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THE KWAJALEIN HOURGLASS

THIS WEEK

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Fireworks light up the sky over Emon Beach Tuesday, Sept. 6, during Kwajalein's 2016 Labor Day celebration.

Mike Woundy

KWAJALEIN SENATOR BRIEFS STATE DEPT ON EBEYE DEVELOPMENT

BY JORDAN VINSON

Karen Stewart, the United States' newest ambassador to the Marshall Islands, flew to Kwajalein Atoll this week to meet local RMI leaders and the U.S. Army Garrison-Kwajalein Atoll Command team. During a three-day visit away from the U.S. embassy in Majuro, Stewart joined Matthew Mathews, the State Department's deputy assistant secretary for the Bureau of East Asian and Pacific Affairs, visiting from his post in Washington, D.C. Together, they received briefings on sweeping development projects slated for Ebeye and met with the men and women driving the space and missile missions of the Reagan Test Site and the garrison which houses it.

During a Sept. 7 meeting on Ebeye, Kwajalein Atoll Sen. David Paul, a resident and native of Ebeye, highlighted for Stewart and Matthews the litany of challenges facing the island population of 12,000. The newcomer to senatorial office explained plans to incubate bold advancements to counter issues relating to health, education and the community's aging infrastructure.

Doubling as chairman of the board of the Kwajalein Atoll Development Authority, Paul spoke to the visitors at length about the high-profile \$19 million overhaul of the community's water, sewage and sanitation distribution system. Funded by the United States, Australia and the Asian Development Bank, contractors broke ground on the project in April 2015 and are scheduled to finish in four years.

In the meantime, a new reverse osmosis system should be built and switched on early next year, Paul said. Fed by water pumped up from the islet's freshwater lens, the new station will be able to pro-



Kwajalein Sen. David Paul, left, briefs the State Department's new ambassador to the RMI, Karen Stewart, on issues impacting Ebeye during her first visit to the community Sept. 7. She was joined by Matthew Mathews, the department's deputy assistant secretary for the Bureau of East Asian and Pacific Affairs, seated at right.

duce 500,000 gallons of potable water every 24 hours, a sizeable increase from the current station's capacity of 180,000 gallons per day. The station's ribbon cutting planned for February should be a welcome relief for Ebeye residents, all of whom this year experienced, in no small measure, the effects of extreme drought during one of the strongest El Niño systems on record.

While the threat of climate change was a point of discussion during the group's talks, Paul emphasized the importance of renewable energy to the future of Ebeye, Kwajalein Atoll and the greater Marshall Islands. Working with U.S. solar power system manufacturer SolarCity, Paul explained the goal of shifting 40 percent of the island's electricity consumption

to solar energy in coming years. The move, funded by grants and low-interest financing from the World Bank and other international organizations, could equate to serious fuel savings, which could fuel other projects, he said.

"Depending on the cost of fuel, we're talking about \$1.2 million to \$1.6 million [in savings] a year," he told Stewart and Matthews. "These are the initiatives that we are trying take ourselves so that we can continue to reduce our costs."

With respect to the Marshall Islands' ongoing clamor for a reduction of greenhouse emissions, a large-scale conversion to solar energy would also send out important political signals to the international community, Paul said.

The fact that the community plans to

U.S. Army photos by Jordan Vinson

THE KWAJALEIN HOURGLASS

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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TOP: During a Sept. 7 tour of Ebeye infrastructure, Sen. David Paul, right, takes his visitors to the island's aging power plant. Joining him are U.S. Ambassador to the RMI Karen Stewart, middle; Matthew Matthews, the State Department's deputy assistant secretary for the Bureau of East Asian and Pacific Affairs; USAG-KA Commander Col. Michael Larsen and RMI Liaison to USAG-KA Lanny Kabua. **BOTTOM:** Stewart and Matthews join USAG-KA Command personnel and Kwajalein Atoll Local Government staff for a group photo Sept. 7 on Ebeye.



generate electricity the old fashioned way—going to the extent of purchasing new diesel generators—should not call into question his government's dedication to the effort, Paul said.

"What we want is stability," he told the visitors. "When we bring in new generators, the world is going to look and [say], 'Hey, you guys are telling us to reduce our emittance on CO2, but then you guys are investing in conventional technologies for electricity.' What we're doing is telling them, 'Hey, we still need have power, right? But at least we're making the effort to reduce our ... global emissions to zero percent.'"

Paul's and his staff's plans for meeting these development goals and further goals down the road could all go by the wayside should they prove unable to modernize the system by which land lease agreements are created on Ebeye and the other causeway communities. In order to build anything, ranging from a private home to a public medical clinic or a public sewer pipeline running along a neighborhood street, mortgagors, investors and project managers must currently work their way through a complicated system with individual landowners. It's an unorganized and ineffective land tenure system that inhibits investment se-

curity over the long haul—and can even drive away some investment opportunities, Paul told the group. The World Bank, for instance, has allocated \$45 million for the construction of coastal protection measures on Ebeye and all the way up the causeway to Ninji, Paul said; however no funds will be release until the senator and his team can provide legal proof that those investments will be secure over the long term.

The implementation of what Paul described as a master lease plan could resolve the problem, he told Stewart and Matthews.

He used private home construction as an example.

"If you look at most of the houses on Ebeye, they're considered makeshift," the senator explained. "Because, you know, it really boils down to economic security, right? If you don't have a valid lease, there's really no collateral, no security for that mortgage that you're taking out. So if you're taking out \$100,000 mortgage to build a house and there's no land security. You have to be able to comfortably take that out, and no bank will lend that money to you. So with this lease in place, we'll facilitate all of that."

In other words, the Kwajalein Atoll Development Authority would step in

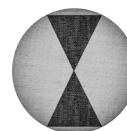
and serve as a "one stop shop," Paul said.

"We would be the one to give you that permission. And then you can take it to the bank, and the bank would actually commission that financing."

The plan is ambitious. And while officials view it as a necessity for long-term development in the local island communities, it could take 10-15 years to fully implement, the senator said.

After their meetings with Paul, Stewart and Matthews took the opportunity Wednesday to tour Ebeye's current reverse osmosis station, power plant, hospital and the causeway before flying north to visit the people of Enniburr.

Also part of their stay on the atoll were briefings with Reagan Test Site staff members' about their missions in orbital tracking, foreign launch intelligence and weapons testing for the Army, the Air Force and Department of Defense clients. Matthews flew to the Federated States of Micronesia Thursday, continuing his tour of Micronesia, and Stewart returned to Majuro the following day.



MALMSTROM TESTS MINUTEMAN III WITH LAUNCH TO KWAJALEIN ATOLL

EXTERNAL REPORT

By Carla Pampe, Global Strike Command Public Affairs

BARKSDALE AIR FORCE BASE, La. — A team of Air Force Global Strike Command Airmen from the 341st Missile Wing at Malmstrom Air Force Base, Montana, launched an unarmed Minuteman III intercontinental ballistic missile equipped with a test reentry vehicle Sept. 5 at 2:10 a.m. Pacific Daylight Time from Vandenberg Air Force Base, California.

The ICBM's reentry vehicle, which contained a telemetry package used for operational testing, traveled approximately 4,200 miles to the Kwajalein Atoll in the Marshall Islands. Test launches verify the accuracy and reliability of the ICBM weapon system, providing valuable data to ensure a continued safe, secure and effective nuclear deterrent.

"I can't say enough great things about the partners I share this mission set with," Col. Craig Ramsey, 576th Flight Test Squadron commander, said. "The men and women from the 341st Missile Wing Task Force, the Airmen from my squadron, and our host unit here at Vandenberg made this look easy, but it was anything but that. To put all of this together for an on-time launch following an enormous reconfiguration of range

assets that took six months to complete...it's simply a testament to the dedication and professionalism of these proud organizations. I'm proud to play a small part in it."

Malmstrom AFB is one of three missile bases with crew members standing alert 24 hours a day, year-round, overseeing the nation's ICBM alert forces.

"I'm extremely proud of the 21 maintainers and operators from the 341st Missile Wing Task Force who worked flawlessly alongside the professionals from the 576 FLTS to make this mission a success," Lt. Col. Ron Clough, Task Force commander, said. "An effort on this scale, and the enormous insights it gives to force readiness, continue to showcase the Minuteman III as the world's premier deterrence and assurance capability."

The ICBM community, including the Department of Defense, the Department of Energy, and U.S. Strategic Command uses data collected from test launches for continuing force development evaluation. The ICBM test launch program demonstrates the operational credibility of the Minuteman III and ensures the United States' ability to maintain a strong, credible nuclear deterrent as a key element of U.S. national security and the security of U.S. allies and partners.



A Minuteman III ICBM, launched from Vandenberg Air Force Base by the Malmstrom Air Force Base 341st Missile Wing Task Force, re-enters the atmosphere at Kwajalein Atoll and strikes the open ocean east of the atoll's east reef Monday, Sept. 5, 2016.

📷 Courtesy of Jordan Vinson

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The crew from Hawaii Explosives & Pyrotechnics, Inc. enjoy a moment's rest on Sept. 6 as they prepare hundreds of shells for Kwajalein's 2016 Labor Day celebration fireworks display at Emon Beach.

PYROTECHNICS CREW RETURNS TO USAG-KA FOR FIREWORKS

BY JESSICA DAMBRUCH

We love fireworks, the summertime rockets that make crowds whoop and holler. But few spectators get to see the excitement before the big event. On Sept. 6, five men cast long shadows in the holiday sun near Emon Beach as they finish preparations for Kwajalein's ambitious Labor Day extravaganza.

Cakes of explosives neatly wrapped in brown paper line the length of the deck. Coiling wire and mortars extrude from meticulously handcrafted wooden racks. These quiet parcels might contain flower shells, repeater cakes, whistles, strobes and spinners.

The men are assistant pyrotechnicians Richard Bishop, Warren Kaetsu, William Subica, Sam Kamelamela and a lead operator, Simon Valenzuela. They represent Donald Pascual's 25-year old and world-renowned Hawaii Explosives & Pyrotechnics, Inc., the only pyrotechnics enterprise based out of Hawaii. Though the price of Hawaiian display permits is on the rise and no one hand-lights displays anymore, the best things about this trade do not change. Shows are still orchestrated by personable experts who enlighten clients about safety and effects: waterfalls versus lances, flowers and smiley faces. Both design and implementation are essential to building a successful wow-factor.

Operator Simon Valenzuela says: "I can't sit in an office that long." He appreciates design, but prefers field work.

His crew is always at work. This visit to Kwajalein is a vacation getaway job, and they are warmly welcomed back as friends. Their prior visits have included excursions to Ebeye, but after long days on the job they are grateful for the hospitality of their hosts, Maria and Michael Pimenta, and want to rest. Today at Emon, even though there is no breeze, the guys joke, flash easy smiles and exude a vigilant calm that marks them as experts in their exacting profession.

Earlier a few of them jumped into the lagoon to cool off, but not Valenzuela. He has also sworn off diving in the Atoll.

"Not me. Not here," he chuckles. "There's sharks. They tell me they don't bite, but..."

Instead he will stick to safer activities, like rigging 849 pounds of fireworks on this barge.

The operator paces between two tall racks of metal and mortars and explains the handiwork: "The ones that go straight up, those are singles. Then you have the ones angled to the left, ones angled to the right. They go off two at a time. Both sides have the same colors, same effect."

Staging a show of this size typically requires an all-day effort. The company provides equipment and supplies. Kwajalein designates a secure safe area with sand to protect the barge. In fact, the challenge isn't rigging the explosives: it's lugging the freight needed to generate the show. Once the racks are stationed and strapped into place, the shells are dropped into their respective tubes. The larger the rack, the heavier the load. Before the mortars in an empty three-tube rack are loaded, it can weigh over 90 pounds. Thanks to a new generation of electronic firing systems (Firetech is the system in use for Kwajalein's Labor Day) there are only a few cables traveling from the racks to the command module. Throughout the rigging process the team wears 100 percent cotton safety gear with closed-toed shoes and eye protection; it has zero accidents on record.

After a few years performing this work additional training is available for pyrotechnicians to achieve professional ranking. Valenzuela suggests basic proficiency in math and a knowledge of chemicals as helpful skills for fledgling pyrotechnicians.

He pauses to examine a long row of mortars.

After a moment he grins: "I'm horrible at math."

Pyrotechnical labor also means working on site for extended periods with scrupulous contingency plans in place for any



USAG-KA residents enjoy the fireworks from Emon Beach.

and all obstacles.

Shielding shell ingredients from the atmosphere are thin containers of paper. If it rains, tarps ensure precipitation won't hamper the shell; the rest of the electrical system is waterproof. Lightning means a complete shutdown, as would significant changes in wind direction. A strong wind can sail a dud into a viewing area along with smoke and debris.

Valenzuela's favorite fireworks are the ones that perform as expected: the planned break and burst that spectators know as the display. If a shell does not explode, then these duds will be tried in a second volley. But first they must be hunted and collected, along with debris within the designated safety zone. This happens after equipment in the immediate discharge area cools down; that takes thirty minutes. Anything that remains after that is dispatched by the Kwajalein Explosive Ordnance Disposal team.

In the U.S. Army Valenzuela worked with explosives. Fireworks also run in his family. His left arm is encircled with a tattoo: military dog tags intertwined with a portrait of his father. One might say he has explosives in his blood; he enjoys the thrill.

"Behind the scenes, people are not all just watching the sky," he says. "Our motto is 'Ignite to Excite.' It's exciting. You meet new people, you see how [the show is] actually made."



Commander's Column

*By Col Philip R Harris
USAKA Commander*



Apparently a good time was had by all during our just concluded Labor Day festivities

I am proud to report that there were no serious crimes, accidents or misbehaviour incidents reported during the entire weekend. I am particularly proud of our youngsters who behaved admirably during the DoD Show and other activities on Sunday.

Speaking of the DoD Show, I have heard many comments from both Roi and here at Kwaj, that this was the best show we have had in many, many months.

I agree, and I can assure you that we are doing all we can to bring in additional entertainment of this caliber. Over the next 12 months, Kwaj is on the DoD schedule for six entertainment groups with the next one — a variety/novelty group — set for the middle part of December. On top of those six, we are also hoping to snare at least one of the celebrity groups that will be touring the Pacific during the next year.

On a more serious note, the number of larceny-type incidents showing up on the police blotter has increased in recent weeks.

Since we do have a representative cross section of the American population, we must expect that our residents include a small percentage of those people who have difficulty passing up an opportunity to remove something that is not theirs.

We may have become too relaxed in our community style to fully prevent some of these incidents.

For example, recently we have had videos removed from the unsecured basket of a bike while the owner was shopping, cash was removed from the top of a dresser in an unsecured room, dive gear removed from an unsecured site outside a building near a storage container, and large amounts of cash lost when a backpack was removed from a workplace.

While the unwarranted removal of another's private property is beyond explanation, we each must increase our vigilance to prevent these crimes.

By and large, our community consists of residents with the highest morale and ethical standards as demonstrated, recently, when a lost wallet was returned to its owner with all contents, including a considerable sum of money. This is the response each of us expects. To preclude the opposite, please be more vigilant in securing your valuables. Don't give crime a chance.

Training • Care • Community

From Sept. 7, 1989

LABOR DAY KWAJ STYLE

BY COLLEEN FURGESON

The Kwajalein community came together Sept. for the garrison's annual Labor Day celebration at Emon Beach.

Although there was no band, everybody still enjoyed the beach day. Children enjoyed the slip-n'-slide, a bounce house, obstacle course and do-it-yourself crafts. Holly Maness did cool glittery tattoos and face painting. Near her, Nikki Maxwell sold her gorgeous jewelry. The Kwajalein Swim Team sold delicious snow cones during the hot day. People swam and played volleyball and basketball.

While island residents enjoyed the festival, a five-man fireworks crew readied the fireworks show on the barge. By nightfall it was finally time for the fireworks, and almost half the island population was sitting on the beach. There was no countdown, except the one from 52 seconds; the fireworks went off and surprised everybody. It was a beautiful 15-minute show. Each firework was different, and based on the reactions of the people, everybody had a joyous time.



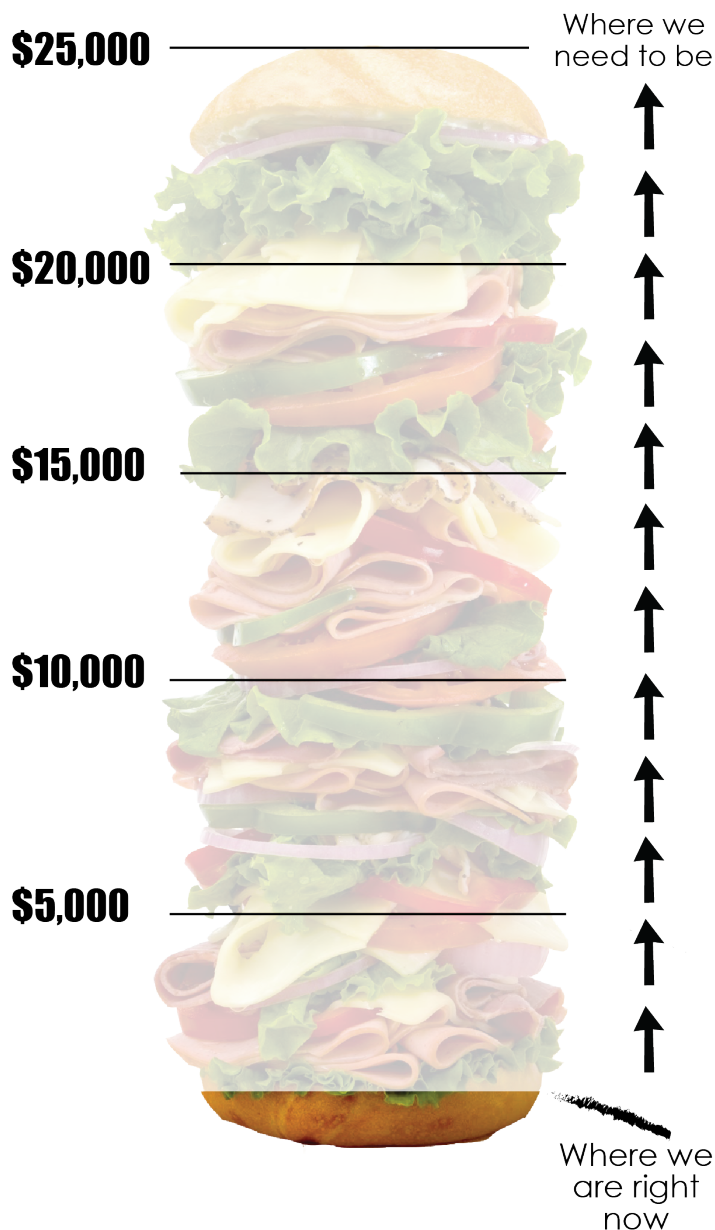
U.S. Army photo by Colleen Furgeson



U.S. Army photos by Jessica Dambruch

CLOCKWISE FROM TOP: Holly Maness paints faces at Emon Beach during the Kwajalein's 2016 Labor Day celebration. Residents pack the beach to enjoy the sunset prior to the fireworks show. Folks watch the show from the comfort of beach chairs.

The Kwajalein Range Services **RI'KATAK LUNCH PROGRAM** needs your support



The Ri'katak student program at Kwajalein Schools is an opportunity for our Marshallese neighbors to further their education.

The program, which began in 1987, is powered in part by the Ri'katak Lunch Program—an ongoing initiative to provide Marshallese students lunch during the school day. Because the children do not have the opportunity to return home for lunch as the island resident students do, they fill their bellies with lunches provided through the Ri'katak Lunch Program.

Prepared by staff at the Captain Louis S. Zamperini Dining Facility, each boxed lunch includes a deli sandwich or baked chicken and rice, fruit, vegetables, water and cookies.

To fill all our bagged lunches with nutritious meals each school day, we need your help.

At a daily cost of \$3.40 per student and based on a 180-day school year, the total cost to feed the 41 Ri'katak students enrolled at Kwajalein Schools this year is \$25,092. We're at \$300, and we need your help.

The Ri'katak Lunch Program requests donations each year from the community so that each student may have a healthy lunch to power them through the school day. Individuals, companies and different organizations may contribute to the program. They may contribute any amount they wish.

At less than \$350, we've still got a long way to go to reach our goal of \$25,000. We need your help!

Anyone wishing to **support this worthwhile cause** may send a donation to Janette Bishop in Building 603 (Hospital Administration Office, 2nd Floor). Checks should be made out to "KRS" and annotated in the remarks section to indicate **"Ri'katak Lunch Program."**

Questions? Email:

-Janette Bishop at
juanita.a.bishop.ctr@mail.mil
-Kimm Breen at
kimberly.r.breen.ctr@mail.mil

Poster by Jordan Vinson

RESIDENT EXPLAINS HISTORY OF FLAG

COMMUNITY CONNECTION BY: DAN FARNHAM

You see it everywhere—the stark, black-and-white POW/MIA flag—flying in front of VA hospitals, post offices and other federal, state and local government buildings, businesses and homes. It flaps on motorcycles, cars and pickup trucks. You see it in the dining facilities on Kwajalein and Roi. It's on T-shirts sold by the Vets Hall and the Kwajalein MIA Project.

From the Revolution to the present day, thousands of U.S. Soldiers, Marines, Airmen and Sailors have been taken prisoner or gone missing. But it took the Vietnam War—and a sense of abandonment felt by wives and family members of Americans held captive—to bring forth what has evolved into the nation's POW/MIA symbol.

In 1971, while the Vietnam War was still being fought, Mary Helen Hoff, the wife of a service member missing in action and member of the National League of Families of American Prisoners and Missing in Southeast Asia, recognized the need for a symbol of U.S. POW/MIAs, some of whom had been held in captivity for as many as seven years. Prompted by an article in the Jacksonville, Florida, Times-Union, she contacted a flag manufacturing firm, Annin & Company. Annin turned over the job of designing the flag to Annin's small advertising agency, Hayden Advertising, where the task was assigned to graphic artist Newton F. Heisley.

Heisley, who died in 2009, had served in World War II as a C-46 twin-engine transport pilot with the 433rd Troop Carrier Group. After coming home from the war with a Bronze Star, he received a degree in Fine Arts from Syracuse University and worked as a graphic artist at the Pittsburgh Post-Gazette before going to work for Hayden.

After getting the POW/MIA flag assignment, Heisley sat down at his drawing table and sketched three different designs. The one he chose had an image of a gaunt man in profile, with a guard tower and a strand of barbed wire in the



background—the design that we recognize today. Heisley modeled the flag's silhouette on his 24-year-old son, who was on leave from the Marines and looking gaunt while getting over hepatitis. Heisley also penned the words that are stitched on the banner, "You are not forgotten."

While the flag was originally created to bring attention to missing servicemen and those held prisoner in the Vietnam War, over time and with the passage of several laws, the POW/MIA flag has come to symbolize the missing military personnel from all conflicts the U.S. has been involved in since the Revolution.

The POW/MIA was flown over the White House for the first time in September 1982. In 1989 the flag was installed in the Capitol Rotunda. It also has the distinction of being the only non-national flag that any federal government anywhere in the world has mandated to be flown regularly. That began with a 1990 law to recognize the POW/MIA flag and designate the third Friday of September as National POW/MIA Recognition Day.

In 1998, Section 1082 of the Defense Authorization Act—codified as Title 36, Section 902 of the U.S. Code—mandated that the POW/MIA flag be flown over the Capitol, the White House, the Korean and Vietnam Veterans Memorials, the offices

of the secretaries of State, Defense and Veterans Affairs, of the Selective Service System, and on the grounds or in the lobbies of every major military installation, every post office and all VA Medical Centers and national cemeteries on six days: POW/MIA Recognition Day, Armed Forces Day, Memorial Day, Flag Day, Independence Day and Veterans Day.

In the U.S. armed forces, the dining halls, mess halls and chow halls display a single table and chair in a corner draped with the POW-MIA flag as a symbol for the missing, thus reserving a chair in hopes of their return. This is why you see it in the Zamperini Dining Facility and in Café Roi.

The flag has become an icon of American culture, a representation of the nation's concern for military service personnel missing and the unaccounted-for in overseas wars. And closer to home for those of us who live on Kwajalein Atoll, it forms the center of the logo for the Kwajalein MIA Project, whose mission is to locate all American planes downed in the Kwajalein lagoon during WWII in the hopes of helping to bring home 11 missing servicemen, thus fulfilling the promise of "no one left behind".

*— The Kwajalein MIA Project
contributed to this report.*



www.army.mil/kwajalein

Check out USAG-KA's new website for garrison and community news, links to each directorate and other helpful information. Have thoughts or suggestions? Send them to the USAG-KA Public Affairs Office at Nikki.l.maxwell.civ@mail.mil.

In the mid-1960s, E. H. Bryan, Jr., former manager of the Bishop Museum in Honolulu, and his staff at the museum's Pacific Scientific Information Center prepared an in-depth guide to the geography, biodiversity and history of the Marshall Islands and the cultural practices, lifestyles and histories of the Marshallese people. Written specially for Kwajalein Hourglass readers, the 24-part series appeared over the course of two years and was titled "The Marshalls and the Pacific."

Uncovered at the Grace Sherwood Library, it comprises a literal bounty of professionally-curated essays that take the reader on a profound tour of knowledge on everything from marine shell identification and the etymology of atoll names, to the traditional division of labor in the Marshallese household and explanations on how atolls are formed.

Included are excerpts from the timeless "Marshalls and the Pacific" series. Enjoy.

MARSHALL ISLAND INSECTS, PART 1.

*Continued from last week

BY E.H. BRYAN, JR.

THIS IS THE FIRST HALF OF THE SEVENTH IN A SERIES OF ARTICLES CONCERNING LIFE IN THE MARSHALL ISLANDS AGAINST A BACKGROUND OF THE PACIFIC OCEAN AS A WHOLE. THEY ARE BEING PUBLISHED EXCLUSIVELY BY THE HOURLASS AND WRITTEN BY E.H. BRYAN, JR., WITH THE ASSISTANCE OF THE STAFF OF THE PACIFIC SCIENTIFIC INFORMATION CENTER AT THE BERNICE P. BISHOP MUSEUM IN HONOLULU, OF WHICH HE IS MANAGER.

In preparing the following notes, I have drawn extensively from these publications, as well as my own collecting and that of others. During October and November 1964, an entomologist from Bishop Museum, B. David Perkins, Jr., collected in the Marshall and Gilbert Islands, particularly on Kwajalein Atoll, while on a cruise of USNS Shearwater, with members of the Smithsonian Institution Pacific Ornithology project. He

has generously supplied identification and notes. I also saw specimens collected by Bernard B. Sugarman, who in addition to collecting specimens himself, has interested members of the Entomology Services on Kwajalein in collecting specimens. It would appear that interest in Kwajalein insects is just beginning to expand, and that these general notes are but a humble beginning.

Insects and their relatives often are listed or discussed in a definite order or sequence. Which suggests their phylogenetic relationship, from the simplest or most primitive, to those believed to be most highly developed. I will follow this arrangement.

The "insect relatives" are regarded as more primitive than the insects. Here are a few examples from this group. Two kinds of scorpions have been reported from the Marshall Islands: *Hormurus Australasiae* (fig. 83) is found under loose bark and beneath stones and debris, and probably never comes into habitations. It measures about 40 mm. (1.6 inches) long. Its sting is not severe. *Isometrus Maculatus* (fig. 84) is the common house scorpion,

hiding in old papers and behind objects attached to walls. It is brownish yellow, mottled with brown, the male about 70 mm. (2.8 inches) long, the female 45 mm. (1.8 inches). It is found throughout the tropics, traveling with man.

Several species of pseudo scorpions have been reported from various atolls, especially Eniwetok and Bikini (where the most extensive collecting has been done). They look like tiny scorpions without the tail (at the end of which the sting is located). They hide in cracks in such places as drift logs and are inconspicuous and harmless.

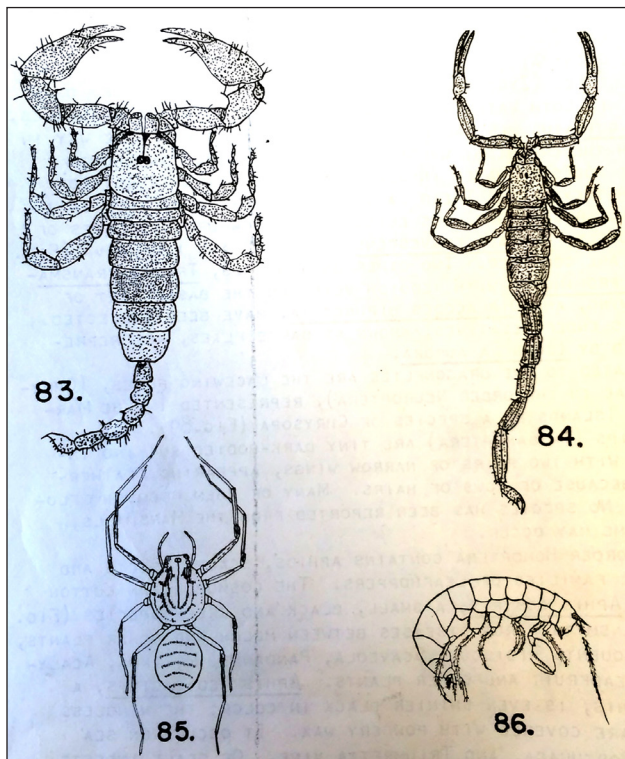
Few spiders have been reported from the Marshall Islands. *Scytodes Striatipes* (fig. 85), one of the largest, is about one-third inch long. It has been collected from bunchgrass and *Pisonia* trees. Other kinds were collected on Eniwetok and Taka.

A small burrowing amphipod, *Talorchestia Spinipalma* (fig. 86) lives on sandy beaches under seaweed. This active little sand-colored crustacean is about half an inch long.

The simplest insects are those that never develop wings. Some higher forms, such as fleas and lice, had winged ancestors, but have lost their wings. Examples of these primitive wingless insects are silverfish and bristletails (*Thysanura*). They are slippery, elusive, mostly nocturnal insects with chewing mouthparts, which hide under trash in buildings or under stones or in litter on forest floors. They can be recognized by the slender appendages made up of many segments, at both ends of their tapering body, pairs of antennae and cerci on the head, and three near the tip of the abdomen. Springtails (*Collembols*) are small, soft-bodied insects which can jump by means of a spring-like appendage beneath the abdomen. They are found in many lands, even in Antarctica. It is likely both orders occur in the Marshalls, but none has been described as yet.

Orthoptera normally have four "straight" wings (as the name of the order implies), but some, especially certain roaches, are wingless. The principal families found in the Marshalls are: *Blattidae* (roaches), *Acrididae* (short-horned grasshoppers), *Tettigoniidae* (long-horned grasshoppers), and *Gryllidae* (crickets). Several roaches have been reported, especially the large, reddish-brown "American" cockroach, *Periplaneta Americana*, jokingly called

SEE "INSECTS," PAGE 12



a "Guam Eagle," over an inch long. A smaller winged cockroach, *Graptoblatta Notulata*, has mottled gray-brown wings with prominent veins. A shiny black, wingless roach, 15-20 mm. (three-quarters of an inch) long, *Cutilia Soror*, has the outer edge of the forward half of its body (prothorax) a light cream color. There is at least one species of acridid grasshopper, probably *Acalopus Tamulus*, and two *Tettigoniidae*, one of which has spines on its legs. A small cricket, *Cycloptilodes*, is found in houses.

There are at least two kinds of termites (*Isoptera*). Mr. Perkins, who collected specimens, believes them to be the dry-wood termite (*Cryptotermes Brevis*), which leaves little pellets near its burrows, and *Coptotermes Formosanus*, the subterranean or ground-nesting termite. Both do much damage to wood.

A species of *Embioptera* was found on Jaluit and may occur on other atolls of the group. It is believed to be *Oligotoma Micronesiae*. The female is wingless and spins galleries of silky material through trash and under stones, along which this insect can travel in either direction. The male (fig. 87) has four wings, flies at night, and is attracted to lights.

Dermaptera, known as earwigs, doubtless occur on the islets. They are elongate, dark and leathery, with a pair of "forceps" at the end of the abdomen. Winged forms have two pairs of wings, the upper short and thick, concealing a large circular membrane folded beneath.

Corrodentia, wingless booklice and winged psocids, doubtless will be found. The tiny wingless forms are household pests, eating the starch from books and starched shirts. The others are larger and winged, associated with ornamental and forest trees and shrubs on which they gnaw, thus differing from leafhoppers which suck sap.

Another group of biting lice is the order *Mallophaga*, found on birds and mammals, eating feathers, dead skin and hair. They do not suck blood as do the sucking lice, *Anoplura*. Both groups are found on wild and domesticated birds on atolls. The members of neither group has wings, their ancestors having lost them as unnecessary to their livelihood.

The *Odonata*, made up of the dragon flies (*Anisoptera*) and Damselflies (*Zygoptera*) form a distinctive group of "dragons" in both water and air. The largest in the Marshalls, *Anax Guttatus*, is called a "darnier," because of the way in which the

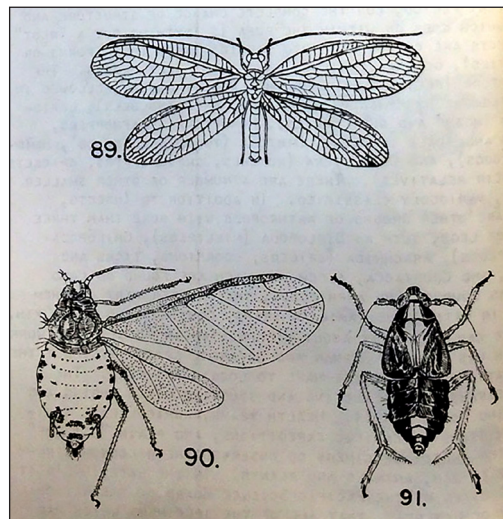
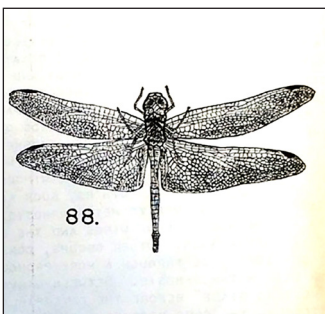
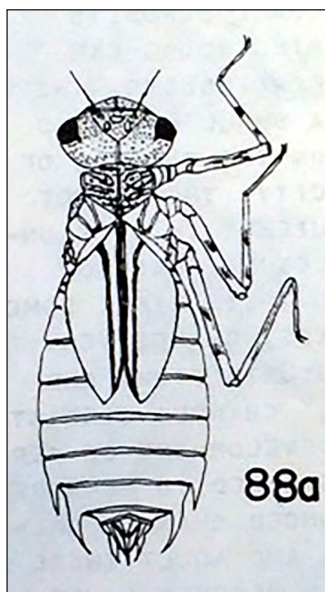
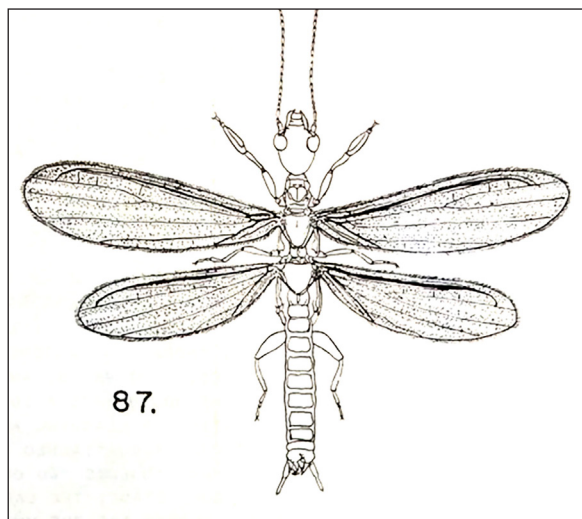
greenish, winged adults weave back and forth above pools of water in search of little insects on which they feed. Their larvae are almost as active in the water. A somewhat less elongate, yellow-brown species of dragonfly, *Pantala Flavescens*, (fig. 88) and its larva (fig. 88a) are more common. Two other dragonflies, *Tramea Transmarina Propinqua*, with reddish veins on the basal part of the wing, and *Diplacodes Bipunctata*, have been collected. Very slender relatives, known as damselflies, are represented by *Ischnura Aurora*.

Related to the dragonflies are the lacewing flies, (*Chrysopidae* in the order *Neuroptera*), represented in the Marshall Islands by a species of *Chrysopa* (fig. 89).

Thrips (*Thysanoptera*) are tiny dark-bodied sucking insects with two pairs of narrow wings, appearing featherlike because of rows of hairs. Many of them frequent flowers. No species has been reported from the Marshalls, but some may occur.

The order *Homoptera* contains aphids, scale insects and several families of leafhoppers. The cosmopolitan cotton aphid, *Aphis Gosypii*, a small, black and green species (fig. 90) transmits virus diseases between melon and other plants, and frequents hibiscus, *Scaveola*, *Pandanus*, *Morinda*, *Acalypha*, breadfruit and other plants. *Aphis Medicaginis*, a bean aphid, is even shinier black in color; the wingless nymphs are covered with powdery wax. It occurs on sea beans, *Portulaca*, and *Triumfetta* vine. Of scale insects, the Cottony cushion scale, *Icerya Purchasi*, looks like a little compressed wad of cotton with fluted sides and darker markings. It may be found on breadfruit and various other plants; but is well controlled by ladybeetles. Other scales are flat or saucer-shaped and covered with hard wax.

Of the leafhoppers, the *Cicadellidae* are represented by *Exilianus Capicola*, rounded head, little cape-like prothorax, and tapering wings which meet tightly along the center line above, while beneath the sucking tube runs backward between the pairs of slender legs. *Cixiidae* have broader, more membranous wings, and a down-pointing, horn-like sucking tube, but seem to occur only in the southern Marshalls. *Delphacidae* have a spur at the end of the longest segment of the hind legs and a wedge-shaped sucking tube. Several species have been collected on Kwajalein: *Ugyops superciliata*, brownish-yellow on *Wedelia* and *Hibiscus* plants and *Polypodium fern*; the taro leafhopper (*Tarophagus prosperina*) (fig. 91) and various other species. One derbid leafhopper (*Swezeyia zephyrus*) is straw colored and brown with orange veins.



PACOM FORCES TO COME TOGETHER FOR VALIANT SHIELD

EXTERNAL REPORT

By U.S. Pacific Fleet Public Affairs

PEARL HARBOR, Hawaii — Forces from the U.S. Pacific Command are scheduled to participate in exercise Valiant Shield (VS) 2016 Sept. 12-23, in Guam and around the Marianas Island Range Complex.

Participants include USS Ronald Reagan (CVN 76), nine surface ships, the Bonhomme Richard Amphibious Ready Group--to include three amphibious vessels--an estimated 18,000 personnel and more than 180 aircraft from the U.S. Navy, Air Force and Marine Corps.

Valiant Shield is a U.S. only, biennial field training exercise (FTX) with a focus

on integration of joint training in a blue-water environment among U.S. forces. This training enables real-world proficiency in sustaining joint forces through detecting, locating, tracking and engaging units at sea, in the air, on land, and in cyberspace in response to a range of mission areas.

The participating forces will exercise a wide range of capabilities and demonstrate the inherent flexibility of joint forces. The range of capabilities include maritime security operations, anti-submarine and air defense exercises, amphibious operations, and other elements of complex warfighting.

The lessons learned from exercises like VS16 will assist U.S. forces in con-

tinuing to develop regional and global power projection capabilities that provide a full range of options to succeed in defense of its interests and those of its allies and partners around the world.

The VS series is aimed at developing a "pre-integrated" joint force built from habitual relationships. This force builds interoperable and complementary cross-domain capabilities and benefits from realistic, shared training enhancing the flexibility to develop new tactics, techniques and procedures as operational conditions dictate. Such forces will provide the deterrence and stabilizing effects of a force-in-being, ready at the outset of a contingency without delays for buildups or extensive mission rehearsal.

U.S. Navy photo by Trevor Welsh



In this file photo, ships and aircraft operate in formation over the Pacific Ocean during exercise Valiant Shield 2014.



Kwajalein Range Services wants your feedback on how the garrison's Community Services programs are going. Take part in ongoing surveys to voice your opinion on everything from the Kwajalein Hourglass and Mongolian Night at Café Roi, to the golf courses and the Self Help shops. Click on the "We Want Your Feedback" icon on the USAG-KA-Web Intranet home page and type away.

COMMUNITY CLASSIFIEDS

HELP WANTED

Visit USAJOBS.GOV to search and apply for USAG-KA vacancies and other federal positions.

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 Bldg 700 and on the "Kwaj-web" site under Contractor Information>KRS>Human Resources>Job Opportunities. Listings for off-island contract positions are available at www.krsjv.com.

COMMUNITY NOTICES

Vet's Hall Change of Hours. Starting Sept. 1, the Vets Hall will open every Thursday opposite Bingo for Happy Hour from 4:30-9 p.m. Starting Oct. 1, the Vet's Hall will be closed on Sunday evenings. We will reconsider reopening full time on Sundays after the beginning of the new year. The Vet's Hall will still be available on Sundays for large parties, bands, and as always private parties. Questions? Contact Mike Woundy.

Spiritual Gifts Class. 9:30 a.m., beginning Sunday, Sept. 11 (4-week class), at the REB Library. Looking for Purpose in Life? God created you uniquely and has great plans for you. Questions? Contact Jason Huwe, 53796.

Christian Women's Fellowship monthly luncheon. 12:30 p.m., Sunday, Sept. 11, 2016 in the Religious Education Building.

Backwards Golf. Shotgun start, 10 a.m., Monday, Sept. 12, at Holmberg Fairways. We're turning the course around and playing in reverse. This is a four-person scramble team. Cost

is \$30. Show up early to sign in. Sign up by contacting Carmel Shearer at carm1022@yahoo.com or 51407.

The Family Pool will be closed Monday, Sept. 12 until 2:30 due to a Kwajalein Swim Team swim meet.

Kwajalein Running Club's 2016 Run-Walk/Swim-Float Biathlon. 3 p.m., Monday, Sept. 12. 2.6 mile run followed by a 600-yard lagoon swim. To participate, show up near the Emon Dive Shack by 2:45 p.m. and sign in. Questions? Call Bob and Jane 51815 or Ben and Linn 51990.

Fall Bowling League Registration. Sept. 13 - 23. League games on Tuesday nights from Sept. 27 - Dec. 6. Team slots are limited so register fast! \$70 with shoe rental, \$60 without shoe rental. To register, call or email Derek Finch at 51275. Adults only, please!

Roald Dahl Day Sat., Sept. 14, 10 a.m. and 3:30 p.m. at the library. Join us in celebrating the author that brought you classics such as "Matilda" and "James and the Giant Peach!" Crafts, goodies and special readings. Come celebrate with us! For questions, call 53439.

Harbor Clean-Up. 12:30-3:30 p.m., Sunday, Sept. 18. Meet at the Small Boat Marina at 11:30 a.m. for registration and preparation to dive! Questions? Contact Cliff Pryor at 52848.

The YYWC invites you to our Annual Meet and Greet at the Colonel's house on Monday, Sept. 19 at 4 p.m. Learn about our community events and philanthropic efforts this year.

CYSS Fall Kickoff - Monday, Sept. 19.

All CYSS registered families are invited to an afternoon of fun and games for all ages at the Youth Center fields. Activities begin with the Worldwide Day of Play at 2 p.m. featuring inflatables, face painting, parachutes and relays. Parents can sign-up their kids for 4-H after school activities in the Youth Center anytime between 2:30-3:30 p.m. At 4 p.m. all CYSS youth age 12 and under can enjoy a free open recreation event with laser tag in the MP room. Outside, high school youth will be selling tickets to a variety of exciting carnival games as part of the Boys & Girls Club of America fundraiser.

Kwajalein Yacht Club Monthly Meeting. Saturday, Sept. 24, 6:30 p.m., at the Yacht Club. Happy Hour begins at 5:30pm, meeting starts at 6:30 p.m. and dinner at 7 p.m. Questions? Contact Ursula LaBrie 51951.

Oktoberfest. 7 p.m., Sunday, September 25, at the Vet's Hall. Enjoy the heady surf rock sounds of the Atomic Playboys and some traditional German music and dance from DJ Neil Dye. First drink is on us if you are wearing your Dirndl or Lederhosen. Questions? Contact Jan Abrams.

Girl Scout Troop 801 is seeking parent volunteers for the 2016-2017 school year. We are in need of a Chairperson, Secretary/Registrar, and Troop Leaders before registration can begin. Parents can serve in any and all positions. Contact Carrie Aljure at 51897.

If you are suffering from a cold or virus, please refrain from using the gym until you are no longer coughing or sneezing, and feeling better. Please wipe down the equipment after use for prevention of many of the transmissible bacteria and viruses that can

linger on the equipment. Prevention of colds and flu viruses is possible through prudent simple hygiene measures.

Safely Speaking: The exclamation mark is a new OSHA symbol you'll start to see on workplace chemicals. The exclamation mark means the product will irritate the skin, eyes, and lungs if not used properly.



E-talk: Environmental Impact Training. Environmental aspects are elements of an organization's activities which cause environmental impacts. KRS Employees receive training to minimize or prevent negative environmental impacts.

FIRE PREVENTION INSPECTIONS

Fire Prevention and Housing representatives will be conducting fire alarm system and room inspection in the BQ's. All rooms will be entered.

Tuesday Sept 13
Coral and Palm

Wednesday Sept 14
Reef and Ocean

Thursday Sept 15
Sands and Shell

Friday Sept 16
Surf and Tropics

Contact Tim Roberge via email or 52790 if you would like to be present.

LUNCH

Sunday

Roasted Chicken
Baked Ziti with Sausage
Lyonnaise Potatoes

Monday

Sauteed Boneless Chicken
Herb Roasted Potatoes
Chef's Choice Veggies

Tuesday

Sweet & Sour Pork
Chicken Chopsuey
Fried Rice

Wednesday

Baked Chicken
Roasted Potatoes
Chef's Choice Veggies

Thursday

Beef Stroganoff
Chicken Caesar Wrap
Parslied Noodles

Friday

Coconut Chicken Breast
Fish Du Jour
Roasted Potatoes

September 17

Meat Lasagna
Veggie Lasagna
Garlic Bread

DINNER

Sunday

Chef's Choice Entree
Kwaj Fried Chicken
Garlic Mashed Potatoes

Monday

Taco Bar
Refried Beans
Spanish Rice

Tuesday

BBQ Chicken
Three Bean Chili
Hot Dogs

Wednesday

Steak Night
Crispy Garlic Chicken
Baked Potato

Thursday

Huli Huli Chicken
Chef's Choice Entree
Au Gratin Potatoes

Friday

Hamburger Steak
Mediterranean Chicken
Parslied Potatoes

September 17

Herb Baked Chicken
Shepherds Pie
Three-Cheese Macaroni

Captain Louis S. Zamperini Dining Facility

*MENU CURRENT AS OF SEPT. 7

DOES YOUR TO-GO BOX LOOK LIKE THIS?



Patrons are expected to follow the portion control guidelines as written in DI 1019 that authorize the following food items.

2 portions, main entrée
2 portions, starch
1 portion, vegetable side
1 portion, salad
1 portion, soup

If patrons continue to ignore the guidelines, take-out privileges could be revoked.



Sexual Harassment/Assault Response and Prevention (SHARP) Contact Information

Capt. David Rice
SHARP Victim Advocate

Work: 805 355 2139 • Home: 805 355 3565
USAG-KA SHARP Pager: 805 355 3243/3242/3241/0100
USAG-KA SHARP VA Local Help Line: 805 355 2758
DOD SAFE Helpline: 877 995 5247



	SUNRISE SUNSET	MOONRISE MOONSET	HIGH TIDE	LOW TIDE
SUNDAY	6:40 a.m. 6:52 p.m.	2:08 p.m. 1:18 a.m.	12:05 p.m. 2.0' -----	5:56 a.m. 1.3' 5:48 p.m. 1.3'
MONDAY	6:40 a.m. 6:51 p.m.	2:58 p.m. 2:08 a.m.	12:37 a.m. 2.8' 1:36 p.m. 2.5'	7:30 a.m. 0.8' 7:20 p.m. 0.9'
TUESDAY	6:39 a.m. 6:50 p.m.	3:49 p.m. 3:00 a.m.	1:43 a.m. 3.3' 2:21 p.m. 3.0'	8:16 a.m. 0.3' 8:12 p.m. 0.4'
WEDNESDAY	6:39 a.m. 6:50 p.m.	4:40 p.m. 3:54 a.m.	2:28 a.m. 3.9' 2:57 p.m. 3.5'	8:52 a.m. -0.2' 8:53 p.m. -0.1'
THURSDAY	6:39 a.m. 6:49 p.m.	5:31 p.m. 4:49 a.m.	3:06 a.m. 4.4' 3:31 p.m. 4.0'	9:26 a.m. -0.6' 9:30 p.m. -0.5'
FRIDAY	6:39 a.m. 6:49 p.m.	6:22 p.m. 5:45 a.m.	3:43 a.m. 4.7' 4:05 p.m. 4.5'	9:59 a.m. -0.9' 10:08 p.m. -0.9'
SEPTEMBER 17	6:39 a.m. 6:48 p.m.	7:13 p.m. 6:42 a.m.	4:19 a.m. 5.0' 4:40 p.m. 4.7'	10:32 a.m. -1.1' 10:45 p.m. -1.1'

COMMANDER'S HOTLINE

HAVE SOMETHING THE USAG-KA
COMMANDER SHOULD KNOW ABOUT?

CALL THE COMMANDER'S
HOTLINE AT 51098 TODAY!

WEEKLY WEATHER OUTLOOK

RTS WEATHER STATION STAFF

WEATHER TRENDS: The first seven days of September have started slow for precipitation. For September, we should average three-four days with at least 1 inch of rain. So far, none. 0.57 inches on Sept. 5 was our only day with anything above 0.1 inches. The progression of waves in the easterly winds was displaced northward after Aug. 20, which was the last 1-inch rain day on Kwajalein. Diminished and displaced tropical wave activity has resulted in less efficient convection over Kwajalein Atoll than we should typically observe this time of year.

OUTLOOK: September begins a season of sudden surprises, making weekly outlooks a bit more challenging. We expect to see the Intertropical Convergence Zone (ITCZ), which is formed from the convergence of northeast and southeast surface winds, try to become more active. However, a weakened subtropical ridge will allow northward displacement of much of the heavier shower activity. We expect to see a battle for dominance between the ITCZ and STR. Weaker shower activity should continue as the progression of waves along the forming ITCZ boundary builds. However, deeper convection and bigger rains will only become more probable if the STR strengthens and forces the ITCZ southward over the atoll. This scenario becomes more possible by late next week as hints of tropical upper-level cyclonic cell formation could add a random element to local weather patterns. Winds should generally remain confused and light, with doldrums likely at times. The transiting waves will bring winds from southeast to northeast and increased showers, with only seasonal stray showers between the waves. Computer models indicate any source of west winds, needed for tropical cyclone genesis, should remain with the Monsoon Trough well west, near east Asian. We see no tropical cyclone threats for the atoll in our current predictors.

Café Roi						
*MENU CURRENT AS OF SEPT. 7						
LUNCH						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	September 17
Sliced Roast Beef	Breaded Kalua Pork	Assorted Pizza	Meatball Sub	Fish Sandwich	Beef Tacos	Philly Cheese Steak Wrap
Eggs Benedict	Chicken Supreme	Baked Ziti	Bombay Chicken	Cottage Pie	Chicken Enchiladas	Grilled Boneless Chicken
Sauteed Fish	Breakfast Frittata	Cheesy Garlic Bread	Stir-Fry Vegetables	Vegetable Quiche	Pinto Beans	Braised Red Cabbage
DINNER						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	September 17
Pork Spare Ribs	Roasted Duck	Thai Beef with Veggies	London Broil	Roi Fried Chicken	Greek Herb Chicken	Sausage and Peppers
Chicken Florentine	Short Ribs Jardiniere	Chicken in Peanut Sauce	Chicken Fajitas	Swedish Meatballs	Pastitsio	Chicken Alfredo
Pasta with Veggies	Stuffing	Tofu Stir-Fry	Baked Potatoes	Mashed Potatoes	Lentils	Pasta Provencal

HERO OF THE WEEK

HOURLASS REPORT

Unaware that his future in the U.S. Armed Services would conjoin with a passion for flight, as a youth in Hermitage, Pennsylvania, Chief Warrant Officer 4 William Kilgore craved to conquer gravity. Since his arrival two years ago, Kilgore has achieved a positive impact in this remote USAG-KA community.

"Most of what I do on Kwajalein I have never done before in my career," says Kilgore. "I had to learn my job when I arrived."

Kilgore facilitates the momentum that sustains our daily life. He is the USAG-KA aviation officer: the government flight representative for contractor flights aboard government owned aircraft. He supervises the transport of goods like fresh produce and milk to Roi; he propels personnel and equipment via air travel, both internationally and throughout the atoll. Kilgore also oversees the aviation section of the contract and maintains the duty position of pilot in command of his assigned aircraft, the LUH-72A, Lakota helicopter.

Kilgore resides on island with his wife Ornela, an employee at Community Bank, and two children: four-year-old Mason and 11-year-old Rachelle. They are a family of zealous cooks who dive, fish and lavish their culinary feats upon potlucks and social gatherings. And perhaps bold trajectories run in the Kilgore family: the eldest sibling, 21-year-old Isti, is an ROTC cadet in Pennsylvania who looks forward to a future in the U.S. Army.



TOWN HALL MEETINGS PLANNED

Please join the USAG-KA Command team for the next series of town hall meetings this month.

KWAJ RMI WORKFORCE

1-2:30 p.m., Sept. 22, at Island Memorial Chapel

KWAJ RESIDENTS

6-8 p.m., Sept. 22, at the High School MP Room

ROI RMI WORKFORCE

1-2:30 p.m., Sept. 23, at Trade Winds Theater

ROI RESIDENTS

2:30-4 p.m., Sept. 23, at Trade Winds Theater

