						
<b>Lunch</b>						
<b>Sunday</b>	<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>	<b>June 13</b>
Korean roast beef	BBQ spare ribs	Country fried chicken	Beaked meatloaf	Boneless chick. w/ salsa	Beef bourgignon	Pizza
Soyu chicken	Chicken cordon bleu	Corn bread	BBQ chicken	Spanish rice	Fish du jour	Steamed potatoes
Oriental fried rice	Quiche lorraine	BBQ beans	Mashed potatoes	Nachos	Mashed potatoes	Chicken parmesan
<b>Dinner</b>						
<b>Sunday</b>	<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>	<b>June 13</b>
BBQ chicken	Sliced roast beef	Lasagna	Carved glazed ham	Pork adobo	Citrus pepper chicken	Beef ragout
Beef stew	Mashed potatoes	Chicken cacciatore	Garlic roast chicken	Peapod stir-fry	Afredo pasta	Chicken nuggets
Mac and cheese	Baked cheese manicotti	Garlic bread	Scalloped potatoes	Parslied potatoes	Sloppy joes	Egg noodles



## Small Boat Marina

If you have been by the marina you might have noticed both the Middle and North piers have been taken out of the water after sustaining damage. The schedule for their return is undetermined at this point. In the mean time, to service the whole boating community while working from one pier, we will maintain one slot for loading and unloading only of private boats. Overnight parking will not be permitted. Please be considerate of other boaters and minimize your time at the pier. Weather permitting, the Small Boat Marina will offer rentals and dingy services during our normal hours of operation. Thank you for your understanding.

—KRS Community Services

## THUMBS UP



... to all of the seniors and yearbook staff who dedicated the yearbook to me, Carmen Jeadrik. I was honored and very surprised. I will cherish this memory always. I wish all the seniors the best of luck in life.

... to the Kwaj Lanes regulars who have spent some of their free time helping out the bowling alley staff with equipment problems during play. Your help is always appreciated.

...to all the security officers who worked at the DSC graduation night. All of you were very efficient, professional and organized with helping to get families through from Ebeye to the graduation ceremony. ...to USAG-KA Command for allowing a special ferry to Ebeye after the commencement ceremony. Thank you also to Amy LaCost and the Marine department for working long hours to get families home after the graduation.

... to the Kwajalein Sports Association staff and Community Activities staff for all the work that went into conducting this year's softball leagues. Major thanks goes to Carlos Canales whose patience knows no bounds. Let's hope next year it's not so rainy.

... to San Juan Construction personnel for moving the surf shed to its new home to make way for construction projects—and for doing so free of charge. The Kwajalein Surf Club really appreciates your generosity and hard work.

## THANKS FOR A GREAT SEASON!

Thank you to everyone who helped make the 2015 Softball Season a huge success. It really took a lot of effort by so many different people, and everyone involved did an excellent job. Thank You to Labtak Langrus who assisted in overseeing league play as a night supervisor. Thanks to the Kwajalein Sports Association for providing the league with officials and scorekeepers. They did a great job in helping maintain the integrity of the league and making play safe and fun for everyone. Thanks to the Hourglass for printing the schedule and rankings each week to help keep the community involved. A special thanks goes to Zoe Spock for her support of the coconut trophies for league winners. Finally, softball wouldn't have been complete without the assistance of all of our coaches, managers and sponsors. Your interest, effort and support were greatly appreciated.

The success of this year's season was all due to the efforts of everyone involved. So again, thank you so much. We could not have done it without you. Also, congratulations to Old Fat & Ugly, Jikalum, Lollygaggers and Spartans Women, who were this years' Champions....again.

Have a great summer.

—Carlos Canales, Athletics and Facilities Coordinator



Photo by Ben Gleich

## Weather

Courtesy of RTS Weather

Day	Skies	Chance of Rain	Winds
Sunday	Partly Sunny	15%	NE-E at 10-15 knots
Monday	Mostly Sunny	10%	NE-E at 10-15 knots
Tuesday	Mostly Sunny	10%	NE-E at 11-16 knots
Wednesday	Partly Sunny	15%	NE-E at 12-17 knots
Thursday	Mostly Sunny	10%	NE-E at 12-17 knots
Friday	Partly Sunny	10%	NE-E at 11-16 knots

Yearly rainfall total: 60.58 inches

Yearly rainfall deviation: +36.10 inches

Call 54700 for updated forecasts or visit [www.rts-wx.com](http://www.rts-wx.com).

	Sunrise Sunset	Moonrise Moonset	Low Tide	High Tide
Sunday	6:29 a.m. 7:06 p.m.	11:10 p.m. 10:26 a.m.	12:39 a.m. 0.0' 1:33 p.m. -0.2'	7:02 a.m. 4.3' 7:37 p.m. 3.2'
Monday	6:30 a.m. 7:06 p.m.	----- 11:22 a.m.	1:28 a.m. 0.3' 2:27 p.m. 0.1'	7:51 a.m. 4.0' 8:36 p.m. 3.0'
Tuesday	6:30 a.m. 7:07 p.m.	12:01 a.m. 12:17 p.m.	2:28 a.m. 0.6' 3:31 p.m. 0.3'	8:51 a.m. 3.6' 9:51 p.m. 3.0'
Wednesday	6:30 a.m. 7:07 p.m.	12:50 a.m. 1:12 p.m.	3:48 a.m. 0.9' 4:46 p.m. 0.4'	10:06 a.m. 3.3' 11:17 p.m. 3.1'
Thursday	6:30 a.m. 7:07 p.m.	1:39 a.m. 2:07 p.m.	5:24 a.m. 0.9' 6:02 p.m. 0.4'	11:33 a.m. 3.1' -----
Friday	6:30 a.m. 7:07 p.m.	2:28 a.m. 3:02 p.m.	6:52 a.m. 0.7' 7:08 p.m. 0.2'	12:36 a.m. 3.4' 12:53 p.m. 3.2'
June 13	6:30 a.m. 7:08 p.m.	3:18 a.m. 3:57 p.m.	7:59 a.m. 0.3' 8:02 p.m. 0.0'	1:38 a.m. 3.8' 1:57 p.m. 3.3'