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Secretariat Update



ANNUAL ENVIRONMENTAL DATES 2016

1. World Wetlands Day - **February 2**
2. International Day of Forest and the Tree – **March 21**
3. World Water Day – **March 22**
4. World Meteorological Day – **March 23**
5. Earth Day – **April 22**
6. International Day for Biological Diversity - **May 22**
7. World Environment Day - **June 5**
8. World Ocean Day - **June 8**
9. World Day to combat desertification – **June 17**
10. International day for the preservation of the Ozone Layer – **September 16**
11. International Coastal Cleanup Day – **September 17**
12. World Water Monitoring Day – **September 18**
13. World Food Day – **October 16**



In Focus

St. Lucians urged to prepare for prolonged dry spell



The St. Lucia Water Reserve Management Authority (WRMA) says 2015 was the driest year for the country in almost four decades; and farmers and other residents are being advised to plan water conservation methods in preparation for a prolonged dry spell. Water Resource Management Authority Officer Fitzgerald John says the dry climate has had a significant impact on water levels throughout the island.

“Judging from the data we have at the WRMA, and the MET Services, the rainfall data for Union, George FL Charles and Hewanorra Airport showed that 2015 was the driest year that we’ve had on record for the past 40 years. Also, the SPI [Standardized Precipitation Index], which is the standard index used to calculate drought, indicates that [rainfall is] below average,” he said.

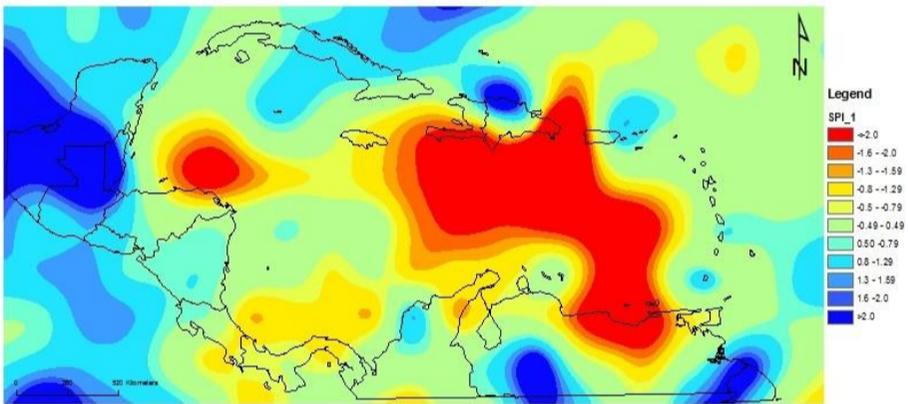
“So leading up to the dry season [which started December 1], St. Lucia actually went into the dry season with a rainfall deficit.” “We are looking at planting resistant crops, digging drainage at the correct height and length, and rainwater harvesting,” John said.

The World Meteorological Organization recently said 2015 was the warmest year on record since 1880.

To read more visit: <http://www.caribbean360.com/news/authorities-tell-st-lucians-to-prepare-for-prolonged-dry-spell#ixzz3zxpY8T0>

Rainfall Summary November – December 2015

SPI November 2015



The Caribbean recorded one of its wettest months of the year in November, which is very welcomed, but still the annual deficit in rainfall remains large in many countries. As some countries enter their dry season and others approach theirs, concern now heightens as the large rainfall deficit is likely to result in low water availability in parts of the Caribbean by February 2016 (the middle of the dry season). This is particularly so in the south and eastern parts of the region.

Apart from Trinidad that was slightly dry, normal to above normal rainfall was experienced in the islands of the eastern Caribbean for November. Tobago, Barbados, St. Vincent, Dominica, Antigua, St. Kitts, Anguilla, and St Maarten were normal; Grenada moderately wet; and St. Lucia and St. Croix slightly wet. Conditions in northern Guyana ranged from exceptionally wet in the west to normal in the east. Aruba was slightly dry while Curacao rainfall was normal. Puerto Rico ranged from severely dry in the west to moderately wet in the east, but the Dominican Republic ranged from exceptionally dry in the south and east to exceptionally wet in the north. Jamaica was slightly dry in the west and moderately dry in the east, while Grand Cayman was moderately wet. Cuba experienced moderately wet conditions in central areas to normal conditions in the east and west. Conditions in Belize ranged from exceptionally wet in the south to moderately wet in the north.

To read more visit: http://rcc.cimh.edu.bb/files/2015/12/CaribbeanDroughtBulletin_December_Vol2_Issue7.pdf



Climate Change and Drought Alerts



An official of the Global Water Partnership (GWP) has warned that climate change threatens water resources and puts the world's development goals at risk. Dr. Nicole Bernex, GWP's Technical Committee Member based in Peru, was speaking at a GWP-organised press conference at the United Nations Climate Change Conference (COP21). "Last year, in the COP20, we remember how IPCC (Inter Governmental Panel on Climate Change) makes clear that water is in the eye of the climate management storm," she said. "This year, in September, in New York, with the approval of the agenda 2030, it has been given priority to a goal on water security for all."

"In October, in UNCCD COP12, in Ankara, the nexus between soil, water and biodiversity has been strengthened. And last Wednesday, in the COP21, more than 400 institutions between governments, national and international donors, national and trans-boundary basin organizations of rivers, lakes or aquifers, in different parts of the world signed the Paris Pact on Water and Adaptation, Strengthening Adaptation in Basins of Rivers, Lakes and Aquifers," she added.

To read more visit: <http://caribbeannewsservice.com/now/climate-change-a-threat-to-water-resources/>



The Barbados-based Caribbean Disaster Emergency Management Agency (CDEMA) says several regional countries have been placed under immediate drought watch or warning for 2016. "The drought situation remains a major concern for many countries due to the below-normal rainfall recorded during the previous dry and wet seasons, which resulted in a number of countries experiencing water shortages in 2015," CDEMA said, adding that drought alerts have been issued by the Caribbean Institute of Meteorology and Hydrology (CIMH) for several countries up to March 2016.

It said drought warning has been issued for Antigua and Barbuda, Barbados, Dominica, northern Guyana, St. Kitts and Nevis, St. Lucia, St Vincent and the Grenadines, Trinidad and Tobago and northern Suriname. A drought watch has also been issued for Grenada while Haiti east and southward has been noted for drought concern. CDEMA said that drought outlook for the short-term, until March 2016, may result in a rise or persistent drought situation in Haiti east and southward and especially in Antigua, Barbados and the Leeward islands.

To read more visit: <http://caribbeannewsservice.com/now/caribbean-countries-placed-under-drought-warning/>



SOLID WASTE MANAGEMENT IN BARBADOS



Major collection and recycling activity of PET bottles at B's Recycling Centre, Barbados

The Project Management Coordination Unit (formerly known as the Solid Waste Project Unit) is the agency within the Ministry of Environment and Drainage responsible for the implementation and execution of the programmes and projects respectively, of the Integrated Solid Waste Management Programme (ISWMP) for Barbados. The success of the ISWMP is indisputably vital to the progressive social, economical and environmental development of Barbados, as it clearly gives the framework for the provision and sustainability of a modern, efficient and working solid waste management system.

To appropriately substantiate how the ISWMP has been performing it is necessary to understand a brief background with respect to the philosophy that predicates the programme. The ISWMP has its fundamental foundation in the internationally accepted best practice for solid waste management called the "4 R's Approach". The approach, shown below, represents a hierarchical system with respect to how waste is managed:

- 1st Reduce – waste generation altogether where possible
- 2nd Reuse – waste products and materials when feasible
- 3rd Recycle – waste products by degrading them and making brand new products
- 4th Recover – energy from waste products where feasible and environmentally safe.

In solid waste management, it is accepted and appreciated that the first and second options are the most ideal and preferred options with respect to the hierarchy, as these elements are significantly encouraged through the public outreach and educational components of the ISWMP. However, it is challenging to quantitatively assess its contribution to the Programme's success as these waste reduction and reuse initiatives primarily occur at the individual or household level. To this end, to transparently and objectively assess the ISWMP's performance at the national level, an analysis of the third waste management option i.e. recycling is presently (2015 – 2016) being conducted. The Unit is actively performing a comprehensive Waste Characterization Study to assess both the composition and the total quantity of solid waste going to the sanitary engineered landfill at Mangrove, St. Thomas. The preliminary results of this characterization study have been very encouraging.

Results to indicate that solid waste is now being viewed nationally as a valuable resource, instead of an unwanted nuisance. There is a shared consensus that we are moving in the right direction with respect to solid waste management in Barbados and the Unit will continue its role in this regard within the Ministry to protect and preserve the environment for present and future generations.

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SAFETY SYSTEMS OF WORK AT WASA, Trinidad and Tobago



Risk Assessment exercise being conducted

In its continuing efforts to improve the management of safety in its operations, the Water and Sewerage Authority of Trinidad and Tobago began the implementation of Safe Systems of Work in 2012, with special focus on daily Toolbox Talks, development and documentation of standard operating procedures (SOPs) and work rules and the Permit to Work System (PTW). This initiative is being spearheaded by the organization's HEALTH and Safety Department. A safe system of work is a defined method for doing a job in a safe way and takes into account all foreseeable hazards to health and safety and seeks to eliminate these hazards or minimize the levels of risk associated with these hazards to as low as reasonably practicable. Therefore hazard identification and risk assessment together with appropriate risk control form the core of "safe systems of work". These are proactive measures for managing safety and health in the workplace and are covered within the legislation governing safety and health in Trinidad and Tobago.

The importance of safe system of work stems from the recognition that most accidents are caused by a combination of factors (plant, material/equipment, environmental, management systems, lack of training, supervision, etc.) in the workplace which can result in the existence of unsafe conditions and the performance of work in an unsafe manner. Prevention must therefore be based on an integrated approach and not one which deals solely with each factor in isolation.

An effective safe system starts by:

- Looking at the job as a whole;
- Analyzing all potential hazards (physical, chemical, health, etc.);
- Integrating all of the necessary precautions; including design, safe systems, physical precautions, training, monitoring, SOPs and PPE.

Permit to Work –

The PTW procedure is a specialized type of safe system of work for ensuring that potentially very dangerous work is done safely. Its fundamental principle is that certain defined operations are prohibited without specific permission of the authorized and responsible manager. This permission will only be granted once stringent checks have been made to ensure that all foreseeable hazards are identified and the necessary precautions have been taken to eliminate the hazards or reduce the risk to as low as reasonably practicable.

To date, the Authority has established three types of permits, namely;

1. **General Permit** which authorizes the performance of general work. This permit is utilized for pipeline installation/repairs, changing chlorine (150lb cylinders/1 ton containers), maintenance and construction work and other high hazard operations. The General Permit is the overriding authorization and precedes all other permits.
2. **Hot Work Permit** which authorizes work where there is the potential for fire or explosion;
3. **Confined Space Entry Permit** which authorizes entry into a confined space. This permit only authorizes entry into the space, it is not authorization to perform work.



SECTOR NEWS

Solid Waste and Marine Litter



According to the Caribbean Community Secretariat (2003) the quantity of waste is closely linked to the level of economic activity in a country. Wealthier economies tend to produce more waste. The lack of land areas and resources available for the safe disposal of wastes, population growth, the growing tourism industry, and the increase in imports of polluting and hazardous substances combine to make pollution prevention and waste management a critical issue in most Caribbean States.

People generate solid wastes such as food and kitchen wastes, paper, glass, metal and plastic containers and packaging, construction wastes (bricks, tiles, concrete, rebar, lumber, sheeting, etc.), clothing, and hazardous wastes (medications, batteries, paints, chemicals, etc) and if not handled appropriately (recycled or disposed of properly) have the potential to become litter. Marine litter or debris is any persistent, manufactured or processed solid material discarded, disposed of or abandoned in the marine and coastal environment from any source (<http://www.unep.org/regionalseas/marinelitter/>, Coe & Rogers 1997).

Marine litter can be classified into land- or ocean/waterway-based, depending on how the debris enters the water (UNEP 2008). Land-based sources include dumps/landfills, riverine transport, untreated sewage and storm water discharges, industrial and manufacturing facilities, tourism, and beach-goers. Sea-/ocean-based sources of marine litter include fishing vessels, cruise liners, merchant shipping, military and research vessels, pleasure crafts, oil/gas platforms, and fish farming (<http://marine-litter.gpa.unep.org/facts/facts.htm>).

To read more visit: <http://www.cep.unep.org/publications-and-resources/marine-and-coastal-issues-links/solid-waste-and-marine-litter>

Tobago in Water Crisis



TWO months into the dry season and Tobago is already bone dry, with Tobago House of Assembly (THA) Chief Secretary Orville London describing the shortage as a crisis.

London advised Tobagonians that the entire island was under a drought alert and he expected the Water and Sewerage Authority (WASA) to adopt effective measures to mitigate the effects of the water shortage. Last week, business owners and residents in Tobago wrote an open letter to WASA asking for an explanation as to why the tourism-dependent island was suffering a shortage, despite the investment in wells drilled across Tobago. “Year on year there is a decline in the water levels in all the major sources,” he said.

“I am hoping that sooner rather than later that efforts would materialize by putting in place the promise for the operationalizing of the wells that have been tested last year because that might be the quickest way for us to alleviate the situation. An investment in operationalizing those wells will give us an additional four million gallons a day,” said London. “If we are talking now in February the situation is that critical, and if we do not do something quickly we are going to have a more challenging period than last dry season.”

He asked Tobagonians do all they could to conserve. “We the people have to do what can be done in order not to exacerbate the situation. We have to really control the use of water and we have to be parsimonious in the way in which we utilize water in the next many months because the situation is critical,” London added.

To read more visit: <http://www.trinidadexpress.com/20160222/news/london-water-crisis-in-tobago>



CWWA MEMBERSHIP RENEWAL

We are pleased to list below the cost of membership in the CWWA. If you are unsure of your current membership please contact us to receive an update.

Membership in CWWA is open to individuals, companies and utilities operating in the Water, Wastewater and Solid Waste sectors under the following categories of membership:

MEMBER: Reg. fee: US\$40.00 + Admin fee: US\$20.00

A Member shall, at the time of their application, hold a Degree in engineering or science approved by the Board, although in exceptional circumstances the Board may accept the alternative qualification and experience in responsible posts in water, waste and any environmental field.

STUDENT: Reg. fee: US\$20.00 + Admin fee: US\$15.00

A Student shall be at the time working towards a degree in engineering or science and is enrolled in an undergraduate or graduate degree program at university.

ASSOCIATE ORGANIZATION: Reg. fee: US\$875.00 + Admin fee: US\$25.00

This can include any non-corporate company/non-corporate utility, organization/project in related field of water, waste and environmental management.

CORPORATE COMPANY: Reg. fee: US\$175.00 + Admin fee: US\$25.00

National, regional and international "COMPANIES" working in the field of water supply, wastewater or solid waste disposal, such as consultants, contractors, manufacturers of plant and equipment.

CORPORATE UTILITY: Reg. fee: US\$1,750.00 + Admin fee: US\$25.00

National or regional "UTILITIES" operating in the field of water supply, wastewater or solid waste disposal and providing services as a public or private sector utility.

WE NEED YOUR INPUT FOR THE CWWA InfoStructure

- ✚ Share your experiences; your individual contributions are welcomed and appreciated;
- ✚ Take this opportunity to place your company in the news;
- ✚ Share your photographs with us;
- ✚ Send us your articles at :cwwasecretariat@gmail.com

Are you a member of the CWWA?

If not, come join us

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www.cwwa.net

email: cwwattsecretariat@gmail.com

Facebook: **Caribbean Water and Wastewater Association**