

Введение: Геоинформатика как синтез географии и IT

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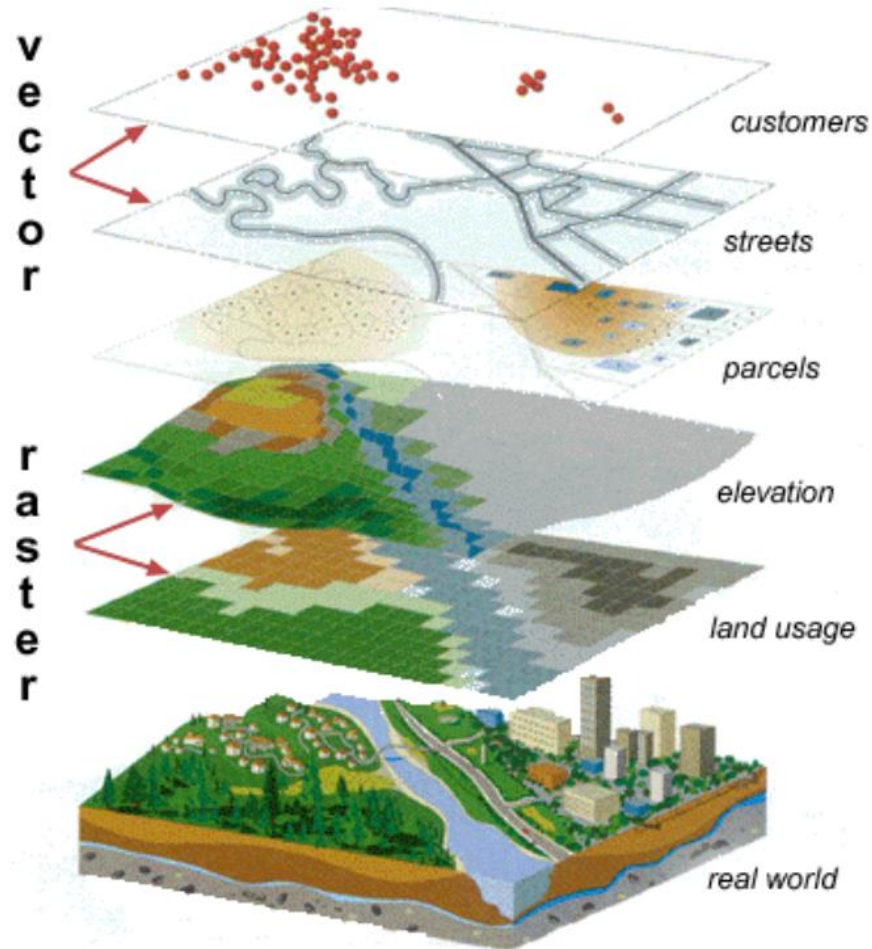
Ссылки

География, IT и данные

Данные связаны с **Географией**, что можно представить как связку того, **Что** к **Чему** относится

Для понимания данных необходимо определить отношения этих **Данных** с другими **Данными** в пространственном контексте

<https://www.gislounge.com/gis-timeline/>



Infographic: What is GIS?

What is the Definition of GIS?

Geographic Information Systems (GIS) is a computer-based tool that analyzes, stores, manipulates and visualize geographic information on a map

GIS helps us understand what belongs where.

How Much Data is Geographic?

It had been estimated that 80% of the informational needs of local government policy makers are related to geographic location.

80% of data is geographic based.



Where is GIS Being Used?



GIS is being used in agriculture, conservation, natural resources, public safety, transportation, urban planning and more...

How is GIS Being Used?

GIS is being integrated into real world applications in a wide range of fields.

GIS mapping is being used in everyday life and we might not even realize: GPS navigation, weather maps & ambulance dispatch.

Who Works in the Field of GIS?

GIS is more than just making maps. A map is often what the end user sees.

Cartographers, database managers, programmers, remote sensing analysts, spatial analysts and surveyors make up the field of GIS.



References: Williams, Robert (1987), Selling a geographical information system to government policy makers. Papers from the 1987 Annual Conference of the Urban and Regional Information Systems Association

GIS Geography - <http://gisgeography.com>

<https://gisgeography.com/wp-content/uploads/2014/07/geographic-information-systems-gis-infographic.jpg>

GIS-Введение

Геоинформатика как наука

Географическая информационная наука или *геоинформатика (GIScience)* является научной дисциплиной, которая изучает структуры данных и вычислительные методы для хранения, представления, обработки и анализа географической информации

Геоинформационные системы (ГИС) – это программные инструменты геоинформатики

Геоинформатика концептуально связана с географией, наукой об информации, компьютерными технологиями, геоматикой (топографией), при этом она остается самостоятельной научной дисциплиной

<http://gisconferences.org/>

https://en.wikipedia.org/wiki/Geographic_information_science

Анализ геопространственных задач включает такие компоненты как накопление данных, разработку баз данных, пространственный анализ и отображение, настройку и проведение углубленного анализа с использованием макроязыков и интегрирования с другим ПО

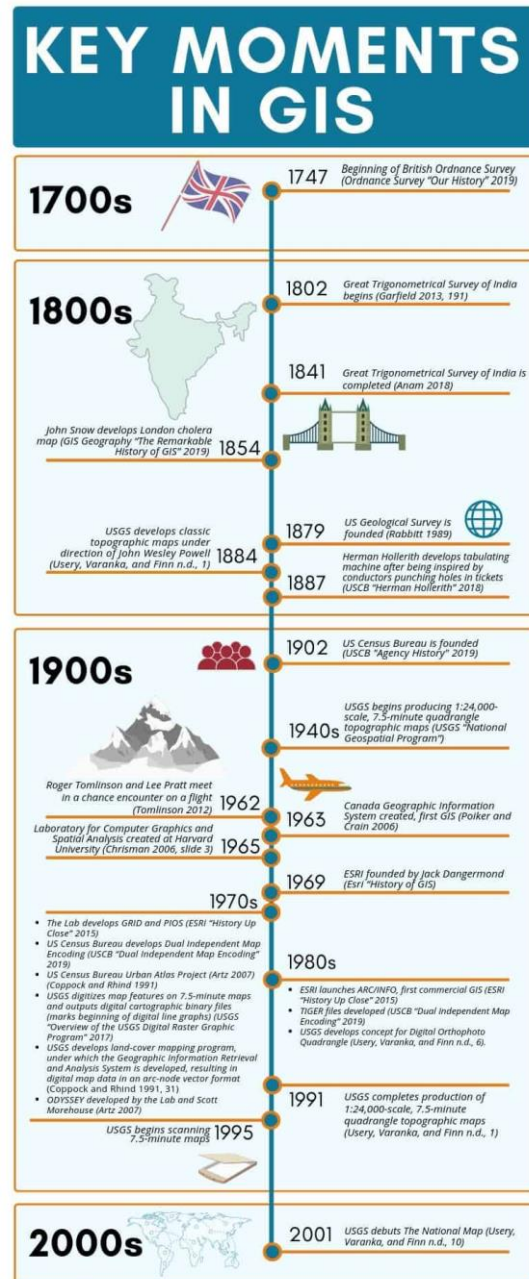
Управление данными включает методы и технологии использования данных в различных организациях и департаментах, проблемы геопространственных данных для государства и промышленности, стандарты, и др.

<https://www.handbook.unsw.edu.au/undergraduate/courses/2019/GMAT3210/>

Географические информационные системы отвечают на вопросы “что” и “где”, *геоинформатика (GIScience)* занимается определением “как”

<https://gisgeography.com/gis-science-geographic-information-science/>

История геоинформатики



SOURCES

Complete citations for the sources used in this infographic are listed in the AGRC article "Digital Maps: How Chance, Timing, and Heritage Shaped Modern GIS" by Greg Bunce. September 2019.

Появление Геоинформатики и ГИС относят к 1960 гг в Канаде. [Roger Tomlinson](#) (1933-2014), считается основателем ГИС, предложившим концепцию географических информационных систем Канадской Службе Инвентаризации Земель (Canada Land Inventory) в 1962 г.

<https://www.gislounge.com/gis-timeline/>

<https://www.gislounge.com/history-of-gis/>

<https://www.gislounge.com/how-advances-in-computer-mapping-shaped-the-early-days-of-gis/>

<https://www.gislounge.com/wp-content/uploads/2019/09/201909KeyMomentsInfographic.jpg>

Интересные факты о ГИС

В 2006 г. Andrew Turner опубликовал книгу, названную “Введение в неогеографию” (“[Introduction to Neogeography](#)”)

JULY 31, 1998

PUBLICATION OF SHAPEFILE FORMAT

Esri formally published its shapefile format technical description, starting with a de facto standard data exchange format.

JULY 13, 2013

FIRST GIS MOOC HELD

The first GIS Massive Open Online Course (MOOC) is held by Dr. Anthony Robinson of Penn State. The five-week course offering, entitled “Maps and the Geospatial Revolution” attracted over 29,000 students.

OCTOBER 1, 1999

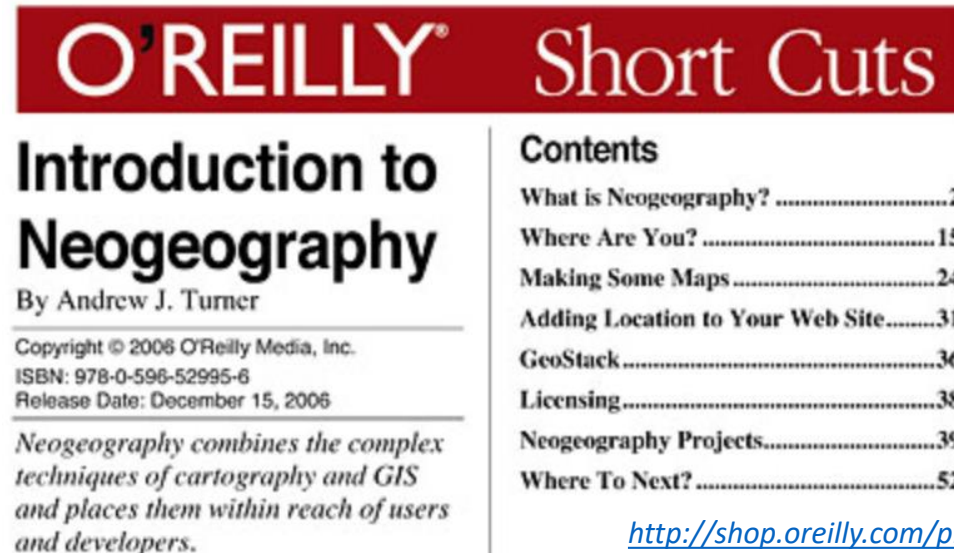
ARCGIS IS RELEASED

Esri first released ArcGIS in late 1999. ArcGIS was a complete overhaul of Esri’s GIS software. From Dr. David Maguire of Esri, “ArcGIS 8 was really a completely new architecture and system from ESRI. In January, 1997 we made the decision to completely rewrite and rebuild our GIS software architecture.”

FEBRUARY 1, 2002

QGIS DEBUTS

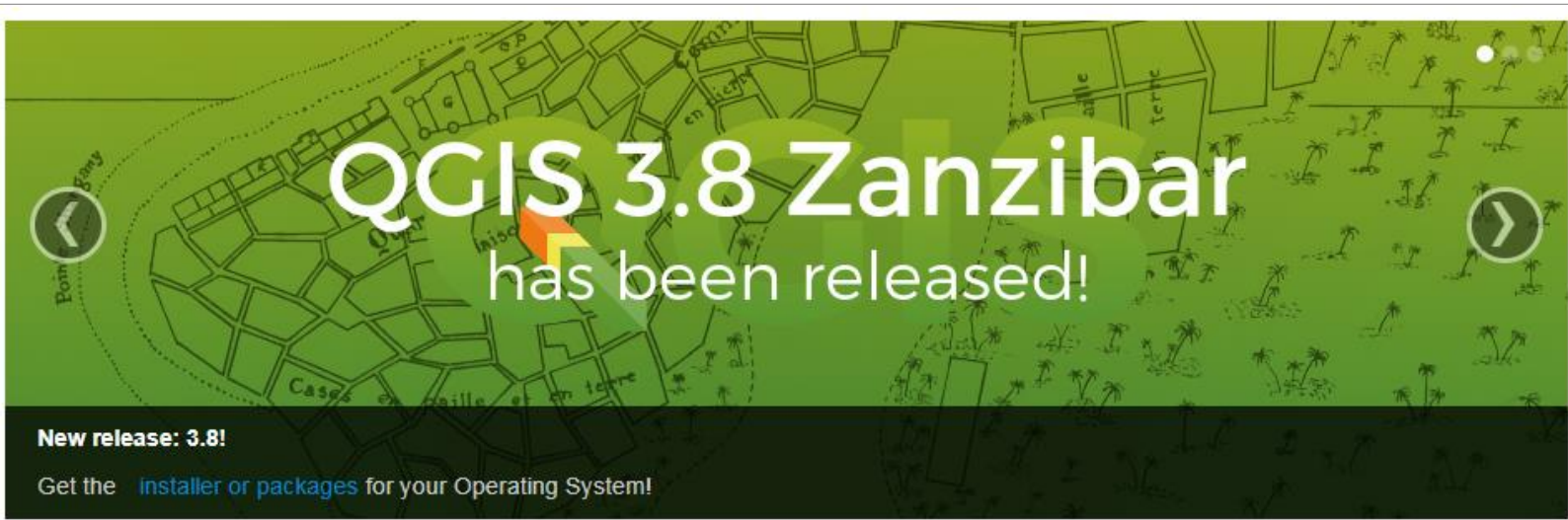
QGIS, the most popular open source GIS software package, started development in February of 2002. The first release of QGIS was in June of the same year. There are now well over 100,000 QGIS users.



Neogeography means “new geography” and consists of a set of techniques and tools that fall outside the realm of traditional GIS, Geographic Information Systems. Where historically a professional cartographer might use ArcGIS, talk of Mercator versus Mollweide projections, and resolve land area disputes, a neogeographer uses a mapping API like Google Maps, talks about GPX versus KML, and geotags his photos to make a map of his summer vacation. Essentially, Neogeography is about people using and creating their own maps, on their own terms and by combining elements of an existing toolset.

QGIS как пример ПО с открытым кодом

Quantum Geographical Information System является Open Source платформой для отображения, редактирования, управления и анализа пространственных данных <https://qgis.org/en/site/>



Create, edit, visualise, analyse and publish geospatial information on Windows, Mac, Linux, BSD (Android coming soon)

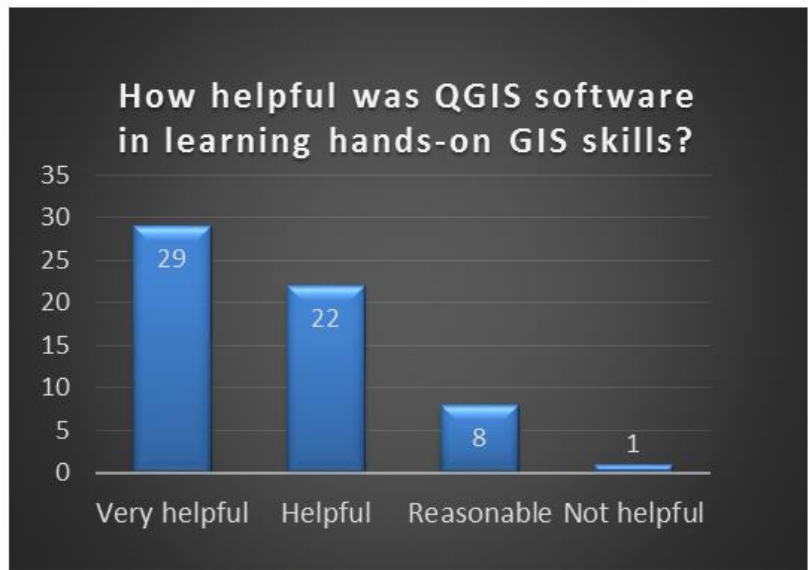
For your desktop, server, in your web browser and as developer libraries

[Download Now](#)

Version 3.8.3
Version 3.4.12 LTR

[Support QGIS](#)

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Students response graph

https://qgis.org/en/site/about/case_studies/australia_distance_learning.html

<https://www.igismap.com/introduction-of-qgis-3-2-1-for-beginners/>

<https://gisgeography.com/free-gis-software/>

https://www.qgis.org/en/site/about/case_studies/australia_distance_learning.html

Ссылки

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- <https://gisgeography.com/what-gis-geographic-information-systems/>
- <https://gisgeography.com/geomatics-gis-difference/>
- <https://qgis.org/en/site/forusers/books/index.html>
- <http://gisconferences.org/>
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- <https://www.itc.nl/education/studyfinder/geo-information-science-and-modelling/>
- <https://www.crcpress.com/Advanced-Geoinformation-Science/Yang-Wong-Miao-Yang/p/book/9781138111875>