![Blue Planet Prize logo]

Blue Planet Prize

2023 BLUE PLANET PRIZE:
ANNOUNCEMENT OF PRIZE WINNERS

This year marks the 32nd awarding of the Blue Planet Prize, the international environmental award sponsored by the Asahi Glass Foundation, chaired by Takuya Shimamura. Every year, the Foundation selects two winners, individuals or organizations who have made significant contributions to the resolution of global environmental problems. The Board of Directors has selected the following 2023 Blue Planet Prize recipients.

1. **Professor Richard Thompson OBE FRS（UK）**   Born in UK: 15 July 1963
   University of Plymouth, Director of the Marine Institute, University of Plymouth
   Professor Tamara Galloway OBE（UK）   Born in UK: 6 February 1963
   University of Exeter, Head of Ecotoxicology Research Group, University of Exeter
   Professor Penelope Lindeque（UK）   Born in UK: 7 September 1971
   Head of Science for Marine Ecology and Biodiversity, Plymouth Marine Laboratory (PML)

(from left) Prof. Lindeque, Prof. Thompson, and Prof. Galloway

Professor Richard Thompson, Professor Tamara Galloway, and Professor Penelope Lindeque demonstrated the existence of microplastics in the ocean, and have since charted their presence from the deep Ocean to the highest mountains. They revealed microplastics are ingested by zooplankton and other marine species and have made major advances in understanding the effects of microplastics on these marine organisms and ecological processes. They have influenced global legislation and action, calling on the international community to develop solutions that will help to address the growing problem of plastic pollution in the Ocean.

2. **Professor Debarati Guha-Sapir (Belgium)**   Born in India: 11 November 1953
   Founder Director of the Center for Research on the Epidemiology of Disasters (CRED)、Université Catholique de Louvain
   Senior Fellow, Centre for Humanitarian Health, Johns Hopkins Bloomberg School of Public Health

Professor Debarati Guha-Sapir founded and led the development of the Emergency Events Database (EM-DAT), the first data infrastructure of global disasters triggered by climate change e.g. storms, geo-physical hazards e.g. earthquakes, biological agents e.g. pandemics, and humanitarian disasters e.g. conflicts. EM-DAT and her body of research over thirty years serves as a scientific foundation for evidence-based policymaking, used by many international organizations, national governments, and research institutes working on climate change mitigation and adaptation measures; and disaster prevention and mitigation.

- Each recipient is presented with a certificate of merit, a commemorative trophy, and 500,000 US dollars in prize money.
- The Award Ceremony is scheduled on Wednesday, October 4, 2023 at Tokyo Kaikan. Commemorative lectures will be given on October 5 and 7, 2023, at the University of Tokyo and at Kyoto University, respectively.
- This press release and the photo of each recipient will be published 11 a.m. on Wednesday June 14 on the website of the Asahi Glass Foundation (www.af-info.or.jp/en).

THE ASAHI GLASS FOUNDATION

Statements from the Award Recipients upon Notification of Selection

Prof. Richard Thompson, Prof. Tamara Galloway, and Prof. Penelope Lindeque

We are truly honoured to have been selected as recipients of the 2023 Blue Planet Prize. This award is further recognition that plastic pollution represents a global threat to the health of the Ocean, its ecosystems and organisms, and the economies that rely on it.

Our interdisciplinary research has progressed from establishing the presence of microplastics in the marine environment to developing techniques determining the risks presented by plastics and the chemicals they contain, while providing solutions to prevent their spread and influencing global legislation around their use.

We continue to work towards a shared vision of a healthy and productive Ocean for future generations, a goal shared by the many scientists, students and partners who we have worked alongside over the past two decades and more.

We hope our research continues to underpin innovation that fosters a more sustainable use of plastic in a circular economy, and inspires individual and collective action around the use and management of plastic in societies.

Professor Debarati Guha-Sapir

It is a great honour and a privilege to be selected as a winner of the 2023 Blue Planet Prize. The Asahi Glass Foundation has identified environment and climate as the major challenges for world development and has supported the work of many extraordinary individuals in the past. I am grateful to be recognized in this pantheon and feel humbled by this appreciation.

My work focuses on natural disasters, in particular climate extremes which are on the increase. It addresses the consequences of extreme events on individuals, families, and communities. Climate disasters, such as floods, heat waves or cyclones, are on a sharp increase globally and have devastating effects on the poorer and more vulnerable communities. My research aims to find practical data-based solutions to protect high risk communities from the effects of such events.

Being awarded the Blue Planet Prize provides me with an extraordinary opportunity. It will allow me to continue my work on improving evidence and data to reduce the impact of climate extremes and help communities adapt all over the world.

Report on the Selection Process (2023 Blue Planet Prize)

Nomination forms were sent to approximately 509 nominators in Japan and 947 overseas, and by the deadline, we received a total of 182 nominations. The top three fields represented by the candidates, in order of number, were ecology (32), environmental economics and policy making (33), environmental ethics (25). The candidates represented 41 countries.

After individual evaluation of the 182 candidates by each Selection Committee member, the committee was convened to narrow down the field. The results of their deliberation were examined by the Presentation Committee. The Board of Directors formally decided to award the Prize to Professors Richard Thompson, Tamara Galloway, and Penelope Lindeque; and Professor Debarati Guha-Sapir.

Laureates (1992-2023)

Year	Laureate	Year	Laureate
1992	Syukuro Manabe (USA) International Institute for Environment and Development (UK)	2008	Claude Lorius (France) José Goldemberg (Brazil)
1993	Charles D. Keeling (USA) IUCN—The World Conservation Union (headquartered in Switzerland)	2009	Hirofumi Uzawa (Japan) Nicholas Stern (UK)
1994	Eugen Seibold (Germany) Lester R. Brown (USA)	2010	James Hansen (USA) Robert Watson (UK)
1995	Bert Bolin (Sweden) Maurice F. Strong (Canada)	2011	Jane Lubchenco (USA) Barefoot College (India)
1996	Wallace S. Broecker (USA) The M.S. Swaminathan Research Foundation (India)	2012	William E. Rees (Canada) and Mathis Wackernagel (Switzerland) Thomas E. Lovejoy (USA)
1997	James E. Lovelock (UK) Conservation International (head-quartered in the USA)	2013	Taroh Matsuno (Japan) Daniel Sperling (USA)
1998	Mikhail I. Budyko (Russia) David R. Brower (USA)	2014	Herman Daly (USA) Daniel H. Janzen (USA) and Instituto Nacional de Biodiversidad (INBio)
1999	Paul R. Ehrlich (USA) Qu Geping (China)	2015	Partha Dasgupta (UK) Jeffrey D. Sachs (USA)
2000	Theo Colborn (USA) Karl-Henrik Robèrt (Sweden)	2016	Pavan Sukhdev (India) Markus Borner (Switzerland)
2001	Robert May (Australia) Norman Myers (UK)	2017	Hans J. Schellnhuber (Germany) Gretchen C. Daily (USA)
2002	Harold A. Mooney (USA) J. Gustave Speth (USA)	2018	Brian Walker (Australia) Malin Falkenmark (Sweden)
2003	Gene E. Likens (USA) and F. Herbert Bormann (USA) Vo Quy (Vietnam)	2019	Eric Lambin (Belgium) Jared Diamond (USA)
2004	Susan Solomon (USA) Gro Harlem Brundtland (Norway)	2020	David Tilman (USA) Simon Stuart (UK)
2005	Nicholas Shackleton (UK) Gordon Hisashi Sato (USA)	2021	Veerabhadran Ramanathan (USA) Mohan Munasinghe (Sri Lanka)
2006	Akira Miyawaki (Japan) Emil Salim (Indonesia)	2022	Jigme Singye Wangchuck, the Fourth King of Bhutan Stephen Carpenter (USA)
2007	Joseph L. Sax (USA) Amory B. Lovins (USA)	2023	Richard Thompson (UK), Tamara Galloway (UK), and Penelope Lindeque (UK) Debarati Guha-Sapir (Belgium)

Supplementary Information
Profiles of the 2023 Blue Planet Prize Recipients

Professor Richard Thompson, Professor Tamara Galloway, and Professor Penelope Lindeque

Major research achievements and activities

In 1972, Professor Edward Carpenter et al. reported a collection of plastic spheres with a diameter of 0.25 to 0.5 cm from the western Sargasso Sea. Reports on plastic ingestion by marine organisms were scarce before the 1980s but have increased rapidly since the 1990s. In the 2004 paper "Lost at Sea: Where Is All the Plastic?", Professor Thompson and colleagues identified fibrous polymers with a diameter of only 20 μm collected from the seafloor around Plymouth as nylon, polyethylene, polyester, and others.

They demonstrated that these 'microplastics' – the first time the term was used in this context – were widespread in sediment and seawater in the northwestern Atlantic, and that the amount of microplastics in the ocean has increased over time, as evidenced by comparison with preserved plankton samples from the 1960s. They also indicated that various marine invertebrates ingest these microplastics.

Since 2007, Professor Thompson, Professor Galloway and Professor Lindeque have achieved significant accomplishments by leveraging their interdisciplinary expertise and collaborating with each other.

Professor Galloway and Professor Thompson reported that microplastics smaller than 1mm have accumulated in marine habitats[1] and contaminated the shorelines at 18 sites worldwide through ingestion by organisms around six continents from the poles to the equator. The researchers also found that the proportions of polyester and acrylic fibers used in clothing resemble those found in habitats that receive sewage discharges and sewage-effluent, suggesting that a major source of microplastic pollution is through sewage containing fibers from washing clothes.

The uptake of microplastics by marine organisms such as mussels, worms, fish, and seabirds has been evidenced since the first description of microplastics in the ocean, however the effects of these microplastics has not been well-documented.

Professor Lindeque and Professor Galloway, and their research groups, were the first to evidence that microplastics can be ingested by zooplankton at the base of the marine food web[2], and to document the harm to marine copepods. They used bioimaging techniques[3] to document ingestion and egestion of microplastics in a range of zooplankton.

In 2013 they reported that copepods, a type of crustacean, showed significantly reduced algal feeding in seawater containing 7.3 μm microplastics. They demonstrated that microplastics are ingested by zooplankton at the base of the marine food web, impairing the feeding, growth, and reproduction of these marine organisms. This shows the potential for microplastics to significantly impact marine life and the health of marine ecosystems.

Through their research, Professor Thompson, Professor Galloway, and Professor Lindeque have highlighted how microplastics are omnipresent from the polar regions to the highest mountains, and from rivers and coastlines to the deepest ocean. They have tracked their sources – from plastic bags to microbeads[4] in cosmetics – and studied their pathways via wastewater and rivers.

Critically, they have focused on potential solutions framed around the circular economy and have evaluated novel methods for reducing the leakage of plastics into the environment and the potential for natural and mechanical measures to remove plastic waste. They are currently collaborating on a major initiative exploring how to prevent particles created by tyre wear from remaining a cause of environmental concern.

Professor Thompson, Professor Galloway, and Professor Lindeque are highly influential; some of their papers have been cited more than 4,000 times and they rank among the top 0.1% of scientists in the field of environment and ecology (according to the Highly Cited Researchers list by Clarivate). They have also raised public awareness, informed policy-makers, and alerted industry about the dangers of microplastic pollution through television documentaries and other media, policy briefings, and presentations e.g. in Congress.

Furthermore, their work has been central to international government legislation and influenced the United Nations Treaty on Plastic Pollution, signed by 175 nations in March 2022.

About the three recipients

<u>Professor Richard Thompson</u>

Professor Richard Thompson is a Professor of Marine Biology and Director of the Marine Institute at the University of Plymouth[5], and the founder of its International Marine Litter Research Unit. He began investigating marine plastics in 1995 and has since extensively studied the spread, environmental dynamics, and impacts of microplastics. His 2004 paper on microplastics in the ocean, published in the journal Science, was the first of its kind and sparked a new field of academic research that has since expanded worldwide. Professor Thompson is acknowledged as one of the foremost pioneers in the field of marine microplastic pollution, conducting multidisciplinary research to understand the environmental dynamics and ecological impact of this pollutant, as well as the social dimensions and solutions to the problem.

Academic and Career Background
2018-present	Director of the Marine Institute, University of Plymouth
2010-present	Professor, University of Plymouth
2004-2010	Reader, University of Plymouth
2001-2004	Senior Lecturer, University of Plymouth
1997-2000	Research Fellow, University of Southampton
1996	Liverpool University (PhD, Ecology of Epilithic Microalgae)
1991	Newcastle University (BSc, Marine Biology)

<u>Professor Tamara Galloway</u>

Professor Tamara Galloway is a Professor of Ecotoxicology at the University of Exeter[6] where she leads the Ecotoxicology Research Group. She also holds an Honorary Professorship at University of Exeter Medical School. She studies the biological effects of environmental pollutants on both humans and wildlife and is a world-leading expert in the field of plastic ecotoxicology research. Her ground-breaking research has examined both the health effects of chemical additives in plastics and their effects as they break down into micro- and nanoplastics in the marine environment. Professor Galloway's work in this field has garnered the attention of millions of people worldwide and has played a significant role in influencing policies aimed at reducing plastic pollution and toxic additives, as well as contributing to the protection of nature and human health.

Academic and Career Background
2008-present	Honorary Professor, University of Exeter Medical School
2007-present	Professor, University of Exeter
1997-2007	Senior Lecturer (0.5FTE), Principal Lecturer (2001), Reader (2005), University of Plymouth

1990-1997	Career break
1986	University of Edinburgh (PhD, Structure and Function of Cholera Toxin)
1983	University of Glasgow (BSc, Biochemistry)

Professor Penelope Lindeque

Professor Penelope Lindeque is Head of Science for Marine Ecology and Biodiversity at Plymouth Marine Laboratory (PML[7]), where she leads the microplastic research group. She also holds an Honorary Professorship at the University of Exeter Faculty of Environment, Science and Economy. She leads a dynamic area of research at PML investigating the ecological impacts of microplastics and anthropogenic particles as emerging pollutants. Professor Lindeque conducts cutting-edge research developing and using new analytical techniques, including at the molecular level, to study the effects of environmental pollutants such as microplastics on marine organisms and ecosystems, using knowledge gained to explore nature-based solutions. Professor Lindeque's research centers around zooplankton, and early evidence that microplastics can be ingested and cause harm to marine copepods was integral to supporting international bans on microbeads[7]. Professor Lindeque is passionate about disseminating research to a wide audience supporting the next generation of scientists and creating widespread awareness.

Academic and Career Background

2019-present	Honorary Professor, University of Exeter
2000-present	Postdoctoral researcher (2000), Principle Investigator (2007), Head of postgraduate studies (2014), Merit Scientists (2017), Head of Science: Marine Ecology and Diversity (2019), Plymouth Marine Laboratory
2000	University of Plymouth (PhD, Biochemistry)
1994	University of Bath (BSc, Applied Biology)

Notes:

1. Marine habitat

A marine habitat refers to any location in the world's oceans, seas, or other saltwater bodies where plants and animals can live and thrive. Marine habitats include various environments such as open ocean, coral reefs, kelp forests, rocky shores, estuaries, and salt marshes, among others. These habitats are vital for the survival of marine species, and they also provide important ecosystem services such as fisheries, marine tourism, and carbon sequestration by absorbing and storing large amounts of carbon dioxide from the atmosphere.

2. Food web

A food web refers to the overall interconnection of feeding relationships (who-eats-who) in an ecosystem. Plants make food through photosynthesis and are eaten by herbivores, which are then eaten by carnivores. Decomposers break down dead plants and animals, returning nutrients to the soil. This relationship is commonly known as the food chain. Since animals consume a variety of foods in the wild; and the interconnections in the food cycle are complex and more like a web than a chain, we call it a food web. Every organism has a role in the web, and removing one can affect the entire system. Understanding the food web helps us appreciate the importance of biodiversity and how all living things are interconnected in an ecosystem.

3. Bio-imaging technique

Bio-imaging technique refers to the use of advanced imaging techniques to visualize biological structures and processes at the cellular and molecular level. This includes technologies such as fluorescence microscopy, electron microscopy, magnetic resonance imaging (MRI), and computed tomography (CT) scanning, among

others. By using a bio-imaging technique, coherent anti-Stokes Raman scattering (CARS) microscopy, Professors Galloway and Professor Lindeque revealed in 2013 that microplastics were being ingested by zooplankton.

4. Microbead

Microbeads are tiny particles, typically measuring less than 5 millimeters in diameter, which are commonly made of polyethylene or polypropylene plastic. They are widely used in a variety of personal care products, such as facial scrubs, body washes, and toothpastes. They are small enough to pass through water filtration systems, and as a result, they can end up in rivers, lakes, and oceans, where they may be ingested by marine life. Because microbeads do not break down easily in the environment and there are concerns about their negative impact on the environment and human health, many countries have implemented bans or restrictions on the use of microbeads in personal care products. As alternatives to microbeads, milled walnut shells, silica, and cellulose are being used in personal care products as exfoliants.

5. University of Plymouth

The University of Plymouth is renowned for high quality, internationally-leading education, research and innovation. A three-time winner of the Queen's Anniversary Prize for Higher and Further Education, most recently in 2020 in respect of its pioneering research on microplastics pollution in the ocean, the University continues to grow in stature and reputation.

6. University of Exeter

The University of Exeter is a globally leading, research intensive University and member of the prestigious UK Russel group. The University's purpose is to use the power of education and research to create a sustainable, healthy and socially just future. The University won the Queen's Anniversary Prize for Higher and Further Education in 2020 for its pivotal role in exposing the devastating effect that plastics pollution has on the health of humans and wildlife.

7. Plymouth Marine Laboratory (PML)

Plymouth Marine Laboratory (PML) in Plymouth, UK, founded in 1988, is an independent, not-for-profit research institute. As a world leader in the field of marine research, PML is committed to the delivery of impactful, cutting-edge environmental and social science in support of a healthy and sustainable ocean.

Professor Debarati Guha-Sapir

Major research achievements and activities

Professor Debarati Guha-Sapir is an epidemiologist researching the human impact of natural disasters at the University of Louvain and as Senior Fellow at Johns Hopkins Bloomberg School of Public Health. She is from W. Bengal India - a region that has been among the most affected by catastrophic disasters and climate change which motivated her research.

With a strong sense of mission, she worked early in her career to build a database infrastructure for a wide range of disasters, including mega-disasters related to global climate change, biological disasters such as pandemics, and humanitarian crises such as conflicts. She took action to fill this evidence gap and founded and developed EM-DAT[1], the first database on major global disasters.

EMDAT was initiated in 1988, in the Centre for Research on the Epidemiology of Disasters (CRED) , and was the first to set up a systematic and standardised framework for collecting impact data major disasters in the world since 1900, quickly making it the most widely used data infrastructure in the field of disaster research and policy. EM-DAT has become the foundation of scientific data, indispensable for evidence- based policy-making (EBPM)[2] in organizations such as the Intergovernmental Panel on Climate Change (IPCC)[3], the United Nations Agency for Disaster Risk Reduction (UNDRR)[4], the World Meteorological Organization (WMO), the World Health Organization (WHO), governments, and research institutes in various countries to implement prevention, mitigation and adaptation measures, for climate disasters.

CRED is one of the world's leading research institutes for academic and policy research on disasters. It was established as an international non-profit organization in 1973 by Professor Michel F. Lechat, an epidemiologist at the Catholic University of Louvain (UCL). Professor Guha-Sapir joined his team in 1984 and after extensive field work on droughts and floods, she quickly recognised the central importance of systematic data on disaster impact. She led the development of information systems for disaster relief measures, having identified very early this gap in global systems. She released EM-DAT in 1988 and published a paper explaining its technical aspects in 1992. She became Director of CRED in 1992, making swift science-based policy recommendations in the face of emergency disasters around the world for the past 30 years. She has written countless recommendations, policy briefings, and academic papers in renowned journal such as The Lancet, Nature Medicine and others. For example, when the COVID-19 pandemic broke out in 2020, she wrote a paper on global poverty reduction in the journal *Science* and was involved in policymaking as a member of the United Nations High-Level Policy Committee.

Examples of the use of EM-DAT include the "Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation (SREX)" by the IPCC, "Natural Hazards, Unnatural Disasters: The Economics of Effective Prevention" by the United Nations (UN) and World Bank, the "Human Development Report" by the UN Development Programme (UNDP), and the "State of the Global Climate" by the World Meteorological Organization (WMO).   The contribution of EM-DAT is not just limited to the scientific understanding of the locations, frequency, and objective intensity of various disasters. As stated in "The Human Cost of Weather-related Disasters[5]" by the Center for Research on the Epidemiology of Disasters (CRED) and the UN Office for Disaster Risk Reduction (UNDRR), it was epoch-making in that EM-DAT enabled us to scientifically estimate the humanitarian and socioeconomic impacts of disasters and take concrete countermeasures.

After running a highly successful International Summer Course on Disaster Epidemiology, for many years, Professor Guha-Sapir,　launched in 2015, an advanced Master's program entitled "Public Health in Disasters" in collaboration with the Karolinska Institutet (Stockholm) and the University of Oviedo (Spain). This is one of the Erasmus Mundus Joint Master's programs, in which the European Union encourages students from both developed and developing countries to study and conduct research at European universities. The epoch-making launch took place in Europe, and its significance was reaffirmed during the COVID-19 crisis, demonstrating Professor Guha-Sapir's foresight. Her student alumni are now in key positions across the globe such as the UN, governments and humanitarian organisations such as the Red Cross, around the world.

After over 25 years of leading globally influential disaster research in CRED and building quality evidence in EM-DAT, Professor Guha- Sapir is now moving forward to innovative and collaborative data models focusing on harmonizing inter- disciplinary databases on human and environmental impact of climate disasters.

Academic and Career Background
1992-present	Founding Director of the CRED and Professor at the UCL
1984-1992	Researcher, Center for Research on the Epidemiology of Disasters (CRED)
1989	Université Catholique de Louvain (UCL), (PhD, Epidemiology and Preventive Medicine)
1977	Johns Hopkins University, USA, (MS, Epidemiology and Biostatistics)
1972	University of Calcutta, India (BA, double major Literature and Applied Statistics)

Notes

1. EM-DAT

   EM-DAT is a global database of natural and technological disasters covering about 184 countries. Its main objectives are to assist in humanitarian action at national and international levels, rationalize decision-making for disaster preparedness, and provide an objective basis for vulnerability assessment and priority setting. In the late 1980s, this was the very first attempt to standardise and unify data on human impact of disasters. The system divides disasters into: natural disasters and technological disasters. The former category is divided into six subgroups: geophysical, meteorological, hydrological, climatological, biological, and extraterrestrial, while technological disasters are classified into three subgroups: industrial, transportation, and miscellaneous accidents. All events conforming to at least one of the following four criteria: (1) 10 or more people dead, (2) 100 or more people affected, (3) the declaration of a state of emergency, or (4) a call for international assistance are included.

2. Evidence-Based Policy Making (EBPM)

   Evidence-Based Policy Making (EBPM) is an approach to policy-making that emphasizes the use of high-quality evidence and data to inform political decision makers. Its goal is to ensure that policy decisions are made based on reliable and objective evidence, rather than on political ideology, personal opinions, or anecdotal evidence. This approach can help improve the effectiveness of policies and programs, as well as promote transparency, accountability, and good governance.

3. Intergovernmental Panel on Climate Change (IPCC)

   The Intergovernmental Panel on Climate Change (IPCC) is an international body established in 1988 by the United Nations to provide policymakers with scientific assessments of climate change, its impacts, and the risks associated with it. The IPCC brings together scientists and experts from around the world to assess the state of knowledge on climate change and provide regular reports summarizing the latest scientific findings.

These reports serve as a key source of information for policymakers and are used for international negotiations and policy decisions on climate issues at all levels of government.

4. United Nations Office for Disaster Risk Reduction (UNDRR)

The United Nations Office for Disaster Risk Reduction (formerly known as UNISDR), established in 1999, is a UN agency that aims to reduce disaster risk and build resilience worldwide. UNDRR supports the implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030. It is a roadmap for making our communities safer and more resilient to disasters, and was adopted at the 2015 World Conference on Disaster Risk Reduction. UNDRR and its partners produce the biennial UN Global Assessment Report on Disaster Risk Reduction, which provides guidance on integrating disaster risk reduction into private investment decision-making and public policy in urban, environmental, social, and economic sectors.

5. The Human Cost of Weather-related Disasters

In this report, the EM-DAT showed that 6457 catastrophic natural events occurred worldwide for the period from 1995–2014. More than 90% of all natural disasters were linked to weather-related events, including floods, storms and heatwaves. Over this period, weather-related disasters claimed 606,000 lives, an average of some 30,000 per annum, with an additional 4.1 billion people injured, left homeless or in need of emergency assistance. In the period from 2005-2014, on average, 335 events took place annually, almost twice the 1985-1994 average.