science of map making

Science of Map Making: Exploring the Art and Precision Behind Cartography

Science of map making is a fascinating blend of art, technology, and meticulous scientific principles that come together to represent our world visually. From ancient cave drawings to high-tech digital maps, the journey of map making—also known as cartography—has evolved dramatically. Understanding the science behind map making helps us appreciate not only the geographic accuracy but also the immense effort involved in translating the three-dimensional Earth onto two-dimensional surfaces.

The Foundations of the Science of Map Making

At its core, the science of map making involves accurately representing spatial information. This means capturing the physical characteristics of a landscape, political boundaries, natural features, and even human-made structures in a way that’s easy to understand and navigate.

Geodesy: Measuring the Earth

One of the essential pillars of cartography is geodesy—the science that measures and monitors the size and shape of the Earth. Since the Earth is not a perfect sphere but an oblate spheroid, mapmakers must account for its curvature when projecting features onto flat surfaces. Geodesists use satellite data, GPS, and ground surveys to provide precise coordinates, which are the backbone of accurate map creation.

Map Projections: Flattening a Globe

The biggest challenge in the science of map making lies in translating a three-dimensional globe into a two-dimensional map without distorting key features. This is where map projections come in. Each projection method—be it Mercator, Robinson, or Lambert Conformal Conic—comes with its trade-offs in terms of preserving area, shape, distance, or direction. Understanding these projections helps cartographers decide the best fit for their map’s purpose, whether it’s navigation, education, or thematic representation.

Technological Advances Transforming Cartography

The advent of technology has revolutionized the science of map making, making it more precise, accessible, and dynamic.

Remote Sensing and Satellite Imagery

Modern cartographers rely heavily on remote sensing technologies, which use satellites and aerial sensors to capture images of the Earth’s surface. These images provide real-time data on terrain, vegetation, urban development, and environmental changes. Remote sensing enables the creation of highly detailed topographic maps and supports disaster management, agriculture, and urban planning.

Geographic Information Systems (GIS)

GIS technology stands as a cornerstone in contemporary map making. It allows for the storage, analysis, and visualization of spatial data in layers, providing a powerful tool to interpret complex geographic patterns. Whether it’s mapping traffic flows, natural resource distribution, or demographic trends, GIS blends data science with cartography to produce interactive, insightful maps.

The Human Element: Artistry and Interpretation

While the science of map making is deeply rooted in precision, there is an undeniable artistic aspect to cartography.

Design and Visual Communication

Effective maps are not just accurate—they must communicate information clearly. This involves choices in color schemes, symbols, typography, and layout. Cartographers use visual hierarchy to guide the reader’s eye, ensuring important features stand out. The art of map design ensures that even complex data can be understood at a glance, making maps both functional and visually appealing.

Cultural and Historical Context

Maps also reflect the cultural and historical perspectives of their creators. The science of map making includes understanding biases, symbolism, and the evolution of map styles over time. For example, early world maps often centered around religious or political viewpoints rather than geographic accuracy. Today, cartographers strive for inclusivity and neutrality, but historical maps remain valuable records of how societies viewed the world.

Applications of the Science of Map Making

Maps are everywhere, and their applications span numerous fields, demonstrating the practical importance of cartography.

Urban Planning and Infrastructure

City planners use maps to design transportation networks, utilities, and zoning areas. Accurate maps allow for efficient use of space and resources, helping cities grow sustainably and respond to population changes.

Environmental Monitoring and Conservation

Environmental scientists rely on maps to track changes in ecosystems, monitor deforestation, and protect endangered species habitats. The ability to visualize environmental data over time supports decision-making aimed at preserving the planet.

Navigation and Travel

From traditional paper maps to GPS-enabled smartphones, navigation remains one of the most common uses of maps. The science of map making ensures travelers can rely on accurate routes, distances, and landmarks.

Challenges and Future Directions in Map Making

As technology advances, the science of map making continues to confront new challenges and opportunities.

Handling Big Data and Real-Time Updates

With the explosion of data from sensors, mobile devices, and social media, cartographers must develop methods to integrate and visualize vast amounts of information quickly. Real-time mapping, such as live traffic updates or weather patterns, requires sophisticated algorithms and cloud computing capabilities.

Balancing Precision with Privacy

As maps become more detailed, concerns about privacy arise, especially when mapping personal locations or sensitive areas. The science of map making now includes ethical considerations and strategies to anonymize data while maintaining usefulness.

Augmented Reality and 3D Mapping

Emerging technologies like augmented reality (AR) and 3D mapping promise to transform how we

interact with spatial information. Imagine walking through a city while your AR glasses overlay historical facts, navigation prompts, or even future building plans. These innovations blend the science of map making with immersive experiences, opening exciting new frontiers.

Exploring the science of map making reveals a dynamic field that combines rigorous scientific methods with creativity and technological innovation. Whether for exploration, education, or everyday use, maps continue to shape how we perceive and navigate our world, making cartography an ever-relevant and evolving discipline.

Frequently Asked Questions

What is the science of map making called?

The science of map making is called cartography.

How has technology impacted the science of map making?

Technology has revolutionized map making by enabling digital mapping, GIS (Geographic Information Systems), satellite imagery, and real-time data integration, making maps more accurate and interactive.

What role does GIS play in modern cartography?

GIS allows cartographers to collect, analyze, and visualize geographic data efficiently, facilitating the creation of detailed and dynamic maps for various applications.

How do cartographers ensure accuracy in maps?

Cartographers use precise measurements, satellite data, GPS technology, and rigorous data validation processes to ensure maps accurately represent geographic information.

What are the main challenges in the science of map making?

Challenges include handling vast and complex data, maintaining accuracy, representing three-dimensional terrains on two-dimensional surfaces, and addressing ethical issues related to data privacy and representation bias.

How do map projections affect the representation of the Earth?

Map projections transform the 3D surface of the Earth onto a 2D plane, which can distort shapes, areas, distances, or directions depending on the type of projection used.

What is the importance of scale in map making?

Scale determines the relationship between distances on a map and actual distances on the ground, crucial for accurately interpreting spatial information.

How has satellite imagery advanced the science of cartography?

Satellite imagery provides up-to-date, high-resolution images of the Earth's surface, enabling more precise and comprehensive mapping than traditional methods.

What is thematic mapping and why is it important?

Thematic mapping focuses on specific themes or subjects, such as population density or climate data, helping users understand spatial patterns and relationships in the data.

How does the science of map making contribute to disaster management?

Accurate and timely maps help in disaster prediction, planning evacuation routes, resource allocation, and post-disaster assessment, making map science vital for effective disaster management.

Additional Resources

The Science of Map Making: Exploring Cartography’s Evolution and Techniques

science of map making represents a fascinating blend of art, technology, and geography, essential for understanding and navigating the physical world. The creation of maps, or cartography, has evolved dramatically from rudimentary sketches on animal hides to sophisticated digital representations powered by satellite imagery and advanced algorithms. This article delves into the scientific principles underpinning map making, examining its historical context, technological advancements, and the critical methodologies that continue to shape how we visualize spatial data.

Understanding the Foundations of Cartography

At its core, the science of map making involves accurately depicting the Earth's surface and features in a two-dimensional format. This requires a deep understanding of geometry, geography, and data representation. The challenge lies in translating the three-dimensional globe onto a flat plane without distorting distances, directions, or areas excessively.

The earliest maps were more symbolic than precise, reflecting cultural perceptions rather than scientific accuracy. Over time, cartographers integrated mathematical principles to improve reliability. The introduction of map projections, such as the Mercator, Robinson, and Lambert conformal conic, addressed the inherent distortions caused by flattening the spherical Earth. Each projection serves specific purposes—navigation, thematic representation, or educational use—highlighting trade-offs between preserving shape, area, or distance.

Cartographic Projections and Their Scientific Importance

Map projections are fundamental to the science of map making. Since the Earth is roughly spherical, projecting its surface onto a plane introduces distortion. Cartographers must choose projections based on the map’s intended use:

- **Mercator Projection:** Developed in 1569, it preserves angles, making it invaluable for maritime navigation. However, it significantly distorts size near the poles, exaggerating regions like Greenland.
- **Robinson Projection:** A compromise projection that attempts to balance area and shape distortions, commonly used in thematic world maps.
- **Lamber Conformal Conic:** Often used for aeronautical charts that require accurate distance and shape representation over mid-latitude regions.

This nuanced selection process reflects the scientific rigor behind map making, requiring knowledge of geometry, geodesy, and spatial analysis.

Technological Advances Driving Modern Cartography

The science of map making has been revolutionized by technology, especially since the mid-20th century. Satellite imagery, Geographic Information Systems (GIS), and remote sensing have transformed cartography into a data-driven discipline.

Satellite Imagery and Remote Sensing

Satellites equipped with sensors gather extensive geographic data, capturing details impossible to observe from the ground. These images provide up-to-date information on terrain, vegetation, urban development, and natural disasters. Remote sensing technologies use various wavelengths, including visible light, infrared, and radar, to extract diverse environmental data.

The integration of satellite data into cartographic workflows enhances accuracy and timeliness. For instance, during disaster response, rapid map updates based on satellite imagery help emergency teams navigate affected areas efficiently.

Geographic Information Systems (GIS)

GIS platforms represent one of the most significant breakthroughs in the science of map making. These systems allow cartographers to collect, manage, analyze, and visualize spatial data layers dynamically. By overlaying different datasets—such as roads, population density, climate zones—GIS facilitates complex spatial analyses that inform urban planning, environmental management, and resource allocation.

GIS also supports interactive mapping, enabling users to customize views and access real-time data, a major leap from static paper maps.

Methodologies and Scientific Principles in Map Making

The accuracy and utility of maps depend on rigorous methodologies grounded in scientific principles. Key elements include data acquisition, spatial analysis, generalization, and symbolization.

Data Acquisition and Accuracy

Accurate map making begins with reliable data. Surveying techniques, including ground-based measurements and aerial photogrammetry, provide foundational geographic information. Modern cartographers rely heavily on GPS technology, which offers precise location data by triangulating signals from multiple satellites.

Data accuracy is vital, especially in applications like navigation, cadastral mapping, and environmental monitoring. Errors can propagate into serious misinterpretations, underscoring the importance of quality control and validation.

Generalization and Symbolization

Maps condense complex realities into simplified visual formats. Generalization involves selectively omitting or simplifying details to ensure clarity at different scales. For example, a city map might show major roads but omit small alleys to avoid clutter.

Symbolization translates real-world features into icons, colors, and patterns. Effective symbol design requires an understanding of human perception and cognition, making map reading intuitive. The science of map making analyzes how users interpret symbols to optimize communication.

The Impact of Digital Cartography and Future Trends

Digital cartography, underpinned by the science of map making, continues to evolve rapidly. The rise of mobile mapping applications, 3D visualization, and artificial intelligence promises to further transform how spatial information is created and consumed.

Interactive and Real-Time Mapping

Interactive maps powered by GIS and web technologies allow users to explore spatial data dynamically. Real-time updates, such as traffic conditions or weather patterns, enhance decision-making in everyday life and professional contexts.

Artificial Intelligence and Automation

Artificial intelligence (AI) is increasingly applied to automate aspects of map making, such as feature extraction from satellite images and predictive modeling of spatial phenomena. Machine learning algorithms can identify patterns and anomalies, enhancing the depth and precision of maps.

Balancing Art and Science in Cartography

While the science of map making emphasizes precision and data integrity, cartography remains an art form. The aesthetic choices—color palettes, typography, layout—play a crucial role in how effectively a map communicates its message. This interplay between scientific rigor and creative design defines modern cartography's unique character.

The continuing advancements in technology and methodology reflect an enduring quest to represent our world accurately and meaningfully. As geospatial data grows exponentially, the science of map making will remain central to interpreting and navigating the complexities of our planet.

Science Of Map Making

science of map making: Map Making Lloyd A. Brown , 1960

science of map making: Cartography in France, 1660-1848 Josef Konvitz, 1987 French scientists, engineers, and public officials were responsible for the most important and distinctive innovations in cartography in eighteenth-century Europe. By expanding the analytical uses of maps, by establishing unprecedented standards of accuracy, and by nurturing institutional frameworks to sustain mapping projects over many years, the French contributed to one of the central concepts of modern times: that man, through direct observation and accumulated information can better understand and manage his affairs. Concentrating on how and why new concepts and techniques of making and using maps were introduced, Josef Konvitz skillfully traces the modernization of cartography during the French Enlightenment. The story he unfolds is not merely a narrative of who did what, but an analysis of how the map itself influenced attitudes toward the land and the consequent effects on planning and the development of resources. Throughout, Konvitz demonstrates the significant relationship between cartography and political, economic, and military life. He emphasizes efforts to enlarge the practical applications of maps in government and the impact of government policy on the evolution of cartography.

science of map making: 100 Maps John O. E. Clark, 2005 Presents a chronological overview of the history of cartography, from the earliest maps of prehistory to the engraved maps of the seventeenth century and beyond. Includes illustrations.

science of map making: *Making Sense of Secondary Science* Rosalind Driver, Peter Rushworth, Ann Squires, Valerie Wood-Robinson, 2004-03-10 When children begin secondary school, they already have knowledge and ideas about many aspects of the natural world from their

experiences both in primary classes and outside school. This collection of support materials is designed especially for teachers of the early years in secondary school to give guidance both on the ideas which children are likely to bring with them and also on using these ideas to help pupils to make sense of their experiences in science lessons. The materials are in 24 sections, structured around three themes - life and living processes, materials and their properties and physical processes. Included in each section is a science map identifying key science ideas and also a set of learning guides which give detailed advice on helping children to develop these ideas. Written in collaboration with teachers, field-tested in schools and suitable for use with any published science scheme, these materials will be an essential resource for all science teachers who are planning teaching schemes and developing science lessons within the National Curriculum. A separate paperback, Making Sense of Secondary Science: Research into Children's Ideas comes with the file and is also available separately. This provides a summary of research in the area and a detailed bibliography for those who want to pursue certain aspects further.

science of map making: History of Cartography Taylor & Francis Group, 2021-12-13

science of map making: Map Making Redfield-Kendrick-Odell Co, 1917

science of map making: *Encyclopedia of Library and Information Science* Allen Kent, Harold Lancour, Jay E. Daily, 1977-02-01

science of map making: Chambers's Journal of Popular Literature, Science and Arts , 1893

science of map making: Cartography Tucker Nichollas, 2017-06-22 Cartography concerns itself with the study and application of making maps. It is an important practice in the fields of transportation and circumnavigation, military and research-related purposes. The book aims to shed light on some of the fundamentals concepts of cartography. It is specifically designed for the students to learn details about this field. This book is a valuable compilation of topics, ranging from the basic to the most complex theories and principles of the area. The topics covered in this extensive book deal with the core subjects of cartography. Through this text, we attempt to further enlighten the readers about the new techniques in this field.

science of map making: Chamber's Journal of Popular Literature, Science and Arts , 1893

science of map making: Library of Congress Subject Headings Library of Congress, Library of Congress. Office for Subject Cataloging Policy, 2004

science of map making: Self-Organising Maps Pragya Agarwal, Andre Skupin, 2008-04-15 Self-Organising Maps: Applications in GI Science brings together the latest geographical research where extensive use has been made of the SOM algorithm, and provides readers with a snapshot of these tools that can then be adapted and used in new research projects. The book begins with an overview of the SOM technique and the most commonly used (and freely available) software; it is then sectioned to look at the different uses of the technique, namely clustering, data mining and cartography, from a range of application-areas in the biophysical and socio-economic environments. Only book that takes SOM algorithm to the GIS and Geography research communities The Editors draw together expert contributors from the UK, Europe, USA, New Zealand, and South Africa Covers a range of techniques in clustering, data mining cartography, all featuring an appropriate case study

science of map making: *Cartographic Science* Donald Fenna, 2006-10-25 Geographic books routinely introduce map projections without providing mathematical explanations of projections and few delve into complex mathematical development or cover the breadth of projections. From basic projecting to advanced transformations, Cartographic Science: A Compendium of Map Projections, with Derivations is a comprehensive reference that offers an explanation of the science of cartography. The book is a compilation of more than a hundred map projections, from classic conics to contemporary transformations using complex variables. Starting from widely described geometric projecting onto flat paper, cylinder, and cone and then progressing through several layers of mathematics to reach modern projections, the author maximizes the application of one layer of complex mathematics before continuing on to the next. He also supplies numerous one-page tutorials that review terms and methodologies, helping minimize the challenges of unfamiliar

mathematical territory. Divided into four parts, the first section examines the shape and size of the Earth, then proceeds to investigate the means for relating the curved surface to a flat surface, and addresses scaling. It goes on to cover pertinent principles of projection including literal projecting, true but synthetic projections, secantal projections, pseudocylindrical projections, and pseudoconical projections, as well as the other variants of more serious projections. The book concludes by looking at factors influencing Mean Sea Level and notes the cartographic aspects of current developments. Cartographic Science: A Compendium of Map Projections, with Derivations explains the mathematical development for a large range of projections within a framework of the different cartographic methodologies. This carefully paced book covers more projections, with gentle and progressive immersion in the mathematics involved, than any other book of its kind.

science of map making: Library of Congress Subject Headings Library of Congress. Cataloging Policy and Support Office, 2004

science of map making: Social Sciences ,

science of map making: Science and the Riddle of Consciousness Jeffrey E. Foss, 2013-03-09 Consciousness has become a major topic of scientific interest, and dozens of books have been written in recent years to explain it, yet it still remains a mystery. Science and the Riddle of Consciousness explains why consciousness is a riddle for science, and demonstrates how this riddle can be solved. The questions examined in the book speak directly to neuroscientists, computer scientists, psychologists, and philosophers.

science of map making: God, Humanity and the Cosmos - 3rd Edition Christopher Southgate, 2011-12-15 >

science of map making: *Understanding Understanding Cartography Book* Richard Wurman, 2017-07-15

science of map making: The Making of Anthropology Jacob Pandian, Susan Parman, 2004 This book offers an interpretation of anthropology as a discourse that contrasts the western self and the non-western other and shows that the organizing principle of this discourse was the Judeo-Christian episteme of the Other in Us that the Christian Church Fathers developed to define why the pagan others were endowed with negative, ungodly attributes of humanity. It is pointed out that the anthropological application of this episteme to represent and explain the colonized non-western others resulted in the emergence of eurocentric, hierarchical models of humanity, and that although these models of humanity were largely replaced by pluralistic models in the late 20 century, anthropology has continued to be linked with the episteme of the other in us--Dust jacket.

science of map making: Picturing Science, Producing Art Peter Galison, Caroline A. Jones, 2014-02-04 First Published in 1998. Routledge is an imprint of Taylor & Francis, an informa company.

Related to science of map making

Science News | The latest news from all areas of science Science News features daily news articles, feature stories, reviews and more in all disciplines of science, as well as Science News magazine archives back to 1924

All Topics - Science News Scientists and journalists share a core belief in questioning, observing and verifying to reach the truth. Science News reports on crucial research and discovery across

These scientific feats set new records in 2024 - Science News These scientific feats set new records in 2024 Noteworthy findings include jumbo black hole jets, an ultrapetite frog and more

Life | Science News The Life page features the latest news in animals, plants, ecosystems, microbes, evolution, ecosystems, paleontology, biophysics, and more

These discoveries in 2024 could be groundbreaking - Science News In 2024, researchers turned up possible evidence of ancient life on Mars, hints that Alzheimer’s disease can spread from person-to-person and a slew of other scientific findings

All Stories - Science News Planetary Science Dwarf planet Makemake sports the most remote gas in the solar system The methane gas may constitute a rarefied atmosphere, or it may come from

erupting plumes on

Scientists are people too, a new book reminds readers - Science The Shape of Wonder humanizes scientists by demystifying the scientific process and showing the personal side of researchers

Here are 8 remarkable scientific firsts of 2024 - Science News Making panda stem cells, mapping a fruit fly's brain and witnessing a black hole wake up were among the biggest achievements of the year

Space - Science News 5 days ago The Space topic features the latest news in astronomy, cosmology, planetary science, exoplanets, astrobiology and more

September 2025 | Science News Science News reports on crucial research and discovery across science disciplines. We need your financial support to make it happen – every contribution makes a difference

Science News | The latest news from all areas of science Science News features daily news articles, feature stories, reviews and more in all disciplines of science, as well as Science News magazine archives back to 1924

All Topics - Science News Scientists and journalists share a core belief in questioning, observing and verifying to reach the truth. Science News reports on crucial research and discovery across

These scientific feats set new records in 2024 - Science News These scientific feats set new records in 2024 Noteworthy findings include jumbo black hole jets, an ultrapetite frog and more

Life | Science News The Life page features the latest news in animals, plants, ecosystems, microbes, evolution, ecosystems, paleontology, biophysics, and more

These discoveries in 2024 could be groundbreaking - Science News In 2024, researchers turned up possible evidence of ancient life on Mars, hints that Alzheimer's disease can spread from person-to-person and a slew of other scientific findings

All Stories - Science News Planetary Science Dwarf planet Makemake sports the most remote gas in the solar system The methane gas may constitute a rarefied atmosphere, or it may come from erupting plumes on

Scientists are people too, a new book reminds readers - Science The Shape of Wonder humanizes scientists by demystifying the scientific process and showing the personal side of researchers

Here are 8 remarkable scientific firsts of 2024 - Science News Making panda stem cells, mapping a fruit fly's brain and witnessing a black hole wake up were among the biggest achievements of the year

Space - Science News 5 days ago The Space topic features the latest news in astronomy, cosmology, planetary science, exoplanets, astrobiology and more

September 2025 | Science News Science News reports on crucial research and discovery across science disciplines. We need your financial support to make it happen – every contribution makes a difference

Science News | The latest news from all areas of science Science News features daily news articles, feature stories, reviews and more in all disciplines of science, as well as Science News magazine archives back to 1924

All Topics - Science News Scientists and journalists share a core belief in questioning, observing and verifying to reach the truth. Science News reports on crucial research and discovery across

These scientific feats set new records in 2024 - Science News These scientific feats set new records in 2024 Noteworthy findings include jumbo black hole jets, an ultrapetite frog and more

Life | Science News The Life page features the latest news in animals, plants, ecosystems, microbes, evolution, ecosystems, paleontology, biophysics, and more

These discoveries in 2024 could be groundbreaking - Science News In 2024, researchers turned up possible evidence of ancient life on Mars, hints that Alzheimer's disease can spread from person-to-person and a slew of other scientific findings

All Stories - Science News Planetary Science Dwarf planet Makemake sports the most remote gas

in the solar system The methane gas may constitute a rarefied atmosphere, or it may come from erupting plumes on

Scientists are people too, a new book reminds readers - Science The Shape of Wonder humanizes scientists by demystifying the scientific process and showing the personal side of researchers

Here are 8 remarkable scientific firsts of 2024 - Science News Making panda stem cells, mapping a fruit fly's brain and witnessing a black hole wake up were among the biggest achievements of the year

Space - Science News 5 days ago The Space topic features the latest news in astronomy, cosmology, planetary science, exoplanets, astrobiology and more

September 2025 | Science News Science News reports on crucial research and discovery across science disciplines. We need your financial support to make it happen – every contribution makes a difference

Science News | The latest news from all areas of science Science News features daily news articles, feature stories, reviews and more in all disciplines of science, as well as Science News magazine archives back to 1924

All Topics - Science News Scientists and journalists share a core belief in questioning, observing and verifying to reach the truth. Science News reports on crucial research and discovery across

These scientific feats set new records in 2024 - Science News These scientific feats set new records in 2024 Noteworthy findings include jumbo black hole jets, an ultrapetite frog and more

Life | Science News The Life page features the latest news in animals, plants, ecosystems, microbes, evolution, ecosystems, paleontology, biophysics, and more

These discoveries in 2024 could be groundbreaking - Science News In 2024, researchers turned up possible evidence of ancient life on Mars, hints that Alzheimer's disease can spread from person-to-person and a slew of other scientific findings

All Stories - Science News Planetary Science Dwarf planet Makemake sports the most remote gas in the solar system The methane gas may constitute a rarefied atmosphere, or it may come from erupting plumes on

Scientists are people too, a new book reminds readers - Science The Shape of Wonder humanizes scientists by demystifying the scientific process and showing the personal side of researchers

Here are 8 remarkable scientific firsts of 2024 - Science News Making panda stem cells, mapping a fruit fly's brain and witnessing a black hole wake up were among the biggest achievements of the year

Space - Science News 5 days ago The Space topic features the latest news in astronomy, cosmology, planetary science, exoplanets, astrobiology and more

September 2025 | Science News Science News reports on crucial research and discovery across science disciplines. We need your financial support to make it happen – every contribution makes a difference

Science News | The latest news from all areas of science Science News features daily news articles, feature stories, reviews and more in all disciplines of science, as well as Science News magazine archives back to 1924

All Topics - Science News Scientists and journalists share a core belief in questioning, observing and verifying to reach the truth. Science News reports on crucial research and discovery across

These scientific feats set new records in 2024 - Science News These scientific feats set new records in 2024 Noteworthy findings include jumbo black hole jets, an ultrapetite frog and more

Life | Science News The Life page features the latest news in animals, plants, ecosystems, microbes, evolution, ecosystems, paleontology, biophysics, and more

These discoveries in 2024 could be groundbreaking - Science News In 2024, researchers turned up possible evidence of ancient life on Mars, hints that Alzheimer's disease can spread from person-to-person and a slew of other scientific findings

All Stories - Science News Planetary Science Dwarf planet Makemake sports the most remote gas in the solar system The methane gas may constitute a rarefied atmosphere, or it may come from erupting plumes on

Scientists are people too, a new book reminds readers - Science The Shape of Wonder humanizes scientists by demystifying the scientific process and showing the personal side of researchers

Here are 8 remarkable scientific firsts of 2024 - Science News Making panda stem cells, mapping a fruit fly's brain and witnessing a black hole wake up were among the biggest achievements of the year

Space - Science News 5 days ago The Space topic features the latest news in astronomy, cosmology, planetary science, exoplanets, astrobiology and more

September 2025 | Science News Science News reports on crucial research and discovery across science disciplines. We need your financial support to make it happen – every contribution makes a difference

Related to science of map making

This Is the First Time Scientists Have Seen Decisionmaking in a Brain (Wired20d) Neuroscientists from around the world have worked in parallel to map, for the first time, the entire brain activity of mice while they were making decisions. This achievement involved using electrodes

This Is the First Time Scientists Have Seen Decisionmaking in a Brain (Wired20d) Neuroscientists from around the world have worked in parallel to map, for the first time, the entire brain activity of mice while they were making decisions. This achievement involved using electrodes

Map of 600,000 brain cells rewrites the textbook on how the brain makes decisions (Hosted on MSN26d) Findings from the research, published in two papers in the journal Nature, suggest that decision-making involves far more were different," Carandini told Live Science. Related: Most detailed human

Map of 600,000 brain cells rewrites the textbook on how the brain makes decisions (Hosted on MSN26d) Findings from the research, published in two papers in the journal Nature, suggest that decision-making involves far more were different," Carandini told Live Science. Related: Most detailed human

Globe from The beauty of the heavens (insider.si.edu3mon) IIIF provides researchers rich metadata and media viewing options for comparison of works across cultural heritage collections. Visit the IIIF page to learn more. Maps are visual representations of

Globe from The beauty of the heavens (insider.si.edu3mon) IIIF provides researchers rich metadata and media viewing options for comparison of works across cultural heritage collections. Visit the IIIF page to learn more. Maps are visual representations of

For the first time, researchers created brain-wide map to learn what happens in brain when making decision (Front Page Detectives on MSN10d) For the first time, researchers created brain-wide map to learn what happens in brain when making decision Researchers have

For the first time, researchers created brain-wide map to learn what happens in brain when making decision (Front Page Detectives on MSN10d) For the first time, researchers created brain-wide map to learn what happens in brain when making decision Researchers have

In groundbreaking study, researchers publish brain map showing how decisions are made (21d) An international group of neuroscientists joined forces to produce a landmark neural map, which revealed that decision-making lights up the entire brain

In groundbreaking study, researchers publish brain map showing how decisions are made (21d) An international group of neuroscientists joined forces to produce a landmark neural map, which revealed that decision-making lights up the entire brain