

# The Sandwatcher – Special Issue

*The Voice of The Sandwatch Project*

[www.sandwatch.org](http://www.sandwatch.org)



United Nations Educational,  
Scientific and Cultural Organization

Black River Foundation



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## Welcome Sandwatchers!

This is the 7th International issue of  
“The Sandwatcher”.

Sandwatch seeks to change the life-  
style and habits of youth and adults  
on a community-wide basis, and to  
develop awareness of the fragile  
nature of the marine and coastal  
environment and the need to use it  
wisely.

All Sandwatchers are encouraged to  
submit articles on their projects to...

### The Editors:

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## Inside this Special Is- sue... Sandwatch Activi- ties in 14 Countries World Wide!

*Including— Bahamas, Barba-  
dos, Brazil, British Virgin  
Islands, Cook Islands, Puerto  
Rico, Guyana, Jamaica,  
Mauritius, St. Kitts and  
Nevis, Norway, St. Croix,  
Seychelles, St. Vincent & The  
Grenadines, Trinidad & To-  
bago, ..and much more!*

## The Sandwatch & Cool Youth Climate Change Workshop

by Paul Diamond & Gillian Cambers

From the 5th to the 7th of November 2008, 40 youth  
and teachers from **nine (9) Caribbean countries** met  
in Barbados to take part in a workshop called “**Youth  
and Climate Change: Cool Youth Leading the  
Way**”.

At the workshop participants learned about climate  
change adaptation and how to use different media  
tools - drama, internet, video and publications – to  
create awareness about climate change in their home  
countries when they returned home. This was done  
as part of a project entitled “**Mobilising Caribbean  
Youth to Adapt to Climate Change**”. The project  
runs from September 2008 to June 2009 and is or-  
ganized by **The Sandwatch Foundation, Counter-  
part Caribbean and the Barbados Youth Environ-  
ment Programme**.

One of the primary goals of the workshop, was to  
impart upon participants new sets of technical and  
media related skills which they can use to publicize  
and generally 'get the word out' about the dangers/  
causes of climate change, the impact it is having  
on their home islands and about their own projects  
and efforts in studying and combating it.  
For this reason a series of workshops were held  
everyday in **four (4) major categories, Drama/  
Theatre, IT/Web Design, Video Production and  
Art & Story Telling**. Each work group was led by  
an expert, however the focus was very much a  
'hands on' approach to learning, so each group  
were given the necessary equipment to start prac-  
tising and creating their presentations right from  
day one of the workshop.



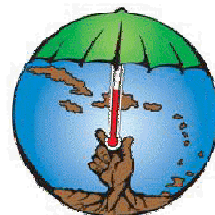
Sandwatch Teachers & Students at The Cool Youth Climate Change Workshop, Barbados!

During the three (3) day workshop, **Sandwatch  
Teams** of students and teachers from the **Bahamas,  
Barbados, British Virgin Islands, Guyana, Ja-  
maica, St. Kitts and Nevis, St. Lucia, St. Vincent &  
the Grenadines, and Trinidad and Tobago** each  
gave presentations of their Sandwatch activities, set  
up displays of their work and findings, and also at-  
tended a series of workshops, panel discussions,  
practical training sessions, and of course some fun  
field trips and shopping!

During the Workshop, each of the Sandwatch Teams  
set up a **National Display Table** to show their hard  
work on behalf of the project and also demonstrate  
how Global Climate Change has affected each of their  
home islands, such as **causing increased erosion,  
loss of beaches, mangroves, coastal wetlands, turtle  
nesting sites, the bleaching, siltation and destruction  
of coral reefs and the increased damage caused by  
more severe hurricanes, storms, flooding, droughts  
and other major environmental stressors**.

On the last afternoon of the workshop, each of the  
groups had to give a presentation using what they  
had learned to the Barbados Minister of Education,  
and several other dignitaries.  
Several teams have already contacted us to report  
that they have started to use their new skills to  
create school website and especially produce  
videos for the **Sandwatch Climate Change Video  
Competition**.

*Generous support for the  
project was given by the  
Caribbean Tourism Organi-  
sation, Commonwealth  
Foundation, U.K. High  
Commission in Barbados,  
and the United Nations  
Educational, Scientific and  
Cultural Organization.*



## Inside this Issue...



Sandwatch Teams from nine Caribbean nations attended the Cool Youth Workshop on Barbados, Nov 2008

Wow, what a 'Special issue' this is!

This is the 2nd 'Special Edition' of **The Sandwatcher** to date (with the 1st being the Feb '07 'Trinidad' issue)

This issue focuses on the activities and results of the **Sandwatch Climate Change Cool Youth Workshop on Barbados, Nov '08**, together with several articles, photos and items of interest from other Sandwatch Teams world wide and articles from other contributors. Clearly Sandwatch has become a recognized global environmental project, thanks to all of you.



Just some of the highlights of this issue include...

- Update on the **Sandwatch Climate Change Video Contest**
  - Brazil & Trinidad** hosted a huge Sandwatch Student Exchange
  - Sandwatch to be featured at **UNESCO's 'Education for Sustainable Development' Conference in Bonn, Germany.**
  - Discussions on expanding Sandwatch in West Africa
  - Sandwatch featured in a new UNESCO ESD Teachers Guide Text Book
  - Sandwatch website to be totally re-designed and made interactive!
- Plus amazing updates, stories and photos from Sandwatch Teams from 14 countries worldwide!



*Read all about the huge Sandwatch Student Exchange between Trinidad and Brazil on pages Four (4) and Twelve (12)!*

## The Bahamas: Who Turned Up The Heat?



Who Turned Up The Heat?

At **Hope Town Primary School** we are very concerned about the Global Warming associated with Climate Change (CC). Living on a 6 mile long FLAT island we have NO place to run when the tide rises!

People who have the good fortune to live on a hilly or mountainous island can move higher up and farther away from the coast, but not us. *In the whole Bahamas the highest spot is only 105 feet above sea level and this is only one hill on one island.*

We have learned that we in the Caribbean cause very little greenhouse gas that is causing CC but that we as a people stand to lose the most!

We have other concerns as well. We do a lot of study on our beautiful patch reef at our test site beach. We snorkel out to check on it to make sure it is not affected by bleaching or disease. If we keep the beach clean then polluting trash will not wash out onto the reef and we hope it will stay healthy in the event of temperature rise.

We wrote letters to all the hotels and restaurants on our island encouraging them to use biodegradable take out containers and utensils so it lessens contaminating trash on our beach. We walked around town and showed the managers of the hotels and restaurants the biodegradable items.

The hotel adjacent to our study site beach and reef is using them. We already see a difference in the level of trash on the beach. We believe when people hear it is biodegradable, they take more care to place it in trash receptacles. They believe if we care so much to use them then they should help out too!

We also wrote our second pamphlet to inform tourists about sustainable reef usage. We asked them not to stand on the reef to adjust their masks and not to break anything off the reef as souvenirs. We named several fish and creatures they might see. The pamphlets are placed in the hotel by our test site beach. We are in the middle of a huge recycling project at the moment to try to gather all the cans we can.

We have adopted the mangrove area below our school through the **Keep Abaco Beautiful Project**. The mangroves fill with trash, too.

We hold cleanups there several times a year. If we can keep our mangroves healthy on one side and the reef healthy on the other maybe they can withstand some of the changes that will likely come with CC like higher water levels, changes in salinity, changes in temperature and if they remain healthy, hopefully they can support the sea life that means so much to us.

Tourists come here to view our beautiful reefs and we locals and the tourists alike love the seafood the reef supports. Our reefs help to fill economic and dietary needs for us. We must do all that we can to ensure CC does not change that for us!

**Sandwatch team, Hope Town, Abaco, Bahamas.**  
**James Boyce, Natasha Albury and teacher, Mrs. Candace M. Key (who all attended the Sandwatch Barbados Workshop)**



Sandwatchers from Hope Town School interview tourists on their beach to gather information for a 'beach use pamphlet'



## UNESCO Represented at Barbados Workshop



I work as a programme specialist with the **United Nations Educational, Scientific and Cultural Organization** in Paris, France. I work particularly with UNESCO's activities in small island and developing states and I have been in Paris since June this year. Before that, I spent more than eight years working in UNESCO's office in **Apia, Samoa**, which looks after UNESCO's programmes in the Pacific island countries. Among the programmes that I have worked with for many years is Sandwatch, which has been a UNESCO-affiliated activity since its inception.

I came to the **"Sandwatch Cool Youth Leading the Way"** workshop in Barbados in order to see first-hand how the Sandwatch network in the Caribbean works, and to learn more about the way

Caribbean youth understand and communicate climate change, and to raise awareness among the workshop participants of UNESCO's online global forum **"On the Frontlines of Climate Change"** (see page 13 for details). The workshop venue was fantastic: right on a local beach near Bridgetown in a relaxed and pleasant hotel. The venue made an ideal setting for the workshop, allowing the participants to experience the coastal environment in Barbados. Not an untouched stretch of beach, but a suburban coastal setting – beautiful in its own right, but heavily developed and accessed every day by thousands of Barbadians and visitors alike.

I was especially pleased to meet the workshop participants – the Sandwatch teams from **9 Caribbean countries**, both teachers

and students. The engagement, energy, skill and spirit of cooperation among the group was fantastic. Seeing students (and their teachers) from different countries, cultures, age groups, and backgrounds come together with such ease – and producing such high-quality work – was truly inspiring. The exhibits prepared in advance of the workshop were of high quality – highlighting climate change, environment, and waste management issues in the participating countries. However, it was the effort that participants put into their work in the four media groups that made the workshop outcomes so amazing – the way every participant worked to obtain and demonstrate his/her communication skills was the best possible demonstration of the spirit of the Sandwatch network.

(Continued on page 8)



Hans Dencker Thulstrup from UNESCO HQ in Paris addresses the Barbados Workshop.

## The Cook Islands to Represent SW in Germany



**The Sandwatch Foundation is extremely proud and pleased to announce that Sandwatch has been selected to be presented at UNESCO's World Conference on Education for Sustainable Development that will be held in Bonn, Germany, from 31 March to 2 April 2009.**

A UNESCO International Advisory Group, including 14 renowned experts on Education for Sustainable Development, advised the conference organisers on which international environmental projects would be selected to attend the conference, and Sandwatch was one of the projects they choose. Clearly, Sandwatch is really starting to make an international name for itself, thanks to all the hard work it team members have put into it! UNESCO has invited 700 delegates from all over the world to attend the conference with 25 projects (including Sandwatch)

having been chosen to give presentations. Unfortunately as much as we would love to invite all Sandwatchers to the conference, space is only available for one representa-



The Cooks are made up hundreds of small islands covering thousands of square miles

tative from each of the 25 project to attend. For this reason, the Sandwatch Foundation has selected the **Sandwatch Co-ordinator for The Cook Islands, Ms. Jane Taurarii** to represent the project in Germany.

Ms. Taurarii, who works at the Ministry of Education, Curriculum Development Unit of the Cook Islands, has been instrumental in spreading the project to more than half a dozen different islands

within the Cooks, as well as having Sandwatch included as an official part of the school science and social science curriculum. We are sure that she will do an excellent job in representing and promoting Sandwatch both regionally and globally to all the delegates that will be attending the Bonn Conference.

Please examine the Cook Island national homepages within the Sandwatch website to see what the teams on many islands there are accomplishing. Details of the ESD Conference itself can be found at [www.esd-world-conference-2009.org/en/home.html](http://www.esd-world-conference-2009.org/en/home.html)

*The Sandwatch Foundation is currently discussing with UNESCO production of a Portuguese Edition of The Sandwatcher!*



Sandwatch students of the Tekaaroa Adventist School show one of the signs they made for their adopted beach

## Trinidad & Brazil: Sandwatch Team Exchange!



Sandwatch students and teachers from Trinidad travelled to Brazil to visit the Sandwatch Team from Santos, Brazil who visited them earlier in the year.

The day had finally arrived. Thirty eight members of ASPnet Trinidad and Tobago Sandwatchers were on their way to Sao Paulo, Brazil heading to Colegio Afonso Pena Secondary School of Santos, for the 2nd Student Sandwatch Exchange.

What an experience! It was just incredible, fantastic, unbelievable, and unforgettable encounter. Truly, Sandwatch is about changing lifestyles and we can truthfully say that Sandwatch is the best tool

for sustainable development. From the 12th August to 30th August 2008, students from Trinidad and Tobago and Brazil were fully engaged in Sandwatch activities as we visited schools and shared our varied cultures and experiences, as we sought to create an environmental awareness and appreciation of our fragile coastal areas. These presentations induced lively discussions as we travelled from school to school, from town to town with our Sandwatch message, besieging school students as well as adults to get involved with Sandwatch.

The official opening and welcome took place at the Miramar Convention Auditorium and we were officially welcomed to Santos by the Deputy Mayor of Santos City. Following this we were part of the **Sandwatch Exhibition** at the hall of the Shopping Complex. This exhibition was of a very high standard. Hats off to the

organizers of this event. People from all walks of life viewed this remarkable and professional display. The schools visited during our historic student exchange were: - public school at Gonzaga neighbourhood, public school at José Menino neighborhood, Presi-

Two groups of environmental students from the Cubatao area invited us to give demonstrations. These presentations were done by members of the Mayaro Environmental Wave group. This was one of the highlights of the exchange, for it was very rewarding. In fact, presently we are arranging a Skype video conference session to develop this initiative. Mr. Degenal and I are making the arrangements to facilitate this development of Sandwatch. They have shown very keen interest in learning more



See all the great photos taken during this Sandwatch Exchange at the Brazil and Trinidad homepages on the Sandwatch website

dent Kennedy School, the State University of São Paulo (USP) and Butanta Institute. Added to these schools was our host school – Colegio Afonso Pena. It was a tremendous atmosphere when the Trinidad and Tobago delegation arrived at the

about Sandwatch and wish to start a Sandwatch group. When we were not giving presentations we were privileged to see some educational and scenic sites of Santos City. Some of these were: -

The Fish Museum, The Fish Aquarium – Aquário De Santos, The Vertical cemetery – Memorial Necropolis Ecumenical, Santos beach garden, Orchid Park, The Mayor's Office, Coffee Museum, Street car tour at historic downtown Santos, Snake Museum, Indigenous tribe at Boraceia Monte Serrat, Police Headquarters, Santos Football Club and Museum

We were also fortunate to experience live the local football club – Santos Football Club (SFC) in action for two games. This is the only club that the legendary Pele played for. The opportunity was also afforded us to visit the SFC Museum. I can still hear our Trinidad and Tobago students shouting and singing, "Santos, Santos, Santooooo!!!"

(Continued on page 12)



*This latest Sandwatch Student Exchange was a huge success...who will be next to carry on the tradition?*



The trip wasn't all fun and games, Sandwatch monitoring work had to be conducted as well.



The Sandwatch Trinidad Team on their way to Brazil

school. It was indeed intercultural learning at its best. To further strengthen the exchange and the cultural ties, our students were afforded the opportunity to be regular students at the Colegio Afonso Pena. Despite the language barrier, our students made positive contributions and were active participants of the various classes.



## Counterpart Caribbean Hosts Barbados Workshop



**Counterpart Caribbean at The Future Centre** is an organization which holds as its focus, environmental education for all, primarily young persons. The concept of the centre started in 1994 when Barbados played host to the **UN Small Island Developing States Conference (SIDS)**. The conference provided a fantastic opportunity to showcase the possible solutions to environmental issues from a small island perspective. The overall exhibit, which was created by some 3000 volunteers, was spearheaded by the late Dr Colin Hudson, an environmentalist to the core who lived and breathed environmental sustainability. From his efforts, the Governor General at the time, the late Dame Nita Barrow, suggested to Dr Hudson to explore the possibility of anchoring a permanent display site encompassing the themes shown at the SIDS exhibit. In 1997, the Edgehill Plantation House in

Edgehill, St Thomas, at the time housing the soon to be relocated Sugar Technologists Laboratories, was identified as an ideal location to house the exhibits and The Future Centre was born. Today, The Future Centre is still in the location of Edgehill Plantation house; still holds itself as an exhibit centre; and still works to instill a greater awareness of the need for environmental stewardship and to improve our use of resources available on the planet. Today however, more focus is placed on outreach to various groups which include schools, (both primary and secondary) community organizations interested in developing various environmental programmes and individuals who would like to embrace a more sustainable lifestyle. The Centre looks forward to mounting more projects similar to that of the **Youth and Climate Change Workshop**, held in Barbados in November 2008, developed in collaboration with **The Sandwatch Foundation**. Counterpart Caribbean @ The Future

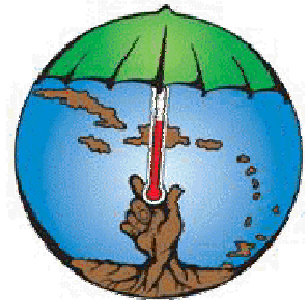
Centre thanks members of The Sandwatch Foundation for participating in such a worthwhile endeavour which was the YCC Workshop. *The event was funded primarily by The Commonwealth Foundation, The British High Commission in Bridgetown, Barbados and UNESCO.* Additionally the organizers wish to thank the Caribbean Tourism Organisation and other local partners for their contribution to the success of the event.

2009 promises to be a year of transition for The Future Centre and its volunteers, who primarily run the operation. We look forward to continuing to educate young people on the importance of a need for a sustainable holistic existence. As we work together, a more promising outlook prevails that we may well be able to engage a newly revived path to environmental wellbeing, or at least better appreciation of all that Mother Nature has to offer and the best ways to preserve this wonderful planet we call home.

**By Nicole Garofano**



Nicole Garofano (left) with The Barbados Minister of Family, Youth, Sports and Environment, The Honourable Dr Esther Byer-Suckoo.



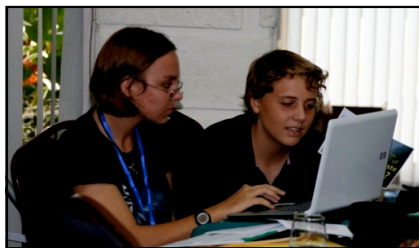
*The Cool Youth Climate Change Workshop Logo!*

## Sandwatch News from Nevis



**Stefan Murrell and Rachel Yearwood, Sandwatchers of the Lyn Jeffers School, Nevis**, travelled to Barbados from the 4th of November to the 9th of November to the workshop on Cool Youth and Climate Change. Stefan and Rachel, along with Mrs. Miriam Knorr, Sandwatch coordinator for Nevis, represented Nevis in the line up of countries that took part in the workshop. During this meeting, they were given information on how climate change is affecting and will affect the Caribbean. They also participated in workshops aimed at educating youth around the Caribbean on how to "get the word out" about climate change using different mediums. These workshops were for Drama, I.T, Video, and Journalism/Storytelling.

Climate Change is a serious problem affecting our planet, and even if we cannot stop it completely, with enough widespread knowl-



**Students Rachel & Stefan represented Nevis at the Workshop**

edge, we can slow it down and stop the pollution of our countries. The students from the various islands presented information about the different environmental problems in their country and what they are doing or trying to do to reverse these problems. They were also given information on

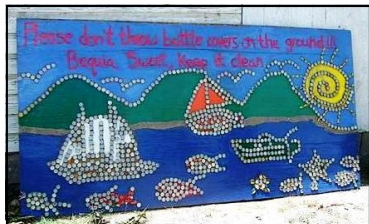
how climate change will be affecting us by the end of the century. For example, by 2099, some Caribbean islands might be submerged in the sea. Ocean temperatures will rise by a few degrees, bleaching and killing the corals which are needed for tourism, fishing, and marine ecosystems. There will also be a high increase in the number of Category 3 – 5 hurricanes, along with floods and droughts. After the conference, the students in Sandwatchers Nevis have decided to enter the Sandwatchers video contest, and get the word out with pamphlets, flyers, videos, and presentations to the children of the Lyn Jeffers Primary and Secondary schools. They have already been interviewed by VON Radio and for internet news services in Nevis.



**The Sandwatch Nevis Presentation Table at the Barbados Climate Change Workshop**



## Bequia's Bottle Cap Mural Project



The finished bottle cap mural—full details and more photos can be found on the St. Vincent & Grenadines homepages on the Sandwatch website

An interesting and fun way to dispose of all those bottle caps that litter the landscape is to turn them into art. On **Bequia**, one can find hundreds of them on the beach or outside the bars after the crowds have had their good time and gone home. As part of the anti-litter awareness campaign for Bequia, the R.I.P.P.L.E.S. group and children from La Pompe and Paget Farm began working on a large art project intended for the outdoors in a visible and highly commuted area

of the island.

On April 26, 2008 the children collected bottle caps from the ground in Paget Farm and Lower Bay. On May 1, 2008, the group drew the design and began sticking the bottle caps on a large piece of plywood.

On June 14, the kids came together again for Phase 2 of the project. This time they used imagination, paint and sand to bring out the beauty of their masterpiece.

Finally on August 8, 2008 the billboard found its place of prominence in the garden of the Bequia Tourism Association, drawing the attention of tourists as well as locals.

This is just the beginning of a series of environmental art projects to be undertaken by these kids. They are doing a good job.

**By Leah Belmar**  
**R.I.P.P.L.E.S., Bequia,**  
**St. Vincent and the Grenadines**



## Sandwatch Pioneers, Puerto Rico

**One of the first steps for Sandwatch in Puerto Rico was to translate and publish the Sandwatch manual in Spanish. With the support of the University of Puerto Rico Sea Grant College Program and the Puerto Rico Tourism Company, this was completed at the beginning of 2008.**

With this document in hand, the time was opportune to launch the Sandwatch programme. On 8th August 2008, twenty five teachers from schools all around Puerto Rico and fifteen members of the Puerto Rico Parques Nacionales met at Boqueron, Puerto Rico to learn about Sandwatch methods and to discuss how to start a Sandwatch programme in Puerto Rico. The workshop was sponsored by the following organizations:

University of Puerto Rico Sea Grant College Program Puerto Rico Tourism Company, Organizacion Pro Ambiente Sostenible, Parques Nacionales de Puerto Rico, Sandwatch Foundation. During the two-day workshop, participants learnt about Sandwatch methods and tried out the various Sandwatch protocols for themselves; they listened to presentations about the Sandwatch programme and heard how other countries are implementing Sandwatch; and they discussed how to start Sandwatch in Puerto

Rico. The workshop was facilitated by: Dr. Alida Ortiz of the Puerto Rico Tourism Company, Ms. Lesbia Montero of the University of Puerto Rico Sea Grant College Program (Humacao), and Dr. Gillian Cambers of the Sandwatch Foundation.

On the final day of the workshop

for vacations and recreation, but is also under stress from nearby tourism developments including a marina. After spending Saturday, 9th August 2008, learning about Sandwatch monitoring methods, participants turned their attention on Sunday to how to make Sandwatch happen in

Puerto Rico. Among the ideas discussed were: establishing a Sandwatch Facebook group; involving municipalities and scout groups; bringing the private sector on board; and establishing a Sandwatch database. Lesbia Montero, Marine Educator at the University of Puerto Rico Sea Grant College Program agreed to be the Sandwatch Coordinator for Puerto Rico, and participants com-



**The Sandwatch Pioneers of Puerto Rico**

participants discussed next steps and how they planned to start Sandwatch in their schools. Lesbia Montero agreed to coordinate Sandwatch activities in Puerto Rico. The group named themselves "Sandwatch Pioneers Puerto Rico". The beach at Boqueron was an ideal location for the workshop. Participants stayed at the Parques Nacionales complex and were able to walk directly to the beach and try out the Sandwatch methods. The beach is also an interesting one, since it is much favoured by Puerto Ricans

mitted themselves to sending their individual Sandwatch action plans to her by 27th September 2008. The organizers hope to be able to hold a Sandwatch Exhibition in May 2009 when Sandwatch groups from around Puerto Rico can display and share their Sandwatch activities. All in all, an excellent beginning for the Puerto Rico Sandwatch programme!

**Gillian Cambers, Sandwatch Foundation & Lesbia Montero, Alida Ortiz, SW Pioneers**

*The Sandwatch Manual is now available in both **French** and **Spanish** editions. They can be downloaded from the Sandwatch Website, or hard copies can mailed to you, if requested.*

*-The Editors*



Sandwatch Teachers in Puerto Rico are taught how to test sea water for contaminants as part of their project training



## Climate Change in Guyana



We are pleased to present our findings from studies conducted at several locations on the coastal areas of Guyana, South America.

Observational studies were conducted of some of Guyana's coastal areas to ascertain the sea defence mechanisms in place and how effective it is in protecting these areas during high tides. These studies were conducted in the light of Climate Change and the effects it is having on the global environment. However, these recent changes are different because they are taking place faster and are unlikely to be reversed by natural processes.

Climate Change is affecting each one of us, sometimes in small insidious ways. Residents in some tropical islands of the Caribbean are noticing that the dry seasons are lasting longer each year. Small changes, yes, but they affect how we live our lives. Some of us in Guyana thought that we were safe since we do not have hurricanes and tornadoes but we do experience other natural disasters such as floods, a few earth tremors, and the tail ends from the numerous hurricanes in the Caribbean. In 2005 Guyana experienced a major flood disaster; the last of its kind was recorded fifty (50) years. The forces from the waves were so strong that the waves overtopped the seawalls resulting in the coastal areas being flooded for weeks. The floods of 2005 proved very destructive on the East Coast Corridor since many of the

villages were flooded and flood waters in some cases were in excess of four (4) feet high. Studies have shown that irresponsible disposal of waste was responsible for the prolonged flood waters on the land since many of the drains and trenches were either clogged



**Guyana's Seawalls and Coastal Defences are failing due to increased storms, coastal erosion, rising sea levels and lack of maintenance, leading to increases in large scale flooding**

with debris or clogged from siltation. Hope Beach which is frequented by picnickers is a dumping ground for all types of plastic waste (bottles, bags) tins and boxes). Visitors to the beach would dispose of their waste by throwing them into the water or leaving them on the sea shore and the water would wash them out into the Atlantic Ocean. However, every time the water washes in, garbage that has been disposed by the visitors and at various other locations would wash up along the beach.

In an Inconvenient Truth, Al Gore also stated that in 2005 fifteen (15) new viruses were discovered or manifested; among them was 'Leptospirosis'. In Guyana during the flooding incidence more than 200 persons became sick by

'Leptospirosis' and approximately thirty (30) persons died as a result of the illness.

Three years after that disaster people still have not fully comprehended that their actions and attitudes were responsible for the flooding of 2005 and continue to dispose of their garbage in an irresponsible manner.

Climate Change though a frequently touted phrase is not fully understood by the average Guyanese and the impact that it can have on their lives has not been fully comprehended. Should we panic? No, but we should listen, learn, and try to understand but most importantly begin to adapt to Climate Change now. More emphasis needs to be placed on sensitizing

the public on the importance and impact that Climate Change will have on the lives of people, the society and more importantly the environment. However, since it is easier to inculcate change in children rather than adults, awareness should begin with children from Nursery School onwards who are more likely to start the implementation process as against adults who are more resistant to change since they are already fixed in their ways.

**Ms. Paula Tulloch, Ms. Allande Johnson, Environmental Teacher, Alana Mann, Saeed Hamid representing St. Roses' High School**



**Due to rising sea levels and erosion, Guyana is forced to build new sea walls that never existed before**

*...I am sure that **Cuba***



*will participate with*

*many videos for the*

*(Sandwatch) climate change contest.*

*This past week, I informed all school/years of the Associated Schools project about the competition, and having the information in Spanish for them makes it much clearer.*

**- Delia Vera Medina**

**Associated Schools Project Network Coordinator**

**Comisión Nacional Cubana de la UNESCO**

### Sandwatch Climate Change Video Contest Update

**The Sandwatch Climate Change Video Contest results will be announced early in 2009!**

More than two dozen short videos have been submitted and posted online on **YouTube**, with more videos promised by teams from all over the world. Several countries launched the contest nationally with many schools and organizations registering to enter, including Cuba and the Seychelles. So by mid February some schools are going to be receiving large cheques!

**We can't wait to announce the winners and show case their winning entries!**



**The Good Hope school of St. Croix, USVI, one of the many schools who have entered the video contest**

## Sandwatch at 7 degrees off the Equator



Sandwatch Team Seychelles measures their beach

The educational and practical aspect of Sandwatch is a healthy input into the **Seychelles** community. The importance of our 'sand zone' and the rate at which it is often disrespected has influenced action; action aimed mostly at our youths, the next generation of policymakers, law enforcement officers, fishermen and teachers. Seychelles Islands have seen an improvement in interactions between the local community and our 'sand zone'; we now have a more environmentally conscious, hands-on, nation. This stems from educational and awareness activities, again, aimed most especially at the youth. In this day and age, there is global cause for concern. The level of pollution plus development up to the high tide mark on some beaches can be catastrophic to biodiversity, and can be

much more disastrous if not monitored and controlled. The Seychelles Islands joined **Sandwatch** in recognition of the harm that can be done in the face of inaction and in realising the importance of our resources.

This September marked a year since the President of Seychelles; H.E Mr James Michel, launched the Sea Level Rise Foundation at the First Global Island Partnership (GLISPA) Strategy Meeting in Rome, 2007. This foundation also incorporates the importance of coastal zones and the need to sustain our environment. One of the main aims is to raise awareness, even more so now that we are all globally threatened by sea level rise and its adversities. This global warming impact has already started to claim a number of beach areas around

the country, changing the beach profile and requiring immediate intervention to control the impacts. A healthy and stable beach system guarantees better protection against future sea level rise.

It is likely that sea level rise will consume a good stretch of the coastline. Projected sea level rise will eat up not just the beach, but industrial developments, agricultural lands and homes bordering the shoreline. In the years to come, this point will hit home more when the impacts are more visual than hearsay.

Happy Sandwatching all!

**Veronique Carola, The Sea Level Rise Foundation, Seychelles**

[www.sealevel-rise.org](http://www.sealevel-rise.org)

*In addition to having a coastal environmental focus, Sandwatch also has components for studying rivers, lakes and even off-shore marine environments*

### UNESCO Represented at Barbados Workshop (continued from page 3)

The closing ceremony, at which each group presented the results of their work, marked the most formal part of the three-day programme. When the last group – which had prepared a short stage play narrated by a personified climate change character – ended their performance, which had been a highlight of the workshop, all groups were met with applause from the audience, which included a government minister, foreign embassy representatives, as well as other dignitaries. Having heard the commitments made by participants on how they would follow up the workshop in their home countries, I left Barbados with reinforced belief in the power of youth as agents of change – as well as in the Sandwatch network and its partners in the Sandwatch Foundation and Counterpart Caribbean. I look forward to working with Sandwatch in the months and years to come – and to witness how the participants make a difference in their communities using the skills they acquired in Barbados.

**Hans Dencker Thulstrup, Programme Specialist, Sciences and Society Section  
Division of Science Policy and Sustainable Development, UNESCO**

## Climate Change on Barbados



Over the last 5 years Barbados has seen a dramatic increase in the number and severity of storms, erosion and flooding

As a small island **Barbados** is vulnerable to global climate change. We are already experiencing some of the effects based on research presented by government, private and regional agencies that operate here on the island. So the climate is definitely changing in Barbados. In the past five years we have seen an increase in daily temperatures and there has been some very unpredictable weather patterns. Only this summer we experience an increased in hurricane and storm activity within the region. Barbados was not spared

as we experienced widespread flooding and saw coastal erosion. The Coastal Zone Management Unit is responsible for monitoring such activities related to our coast and they have reported that our sea temperatures have increased over the years, widespread beach erosion across the island which is reducing the beaches width, coral bleaching and heat stress and there is a decrease in some of our reef fish populations. There is still a close season in effect for harvesting sea eggs as we try to protect one of our delicacies from becoming extinct. So we are ex-

periencing some loss of biodiversity.

Our government is very committed to doing what it can to combat climate change. Environmental laws has been revisited and revised, and measures have been put in place as well as strategic planning to ensure that we protect our coral reefs, our beaches and our reef fish, which are vital for a sustainable tourism industry.

**By Coleridge and Parry  
School Sandwatchers,  
Barbados**



## Sandwatchers From Around The World!

Sandwatch is a truly global project with schools in more almost 40 countries participating



Barbados Workshop Sandwatchers received free back-packs, tee-shirts and other prizes for attending



Sandwatch Trinidad catch a game at the Santos City Football Club Stadium, Brazil



A Nine Sandwatch Teams who attended the Barbados Workshop set up presentation displays of their work



Sandwatch teams study the beautiful Teoneroa beach of Mauke, in the Cook Islands



Nicole, Hans & Gillian worked wonders to get the Barbados Workshop organized

### The Green Turtles

Turtles are our friends  
How can we help  
End of quarrels

Green turtles  
Really love the lagoon  
Environment is vital  
Eggs of the turtle look like pearls  
Nyamba titi ,don't go away

This is their "mahorese" names  
Understand and  
React  
Travellers of the oceans  
Let's not lose them  
Extraordinary creatures  
See and save the turtles  
*-By Maimoune, Mayotte*



Lots of new friends were made at the Barbados Workshop!



Boqueron Beach Puerto Rico is a very popular beach that the Sandwatch Pioneers have adopted



Sandwatch teams at the Barbados Workshop learned spend two days learning how to film and edit video presentations



Sandwatch students of Jost Van Dyke, British Virgin Islands, relax in the shade of a coconut tree on Sandy Cay



A great time was had by all at the Barbados 'Cool Youth' Climate Change Workshop!

## Mobilizing Mauritian Youth for Climate Change



The Climate Change workshop was well attended by educators, students and NGOs

Raising awareness of youth on climate change mitigation and adaptation has been gathering momentum, especially since the government has declared Mauritius 'Ile Durable', or sustainable island. Several NGOs and institutions, including **Sandwatch** in Mauritius are taking a very active role in alerting the population on measures to reduce the vulnerability of the island to climate change. In this context, a one day workshop for the students of secondary schools in the eastern region of Mauritius was organised (Quartier Militaire, Mauritius, 3 September 2008). The conference centre was packed to full capacity with about 300 students of upper forms and their teachers.

The Mauritius Council of Social Service (MACOSS), the Association pour le Développement Durable (ADD), the University of Mauritius (UoM), Meteorological Services and the Moka-Flacq District Council (MFDC) collaborated to organise the event. Many eminent personalities including Hon. A. Baichoo, Minister of Environment; Mr. Choony, President of the MFDC, Mr. R. Nookadee, Secretary of MACOSS, Mr. Bhowan, representative of the Minister of Educa-

tion and Mr S. Chacowry the President of ADD addressed the opening ceremony. In his speech, the Minister gave an overview of the impacts of climate change on Mauritius and enumerated several tangible measures that could be taken by the public and private sectors, local communities, NGOs



A high level government panel addressed the meeting

and individuals to address the issue. Subsequently, four presentations were made by representatives of the Meteorological Services, the University of Mauritius and ADD respectively on: Climate patterns in Mauritius; Climate change and food security; Climate change and health, ecosystems and biodiversity; and on Climate change and ocean resources. The moderator of the workshop was Mr.

S. Chacowry, President of the ADD. At the end of the presentations, the students were very eager to know more about the science of climate change and its impacts on various socio-economic sectors. Questions covered the toxic nature of mercury in compact fluorescent

lamps, genetically modified food to address the food crisis, measures being taken to protect coral reefs. Finally, the question on what do the panellists "personally do to contribute to climate change mitigation" provided an additional opportunity for the speakers to provide practical measures that could inspire the students to adopt a more responsible attitude towards their environment and

take back home some messages for their parents and others in their surroundings. This is the first in a series of six workshops culminating in a major event to commemorate the World Environment Day on 5 June 2009.

**By Sachooda Ragoonaden, Mauritius, Secretary, Association pour le Développement Durable (ADD)**

*Sandwatch is currently working on developing an 'online form', that Sandwatchers can simply input their beach measurements and other data into on the website, and it will be automatically graphed and converted into a database for you -Perfect for Science Fairs and Environmental Reports!*

## Work to Start on a Sandwatch Instructional DVD



Sandwatch is joining up with another project to prepare an interactive, instructional DVD that will provide carefully designed video footage and easy-to-use instructions to illustrate the Sandwatch methods. This is designed to help new groups wishing to embark on their own Sandwatch project. There is already a Sandwatch manual available in English, French and Spanish, however, sometimes the manual is not enough for a new group wanting to get started on Sandwatch. This DVD will provide a series of modules illustrating each Sandwatch method by showing how to carry out the measurements and ana-

lyze the results.

The Global Environment Facility – Integrated Watershed and Coastal Area Management (GEF-IWCAM) project is collaborating with the Sandwatch Foundation to prepare this new tool. The GEF-IWCAM project seeks to improve the integrated management of watersheds and coastal areas in Caribbean and is supported by the Caribbean Environmental Health Institute (CEHI) and the Secretariat to the Cartagena Convention (UNEP-CAR/RCU). As part of this collaboration, the GEF-IWCAM Project has issued a call for proposals, and the Sandwatch Foundation has agreed to contribute

technical input and guidance, based on their experiences, in the review of materials and later in the design of a training plan using these materials. Proposals are currently being reviewed and it is anticipated that work will start on preparing the new tool early in 2009. One of the exciting features of this new tool is that it will combine Sandwatch and River Care methods, so that new groups and existing groups will be able to apply their skills to beaches and rivers.

**Gillian Cambers and Paul Diamond, Directors, Sandwatch Foundation**



Is your beach a sea turtle nesting area? If yes, then why not make sea turtles part of your regular Sandwatch monitoring duties?



## Seychelles Launch SW Video Contest Nationally

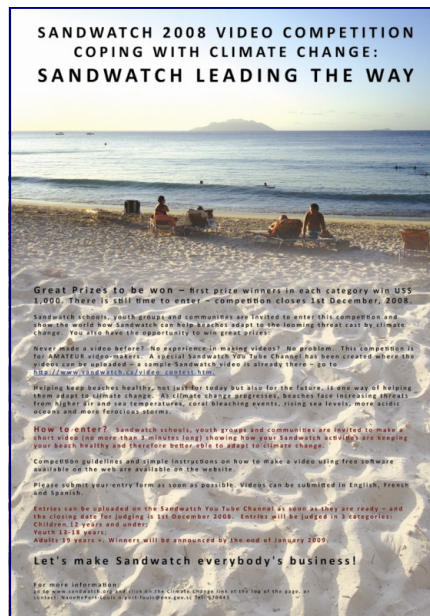


Ms. Nanette Port-Louis, **Sandwatch Coordinator** at the Seychelles Department of Environment reports that they have launched the **Sandwatch Climate Change Video Contest** nationally, with a new poster having being sent out to all schools (both primary and secondary schools) as well as youth groups, district administrators, and various NGOs.

Ms. Port-Louis is confident that the Seychelles will have a number of videos submitted to the contest.

In addition, a new **Sandwatch Club** has been launched on one of the secondary schools on the island of Mahe, and students have already taken part in several Sandwatch related field exercises.

Complete details and photos of this new Sandwatcher team to follow shortly on the Sandwatch Seychelles National Homepages on the project website.



## Sandwatch Website to be Redesigned in 2009



In the three (3) years since the Sandwatch Website ([www.sandwatch.org](http://www.sandwatch.org)) was first launched in April 2006, many remarkable changes have taken place within the project.

Sandwatch has gone from a small handful of participants in the Caribbean to now being active in about 40 or so countries worldwide and is still expanding.

The Sandwatcher newsletter is now available in 3 languages with a fourth (Portuguese) in the

works, as are instructional DVD's, multi-lingual manuals, as well as numerous international workshops and conferences of various kinds, however, the project's website is begin to show its age.

The website was built using **Microsoft's FrontPage** program, an easy to use pre-formatted template design that is perfect for building simple project based websites. But as the project and its goals

have expanded, the website is now being stressed well beyond its original parameters and is beginning to show its limitations, especially in regards to broken and lost links, problems in easy navigation within the site, inability to support true user interactivity etc. So **The Sandwatch Foundation** has decided to completely rebuild and redesign the entire project website from scratch using

correlate everyone's beach measurements and test results.

The **Sandwatch Foundation** is currently in negotiations with **IBM Canada** to design a custom built application to allow online forms to be integrated into the new website, so that Sandwatchers can directly upload their data into a proper database with graphing functionality. However, given the large size of the current website (approximately 800 Mb of text, photos, PowerPoint presentation and data etc), the change over to the new, redesigned and upgraded Joomla based website will take several months.

We hope that all Sandwatchers will also take this opportunity to update their national homepages with current events and information.

**Paul Diamond, Webmaster Sandwatch Foundation**



a much newer and more flexible open source 'content management programme' called **'Joomla'**. ([www.joomla.com](http://www.joomla.com))

*When completed sometime in 2009, the new website will allow teachers to directly post photos and text to their own national homepages, without having to go through a webmaster.*

The new website will also support online forms and database functions to better collect and

*The latest community group to join Sandwatch is the 'Reforestamos Mexico, A.C.' who protect the coastal regions of Mexico by replanting mangroves, protecting turtle nesting sites and other activities with schools and environmental clubs across the country*



St. Lucia was one of the nine (9) Sandwatch Teams to present at the Barbados Cool Youth Workshop



## Trinidad & Brazil SW Exchange (continued from page 4)



Sandwatch exhibits and displays were presented as part of the exchange programme.

*Mrs. Pascale Gabriel the former Sandwatch Coordinator for Mayotte, is now teaching in Marseilles, France ...but has generously offered to continue to help us translate The Sandwatcher into French*

Let me share with you a secret. The SFC was on a losing streak. We brought them luck. They have not lost a game (Luiz). Indeed, the Sandwatch project has been extended to Brazil. Our host school used technology to spread the work and news of Sandwatch to their students via a live hook up conference. A DVD has been made from this live hook up. We assisted them in the development of their Sandwatch work. Additionally, they received hands-on experience in the monitoring aspect of the UNESCO Sandwatch project during our stay. We were delighted to share our experiences, knowledge and information with their Sandwatch team, as they seek to develop the programme and have it sustained for a very, very, very long time. Highlights of the exchange can be viewed at [www.colegioafonsopena.com.br](http://www.colegioafonsopena.com.br)

Finally, during the last week of our stay, students had the opportunity to experience true Brazilian lifestyles. We stayed at the homes of the students of our host school. As one student aptly puts it when he said, "Life in London." Thanks Bengie (Reaudell).

As a result of our visit new friendships were forged and we all experienced inter cultural learning. Students' lives have been enriched and they have become better students, willing and prepared to make positive contributions to their environment and to their country. Special thanks to all those who made this Student Sandwatch

Special thanks also to our esteemed Secretary General for the Trinidad and Tobago National Commission for UNESCO, Ms. Susan Shurland and her staff. Lynette and our ASPnet National Coordinator Ms. Douglin, a big thank you. To all the members of the Trinidad and Tobago delegation – THANK YOU. To their parents for their unflinching support, thanks. To all the Trinidad and Tobago family, for whatever part you played in making this historic visit possible, I say THANK YOU. Always emotional to say goodbye. I can feel the emotions right now, as I reflect on this Sandwatch Exchange – the trials and the joys, the closing night ceremony, saying goodbye and arriving at Piarco to say more good-byes. Thank you God



The sandwatch Team meet the mayor of Santos City, Brazil in his office

Exchange a resounding success. Firstly, to all those in Brazil and Santos City who made it possible. The Administrators of Colegio Afonso Pena (Claudio and Claudia), the staff, students and parents. Special thanks to Degenal and his lovely family, Richard and our lovely interpreters. Special thanks to all the stakeholders who would have contributed to make the trip and stay possible.

for the experiences and the opportunities given us to take care of Your environment through the Sandwatch programme. Let us all resolve to be faithful stewards. Let's keep the flag flying as we seek to get others involved with Sandwatch as we continue to train young minds to better manage our beaches.

**By Andy C. Paul**  
Trinidad and Tobago  
Sandwatch Coordinator

## Sandwatch to Expand into West Africa?

The Sandwatch Foundation has been approached by UNESCO to discuss the possibility of expanding the Project into several countries in West Africa, including **Senegal, Guinea, Ghana, Mauritania, Gambia, Guinea Bissau, Liberia and The Cape Verde islands** and perhaps others. The concept currently under consideration is to host a Sandwatch "Train-the Trainers" Workshop perhaps in **Dakar, Senegal** with educators from the various regional countries attending to learn how the Sandwatch Project works and can be implemented locally. In addition, several of the countries in the region are predominantly Portuguese speaking, so it has been suggested that the Sandwatch Manual and of course future issues of **The Sandwatcher** be made available in this language. The Sandwatch Foundation looks forward to working with UNESCO to make this expansion into West Africa a reality.



The Trinidad Sandwatchers were interviewed for local TV several times during their Brazil Trip







## On the Frontlines of Climate Change

A forum for indigenous peoples, small islands and vulnerable communities

In response to the outcry over the continuing absence of vulnerable groups from international debates on climate change, **UNESCO's Sciences and Society Section** launched an Internet-based discussion forum on 12 June this year. Entitled "**On the Frontlines of Climate Change**", the forum was launched in partnership with the Secretariats of the Convention on Biological Diversity and United Nations Permanent Forum on Indigenous Issues, as well as the Office of the High Commissioner for Human Rights. It explores the experiences of rural or indigenous communities living in small islands, the circumpolar Arctic, high-altitude zones, low-lying coastal areas, tropical forests, desert margins and other vulnerable environments. For many people, climate change is a distant threat but, for vulnerable communities, it is already a reality. Effects being felt by small islands, for example, include sea level rise, storm surges and the resulting salinization of vital freshwater re-

serves and agricultural lands. Rural, indigenous or island peoples are also keen observers of the impact of climate change. Confronted over the ages with repeated environmental change, many have built up a rich body of knowledge and skills which allow them to adapt to new situations. This knowledge can be crucial for debates on the impact of climate change and adaptation strategies. Since its launch in June, people in small islands and coastal areas from around the world have contributed specific observations from their local environment, as well as made suggestions for adaptation measures that might be of help to others. Despite their specific vulnerabilities, adaptation strategies and knowledge, indigenous peoples continue to be excluded from debates on climate change. They have voiced their frustration at this, notably through protests on 7 December 2007 at the United Nations conference in Bali (Indonesia) and at the most recent session of the United Nations Permanent Forum on Indigenous Issues in May 2008 in New York

(USA).

On 28 March, small island states delivered a clear message on their plight when the Maldives government tabled a resolution on human rights and climate change to the United Nations Human Rights Council on their behalf. The resolution was adopted by consensus. The Frontlines forum explores all of these issues, heightening the profile of vulnerable communities in international debates while providing a platform on which communities can share their experiences. The forum operates in English, French and Spanish, with possible expansion into other languages in the future. Participants receive new postings and highlights of discussions via email.

To participate in the forum, write to: [peoples@climatefrontlines.org](mailto:peoples@climatefrontlines.org) – or follow the discussion on [www.climatefrontlines.org](http://www.climatefrontlines.org)

By the Climate Frontlines Team  
UNESCO HQ, Paris



At dawn on the Lakus river, Bosawas, Nicaragua [www.climatefrontlines.org](http://www.climatefrontlines.org)

*The Sandwatch Foundation  
wishes to thank Miss  
Geraldine Suire, of the French  
Embassy, St. Lucia for her  
assistance in promoting the  
SandwatchProject to The  
Alliance Francaise*

## Sandwatch Featured in New UNESCO Text Book



A chapter on **The Sandwatch Project** is featured in the new **Teachers' Guide for Education for Sustainable Development in the Caribbean, UNESCO, 2008.**

This newly published book from UNESCO aims to involve teachers at every level of education in the **United Nations Decade for Education for Sustainable Development (2005-2014).**

Promoting reflection, discussion and creation of innovative practices, it describes some of the ways to integrate education for sustainable development in teaching and learning processes, and provides tips for success. It is hoped that the book will stimulate many teachers around the world to engage in practicing education for sustainable development.

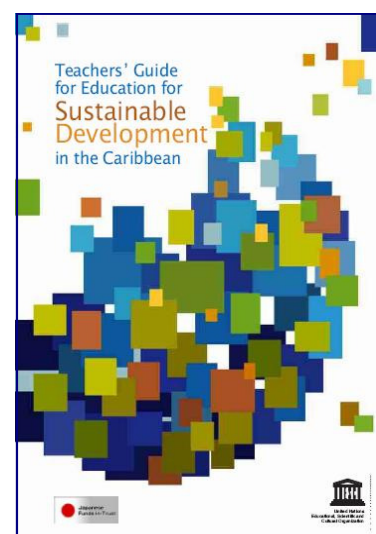
*Contributing Authors: Gillian Cambers, Grace Chap-*

*man, Paul Diamond, Lorna Down, Anthony D. Griffith, Winthrop Wiltshire*  
Editor: Ushio Miura

For more information, contact: UNESCO Office for the Caribbean (Tel: +1-876-630-5300; Fax: +1-876-630-5325; [kingston@unesco.org](mailto:kingston@unesco.org))

To download the publication:  
[http://unesdoc.unesco.org/  
images/0016/001617/161761e.pdf](http://unesdoc.unesco.org/images/0016/001617/161761e.pdf)

The UNESCO Cluster Office, in Kingston Jamaica has also just announced their intention of organizing a 'book tour' in support of this new text book, with several of the authors conducting workshops around the region to show educators how the new Teachers Guide can best be used and implemented in support of local projects of various kinds.



The new ESD Teachers Guide can be downloaded on line or a hard copy can be requested from your local UNESCO Office.



**Many Strong Voices for Tackling Climate Change** — As climate change continues to take a toll on the world, especially less affluent countries and with the worst impacts affecting island communities, new and creative efforts are also continuing to determine how to deal with this long-term disaster and its spin-off effects. One project, Many Strong Voices [www.manystrongvoices.org](http://www.manystrongvoices.org), joins coastal communities from around the Arctic with those from the 51 Small Island, Developing States Project (SIDS; [www.sidsnet.org](http://www.sidsnet.org)).



Many Strong Voices was launched in December 2005 by the **United Nations Environment Programme** to join Arctic and SIDS communities for sharing and enhancing knowledge of and action on climate change challenges, within wider disaster, environment, and sustainability contexts. Parties involved include international organisations, government agencies, non-governmental organisations, indigenous peoples' organisations, research institutes, communities and individuals.

#### The project's aims are to:

1. *Develop capacity to strengthen the role of these regions in negotiations on reducing greenhouse gases and on climate change adaptation.*
2. *Raise awareness about the effects and vulnerabilities of climate change in these regions.*
3. *Increase understanding of needs and solutions, including through research.*
4. *Motivate action on addressing and preventing climate change's adverse impacts.*

The focus is catalyzing local action through the complementary contributions of research, education, and outreach. While external and top-down interventions and exchanges are useful for supporting local action, the most effective manner of reducing vulnerability and living with climate change is through community-based and community-decided initiatives. Many Strong Voices provides the inspiration, impetus, and opportunity to build and maintain these processes for climate change but solidly based on sustainability principles, policies, and practices.

Throughout, one important theme has been recognising that climate change is just one challenge and opportunity amongst many others facing the world. Other social and environmental concerns include rapid population migration (especially urbanisation), biodiversity and eco-diversity losses, the potential loss of languages and cultures, gender and minority inequities, erosion of local knowledge and experiences, manipulation by and dependence on rich governments and corporations, unsustainable natural resource extraction, and many forms of environmental pollution.

These multiple stressors must be considered simultaneously to ensure that tackling one problem, such as climate change, does not create or exacerbate other problems emerging from the myriad of challenges in

today's world. Dealing with climate change should contribute to addressing these other issues and vice versa. With such comprehensiveness, cooperation, and exchange, Many Strong Voices will be heard, leading to positive action for positive change.

**By the Many Strong Voices Team**

**Ilan Kelman** ([islandvulnerability@yahoo.com](mailto:islandvulnerability@yahoo.com))

Oslo, Norway

## The Case of Guyana and its Sea Defences



Guyana's main sea defence are the sea walls, large boulders and the mangrove trees which grow along the sea shores.

Hope Beach is situated approximately 10 miles from the capital city of Georgetown on the East Coast Corridor. It is a popular area especially on holidays where several families will visit for picnics. The main sea defence on this beach is the mangroves.

Empirical studies have shown that mangroves once destroyed would not grow back unless they have been replanted and they usually grow towards the land in swampy areas. However, observations have shown the opposite at Hope Beach, the mangroves are now growing more out towards the sea instead of inwardly. One logical conclusion that could be drawn is that Hope Beach is slowly drying up and causing the mangroves to grow where the right moisture conditions are present.

During the 1980's-1990's, a village known as Plastic City blossomed on the East Bank of the Essequibo River in a swampy area. Plastic City received its name since the houses in that area were initially built from plastic as a form of defence from the rising tide. However, to date there are no longer any plastic houses in that area since as the villagers put it "we moving with de times", all these homes have since been replaced by wooden houses with louver windows. Because of their actions and lack of awareness, they are now caused to change the wood on their homes on a yearly basis since the salty water causes it to rot.

The only form of sea defence in Plastic City are the mangroves and the residents through a lack of knowledge of the importance of the trees as a defence mechanism are cutting down the trees (mangroves) close to their homes on the assumption that they harbour mosquitoes. The removal of the mangroves in this area is making Plastic City more vulnerable and this move is a recipe for disaster since the only form of sea defence has been removed and the first to be affected will be the very people who have chosen to destroy the mangroves.

Guyanese have been removing the first line of sea defence, mangroves, to build resorts and entertainment spots. In the capital City Georgetown, some of the mangroves have been destroyed to build a Resort leading out to the Atlantic Ocean. Others have cut down mangroves because they increase the influx of mosquitoes.

The Government of Guyana are working in collaboration with the Environmental Protection Agency (EPA) and the Ministry of Agriculture (MOA) to develop appropriate education programmes to sensitize people about the importance of the mangroves in preserving our sea defences as well as Climate Change and its impact on the global economy and more particularly how it can affect their own lives.

Ladies and gentlemen, participants all, Climate Change is real, we all have to embrace it and the time is now before it is too late.

Other activities like conserving freshwater and turning out the lights, using renewable energy, driving less and walking more, sharing information with our communities, will help our planet, one step at a time. Let us work within the framework of our **Sandwatch groups**, schools, organizations, communities and countries to make a difference and to begin now to adapt to Climate Change.

**Ms. Paula Tulloch (UNESCO), Ms. Allande Johnson, Environmental Teacher, Alana Mann, Saeed Hamid representing St. Roses' High School**