

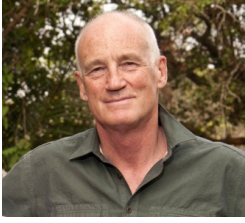
The Geological Society of London Annual Review 2020



The
Geological
Society

serving science, profession & society

Letter from the President



Dr Michael Daly

Council is the trustee body of the Society. The following named persons were trustees of the charity on the date this report was approved:

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The following named persons also served on Council as trustees during the financial year to which this report relates but stepped down prior to the date this report was approved:

Lesley Dunlop, Sarah Gordon, Nick Rogers, Kate Royse, John Talbot

In the midst of the challenging times of 2020, the Geological Society (GSL) laid some new foundations for its future. COVID-19 provoked an accelerated move to virtual communications making the Society more accessible to its membership and the science community at large. The Society also made significant strides in the matter of strategy, degree accreditation, our view of climate and environmental change and the long running issue of the Burlington House lease. In addition, it sanctioned a new Open Access journal and a redesign of the Geoscientist magazine.

With respect to the COVID-19 pandemic, I would like to acknowledge and thank Richard Hughes and the GSL team, both in the Publishing House and Burlington House, for their pragmatism and resilience throughout the pandemic. The Society responded quickly and good use was made of the opportunity to move to virtual meetings, be they our science programme, early career events or Council meetings. This change was rapid and welcome and now represents an enhanced capability in the Society.

As the Society was 'locking down' in March, it was also beginning a strategic review to set the direction for the next decade. The Strategic Options Project engaged with Fellows and other stakeholders ranging from students to CEOs across the UK and overseas. The project identified four priorities to guide our activities over the coming decade:

1. Advance fundamental, multidisciplinary Earth and Planetary science to inform global issues
2. Support professional development, careers and education in Earth sciences
3. Be the inclusive home for UK Earth scientists, and increase our international collaboration
4. Become a more dynamic and responsive organisation with a strong digital identity

The launch of five scientific themes under priority one is central to the strategic aims. The first of these, the Energy Transition, was launched at the end of 2020 and will be steered by Nick Gardiner of St Andrews University. Activities within the remaining four themes: Planetary Science; Geohazards; Environmental and Climate Change; and Advanced Computing and Big Data will ramp up in 2021.

These themes augment the deep expertise of the Society's Specialist Groups and will also feature in the GSL's recently launched Open Access, online journal – Earth Science Systems and Society (ES3). As the journal grows it will position the Society well in the growth of Open Access publishing.

The refresh of the degree accreditation process began with the appointment of Mark Anderson of Plymouth University. Mark has already added significant energy and direction to the long needed updating of the requirements for Earth Science qualifications. It is particularly timely given the recent decline of the numbers of students applying to read Earth sciences at British universities.

Throughout 2020, the GSL and its Burlington House neighbours continued to engage with the Government on the long-running problem of escalating rents and restrictions on how we can use the Burlington House premises. Discussions have resulted in the Society being presented with a fixed annual rent increase of 8% per annum for the next 5 years. These terms mean that our rent will become unaffordable over the same time period.

Given the lack of progress on this issue, Council decided to increase its Government-focussed lobbying effort and, as a contingency plan, set up a working group to assess the needs of a modern scientific society and what a future beyond Burlington House could look like for the GSL. Ex-President David Shilston is leading the New Premises Project and has gathered an impressive team to support him. Together with the Society of Antiquaries, the Astronomical Society and the Linnean Society we have also engaged April Six, a PR company, to support the final campaign to engage Government in a resolution of the Burlington House rental issue.

This has not been the year I was expecting as President. Whilst more time consuming, it has also been far more varied and interesting. It has caused me to learn much about the history of our Society and its relationship with Britain's past. It has also clarified the relevance and role of the Geological Society for the future: in the medium term, developing the underlying science required to deliver the energy transition and in the longer term, underpinning planetary exploration and the ever-increasing geohazard, tectonic and crustal monitoring of our environment. It has also brought into sharp focus that we should be more active in ensuring the preservation and accessibility of geological data such as our unique map collection.

I would like to end this by thanking you, the membership, for your continued support for the Society. As ever we are only as good, and as relevant, as our membership makes us.

Letter from the Executive Secretary

When I wrote to you at this time last year the country was in the grip of the first lockdown related to the COVID-19 pandemic. As a consequence, the Society's Burlington House premises were closed to staff, Fellows and visitors for large parts of 2020, with only a limited re-opening of the Library possible in the early autumn.

An unexpected, but positive, impact of the pandemic was its acceleration of digital working practises. A rapid transition to virtual meetings enabled a more inclusive attendance at lectures and events, making it possible for people to join from far-flung locations. Our Annual General Meeting, for example, was attended by Fellows joining this webinar event from Hong Kong and South America. An event highlight was the half-day panel discussion on the 'Future of Geoscience', attended by over 1,000 participants from around the world. This was followed by a Society's 'summit' on student enrolment at UK universities, from which a joint action plan with University Geoscience UK has been developed for implementation.

In 2018 the Society appointed its first Head of Development with the objective of increasing income from philanthropic sources. Strong progress has been made in laying down the foundations for growth, our former 'Corporate Patrons' scheme has been completely overhauled, and a legacy giving framework will soon be rolled-out. Corporate support can take different forms, and a successful bid into the JP Morgan 'Force for Good' programme has resulted in substantial pro bono expert support to implement the digital infrastructure to host the Society's Geoscience Education and Outreach Network (GEON). When the network launches in 2021 it will provide a forum for all those interested in education and outreach to share resources and connect with volunteers, providing a digital platform to underpin our aspiration to inspire the next generation of Earth scientists.

Our GEON work is not the only initiative to benefit from digital transformation. From the start of 2021, the Geoscientist moved to reduced frequency of hard-copy publication with an enhanced online presence and a new website optimised for mobile devices.

In late 2019 Council requested an in-depth review of the Society's Library and Information Services. The review began in early 2020 and was undertaken by an independent expert panel, led by Professor Hazel Rymer. The review's recommendations were accepted by Council in November 2020, and

their implementation will result in an increased shift towards digital delivery of resources while emphasising the importance of our unique maps, heritage and science collections. The review also made recommendations which anticipate a possible re-location from Burlington House to smaller premises.

Neal Marriott stood down from his role as Director of Publishing in January 2020 and has been replaced by Maggie Simmons. Neal made an enormous contribution to the Society over the years, leaving behind a highly accomplished scholarly publishing operation highly regarded on the international stage. The transformation of the Society's publishing operations in response to a rapidly changing landscape continued with the launch of new, online open access journal Earth Science Systems and Society (ES3).

The review of current Fellowship categories, fees and benefits gathered pace in the second half of 2020. It is recognised that current, largely age-based fee structure has been in place a long time, is unpopular, and seen by some as unaffordable and discriminatory. A consultation to gather Fellows' and non-Fellows' views on current and potential new structures and benefits ran in December 2020, and your feedback will be incorporated into new proposals that will be tabled at our 2021 Annual General Meeting.

2020 was an extraordinary year for the Society, with many highs and lows. In addition to the many highlights described above an important Strategic Options review was accomplished under entirely remote working conditions. On the down side the Society's financial position led to a small number of unavoidable and regrettable redundancies. I am very grateful to the staff affected for their service and dedication to the Society over the years, and wish them every future success.

Finally, it gives me enormous pleasure to thank all the Society's staff, both at Burlington House and Bath, for their exceptional adaptability and resilience throughout the difficult circumstances created by the pandemic. It is entirely due to them that the Society was able to migrate rapidly and seamlessly to remote working patterns, so avoiding significant disruption to most Fellowship services and activities, and allowing us to look forward in 2021 with renewed optimism.



Dr Richard Hughes

A handwritten signature in black ink that reads "Richard Hughes". The signature is fluid and cursive, with a long, sweeping tail on the final letter.

A year of change

The COVID-19 pandemic and its effects posed a number of challenges to the Society's activities, but also brought a wealth of opportunities to connect with the Earth science community near and far.

On 17 March 2020, the Geological Society joined organisations around the UK and world in closing the doors of Burlington House, in the hopes of returning to business as usual in a few weeks' time. However, as the weeks stretched into months, and finally a year and counting, the Society's staff and volunteers were able to provide both the usual services our Fellows, authors and readers rely on as well as a slate of new offerings beamed into peoples' living rooms across the UK and beyond.

The same week that the doors of Burlington House were closed to Fellows and visitors, the Society began work to ensure that it can continue to serve Earth scientists well into the future. The Strategic Options Project assessed all areas of the Society's current and future operations and activities, with recommendations around the science programme, membership and digital offering. The roll-out of the resulting changes began in 2020.

Science and society

The Strategic Options Project identified key areas of research focus over the next five to ten years. From these areas, the Society's Council has approved five new themes that will guide Society activities over the next decade: the Energy Transition; Geohazards, Geoengineering and Georesilience; Climate Change; Planetary Science; and Advanced Computing.

The first of these themes – the Energy Transition – formally launched on 20 November, with Nick Gardiner leading the theme and Lydia Rycroft heading up engagement and outreach. However, well before the official launch, the policy team was engaging on numerous topics related to energy decarbonisation. In the first half of the year, the Society released a policy briefing on the geological disposal of radioactive waste, which explored the science behind constructing a geological disposal facility and the then newly launched UK government process that will identify a suitable site for a facility.

The policy team published an article on the role of geoscientists in delivering net-zero goals in *Science in Parliament* magazine, whilst launching a working group on decarbonisation. The group will guide the development of policy resources and aid in responding to consultations from the government in the coming years. The Society's first virtual conference was held in October and focused on the estimation of mineral resources, such as those relevant to the energy transition. Meanwhile, the ongoing, dedicated Energy Geoscience Series in *Petroleum Geoscience* went from strength to strength. 2020 saw a number of publications on geoscience for CO₂ storage, including injection and fluid flow.

The Society's Petroleum Group expanded its remit to include renewable and green energy, culminating in a renaming to the Energy Group in September. They then ran two virtual events, including a launch event for the Geological Society publication of Memoir 52, entitled *United Kingdom Oil and Gas Fields: 50th Anniversary Commemorative Edition*.

Together, the Society and the UK Paleoclimate Society convened a panel of experts to review the Society's existing statement on climate change in the geological record and make recommendations for the future statement. The group reaffirmed the validity of the original statement, but noted a number of scientific advances since the statement was last revised in 2013. They therefore wrote an updated scientific statement entitled "*What the geological record*

tells us about our past and future climate", which was supported by over 200 peer-reviewed publications. The statement was approved by Council in November and published as a perspective in the *Journal of the Geological Society* in December; as of April 2021, it has been downloaded over 14,000 times.

Inspiring future generations

The importance of geology to the future was also the theme of several strands of outreach to students and the public. The poster on Geoscience for the Future (pictured right) highlights the many jobs available to geologists as well as how that work helps to deliver the UN's Sustainable Development Goals; it was developed in conjunction with University Geoscience UK and Geology for Global Development. The poster has since been translated into Danish, Dutch, French, German, Norwegian, Portuguese, Slovenian, Spanish and Welsh.

This theme was also the focal point of the Society's summit on declining student enrolment, which brought together nearly 50 stakeholders from across the UK to discuss the causes of and solutions for declining enrolment in geology at the degree level. The summit resulted in a joint report between the Society and University Geoscience UK entitled "*Enrolment in crisis: A UK-wide strategy for exciting, engaging and retaining students in the geosciences*".

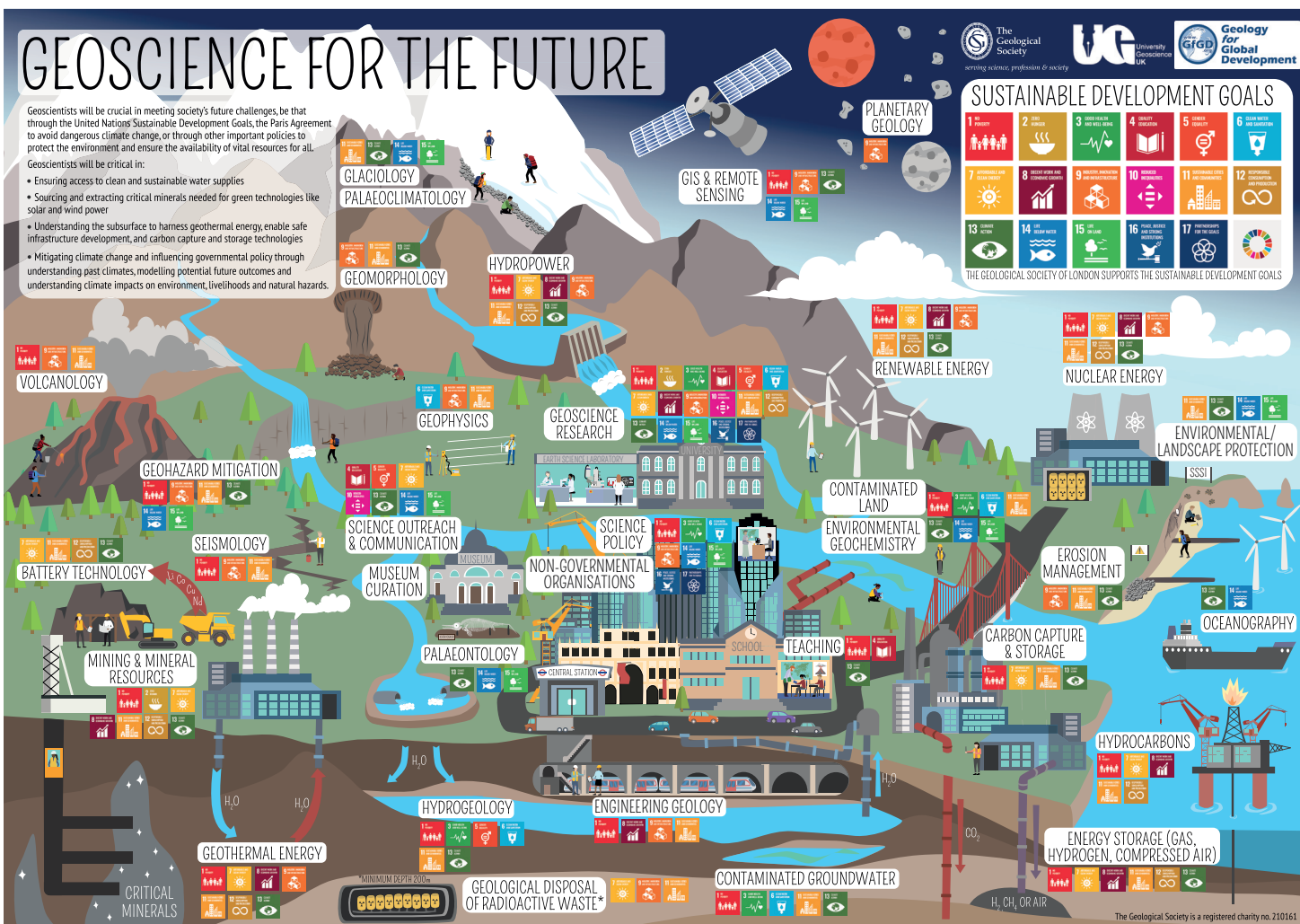
The Society made use of virtual tools to continue to engage with primary and secondary students and their teachers. Five Meet an Earth Scientist sessions introduced students to geoscience researchers and professionals, demonstrating the range of careers available to anyone with a degree in the Earth sciences. Four of these sessions were held in conjunction with the Encouraging Girls to Study Geosciences and Engineering (ENGIE) project, which is operating in 22 European countries.



Serving the profession

Although the Library was closed to visitors for the first time in the Society's history, the team was able to provide access to vital reference and research materials through use of e-books and journals, document supply, interlibrary loan, and, once conditions permitted, postal loans and click and collect services. The Library also curated a list of online content provided by scientific publishers, and created several virtual backgrounds for those missing visits to the Upper Library (pictured above).

Virtual also proved to be the way forward for geoscientists seeking Chartership – the Society welcomed 111 new Chartered Geologists and Chartered Scientists, with most of that number obtaining their



qualification through virtual interviews. The Society also held its first virtual seminar on how to obtain Chartership as part of a new programme of professional development events. Subsequent seminars included tips for publishing in the Society's journals.

The number of journals offered by the Publishing House expanded in 2020, with the first new journal launch in 20 years. The title, *Earth Science, Systems and Society* (ES3), is also the Publishing House's first fully Open Access journal. Led by Chief Editor Kathryn Goodenough, it will focus on cross-disciplinary research showcasing the relevance of geoscience to sustainability in society.

In addition, many users will find it easier to read and publish in Society journals following the negotiation of the first transformative, or read and publish, agreements, which facilitate frictionless Open Access publishing. The agreements cover eligible authors in 18 UK, 1 New Zealand, and 3 Australian institutions through 2021.

Thanks to a donation from Jeremy Ingham, the end of the year brought engineering geologists the opportunity to apply for a new grant – the Jeremy Ingham Fund. The fund offers up to £2,000 for research in engineering geology, with preference given to the study of construction materials and/or research incorporating the use of petrological techniques.

Career development

In February, students from across London gathered for the final Career and Industry Days event of the 2019/20 series, marking one of the last in-person meetings in Burlington House. The 2020/21 series was reborn as a four day online event in October, with 37 industry speakers in 12 panel discussions, in addition to workshops and networking sessions held each afternoon.

The Publishing House also offered a number of opportunities for career development. The Society's books and journals now support co-

reviewing as part of the peer review process. This type of peer review allows trainee and junior researchers to develop their peer review skills and gain credit for this work through the Publons platform. In addition, the Year of Life Collection was guest-edited by a team of early career researchers. The five scientists compiled recent and seminal papers that explore the history of life on Earth and the impacts of life on the Earth system.

Year of Life

The Lower Library played host to the first themed year art exhibition, *Gryphaea and Friends* by Melanie Ewer. The exhibition focussed on textiles and drawings, and ran from 26 February until the building closure. Life past and present was a prominent theme in the public lecture series, and the themed year culminated in the virtual conference "Sulfur in the Earth system: From microbes to global cycles through Earth history".

Diversity

The urgent need to recruit and retain geoscientists from a wide range of backgrounds only became more apparent throughout 2020. The Society reaffirmed its commitment to building and supporting diversity in the Earth sciences in July, coinciding with the signing of the Joint commitment for action on inclusion and diversity in publishing. Since signing, the Publishing House has enacted an author name change policy.

Updates to the Fellow's Code of Conduct have solidified expectations around professional conduct, and the Society continues to build links with organisations such as Diversity in Geoscience UK and the Equality Diversity & Inclusion in Geoscience project. Moreover, the Society has begun a review of its collections to better understand the links between archive materials and slavery and colonialism; the initial results were recently published in the *Geoscientist* magazine.

Letter from the Treasurer



Graham Goffey

2020 was a challenging year for the Society, with a financial outturn that reflects two major themes. COVID constrained much of the Society's output, thereby reducing expenditure on subsidised activities such as education, policy and science. In parallel, and benefitting from a deliberate 2019 shift in investment strategy, the investment portfolio recovered from market falls to end with a substantial gain. Both income of £5.3m (2019 £5.6m) and expenditure of £5.5m (2019 £6.1m) were well below budget. The income figure includes £0.16m of furlough grant, reflecting the number of staff furloughed due to COVID. Investment and foreign exchange gains of £0.65m lead to an overall positive outturn of £0.44m. These largely unrealised, 'paper' gains dominate the financial outturn and obscure the deficit of expenditure over income at the operating level.

The pre-COVID receipt of most Fellowship dues limited the impact on this income stream and the Society was able to respond flexibly to Fellows experiencing COVID-related financial challenges. Publishing House revenues were inevitably reduced, with modest expectations for any near term recovery. During 2020 the Society's planned response to the shifting publishing environment included the launch of two fully open access journals; *Lithosphere* (through Geoscience World) and new Society journal *Earth Science, Systems and Society* (ES3). It is important and gratifying that the Publishing House has introduced a comprehensive open access journal offer although open access provides very limited revenue relative to our hybrid (mixed open access and free-for-author) publications. Concerns persist as to the income impact of open access on learned society publishers such as ours, without the scale benefits of the large commercial publishers. Since publishing provides some 50% of Society income, reduction in this income stream will be a significant challenge for the Society.

To ensure that the Society lives within its means and reflecting a multi-year trend of falling income, in early 2020 a target was set to reduce annual outgoings by around £0.5m (c.10%) from 2021. A reduction of around 16% in headcount was achieved through the removal of several unfilled posts and most regrettably via a staff redundancy programme in Q4. Such programmes are difficult for all involved and especially for those losing employment, some

of whom had long service with the Society and all of whom leave with our sincere thanks and best wishes for the future. Redundancy costs of £0.14m were paid in 2020.

After considerable benchmarking and analysis, a modernised Fellowship fees structure is proposed for 2022; ending the age-based scheme that had become both an anachronism and deterrent to new Fellows. The replacement scheme aims as far as possible to avoid fees increases and to minimise likely income losses for the Society. Additionally, the recommendations of the 2020 library review were accepted by Council. Having served on the review's steering group I would highlight the shift to greater emphasis on digital delivery of science in order to broaden and simplify Fellows' access. The review reaffirmed the importance of the Society's map and core historic collections supported by the specialist expertise of key library staff. With falling visitor numbers and rising costs, some cost-savings have been made, including reduced library staffing and ending subscription to infrequently read and unread journals. Also approved by Council in 2020 was the long overdue Responsible Investment Policy, aiming to align our investments with Paris Accord goals within a framework reflecting the Society's deep understanding of the extractive sector.

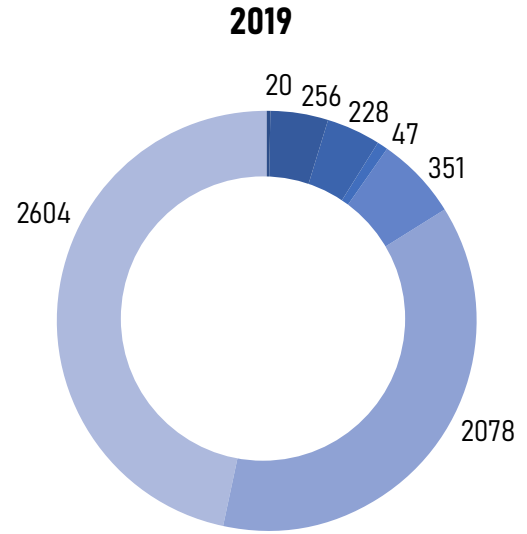
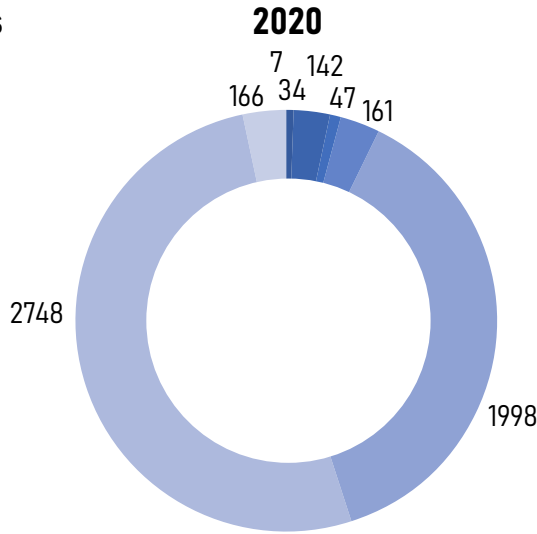
After seven years on Council, I step down this year, confident that the Society is in the capable hands of my successor, Keith Myers. It has been a rewarding experience to collaborate with many highly motivated volunteers on numerous committees and working groups, to work with the Society's capable staff, to whom I express my sincere thanks, and to see the Society clearly onto a modernising path. Despite long-running Burlington House interactions with HMG, rapidly rising rent valuations have been the continuing theme of my tenure. Seven years of service allows one to really appreciate the deep reach of the Society within our science and to see beyond the potential impacts of departing our historic apartments. I urge Fellows to support Council in making decisions first and foremost for the long term future of the Society, and to recognise, as I wrote last year, that there is also opportunity in a move should it become necessary.

A handwritten signature in black ink, appearing to be 'GG', located at the end of the letter.

Society finances 2020

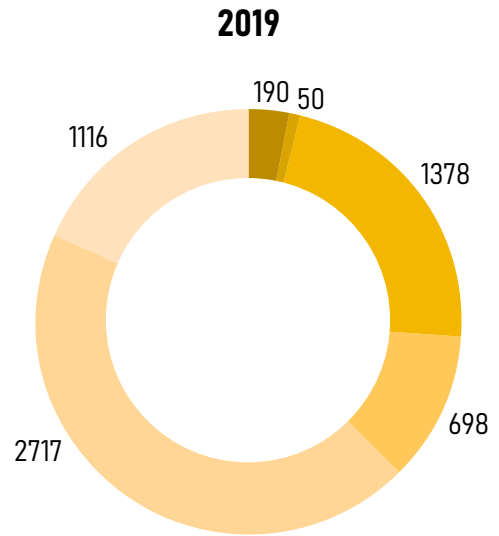
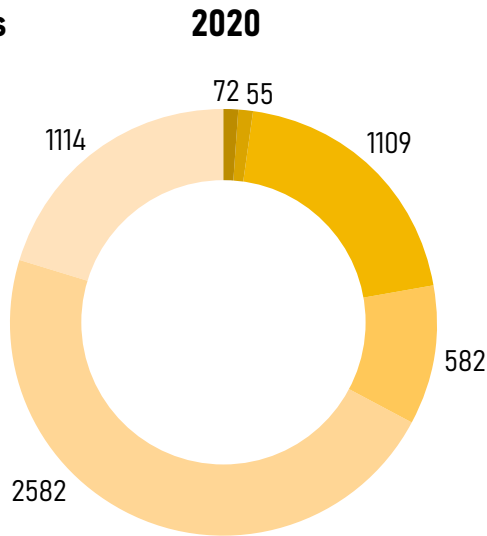
Income, in £000s

- Library
- Trading
- Investments
- Donations
- Events
- Membership
- Publishing
- Other



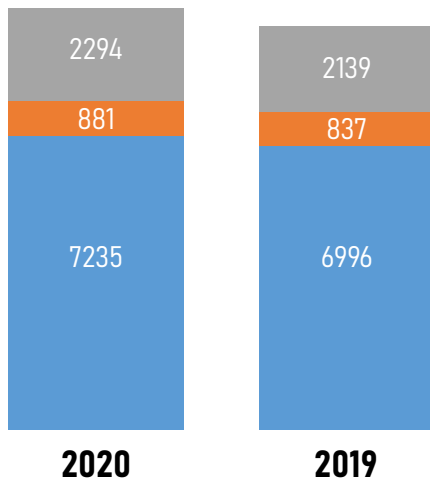
Expenditure, in £000s

- Trading
- Investments
- Events
- Membership
- Publishing
- Library



Funds

- Unrestricted
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We would like to thank Fellows, friends and supporters whose generous donations have helped to shape our charitable activities. In addition to those individuals listed below, we would like to thank all of our valued partners, supporters and volunteers.

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Legacies

Legacies are instrumental in making the Society's priorities a reality. Unrestricted gifts in Wills have an enormous impact on our charitable activities and are directed to wherever the need is greatest at the time they are received. We are immensely grateful to all Fellows, friends and supporters who have named the Geological Society in their Wills, and we honour those whose legacies have been realised.