

# SANDWATCH

**Adapting to climate change and  
educating for sustainable development**



United Nations  
Educational, Scientific and  
Cultural Organization

# What is Sandwatch

Sandwatch is a volunteer network of children, youth and adults working together to monitor and analyze changes in their beach environment. Through Sandwatch, they use a standardized approach, share their findings with the wider community and take action to address issues, enhance their beach environment and build resilience to climate change.

With its practical hands-on approach, Sandwatch is an example of Education for Sustainable Development – an approach to teaching and learning that seeks to empower and encourage people of all ages to assume responsibility for creating and enjoying a sustainable future.

Sandwatch is science in action, applied in the real world in an interdisciplinary manner with applications ranging from geography to art, and from poetry to mathematics. It helps students to apply their school-based learning to everyday life situations.



## THE SANDWATCH VISION

Sandwatch seeks to change the lifestyle and habits of children, youth and adults on a community-wide basis, by developing their awareness of the fragile nature of marine and coastal environments and the need to use them wisely.



UNESCO/H-H Schlicht



Maria Mercedes Brito Feliz



Marine Photobank/Octavio Aburto-Oropeza

# Sandwatch approach

Sandwatch is based on the MAST approach: Monitoring, Analysing, Sharing, Taking action. This involves four simple steps:

- ① Monitoring the beach over time
- ② Analysing the results
- ③ Sharing the findings
- ④ Taking action

## Monitoring the beach over time



The Sandwatch programme is supported by a richly-illustrated manual available in English, French, Portuguese and Spanish – with additional languages under development. Sandwatch uses simple methods and low-cost equipment to investigate the beach environment thereby facilitating access to schools, students and communities at all levels. Sandwatch groups can monitor several or a few key aspects of the beach, such as erosion and accretion, water quality, or the impacts of human activities.

To show how Sandwatch monitoring is done, a series of online tutorial videos have been developed, providing a step-by-step visual demonstration of the activities contained in the Sandwatch manual.



Gillian Cambers



Paul Diamond



Carol Young



## Avarua School: Rarotonga, Cook Islands

Students conducted an investigation into the water quality of the lagoon, which lies between the beach and the barrier reef. Helped by several government agencies, they monitored the level of nutrients and bacteria, as well as the clarity of the water. The students analysed their results and related the high levels of nutrients in the lagoon to animal wastes, fertilizers from agriculture, and discharge of sewage wastes. They prepared several recommendations for their government ministries and concluded with a strong message for everyone:

***‘We cannot change what’s happening in our lagoon unless we change what we are doing on the land. People of this nation, we are the problem, we are the solution.’***

### Sharing the results

3

Sandwatch students around the world are sharing their activities with other schools and the wider community, developing their own newsletters, making presentations, participating in community meetings, conducting questionnaires and posting their Sandwatch videos on the internet.



## English River Secondary School, Mahe, Seychelles

Students formed a Sandwatch Club and made a video showing their activities. The video included footage on measuring the beach and planting trees to combat the erosion that was taking place. Their video, which won a prize in the Sandwatch Climate Change competition, shows how keeping the beach healthy builds ecosystem resilience and reinforces climate change adaptation.

***‘Students selected North East Point beach in Mahe for the beach clean-up activities in 2010 since it is an important recreational and residential area and also the site of a home for elderly. They wanted to give [the beach] back to the community and demonstrate that they cared about the cleanliness of the beach.’***

Ms Wendy Noel, English River Secondary School, Seychelles

Sandwatch is all about understanding the environment in which we live, and helping students develop critical thinking skills and – where relevant – apply them to conflict resolution.

### IPVCE Comandante Ernesto Ché Guevara, Santa Clara, Cuba

Sandwatch students focused their investigation on Los Ensenachos, a large cay where a major hotel was under construction. The students made an inventory of the local flora and fauna and worked with local construction workers to raise their awareness and understanding of the natural ecosystem and the need for environmental conservation. They convinced the developers to help move a community of threatened iguanas to a neighbouring site that was better protected.

***‘However, there is always more work to do. We call upon organisations like UNESCO that promote peace and the rejection of damaging and destructive policies that result in the loss of biodiversity and undermining of environmental stability, to help support activities that target beach users and coastal communities to take action to protect the beach.’***

Daniel Bulgado Benavides,

Instituto Preuniversitario Vocacional de Ciencias Exactas (IPVCE) Ernesto Guevara, Cuba



Alice Loney



Marine Photobank/David Fisk



Gillian Cambers



Craig Wilson



Marine Photobank/Stacy Jupiter

# Sandwatch in practice

Actively engaged in monitoring and analysis of local coastal environments, Sandwatch practitioners can react quickly to address urgent issues.

## Hope Town Primary School: Abaco, Bahamas

2004 marked the start of the Sandwatch programme at Hope Town Primary School, and every year since, a new group of students gets involved. In 2005, their beach was badly damaged by several devastating hurricanes. The government used heavy equipment to scrape sand from the sea bottom to restore the sand dunes. Assisted by the community, Hope Town Primary Sandwatchers worked tirelessly to plant the newly-constructed dunes with 'sea oats', a hardy dune grass. Six years later, in 2011, the area was again impacted by a hurricane, but this time the dune stood firm – the roots of the sea oats did their job and held the sand in place.

***'Sandwatch takes you places you never dreamed of going and gives you knowledge that will not be acquired on ordinary occasions. I have been able to impart new ideas into my classroom sessions. Sandwatch is an experience you will never want to forget.'***

Marsha Gregg, Teacher,  
Bequia Community High School, St. Vincent and the Grenadines

Education for  
sustainable  
development is  
education for life.



# Support for Sandwatch

Sandwatch is a United Nations Educational, Scientific and Cultural Organization (UNESCO) initiative, supported by a wide range of partners, including the non-profit Sandwatch Foundation.

## **Find out more about Sandwatch**

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

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

The global Sandwatch network is connected through the Sandwatch website. The website includes information on Sandwatch teams in participating countries and their Sandwatch activities, links to UNESCO publications on Sandwatch and the regular newsletter *The Sandwatcher*.

The Sandwatch website also provides links to the Global Sandwatch database where participating groups upload their monitoring data, which visitors can view.

## **To find out more about Sandwatch, contact:**

UNESCO Sandwatch coordinator: [k.ikhlef@unesco.org](mailto:k.ikhlef@unesco.org) or [sandwatch@unesco.org](mailto:sandwatch@unesco.org)

Or the Sandwatch Foundation:

Gillian Cambers: [g\\_cambers@hotmail.com](mailto:g_cambers@hotmail.com)

Paul Diamond: [pdiamondskn@gmail.com](mailto:pdiamondskn@gmail.com)

The digital version of this publication can be viewed and downloaded at:

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

Cover photo: Marine Photobank/Victor Casillas Romo



United Nations  
Educational, Scientific and  
Cultural Organization

SIDS  
Intersectoral Platform

