



UNEPGEMS/Water Capacity Development Centre Newsletter

July 2021

Welcome to the tenth edition of the United Nations Environment Programme (UNEP) GEMS/Water Capacity Development Centre (CDC) newsletter.

Firstly, we hope that you are all safe and well in what continues to be very challenging circumstances in many parts of the world. Here at the GEMS/Water CDC, we have had a big change in the last few months as Dr Debbie Chapman, who is now retiring as Centre Director, has handed the baton over to me. While this is an exciting challenge for me, it is certainly also a daunting task to maintain the exceptional standards that Debbie has set for the centre so far. My first task as the new director is to acknowledge the hard work, dedication, and selfless effort that Debbie and the GEMS team have put into the Centre since its inception in 2015 to make it the success that it is today. I very much hope that we will continue to build on that success over the coming years. While Debbie's huge store of knowledge, wisdom, clarity of vision, good humour and grace will be greatly missed in the day-to-day activities of the centre, I hope that she can continue to advise and support the Centre and will still be in contact with many of you in that role.

I hope you enjoy reading about the activities of the Centre over the last six months. As always, please keep in contact and let us know how we can contribute to improving the water quality monitoring capacity of your country or region.

Dr Timothy Sullivan

Director, UNEP GEMS/Water CDC

A message from the Deputy Director of the UNEP GEMS/Water CDC

Unfortunately for me, this will be the last Newsletter in which I will have any major input. Although I am delighted to be able to welcome Tim as my successor to the role of Director of the Centre, I am also very sad to be retiring. I have really enjoyed the challenge of establishing the Centre and developing and expanding the delivery of our guidance and training. I have particularly enjoyed engaging with you all in workshops and on-line and I will miss the contact and interaction with so many people around the world. However, I hope that I will be able to remain in contact with the Centre and I will be offering my support in whatever way I can.

I wish Tim success in his new role and I hope that he gets the same sense of achievement and purpose from working with you all that I have enjoyed over the last six years.

Dr Deborah Chapman

Deputy Director, UNEP GEMS/Water CDC

Meet the UNEPGEMS/Water Capacity Development Centre Team



Timothy Sullivan

Centre Director: training and advice in freshwater quality, monitoring and assessment.



Deborah Chapman

Deputy Director: training and advice in freshwater quality, monitoring and assessment.



Aoife Nagle

Project Coordinator: administration, project and Analytical Chemistry support for the GEMS/Water CDC.



Lucía Hermida González

Programme Coordinator: developing and running our training courses, including the on-line CPDs, PG Diploma and MSc in Freshwater Quality Monitoring and Assessment.



Steve Hutton

Research Support Officer: developing open access training courses and a platform for the WWQA Capacity Development Consortium.



Mary Kate Bolger

Research Assistant: supporting development and delivery of on-line training.

The UNEP GEMS/Water Capacity Development Centre Team is based in the Environmental Research Institute, University College Cork, Ireland and works closely with our colleagues in the UNEP GEMS/Water Data Centre at the Federal Institute of Hydrology, Koblenz, Germany and the UNEP, Global Programme Coordination Unit in Nairobi, Kenya.

A welcome to the new staff and the new Director

The new director of the UNEP GEMS/Water CDC, Dr Timothy Sullivan, earned his BSc in Environmental Science at UCC, and his PhD at Dublin City University, where he became interested in monitoring aquatic environments. He subsequently completed postdoctoral training at the Department of Chemistry and Chemical Engineering at Eindhoven University of Technology (TU/e), in the Netherlands.



Dr Timothy Sullivan in April 2019 during the field trip of our international students to Gouanne Barra (left and top right pictures) and Inniscarra reservoir (bottom right picture).

Tim re-joined UCC as staff in 2016, where, before he took over as Director of the CDC, he was lecturer in Environmental Science and deputy head of the Environmental Science undergraduate degree programme at the School of Biological, Earth and Environmental Sciences (BEES). Tim has contributed widely to research and teaching programmes in the area of environmental science at UCC, and he has also coordinated UCC's MRes programme in Environmental Sciences. Tim leads the Materials and Environmental Science Applications (MESA) Research Group within the School of BEES and the Environmental Research Institute (ERI) (<https://www.ucc.ie/en/mesa>) and has contributed to over 40 published research papers, books, and conference proceedings in the areas of materials and environmental sciences.

We are also happy to welcome back Mary Kate Bolger to the CDC team. Mary Kate had previously worked with us for three months in May of last year. Currently, Mary Kate is the Research Assistant of the UNEP GEMS/Water CDC. She works on the assessment of sustainable education in freshwater quality monitoring and assessment in Asia, Latin America, and Africa. Her primary duties include liaising with students, updating educational resources, and contributing to support documents for students. She will also explore different countries and universities for potential future projects and collaborations, so feel free to contact her for this purpose at gemsdcadmin@ucc.ie.

Update on our short, on-line, Continuous Professional Development (CPD) courses

The students of the September 2020 intake of our short online courses, the Continuous Professional Development (CPD) courses, finished their courses in January of this year. The second cohort of students of the CPDs got their final official marks at the end of June. The students that successfully completed their studies have already received their Certificate of Completion.

All the students were affected to some extent by Covid restrictions in their home countries, as well as by their personal and professional commitments. These extraordinary circumstances forced some of them to take the opportunity for a deferral, but they are eager to resume their studies in September 2021 and we are more than happy to have them back on board again.

We are also honoured to welcome back old students, who found useful the short online courses in the past and want to keep building on their knowledge, as well as new applicants. In fact, we are currently accepting applications for the next intake that starts mid-September 2021, so don't miss this opportunity. See below the complete information of the courses available with their respective links:

- *Freshwater Monitoring Programme Design:*
<https://www.ucc.ie/en/cpd/options/science/ev6012/>
- *Quality Assurance for Freshwater Quality Monitoring:*
<https://www.ucc.ie/en/cpd/options/science/ev6013/>
- *Data Handling, Assessment & Presentation for Freshwater Quality Monitoring:*
<https://www.ucc.ie/en/cpd/options/science/ev6014/>
- *Water Quality Monitoring and Assessment in rivers/lakes/reservoirs:*
<https://www.ucc.ie/en/cpd/options/science/ev6015/>
- *Water Quality Monitoring and Assessment of Groundwater:*
<https://www.ucc.ie/en/cpd/options/science/ev6016/>
- *Freshwater Quality Monitoring with Biota and Particulate Matter:*
<https://www.ucc.ie/en/cpd/options/science/ev6017/>

You can find a link to the brochure for the short on-line, CPD, courses here:

<https://www.ucc.ie/en/media/research/watercapacitydevelopmentcentre/CPDShortCourses.pdf>

The application forms and more information of the courses is available at

<https://www.ucc.ie/en/gemsdc/onlinecourses/>

Late applications are also admitted and considered for the next intake, which will be running in January 2022.

Update on the Postgraduate Diploma (PGDip) and MSc in Freshwater Quality Monitoring and Assessment

The second cohort of students who started their PGDip and MSc studies in Freshwater Quality Monitoring and Assessment, are currently finishing their second year. Their official marks will be ready at the end of the summer. PGDip students have the opportunity to progress further and obtain an MSc by applying for the third year, if they meet the requirements. We look forward to working closely with them in their third-year projects and to see them keep growing as scientists and researchers in freshwater quality.

This year has been challenging in very different ways due to the Covid-19 pandemic, which has led to the extraordinary decision for the Centre to deliver the module “*Water Quality Monitoring in the Field*” as an online field course. We will miss the interaction with our students and the possibility to meet them in person for this module, but we have been working hard to redesign the field course and convert it into a successful online version. In order to do this, FreshWater Watch sampling kits designed for citizen monitoring of freshwater quality have been acquired and delivered to the students registered for the field module. Students will be able to perform a range of water quality monitoring activities themselves in their home countries and share their experiences with members of the class through photographs and videos.



Preparing the FreshWater Watch kits for delivery to our students. The kits will be used for the online field training module of their PGDip and MSc in Freshwater Quality Monitoring and Assessment.

Extra material will be provided to the students as video recordings where the contributors to this virtual field course go through the main aspects of field sampling and monitoring techniques for freshwater quality assessment.

We will be using the experience and feedback from this virtual field module to develop a virtual field course that can be used for the planned summer school this year and until international travel is again feasible.



Filming of short clips was done for the delivery of the new online version of the field training module of the PGDip and MSc in Freshwater Quality Monitoring and Assessment.

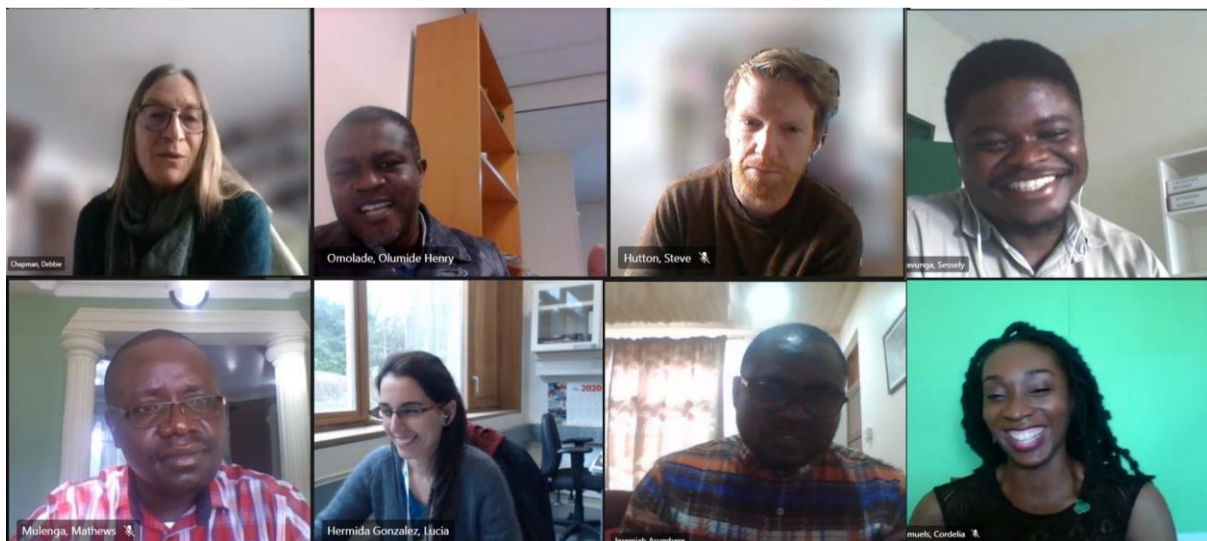
You can find further information on the PGDip here: <https://www.ucc.ie/en/ckr55/>

You can find further information on the MSc here: <https://www.ucc.ie/en/ckr17/>

The next intake of new students to the Postgraduate Diploma and MSc will be in September 2021. **The applications deadline for international students is the 31st of July.**

First cohort of graduates for the MSc in Freshwater Quality Monitoring and Assessment

Due to Covid restrictions all student graduation ceremonies in UCC are being held on-line. We were honoured to share with our very first cohort of MSc graduates in Freshwater Quality Monitoring and Assessment their online conferring ceremony. The staff of the CDC and the students get together online to have a chat about their experience and their future and to watch the conferring ceremony.



Online meeting of the UNEP GEMS/Water CDC staff and the first MSc graduates in Freshwater Quality Monitoring and Assessment to celebrate their conferring ceremony, which was held online due to Covid-19 travel restrictions.

Despite the distance (from places such as Barbados, Ghana, Lesotho, Nigeria, Sierra Leone, Zambia or Zimbabwe), we were able to celebrate and mark this special moment for our students but also for the staff of the CDC. Congratulations to everyone.



The first MSc graduates in Freshwater Quality Monitoring and Assessment.

In the news section of our website (<https://www.ucc.ie/en/gemscdc/news/>) you can learn more about some of the research projects carried out by our students as part of their third year of the MSc:

- Jeremiah Asumbere’s research into freshwater quality in Accra, Ghana (<https://www.ucc.ie/en/gemscdc/news/special-msc-project-feature-jeremiah-asumberes-research-into-freshwater-quality-in-accra-ghana.html>).
- Mohamed Juanah's freshwater quality research in Sierra Leone (<https://www.ucc.ie/en/gemscdc/news/msc-project-feature-mohamed-juanahs-freshwater-quality-research-in-sierra-leone.html>).
- Olumide Omolade's groundwater research in Nigeria and Cameroon (<https://www.ucc.ie/en/gemscdc/news/msc-project-feature-olumide-omolades-groundwater-research-in-nigeria-and-cameroon.html>).
- Mathews Mulenga's water quality monitoring programme in Zambia (<https://www.ucc.ie/en/gemscdc/news/msc-project-feature-mathews-mulengas-water-quality-monitoring-programme-in-zambia-.html>).
- Cordelia Samuel’s characterization of Wastewater Stabilization Ponds effluent discharge and its impact on the South Negril River in Jamaica (<https://www.ucc.ie/en/gemscdc/news/msc-project-feature-cordelia-samuels-characterization-of-wastewater-stabilization-ponds-effluent-discharge-and-its-impact-on-the-south-negril-river-in-jamaica.html>).

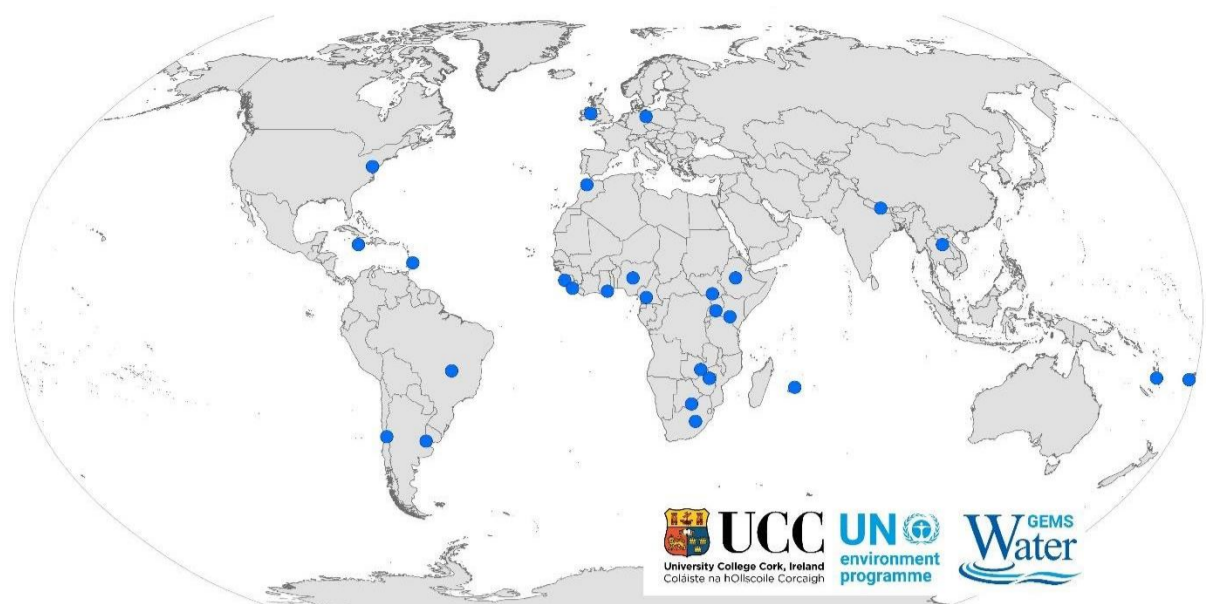
During the first semester of this year, the second batch of students of our MSc did their online master presentations as a final step to complete their MSc. These students were badly affected in different ways by Covid-19 and they had to avail of an extension in the submission date for their research project. However, their willingness to keep learning, their perseverance and enthusiasm led them to successfully finish their third year of the MSc and we are looking forward to celebrating with them their conferring ceremony in July.



Students delivered their MSc student project presentations on-line.

After completing the first two years of the Postgraduate Diploma, our current PGDip students will have the opportunity to progress further in their studies if they meet the requirements. This will allow them to work towards the completion of an MSc in Freshwater Quality Monitoring and Assessment. We are excited to know about their ideas for the research projects.

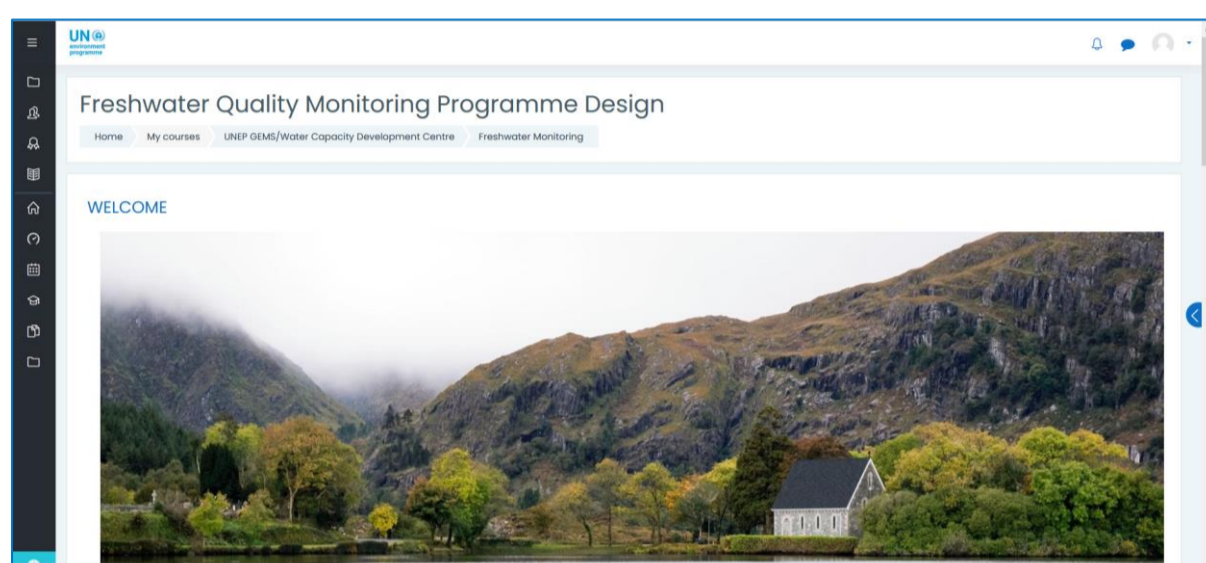
In total, so far, 96 staff from government water authorities, agencies and institutes from 28 different countries have been trained and educated online in freshwater quality monitoring and assessment by the GEMS/Water CDC since 2017.



Home countries of participants taking the on-line MSc, PGDip and short courses delivered by GEMS/Water CDC during the period 2015-2020.

Open Access Capacity Development training materials

We are still working on the Open Access courses, which will be available through UNEP’s eLearning platform (<https://elearning.unep.org>), and in a series of short handbooks in freshwater quality monitoring and assessment.



Interface of the course *Freshwater Quality Monitoring Programme Design* by UNEP GEMS/Water in the UN Environment eLearning platform.

So far, three courses have been adapted to the new open source format and will be available soon. These three courses focus on the design of a freshwater quality monitoring programme; quality assurance; and water quality monitoring and assessment in rivers, lakes and reservoirs.

The courses are fully online and self-paced. The lessons of the courses will be distributed in weeks and you will be able to self-evaluate your progress through a series of Multiple-Choice Questions (MCQs).

<p>WEEK 1</p> <ul style="list-style-type: none"> Week 1: Lesson 1 – Monitoring for information: why monitoring is important Week 1: Lesson 2 – Basic principles of water quality monitoring
<p>WEEK 2</p> <ul style="list-style-type: none"> Week 2: Lesson 3 – The monitoring and assessment process and setting objectives Week 2: Lesson 4 – The preliminary survey
<p>WEEK 3</p> <ul style="list-style-type: none"> Week 3: Lesson 5 – Choosing the right media to sample: water, biota or particles Week 3: Lesson 6 – Biomonitoring
<p>WEEK 4</p> <ul style="list-style-type: none"> Week 4: Lesson 7 – Sampling location and frequency Week 4: Lesson 8 – Hydrological measurements MCQ 1: Weeks 1-4

Weekly distribution of the lessons for the course *Freshwater Quality Monitoring Programme Design* in the UNEP eLearning platform.

A certificate of completion will be issued for those achieving at least an overall score of 80%.

Summer School: freshwater quality monitoring in the field

In January 2020, 22 students from Botswana, Chile, Nepal, Sierra Leone, Zambia and Zimbabwe registered for our short online courses *Freshwater Monitoring Programme Design* and *Data Handling, Assessment & Presentation for Freshwater Quality Monitoring* as a prerequisite for participation in the GEMS/Water Summer School. The objective of this Summer School was to provide training in all the practical aspects of freshwater quality monitoring and assessment from sampling to data handling and analyses in a full, two-week, face-to-face workshop. However, as result of the onset of the Covid-19 pandemic in March 2020, and the associated travel restrictions imposed in many parts of the world, the preparations for the first Summer School in June 2020 were put on a hold.

Because of the interest and need for this kind of specific practical training, it was decided to redesign the Summer School as an online field training course entitled “*Field skills for freshwater quality monitoring*”. The data management component of the original summer school programme is also currently under consideration as a virtual training course.

All the candidates who originally expressed their interest in the Summer School and who meet the requirements, will be given the possibility to participate in these activities when they are ready. The staff of the GEMS/Water CDC, as well as different contributors from the School of Biological, Environmental and Earth Sciences (BEES), are designing and preparing the practical material that will be used in Autumn 2021 and that will be accessible to the students through the online learning environment of University College Cork.



Dr Deborah Chapman and Dr Tim Sullivan filming for the online field training course for freshwater quality monitoring.

Country Story: Sierra Leone and Capacity Development

At the beginning of this year, we shared the good news that Sierra Leone reported their SDG indicator 6.3.2 result to the UN for the first time.


In 2017, during the baseline data drive for this indicator, the national focal point Mr Mohamed Sahr E. Juanah, Director of Hydrological Services of National Water Resources Management Agency (NWMRA), highlighted data gaps and identified the need to build capacity in the country to ensure that water quality data could be collected reliably.

As a first step, the national focal point undertook our Postgraduate Diploma in Freshwater Quality Monitoring and Assessment, which provided him with the knowledge and skills to design a full monitoring programme for the Rokel River basin for the first time.


After the implementation of this monitoring programme, and the collection and analysis of water quality data, an SDG indicator score of 41.7% of designated water bodies with good water quality was reported. Of the 12 water bodies classified, seven failed to meet the 80% compliance criteria for good water quality, and measures to tackle the causes of pollution are needed.




The data obtained also allowed the characterization of the Rokel basin as having naturally very high phosphate and very low electrical conductivity values.



See below the full Case study.



Country Story: Sierra Leone and Capacity Development

Background	Outcomes
<p>Sierra Leone reported for SDG indicator 6.3.2 for the first time in 2020.</p> <p>In 2017, during the baseline data drive for this indicator, the national focal point highlighted data gaps, and identified the need to build capacity in the country to ensure water quality data could be collected reliably.</p> <p>As a first step, the national focal point, Mr Mohamed Sahr E Juanah, Director of Hydrological Services of National Water Resources Management Agency (NWMRA) undertook a Postgraduate Diploma in Freshwater Quality Monitoring and Assessment with the UNEP GEMS/Water Capacity Development Centre, University College Cork, and went on to complete his Master’s thesis.</p> <p>Using the knowledge gained he:</p> <ul style="list-style-type: none"> designed a monitoring programme, secured suitable field equipment, implemented the programme and collected data, and analysed the data and classified the water quality of the Rokel River basin for the first time. 	<p>The new monitoring programme included the establishment of:</p> <ul style="list-style-type: none"> defined monitoring stations and monitoring regime, prescribed analytical procedures, quality control and quality assurance protocols, and standard operating procedures. <p>The first data set collected for Sierra Leone using these criteria will be used as a baseline for future monitoring campaigns.</p> <p>Staff of the NWMRA were trained in water quality monitoring and assessment.</p> <p>It was identified that the Rokel basin has naturally very high phosphate and very low electrical conductivity values.</p> <p>An SDG Indicator score of 41.7 was reported. Of the 12 water bodies classified, seven failed to meet the 80% compliance criteria and measures to tackle the causes of pollution are needed.</p>
 <p><i>Rokel River at Rogbere bridge, Sierra Leone</i></p>	<div style="background-color: #4a7ebb; color: white; padding: 5px; margin-bottom: 5px;">Future</div> <p>Expand monitoring to neighbouring basins and eventually to national level.</p> <p>Develop laboratory-based analytical capacity.</p> <p>Ensure additional staff are trained through continuous professional development courses.</p> <p>Develop a data management framework that allows the data to be stored, analysed, and shared more easily.</p> <p>Further refine the target values used to classify water quality, to improve the sensitivity of the assessment.</p> <p>Implement management actions to identify and mitigate against pollution and improve water quality over time.</p>

Follow us on:  @GemsWaterCDC  GEMS/Water

Country story: Sierra Leone and capacity development. Sierra Leone has reported for the first time for SDG Indicator 6.3.2 in 2020.

Phase 2 of the GEMS/Water CDC

The [UNEP GEMS/Water Capacity Development Centre \(CDC\)](#), based in the [Environmental Research Institute \(ERI\)](#), was established in University College Cork in 2015 to provide global capacity development in water quality monitoring and assessment.

Since 2015, GEMS/Water CDC has engaged with 107 countries from 6 different world regions and staff have travelled to many countries:

- to meet with our global partners to raise the issue of water quality capacity,
- to give training workshops in all aspects of water quality monitoring and assessment, and
- to bring people together to support their efforts towards the Sustainable Development Goal Indicator 6.3.2 for ambient water quality to help achieve Goal 6 of the SDGs.

The first phase of the project concluded in December 2020. Regarding this phase, Dr Deborah Chapman, former Director of the Centre and current Deputy Director, said: *“After five years of educating, upskilling and raising awareness on the topic of freshwater quality, we are now beginning to see the benefits in developing countries.”*



One of the first workshops of the UNEP GEMS/Water CDC in 2016 in Nairobi (Kenya) during phase one of the project.

During the first phase, which was kindly supported by Irish Aid and the Department of Housing, Local Government and Heritage, we established contacts and developed relationships with water department personnel in governments and water sector organisations, and in Universities and institutions concerned with water quality capacity development, from all over the world.

As 2021 began so too did the second phase of GEMS/Water’s capacity development activities. The funding, provided by the Irish government to UNEP, will help support the next three years in which we will continue our work with partners to improve water quality and the ability to monitor and manage it.

Dr Deborah Chapman, currently Deputy Director of the UNEP GEMS/Water CDC, expressed her gratitude to the donors and the commitment of the Centre: *“We are delighted that we can continue the work over the next few years and expand the delivery of capacity development to reach more communities. We are extremely grateful to the Irish Government for continuing to support the Centre in its mission to protect freshwater resources globally and to help countries on their path towards achieving Sustainable Development Goal 6 – ‘water and sanitation for all’.”*



The last face-to-face workshop during phase one of the UNEP GEMS/Water CDC in 2019 in Amman (Jordan).

The continued funding for the Centre for the next three years will enable the current capacity development activities to continue and new activities to commence. We will keep delivering our MSc and PGDip programmes, and the Continuous Professional Development courses accredited by University College Cork.

The Centre will also be taking the lead role in providing and facilitating capacity development globally as part of the [World Water Quality Alliance](#).

The news of the additional funding for the Phase 2 of the UNEP GEMS/Water CDC was also featured by the *UCC News and Views* website. You can read the full article entitled *“Helping bring clean water to millions – additional funding awarded to UCC centre”* in this link: [News and Views | University College Cork \(ucc.ie\)](#)

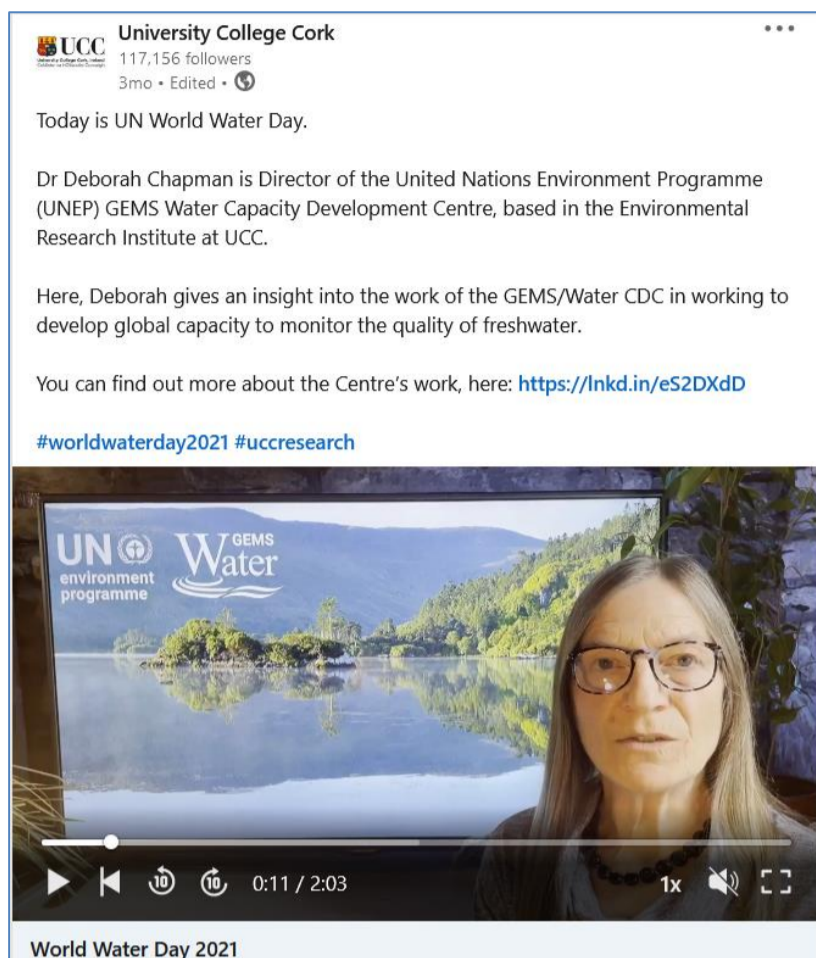
Moreover, you can read the full story, take a look at the UNEP GEMS/Water Story Map and see more pictures in the following link: [News | University College Cork \(ucc.ie\)](#)

Online World Water Day 2021

The 22nd March is World Water Day (WWD) every year. This international celebration was officially established in 1993 to help raise awareness of freshwater resources throughout the world.

The [2021 WWD](#) celebrations were affected for second consecutive year by the Covid-19 pandemic. Most activities were online, including those carried out by the UNEP GEMS/Water CDC.

This year's WWD emphasised what water means to people, its true value and how we can better protect it. The current Deputy Director of the Centre, Dr Deborah Chapman, answered the question *Why do you value water?* In this short video <https://www.youtube.com/watch?v=FIC8UieOd8Q>, where she also explains *What is GEMS/Water?* And *What does GEMS/Water do?*



Video of Dr Deborah Chapman shared by UCC through LinkedIn for World Water Day 2021.

In addition, some of our past and current students answered one of the key questions posed for WWD 2021: *What does water mean to you?* See below their answers.

"Water is life in general and freshwater is necessary for the survival of all living things on planet Earth. It is also an integral part of many ecosystems that support humans and a myriad of other species." **Jeremiah Asumbere**, Senior Programme officer at the Ghana Environmental Protection Agency and one of our first MSc Graduates in Freshwater Quality Monitoring and Assessment.

"To me, water is life. Water is also a valuable resource for saving life. In the midst of the covid-19 pandemic, one of the most important measure in preventing the transmission of covid-19 and other deadly diseases is through the use of clean water to maintain good hand hygiene. The value of water has also been increasingly demonstrated as a vital ingredient in the formulation of disinfectants and vaccines meant to fight against infectious diseases including covid-19. To me, water is also largely an economic good that is helping to uplift the standards of living for the majority of people in Zambia and other developing nations wallowing in abject poverty through the use of water for irrigation, hydropower generation and through trading in bottled drinking water." **Mathews Mulenga**, Environmental and Water Quality Officer at the Water Resources Management Authority in Zambia and MSc in Freshwater Quality Monitoring and Assessment.

"Water is a colourless, transparent, odorless, tasteless compound of hydrogen and oxygen, occurring on earth as rivers, lakes, oceans, etc. It is essential for most plant and animal life and widely used of all solvents, that freezes forming ice at 0oC (32oF) and boils forming steam at 100oC (212oF)."

Imalingat Agnes Nyangan, Senior Water Analyst (Directorate of Water Resources Management, Water Quality Management Department) and one of the first graduates in our PGDip in Freshwater Quality Monitoring and Assessment.

"Personally, Water means the sustainability of life through measurable safeguards". **Cordelia Samuels**, Laboratory Analyst at the National Water Commission in Jamaica and MSc in Freshwater Quality Monitoring and Assessment.

"Coming from a water-scarce country, water means freedom to live normally. When the taps are dry, life slows down, and water becomes the focus. People are waiting on the water trucks thinking about how to store the water, will the water last until the next truck, when will the next truck come, how to get ready for work with no shower, how to get the children ready for school, how to cook dinner, how to flush the toilet. The biggest question: when will water flow again so life can return to normal?"

Megan Cox, Water Quality Specialist at the Caribbean Institute of Meteorology and Hydrology (Barbados) and another one of our first MSc Graduates in Freshwater Quality Monitoring and Assessment.

"Blue gold commodity in limited quantities on planet earth, so the challenges and solutions require leaving no one behind" **Merlin Nganso** from Cameroon and current student of our PGDip in Freshwater Quality Monitoring and Assessment.

"Water is the essential building block of life" **J. Ben Nyahn**, Administrative Assistant at the Mano River Union Liberia and one of our students of the Continuous Professional Development (CPDs) courses.

Our colleagues and friends of the UNEP GEMS/Water CDC also contributed to mark this special day answering the same question *What does water mean to you?*

"Water is one of our single most important resources. Anthropogenic pressures and the climate emergency are placing a significant pressure on our available water resource. We all have a part to play to protect our waterbodies. We need to think globally, but act locally to protect our water resources." **Greg Beechinor**, PhD

"No water, no me." **Ger Morgan**, Director, Aquatic Services Unit, ERI, Ireland

"Freshwaters are nature's life blood – we can't live without them." Professor **Paul Giller**, School of Biological Earth and Environmental Sciences, UCC, Ireland

"Water is life and supports ecosystem diversity! I think of wetlands, large rivers and small trickling streams and the plant and animal life that is supported which I have studied over the years." **Dr Sally Hladyz**, Arthur Rylah Institute for Environmental Research, Victoria, Australia

"Water, the medium for complex, vulnerable and hidden ecosystems." Professor **Philip McGinnity**, School of Biological Earth and Environmental Sciences, UCC, Ireland

"Water is what connects us with our landscape and our natural heritage; we are seldom far from a stream, river or lake, and it feels as if at any moment it can take us down to the sea and all our cares with it." **Dr David McCormick**, Assistant Lecturer Wildlife Biology, School of Science, Technology, Engineering and Maths Tralee Institute of Technology, Ireland.

Some of them also provided beautiful pictures to accompany their quotes. You can take a look at the pictures in our [Twitter](#).

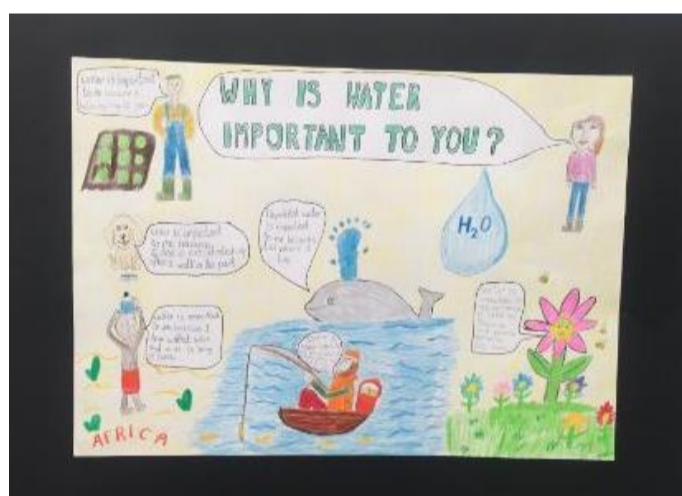
We also celebrated WWD 2021 with students from local primary and secondary schools to raise awareness about the value of water. They participated in a poster competition with the themes "Valuing Water" and "What does water mean to you?"

One of the winners of the primary school group, Beth Coveney (age 11) said "clean water is the start of almost everything. Even the rain in Ireland is essential. For me water means fun!" She accompanied the quote with her winning poster.

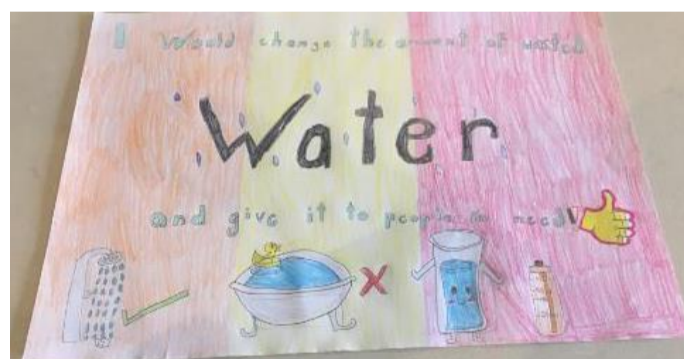


One of the primary school winners of the World Water Day 2021 poster competition, Beth Coveney.

The other winners were Jenny Kenneally and Darragh Cantillon, both in 5th class.



Poster reflecting "Why is water important to you?" by one of the primary school winners of the World Water Day 2021 poster competition, Jenny Kenneally.



Poster by Darragh Cantillon, another of the primary school winners of the World Water Day 2021 poster competition.

We were delighted with the artistic skills of all the participants in the competition, who seem to have very clear the importance of water and why good water quality is essential.

The older students from secondary school also submitted their creations, and some even dared to go further, like Kate O'Regan, from 1st Year and one of the winners in her category with the acrostic that you can see below.



Kate O'Regan's submission for UNEP GEMS/Water poster competition to celebrate World Water Day 2021.

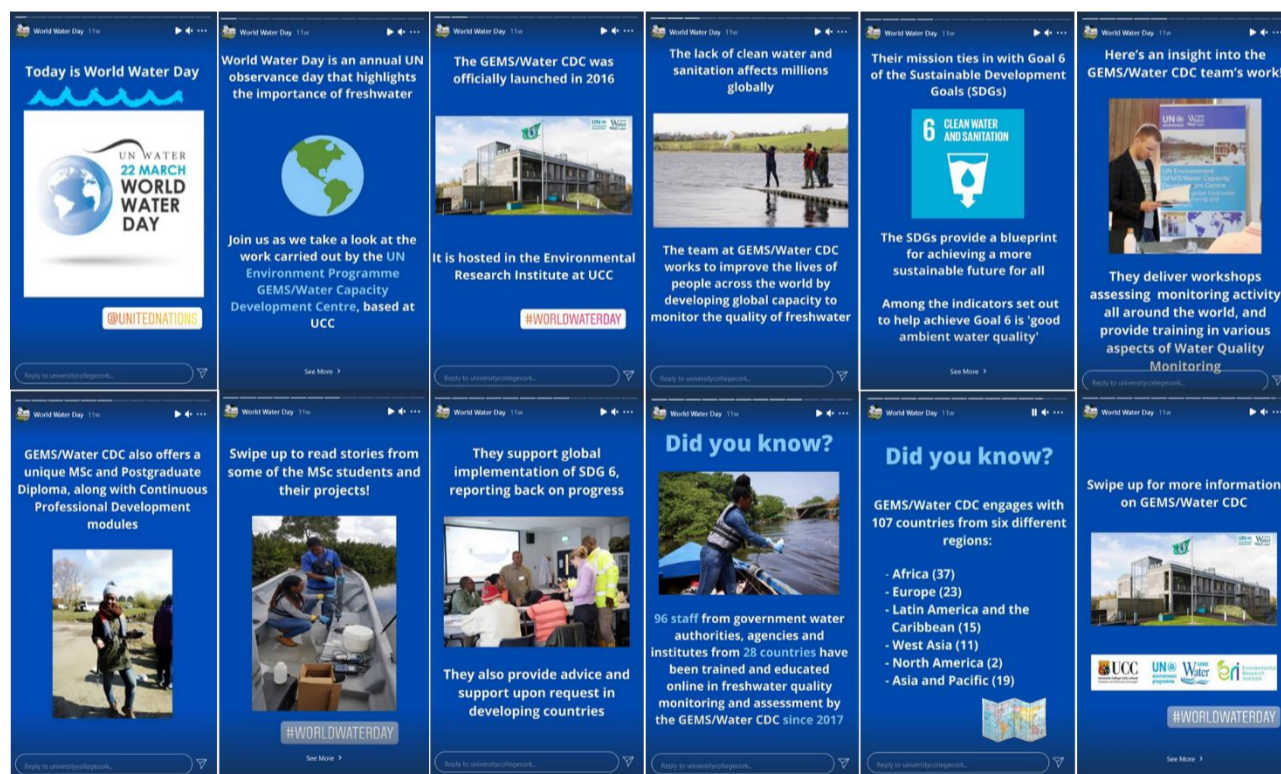
The students had a very clear message that they wanted to get across and they illustrated their message accordingly.



Two of three winning posters for secondary schools to celebrate World Water Day 2021. On the left, Jemima Dambie's poster and on the right, Elodie Leveille's.

You can see the other submissions that we received in the following link: [News | University College Cork \(ucc.ie\)](https://www.ucc.ie/news)

The Communications Office of UCC collaborated with UNEP/GEMS Water CDC staff to spread further the message and to celebrate WWD 2021. The engagement obtained through their media channels was very good, especially in LinkedIn and through the Instagram stories and other posts in Instagram and Twitter.



Screenshots of the stories from the UCC Instagram to celebrate World Water Day 2021 and to present the UNEP/GEMS Water Capacity Development Centre.

GEMS/Water CDC in the World Water Quality Alliance (WWQA) Capacity Development Consortium

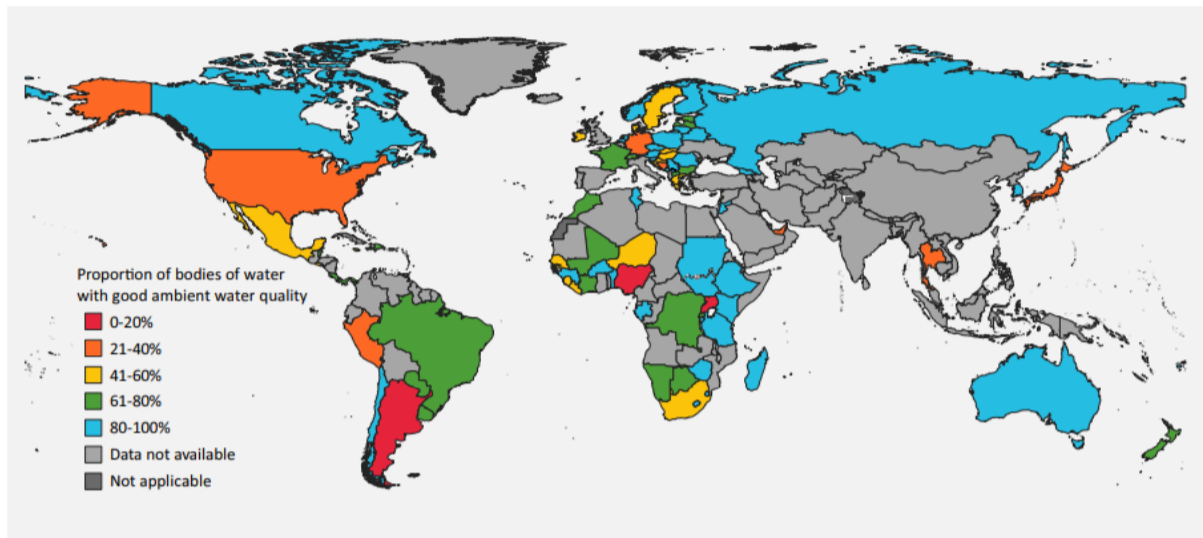
The Capacity Development Consortium of the [World Water Quality Alliance](https://www.worldwaterqualityalliance.org/) was initiated early in 2020 and formalised early in 2021 when it was accepted as a workstream of the WWQA, with the GEMS/Water CDC as co-leaders with UNEP. The Consortium aims to increase the scope and global coverage of capacity development activities for water quality monitoring and management through collaboration in a platform, which links providers and recipients for education, training, advice and support. Approximately 30 organisations are interested in being members of the Consortium and many are now in the process of signing MoUs with UNEP. In the lead-up to the application to become a workstream of the WWQA, the CDC ran a survey of capacity development activities offered by potential members and, together with UNEP, developed a set of criteria for membership and Terms of Reference for the Consortium.

SDG 6 and Indicator 6.3.2 at UCC

University College Cork (UCC) is ranked the 8th in the world by the [Times Higher Education \(THE\) Impact Rankings](#) for its work towards a sustainable future in line with the 17 United Nations Sustainable Development Goals (SDGs), and achieved 6th position for its contribution to SDG 6.

The Centre continued to promote and support, where possible, countries monitoring water quality for SDG indicator 6.3.2 for ambient water quality. You can access the summary progress report for the 2020 data drive, as well as the recording of the online event and the slides of the presentation in the following link: <https://www.unwater.org/online-event-to-launch-the-un-water-sdg-6-summary-progress-update/>

Sixty three of the 89 countries that reported an indicator value of reported 60% or more of their water bodies with good ambient water quality.

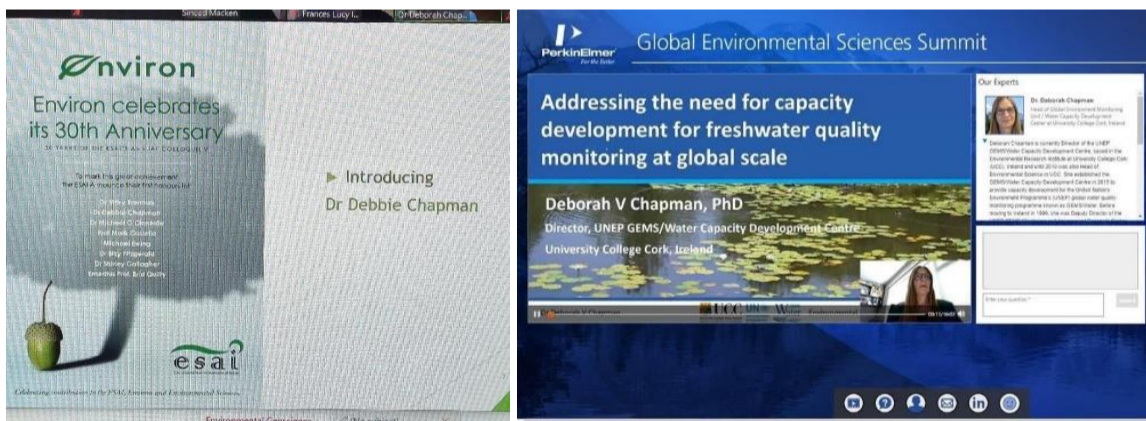


Proportion (%) of water bodies with good ambient water quality (2017-2020) (UN-Water, 2020).

UNEP provides a support platform with information about the indicator and about freshwater quality monitoring in general, especially for the generation of good quality data for SDG indicator 6.3.2- <https://communities.unep.org/display/sdg632/Documents+and+Materials>

Dr Deborah Chapman at ESAI Environ and the Global Environmental Sciences Summit

Our current Deputy Director, Dr Deborah Chapman, has been recognized nationally for her contribution to the Environmental Sciences Association of Ireland over the last 30 years. She also addressed the Perkin Elmer virtual Global Environmental Sciences Summit highlighting the global need for more Capacity Development for water quality monitoring.



Left, online ceremony where Dr Deborah Chapman was recognized for her contribution to ESAI Environ (Pic: Dr Jean O'Dwyer). Right, Dr Deborah Chapman presenting at the Global Environmental Sciences Summit.

That brings us to the end of our June 2021 newsletter. We would like to acknowledge the hard work of our UNEP GEMS/Water CDC staff, collaborators, and partners, who keep demonstrating their constant effort and commitment to the Centre since the beginning of the year despite all the challenges presented by the Covid-19 pandemic. We cannot forget our students, whose willingness to learn was stronger than any pandemic.

We hope that you are all keeping safe and healthy. We look forward to increasing our collaborations and expanding our research and we hope that we are able to resume our face-to-face activities in the not too distant future.

Keep an eye on our [website](#) and social media for the latest updates and further information.

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Our website address is:

<https://www.ucc.ie/en/gemscdc/>

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