



## ***Short bibliography on European Ocean Literacy Activities***

**Deliverable 8.2 Work Package 8 Ocean Literacy**

*Authors: Ciência Viva*

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## **Definition**

Ocean knowledge, including literacy, is a prerequisite for the innovation and sustainable growth of the marine and the maritime sector. Therefore it is crucial that citizens, stakeholders and policy makers do understand the value of the ocean to be able to take informed decisions on issues that will affect their lives and those of the generations to come.

Defining and implementing ocean literacy in Europe is still a challenge due to the rich cultural and linguistic diversity that characterizes our continent, the different educational systems and the different ways of connecting and living with the sea.

## **Rationale**

Improving the transatlantic cooperation on ocean literacy activities will contribute for the consolidation of existing networks from both sides of the Atlantic and will facilitate future identification of synergies and complementarities between both sides of the Atlantic Ocean.

## **Objective**

The main objective of this short bibliography is to list ocean literacy-related projects from Horizon 2020, EU collaborative projects (FP7) and non-EU funded projects that contribute for the reinforcement of the transatlantic collaboration, through interaction with partner institutions from Canada, United States, and the South Atlantic region, such as Brazil and South Africa. In addition, this report includes a non-exhaustive list of projects that could benefit from transatlantic collaboration.

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## 1. European Funded Projects

### 1.1. Horizon 2020

**Title:** **Protecting the Ocean: our collective responsibility, our common interest - Supporting the development of cost-effective ocean literacy in Europe**

**Acronym:** ResponSEABLE

**Co-ordinator (organisation/affiliation, country):** Acteon (France) (Pierre Strosser).

**Keywords/themes:** marine ERA-NET, governance, regional basins

**Duration:** 48 months (01 May 2010 - 30 April 2014)

**Link:** <http://www.responseable.eu/>

#### **Abstract/Description:**

ResponSEABLE is a BG-13 project that aims at supporting the emergence of an effective and dynamic European ocean knowledge system that contributes to raising awareness on everybody's (individual and collective, direct and indirect) responsibility and interest in a healthy and sustainable ocean. The main objectives are: 1) To contribute to the sharing of knowledge on the human-ocean relationships; 2) To support the development of cost-effective initiatives and strategies on ocean literacy in Europe; 3) To raise the awareness of specific target groups on their role and responsibility to achieving the sustainable development of the oceans.

This research will build towards an interactive and publicly accessible ocean knowledge system which can be used to develop and test innovative targeted communication materials including social media activities and serious games. It will also feed into the development of clear guidance for ocean literacy decision makers on the development of effective strategies. The ResponSEABLE project is regionally focused, and will cover North and Atlantic, Black, Baltic and Mediterranean seas, mobilising regional stakeholders and building on existing initiatives.

**Results Pertinent to Atlantic Ocean Research Alliance:** This project aims to contribute for the sharing of knowledge on the human-ocean relationships.

**USA/CA Partners/Interactions:** **Duke University** (USA), **Institut des sciences de la mer de Rimouski (ISMER)** (Canada), **Memorial University of Newfoundland** (Canada).

**Other Transatlantic Partners/Interactions:** None.

#### **Links:**

<http://www.responseable.eu/kick-off-responseable-put-up-the-sails-and-pipe-all-hands-on-deck/>

**Title:** Sea Change

**Acronym:** Sea Change

**Co-ordinator (organisation/affiliation, country):** Marine Biological Association of the United Kingdom (UK) (Jon Parr).

**Duration:** 35 months (March 2015-February 2018)

**Link:** <http://www.seachangeproject.eu/>

**Abstract/Description:**

Sea Change is a BG-13 project that aims to establish a fundamental “Sea Change” in the way European citizens view their relationship with the sea, by empowering them, as Ocean Literate citizens, to take direct and sustainable action towards a healthy ocean and seas, healthy communities and ultimately a healthy planet.

Over the next three years, the team will work to make a ‘sea change’ in the way that Europeans view the ocean. The idea is that citizens who have a real understanding of principles and concepts related to the ocean will be equipped to make informed decisions. Specifically, the project tasks will involve reviewing and compiling existing information related to this area and using social innovation to support a number of mobilisation actions connected to Life Long Learning and the Blue Schools Network. Indeed a number of relevant and influential networks – such as the European network of science centres and museums (Ecsite), the European Association of Geographers (EUROGEO) and United Nations Educational, Scientific and Cultural Organisation (UNESCO), and the European Marine Science Educators Association (EMSEA) – are partners on the project.

**Results Pertinent to Atlantic Ocean Research Alliance:** Yes. Sea Change will educate and engage a wide range of audiences – from scientists to sailors and pupils to policy-makers – not only on the vital importance of a healthy Ocean to the health of humanity, but on their role in maintaining ocean health into the future through simple everyday actions.

**USA/CA Partners/Interactions:** NOAA (USA), Consortium for Ocean Leadership (USA), NMEA/ The Lawrence Hall of Science, University of California (USA), The Ocean Project (USA), CaNOE (Canada), COSEE (Canada).

**Other Transatlantic Partners/Interactions:** CeDe Pesca (Argentina) (WON Latin America and the Caribbean).

**Links:**

Events <http://www.seachangeproject.eu/seachange-events/events-all-2>

Activities <http://www.seachangeproject.eu/seachange-media-2/media-center>

**Title:** **Optimizing and Enhancing the Integrated Atlantic Ocean Observing System**

**Acronym:** AtlantOS

**Co-ordinator (organisation/affiliation, country):** GEOMAR Helmholtz Centre for Ocean Research Kiel, Germany (Martin Visbeck).

**Link:** <https://www.atlantos-h2020.eu/>

**Duration:** 50 months (April 2015 – June 2019)

**Abstract/Description:**

AtlantOS is a BG 8 research and innovation project that proposes the integration of ocean observing activities across all disciplines for the Atlantic, considering European as well as non-European partners. The main target of the AtlantOS initiative is to deliver an advanced framework for the development of an integrated Atlantic Ocean Observing System that goes beyond the state-of-the-art, and leaves a legacy of sustainability after the life of the project. The main objectives are: to improve international collaboration in the design, implementation and benefit sharing of ocean observing; to promote engagement and innovation in all aspects of ocean observing; to facilitate free and open access to ocean data and information; to enable and disseminate methods of achieving quality and authority of ocean information; to strengthen the Global Ocean Observing System (GOOS) and to sustain observing systems that are critical for the Copernicus Marine Environment Monitoring Service and its applications; and to contribute to the aims of the Galway Statement on Atlantic Ocean Cooperation.

**Results Pertinent to Atlantic Ocean Research Alliance:** AtlantOS will strengthen the transatlantic collaboration, through close interaction with partner institutions, developing an integrated Atlantic Ocean Observing System that will go beyond the state-of-the-art, and leaves a legacy of sustainability after the life of the project. The access to updated information on the ocean is essential for OL community.

**USA/CA Partners/Interactions:** Dalhousie University (DU) (Canada), The Marine Environmental Observation Prediction and Response (MEOPAR) (Canada), Woods Hole Oceanographic Institution (USA).

**Other Transatlantic Partners/Interactions:** Ministério da Ciência, Tecnologia e Inovação (MCTI) (Brazil), Council for Scientific and Industrial Research (CSIR) (South Africa).

**Links:**

Work packages <https://www.atlantos-h2020.eu/structure/>

**Title:** Green Bubbles

**Acronym/reference:** Green Bubbles

**Co-ordinator (organisation/affiliation, country):** Polytechnic University of Marche, Environmental sciences, IT & Engineering, Studio Associato Gaia, UBICA, Innovasub, DAN Europe, NHTV University of Applied Sciences, North-West University, College of Exploration, DAN South Africa.

**Duration:** 36 months (January 2015-December 2018)

**Link:** <http://www.greenbubbles.eu>

**Abstract/Description:**

Green Bubbles is a project funded by European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie Actions Research and Innovation Staff Exchange (RISE) dedicated to **recreational SCUBA diving**, an activity engaging millions of people worldwide. Green Bubbles will maximise the benefits associated with diving while minimising its negative impacts, thus achieving the environmental, economic and social sustainability of the system. The project intends to pursue the following objectives: 1) Put the European diving system in focus, establishing a dialogue with all stakeholders; 2) Thorough segmentation of 3 key components of the system (divers, professionals and operators); 3) Enhance the traditional offer by the diving industry; 4) Bring innovation to the diving industry by introducing diving and Ocean Literacy principles in school curricula; 5) Bring innovation to the diving industry by transforming Citizen Science in an opportunity for operators and Marine Protected Areas (MPAs); 6) Bring innovation to the diving industry by developing IT tools supporting the other objectives; 7) Design tailored business models and promotional strategies for the adoption of innovation by the system. Green Bubbles is run by a consortium of nine entities, including universities, research organisations, educational organisations and SMEs from Italy, the Netherlands, Malta, Turkey, South Africa and the United States.

**Results Pertinent to Atlantic Ocean Research Alliance:** Yes. Green Bubbles aims to bring innovation to the diving industry by introducing diving and Ocean Literacy principles in school curricula.

**USA/CA Partners/Interactions:** College of Exploration (USA).

**Other Transatlantic Partners/Interactions:** Divers Alert Network (DAN) (South Africa), North West University (South Africa).

**Links:**

Events <http://www.greenbubbles.eu/?cat=23>

## 1.2 Seventh Framework Programme (FP7)

**Title:** Marine Litter in European Seas - Social Awareness and Co-Responsibility

**Acronym/reference:** MARLISCO

**Co-ordinator (organisation/affiliation, country):** Provincia di Teramo, ITALY (Doriana Calilli).

**Duration:** 36 months (2012-2015)

**Link:** <http://www.marlisco.eu/>

### **Abstract/Description:**

The MARLISCO project seeks to raise societal awareness of both the problems and the potential solutions relating to a key issue threatening marine habitats worldwide: the accumulation of marine litter. The main objectives of the MARLISCO project are to increase the awareness of the consequences of societal behaviour in relation to waste production and management on marine socio-ecological systems, to promote co-responsibility among the different actors, to define a more sustainable collective vision, and to facilitate grounds for concerted actions through the successful implementation of the MMLAP. The main focus is to provide and evaluate mechanisms to enable society to perceive the impact of litter on the marine environment, to identify the land-based activities that are involved and collectively arrive at solutions to reduce that impact – in particular solutions that can be implemented locally but have a regional effect. MARLISCO activities take place in the four European Regional Seas: North-East Atlantic, Baltic, Mediterranean and Black Sea, by a consortium with members located in 15 coastal countries.

**Results Pertinent to Atlantic Ocean Research Alliance:** Yes. MARLISCO's overarching goal was to raise public awareness, facilitate dialogue and promote co-responsibility among the different actors towards a joint vision for the sustainable management of marine litter across all European seas. It has created resources and best practices that are valuable for the OL community.

**USA/CA Partners/Interactions:** No, but there is potential for transatlantic interactions.

**Other Transatlantic Partners/Interactions:** None.

### **Links:**

Educational Activities <http://www.marlisco.eu/education.en.html>

Video Contest about Marine Litter <http://www.marlisco.eu/video-contest.en.html>

A serious game on marine litter for youngsters <http://www.marlisco.eu/serious-game.en.html>

Interactive documentary: Troubled Waters <http://www.marlisco.eu/troubled-waters.en.html>

Facebook [MARLISCO Ireland](#)

**Title:** Towards a Blue Society, Towards a New Society.

**Acronym:** Sea for Society (SFS)

**Co-ordinator:** Nausicaá, Centre National de la Mer, France (Manuel Cira).

**Duration:** 42 months (1 June 2012- 30 November 2015)

**Link:** <http://seaforsociety.eu/np4/home.html>

**Abstract/Description:**

**Sea for Society (SFS)** is a European Project funded by DG Research & Innovation under the Theme Science in Society. The project engaged stakeholders, citizens and youth in an open and participatory dialogue to share knowledge, forge partnerships and empower actors on societal issues related to Ocean. In doing so, the project aimed to develop and enrich the concept of "Blue Society", preparing at the same time mechanisms for cooperation. Public Engagement in Research (PER) as it relates to European maritime policy is at the core of the process. SFS mobilized marine researchers, Civil Society Organisations - CSO's and individual citizens and youth through mutual learning and open dialogue to debate key societal questions related with the Ocean, extracted cross-cutting issues and proposed challenge-driven solutions to fostering the sustainable management of marine eco-system services.

The project has brought together a multidisciplinary partnership of 20 partners from 10 countries representing marine research institutes, funding agencies, science museums and aquaria, CSO's, higher education institutes and business networks. From 2012 to 2015, SFS aimed in shaping the new concept of "Blue Society" and improve the governance of research related to the oceans and seas. It's a first step for a cross-sectorial dialogue in Europe on the relation between the Ocean and the daily life activities of the citizens.

**Results Pertinent to Atlantic Ocean Research Alliance:** Yes. The SFS aimed to foster an integrated vision towards a sustainable use of marine ecosystems services and a balanced use of marine resources. The SFS has produced resources that are valuable for the OL community.

**USA/CA Partners/Interactions:** No, but there were informal collaborations with the Lawrence Hall of Science (USA) through the University of Gothenburg.

**Other Transatlantic Partners/Interactions:** None.

**Links:**

SFS News <http://seaforsociety.eu/np4/news>

**Title:** **Changes in carbon uptake and emissions by oceans in a changing climate**

**Acronym:** CARBOCHANGE

**Co-ordinator (organisation/affiliation, country):** University of Bergen, Norway Geophysical Institute and Bjerknes Centre for Climate Research (Christoph Heinze).

**Duration:** 42 months (March 2011 - February 2015)

**Link:** <https://carbochange.b.uib.no/>

**Abstract/Description:**

CARBOCHANGE investigated the ocean's quantitative role in the uptake of carbon under changing climate conditions, thereby using past and present data to infer on our ocean's future.

The CARBOCHANGE project included 30 partners from 15 countries across Europe, Africa (South Africa and Morocco) and North America (Canada and USA). Many of the researchers will continue their work at their own institutions and furthermore contribute to the lasting legacy of the project (e.g. SOCAT, GLODAP and various Earth system model runs for international assessments).

**Results Pertinent to Atlantic Ocean Research Alliance:** Yes. The access to updated information on the ocean is essential for OL community.

**USA/CA Partners/Interactions:** [Dalhousie University \(DU\)](#) (Canada), [Princeton University \(PU-AOS\)](#) (USA).

**Other Transatlantic Partners/Interactions:** [Council for Scientific and Industrial Research \(CSIR\)](#) (South Africa).

**Links:**

Media Centre <https://carbochange.b.uib.no/media-centre/>

**Title:** Development of global plankton data base and model system for eco-climate early warning

**Acronym:** GreenSeas

**Co-ordinator (organisation/affiliation, country):** Nansen Environmental and Remote Sensing Center, Norway (Johnny Johannessen).

**Duration:** 24 months (January 2011- 2013)

**Link:** <http://greenseas.eu>

**Abstract/Description:**

GreenSeas aimed to advance the quantitative knowledge of how planktonic marine ecosystems, including phytoplankton, bacterioplankton and zooplankton, to respond to environmental and climate changes. To achieve this GreenSeas employed a combination of observation data, numerical simulations and a cross-disciplinary synthesis to develop a high quality, harmonized and standardized plankton and plankton ecology long time-series, data inventory and information service. The GreenSeas project had four key scientific objectives: 1) To assess the current state of the marine planktonic ecosystem by providing benchmarks of its present state for the future assessment of climate change; 2) To improve the knowledge base and understanding of the impacts of climatic and anthropogenic change on planktonic ecosystem structure and function; 3) To improve the ability to model and project future marine ecosystem states; 4) To apply the ecosystem approach to GreenSeas data to derive a suite of indicators of which describe changes in ecosystem function. And three technological and communication objectives: 1) To improve the technology for accessing historical plankton and associated environmental data sets, along with earth observation data and simulation outputs; 2) To enhance international cooperative links with other plankton monitoring and analysis surveys around the globe; and 3) To transfer knowledge to society.

**Results Pertinent to Atlantic Ocean Research Alliance:** Yes. GreenSeas aimed on enhancing international cooperative links with other plankton monitoring and analysis surveys around the Atlantic. The access to updated information on the ocean is essential for OL community.

**USA/CA Partners/Interactions:** None.

**Other Transatlantic Partners/Interactions:** Universidade Federal do Rio Grande (FURG) (Brazil), University of Capetown (UCT) (South Africa), Council of Scientific and Industrial Research (CSIR) (South Africa).

**Links:**

Outreach & Knowledge Transfer <http://greenseas.eu/content/outreach-knowledge-transfer>

**Title:** Marine Microbial Biodiversity, Bioinformatics, Biotechnology

**Acronym:** Micro B3

**Co-ordinator (organisation/affiliation, country):** Jacobs University Bremen, Germany (Frank Oliver Glöckner).

**Duration:** 48 months (January 2012- 2016)

**Link:** <https://www.microb3.eu>

**Abstract/Description:**

The EU 7FP project Micro B3 aimed to develop innovative bioinformatic approaches and a legal framework to make large-scale data on marine viral, bacterial, archaeal and protists genomes and metagenomes accessible for marine ecosystems biology and to define new targets for biotechnological applications. Micro B3 built upon a highly interdisciplinary consortium of 32 academic and industrial partners comprising world-leading experts in bioinformatics, computer science, biology, ecology, oceanography, bioprospecting and biotechnology, as well as legal aspects. Micro B3 was based on a strong user- and data basis from ongoing European sampling campaigns to long-term ecological research sites. For the first time a strong link between oceanographic and molecular microbial research has been established to integrate global marine data with research on microbial biodiversity and functions. The Micro B3 Information System provided innovative open source software for data-processing, -integration, -visualisation, and -accessibility. Interoperability is the key for seamless data transfer of sequence and contextual data to public repositories. To underline the translational character of Micro B3, outreach and training activities for diverse stakeholders are ongoing as well as an Ocean Sampling Day to transparently make project results accessible and gain valuable user feedback.

**Results Pertinent to Atlantic Ocean Research Alliance:** Yes. Micro B3 launched The Ocean Sampling Day (OSD), a global scientific campaign to analyse marine microbial biodiversity and function, taking place during the summer solstice.

**US/CA Partners/Interactions:** None.

**Other Transatlantic Partners/Interactions:** None.

**Links:**

Projects related to MicroB3 <https://www.microb3.eu/links/projects>

**Title:** Action on Climate Change through Engagement, Networks and Tools

**Acronym:** ACCENT

**Co-ordinator (organisation/affiliation, country):** Fondazione IDIS-Città della Scienza, Naples, Italy (Anne-Marie Bruyas).

**Duration:** 24 months (31 March 2009 - 30 March 2011)

**Link:** <http://www.ecsite.eu/activities-and-services/projects/accent>

**Abstract/Description:**

ACCENT proposed contributing to a global effort, in order to move the campaign for climate change from the "informative" to the "active" phase, through the exchange and dissemination of the best practices, with specific actions that encouraged the involvement of citizens in actions and in dialogue. Through ACCENT, the science centre community itself strengthened the efforts, which its institutions made at the local level in a one-year European Communication Action on climate change issues, the "I Do Campaign", for the dissemination of research results, and established a dialogue among scientists, stakeholders and the public through participatory practices. They capitalized on their skills in a European sustainable web platform that acted as a "collector", as well as a "disseminator", for any organizations dealing with public engagement in science. ACCENT assessed the outcomes from the engagement and the participation of the public, and delivered reliable data on the European citizens' opinions on and perceptions of climate change issues through Local Citizens Debates.

**Results Pertinent to Atlantic Ocean Research Alliance:** Yes.

**USA/CA Partners/Interactions:** None.

**Other Transatlantic Partners/Interactions:** None.

**Links :**

*I DO* campaign <http://www.i-do-climate.eu/>

## 2. Non-EU Funded Projects, Programs and Initiatives

**Title:** Educational Passages

**Link:** <http://educationalpassages.com/>

**Coordinator (organisation/affiliation, country):** Dick Baldwin (USA).

### **Abstract/Description:**

Educational Passages began as an idea from the solo-sailor Dick Baldwin. After completing his lifelong dream of a solo sail he launched Educational Passages as a project to educate youngsters about the sciences of the world's oceans. It started in 2008 with small satellite transceivers mounted on the deck of miniature sailboats designed to journey with the ocean winds and currents. Since then it has grown with new boat designs, new partnerships and more importantly, with an expanded audience. There are now people of all ages tracking the boats and involved in various stages of education, launch, recovery, and outreach. Clubs, schools, libraries, individuals, and foundations have all joined in the "mission". Since the beginning of the project the boat *WEST* has reached the coast of several countries including Portugal, Spain, France and South America. The tracking of the boat *West* has attracted a lot of attention and collaborations from schools both margins of the Atlantic. The project is presently being improved so that the sailboats include more sensors.

**Results Pertinent to Atlantic Ocean Research Alliance:** Yes.

**EU Partners/Interactions:** Yes.

**Other Transatlantic Partners/Interactions:** Yes.

**Title:** Exploring the Earth under the Sea

**Coordinator (organisation/affiliation, country):** The International Ocean Discovery Program (IODP).

**Link:** <http://joidesresolution.org/node/4>

**Abstract/Description:**

The *JOIDES Resolution* (JR) is a seagoing research vessel that drills core samples and collects measurements from under the ocean floor, giving scientists a glimpse into Earth's development. This international research program explores the history and structure of the earth as recorded in seafloor sediments and rocks. Scientists take part in ocean drilling studies relevant for climate change, biodiversity, origin of life, natural hazards involving the study of earthquake processes and the internal structure and dynamics of Earth. This international collaboration of 25 has a very comprehensive educational programme where researchers on board share results with teachers and schools and sessions are organized at stopovers.

**Results Pertinent to Atlantic Ocean Research Alliance:** Yes.

**EU/USA/CA Partners/Interactions:** Yes. EU countries participate through ECORD (EU consortium for Ocean Research Drilling).

**Other Transatlantic Partners/Interactions:** Coordination for Improvement of Higher Education Personnel (CAPES) (Brazil).

**Links :**

IODP website <http://www.iodp.org/index.php>

**Title:** FISHACKATHON

**Coordinator (organisation/affiliation, country):** U.S. Department of State (USA).

**Link:** <http://www.fishackathon.co/>

**Abstract/Description:**

Fishackathon was launched in 2014 around Secretary Kerry's Our Ocean conference. Fishackathon was established to congregate brilliant minds for the purpose of developing usable solutions to address the problem of worldwide overfishing. Fishackathon brings together computer programmers to find innovative ways to collect and analyze data, and find solutions for unsustainable fishing practices. Fishackathon 2016 is hosted by the U.S. Department of State, and is the third annual event.

**Results Pertinent to Atlantic Ocean Research Alliance:** Yes. The second annual Fishackathon in 2015 expanded to 12 cities worldwide, including hackathons in Asia, Europe, and Latin America.

**EU Partners/Interactions:** Yes.

**Other Transatlantic Partners/Interactions:** None.

**Links:**

Fishackathon in U.S. Department of State (USA) website <http://www.state.gov/s/partnerships/fishackathon/>

### 3. Other Projects and Initiatives that could benefit from TOL collaboration

**Title:** **Life Around the Turbines**

**Coordinator (organisation/affiliation, country):** Marine Biological Association (MBA) (UK).

**Link:** [www.mba.ac.uk/learningzone/lifearoundtheturbines](http://www.mba.ac.uk/learningzone/lifearoundtheturbines)

**Abstract/Description:**

Life around the turbines brings together environmental and technical information on offshore wind farms in an exciting range of resources and workshops for schools. The project has been developed with funding from COWRIE (Collaborative Offshore Wind Research Into the Environment) and is led by the MBA.

**Results Pertinent to Atlantic Ocean Research Alliance:** Yes.

**EU/CA Partners/Interactions:** None.

**Other Transatlantic Partners/Interactions:** None.

**Links:**

COWRIE website <http://tethys.pnnl.gov/institution/collaborative-offshore-wind-research-environment-cowrie>

**Title:** **The Hydrobot**

**Coordinator (organisation/affiliation, country):** Sea Grant Massachusetts Institute of Technology (MIT) (USA).

**Link:** <http://www.seaperch.org/index>

**Abstract/Description:**

The Hydrobot is an underwater unmanned vehicle (Remotely Operated Vehicle-ROV) that students construct using everyday materials and simple instructions. It is based on SeaPerch, a program developed by MIT Sea Grant (MITSG) in 2003. During construction, students build STEM skills, learn to work in teams and explore certain professions. The

construction can be part of an in-school or out-of-school activity. In both cases students explore different science curriculum related concepts in a hands-on fashion. Students can expand their creativity and innovation skills by upgrading their Hydrobot with underwater cameras, sensors and other components, to increase its exploration capabilities. The program SeaPerch spread beyond MIT to more than 200 U.S. schools and now has 2,000 professors and teachers and more than 26,000 students.

**Results Pertinent to Atlantic Ocean Research Alliance:** Yes. The program SeaPerch spread to other countries, such as Greece, Cyprus and France.

**EU Partners/Interactions:** Eugenides Foundation, Greece.

**Other Transatlantic Partners/Interactions:** None.

**Links:**

News <http://greece.greekreporter.com/2012/10/16/mits-hydrorobot-heading-for-greek-schools/>

**Title:** **Marine Debris Trackers**

**Coordinator (organisation/affiliation, country):** NOAA Marine Debris Division and the Southeast Atlantic Marine Debris (USA).

**Link:** <http://marinedebris.noaa.gov/partnerships/marine-debris-tracker>

**Abstract/Description:**

The mobile app called Marine Debris Trackers was developed by a joint partnership of the NOAA Marine Debris Division and the Southeast Atlantic Marine Debris Initiative. Beachgoers can tag the place of discovery of marine litter on a map upload photos of the garbage found on the beach. The locations and materials collected serve as a “simple tool for marine debris data collection”.

**Results Pertinent to Atlantic Ocean Research Alliance:** Yes. Since 2006, the NOAA Marine Debris Program has led national and international efforts to research, prevent, and reduce the impacts of marine debris.

**EU Partners/Interactions:** None.

**Other Transatlantic Partners/Interactions:** None.

**Links:**

Marine Debris Program <http://marinedebris.noaa.gov/about-us>

**Title:** **Marine LitterWatch (MLW)**

**Coordinator (organisation/affiliation, country):** European Environment Agency.

**Link:** <http://www.eea.europa.eu/highlights/new-mobile-phone-app-will>

**Abstract/Description:**

In 2013 the European Environment Agency released the Marine LitterWatch mobile application for citizen engagement in fighting marine litter. It also has a web portal and a public database - to collect and share comparable data on marine litter on beaches. It also provides a platform for marine litter communities to come together, share their knowledge and co-create approaches to monitoring marine litter. MLW has been developed by the EEA in collaboration with the [Marine Conservation Society](#), the [Institute for Water of the Republic of Slovenia](#), the [North Sea Foundation](#) and the [PERSEUS](#) FP7 research project.

**Results Pertinent to Atlantic Ocean Research Alliance:** Yes.

**USA/CA Partners/Interactions:** None.

**Other Transatlantic Partners/Interactions:** None.

**Links:**

European Environment Agency <http://www.eea.europa.eu/>

**Title: The Ocean CleanUp Device**

**Coordinator (organisation/affiliation, country):** The Ocean Cleanup Foundation, The Netherlands (Boyan Slat).

**Link:** <http://www.theoceancleanup.com/?gclid=CLen7OW9vcoCFQoCwwodJwYPKg>

**Abstract/Description:**

The Ocean Cleanup is developing world's first feasible method to rid the oceans of plastic, the *Ocean CleanUp* Device. Out of a school project, Boyan Slat invented a device intended to catch 42% of the marine litter in the great pacific garbage patch within 10 years. Barriers fixed to the seabed should catch the litter and leading it to a central point, where it could be collected by boat. Boyan started a non-profit organization called The Ocean Cleanup Foundation, which is in charge of the development of his intended technologies. This device has the potential to save the lives of hundreds of thousands of aquatic animals each year and decrease the build-up of pollutants (such as DDT and PPT) in the food chain. It may also save millions annually with respect to clean-up expenses, damage to marine vessels and lost tourism. A crowd funding campaign was able to raise nearly \$2.2 million which means the organization can now begin the pilot phase of the project. Now, the project is accompanied by hundreds of scientists, preparing for a feasibility study. In 2016 the first *Ocean CleanUp* Device is going to be installed near an island between Japan and South Korea.

**Results Pertinent to Atlantic Ocean Research Alliance:** Yes.

**USA/CA Partners/Interactions:** None.

**Other Transatlantic Partners/Interactions:** None.

**Links:**

Ocean CleanUp video [https://www.youtube.com/watch?feature=player\\_embedded&v=6ljaZ2g-21E](https://www.youtube.com/watch?feature=player_embedded&v=6ljaZ2g-21E)

CLEVERism website <http://www.cleverism.com/saving-world-business-ideas-cleaning-ocean-plastic-waste/>

**Title:** **Plastic-eating marine drone**

**Coordinator (organisation/affiliation, country):** Elie Ahovi, Adrien Lefebvre, Philomene Lambaere, Marion Wipliez, Quentin Sorel, Benjamin Lemoal (USA).

**Link:** <https://www.behance.net/gallery/14279561/Marine-Drone-1-001-01>

**Abstract/Description:**

In 2012, Elie Ahovi, an industrial design student, introduced the concept of an autonomous underwater drone that could find and destroy plastic. The electric underwater vehicle called the “Marine Drone” which tows a plastic trapping net, a can siphon plastic garbage, ingesting bits of trash in a wide open maw equivalent to that of a whale shark. A circular buoy surrounds the net to balance the weight of the trash it collects. The drone prevents fish and other marine creatures from getting inside its jaws by spreading an annoying for fishes sonic transmitter. The vehicle communicates with its base station and other drones using sonar. The system may be able to stay underwater for two weeks, swallowing tiny plastic shards or whole plastic bottles. With the draining of its batteries, it can go back to an ocean base, and human crews would tow it up and take out the plastic for recycling. This concept is a response to a challenge from Veolia, a France-based environmental services firm that asked students to propose ideas to deal with the problem of the Great Pacific Garbage Patch.

**Results Pertinent to Atlantic Ocean Research Alliance:** Yes.

**EU Partners/Interactions:** None.

**Other Transatlantic Partners/Interactions:** None.

**Title:** Ocean Education Initiative for Newfoundland and Labrador school system

**Coordinator (organisation/affiliation, country):** Oceans Learning Partnership (OLP) (Canada) (Maria G. Giovannini).

**Link:** <http://olp.oceansnl.net/>

The Oceans Learning Partnership (OLP) is the lead organization for a new Ocean Education Initiative for youth in the Newfoundland and Labrador school system, providing a much-needed bridge between K-12 and post-secondary. OLP exposes youth to the world of ocean science, and gets them excited to learn by integrating technology with real-world field experience. OLP is helping to foster the next generation of ocean professionals – benefitting the students, educators, employers, and province of Newfoundland and Labrador. The aim is to offer hands-on learning experiences that excite young people about ocean science and technology and expose them to the many careers available in the ocean sectors. OLP and its partners are focused on the following program priorities: 1) *Coastal Explorers Field Program*; 2) *Digital Oceans Project*; 3) *Marine Interpreters Training and Development*; and 4) *Summer Teachers Institute*.

**Results Pertinent to Atlantic Ocean Research Alliance:** Yes.

**EU Partners/Interactions:** Ireland.

**Other Transatlantic Partners/Interactions:** None.