

1 NO POVERTY



2 ZERO HUNGER



3 GOOD HEALTH AND WELL-BEING



4 QUALITY EDUCATION



5 GENDER EQUALITY



6 CLEAN WATER AND SANITATION



7 AFFORDABLE AND CLEAN ENERGY



8 DECENT WORK AND ECONOMIC GROWTH



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



10 REDUCED INEQUALITIES



11 SUSTAINABLE CITIES AND COMMUNITIES



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



13 CLIMATE ACTION



14 LIFE BELOW WATER



15 LIFE ON LAND



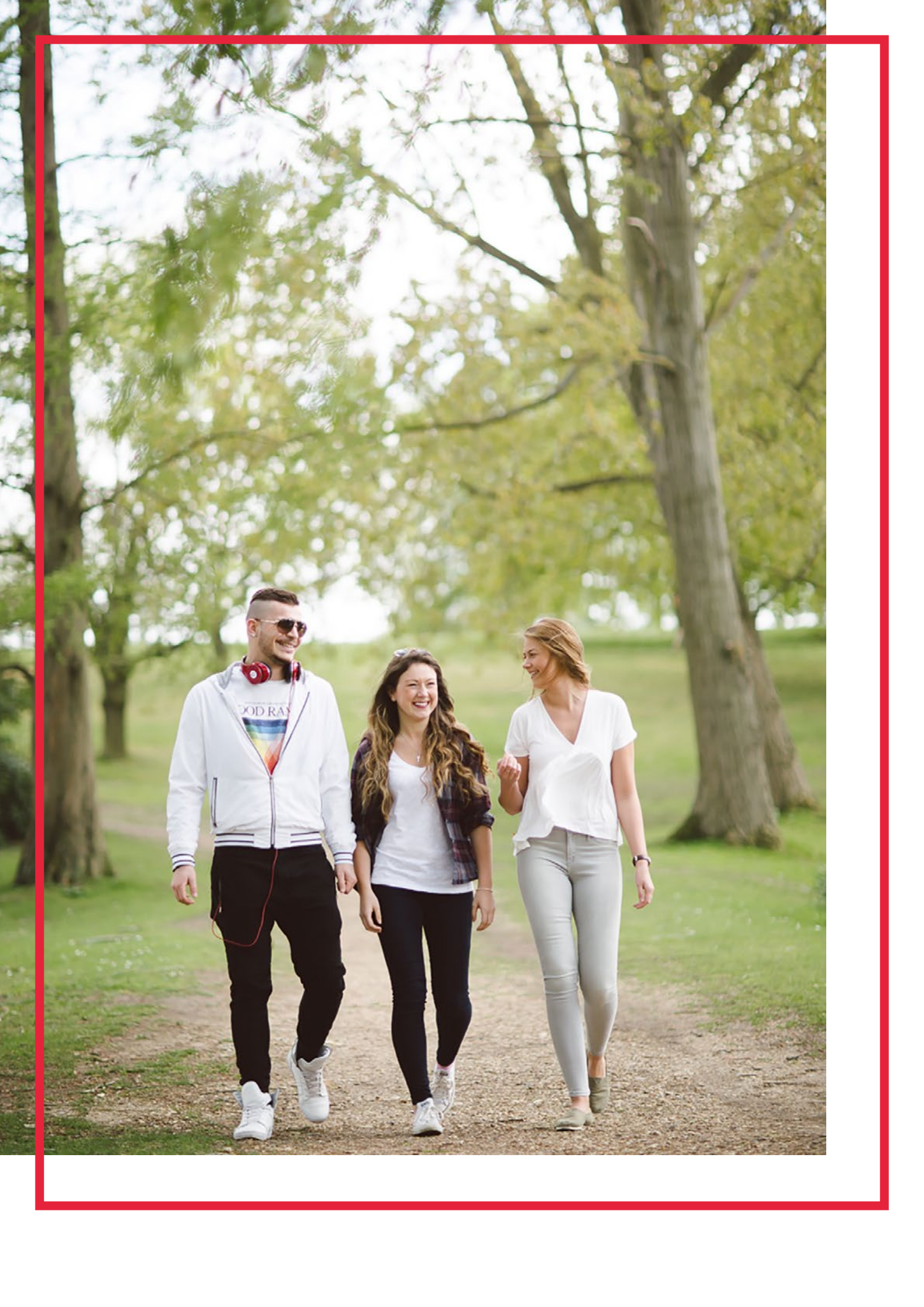
16 PEACE, JUSTICE AND STRONG INSTITUTIONS



17 PARTNERSHIPS FOR THE GOALS



SUSTAINABLE DEVELOPMENT GOALS REPORT 2023: UNIVERSITY OF ESSEX



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INTRODUCTION

We were delighted to move up to 56th out of over 1,591 participating universities with the publication of the Times Higher Education Impact Rankings 2023.

Our ranking in the Impact Rankings is very important to us because it reflects our values, hard work and commitment towards sustainable development and specifically to the 17 Sustainable Development Goals (SDGs) agreed by all member states of the United Nations in 2015.

Essex achieved a top 100 world ranking for nine of the 17 SDGs, demonstrating the breadth of our efforts in supporting sustainability. The highlights for Essex this year were being ranked 17th for SDG 16 – Peace, Justice and Strong Institutions, 18th for SDG 10 – Reduced Inequalities, 27th for SDG 12 – Responsible Consumption and Production, 28th for SDG 5 – Gender Equality, 31st for SDG 14 – Life Below Water, and 45th for SDG 13 – Climate Action.

We are very proud of our Impact Rankings, but we know more needs to be done. We declared a climate and ecological emergency in 2020 and we've set out in our detailed action plan the practical steps we will take to become carbon net zero by 2035. As part of this plan, we are investing in improving the carbon footprint of our campuses while our innovative approach to education and research is rising to the challenges we face as a society.

I hope our third report on our work towards the UN Sustainable Development Goals will give you insight into the diversity of work to support each one, through our education, research and the wider work of our University.



Professor Anthony Forster
Vice-Chancellor



MEASURING SUSTAINABLE DEVELOPMENT

The mission of the University of Essex is: “Excellence in education and excellence in research for the benefit of people and communities”.¹

This is now our third Sustainable Development Report and it gives us a great insight into the breadth of our work across education and research supporting each of the United Nations Sustainable Development Goals. We are also able to highlight how operational practices and cultural norms of the University of Essex are changing and developing to support our progress towards the goals. The report also incorporates the outcomes of our 2023 Times Higher Education Impact Rankings submission to give a snapshot of our performance.

There are separate sections for each of the 17 Sustainable Development Goals (SDGs), each providing information, data and examples of our work. We are a diverse, fairly large and productive university so measuring the relevance of our research and education is complex. To provide clarity, here we explain the methods we have used in our third report, to measure sustainable development at the University of Essex.

Background

The University of Essex produces almost 1,900 academic research publications per year and has over 3,000 degree programmes. At this scale, manually mapping each of the SDGs against all of our publications and all of our degrees is impractical. To do so is also made more complicated because sustainable development is not necessarily directly mentioned in our publications and courses even though their contents are relevant. For example, many of the publications of our world-renowned Human Rights Centre, although having a positive impact on peace and justice, will not necessarily make explicit reference to SDG 16 – Peace, Justice and Strong Institutions.

Many of our degree course materials, although relevant to the SDGs, similarly will not necessarily directly cross-reference them. The methods we have used have attempted to address the challenge of scale as well as the complications of matching each of the SDGs with the subjects we research and teach.

Using keywords

For the sake of consistency and objectivity we have measured our progress with the goals by using independently established keyword sets to search our research publications and education materials for relevant content.

¹ [University of Essex Strategic Plan 2019-2025](#)



There are two commonly used keyword sets for each of the SDGs. The first set was developed by the Australia, New Zealand and Pacific Network of the Sustainable Development Solutions Network (SDSN)² and the other is the Elsevier keyword set³ which is used by the *Times Higher Education* and is more stringent.

We have provided the search outcomes for both keyword sets because, while it is quite likely the SDSN set returns some articles and courses that are only very vaguely linked with the goals (false positives), the Elsevier set is likely to miss relevant publications and courses (false negatives). Elsevier also does not provide keywords for SDG 17 Partnerships for the Goals.

SDGs in research

For research we have used the Scopus indexing service to search for Elsevier and SDSN keywords in the title, abstract or keywords of our research outputs published between 2013 and 2023. We have reported: the number of publications returned (all papers and open access); the number of times those papers have been cited; and the H-index, a metric which combines output and impact.

The higher H-index the better. For example, the figure for SDG 1 – No Poverty, is 94 meaning that Essex has published 94 papers in areas relevant to the goal that have each been cited at least 94 times. For SDG 17 – Partnerships for the Goals, our H-index performance at 34 is not as strong meaning that we have produced 34 publications in this area that have each been cited at least 34 times.

SDGs in education

For our education we have applied the keyword searches to all our current module titles and module content descriptions in order to measure how the content of our degrees reflect the themes underpinning each of the SDG's.

Using this approach, we have been able to count the number of degrees that have relevant content to specific SDGs. While it is possible for a student to be counted in more than one SDG, it is not possible for them to be counted more than once within each SDG.

² Australia, New Zealand and Pacific Network of the Sustainable Development Solutions Network (SDSN) website – Universities and the SDGs: <http://ap-unsdsn.org/regional-initiatives/universities-sdgs/>

³ Scopus website – Sustainable Development Goals FAQs: https://service.elsevier.com/app/answers/detail/a_id/31662/supporthub/scopuscontent/

END POVERTY IN ALL ITS FORMS EVERYWHERE

1 NO POVERTY



58th in THE Impact Rankings 2023

Research

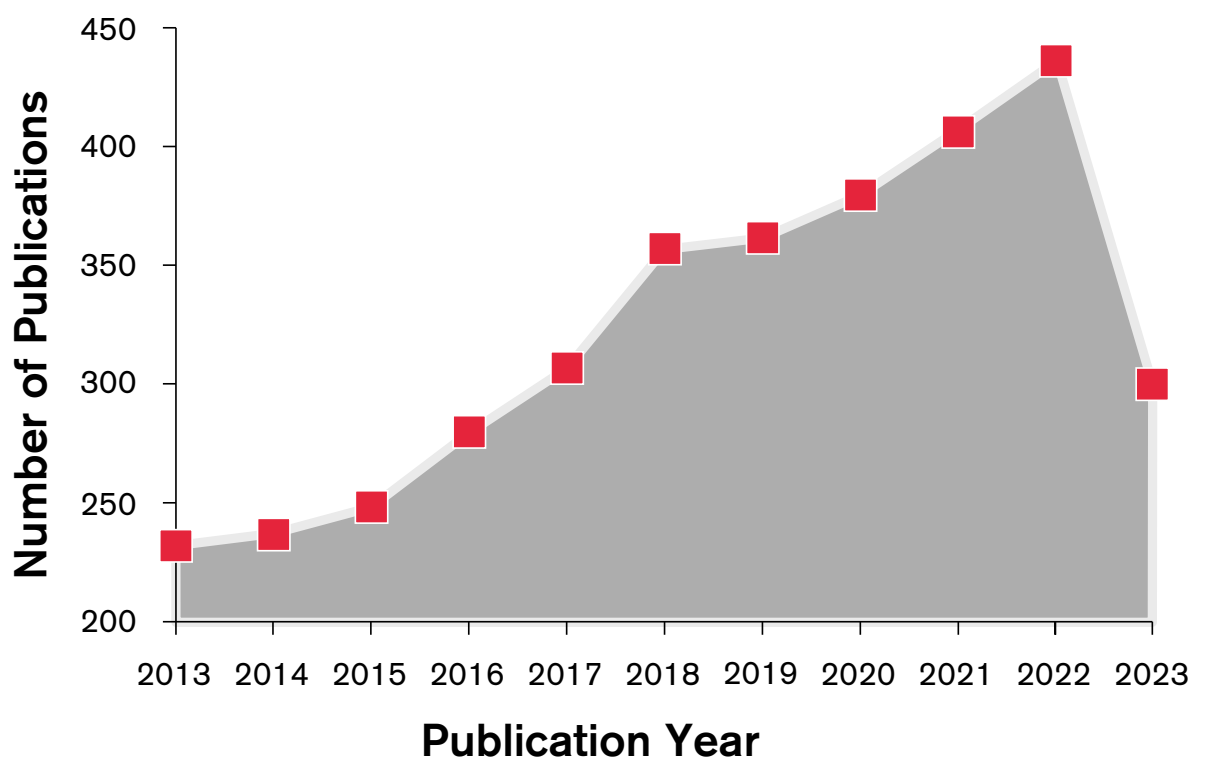
Publication Record	Method SDSN	Method Elsevier
All Articles	3,527	54
Open Access	2,335	32
Citations	63,484	494
H-Index	94	14

Education

SDSN Relevant Degrees	SDSN Student Engagements	Elsevier Relevant Degrees	Elsevier Student Engagements
880	13,746	141	1,090

SDG 1

No Poverty





Case Study: Action

As a university committed to increasing the proportion of students from the lowest participation areas and ensuring the support is in place to help them flourish in their studies, we knew we had to respond to the cost of living crisis.

We already had a range of hardship funding, bursaries and scholarships to support students from low-income households, but we knew we had to go further and developed one of the most comprehensive packages of support in the UK in partnership with the Students' Union (SU).

Actions in 2022-23 included allocating an additional £1.8m to initiatives to help students in hardship due to the cost of living crisis. We also restricted increases in rent for all University owned and managed accommodation to below the cost of inflation, at an estimated cost of £1.3m.

We increased the Hardship Fund from £500,000 to £1.5m and also focused on practical help. The SU offered essential basics at significantly reduced prices, we introduced a daily hot meal for £2 in our on-campus food outlets and the SU launched a weekly 'Warm Welcome' event offering free hot food in different warm spaces.

Working with the SU we developed a programme of free SU-run events including meet-ups, craft activities and cinema screenings plus larger scale events.

We also fast-tracked the introduction of the Voluntary Living Wage for University and SU student jobs, and invested £100,000 in funding at least 7,500 hours of work in additional part-time roles for our students.

We built on this work in 2023, by launching an unprecedented package of financial support for accommodation and living costs worth up to £6,000 to ensure applicants – particularly from low-income households – were not deterred from taking up the opportunity to go to university.

Did you know?

The Centre for Public and Policy Engagement at Essex helped the East of England All Parliamentary Party Group assess the impact of levelling up policies by contributing to the *Levelling Up the East of England 2023-2030* report.

END HUNGER, ACHIEVE FOOD SECURITY AND IMPROVED NUTRITION AND PROMOTE SUSTAINABLE AGRICULTURE

2 ZERO HUNGER



101st to 200th in THE Impact Rankings 2023

Research

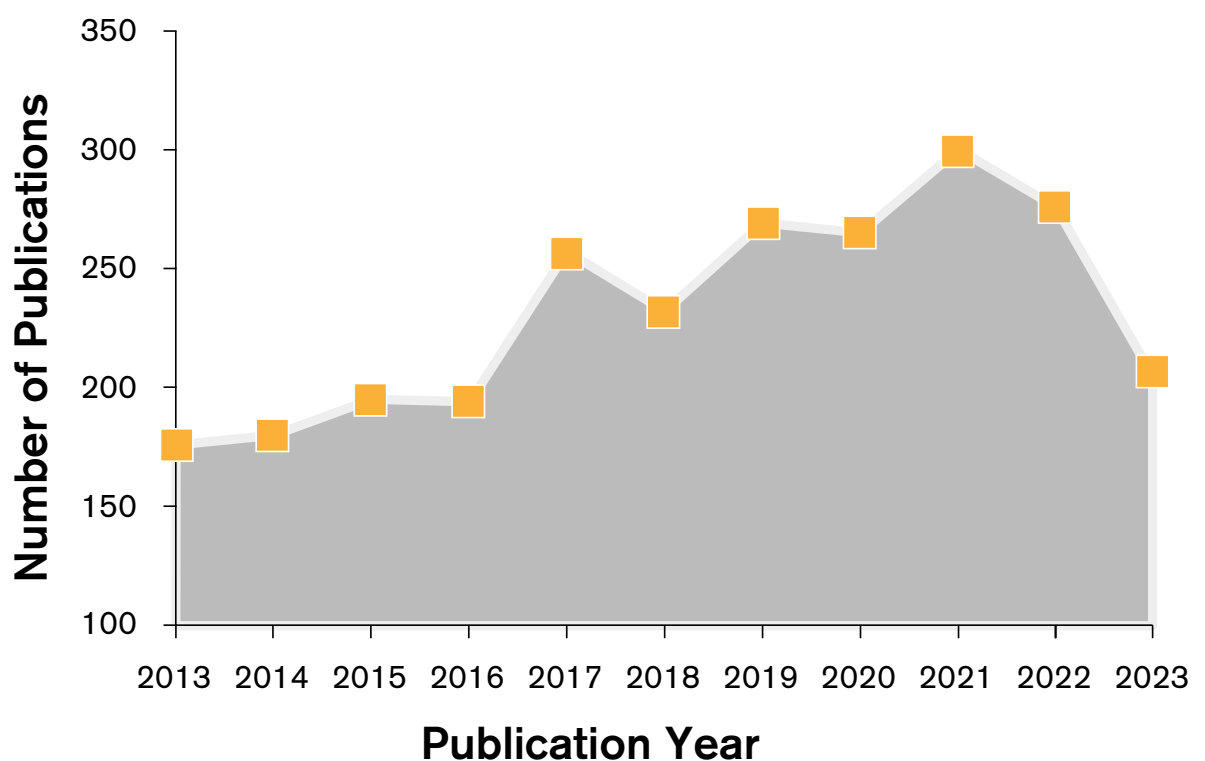
Publication Record	Method SDSN	Method Elsevier
All Articles	2,585	88
Open Access	1,795	57
Citations	62,099	2,486
H-Index	102	25

Education

SDSN Relevant Degrees	SDSN Student Engagements	Elsevier Relevant Degrees	Elsevier Student Engagements
673	9,522	9,522	56

SDG 2

Zero hunger





Case Study: Research

An international research project involving Essex scientists has found a way of protecting crop performance in the face of rising global temperatures.

The world is warming quickly with no indication of slowing down and this could be catastrophic for the production of food crops, particularly in already warm areas.

However, new research led by Dr Amanda Cavanagh, from Essex's School of Life Sciences shows that bypassing a photosynthetic glitch common to crops like soybean, rice, and wheat, can provide thermal protection under heat stress in the field.

Dr Cavanagh said: "We need to double crop production by 2050 to feed a growing global population, and not only are we not on track to do that, but climate change is further complicating things."

The research project engineered plants which produced 26% more yield than the wild-type plants exposed to the same heated conditions.

The engineered plants also had 15% less yield loss under the higher temperatures than non-engineered plants. This gave the researchers insight into how to improve the yields of food crops in the changing climate.

"As a plant scientist, producing enough food to feed the predicted mid-century population of nine billion with the pace of sustained increases in atmospheric carbon dioxide is the defining challenge of our career," said Dr Cavanagh.

"There's no greater motivation to do your best at work so you're providing solutions to adapt to a world that's outpacing a plants' ability to adapt to it."

This research is part of RIPE (Realizing Increased Photosynthetic Efficiency), an international research project aiming to increase global food production by developing food crops that turn the sun's energy into food more efficiently with support from the Bill and Melinda Gates Foundation, Foundation for Food and Agriculture Research, and UK Foreign, Commonwealth and Development Office.

TO ENSURE HEALTHY LIVES AND PROMOTE WELL-BEING FOR ALL AT ALL AGES

3 GOOD HEALTH AND WELL-BEING



401st to 600th
in THE Impact
Rankings 2023

Research

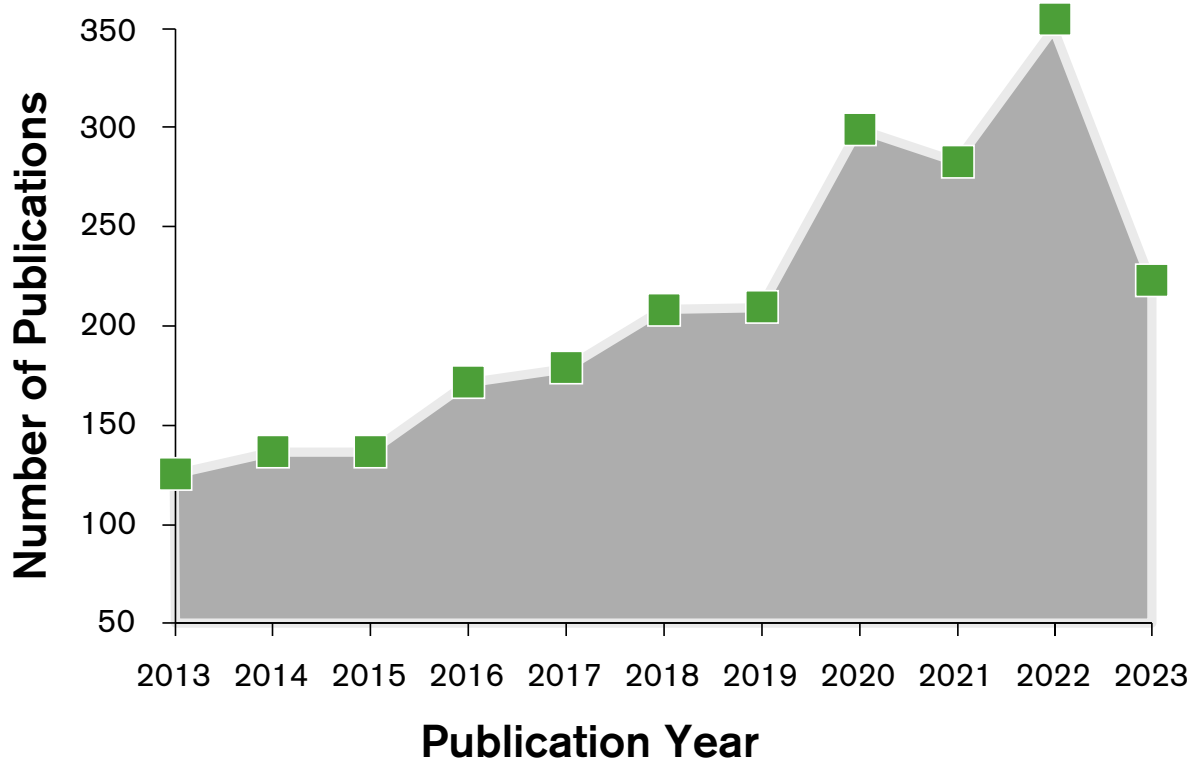
Publication Record	Method SDSN	Method Elsevier
All Articles	2,384	1,702
Open Access	1,761	1,345
Citations	45,929	36,863
H-Index	89	83

Education

SDSN Relevant Degrees	SDSN Student Engagements	Elsevier Relevant Degrees	Elsevier Student Engagements
537	7,366	336	4,432

SDG 3

Good health and well-being





Case Study: Research

Pioneering psychologists at Essex are working to use the soothing power of fishing and nature to help heal ex-soldiers struggling with Post-Traumatic Stress Disorder (PTSD). The innovative treatment has been funded by the NHS to explore whether angling can help repair lives blighted by the crippling condition.

PTSD sees veterans relive traumatic events they witnessed in service and can lead to debilitating depression, anxiety and even suicide. The project has been praised by the Ministry of Defence (receiving a gold award in 2022), recognised by The Angling Trust and recently received a contract to deliver community mental health treatment for the NHS Essex Partnership University Trust via local volunteering bodies. It also has an international impact with the Dutch national fishing board using its work to develop policy.

The work— led by psychologists Dr Nick Cooper and Dr Mark Wheeler – is now part of a Department of Health and Social Care-funded research scheme after a successful study launched in 2021-22.

The innovative intervention sparked significant clinical change in 60% of participants that reduced depression and anxiety for a month after the trip – with wellbeing scores soaring.

It also confirmed the 30-hour, two-day peer-support intervention can now be expanded to deliver a large-scale trial using the same methods.

Dr Cooper has found a way to break barriers stopping veterans and other sufferers from engaging with traditional therapy. By emphasising learning a new recreational skill rather than traditional therapy he uses peer support and sessions led by a qualified recreation coach.

After soothing hours standing bankside, some go on to coach others saying they have found their “second family”. Robbie Arnott, 33, who served in the 1st Royal Anglian, said: “When you are down the lakes it’s just you and your friends if you want to talk.”

Did you know?

A new Centre for Coastal Communities has been established at Essex to focus on addressing inequalities and opportunities in many coastal communities. The Centre will build on the University’s strengths in data analytics, public health, educational based outreach, the development of new technologies and cross-disciplinary research, as well as arts and cultural innovations.

ENSURE INCLUSIVE AND EQUITABLE EDUCATION AND PROMOTE LIFELONG LEARNING OPPORTUNITIES FOR ALL

4 QUALITY EDUCATION



201st to 300th in the THE Impact Rankings 2023

Research

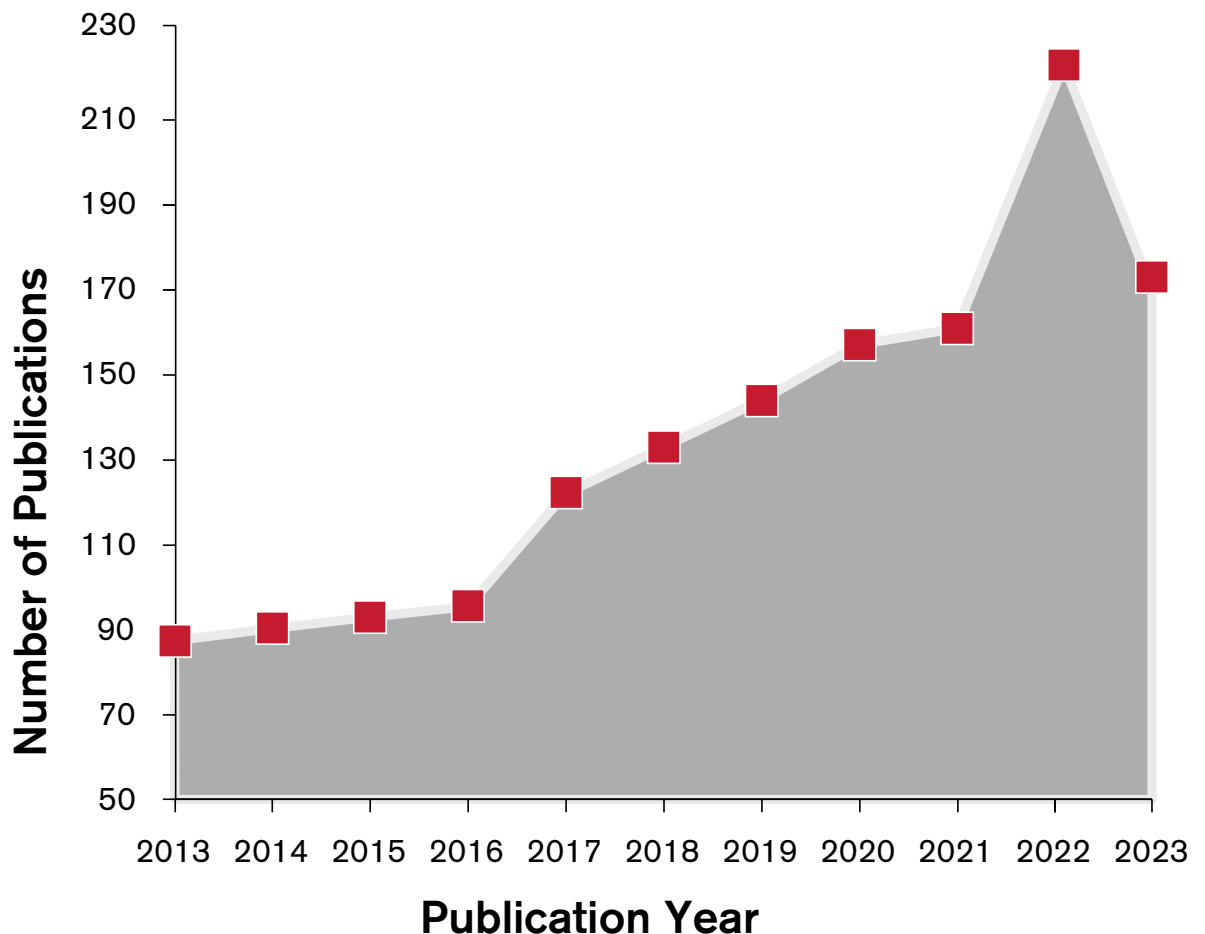
Publication Record	Method SDSN	Method Elsevier
All Articles	1,502	32
Open Access	1,011	23
Citations	22,786	464
H-Index	62	11

Education

SDSN Relevant Degrees	SDSN Student Engagements	Elsevier Relevant Degrees	Elsevier Student Engagements
621	6,731	26	167

SDG 4

Quality education





Case Study: Education

Essex is at the forefront of supporting students to succeed and has developed a tailored study skills programme to give applicants the support they need right from the start and a feeling of connection to our community.

The Essex Preparation Programme (EPP) is driving up engagement and retention and giving students greater confidence as independent learners. The success of the programme has led to the programme being shortlisted for the Times Higher Education Award for outstanding student support.

The programme was originally created to give applicants affected by multiple school closures due to COVID-19 a chance to feel like part of our community. It proved so successful that we've continued to offer it to students.

The EPP is offered to undergraduate applicants as part of our Ready for Success Project, which also provides tailored preparation courses for current students, postgraduate taught applicants, students in years 12 and 13, and school leavers.

Students complete the course online over six weeks before they arrive at our campuses to start their course.

Students learn at their own pace working through six topics covering academic skills: learning, speaking, thinking, reading, integrity and writing. Completing the course before term begins makes you eligible for a £250 bursary.

We've added new innovative online lectures and webinars, which complement the topic courses and give students the chance to virtually meet each other and connect with our Skills for Success Tutors before arriving on campus.

Working across departments we identify common skill gaps and target the development of new content, ensuring the course is always relevant and valuable.

In 2021-22 1,029 students engaged with the course and a survey of participants showed 94.3% agreed or strongly agreed that the course made them a more confident learner. Our data also shows much higher engagement rates for those who completed the course.

ACHIEVE GENDER EQUALITY AND EMPOWER ALL WOMEN AND GIRLS

5 GENDER EQUALITY



28th in THE impact Rankings 2023

Research

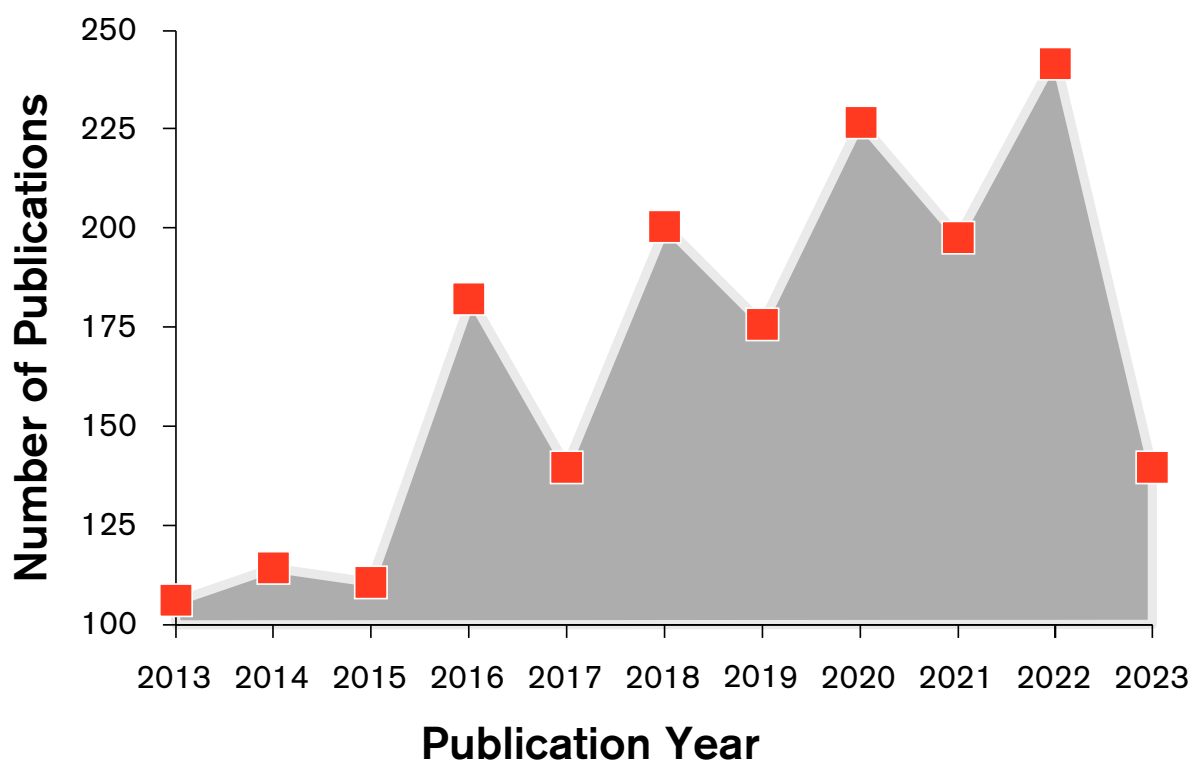
Publication Record	Method SDSN	Method Elsevier
All Articles	1,858	131
Open Access	1,198	94
Citations	26,770	1,349
H-Index	63	21

Education

SDSN Relevant Degrees	SDSN Student Engagements	Elsevier Relevant Degrees	Elsevier Student Engagements
584	7,803	164	985

SDG 5

Gender equality





Case Study: Research

Professor Friederike Mengel has provided evidence to show how gender bias can influence the way teachers are assessed. Her work is influencing universities around the world and leading them to change their approach to performance assessments and evaluation, while also improving teacher training. This helps counteract the development of gender gaps in academia which can hinder career progression of female teachers.

Professor Mengel, from the Department of Economics, was concerned with how social identity and discrimination affect people's chances of success in work and decided to focus on discrimination against female teachers. She examined almost 20,000 teaching evaluations completed by students at a top business school in the Netherlands, comparing them with information on teacher performance to assess whether poor assessment was linked to poor performance.

"We found no differences in performance between male and female teachers, but we found causal, not just correlational, evidence of bias in the way women teachers were evaluated, particularly by their male students.

"This bias has potentially harming effects on junior women's careers, both directly as it means

they are less likely to be promoted, and indirectly by knocking their confidence in their teaching ability," she explained.

Her findings resulted in universities across Europe, Canada and the USA changing the way they conduct teacher assessments, in a bid to eliminate the potential for bias. According to one university, without her evidence they would not have been able to successfully illustrate the potential harm being caused to female staff when teaching evaluation relies predominantly on potentially biased student ratings.

Professor Mengel's work is not just benefitting teachers. It is also being used in teacher training, with participants reporting it has made them reflect on their teaching style and make changes for the better.

Did you know?

Improving opportunities and support for women in science careers is the aim of a partnership between the University of Essex and two Brazilian universities. The School of Computer Science and Electronic Engineering secured British Council funding for the Women in Science: UK-Brazil Gender Equality Partnership.

ENSURE AVAILABILITY AND SUSTAINABLE MANAGEMENT OF WATER AND SANITATION FOR ALL

6 CLEAN WATER AND SANITATION



**101st to 200th
in THE Impact
Rankings 2023**

Research

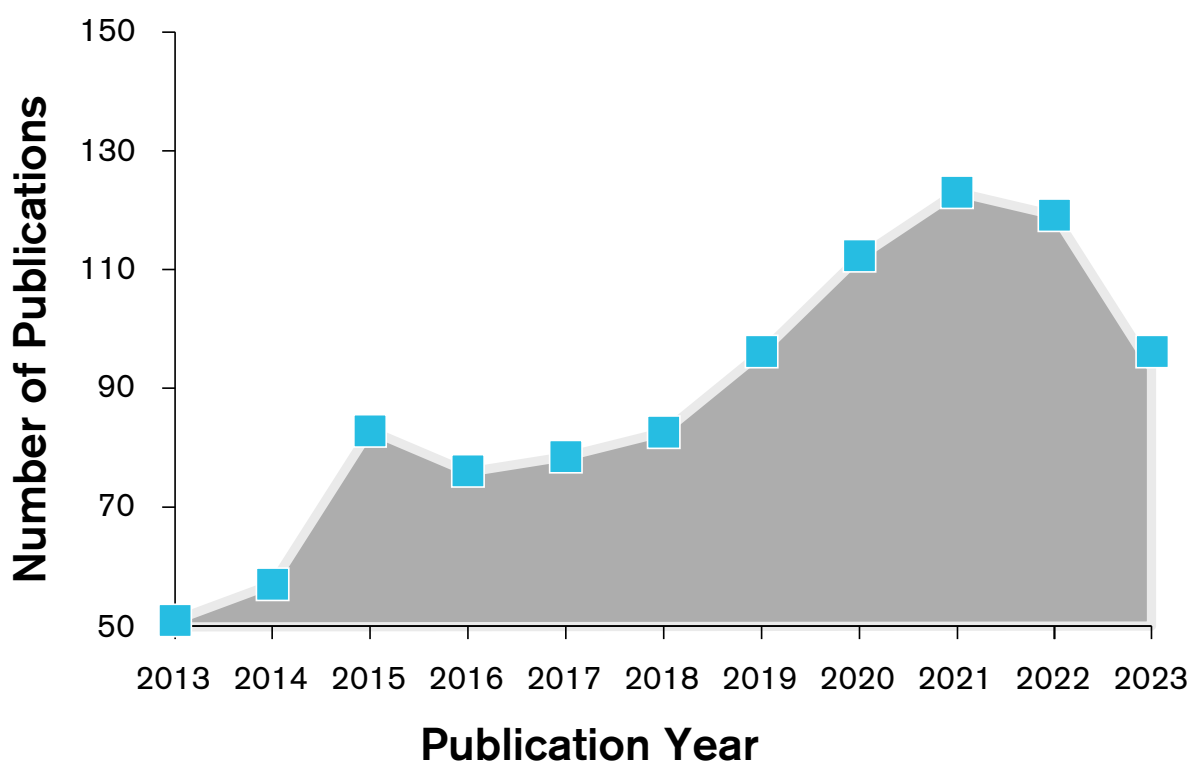
Publication Record	Method SDSN	Method Elsevier
All Articles	985	23
Open Access	642	15
Citations	21,399	321
H-Index	65	9

Education

SDSN Relevant Degrees	SDSN Student Engagements	Elsevier Relevant Degrees	Elsevier Student Engagements
232	1,577	2	21

SDG 6

Clean water and sanitation





Case Study: Research

Researchers are monitoring river health in developing countries thanks to funding from the Academy of Medical Sciences Global Challenges Research Fund.

Led by Dr Martin Wilkes, from our School of Life Sciences, and Dr James Jumbe, from Kenyatta University in Nairobi, the MARRK Project (Mapping Aquatic Resources and Risks in Kenya's largest river basin) will form a new network of researchers, practitioners and stakeholders in the UK, Kenya, Colombia and Indonesia focused on monitoring river health.

Dr Wilkes explained: "Worldwide, river health is under threat due to urbanisation, industrial pollution, damming and climate change. Along with new international collaborators involved in this networking project, Professor Alex Dumbrell and I hope to build capacity for effective monitoring and management of freshwater systems in developing economies."

Through a range of activities, the MARRK community of researchers will lay the foundations to transform the management of

aquatic resources and risks in the Tana River Basin, Kenya's largest and economically most important river basin.

The initial phase of the project will involve collecting pilot data in Kenya, staff exchanges between partner institutions and planning future collaborative research projects. In the long-term, the network hopes to establish a new, cost-efficient approach to monitoring river health in developing economies, as well as the infrastructure necessary for enabling its implementation by national authorities.

Did you know?

Dr Lisa Blackmore, from the School of Philosophical, Historical and Interdisciplinary Studies, has been researching the Bogota River, one of the world's most polluted rivers. She has identified and mapped grassroots water management collectives, organic farming and wetland restoration groups, environmental educators and artists who lead projects restoring and protecting the Colombian river.

ENSURE ACCESS TO AFFORDABLE, RELIABLE, SUSTAINABLE AND MODERN ENERGY FOR ALL

7 AFFORDABLE AND CLEAN ENERGY



101st to 200th in THE Impact Rankings 2023

Research

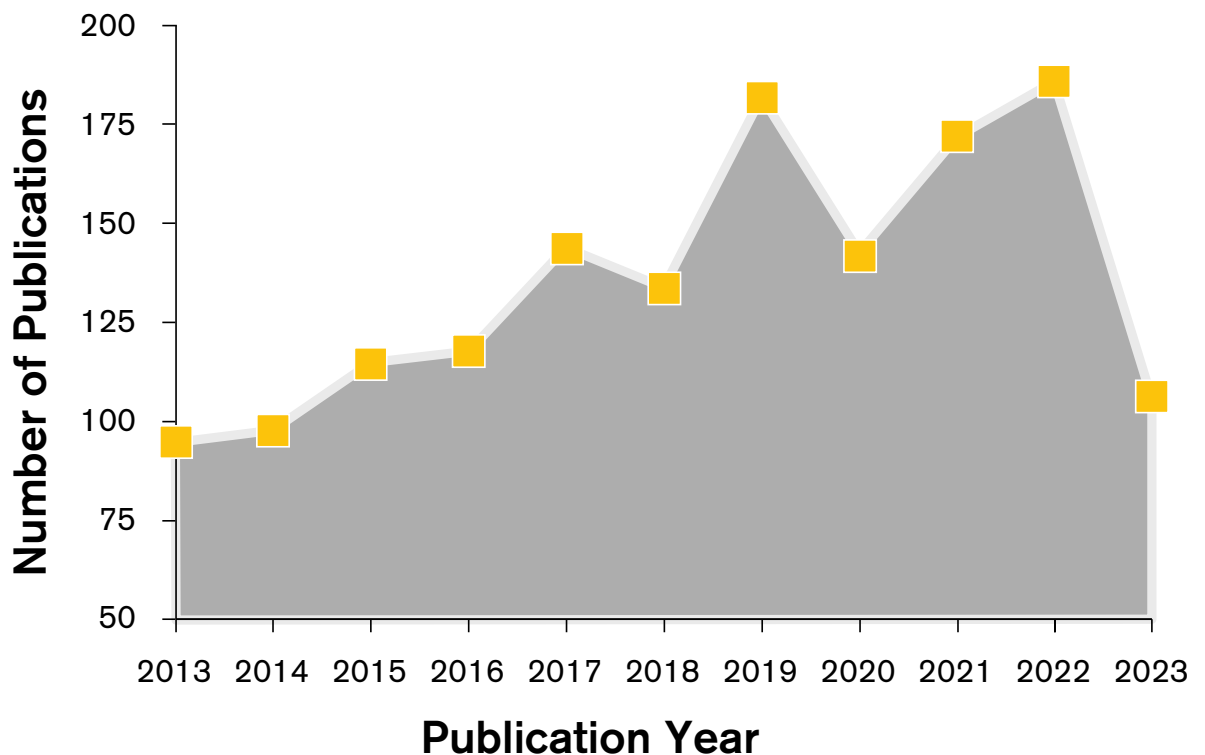
Publication Record	Method SDSN	Method Elsevier
All Articles	1,509	281
Open Access	990	152
Citations	32,266	6,087
H-Index	79	38

Education

SDSN Relevant Degrees	SDSN Student Engagements	Elsevier Relevant Degrees	Elsevier Student Engagements
255	1,886	14	152

SDG 7

Affordable and clean energy





Case Study: Action

The University of Essex is a Gold Tier University according to the USwitch Green Universities Report.

This recognised our positive performance across USwitch's criteria with the Gold Tier reserved for high-performing universities who are seen as leaders in sustainability.

Essex first received Gold Tier status in 2020 and this was reawarded in 2023.

USwitch highlighted that Essex is committed to using renewable energy and has widespread renewable energy installations on site, including solar panels, solar thermal, air-source heat pumps, and ground-source heat pumps. Other actions mentioned include the eleven electric vehicles which are part of its fleet, including nine electric vans, one electric car, and one electric golf buggy.

USwitch also pointed to the annual Summer School in Sustainable Practice for students of all levels plus the Climate Literacy course for students and staff alongside the dedicated sustainability team. Other sustainable measures included achieving Hedgehog Friendly Campus Accreditation.

The University of Essex commissioned an independent review and appraisal of our energy efficiency and carbon emissions in 2020, which is guiding our action plan. We have received £181,000 from the UK Government's Low Carbon Skills Fund to develop decarbonisation plans for each of our buildings.

Rob Davey, Head of Sustainability and Grounds at Essex, said: "We have over 2,000 PV/solar panels across 14 buildings, a number of CHP (combined heat and power) units and all of our electric comes from renewable sources. Being in the top tier of universities reflects our commitment to the climate, which we know our students and staff feel passionately about."

Did you know?

Dr Federica Genovese from the Department of Government is leading research funded by a Leverhulme Trust Research Leadership Award to look at factors which make climate policy more appealing and understand public attitudes.

PROMOTE SUSTAINED, INCLUSIVE AND SUSTAINABLE ECONOMIC GROWTH, FULL AND PRODUCTIVE EMPLOYMENT AND DECENT WORK FOR ALL

8 DECENT WORK AND ECONOMIC GROWTH



**101st to 200th
in THE Impact
Rankings 2023**

Research

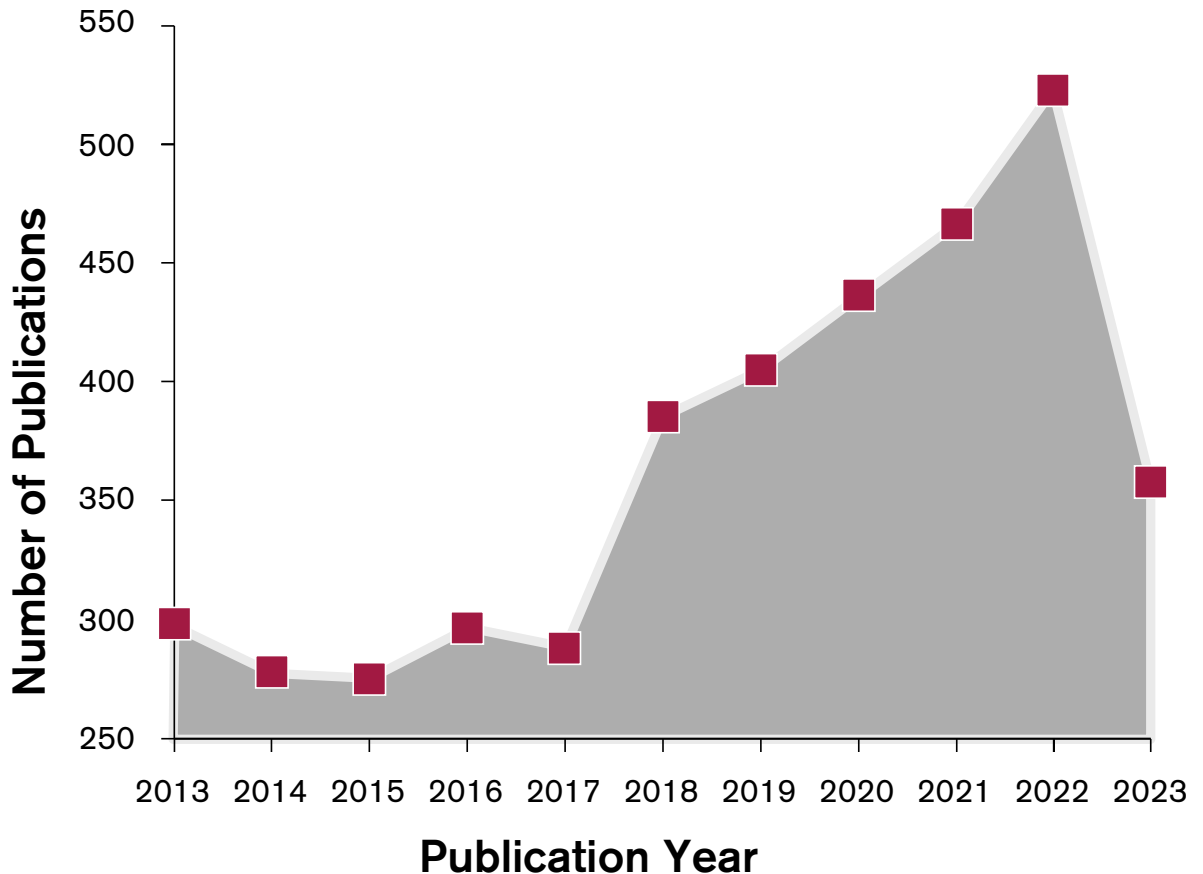
Publication Record	Method SDSN	Method Elsevier
All Articles	4,027	252
Open Access	2,540	170
Citations	61,844	4,899
H-Index	93	35

Education

SDSN Relevant Degrees	SDSN Student Engagements	Elsevier Relevant Degrees	Elsevier Student Engagements
993	17,106	157	1,185

SDG 8

Decent work and economic growth





Case Study: Education and Action

The University of Essex has transformed its approach to entrepreneurship and our incredible progress is symbolised by becoming the number one university for Innovate UK-funded Knowledge Transfer Partnerships.

This is coupled with our ambitious expansion of support for student entrepreneurs and the rapid growth of our business community thanks to more than £60m of investment in the development of the Knowledge Gateway research and technology park on our Colchester Campus.

Our institutional vision looks to drive economic growth through our research while nurturing opportunities for our graduate and student talent.

Essex's portfolio of Knowledge Transfer Partnerships has grown to over 40 projects – the most in the UK – with companies developing new products and services by accessing our research strengths, stretching from AI to genetics.

At Innovate UK's annual KTP Awards Dr Faiyaz Doctor won KTP Academic of the Year in 2022 and in 2023 Essex's with The Finishing Line won the Best Management KTP Award and Essex KTP Associate Rodolfo Cuan Urquizo won the Future Leaders Award.

Alongside this we've tripled the size of the Essex Startups team based within the Innovation Centre on our Knowledge Gateway research and technology park at our Colchester Campus. The team offers extensive support to students and graduates.

Our co-curricular strategy now supports our academic courses by integrating entrepreneurship skills development opportunities.

We're also inspiring academics to develop an entrepreneurial mindset through our dedicated Actuate programme, this delivers intensive support to develop innovative research into commercial ventures.

Did you know?

Our investment platform, Angels@Essex has supported 38 businesses to secure a share of over £19 million of investment and unlocking a further £9.5 million through an additional 15 funding rounds. Its female founders investor network has also helped 130 businesswomen.

BUILD RESILIENT INFRASTRUCTURE, PROMOTE INCLUSIVE AND SUSTAINABLE INDUSTRIALISATION AND FOSTER INNOVATION

9 INDUSTRY, INNOVATION
AND INFRASTRUCTURE



**401st to 600th
in THE Impact
Rankings 2023**

Research

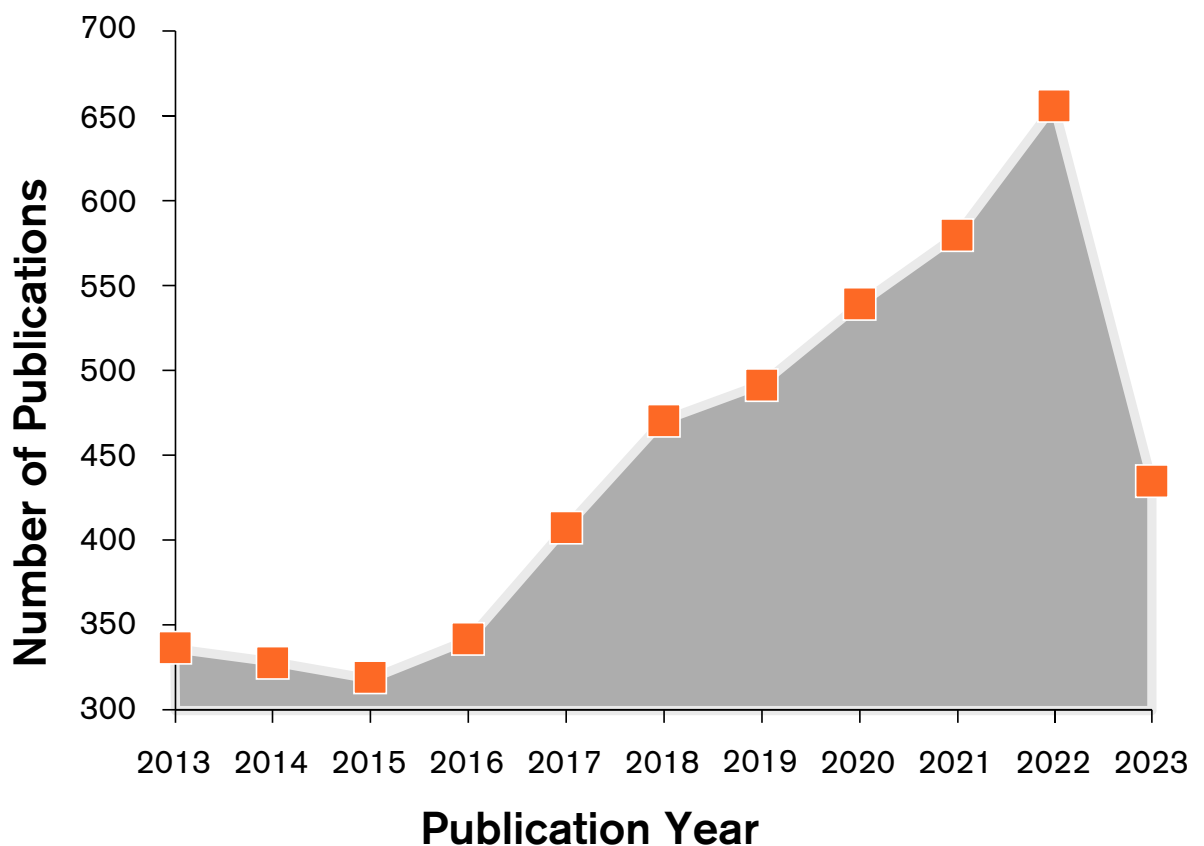
Publication Record	Method SDSN	Method Elsevier
All Articles	4,963	65
Open Access	3,265	40
Citations	87,931	3,265
H-Index	107	26

Education

SDSN Relevant Degrees	SDSN Student Engagements	Elsevier Relevant Degrees	Elsevier Student Engagements
1,219	16,438	15	30

SDG 9

Industry,
innovation and
infrastructure





Case Study: Education and Action

The partnership between the University of Essex and Profusion sets a shining example for how real collaboration can deliver so many economic and educational benefits – uncovering and enhancing new business opportunities, upskilling industries and developing the data scientists of the future.

The collaboration not only delivered commercialisation of Profusion's bespoke data driven product – Ai Marketer – but it played an important role in helping them develop an entirely new educational branch to their business, the Profusion Data Academy, a new business opportunity to train and educate clients on how to better use data.

The partnership also grew, developed, and fostered data science excellence at the University of Essex to help train the data scientists of the future. It shaped our cutting-edge master courses in Data Science, introduced new modules to offer students such as 'Applied Data Science' and 'Data Science and Its Applications', and delivered expertise in research and industry-led education.

Essex has completed two Knowledge Transfer Partnership (KTP) with Profusion – a data consultancy which specialise in predictive modelling, email marketing, business intelligence and customer satisfaction.

The first KTP with Essex developed a bespoke, data science led product, the Ai Marketer – which supports clients to predict customer behaviour based on email marketing. The second looked at successfully commercialising and implementing the breakthrough technology and received an 'Outstanding' A grade from funder Innovate UK.

The collaboration also helped Profusion identify and develop an entirely new educational branch to its business, the Profusion Data Academy now helps to train and educate clients on how to better use data – promoting data literacy, data science and data engineering.

For Essex, the KTP grew, developed, and fostered Data Science excellence at the University. It provided students and staff with opportunities to understand industry, societal and governmental needs for data science, with 27 students benefitting from research projects established during the partnership.

Did you know?

Data science expert Dr Miguel Martinez has been named as the first Royal Society Entrepreneur in Residence at Essex.

The role promotes links between innovators and universities.

REDUCE INEQUALITY WITHIN AND AMONG COUNTRIES

10 REDUCED INEQUALITIES



18th in THE Impact Rankings 2023

Research

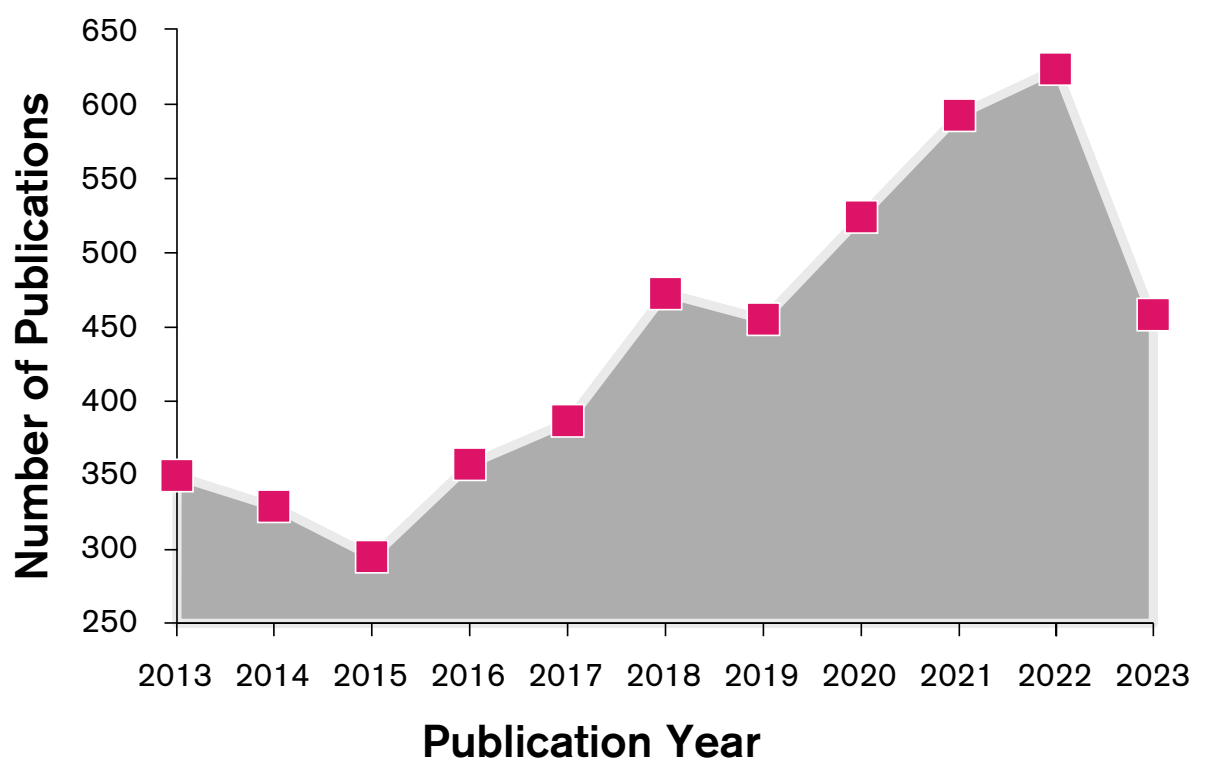
Publication Record	Method SDSN	Method Elsevier
All Articles	4,955	281
Open Access	3,308	184
Citations	77,463	4,480
H-Index	101	34

Education

SDSN Relevant Degrees	SDSN Student Engagements	Elsevier Relevant Degrees	Elsevier Student Engagements
1,060	17,821	193	1,308

SDG 10

Reduced inequalities





Case Study: Education and Action

Some of Colchester's most vulnerable people are being found shelter and support thanks to the hard work of Essex staff and students.

Essex Law Clinic has stepped in to address unmet legal need in Colchester by providing free advice to vulnerable people facing homelessness, offering a "voice for people who haven't got one".

As part of a "game-changing" partnership with local charity Beacon House, Essex students and staff support and advise clients directly on family and housing issues, including helping to overturn local authority decisions and secure emergency housing for dozens of people.

The Clinic runs a weekly drop-in service for the homeless at Beacon House to build relationships with clients, many of whom have complex physical and mental health issues.

By listening to people and building relationships, staff and students have been able to break down barriers and earn the trust of people who have felt ignored and abandoned by society.

Students worked together in pairs, spending two-hour sessions with service users, identifying legal issues, signposting, referring, attending appointments, carrying out interviews and follow-ups, as well as providing advice.

While direct action has been key to the partnership with Beacon House, Essex Law Clinic has also helped to completely overhaul the emergency housing application process in Colchester.

Improvements to the referral system on both sides of the process has ensured a fairer process; one that leads to better outcomes for the very people it has been set up to help.

Indeed, Beacon House staff confirm that the work carried out by the Clinic has "totally changed" the situation for vulnerable street homeless using Beacon House, with emergency applications now more typically accepted, rather than refused.

Training has also been provided to Beacon House staff to ensure they can better identify legal needs of service users, and those eligible for emergency housing.

MAKE CITIES AND HUMAN SETTLEMENTS INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE

11 SUSTAINABLE CITIES AND COMMUNITIES



101st to 200th in THE Impact Rankings 2023

Research

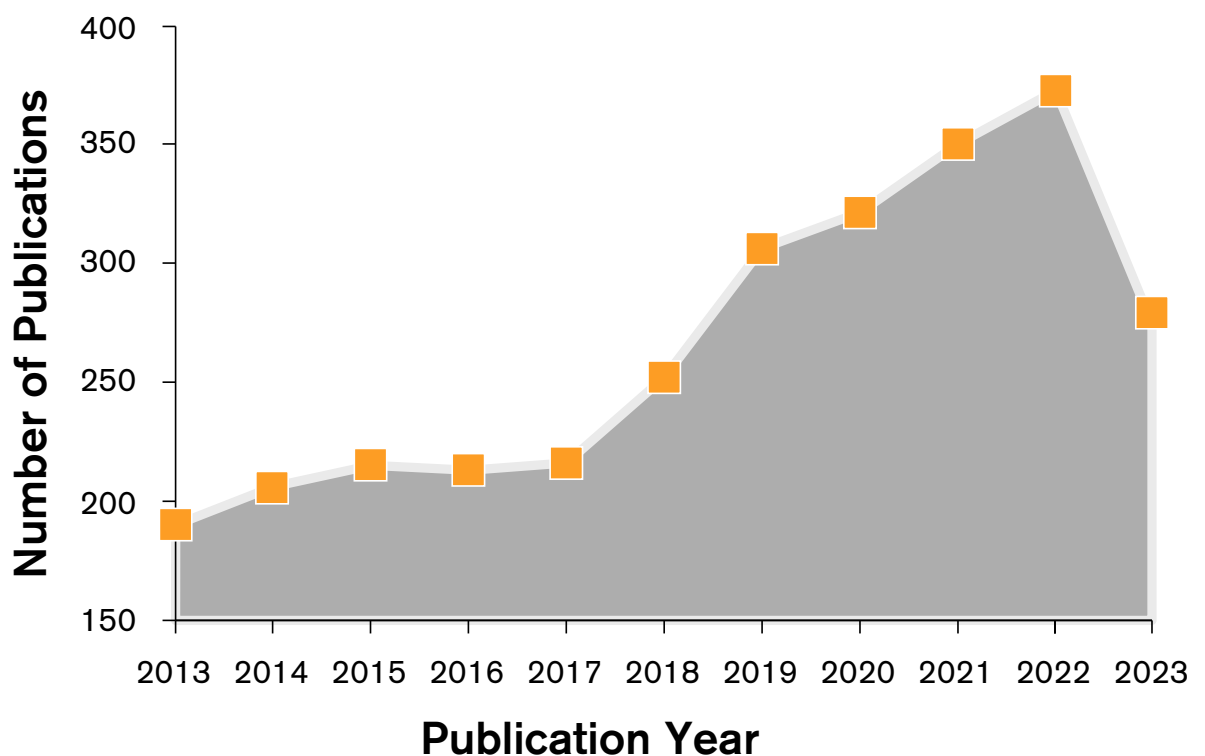
Publication Record	Method SDSN	Method Elsevier
All Articles	2,961	124
Open Access	2,011	78
Citations	61,639	1,898
H-Index	101	22

Education

SDSN Relevant Degrees	SDSN Student Engagements	Elsevier Relevant Degrees	Elsevier Student Engagements
626	7,943	27	156

SDG 11

Sustainable cities and communities





Case Study: Research

Scientists working in partnership with eco-conscious officials are helping battle the scourge of pollution in the heart of Essex.

Tapping into the power of psychology Professor Marie Juanchich is evaluating the effectiveness of new signs that encourage drivers to switch off their engines.

Installed in pollution hot spots motorists are now urged to think about the planet whilst stuck in traffic. The road signs feature three different messages that build upon academic research focussing on responsibility, recognising the impact of actions and reflection.

Professor Juanchich said: “We were very happy to support Colchester Borough Council in their plans to cut pollution in our town and to improve air quality.

“As scientific advisors on the project, we ensure that the benefits of this programme are thoroughly evaluated so that findings could inspire future actions to curb pollution.”

Research Assistants will regularly monitor the number of drivers switching off their engines, and the impact on air quality near to the signs. It is hoped that by taking a psychological

approach the signs will encourage as many drivers as possible to take immediate action.

The researchers will also consider whether the signs need to be rotated to help maintain positive behaviour change and to reduce the risk of drivers becoming tired of the messages.

The project is funded by the Department of Environment Food and Rural Affairs (DEFRA) and supports the Colchester-wide CAREless Pollution campaign.

Launched in October 2020, the campaign encourages drivers to switch off their engines while stationary to bring important health benefits to cut pollution in Colchester by up to 30 per cent.

Did you know?

Communities devastated by natural disasters will live on thanks to academics using cutting-edge tech to recreate and restore their destroyed homes. The pioneering project, led by Dr Paola Di Giuseppantonio Di Franco, will see cutting-edge 3D recreations of villages, towns and cities lost to the sands of time.

The Replace project will focus on earthquake-hit regions of Italy.

TO ENSURE SUSTAINABLE CONSUMPTION AND PRODUCTION PATTERNS



27th in THE Impact Rankings 2023

Research

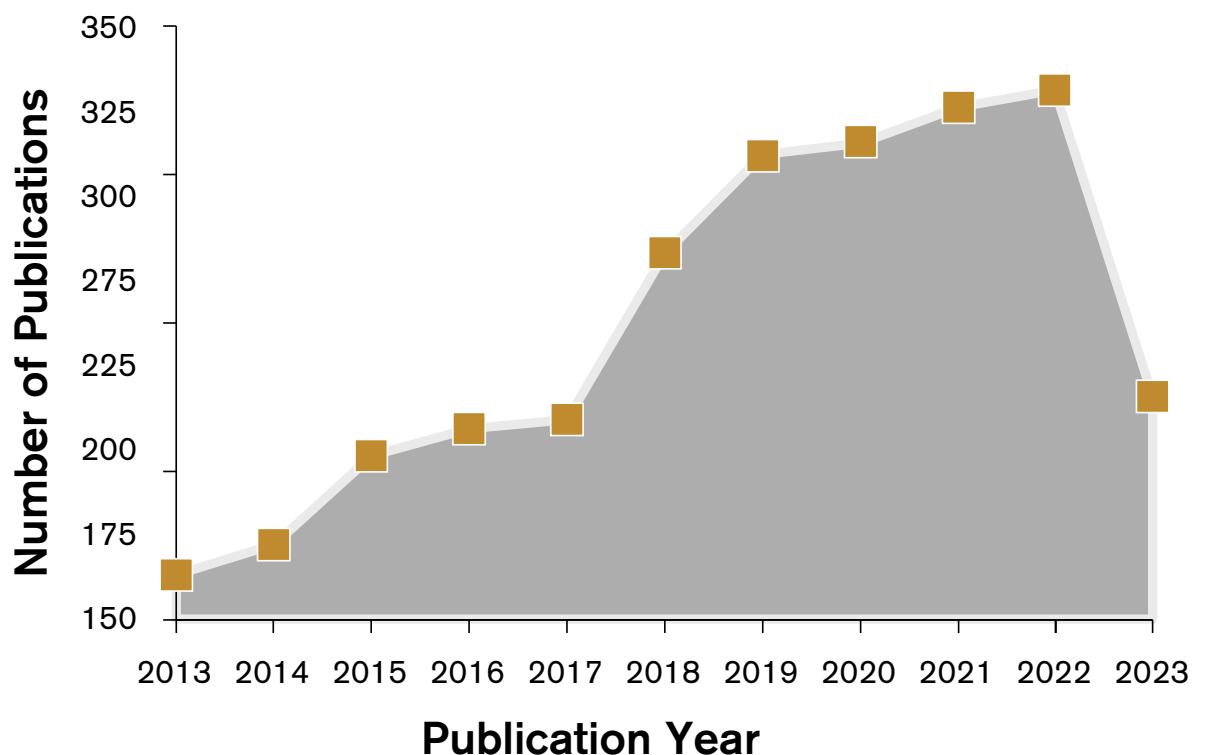
Publication Record	Method SDSN	Method Elsevier
All Articles	2,766	126
Open Access	1,852	88
Citations	56,870	2,433
H-Index	95	29

Education

SDSN Relevant Degrees	SDSN Student Engagements	Elsevier Relevant Degrees	Elsevier Student Engagements
545	6,794	101	1,373

SDG 12

Responsible consumption and production





Case Study: Research

The UK's growing mismatch between the fish we catch and the fish we want to eat has clear implications for our future food security.

Research led by Essex and the Centre for Environment Fisheries and Aquaculture Science (Cefas), for the first time offered a comprehensive, long-term analysis of how major policy changes in the past 120 years have influenced patterns in UK seafood production, trade and consumption.

It showed that even if we changed our fish-eating habits away from choosing flaky white fish such as cod and haddock – that are largely imported from other countries – to the species more common to our own waters, like herring and mackerel, UK seafood production would still be unable to meet domestic demand or the Government's healthy eating recommendations.

Our research highlighted that policy changes in the mid-1970s, particularly the introduction of Exclusive Economic Zones (EEZ) and the UK joining the European Union, drove a growing mismatch between the seafood produced in the UK and what we ate domestically.

The UK currently imports most of the fish it eats and exports most of the fish it produces. The UK's love of large, flaky fish began in the early 1900s when the UK had a thriving distant-water fishery.

However, today these species are landed in low quantities in UK waters, while cheap, nutritious, bony species, particularly mackerel and herring, are landed in high quantities but primarily exported to the Netherlands and France.

Dr Anna Sturrock, from Essex's School of Life Sciences, added: "In the face of climate change, global overfishing and potentially restrictive trade barriers, it is important that we promote locally sourced seafood and provide clearer guidance on non-seafood alternatives. Ultimately this will help meet national food security demands as well as health and environmental targets."

Did you know?

His Majesty King Charles met Essex academics and students to hear about our research to mitigate climate change and adapt to the effects of sea-level rises during his official visit to Colchester to celebrate the awarding of city status.

TAKE URGENT ACTION TO COMBAT CLIMATE CHANGE AND ITS IMPACTS

13 CLIMATE ACTION



45th in THE Impact Rankings 2023

Research

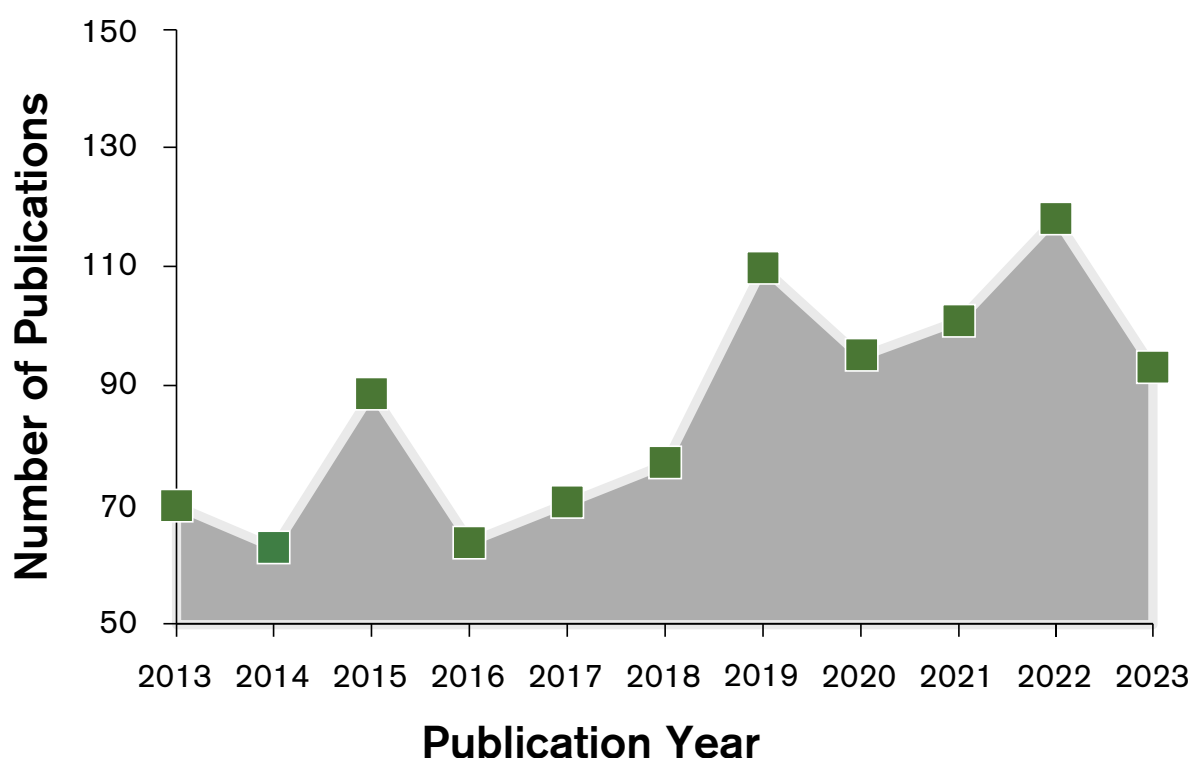
Publication Record	Method SDSN	Method Elsevier
All Articles	972	249
Open Access	679	178
Citations	24,296	6,356
H-Index	75	38

Education

SDSN Relevant Degrees	SDSN Student Engagements	Elsevier Relevant Degrees	Elsevier Student Engagements
208	1,596	152	994

SDG 13

Climate action





Case Study: Research

A team of Essex researchers are investigating how public investment policies impact action on climate change in India, Nepal and Sri Lanka.

The Essex Business School team have revealed how the gap is widening between national-level climate change policies and the level of implementation at local levels. The study showed local communities and vulnerable groups were not being listened to when developing policies and setting priorities

The governments in each country are being urged to set up mechanisms to ensure that centrally allocated climate change budgets reach the grassroots level as well as vulnerable and marginalised communities. Reviewing existing or potential incentive systems in the three countries would also enhance the climate response at the sub-national level.

The team from Essex's Centre for Accountability and Global Development (CAGD) included Dr Chaminda Wijethilake, Professor Pawan Adhikari, Professor Kelum Jayasinghe, and Professor Thankom Arun. They presented their paper at a global webinar organised by the Public Expenditure and

Financial Accountability (PEFA) program and the World Bank.

The team said: "One of the biggest challenges in aligning public financial management systems to climate change is that national level priorities do not percolate to local level. We need an integrated approach across all levels of government to deal with climate change through public financial management systems."

The key recommendations of the report are climate change-related policies and priorities must be effectively disseminated to local government; sustainable agriculture should be prioritised for future public investments; and all three countries should tap into private sector investment for climate change-related areas.

They also argued that appropriate measures should be put in place in each country to scrutinise the reporting, performance evaluation and monitoring of climate change-related budget and investment. In addition they emphasised that governments will have to use domestic resources to finance climate-friendly investments.

CONSERVE AND SUSTAINABLY USE THE OCEANS, SEA AND MARINE RESOURCES FOR SUSTAINABLE DEVELOPMENT

14 LIFE BELOW WATER



31st in THE Impact Rankings 2023

Research

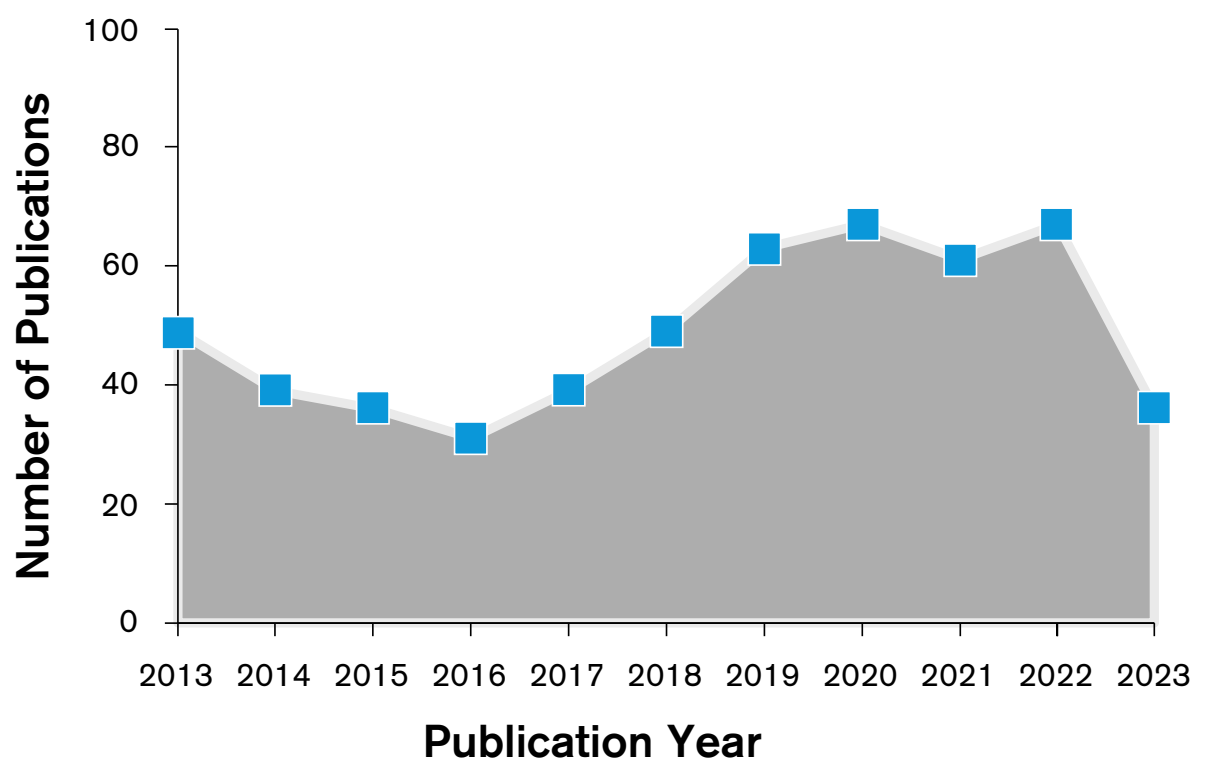
Publication Record	Method SDSN	Method Elsevier
All Articles	523	179
Open Access	402	140
Citations	16,314	4,908
H-Index	60	33

Education

SDSN Relevant Degrees	SDSN Student Engagements	Elsevier Relevant Degrees	Elsevier Student Engagements
195	1,996	61	297

SDG 14

Life below water





Case Study: Research

University of Essex staff and students were part of a historic deep-sea expedition in the Galápagos Marine Reserve.

The expedition co-lead was Dr Michelle Taylor, a Senior Lecturer at the University of Essex's School of Life Sciences and Director of its marine biology programme. Dr Taylor, who is also President of the Deep-Sea Biology Society, specialises in deep-sea floor environments, in particular corals. The Essex team also included Dr Amy Sing Wong and Dr Jessica Gordon.

The three marine biologists were part of an international research team aboard the research vessel Atlantis using the US submersible Alvin to explore the deep-sea habitats of the Galápagos.

The expedition was led by the Woods Hole Oceanographic Institution, University of Essex, University of Bristol, and Boise State University, in collaboration with the Galápagos National Park Directorate, the Charles Darwin Foundation and the Ecuadorian Navy's Oceanographic and Antarctic Research Institute.

Funded by the Natural Environment Research Council and National Science Foundation, the main objectives of the expedition – which saw Alvin submerge across the Galápagos Marine Reserve for 22 consecutive days – included getting a better understanding of the deep-water diversity and geology in Galápagos, analysing fossil corals to help predict future climate-change trends and to find out more about deep water organisms such as cold-water corals.

Much has been written about the biology of Galápagos and it is globally renowned for its unique and exotic terrestrial wildlife. From saltwater iguanas to rare coral reefs and a plethora of often undescribed species that are new to science, the Galápagos are an extremely special and very rare treat for marine biologists to explore.

Although the history of delving into Galápagos deepwater biology started many decades ago, the Galápagos Deep 2023 expedition was one of the first opportunities to gather visual data complemented by collected specimens from numerous locations around the Galápagos Platform.

PROTECT, RESTORE AND PROMOTE SUSTAINABLE USE OF TERRESTRIAL ECO-SYSTEMS, SUSTAINABLY MANAGE FORESTS, COMBAT DESERTIFICATION, AND HALT AND REVERSE LAND DEGRADATION AND HALT BIODIVERSITY LOSS



79th in THE Impact Rankings 2023

Research

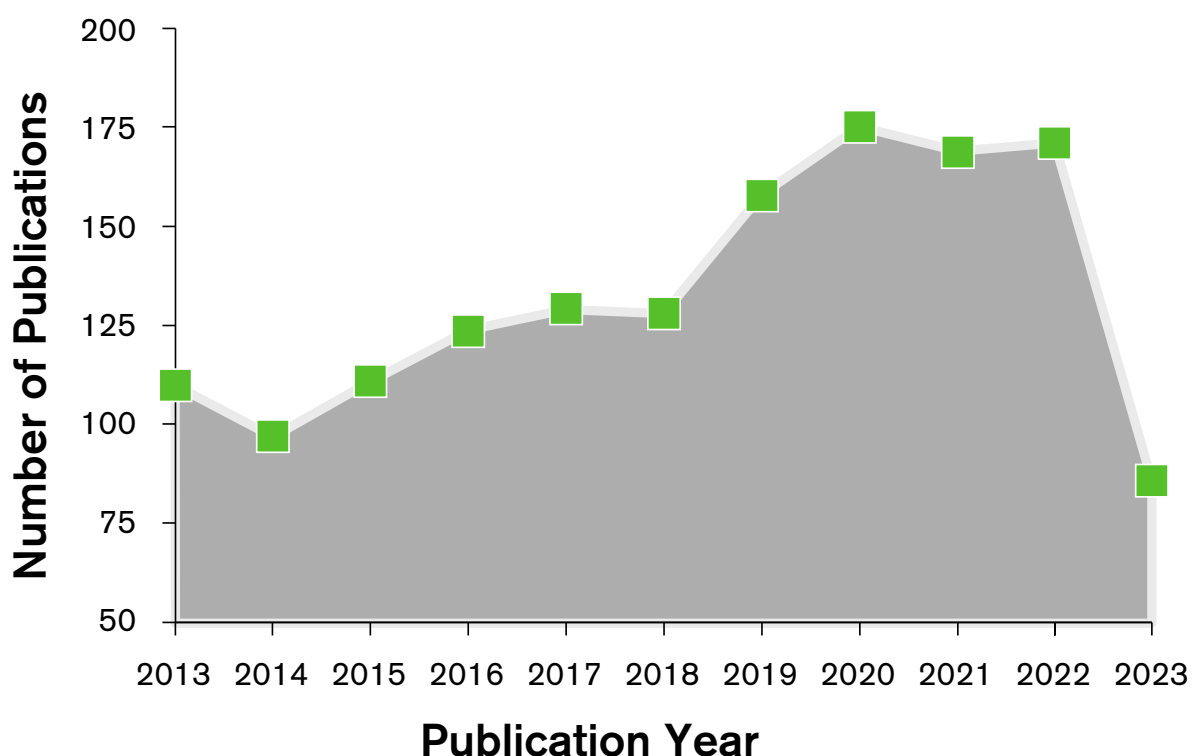
Publication Record	Method SDSN	Method Elsevier
All Articles	1,478	79
Open Access	1,085	61
Citations	37,842	3,124
H-Index	86	30

Education

SDSN Relevant Degrees	SDSN Student Engagements	Elsevier Relevant Degrees	Elsevier Student Engagements
293	2,222	22	169

SDG 15

Life on land





Case Study: Research

We are making our homes fit for purpose to cope with climate change, but should we also be doing the same for our farm animals?

A new research project involving the University of Essex aims to address the problem of dairy cow heat stress to ensure sustainable milk production and improve cow welfare as temperatures look set to increase in the future.

Researchers are seeking to understand the interaction between temperature, “microclimates” within farm buildings, and cow physiology and behaviour.

At high temperatures, dairy cows are known to suffer heat stress, which can reduce milk yield, impair fertility, and negatively affect their immune system and overall welfare.

Such problems are likely to be compounded by temperature increases due to climate change, experts say.

Essex is collaborating with the Universities of Reading and Cardiff and Writtle University College on a £1.24 million research project, funded by the Biotechnology and Biological Sciences Research Council, that aims to

understand and address the causes of dairy cow heat stress within farm buildings.

The project – some of which is taking place in Colchester’s picturesque Highwoods Country Park – will bring together experts in animal and dairy sciences, mathematical modelling and statistics, and building design engineering.

Research will take place at the University of Reading’s Centre for Dairy Research and six commercial dairy farms across the UK.

Individual cow behaviour will be continuously monitored using tracking sensors that record patterns of movement, activity, and space-use for each animal in the herd.

Detailed observations of barn “microclimates” (temperature, humidity, air quality, ventilation) will also be obtained and combined with physiological data (cow body temperature, milk production, health).

Professor Edward Codling, from Essex’s Department of Mathematical Sciences, said: “Our tracking sensors will allow us to analyse how indoor-housed dairy cows respond to, and cope with, heat stress in an unprecedented level of detail.”

PROMOTE PEACEFUL AND INCLUSIVE SOCIETIES FOR SUSTAINABLE DEVELOPMENT, PROVIDE ACCESS TO JUSTICE FOR ALL AND BUILD EFFECTIVE, ACCOUNTABLE AND INCLUSIVE INSTITUTIONS AT ALL LEVELS

16 PEACE, JUSTICE AND STRONG INSTITUTIONS



17th in THE Impact Rankings 2023

Research

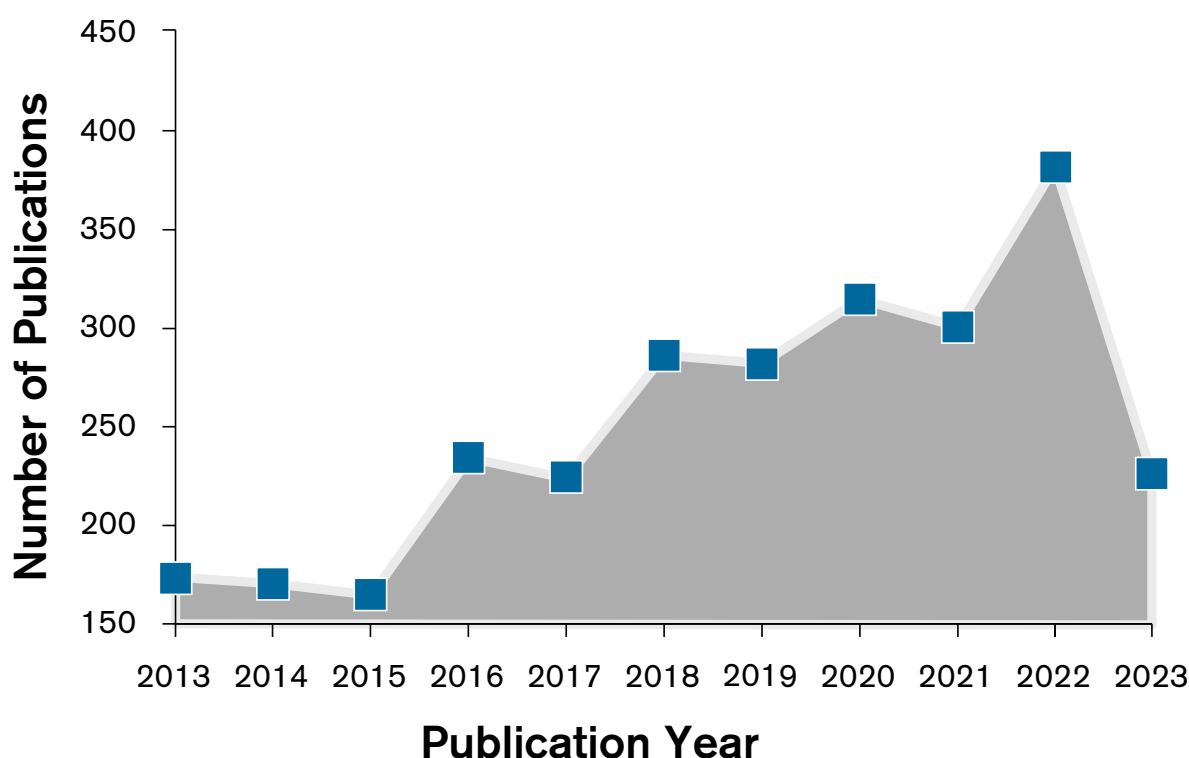
Publication Record	Method SDSN	Method Elsevier
All Articles	2,861	748
Open Access	1,807	413
Citations	38,908	8,720
H-Index	76	46

Education

SDSN Relevant Degrees	SDSN Student Engagements	Elsevier Relevant Degrees	Elsevier Student Engagements
629	9,469	350	3,724

SDG 16

Peace, justice and strong institutions





Case Study: Research

An Essex legal expert is helping governments and states to reform laws in a bid to crackdown on arbitrary detention, torture and even executions.

Dr Matthew Gillett was appointed the Vice-Chair of the UN Working Group on Arbitrary Detention in 2022, and has since been involved in visits to Mongolia and Mexico.

The Working Group is tasked with exposing mistreatment and bad practice in settings such as police stations, migration detention centres, adolescent centres, child protection shelters and mental health hospitals; helping states improve laws and provide better accountability to those working in enforcement.

Dr Gillett and the Working Group found that despite improvements, arbitrary detention, ill-treatment, torture and executions were still too frequent during the visit to Mexico in 2023.

“Talking to detainees in prisons, immigration stations, and adolescent centres is critical for human rights fact-finding. During our recent UN mission, these interviews confirmed that Mexico requires further reforms to end arbitrary detention,” Dr Gillett said.

The delegation concluded that excessive use of force was still frequent, especially from the moment a person was detained right up until they appeared before a judge.

Further concerns have also been raised about the systems used for recording detentions; insufficient access to effective legal assistance; excessively long periods of pre-trial detention; attacks on judicial independence and due process; and an overly punitive approach to drug policy.

They have provided recommendations to the Government of Mexico on key issues linked to arbitrary detention, including criminal procedure, migration-related detention, conditions of detention, and the situation of vulnerable people.

The working group found arbitrary detention affects a wide range of people in Mexico, with particular risks to vulnerable groups including indigenous peoples, persons with disabilities, LGBTI+ persons, adolescents, older persons and people living in poverty.

It will work with the Mexican Government to improve practices, before submitting a final report to the UN in 2024.

STRENGTHEN THE MEANS OF IMPLEMENTATION AND REVITALISE THE GLOBAL PARTNERSHIP FOR SUSTAINABLE DEVELOPMENT

17 PARTNERSHIPS FOR THE GOALS



45th in THE Impact Rankings 2023

Research

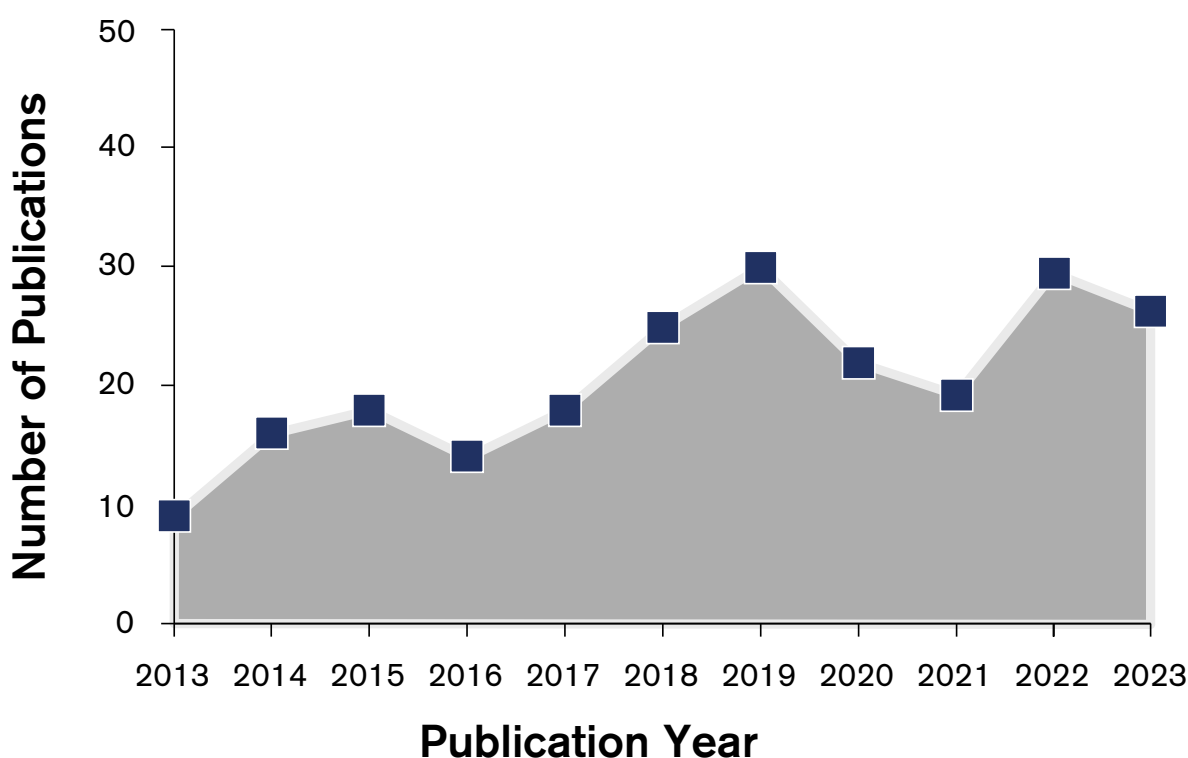
Publication Record	Method SDSN	Method Elsevier
All Articles	223	N/A
Open Access	135	N/A
Citations	4,511	N/A
H-Index	34	N/A

Education

SDSN Relevant Degrees	SDSN Student Engagements	Elsevier Relevant Degrees	Elsevier Student Engagements
N/A	N/A	N/A	N/A

SDG 17

Partnerships for the goals





Case Study: Action

Essex is proud to be a founding member of YUFE – the Young Universities for the Future of Europe – Alliance.

YUFE is committed to real collaboration across boundaries, with student representatives at the heart of decision-making at the highest level. It is becoming a leading model of a young, student-centred, open and inclusive European University while making a significant difference to students and staff.

Students from across ten partner universities can study at multiple universities simultaneously, postgraduate researchers can join a European-wide support programme, staff are working across boundaries and member universities are collaborating on improvements, policies and sharing good practice.

YUFE is increasing the international visibility of all partners, while the energy of partners is leading to additional pan-European projects.

European Universities are transnational alliances envisaged by the European Union as the universities of the future. The YUFE Alliance involves ten young research-intensive

universities stretching from Spain to Finland and two non-academic partners.

YUFE has overcome many challenges through intense collaboration, from starting to integrate IT systems to timetabling the study journey across all partners.

An impressive number of students, researchers and academic staff are very actively engaged in the alliance.

The strength of collaboration within YUFE has led to successful bids for significant funding for further European projects. This included the DIOSI project to develop a new model of training in Open Science and Open Innovation for early career researchers, the YUFERING Project to develop innovative knowledge transfer strategies and Inno4YUFE to promote student entrepreneurship across Europe. All enrich the YUFE offer and provide an example for others to follow.

YUFE's vision for 2030 is to accelerate its work, building on its successful foundations to create a fully-fledged European University at the forefront of innovation in higher education.

SUSTAINABLE DEVELOPMENT GOALS

Find out more about our work on sustainability and our response to the climate and ecological emergency on our website at: www.essex.ac.uk/sustainability