



UWI



LEADING CLIMATE ACTION



► SPECIAL REPORT



UWI

THE WORLD UNIVERSITY RANKINGS
TOP RANKED



Caribbean's #1 | Latin America's Top 2% | World's Top 4%

We've risen from last year's debut positions in both the **Latin America** and **World Rankings**, while maintaining our position as the only Caribbean university to be ranked among the best in the world.

The prestigious **Times Higher Education (THE) University Rankings** are regarded as the definitive lists of top universities.

For more on The UWI's ranking performance

<https://www.timeshighereducation.com/world-university-rankings/university-west-indies>

For over seven decades The University of the West Indies (The UWI) has provided service and leadership to the Caribbean region and wider world. The UWI has evolved from a university college of London in Jamaica with 33 medical students in 1948 to an internationally respected, regional university with near 50,000 students and five campuses: **Mona** in Jamaica, **St. Augustine** in Trinidad and Tobago, **Cave Hill** in Barbados, **Five Islands** in Antigua and Barbuda and an **Open Campus**. As part of its robust globalisation agenda, The UWI has established partnering centres with universities in North America, Latin America, Asia, Africa and Europe including the State University of New York (SUNY)-UWI Center for Leadership and Sustainable Development; the Canada-Caribbean Institute with Brock University; the Strategic Alliance for Hemispheric Development with Universidad de los Andes (UNIANDES); The UWI-China Institute of Information Technology, the University of Lagos

(UNILAG)-UWI Institute of African and Diaspora Studies; the Institute for Global African Affairs with the University of Johannesburg (UJ); The UWI-University of Havana Centre for Sustainable Development; The UWI-Coventry Institute for Industry-Academic Partnership with the University of Coventry and the Glasgow-Caribbean Centre for Development Research with the University of Glasgow.

As the region's premier research academy, The UWI's foremost objective is driving the sustainable growth and development of the Caribbean region. The world's most reputable ranking agency, Times Higher Education, has ranked The UWI among the top 600 universities in the world for 2019 and 2020, and among the 40 best universities in Latin America and the Caribbean for 2018 and 2019. The UWI has been the only Caribbean-based university to make the prestigious lists. For more, visit www.uwi.edu

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The Time for Urgent Action is Upon Us

▶ We are now seeing that world leaders and their policy advisors have slowly come to see the truth of our research and the rightness of our advocacy.

The 21st century needs development that is sustainable. There's no question about that. The 19th century development paradigm that was based on economic growth by any means necessary—including the exploitation, destruction and disrespect for the environment—can no longer go on. As an economic historian, it is difficult to ignore the path of industrial development, the philosophies and the economics that have inextricably led to the crisis we face now. Universities now have an urgency to contribute to the undoing.

Over the past few years I have seen first-hand the impact of local harming caused by global warming across the region, during visits to the Bahamas, Antigua and Barbuda and Dominica in the aftermath of devastating hurricanes. However, what I also witnessed in these parts was UWI students and professors being the first on the ground to help in relief and recovery efforts, and to lead the roll-out of resilience strategies, demonstrating the spirit of our University and our dedicated service to the region. This type of commitment to the environment and to humanity will be a very important criterion in the future in distinguishing universities that are both excellent and ethical.

As a public, comprehensive university, The UWI was established to serve the development needs of the people of this region. The way we demonstrate this service is by applying our knowledge to offer new insights, new policy directions, new products and innovative solutions to assist the communities we serve. We are an activist university, with researchers and students tackling all of the big challenges facing this region.

Addressing climate change has long been a priority for The UWI. Our scientists recognised decades ago that climate change, rising sea levels and ocean temperatures, would prove to be an existential threat to small island states in the Caribbean and across the globe. We are now seeing that world leaders and their policy advisors have slowly come to see the truth of that research and the rightness of our advocacy.

The time for urgent action is upon us. Our 2017-2022 strategic plan has provided sharper focus on the importance of developing a culture of resilience and resilience planning in the Caribbean through a number of initiatives with global impact. This, coupled with our years of significant contributions towards



Professor Sir Hilary Beckles
Vice-Chancellor, The UWI

“Over the past few years I have seen first-hand the impact of local harming caused by global warming across the region”

climate change, has been recognised by the International Association of Universities' (IAU) selection of The UWI as its global leader in the mobilisation of research and advocacy for a climate-smart world. We have proudly accepted this designation with a deep sense of commitment.

We recognise though, that climate change issues are complex issues and addressing them requires multilateral approaches, multi-stakeholder approaches and partnerships driven by purpose and passion. So as we continue to advance SDG13, our firm resolve is to continue to build on The UWI's research, teaching, advocacy, sustainable practices and most importantly, our regional and international partnerships as part of our climate action agenda. It is our responsibility.

Transforming our World: 2030

▶ The UWI has been very effective in creating unique partnership dynamics between universities across different regions.



Dr. Hilligje van 't Land
Secretary General, IAU

Five years into *Transforming our World: The 2030 UN Agenda for Sustainable Development*, publications, platforms and events show to what extent and how universities and other higher education institutions are engaging on all dimensions of the 2030 Agenda, and with many dimensions of the different Sustainable Development Goals (SDGs).

This is excellent news since without the strong contributions of higher education the 17 global goals will not be reached. Indeed, universities as drivers of knowledge, skills development and innovation, are uniquely positioned to foster the kind of societies we need to ensure the success of the 2030 development agenda. At the heart of the dynamics required to transform our world, is the need to foster and nurture strong, innovative and equitable partnerships with bright objectives and defined action plans.

This is why, in 2019, after 30 years of advocacy for a strong commitment of higher education leadership to sustainable development, all around the world, the International Association of Universities (IAU) officially launched a new initiative: the *IAU Global Cluster on Higher Education and Research for Sustainable Development (HESD)*. Global in scope, the Cluster fosters further engagement of universities to

focus directly on the aims and goals of the 2030 Agenda, while increasing and accelerating connections between universities of different natures and purpose in an innovative way. The Cluster is led by 16 IAU Member higher education institutions from 16 countries from the five UNESCO regions; they each lead one SDG and work on HESD in collaboration with universities from the other 5 continents (the Cluster satellites), while IAU leads on SDG 17 (Partnerships for the Goals).

Within the framework of the IAU Global Cluster on HESD, The University of the West Indies (The UWI) was nominated to lead SDG-13 and in this regard the *Global University Consortium (GUC) on SDG-13* was established. Today, The UWI has successfully brought together 10 universities from across the globe, committed to promoting and supporting the role of academia in achieving the 2030 development agenda, in particular SDG 13. Focused on Climate Action and its interlinkages across the SDGs, the GUC has successfully advanced knowledge exchange, research collaborations, advocacy, South-South and triangular cooperation.

Indeed, after only one year, The UWI has been very effective in creating unique partnership dynamics between universities across different regions, from Ghana to USA, Aruba to South

Africa, Canada to India, Norway to South Pacific, and Colombia to the UK. The UWI has launched an online platform to facilitate collaboration, knowledge exchange and public awareness around SDG 13; it organised Symposia, International Seminars and planned a regional LAC workshop in collaboration with another consortium member, Universidad de los Andes. The Consortium has built a very solid foundation for joint academic programmes, online courses, faculty exchange and student mobility to deepen learning and ensure the cross fertilization of ideas to tackle the global challenge of climate change, exploring all dimensions of this broad issue. Congratulations!

Today, thanks to the full engagement of universities like The UWI, higher education as a whole is increasingly involved not only in sustainability debates at local and regional levels but also in global discussions and development processes, including at the United Nations Headquarters in New York and UNESCO Headquarters in Paris. Challenges remain, such as the need for higher education and policy-makers to better support each other, but these can be overcome. With the leadership displayed by institutions such as The UWI and the other Members of the IAU Global Cluster, we are confident that there is a much better chance that together we will be able to achieve the global goals.

Towards More Sustainable Futures – The Climate Imperative



Dr. Stacy Richards-Kennedy
Director, Office of Global Partnerships
and Sustainable Futures, The UWI

▶ Never before have universities been so central to the global development agenda.

Global challenges like climate change and the current pandemic remind us that the world is one interconnected system. Limiting global temperature rise to less than 1.5°C, effectively managing the symbiotic relationships among our human, animal and plant ecosystems and strengthening the resilience of Caribbean countries, will require unprecedented levels of collective action. Within the current context, SDG 13 (climate action) is not a distant goal but an urgent imperative.

The 2030 agenda for sustainable development, in which the 17 Sustainable Development Goals (SDGs) are enshrined, was intended as a blueprint for balancing people, planet and prosperity. The current crisis, however, has amplified the voices that have been calling for a reframing and a recalibration of development approaches. For the Small Island Developing States of the Caribbean, this means working even more closely to co-create a more sustainable future for our region. It is a time to boldly assert new indigenous narratives for development that promote social inclusion and environmental

sustainability *in tandem with* more measured approaches to economic growth; a time to re-visit outmoded positions on development assistance criteria, debt financing, unbridled economic growth, global trade practices, etc.; a time to invest even more in the research and scientific inquiry that will illuminate solutions to our complex, multidimensional development challenges and inspire new ways of thinking and being. Collectively, we must deconstruct our current existence and reconstruct a more just and sustainable world; one that we will be proud to pass on to future generations.

Never before have universities been so central to the global development agenda. Never before have research, science and knowledge been so widely recognized for their direct contribution to policies and decisions that have an immediate impact on lives, jobs and well-being. Public universities, like The UWI, will thus be embedded in the process of revitalizing Caribbean economies and shaping our new society. In spite of the challenges that may lie ahead, The UWI will remain a developmental force in our region and

will harness its regional and global networks of knowledge, skills, innovation and entrepreneurship to uplift the communities we serve. This will require a fervent commitment to multilateralism, astute science diplomacy and robust partnerships.

The UWI has long been instrumental in forecasting and shaping Caribbean progress. It has also been a pioneer in leading climate action as is exemplified in this feature magazine. Highlighting just a fraction of the inspiring and impactful work happening across our UWI campuses, we are indeed proud to share with you how The UWI has been leading climate action through our research, teaching, advocacy, partnerships and sustainability practices.

During this UN-declared Decade of Action, we are called upon to intensify our climate action and to mainstream sustainability thinking and planetary economics into all that we do, as we imagine the future we want into existence.

The leading Caribbean University is leading world **climate action**

The Caribbean is vulnerable to climate change. It threatens our lifestyles, our livelihoods and our lives.

For over seven decades, The UWI has built a reputation of service and leadership in the Caribbean. Globally recognised for our research and activism on climate change and climate resilience, we've been selected by the International Association of Universities (IAU) to be its global leader in mobilising research and advocacy as we move toward a 'climate-smart world'. We lead the **Global University Consortium on the UN Sustainable Development Goal (SDG) 13: Climate Action**.

The '**1.5 to Stay Alive**' fight, birthed as a Caribbean campaign, was in part informed by UWI climate studies

research and modelling, which has now sparked a global effort to limit global warming to 1.5°C to minimise the catastrophic effects of climate change.

Perhaps more than any other university in the world, we have an impressive nine UWI academics currently **contributing to Intergovernmental Panel on Climate Change (IPCC)** working groups, producing global assessments and special reports.

As we continue to share our knowledge and lead by our actions, we demonstrate that we are **an excellent global university rooted in the Caribbean . . .** and the world is taking notice.

The UWI has a strong legacy of world class research on climate change and sustainable development. The body of scientific research generated by the University is pivotal to transforming the region into a climate smart zone. Decades of research on tropical ecosystems, biodiversity, marine biology, disaster risk management and sustainable development have positioned the relatively young Caribbean institution as a premier research partner on the global stage.

World Class Research

Local Science, Global Relevance

Many UWI scientists have served — and continue to serve — as contributing authors and review editors to reports by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change. In 2007, for their IPCC contributions, UWI Professors, Anthony Chen, Leonard Nurse and John Agard shared in the glory of the Nobel Peace Prize given jointly to the IPCC and Al Gore Jr.

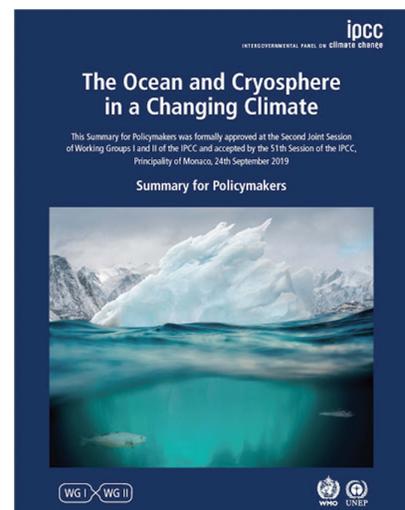
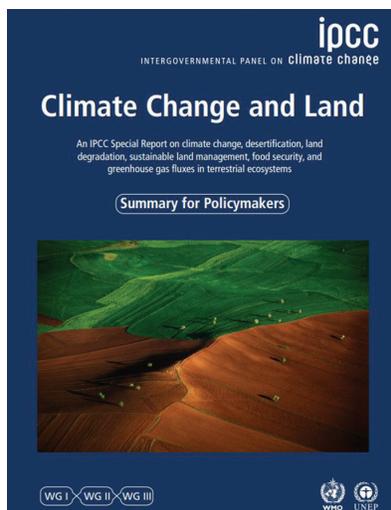
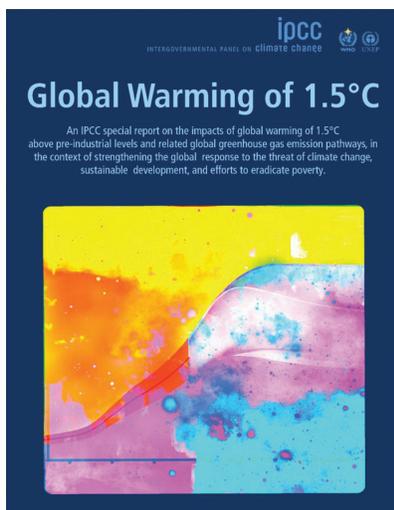
In 2018 and 2019, The UWI again rose to global prominence based on our expertise in climate research. In 2018, the Special Report, *Global Warming of 1.5°C* was released. It was the first of three reports in a

series from the UN body assessing scientific, technical, and socio-economic information regarding climate change during its Sixth Assessment cycle. Professor Michael Taylor, Dean of the Faculty of Science and Technology at The UWI Mona Campus was one of the coordinating lead authors of the report; and specifically the summary for policy makers. Five other UWI researchers also contributed by authoring or editing sections of this report.

In August 2019, *Climate Change and Land* was released — the second of the three IPCC Special Reports in the Sixth Assessment cycle — and four UWI researchers made contributions as authors, editors or reviewers. One month later, the third in the series was published — *The Ocean and*

“Tackling climate change is a tall order. However, there is no alternative from the perspective of human well-being and too much at stake not to act urgently on this issue.”

Professor Ove Hoegh-Guldberg
Lead Author, Global Sustainable Development Report 2019, *The Future is Now: Science for Achieving Sustainable Development* (GSDR 2019)



Courtesy Intergovernmental Panel on Climate Change (IPCC)
(See inside back cover for credits)



UN Global Sustainable Development Report.
(Extreme right) Dr David Smith pictured with other scientists who prepared the UN Global Sustainable Development Report.

Photo courtesy <https://sustainabledevelopment.un.org>

Cryosphere in a Changing Climate. In this report Dr. Michael Sutherland contributed as an author in the technical report as well as the summary for policymakers.

Thirteen UWI scientists have been invited to contribute to the IPCC Sixth Assessment cycle to produce the three-volume global assessment report, known as 'The Sixth Report' and 'Three Special Reports'. They include, Professor Professor John Agard, Professor Noureddine Benkeblia, Dr. Donovan Campbell, Dr. Anthony Chen, Dr. Aidan Farrell, Professor Michelle Mycoo, Professor Leonard Nurse, Dr. Adrian Spence, Dr. Kimberly Stephenson, Dr. Tannecia Stephenson, Dr. Michael Sutherland, Professor Michael Taylor, Ms. Felicia Whyte

Landmark Reporting

In 2016, the Coordinator of the Institute for Sustainable Development (ISD) at The UWI, Dr David Smith, was selected by former UN Secretary-General, Ban Ki-Moon to be part of a group of 15

international experts to work on the United Nations Global Sustainable Development Report — the first of its kind since the landmark Sustainable Development Goals (SDGs) were adopted. *Entitled The Future is Now: Science for Achieving Sustainable Development*, the report which was launched in October 2019 ahead of the 2019 SDG Summit found that an optimistic future is still attainable, but only by drastically changing development policies, incentives and collective actions of governments, business, communities and civil society.

The UWI has also provided an impressive body of scientific knowledge in other areas to demonstrate that climate change, rising sea levels and ocean temperatures were a threat to marine and plant life of small island states Caribbean.

This urgency of providing research towards responding to climate change has long been a priority for The UWI. Its scientists have been sounding the alarm for almost five decades, as the voice in representing the Caribbean's vulnerability and risk.

Investments in climate change are good business

Professor Michael Taylor is among an internationally respected group of scientists urgently calling on world leaders to accelerate efforts to tackle climate change. In the study published in *Science* magazine in September 2019, the group points out that almost every aspect of the planet's environment and ecology is undergoing changes in response to climate change—some of which are profound, if not catastrophic for the future.

The Science study also suggests that reducing the magnitude of climate change is a good investment. Over the next few decades, acting to reduce climate change is expected to cost much less than the damage otherwise inflicted by climate change on people, infrastructure and ecosystems.



Courtesy: science.sciencemag.org

1.5 to Stay Alive

The IPCC Special Report, *Global Warming of 1.5°C* reveals that the planet could reach 1.5°C above pre-industrial levels by as early as 2030, with particularly severe impacts for the Small Island Developing States (SIDS) in the Caribbean region. Now widely referred to as '1.5 to Stay Alive', the Caribbean's push for this global warming target was in part informed by UWI Climate Studies research and modelling, and sparked a global campaign calling on world leaders to limit global warming to 1.5 degrees in order to prevent the catastrophic effects of climate change.

Physicist Professor Michael Taylor, Dean of the Faculty of Science and Technology at the Mona Campus, head of the Climate Studies Group, Mona, winner of the UWI Vice-Chancellor's Award for Outstanding Research Accomplishments in 2015 and one of the

coordinating, lead authors of the *IPCC 1.5 Report* noted: "This is what we fought for. Now we have the scientific evidence that 1.5°C is the appropriate goal that the world needs to go for (as a target to cap global warming), but also that it is a hard thing to achieve. This report establishes that half a degree matters; that there is a difference between 1.5 and 2 degrees — the higher goal which much of the world thinks should be the target."

Dr. Adrian Spence of the International Centre for Environmental and Nuclear Sciences, The UWI Mona, was a lead author on Chapter One "Framing and Context" of the *Special Report on Climate Change and Land* while Dr. Donovan Campbell, Geography and Geology, The UWI Mona, was a lead author on Chapter Six, "Interlinkages between desertification, land degradation, food security and greenhouse gas fluxes"; and Professor

Nouredine Benkeblia, Life Sciences, The UWI Mona was a review editor for Chapter Five, "Food Security". As explained by Dr. Spence, "Land is a critical resource for human livelihood and development, providing food, fresh water and other ecosystem services. However, land is under growing pressure and climate change is exacerbating this pressure. Notwithstanding that, land may offer some solutions to limiting global warming to 1.5 degrees, but we must act now." Other critical themes addressed in the report include: land as a resource; desertification and land degradation; food security; and land and climate change responses. The approval of the Summary for Policymakers (SPM) of the Special Report on Global Warming of 1.5°C by the Intergovernmental Panel on Climate Change (IPCC) is deemed a victory for small-island developing states and especially for The UWI.



Global Collaboration

The projections of the IPCC report stimulated The Caribbean 1.5 Project: "1.5 to Stay Alive" funded by the Inter-American Development Bank (IDB) and the Caribbean Development Bank (CDB). The project is a collaborative one, with 45 regional climate scientists from 6 countries and 11 regional institutions, coordinated by The UWI's Climate Studies Group at The UWI Mona Campus.

Leading Research Facilities

The Centre for Resource Management and Environmental Studies (CERMES)

The Centre for Resource Management and Environmental Studies (CERMES) within the Faculty of Science and Technology at the Cave Hill Campus is playing a major role in coastal research — one of the primary areas of focus for The UWI's research agenda on climate action. CERMES' coastal research encompasses research on the deterioration of marine ecosystems and coastal erosion resulting from sea level and temperature rises as well as tropical hurricanes which have impacted livelihoods.

For almost 10 years, the Caribbean region has been experiencing massive influxes of the sargassum seaweed which negatively impact key social and economic sectors such as fisheries and tourism. Joseph Weekes, a lab technician based at CERMES is engaged in critical research using drone technology to map the growth levels of sargassum due to change in sea temperature. Other CERMES researchers are looking at innovative

uses for the seaweed that could reduce its environmental impact and reap economic benefits, among them its potential as an organic fertilizer and feed for livestock, and a number of product prototypes ranging from soap and flour, to plywood and biomass pellets.

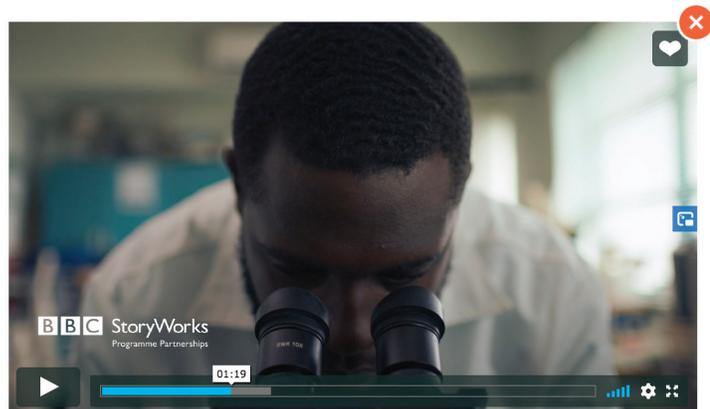
CERMES has a proud history of collaboration with regional and international partners through various applied research and outreach projects primarily in the Caribbean. In another critical area of climate change research, CERMES is working with the Caribbean Community Climate Change Centre (CCCCC) and the Caribbean Institute for Meteorology and Hydrology (CIMH) to build the scientific knowledge base and expand research capacity within the Caribbean. More specifically, their research has a focus on technical work packages of climate modelling, landscape processes, hydrological functions, water security and adaptation, and capacity building.



Leading Research Facilities
The Centre for Resource Management and Environmental Studies (CERMES)

BBC StoryWorks

In 2015, CERMES won the UWI Vice-Chancellor's Departmental Award for Excellence for its accomplishments. Its path-breaking research on sargassum was also featured in a video produced by BBC StoryWorks. The video entitled, "Tackling the Effects of Climate Change" is part of a multi-university collaborative project led by the International Association of Universities (IAU).



The Discovery Bay Marine Lab (DBML)

Located on the Mona Campus, the Discovery Bay Marine Lab (DBML) which specialises in marine biology and marine eco-systems, is the largest field research facility at The UWI. The lab was founded in 1968 by Professor Thomas F. Goreau and dedicated to supporting research and the teaching of biology and geology of coral reefs and the organism inhabiting them. The projects that are currently being given research priority focus on coastal resource protection and management, improving marine habitat quality and increasing the productivity of desirable ecosystem components to support livelihoods of those who depend on the Blue Economy.

Among these current projects include the management and control of the lionfish in Jamaica; the Northern Limestone Forest Conservation

Project; the IDB's Coral Reef Restoration Programme and Enhancement of Coral Reefs and Fish Habitat in Jamaica, Best Strategies for Determining Coastal Habitat Health Status and Priorities for Impact Mitigation and Ecosystem Restoration. The knowledge produced supports optimum management of the natural resources in Jamaica's coastal zone.

The lab was founded in 1968 by Professor Thomas F. Goreau and dedicated to supporting research and the teaching of biology and geology of coral reefs and the organism inhabiting them.



World class research facilities
The Discovery Bay Marine Lab (DBML) at The UWI Mona Campus.

Research Projects that are Changing the Game

The collaborative project known as **Water-aCCSIS** is contributing to the improvement of water management and climate change adaptation of Caribbean states. The development of adaptive management strategies helps to balance the sustainability of ecosystems and societal needs. The project was funded by the Canadian-based, International Development Research Centre (IDRC), and partners included The UWI Centre for Resource Management and Environmental Studies (CERMES), the Caribbean Community Climate Change Centre (CCCCC) and the Caribbean Institute for Meteorology and Hydrology (CIMH).

The **Regional Climate Science Initiative (RCSI)**, a project led by the Climate Studies Group, Mona (CSGM) looks at issues such as rainfall, the role of tropical oceans in driving climate change, hurricanes, trends in climate extremes, climate projections and modelling and the impact of climate change. The data produced has been used by countries in their reporting on the UN Framework Convention on Climate Change and in specialised country reports. RCSI is closely related to the Caribbean Climate Modellers' Consortium, and in 2018 hosted the annual meeting of climate scientists from leading institutions in Cuba, Barbados, Jamaica, Suriname and Belize, including the Caribbean Community Climate Change Centre.

The **Low Energy Greenhouse Gas Emissions (LGGE): Promoting Energy Efficiency and Renewable Energy in Buildings in Jamaica** project is a pioneering venture to research, assess and construct an **advanced prototype**

of a net zero/energy-plus building. Research conducted at the building will focus on renewable energy and practical, working solutions will be developed with the aim of transforming the use of energy in building policies and practices in Jamaica and across tropical and sub-tropical countries. The building is also designed to encourage the implementation of appropriate regulatory, educational and technical tools that will mainstream lessons and transform opportunities for promoting energy efficiency and increased use of renewable energy sources across these regions.

In December 2019, the Faculty of Engineering at The UWI St. Augustine

Campus created history when it launched its first Electric Vehicle Charging Station—in collaboration with Massy Motors, BELEC Power and Energy Solutions Limited, the Government Electrical Inspectorate (GEI) in the Ministry of Public Utilities, and the Electric Vehicle Company of Trinidad and Tobago. It is the first Level Two, 230-volt station in Trinidad and Tobago to be successfully installed and inspected by the GEI. As the **Caribbean Centre for Renewable Energy and Energy Efficiency's hub for E-mobility**, the St. Augustine Campus is leading the region in E-mobility research. This project assists the Faculty of Engineering in further research on E-mobility, including the impact on the nation's power system



First Electric Vehicle Charging Station
The St. Augustine Campus' First Electric Vehicle Charging Station launched on Tuesday December 10, 2019.

and the conversion of gasoline and diesel engines to electrical power trains. Future project plans include employing renewable energy technologies to power the electric charging stations.

The UWI St. Augustine Campus is also helping companies decrease their carbon footprint and by extension, support countries in meeting their international climate commitments. In partnership with the National Gas Company of Trinidad and Tobago (NGC) a carbon sink has been created—an area that can absorb carbon dioxide from the atmosphere. NGC, under its Sustainable Energy Strategy has been working to replant hectares of trees lost due to pipeline construction. Since 2005, 100,000 trees have been planted on 348 hectares of land. The **carbon sequestration study** led by Professor John Agard, and a research

team out of the Department of Life Sciences, Faculty of Science and Technology, calculated biomass by measuring each tree's height with a remote sensing technique called Light Detection and Ranging (LiDAR) and by checking each tree's diameter in order to determine the amount of carbon stored by a tree and ran samples of the wood through a carbon analyser. As of 2018, the trees had sequestered 2,243 tonnes of carbon and the research team estimated that the numbers would reach 5,228 tonnes by 2030. This amounts to at least 1% of the CO₂ tonnage that the country aims to cut from the transportation sector by that date.

To further enable the region make the essential transition to using our indigenous and plentiful renewable resources, The UWI received funding from the European Union and the

Inter-American Development Bank for a four-year project in Barbados, Jamaica, and Trinidad and Tobago that will **build support for innovation in renewable energy technologies**, as well as stimulate entrepreneurship in the sector. In addition, the Faculty of Science and Technology at The UWI Cave Hill Campus launched a **Renewable Energy Teaching and Research Laboratory** to strengthen linkages with private sector companies involved in renewable energy.

At the global level, a partnership with the United Nations University Institute for Environment and Human Security (UNU-EHS), the Munich Climate Insurance Initiative (MCII), the University of the South Pacific (USP), the United Nations Pacific Financial Inclusion Programme (PFIP), and The UWI has led to the establishment of the **Climate Risk**

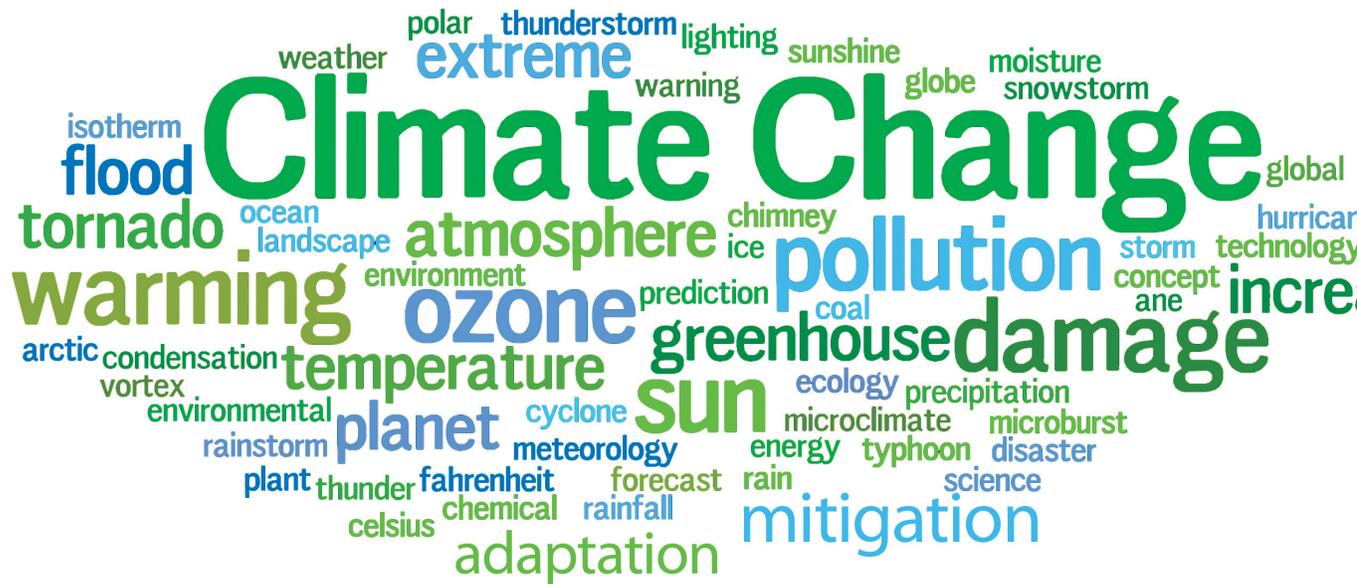


Total carbon sequestered by NGC planting

	2018 estimate	2030 estimate
Dump Road, Rio Claro (kg)	125	6,494
Edward Trace, Moruga (kg)	339,953	625,039
Grant Trace, Rousillac & Guapo-Parrylands, Morne L'Enfer (kg)	1,739,062	4,307,660
Mayaro (kg)	164,029	288,980
TOTAL carbon sequestered (kg)	2,243,169 (or 2,243 tons)	5,228,173 (or 5,228 tons)
TOTAL CO₂e (= Cx3.67) (tons)	8,232	19,187
Approximate value at European Union Allowance (EUA) spot price of €24.52 per tCO ₂ e on 8th April 2019	£201,849 (TT\$1,542,191)	£470,465 (TT\$3,594,502)

Carbon Sequestration Study, Office of Research Development and Knowledge Transfer, The University of the West Indies (The UWI) St Augustine, July 2018

NGC Gasco, 2019. Trappings of Success: NGC's Trees Make Carbon Inroads. (Volume 29), p.9.



Insurance Research Collaboration (CRIRC) to facilitate inter-regional South-South learning and research. At present the lion's share of economic losses stemming from climate change events are currently being borne by governments, development partners, communities and households resulting in an emerging population in climate poverty. The CRIRC research identifies ways to prevent climate poverty in Small Islands States.

In November 2019, The UWI, through its Seismic Research Centre was part of a collaborative effort with the Caribbean Disaster Emergency Management Agency (CDEMA), the Overseas Development Institute (ODI), the University of Portsmouth, and The University of East Anglia to host **a workshop on forensic analysis for research on disaster recovery**. This workshop brought together different stakeholders involved in recovery efforts after the eruption of the Soufrière Hills Volcano, Montserrat and Hurricane Maria's devastation of Dominica. Its aim was to seek to improve recovery planning; translate lessons from past events into policy, and change the fundamental understanding of recovery across the Caribbean.

Another Caribbean research project, funded by Global Affairs Canada focused on **strengthening resilience by Enhancing Knowledge and Application of Comprehensive Disaster Management (EKACDM)** among stakeholders in the region. It established an effective mechanism for managing and sharing

Comprehensive Disaster Management (CDM) knowledge used for decision-making among governments, local communities, private sector and voluntary organisations in the Caribbean. Included as part of the project was the development of courses at the master's level which will lead to an online graduate degree programme.

The Global-Local Caribbean Climate Change Adaptation and Mitigation Scenarios (GoLo CarSce) project, funded by the European Commission, focused on efforts to help SIDS within the Caribbean region better understand and manage the effects of climate change. The project was led by the Department of Life Sciences of The UWI St. Augustine Campus in association with The UWI Mona Campus, the Centre for Resource Management and Environmental Studies at The UWI Cave Hill

Campus, the Cropper Foundation, the Caribbean Agricultural Research and Development Institute, and the Stockholm Environment Institute. The project focused on socioeconomic scenarios which were developed to examine the medium to long-term effects of climate change based on projected impacts on human health, water availability, forest biodiversity, agriculture and coasts. This knowledge served to improve the countries' resilience and build their adaptive capacity towards promoting more sustainable forms of development and sustainable livelihoods.

Climate research initiatives such as these, advanced by UWI scholars working in close collaboration with development partners and other stakeholders, require a simultaneous focus on sustainability and advocacy, building on the activist traditions of The UWI as a developmental university.

Climate research initiatives such as these, advanced by UWI scholars working in close collaboration with development partners and other stakeholders, require a simultaneous focus on sustainability and advocacy, building on the activist traditions of The UWI as a developmental university.

Rescuing Our Mangroves

The Southern Clarendon Jamaica Mangroves Project

Along the south coast of Jamaica, known as Southern Clarendon, there is a 40 km-long coastline that should have healthy mangroves for all the ecosystem services these marine forests provide. However, of over 3,500 hectares of mangroves along this coast, more than 1,600 are dead and much of the rest is imperilled. Among the major contributors to the death of the mangroves are changes in hydrology arising from coastline alterations after large storms, falloff in agriculture and hence irrigation water flows, human impact through ill-conceived engineering works such as roads and train tracks that bisect mangroves; and felling of mangrove trees to produce charcoal by local communities.

The IDB has contributed a US\$2.45 million grant towards funding for the rehabilitation of the Southern Clarendon mangroves.

UWI Solutions for Developing Countries (UWI SODECO), an international research entity within the Vice-Chancellery, located at the Mona Campus, is currently implementing a project to sustainably restore damaged acreages of these mangroves. The IDB has contributed a US\$2.45 million grant towards funding for the rehabilitation of the Southern Clarendon mangroves.

One of UWI SODECO's major areas of focus is the rehabilitation and protection of coastal forests which contribute greatly to resilience to climate change and to the preservation and enhancement of livelihoods of individuals and communities.



Research for Rehabilitation
UWI researchers working on rescuing mangroves in Southern Clarendon, Jamaica.

A Pilot Programme for Climate Resilience (PPCR)

The world's largest climate change adaptation fund, the Pilot Programme for Climate Resilience (PPCR), is a US\$1.2 billion funding mechanism under the Climate Investment Funds (CIF). With support from the Inter-American Development Bank, as an accredited CIF entity, the PPCR is helping developing countries integrate climate resilience into development planning and investment.

The PPCR has a two phase programmatic approach—assisting national governments in integrating climate resilience into development planning across sectors and stakeholder groups, and providing additional funding to put these plans into action and to pilot innovative public and private sector solutions to pressing climate-related risks.

The Caribbean Regional Track of the PPCR is valued at US\$10.39 million. One of two regional tracks, aimed at addressing the current dearth of reliable data to manage climate risk in the Caribbean region, is coordinated by The UWI Mona Office for Research and Innovation (MORI). The objective of the project is to improve regional processes of climate relevant data acquisition, storage, analysis, access, transfer and dissemination, and pilot and scale up innovative climate resilient initiatives.



PPCR PILOT PROGRAM FOR CLIMATE RESILIENCE

Caribbean Regional Track of the PPCR

Some of the major achievements of the Caribbean Regional Track of the PPCR to date include:

- **LIDAR Data acquisition** conducted for three vulnerable sites in Jamaica and Haiti. Data products including Bathymetry for Haiti and Topography and Bathymetry for Jamaica.
- **Data storage, back-up and fail-over systems** installed in Belize, Trinidad and Barbados for the housing of all of the Caribbean Climate Data.
- **Automatic Weather Stations** acquired for Dominica, St. Lucia and St. Vincent and the Grenadines.
- **Acquisition of a super-computer (SPARKS)** for use by Climate Studies Group Mona to do downscaling.
- **Development of an early warning platform** for use by fishers (FEWER).
- **Refurbished Seed Bank** at Bodles Jamaica.
- **Research on use and vulnerability of Rainwater Harvesting Systems** in Jamaica, Grenada and Saint Lucia.
- **Seed Batch dryers** acquired for Jamaica and CARDI stations in Belize and Antigua.

Building Capacity Through Teaching

The UN's Sustainable Development Goal 13 calls for Climate Action, with Target 13.3 underscoring the need to *"improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.* The UWI contributes to the achievement of this goal by offering not only climate-focused academic programmes within the pure and natural sciences but also, the integration of climate courses into other programmes such as social

sciences and engineering. Academic and highly skilled technical staff from a range of disciplines and faculties have come together, often partnering with regional and global institutions, to roll out numerous programmes at the doctoral, master's, undergraduate, diploma, and certificate levels as well as continuing professional education courses.

The teaching programmes offered by and through The UWI are collectively designed to complement its research

agenda on climate change and sustainable development across three dimensions—economic, environmental and social—and to equip Caribbean leaders and technical managers in the public and private sector, civil society and development institutions with the knowledge and skills to advance the implementation of SDG 13 (Climate Action) across the region. The UWI's role in providing higher education access thus helps communities build capacity and nurture the values and attitudes needed to support more resilient and sustainable pathways to development.

Climate Studies

In the pure and applied sciences at The UWI Mona Campus, students can elect to do research-driven programmes on Marine Sciences, Environmental Management and Climate Studies and Environmental Biology. The Cave Hill Campus has research specialisations in Biological and Chemical Sciences, Hydrogeology and Meteorology, while the St Augustine Campus offers a PhD in Geography. The Environmental Biology programme, also offered at the St. Augustine Campus examines inter alia, the effects of pollution on living organisms, environmental health, control of vectors of human diseases and ecosystem services.

In addition to a necessary focus on pure science, the social sciences have been integrated as a prime disciplinary partner, recognising the need for management and leadership skills in the battle against climate change. Courses such as

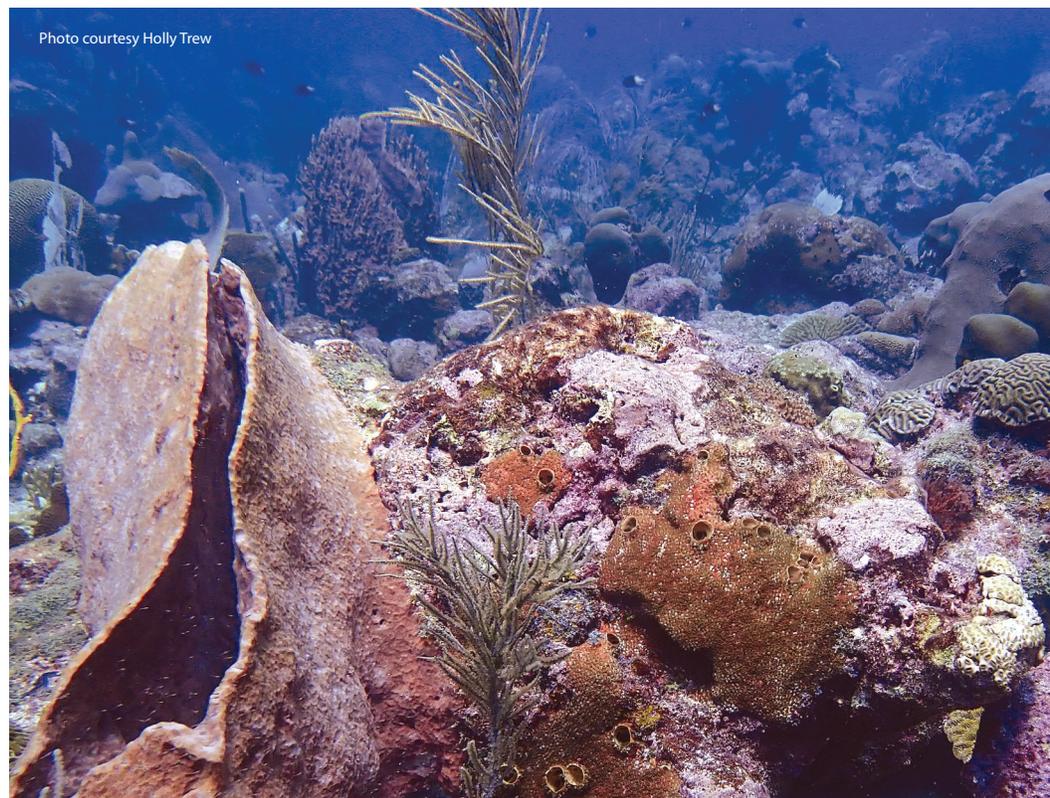


Photo courtesy Holly Trew

► Building Capacity Through Teaching

Climate Change: Policy and Economic Options for Small Island Developing States are offered as an elective within the MSc Global Studies programme at the Institute of International Relations, St. Augustine Campus. The Arthur Lok Jack Global School of Business, also at St. Augustine, offers a Master's and a Postgraduate Diploma in Business Administration among its suite of taught programmes with the aim of training a cadre of professionals as entrepreneurial leaders of sustainable energy projects, providing them with skills to support the diversification of economies, transitioning from an oil and gas energy sector to sustainable and renewable sources.

The Climate Studies Group Mona (CSGM) formed within the Physics Department of The UWI Mona Campus in 1994, has brought together faculty, consultants and students to investigate the mechanisms responsible for extreme climatic conditions in Jamaica and the wider Caribbean. The Group also promotes the advantageous use of climate prediction and climate modelling and offers academic programmes in Climate Studies.

At Cave Hill, the high demand for trained technical personnel, executives and other professionals in sustainable energy systems is being met by the Renewable Energy Teaching and Research Laboratory. This Lab contributes to the equipping of students with the knowledge and skills necessary to build a climate-resilient environment while meeting the energy needs of society. Award-winning Centre for Resource Management and Environmental Studies (CERMES), has a distinguished record in tropical island environmental management including natural and water resource management and has doctoral and master's students specialising in Environmental Studies, Natural Resource Management, Environmental Management, Climate Change and Tropical Coastal and Marine Resource Management. The Natural Resource and Environmental Management programme trains students in mechanisms and policies for sustainable use and management of natural resources in the Caribbean, looks closely at the potential impacts

of climate change on natural and socio-economic systems and exposes students to international policy frameworks for addressing climate change.

Doctoral programmes require students to carry out original research and produce innovative solutions. One example is Holly Trew, PhD candidate and Demonstrator in Biology, who is researching the degradation of coral reefs from marine sponge erosion, enhanced by human activity and coastal nutrient run-off. Her work highlights the destructive activity of these sponges on Barbados' reefs, which are an important resource for the island's tourism, and as natural barriers against wave action and storms. Her research was featured in a mini-film series entitled "Youth Action on the SDGs", funded by the United Nations Development Programme.

Photo courtesy Holly Trew, pictured here on one of her research diving expeditions.



Specialist Training

Concentrating on coastal degradation, the Department of Civil and Environmental Engineering at the St. Augustine Campus trains diploma and master's students in Coastal Engineering and Management. The Faculty of Food and Agriculture's concern with food security is demonstrated through its graduate programmes in Human Ecology and Tropical Animal Science and Production. The Faculty also fosters learning at community levels,

targeting both Small Medium and Micro Enterprises (SMMEs) and individuals through short courses such as Climate Smart Food and Agriculture Systems tailored for homeowners, farmers, gardeners, conservationists and agri-entrepreneurs. The Department of Life Sciences at the Faculty of Science and Technology at St Augustine supplies the region with qualified professionals in Biodiversity Conservation and Sustainable Development in the Caribbean. Along

with a comprehensive knowledge of the concepts and principles of science and environmental management issues related to tropical biodiversity, this programme teaches advanced practical skills in environmental monitoring, impact analysis, environmental and data management. One of its primary goals is to develop competencies within the energy sector thus ensuring that this sector contributes to lowering carbon emissions across the Caribbean.



Hydroponic systems developed by students of the Faculty of Food and Agriculture at The UWI St Augustine campus

Photos courtesy Maria Nunes

Global Teaching Collaborations

Partnerships in global teaching further extend the reach of The UWI's academic programmes. The new Global Institute for Climate Smart and Resilience Development (GICSRD) is expected to harness the University's teaching and research excellence in areas linked to climate studies and strengthen regional and global collaborative efforts, knowledge and capacity development to support transformative action for building more resilient and sustainable societies in the Caribbean.

The SUNY-UWI Center for Leadership and Sustainable Development, a joint programme between SUNY's Empire State College and The UWI Open Campus offers a freshly minted postgraduate certificate. It is the first programme designed under an MOU between The UWI and SUNY Empire State College, paving the way for a dual award degree and certification. It aims to help build the knowledge and skills base on the Sustainable Development

Goals (SDGs) within the Caribbean and New York State, exposing students to the concepts underlying economic development and issues related to achieving sustainable development at community and national levels. The five-course, yearlong certificate leverages online and distance learning methods. The UWI leads two of the courses: Concepts for Sustainable Development; and Ethics, Policy Formation and Governance, while SUNY Empire State College teaches three courses: Principles of Community and Economic Development; Leadership in Public and Non-Profit Organisations; and Stakeholder-sensitive Business Models.

In 2017, a collaboration with UNDP, PEMANDU Associates of Malaysia and the Caribbean Development Bank (CDB) led to a customised online course, *Transformational Leadership to Achieve the Sustainable Development Goals (SDGs)*. Designed by The UWI Open Campus and accessible to

participants globally, this leadership course enables capacity building in the application of transformational leadership principles and the Big Fast Results (BFR) Methodology to overcome implementation challenges when executing inter-sectoral development programmes. The short-term, 40-hour course covers core elements from the fields of leadership, results-based management, sustainable development and the execution of inter-sectoral projects. Several governments in the Caribbean have already sponsored participants in this course, which is considered critical to assisting countries with the execution of national programmes aimed at achieving SDG targets. By building a cadre of Caribbean professionals trained in transformational leadership and the BFR Methodology, this course will help to correct implementation deficit challenges, thereby building stronger and more sustainable institutions in the Caribbean.



THE UNIVERSITY
OF THE
WEST INDIES



The State University
of New York

**SUNY UWI CENTER
FOR LEADERSHIP AND
SUSTAINABLE DEVELOPMENT**

Postgraduate Certificate in Leadership for Sustainable Development

***Delivered online jointly
by The UWI Open Campus and
the SUNY Empire State College***



Building Partnerships with Purpose

The interconnected social, economic and environmental challenges faced by societies across the globe cannot be overcome without collaboration among institutions of higher education presenting a global resilience strategy through thought leadership and practical solutions. As The UWI continues to bolster its leadership on climate-smart research, practices and advocacy, it has placed emphasis on nurturing and expanding its network of regional and global partnerships.

Universities play a unique role in helping countries achieve the Sustainable Development Goals (SDGs) by serving as drivers of knowledge, skills, innovation and development solutions. Harnessing the synergies that emerge from The UWI's regional and global partnerships is pivotal to localisation of the SDGs in the Caribbean and the regional University has become an ideal partner throughout its more than seven decades of service and leadership.

Collaboration across the Commonwealth

The Association of Commonwealth Universities (ACU), with its membership of an estimated 500 institutions in over 50 countries recognises that universities have a critical role to play in building climate resilience across the Commonwealth. For this reason, in 2018, the ACU established a Commonwealth Climate Resilience Network (CCRN) to link universities in climate vulnerable settings with those universities with relevant expertise, to develop and exchange knowledge and practice in climate resilience and adaptation. One year later, The UWI was host to the Network's first meeting, aimed at collaborating on climate challenges and resilience. Convened

in partnership with the University of South Pacific and Fiji National University, the meeting provided a structured opportunity for sharing good practice and exploring potential for collaboration.

Caribbean Climate Modelling Consortium

For over 25 years the Climate Studies Group at The UWI Mona Campus (CSGM)—comprising faculty members, consultants, technical staff and postgraduate students—has worked together to increase understanding of the workings of local, regional and global climate. In 2018, CSGM and the Investment Plan for the Caribbean Regional Track of the Pilot Programme for Climate Resilience (PPCR)

established the Caribbean Climate Modelling Consortium. As a regional initiative, this Consortium examines new climate projects, emerging science issues and funding opportunities; analyses and disseminates the latest modelling scenarios; and provides an opportunity for networking among researchers and practitioners. Members include representatives from Cuba, Haiti, Guyana, Trinidad and Tobago, Barbados, Belize, Saint Lucia, Suriname, Germany, California and Jamaica. Recognising an increase in political acceptance of the need for climate considerations in development, the role of the Consortium is critical in providing the necessary climate data and information to build resilience in the University and the region.



Commonwealth Climate Resilience Network (CCRN) Participants at the Association of Commonwealth Universities' first Climate Resilience Network Meeting hosted by The UWI.

Collaborating to encourage innovative thinking

In 2019, the CO² Emission Reduction Mobilisation (CERM) Project partners, comprising The UWI, the University of Texas and the University of Trinidad and Tobago (UTT) using a method of Carbon capture and geological storage (CCS), hosted a symposium to discuss the retrieval of greenhouse gases from industrial facilities and underground storage as a means of preventing their release into the atmosphere where they contribute to climate change. At the symposium, Dr. Lorraine Sobers, CERM Project Coordinator and Lecturer in Petroleum Engineering at The UWI St. Augustine Campus shared public perspectives on greenhouse gas emission reduction in Trinidad and Tobago. She highlighted opportunities for carbon dioxide emission reduction through CCS and Carbon Dioxide Enhanced Oil Recovery (CO₂EOR) and the need for methane emission reduction. CERM will focus on building public awareness of the initiative, capacity building at educational

institutions, international partnerships and local research and development.

Advancing resilience best practices globally

In October 2019, The UWI became a member of a growing network of over 30 leading institutions engaged in resilience research through the Global Resilience Research Network (GRRN). Launched in 2018, under the auspices of the Global Resilience Institute (GRI) at Northeastern University in the US, the GRRN is a worldwide body which informs the development of new tools and applications to advance resilience best practices. The UWI is expected to be a key contributor to the GRRN's Island Resilience Initiative (IRI) bringing technical expertise through faculty researchers in sustainability, resilience, and disaster risk reduction. The IRI aims to develop an action plan for a US-Caribbean Resilience Partnership, taking a system-of-

systems approach that recognises the interdependencies among the built, natural, and social elements of communities and societies.

Creating the world's first climate-smart zone

In an unprecedented move, a coalition of 26 countries and over 40 private and public sector partners, came together to create and implement climate solutions for resilience, renewable energy and the development of sustainable cities. It was the launch of the Caribbean Climate-Smart Accelerator, a ground-breaking initiative to make the Caribbean the world's first climate-smart zone, hosted by The UWI in August 2018. The Accelerator initiative is working to fast-track sound public and private investment opportunities that support climate action and economic growth through sustainable development. Usain Bolt, Jamaica's eight-time Olympic Gold Medal winner, and internationally acclaimed dancehall



◀ **Climate-Smart Accelerator**
Attendees of the Climate-Smart Accelerator Launch event included (from left) President of the InterAmerican Development Bank (IDB), Luis Alberto Moreno, CEO & Founder, Writing Legends, Christy Butcher, Jamaica's Prime Minister, The Most Honourable Andrew Holness, Virgin Group Founder, Sir Richard Branson, Jamaica's Minister of Foreign Affairs and Foreign Trade, The Honourable Kamina Johnson-Smith, Vice-Chancellor of The UWI, Professor Sir Hilary Beckles and Olympic Gold Medal Winner and Ambassador of the Accelerator, Usain Bolt.

artiste, Sean Paul, were both appointed Accelerator Ambassadors, to promote the work of the Accelerator to support climate-smart action in this region. One example of the Accelerator already working for the region is the installation of 20 solar water purification panels on the roof of the children's ward at the University Hospital of the West Indies, in Kingston Jamaica. Zero Mass Water Inc., in collaboration with the Caribbean Climate-Smart Accelerator, donated the panels, which use the technology, called Source, to produce water from sunlight and air. The panels provide free, clean drinking water to staff, patients and visitors to the University Hospital and will last for at least 15 years.

Tackling the Caribbean's climate and disaster risks

UWI experts joined more than 500 delegates from major development partners, donor agencies and members of the private sector who

came from all regions and gathered in Barbados in 2019, to discuss priorities and solutions needed to tackle the Caribbean's climate and disaster risks. The three-day Understanding Risk (UR) Caribbean conference was organised by the European Union, World Bank and Global Fund for Disaster Risk Reduction in partnership with the Government of Barbados and the Caribbean Disaster Emergency Management Agency (CDEMA). Within the framework of the CARICOM pathway to resilient development, The UWI and CDEMA agreed to join efforts in advancing a methodology and product that allow for more objective measurement of social vulnerability. Additionally, the University is engaged in continuing dialogue to roll out a resilience-building facility in collaboration with World Bank, CDEMA, the CARICOM Regional Organisation for Standards and Quality (CROSQ), Caribbean Development Bank (CDB), and the Organisation of Eastern Caribbean States (OECS).

Strengthening Caribbean ecosystems

In keeping with a joint UWI-IDB work plan for 2018-2019, The UWI partnered with the IDB and Development Bank of Jamaica to meet on *Promoting Dynamic Entrepreneurship in the Caribbean Region*, which combined dialogues across synergistic thematic areas linked to science, technology and innovation. During a three-day conference, the regional institutions focused discussions on how to strengthen ecosystems that support dynamic entrepreneurship and innovation in the Caribbean region and a consultation on the way forward to promote the region's Blue Economy. It culminated with a symposium themed *One Caribbean Solutions*, convened by Universities Caribbean, and which brought together university presidents from the Executive of Universities Caribbean to discuss practical approaches for leveraging the knowledge assets of universities across the Caribbean to provide solutions to development challenges shared by English, Spanish, French and Dutch Caribbean countries.



Promoting Dynamic Entrepreneurship in the Caribbean Region

L-R: Dr. Stacy Richards-Kennedy, Director of Global Partnerships and Sustainable Futures, The UWI; Vice-Chancellor of The UWI, Professor Sir Hilary Beckles, the Hon. Fayval Williams, Minister of Science, Technology and Energy, Jamaica, Mr. Milverton Reynolds, Managing Director, DBJ, Ms. Audrey Richards, Coordinator – Jamaica Venture Capital Programme, DBJ and Jose Jorge Saavedra, Lead Operations Specialist – Regional Programs, Inter-American Development Bank.

The UWI-UNDP Blue Economy Think Tank

Recognising both the threat to and treasures from the Blue Economy, The UWI Cave Hill Campus has been intensifying its focus on sargassum research. In 2015, the Campus' Sargassum Symposium brought together scientists from across the University, with key stakeholders in Caribbean tourism, business, and fisheries, to address the Sargassum invasion. Rather than simply assess the threat posed to tourism and marine life, the Symposium took a different perspective—exploring innovative uses for the seaweed that could reduce its environmental impact, while reaping economic benefits for local communities.

In response to the challenges Caribbean islands are facing with sustainable use of marine resources, in 2017, The UWI and UNDP formalized joint collaboration in targeted areas. By 2019, the UWI-UNDP Public Policy

“The Caribbean Sea, around which approximately 115 million people live, accounts for 1% of the global ocean area and 14% of the global ocean economy; so partnership on the Blue Economy is therefore significant for our region.”

Professor Sir Hilary Beckles, Vice-Chancellor, The UWI

Think Tank for a Blue Economy (the first of its kind in the region) was established to strengthen the linkages between university research and public policy on critical matters surrounding activating the region's blue economy.

This collaboration builds on UNDP's Accelerator Labs, a new way of working

in development. The organisation established 60 Accelerator Labs across the world, with one in Barbados—the only based in the Caribbean—and focuses on promoting innovation and community engagement on blue economy related sectors.



UWI-UNDP

(From left to right) The UWI Pro Vice-Chancellor and Professor of Practice, Global Affairs, Ambassador Dr. Richard Bernal; The UWI Pro Vice-Chancellor and Campus Principal, Open Campus, Dr. Luz Longworth; The UWI Director of Global Partnerships and Sustainable Futures, Dr. Stacy Richards-Kennedy; The UWI Vice-Chancellor, Professor Sir Hilary Beckles; UNDP Assistant Secretary General and Regional Director for Latin America and the Caribbean, Dr. Luis Felipe López Calva; UNDP Regional Advisor, Latin America and the Caribbean, Kenroy Roach and UNDP Regional Partnership Advisor, Francesca Nardini.

Advocacy

The UWI has been a leading advocate for climate action, adopting a collaborative approach with regional governments, the private sector, civil society, international universities, multilateral development partners and other social actors. Advocacy efforts are connected directly towards the UN's Sustainable Development Goal 13, Target 13.3. The regional University recognizes that self-organisation, collaboration, advocacy and activism are critical for the Caribbean to achieve the SDGs.

A Global Leader in Mobilising Higher Education and Research

In 2019, the International Association of Universities (IAU), an affiliate body and higher education think tank for UNESCO, selected The UWI as its global leader in the mobilisation of higher education and research for sustainable development.

This designation recognised the significant contributions The UWI had already made through decades of research and advocacy on climate change and sustainable development, including climate modelling, environmental protection, marine

ecosystems, disaster risk reduction and resilience and climate and eco-systems policy initiatives. Since then, The UWI established the Global University Consortium on SDG 13, bringing together 10 universities from across the globe, committed to deepening the role of academia in advancing climate action and its interlinkages across the SDGs.

The UWI's leadership of this consortium enables the amplification of the voice of academia to advocate for climate change on the global stage. Seizing the

opportunity presented by the United Nations High Level Political Forum (HLPF) 2019, the Global University Consortium on SDG13 in collaboration with the United Nations Department of Economic and Social Affairs (UNDESA), hosted a symposium *entitled Research & Innovation 4 Climate Action* at the UN Secretariat in New York.

HLPF is the main UN platform on sustainable development and has a central role in the follow-up and review of the 2030 Agenda for Sustainable Development. During

A Global Leader in Mobilising Higher Education and Research



The UWI's Institute for Sustainable Development (ISD) and Director of the Centre for Environmental Management (CEM), Dr. David Smith presenting at the UNDESA a symposium themed, *Research and Innovation 4 Climate Action* co-hosted by The UWI. Dr. Stacy Richards-Kennedy, Director, Office of Global Partnerships and Sustainable Futures at The UWI is seated in the foreground at head of the table.

GLOBAL UNIVERSITY CONSORTIUM ON SDG 13

	Caribbean	The University of the West Indies (Lead Institution)
Africa	Ghana	University of Ghana
	South Africa	University of Witwatersrand
Asia & the Pacific	India	TERI School of Advanced Studies
	South Pacific	The University of the South Pacific
Europe	Norway	University of Bergen
	U.K.	University of Bristol
Latin America & the Caribbean	Aruba	University of Aruba
	Colombia	Universidad de los Andes
North America	Canada	University of Waterloo
	U.S.A	State University of New York



Target 13.3

Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.

the 2019 Forum, it focused on the review of six SDGs including Goals 4 - Quality Education, 13 - Climate Action and 17 - Partnerships for the Goals. Consequently, The UWI organised the participation of Consortium members to further demonstrate the synergies between these three SDGs, and featured the cutting-edge research being undertaken by universities in different regions to combat climate change, along with mechanisms for fostering greater integration of research and innovation into development planning.

At another HLPF event convened under the auspices of the UN Economic and Social Council, Dr. Stacy Richards-Kennedy, The UWI's Director of Global Partnerships and Sustainable Futures, served as a lead discussant on a panel entitled "Perspectives of Small Island Developing States". The forum was used to highlight the work of The UWI in contributing to advancing quality education in the Caribbean.

Against this global backdrop, the SUNY-UWI Center for Leadership and Sustainable Development (CLSD)

in collaboration with the Global University Consortium on SDG 13, followed with a symposium entitled *Global Partnerships for Climate Action* in September 2019 at the SUNY Global Center in New York. This Symposium focused on partnerships in academia to strengthen the interface between knowledge, policy and practice; the practical application of research into climate innovations; as well as research communication and advocacy in generating much-needed development impact at the grassroots level and targeting areas for follow up action.



Panelists from the IDB, World Bank, Association of Caribbean States, Zero Mass Water Inc., University at Buffalo and The UWI at Global Partnerships for Climate Action—a symposium arranged by The Global University Consortium on SDG-13 and The SUNY-UWI Center for Leadership and Sustainable Development (CLSD) in New York in September 2019.

Leading Climate Advocacy

As an activist university, The UWI views advocacy as both action and communication. Cognisant of its commitment to be its neighbours' keeper, The UWI demonstrated this when several Caribbean territories were pummelled in rapid succession by fierce and powerful category five storms during the 2017 hurricane season. The UWI's approach included a rapid response phase, which provided emergency relief aid and experts to assist in the areas of greatest need such as infrastructure, housing, agriculture, tourism, and psychosocial counselling. Simultaneously, the University collaborated with the Caribbean Disaster Emergency Management Agency (CDEMA), as well as Heads of Government to mobilise its resources and expertise to provide support and

The UWI and the State University of New York (SUNY) joined with a non-profit organisation, All Hands and Hearts – Smart Response in a charitable initiative to rebuild a preschool in hurricane ravaged Dominica.

relief to the affected territories. More recently, UNDP awarded The UWI a grant of close to US\$100,000 for the implementation of a post-hurricane Dorian resilient recovery programme in the Bahamas.

Internationalising student advocacy and commitment to sustainable development through its established partnerships, The UWI and the State

University of New York (SUNY) joined with a non-profit organisation, *All Hands and Hearts – Smart Response* in a charitable initiative to rebuild a preschool in hurricane ravaged Dominica. Fourteen students; seven from The UWI and seven from SUNY – New Paltz, and a faculty member from each institution travelled to the island of Dominica to rebuild the Morne Prosper Pre-School and restore the attached primary school.



Advocacy in Action
Undergraduate students from the four UWI campuses pose for a photo during their volunteer trip in Dominica. Back row: Khaleid Holder (Staff Liaison, Cave Hill), Audley Bakker (Cave Hill), Chloe Estava (Open), Giovanni Charles (Open), Front Row: Tanice Brown (Mona), Prashant Birbal (St. Augustine), Abigail Herrera (St. Augustine) Malikah Pino (Cave Hill).

Climate Justice

The effects of climate change exacerbate inequalities and development gaps and place a disproportionate burden on the poor and vulnerable. There's a dimension to climate change that goes beyond the purely environmental or physical, termed 'climate justice'. This term describes the political approach to understanding climate change and its differential effects on vulnerable populations and ecosystems. It is well known that the majority of

developing states contribute little to the overall causes of climate change, while demonstrating a low capacity to resist/recover from its effects which stems from factors such as geography, proportion of the country's population dependent on agriculture, inequalities in access to services and appropriate technologies and the historical exploitation to which many countries have been subjected. The latter is a circumstance all too familiar in the Caribbean region. In January 2020, The

UWI Mona Climate Studies Group, in collaboration with Rutgers Global and Rutgers Advanced Institute for Critical Caribbean Studies hosted a symposium to address these issues. The symposium was themed *UWI Climate, History, & Responsibility: Climate Justice in the Caribbean* and provided a platform to discuss the environmental, economic, structural, and long-standing historical dimensions of global climate change impacting the Caribbean region.

Caribbean Youth in Action

The UWI is consistently preparing Caribbean youth to become climate literate and to advocate for climate justice. Recognising Caribbean's youth as the best proponents and as the next generation of leaders and decision-makers, the Office of Global Partnerships and Sustainable Futures (formerly Office of Development) launched the SDG Youth Advocacy Campaign in 2017, with support from the United Nations Development Programme (UNDP). The online launch for the project featured Caribbean youth activists including Michael Joseph from Barbados, Project Coordinator of The UWI Youth Development Project (UWI-YDP); Malene Joseph of Trinidad and Tobago, representing the Global Shapers Community, Port of Spain Hub and Leanna Kalicharan from Guyana representing the Youth Arm of the Sustainable Development Solutions Network (SDSN) Caribbean Chapter.

"This project was conceptualised by The UWI to bring the SDGs more into focus for UWI students across its campuses and for Caribbean young people to speak out" explained Dr

Stacy Richards-Kennedy, Director of the Office of Global Partnerships and Sustainable Futures. "This generation will be in the prime of their professional careers by the year 2030 and therefore, need to truly understand and 'own' the SDGs from now. By using digital technology, social media and our UWItv platforms, young people and youth NGOs can connect with each other, support each other's initiatives, activate their networks and become more involved in creating the Caribbean they want to see by 2030."

Within the University itself, The UWI Vice-Chancellor's STAT (Students Today, Alumni Tomorrow) Ambassador Corp is uniquely positioned to take its messages to the wider regional student body of almost 50,000 youth, multiplied when one considers their networks. Similarly, the myriad web options to influence and challenge political and other debates, can empower student (far more than previous generations) to advocate for progressive climate actions. In recognition and celebration of the University's 70th Anniversary in

2018, UWISTAT hosted a Climate Change Forum themed, *The Eye of the Storm: The Implications of the Paris Agreement/Climate Change and the "Right to Life" for Caribbean Youth*. The forum was held synchronously at the University's Cave Hill, Mona and St Augustine campuses and streamed live on UWItv, exposing viewers to the evidence and relevance of climate action, emphasising what can and must be done to change patterns. On November 29, 2019, the UWI STAT convened for a virtual forum under the theme *Ecopreneurship and Climate Action*, and again, on March 5, 2020, youth advocates at The UWI gathered with regional climate scientists for discussion on *Climate Action and the other SDGs: Synergies for Caribbean Survival*.

UWISTAT attended the Sixth Annual International Conference on Sustainable Development (ICSD) held at the Columbia University in New York in September 2019, making presentations under the theme: *Climate Change and the SDGs in the Caribbean: Youth-Led Virtual Forums Advocate for Unified Regional Action*.



◀ **'Dusk Discovery'** captured by Hakeem Thompson of The UWI Cave Hill campus, received special mention in the photography competition which was one aspect of the SDG Youth Advocacy Campaign.



“This forum gives us an opportunity to make our contribution to the awareness of climate change because it affects us all.”

Mr Howard Brown
Open Campus Corps

“It is our time to become truly well equipped to educate others such that we can make active contributions in all spheres including policy making. We wish this Climate Change forum to involve Caribbean youth as we at UWI STAT act as catalysts to set the direction for sustainable development in the Caribbean. We must evolve rather than dissolve under the threats of Climate Change.”

Ms Darcelle Modeste
St. Augustine Corps

“Rising sea levels will not only lead to the disappearance of coastal lands, but, also can result in sea water entering aquifers / fresh water sources making it likely that drinking water will become scarce, this will also dramatically affect irrigation for farming. As youth of the Caribbean, and leaders of tomorrow it is our duty to not only discuss but advocate for greater awareness and work towards solutions, mitigation and methods of adaptation.”

Ms. Asha-Gaye Cowell
Mona Corps

“From the student perspective, we are committed to seeing our university strive and committed to put our university in a position to shine. A regional conversation does just this and we hope that all UWI students will link up with us to become Climate Change Advocates.”

Ms Sheriece Viechweg – Cave Hill Corps

Tracy-Ann Hyman, a Research Assistant with the Climate Studies Group was a participant in the Clinton Global Initiative University (CGI U). It is a year-round leadership development programme, where students collaborate and learn from a network of alumni and leaders from business, government, academia, and civil society. Students develop their own Commitments to Action — new, specific, and measurable projects to address pressing challenges in their communities.

“While pursuing my Master’s Degree in Sustainability Science, I realised that my approach to challenges was not to dwell in the problem identification phase but to automatically shift into solutions mode. I thrive in finding solutions to problems. The Caribbean region is one of the most disaster-prone regions in the world, and when Hurricane Dorian devastated the Bahamas in 2019, I made a promise that this level of casualty should not occur in my region when the technology exists to help. With more extreme weather events expected due to the mounting effects of climate change, along with increasing rates of urbanization and aging infrastructure, flooding presents a major challenge for the region. Planning for emergencies like flooding, however, is subject to several challenges within the Caribbean, including issues with vulnerability assessments, outdated maps, and a reactive approach to planning and development. My Commitment to Action is focused on creating Information and Communication Technologies (ICTs) to develop community early warning systems that will save lives and safeguard property from hazards. My team and I are developing a Flood Planning and Impact Tool (FPIT) that aids disaster planners in making faster, smarter, and better decisions so that Caribbean nations can prepare and plan for worst-case scenarios.”

Tracy-Ann Hyman, speaks about her Clinton Global Initiatives University (CGI U) 2020 Commitment to Action



Power Recycling **Warning** **Resources** **CLIMATE** **Business** **Risk** **Planet** **Weather**
Temperature **Global Warming** **CLIMATE** **CLIMATE** **Climate** **Planet Earth** **Weather**
Levels **Saving** **Forest** **Fossil Fuel** **Growth** **Greenhouse** **Understand** **Industries** **Politics** **Time** **Biotic** **Variation**
Eco **Solar Radiation** **Heat** **Nature** **Emissions** **Business** **Climate** **Planet Earth** **Weather**

Sustainability Practices

The University's footprint in responding to climate change continues to receive international recognition for world class research and activism as well as for strengthening the Caribbean's resilience in the face of increasing threat. The UWI has fully embraced sustainability as a priority, not only in research and teaching but also in its institutional practices.

Living and Working Sustainably

A series of exciting sustainability practices at the University which focus on campus-based projects and engage with global partners are helping The UWI move closer towards sustainable climate action goals for 2030.

At Cave Hill, since 2017 the campus has been conducting training workshops in Solar PV and Biogas Technology involving various industries and the agricultural sector. Since 2015, the

Campus has also had an electric vehicle charging station which was introduced as part of its Green Campus Initiative.

Another significant project is the Mona campus' co-generation plant. Co-generation is a more thermodynamically efficient use of fuel that both generates electricity and makes use of the thermal energy produced in fuel combustion, for heating and cooling purposes. This has resulted in major cost savings for the Campus.

At Mona, solar panels have been installed on the Faculty of Medical Sciences' building and on student accommodation halls. A rooftop garden has also been created on the building and water is sourced from underground wells. The Solid State Electronics Research Laboratory in the campus' Department of Physics has focused on the utilisation of alternate energy sources through photovoltaic cells. With the assistance of the Environmental Foundation of



Co-Generation Plant at The UWI Mona Campus

Jamaica, the Physics Department is also assessing the use of wind-generated electricity in St. Elizabeth, Jamaica. The first phase of that project has been completed and plans are underway to investigate the feasibility of developing Wind Farms in some areas of this parish, known as the “bread basket” of Jamaica because of its focus on agriculture.

Mona also became home to the Caribbean region’s first Net-Zero Building (NZEB). It was constructed in 2017, with the support of a US\$500,000 grant from the Global Environmental Facility (GEF) and with the technical assistance of the United Nations Environment Programme (UNEP). The project served as a prototype for the construction of similar structures in

the region. Net-Zero Buildings produce enough renewable energy to match their energy consumption requirements. The UWI’s NZEB will reduce energy consumption by 40% and save up to 30% in water consumption. This is crucial on a campus that has long faced water challenges as well as in a country and region increasingly plagued by changing rainfall patterns and drought. The building’s design is adapted to local climate conditions and includes greater resilience to natural disasters and can be used as an emergency shelter. The building is also designed to encourage the implementation of appropriate regulatory, educational and technical tools that will mainstream lessons and transform opportunities for promoting energy efficiency and increased use of renewable energy sources across these regions.



 The Caribbean region’s first Net-Zero Building (NZEB) at Mona Campus.



Charging the Station
Pro Vice-Chancellor and Campus Principal Professor Brian Copeland and Dr. Sanjay Bahadoorsingh, Deputy Dean, Enterprise Development and Outreach and Senior Lecturer in the Department of Electrical and Computer Engineering using the charging station at the launch.



Electric vehicle charging station at the Cave Hill Campus which was introduced as part of its Green Campus Initiative.

The UWI St. Augustine is currently transitioning towards instituting a no-single-use plastic zone and has begun strategically installing water coolers to replace bottled water. The campus also offers public workshops promoting sustainable practices and has ongoing research in geothermal energy, solar thermal energy, solar photovoltaic and wind energy. In 2019 St Augustine made further strides in becoming climate-smart. Its Faculty of Engineering, through a collaborative effort, with Massy Motors, BELEC Power and Energy Solutions Limited, the Government Electrical Inspectorate (GEI) in the Ministry of Public Utilities, and the Electric Vehicle Company of Trinidad and Tobago, successfully installed the first level two Electric Vehicle 230-volt Charging Station on this campus to help reduce the campus' carbon footprint. Future plans for this project include employing renewable energy technologies to power other electric charging stations.

Practice becomes policy

The UWI student body has also been doing its part. In 2019 the Guilds of Students collectively presented *The University of the West*

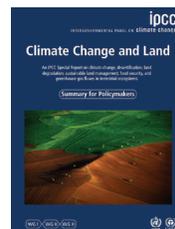
Indies Environmental Protection and Sustainability Policy to University Council. It was approved. The policy underscores that under the 2030 Agenda for Sustainable Development, The UWI must take action and make its contribution to protect the region which has nurtured its growth for over seven decades.

Under this policy The UWI has committed to specific sustainability practices, some of which are already underway on the various campuses. The goals identified in the policy include conserving and reducing the consumption of energy, water and other natural resources; managing the production and disposal of all forms of waste and promoting the principles of a circular economy; promote the purchasing of products, services and resources that have least impact on the environment across their life cycle; encourage sustainable use and management of its indoor and outdoor facilities and spaces; integrate the values of sustainable development into its courses, programmes and all educational initiatives; and become a symbol of the Caribbean's commitment to environmental sustainability.

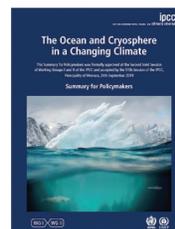
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To explore the potential for partnership with The University of the West Indies, please contact:

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