

The Pacific Tradewinds Quarterly

Janita Pahalad Wins 2008 Australia Day Award

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Monday, March 3, 2008

By Michael Klatt

Janita Pahalad of the Australian Bureau of Meteorology (BoM) won a prestigious Australia Day Achievement Medallion "for her exemplary dedication and commitment to the successful implementation of Phase I of the Pacific Island Climate Prediction Project, and to the further development of Phase 2 subsequently funded by the Australian Agency for International Development (AusAID)." Achievement Medallions are awarded by government departments and agencies in recognition of outstanding job performance and service to Australia. The awards are part of the annual Australia Day celebrations which take place on January 26.

The Pacific Island Climate Prediction Project (PI-CPC) is a collaborative project between the Australia BoM and the national meteorological services of Cook Islands, Fiji, Kiribati, Niue, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, and Vanuatu. In 2001, the Pacific Meteorological Services Needs Analysis Project identified climate forecasting as an area in need of priority assistance. Climate prediction is important for planning purposes in areas vital to the Pacific Islands, such as agriculture, fishing, and water resource management. Climate also effects government policy decisions.

The PI-CPC is now in its second phase. The goals of Phase II are to continue to improve the SCOPIC climate prediction software and the seasonal forecasts that were developed as part of Phase I, and to expand the climate understanding and monitoring capability of the region's meteorological services. Funding and oversight for PI-CPC are provided by the Australian Agency for International Development (AusAID).

Australia Day Achievement Medallion.

<http://www.airservicesaustralia.com/aboutus/images/australiadaymedal.jpg>



100 Million Ethanol Project Under Way in Papua New Guinea

Wednesday, February 20, 2008

By Joshua Arlo

PORT MORESBY, Papua New Guinea - A US\$100 million [PGK280 million] cassava bio-fuel project is now taking shape in Central province, aimed at cashing in on the growing popularity of the fuel additive ethanol -- a cassava by-product -- in the world market.

Funded by Korean firm Changhae Tapioka (PNG), the project is now on its first phase in which the most feasible cassava variety is being determined. The company said it expects to know at the end of this year which variety out of the 10 being tested right now is well suited for the project.

The most suitable cassava variety will be propagated by participating farmers nationwide.

Project developer Changhae Tapioka, a Korean-based investor, plans to develop over 20,000ha in Launakalana for its nucleus plantation which includes 100ha for the nursery site in Bore.

Local farmers would be encouraged to mass-produce the variety and supply it to the company.

Last Thursday, a field-day was organized at the nursery site to see the progress on the project, with heavy equipment, seedlings and nursery already on hand.

Changhae Tapioka chief executive officer John Lim said he appreciated the support for the project from the surrounding villages, the National Agricultural Research Institute (NARI) and the provincial government. He said that through hard work, the people would be rewarded for their efforts in the next two years when the project becomes fully operational.

Mr. Lim said at present, there are 55 local workers involved in the project and that he expects to increase the number as the estate expands. The second cassava estate to be developed will be launched in New Ireland province next month, the company said.

Central provincial administrator Rahael Yipmaramba told landowners and the people Rigo the project is the "beginning of their lives and that they must see it through."

Changhae Tapioka said the international market for bio-fuel (ethanol) has since been growing rapidly and is expected to grow even further due to the increasing popularity of etha-



Ethanol Plant in the United States.

http://ecocomplex.rutgers.edu/incubator_businesses_gse.php

"...at present, there are 55 local workers involved in the project..." said Mr. Lim.



nol, a by-product of cassava, as a fuel additive to petrol.

Bio-fuel is not only an alternative fuel but also environmentally-friendly and could be used in existing vehicles in controlled amount without the need for any engine modifications.

Lim noted that the project will give a big boost to the rural economy as it will generate

income for the farmers and provide large-scale employment.

Ethanol as fuel is very popular in developing countries like the Philippines, Thailand, India and China.

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Pacific Island Report

<http://pidp.eastwestcenter.org/pireport/2008/February/02-20-03.htm>

Kiwi Firm to Design FSM School Project

Tuesday, February 12, 2008

WELLINGTON, New Zealand – New Zealand’s engineering and project management consultancy, Beca, has signed a contract to design and manage the construction of two schools on Yap island in the Federated States of Micronesia.

Following a global tender, Beca was selected as one of three engineering firms to work on public infrastructure projects in the FSM over the next four years.

Projects include schools, hospitals, roads, and water supply projects.

Beca Project Director, Pieter de Zeeuw said New Zealand engineers were well-regarded in the Pacific region because of their practical approach and familiarity with unique local

conditions

Mr de Zeeuw says his company’s track record over five years in the Marshall Islands was a major factor in winning the work in the Federated States of Micronesia.

Beca’s projects in the Marshall Islands have included an airport runway, a hospital and ten new schools,

Currently the company is designing a major land reclamation for another new school and project managing the rebuilding of the College of the Marshall Islands, the country’s only tertiary institution, which will eventually accommodate 1,000 students.

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<http://pidp.eastwestcenter.org/pireport/2008/February/02-12-16.htm>



**“...Beca, has signed a contract to design and manage the construction of two schools on Yap Island in the Federated States of Micronesia,”
Radio New Zealand International.**

Fiji Sugar Growers in Deal to Produce Ethanol

"Ethanol production provided an ideal opportunity for the industry to add value to this otherwise, low value by-product," said Mr. Chaudhry.



Petero Atani harvesting sugar cane on his farm in Vitogo, Lautoka.

<http://www.fijitimes.com/story.aspx?id=58230>

Monday, February 18, 2008

SUVA. Fiji – Plans to enter into an ethanol-making joint venture will benefit the sugar industry, says the Sugar Cane Growers Council.

This comes as the Fiji Sugar Corporation and growers council announced they would engage the Sojitz Corporation of Japan as joint venture partner in the ethanol-making project following a competitive tender process.

Council chief executive Jai Gwander said there was a need to diversify into sugar bio-fuel and energy.

"Sugar will be there but there needs to be diversification into these areas," he said.

Mr Gwander did not wish to elaborate, saying the project was in its preliminary stages.

This week, Cabinet endorsed the corporation's proposal based on a submission by the Minister of Finance, National Planning, Sugar Industry and Public Utilities (Water and Energy), Mahendra Chaudhry.

Mr Chaudhry said the Fiji sugar industry had embarked on a reform program to ensure its long-term viability in light of its poor past performance, lack of investments in factories, rail and farm infrastructure and

the reform of the EU sugar regime, leading to a significant decline in protocol sugar prices.

"As part of this reform program, the FSC is upgrading its mills and streamlining harvesting and transportation operations," he said.

"In addition, the corporation, among other diversification projects like cogeneration of electricity, is considering production of ethanol as part of the revival program with a view to enhancing the profitability and returns from otherwise marginal sugar manufacturing business."

Mr Chaudhry said ethanol production provided an ideal opportunity for the industry to add value to this otherwise, low value by-product.

He said the ethanol project was expected to produce 100,000 litres per day when fully operational, with production capacity to be 50 per cent only in the first year.

"The investment cost will be approximately \$US23.9-million (\$F36.5m), and annual revenue is projected to be \$US13.2 (\$F20.2m)." He said since ethanol could be produced from cane juice, "this is an alternative to sugar for the industry in view of its plan to in-

crease sugarcane production". Last year International Sugar Organisation executive director Dr Peter Baron had said sugar crops were the most efficient and economical feedstock for making ethanol, particularly when compared to grains and corn.

Dr Baron said the demand for ethanol outside its traditional homes of Brazil and the United States and elsewhere in the Americas, Asia and Africa was creating significant opportunities for developing countries with a sugar cane industry to pursue ethanol fuel.

He said the combination of ethanol diversification and improvement in bagasse co-generation raised the ability of the sugar industry to play a role in climate changes and the Kyoto Protocol requirements.

Dr Baron said the high oil prices were likely to continue to offer opportunities for bio fuels.

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Pacific Island Report

<http://pidp.eastwestcenter.org/pireport/2008/February/02-18-09.htm>

"...creating significant opportunities for developing countries with a sugar cane industry to pursue ethanol fuel," said Dr. Baron.

Saipan Water Quality Among Worst in U.S.

Thursday, February 14, 2008

By Agnes E. Donato

SAIPAN, CNMI - Saipan has among the worst water [quality] problems in the nation, the U.S. Environmental Protection Agency told local lawmakers yesterday.

The island's water system has been cited four times for health-based violations in the last half of 2007. These violations involve bacterial contamination and nitrates in the water.

John McCarroll, manager of the EPA Pacific Southwest Region's

Pacific Islands Office, said this is too many. In the rest of the United States, 96 percent of water systems have not had any violation in a year.

"If you've had at least one violation, you rank among the worst in the country," McCarroll said in a presentation before the House Committee on Public Utilities, Transportation, and Communications.

He noted that the CNMI have had 44 health-based violations since 2001. There was a 15-month period from 2006 to 2007-during which Saipan had zero violations. But since the last half of 2007, the Com-

"The island's water system has been cited four times for health-based violations in the last half of 2007," Agnes Donato.

"CUC is now working with EPA on a stipulated court order that will force the utility to fix problems in Saipan's water system..." Pacific Island Report.

monwealth Utilities Corp. has had four water violations.

McCarroll noted that the violations coincided with CUC's financial problems, which resulted from higher fuel costs and the power rate rollback in October 2007.

"As we all know, power subsidizes water at CUC. Because CUC was collecting less money, resources [for the water system] ended up being diverted [to other needs]," he said.

The frequent power outages over the past months have affected the nearly 50 chlorinators, which need to be manually restarted each time power goes out.

McCarroll also said that CUC's recurring violations of federal water regulations result from a chronic lack of funding for infrastructure and maintenance, as well as the lack of skilled personnel at CUC.

CUC is now working with EPA on a stipulated court order that will force the utility to fix problems in Saipan's water system within an agreed upon timeline. The order, or "consent decree," is expected to be finalized in a few months.

McCarroll expressed hope that the enforcement action will fast track improvements to the quality of Saipan's water.

"Even though the situation is not good, it is not hopeless.



Saipan Ice Inc. bottled water.

<http://www.saipantribune.com/newsstory.aspx?cat=5&newsID=50759>

We have seen a lot of improvements in the last few years. EPA is looking at the enforcement action as a way to better the situation, not to disparage anyone," he said.

Saipan Tribune: www.saipantribune.com
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Pacific Island Report

<http://pidp.eastwestcenter.org/pireport/2008/February/02-14-11.htm>



Looking down on Saipan.

http://www.flickr.com/photos/jimmy_zhangyin/382544089/

New Britain Keeps Wary Eye on Simmering Volcano

Friday, February 22, 2008

PORT MORESBY, Papua New Guinea - Ash emissions continued at Mount Tavurvur [on the island province of New Britain, Papua New Guinea] early this week.

Reports from the Rabaul Volcanological Observatory stated that thick dark gray ash changed to pale gray late Tuesday afternoon. Ash clouds rose about 1 kilometer above the summit before being blown east of the volcano mainly over the sea and towards southern Duke of York Islands.

[PIR editor's note: Mount Tavurvur is located on the outskirts of the former provincial capital Rabaul on the island of New Britain, north of mainland Papua New Guinea. The volcano erupted in 1994, destroying Rabaul and forcing the construction of a new capital, Kokopo, about 12 miles away.]

Air Niugini suspended all its flights on Wednesday due to nocturnal ash fall on the runway on Tuesday. Civil Aviation Authority Airport Manager Bill Burua said that the flights would resume after the situation returned to normal.

"We are closely monitoring the volcano's movements and the length of the suspension of flights would depend on the ash fall," said Mr. Burua.

The RVO report stated that occasional loud roaring noises were heard on Tuesday night. An orange glow was reportedly accom-

panied by weak projections of lava fragments at night. Seismic activity continued at a high level with low frequency earthquakes. It stated that low frequency earthquakes occur as a result of movement of steam or gas through the neck or conduit of the volcano following heavy rains throughout the week.

The current activity at Mount Tavurvur is not unusual being the typical low level activity that had been periodically occurring for the past 13 years.

The report stated that small to moderate ash emissions was expected to continue with the wind directing areas receiving ash fall.

The public were advised keep out of the ash plumes and not venture close to the volcano due to possible rock ejected by the mild explosions.

Papua New Guinea Post-Courier:

www.postcourier.com.pg/
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Pacific Island Report

<http://pidp.eastwestcenter.org/pireport/2008/February/02-22-07.htm>



Mount Tavurvur had a large and devastating eruption in 1994.

http://image16.webshots.com/17/8/76/83/2157876830083687246MIaSRZ_ph.jpg

Sea Level Rise Forces Relocation of Papua New Guinea Village

Wednesday, January 30, 2008

By Bonnie Abola

PORT MORESBY, Papua New Guinea - The village of Labutali along the Huon Gulf peninsula in Papua New Guinea is preparing to relocate its 1,500 people some 2.5 kilometers inland as a direct result of rising sea levels.

[PIR editor's note: The Huon Gulf borders Morobe Province, on the north-central coast of Papua New Guinea's mainland.]

After much convincing by a village community-based organization, the village elders and the Morobe disaster office finally agreed last year to relocate.

A signed Memorandum of Agreement between the village development trust and community development schemes agreed to fund the relocation operation.

The new village site called Pohamo is currently being cleared by the villagers and volunteer architecture students from several Australian universities and Papua New Guinea's University of Technology are building the new aid post under the relocation program. The aid post is the first permanent development that

would be surrounded by new homes.

The new village site is located between two rivers and has been planned by the visiting students from Australia with a 50m buffer zone from the rivers. The master plan of the village would allow families to live in hamlets to promote interchange with each other to save as much vegetation and forests as possible.

Before the master plan was drawn up, the villagers were consulted and plans were drawn up according to specifications to suit the environmental conditions. The plan allows a site to cater for village meetings and recreational activities. A site for a school is also on the plan.

The master plan would be left to the village elders who would carry out the construction after the students had completed the aid post and left.

Village elders were happy with the plans and eager to begin construction as soon as the aid post was completed.

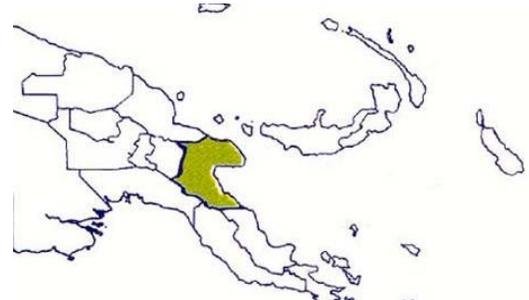
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<http://pidp.eastwestcenter.org/pireport/2008/January/01-30-05.htm>

"The new village site called Pohamo is currently being cleared by villagers and volunteer architecture students..."
Bonnie Abola.

Map: This shows the highlighted province Morobe within PNG.

Picture: This a view of part of the Huon Gulf Peninsula.

http://www.pacificislandtravel.com/png/about_destin/huon_gulf.html





Marianas Utility Seeks Alternate Energy Producers

Friday, February 1, 2008

By Raymond A. Martinez

SAIPAN, CNMI – The Commonwealth Utility Corporation is willing to consider renewable energy proposals from any interested company or agency, local or off-island, in the Commonwealth of the Northern Mariana Islands (CNMI).

Pamela A. Mathis, CUC spokeswoman, said on Wednesday that they are accepting applications from foreign energy firms, agencies, and other companies interested in engaging in a long-term project with the utilities agency.

"What we are saying is that if you build a power system, which does not rely on fossil fuels, we're going to buy that electricity from you in time," she said.

CUC seeks a long-term solution to the current high cost of producing electricity, Mathis said.

The agency, she added, wants the "best, most reliable product at the best possible price."

According to Mathis, CUC is looking for competitive proposals from interested parties that will provide for all costs, materials, labor and equipment in the design, supply, installation, commissioning, operation and ownership of renewable electricity generation facilities on Saipan, Rota and Tinian.

She said the "process of ordering a generator and moving it to an island and building" the facilities will take a long time.

Still, she added, there are now some companies that have submitted their project proposals, "and we hope that more companies will also do so."

She said CUC believes that local market conditions offer highly attractive opportunities for renewable power suppliers.

Marianas Variety: www.mvariety.com
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Pacific Island Report

<http://pidp.eastwestcenter.org/pireport/2008/February/02-01-12.htm>



"The agency... wants the 'best, most reliable product at the best possible price,'" said Pamela A. Mathis, CUC spokeswoman.

Water Project to Upgrade Services in PNG Towns

Tuesday, February 26, 2008

By Madeleine Arek

PORT MORESBY, Papua New Guinea - More than 20,000 people from three districts in Papua New Guinea stand to benefit from a PGK23 million [US\$8.5 million]

water supply project soon to be carried out by the PNG water board.

Project director William Walo said under the European Union - funded program, the PNG water board will construct water sup-



This \$8.5 million project is being funded by the European Union.

http://www.herat.co.uk/picture/world_fligs/pages/european%20union.htm

plies for the district towns of Maprik, Finschhafen and Kainantu to provide better water supply services to the people. He said to maintain infrastructure of the project, water-billing meters would be installed in homes with the users paying a minimal fee.

He said when the study team from Cardno/Agrisys carried out the feasibility study in 2006 to prepare an investment program to support the district town water project, they found that existing infrastructure in these three towns were in a state of disrepair.

The team found the district towns sub sector have been neglected in terms of investment to up-

grade and expand ageing systems and the on-going operation and maintenance of existing facilities.

"We want to make sure the project is sustainable having the rural population in mind," Mr. Walo said. He said work on the Maprik project was projected to start in May.

He said a water source has been identified and tenders have been called from civil works contractors to build a reservoir and water treatment facility.

"We will be conducting some studies to confirm the availability of ground water for Kainantu and Finschhafen," Mr. Walo said. He said for Maprik, water would be sourced from a river, while for Kainantu and Finschhafen, the possibility of sourcing water from underground (bores) would be confirmed," he said.

He said to start the program; the Waterboard has set up a team of engineers and technical officers and will be recruiting a technical adviser to assist in carrying out the program.

The role of the technical team was to undertake the necessary engineering studies .

and prepare detailed designs and specifications for the three water supply projects.

"We will also call tenders, evaluate and award contracts in consultation with the EU and the Government," Walo said.

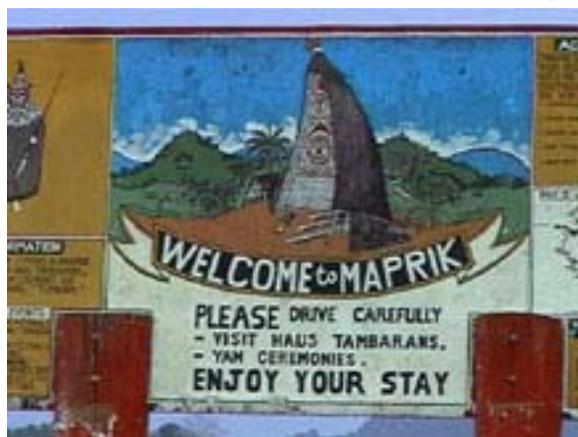
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Pacific Island Report

<http://pidp.eastwestcenter.org/pireport/2008/February/02-26-12.htm>

The welcome sign to Maprik, Papua New Guinea.

<http://www.callanservices.org/news/news2003/mapriksports/mapriksignb.jpg>





Classroom Weather Focus

Glaciers and Icebergs

OBJECTIVES:

1. As glaciers move, they create a variety of patterns on landforms by a process called *glacial scraping*.
2. The scraping patterns left by a glacier depend on how the glacier moved over the landform.
3. The evidence of glaciation left by glacial scraping provides clues to the climate in a particular place over a long period of time.

MATERIALS:

Plastic cups, rocks, tap water, plastic wrap, tape, paper plates, and a smooth piece of wood

PROCEDURE:

1. Tell students they will be learning how glaciers affect landscapes.
2. Divide the class into four groups supplying each group with the listed materials.
3. Have the students fill a paper cup halfway with the rocks.
4. The students should then pour water until it is about one inch above the rocks.
5. Cover the cup with plastic wrap and use the tape to secure it to the cup.
6. Flip the cup over onto a paper plate so the plastic is on the plate.
7. Freeze all the cups overnight.
8. The next day have the students remove the plastic wrap from the cup.
9. Have each student drag the cup (in the same direction) over the surface of the smooth piece of wood.
10. This motion simulates a receding glacier and its affect on landscapes.

DISCUSSION:

1. Ask students to define glacier and how they think scientists can tell if glaciers move over a piece of land.
2. Explain that rocks and gravel freeze into the ice and are dragged over the land by the bottom surface of a glacier.
4. Have each group examine the patterns the "dragging" made in the piece of wood. Then have the groups compare the wood.
5. Discuss with the class how patterns of glaciation provide clues to the climate in a particular area over time. For example, if evidence of glacial scraping is found in an area that is too warm for glaciers to exist, what can we infer about how the climate in that area has changed over a long period of time?

Frank Weisel, Tilden Middle School. Rockville, Maryland. USA — <http://school.discoveryeducation.com/lessonplans/programs/iceberg/>



Muir Glacier in Glacier Bay National Park and Preserve in Alaska, United States. This glacier was named after John Muir, a preservationist in the late 1800's.

http://www.globalwarmingart.com/wiki/Glacier_Gallery

ENSO Diagnostic Discussion

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Synopsis: La Niña is expected to continue into Northern Hemisphere spring 2008.

Current atmospheric and oceanic conditions indicate that La Niña has continued to strengthen in the tropical Pacific. By the end of January 2008, equatorial SST anomalies were more than 2.0°C below average across parts of the central and east-central equatorial Pacific. Consistent with these oceanic conditions, stronger-than-average low-level easterly and upper-level westerly winds persisted across the central equatorial Pacific, convection remained suppressed throughout the central equatorial Pacific, and enhanced convection covered the far western Pacific. Collectively, these oceanic and atmospheric conditions are similar to those accompanying the last strong La Niña episode in 1998-2000. The recent dynamical and statistical SST forecasts for the Niño 3.4 region indicate a moderate-to-strong La Niña through the rest of the Northern Hemisphere winter, with the likely continuation of a weaker La Niña through April-May-June. Thereafter, there is considerable spread in the models, with approximately one-half indicating La Niña could continue well into the Northern Hemisphere summer.

NOAA Climate Prediction Center

http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/ensodisc.html

Get to Know: Angie Albers



Angie's first successful storm chase in Texas.



Angie's pet fish.

Thursday, February 28, 2008

In January I began my new position as the Outreach Project Coordinator / Graduate Research Assistant for the Oklahoma Wind Power Initiative. I recently earned a B.S. degree in Meteorology from the University of Oklahoma. In November 2005, I went to visit the Blue Canyon Wind Farm near Lawton, OK which initially sparked my interest in wind power.

At OWPI not only do I work on education and outreach projects and activities, I also help install the 20 meter anemometer towers that we use to record and analyze wind resources in different areas of the state.



Angie at NCAR in Boulder, Colorado, USA.

Originally, I am from Hoxie, KS, where I grew up on a wheat farm. When I'm not busy with work or school I enjoy traveling, water skiing, volleyball, the occasional storm chase and taking care of my saltwater fish tank.

- Angie Albers

SPaRCE would like to thank those of you who have made this program possible: NOAA Office of Global Programs, NOAA PI-GCOS and especially Howard Diamond. Thank you!