

Science tourism

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Science tourism is travel outside one's usual environment to learn about or participate in science. It includes specific types of tourism that are motivated by an interest in science; visitation of attractions that present science; travel to sites or events of scientific significance; science volunteer tourism; and school science field trips.

Many different types of tourism are **motivated by an interest in science**. Nature-based tourism, which includes more specific subtypes such as ecotourism, geotourism, and wildlife tourism, relies on immersion in and interaction with nature. Nature-based tourism activities include hiking, bird watching, snorkelling, whale watching, star gazing, visiting geothermal sites, alpine areas, deserts, rainforests, and a multitude of other activities all of which provide important opportunities for science learning. Such experiences are often enhanced by the provision of environmental interpretation, which aims to communicate scientific concepts while also creating opportunities for visitors to understand, appreciate and enjoy the natural environment. Interpretation might be delivered by signs, brochures, displays, park rangers or tour guides, and is specifically focused on the natural features or species that visitors can experience first-hand at the site visited. Nature-based tourism has an added advantage in that it provides a financial incentive for the conservation and sustainable management of natural resources. Other types of special interest tourism with a science focus are also emerging. For example, space tourism offers opportunities for recreational space travel that may involve not only learning science, but also participating in research activities while in orbit. Another emerging form of tourism known as "last chance tourism" involves traveling to places that are threatened by environmental factors such as climate change or overpopulation, in order to experience and learn about these places before it is "too late".

Tourist attractions that specifically present scientific information include zoos, aquariums, botanic gardens, planetariums, national parks, science centres, natural history museums, and space museums. Social history museums and art museums may also host special exhibitions that present science either as their main purpose or incidentally, e.g., the popular *Body Worlds* exhibitions; *Leonardo da Vinci* exhibitions; and *Titanic* exhibitions. Visits to historical sites provide opportunities for learning about archaeology, architecture or the science of conserving or restoring artefacts. Scientific information is often presented and interpreted at sites of important engineering feats such as bridges, tunnels and dams. Even a visit to a theme park can be enhanced by a presentation of the principles of physics that underpin the operation of amusement rides.

Tourists increasingly search for unusual and unique experiences. These may include **travel to sites of scientific significance, travel to witness science phenomena, or travel to attend science events**. Examples of significant sites are the Galapagos Islands where visitors can follow in the footsteps of Charles Darwin; the Kennedy Space Centre where visitors can take a tour of NASA's launch sites and even view a launch; and the European Organization for Nuclear Research (CERN) where visitors can learn about the fundamental research done at the world's largest particle physics laboratory. Tourists also seek out the former homes of, burial sites of, or memorials dedicated to, famous scientists such as Isaac Newton, Marie Curie, Nikola Tesla, Albert Einstein and Alan Turing. Science tourists may visit astronomical events such as eclipses, transits or aurora that can only be viewed

from particular locations, biological events such as coral spawning, or unique geological or geothermal phenomena such as unusual rock formations, glaciers, volcanoes or geysers. Science events such as science festivals, conferences and climate summits attract both scientists and hobbyists from around the world.

Science tourists can **volunteer to join a research expedition**, such as those organized by the Earthwatch Institute, where they can work on projects in wildlife conservation, rainforest ecology, marine science and archaeology. This provides both a source of funding and practical assistance to scientists in collecting field data.

Finally, when school groups take **field trips** for the purpose of learning science, they also are participating in science tourism. Engaging in hands-on learning in real-life contexts enhances student motivation and increases the likelihood that science learning will be transferred to situations that students encounter outside of the school environment.

Increasingly, tourists seek travel experiences that engage them intellectually and develop their breadth and depth of general knowledge and understanding of the world. Travel offers many such opportunities for experiential learning in unique and unusual contexts which are likely to be both memorable and deeply rewarding for participants. Science tourism is thus an effective and increasingly important contributor to the lifelong learning of science in out of school contexts.