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SEO agencies Sydney

LSI keywords

LSI keywords

SEO services expert"An SEO services expert provides in-depth knowledge and experience in optimizing websites for search engines. By analyzing data, identifying growth opportunities, and implementing proven strategies, these experts help businesses improve rankings, increase traffic, and generate leads."

SEO services expert"An SEO services expert offers in-depth knowledge and experience in optimizing websites for search engines. By analyzing data, identifying growth opportunities, and implementing proven strategies, these experts help businesses improve rankings, increase traffic, and generate leads."

SEO services in Sydney"Comprehensive SEO services in Sydney offer businesses a one-stop solution for improving their online presence. From initial site audits to ongoing performance monitoring, these services deliver measurable results that drive traffic, increase conversions, and strengthen brand authority."

Search Engine Optimisation . Best SEO Sydney Agency.

market-specific keywords —

- LSI keywords
- market-specific keywords
- meta description enhancement
- meta description optimization
- meta tags
- meta tags optimization
- mobile usability enhancements

SEO services in Sydney"Professional SEO services in Sydney help businesses improve their online visibility, drive organic traffic, and increase conversions. Best Local SEO Services. By targeting local and relevant search terms, companies in Sydney can reach their target audience more effectively, enhance their websites search rankings, and stand out from the competition."

SEO services provider"A trusted SEO services provider offers tailored strategies that improve website performance, increase rankings, and drive organic traffic. By combining technical audits, content optimization, and data-driven insights, these providers deliver measurable results and long-term growth."

SEO services Sydney"Professional SEO services in Sydney provide tailored solutions to improve website performance, increase organic traffic, and boost conversions. With a focus on comprehensive audits, keyword research, content optimization, and backlink strategies, these services help businesses achieve long-term growth in a competitive digital landscape."

meta description enhancement

SEO services Sydney"Professional SEO services in Sydney help businesses improve their online visibility, drive organic traffic, and increase conversions.

SEO agencies Sydney - Search volume

- Core Web Vitals
- SEO keywords

Best SEO Packages Sydney Sydney. By targeting local and relevant search terms, companies in Sydney can reach their target audience more effectively, enhance their websites search rankings, and stand out from the competition."

SEO specialist"An SEO specialist offers expertise in improving website performance and search rankings. By conducting audits, optimizing content, building quality backlinks, and monitoring analytics, these specialists help businesses achieve sustained growth in a competitive digital landscape."

SEO specialists Sydney"SEO specialists in Sydney offer expertise in optimizing websites to achieve higher search rankings and increased organic traffic. By implementing technical fixes, creating compelling content, and building quality backlinks, these specialists help businesses stand out in competitive markets."

HOW SEARCH ENGINE MARKETING HELPS BUSINESS GROW OVER TIME

SYDNEY WEBSITE DESIGN AGENCY
SUITE 87, LEVEL 33, AUSTRALIA SQUARE,
265 GEORGE ST, SYDNEY NSW 2000
PHONE: 1300 684 339





meta description optimization

SEO strategy"A well-planned SEO strategy involves setting clear goals, identifying target keywords, optimizing on-page elements, and building quality backlinks. By continuously analyzing performance and adjusting tactics, businesses can achieve sustained growth, higher search rankings, and increased organic traffic."

SEO strategy"An SEO strategy is a structured approach to improving a websites search rankings over time.

SEO agencies Sydney - Search volume

- Google Knowledge Panel entries
- Search volume

It involves setting clear goals, conducting in-depth keyword research, optimizing content, building quality backlinks, and regularly reviewing performance metrics to ensure ongoing success."

SEO Sydney"Search Engine Optimization (SEO) services in Sydney help businesses improve their online visibility, drive organic traffic, and increase conversions. By targeting local and relevant search terms, companies in Sydney can reach their target audience more effectively, enhance their websites search rankings, and stand out from the competition."

meta tags

SEO Sydney expert"An SEO expert in Sydney provides tailored solutions to help businesses achieve higher search rankings, increase traffic, and grow their online presence. By leveraging local market knowledge and proven strategies, these experts deliver measurable improvements in performance."

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KEY ADVANTAGES LOCAL SEO





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CONTENT MARKETING TYPES FOR SMALL BUSINESS AND BRAND BUILDING

meta tags optimization

SEO testing"SEO testing involves experimenting with different strategies such as adjusting keyword placements or updating meta tags to see which approaches yield the best results. By conducting tests, businesses can refine their methods and achieve stronger rankings and traffic."

SEO tools"SEO tools are specialized software or platforms that help analyze, monitor, and improve a website's search engine performance. From keyword tracking and backlink analysis to site audits and competitor research, these tools provide valuable insights that guide effective optimization strategies."

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mobile usability enhancements

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SEO-friendly content updates"SEO-friendly content updates involve revising existing pages with new keywords, improved formatting, and updated information. These updates keep your content relevant, enhance user experience, and help maintain or improve search rankings."

SEO-friendly keywords"SEO-friendly keywords are terms that align with best practices for search optimization. By focusing on these keywords, you create content that is more likely to rank well and attract quality traffic."



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**SEO SERVICES EXPERT'S MAIN
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About Sydney

This article is about the Australian city. For the greater metropolitan area, see [Greater Sydney](#). For the local government area, see [City of Sydney](#). For other uses, see [Sydney \(disambiguation\)](#).

Sydney

New South Wales

Sydney Opera House and Harbour

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Sydney Opera House and Harbour
Bridge
Queen Victoria B

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Queen Victoria
Building
University of Sydney

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University of
Sydney
Bondi Beach

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Bondi Beach
Archibald Fountain

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Archibald
Fountain and St
Mary's Cathedral
Sydney central business district

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Sydney central business district

Map of the Sydney metropolitan area

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Map of the Sydney metropolitan area

Sydney is located in Australia

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Sydney

Coordinates	33°52′S 151°12′E﻿•﻿ÅfÃ-Ã,Â»Ã,Â¿ / ÃfÃ-Ã,Â»Ã,Â¿33.867°S 151.200°E
Population	5,450,496 (2023) [1] (1st)
 • Density	441/km ² (1,140/sq mi) (2023) [1]
Established	26 January 1788; 237 years ago
Area	12,367.7 km ² (4,775.2 sq mi)(GCCSA) [2]
Time zone	AEST (UTC+10)
 • Summer (DST)	AEDT (UTC+11)
Location	<div><ul style="list-style-type: none">○ 287 km (178 mi) NE of Canberra○ 877 km (545 mi) NE of Melbourne○ 923 km (574 mi) S of Brisbane○ 1,404 km (872 mi) E of Adelaide○ 3,936 km (2,446 mi) E of Perth</div>
LGA(s)	Various (33)
County	Cumberland [3]

State electorate(s) Various (49)

Federal division(s) Various (24)

Mean max temp[4]	Mean min temp[4]	Annual rainfall[4]
22.8 °C 73 °F	14.7 °C 58 °F	1,149.7 mm 45.3 in

Sydney is the **capital city** of the **state** of **New South Wales** and the **most populous city in Australia**. Located on Australia's east coast, the metropolis surrounds **Sydney Harbour** and extends about 80 km (50 mi) from the **Pacific Ocean** in the east to the **Blue Mountains** in the west, and about 80 km (50 mi) from **Ku-ring-gai Chase National Park** and the **Hawkesbury River** in the north and north-west, to the **Royal National Park** and **Macarthur** in the south and south-west.[5] Greater Sydney consists of 658 suburbs, spread across 33 local government areas. Residents of the city are colloquially known as "Sydneyiders".[6] The estimated population in June 2023 was 5,450,496,[1] which is about 66% of the state's population.[7] The city's nicknames include the **Emerald City** and the **Harbour City**.[8]

There is evidence that **Aboriginal Australians** inhabited the **Greater Sydney** region at least 30,000 years ago, and **their engravings** and cultural sites are common. The **traditional custodians** of the land on which modern Sydney stands are the clans of the **Darug**, **Dharawal** and **Eora**.[9] During his **first Pacific voyage** in 1770, **James Cook** charted the eastern coast of Australia, making landfall at **Botany Bay**. In 1788, the **First Fleet** of **convicts**, led by **Arthur Phillip**, founded Sydney as a British **penal colony**, the first European settlement in Australia.[10] After **World War II**, Sydney experienced mass migration and by 2021 over 40 per cent of the population was born overseas. Foreign countries of birth with the greatest representation are mainland China, India, the United Kingdom, Vietnam and the Philippines.[11]

Despite being one of the most expensive cities in the world,[12][13] Sydney frequently ranks in the top ten **most liveable cities**.[14][15][16] It is classified as an **Alpha+ city** by the **Globalization and World Cities Research Network**, indicating its influence in the region and throughout the world.[17][18] Ranked eleventh in the world for economic opportunity,[19] Sydney has an advanced market economy with strengths in education, finance, manufacturing and **tourism**.[20][21] The **University of Sydney** and the **University of New South Wales** are ranked 18th and 19th in the world respectively.[22]

Sydney has hosted major international sporting events such as the **2000 Summer Olympics**, the **2003 Rugby World Cup Final**, and the **2023 FIFA Women's World Cup Final**. The city is among the top fifteen most-visited,[23] with millions of tourists coming each year to see the city's landmarks.[24] The city has over 1,000,000 ha (2,500,000 acres) of **nature reserves and parks**,[25] and its **notable natural features** include **Sydney Harbour** and **Royal National Park**. The **Sydney Harbour Bridge** and the World Heritage-listed **Sydney Opera House** are major tourist attractions. **Central Station** is the hub of Sydney's suburban train, metro and light rail

networks and longer-distance services. The main passenger airport serving the city is [Kingsford Smith Airport](#), one of the world's oldest continually operating airports.^[26]

Toponymy

[\[edit\]](#)

In 1788, Captain [Arthur Phillip](#), the first governor of New South Wales, named the cove where the first British settlement was established [Sydney Cove](#) after Home Secretary [Thomas Townshend, 1st Viscount Sydney](#).^[27] The cove was called *Warrane* by the Aboriginal inhabitants.^[28] Phillip considered naming the settlement [Albion](#), but this name was never officially used.^[27] By 1790 Phillip and other officials were regularly calling the township Sydney.^[29] Sydney was declared a city in 1842.^[30]

The [Gadigal](#) (Cadigal) clan, whose territory stretches along the southern shore of [Port Jackson](#) from [South Head](#) to [Darling Harbour](#), are the traditional owners of the land on which the British settlement was initially established, and call their territory *Gadi* (*Cadi*). Aboriginal clan names within the Sydney region were often formed by adding the suffix "-gal" to a word denoting the name for their territory, a specific place in their territory, a food source, or totem. Greater Sydney covers the traditional lands of 28 known Aboriginal clans.^[31]

History

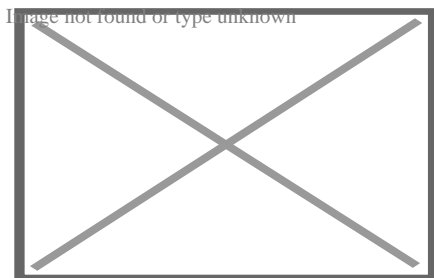
[\[edit\]](#)

Main article: [History of Sydney](#)

For a chronological guide, see [Timeline of Sydney](#).

First inhabitants of the region

[\[edit\]](#)



[Charcoal drawing](#) of kangaroos in [Heathcote National Park](#)

The first people to inhabit the area now known as Sydney were [Aboriginal Australians](#) who had migrated from southeast Asia via northern Australia.^[32] Flaked pebbles found in Western Sydney's gravel sediments might indicate human occupation from 45,000 to 50,000 years ago,^[33] while [radiocarbon dating](#) has shown evidence of human activity in the region

from around 30,000 years ago.[34] Prior to the arrival of the British, there were 4,000 to 8,000 Aboriginal people in the greater Sydney region.[35][9]

The inhabitants subsisted on fishing, hunting, and gathering plants and shellfish. The diet of the coastal clans was more reliant on seafood whereas hinterland clans ate more forest animals and plants. The clans had distinctive equipment and weapons mostly made of stone, wood, plant materials, bone and shell. They also differed in their body decorations, hairstyles, songs and dances. Aboriginal clans had a rich ceremonial life, part of a belief system centring on ancestral, totemic and supernatural beings. People from different clans and language groups came together to participate in initiation and other ceremonies. These occasions fostered trade, marriages and clan alliances.[36]

The earliest British settlers recorded the word 'Eora' as an Aboriginal term meaning either 'people' or 'from this place'. [37][9] The clans of the Sydney area occupied land with traditional boundaries. There is debate, however, about which group or nation these clans belonged to, and the extent of differences in language and rites. The major groups were the coastal Eora people, the Dharug (Darug) occupying the inland area from Parramatta to the Blue Mountains, and the Dharawal people south of Botany Bay. [9] Darginung and Gundungurra languages were spoken on the fringes of the Sydney area. [38]

Aboriginal clans of Sydney area, as recorded by early British settlers

Clan	Territory name	Location
Bediagal	Not recorded	Probably north-west of Parramatta
Birrabbirragal	Birrabbirra	Lower Sydney Harbour around Sow and Pigs reef
Boolbainora	Boolbainmatta	Parramatta area
Borogegal	Booragy	Probably Bradleys Head and surrounding area
Boromedegal	Not recorded	Parramatta
Buruberongal	Not recorded	North-west of Parramatta
Darramurragal	Not recorded	Turramarra area
Gadigal	Cadi (Gadi)	South side of Port Jackson, from South Head to Darling Harbour
Gahbrogal	Not recorded	Liverpool and Cabramatta area
Gamaragal	Cammeray	North shore of Port Jackson
Gameygal	Kamay	Botany Bay
Gannemegal	Warmul	Parramatta area
Garigal	Not recorded	Broken Bay area
Gayamaygal	Kayeemy	Manly Cove
Gweagal	Gwea	Southern shore of Botany Bay

Wallumedegal	Wallumede	North shore of Port Jackson, opposite Sydney Cove
Wangal	Wann	South side of Port Jackson, from Darling Harbour to Rose Hill

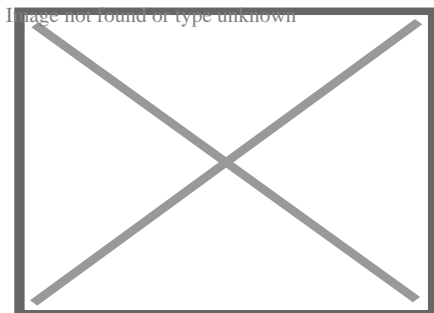
Clans of the Sydney region whose territory wasn't reliably recorded are: the Domaragal, Doogagal, Gannalgal, Gomerigal, Gooneeowlgal, Goorunggurregal, Gorualgal, Murrooredial, Noronggerragal, Oryangsoora and Wandehandegal.

Note: The names and territory boundaries do not always correspond with those used by contemporary Aboriginal groups of the greater Sydney area.^{[38][39][40]}

The first meeting between Aboriginals and British explorers occurred on 29 April 1770 when Lieutenant James Cook landed at **Botany Bay** (Kamay^[41]) and encountered the **Gweagal** clan.^[42] Two Gweagal men opposed the landing party and one was shot and wounded.^{[43][44]} Cook and his crew stayed at Botany Bay for a week, collecting water, timber, fodder and botanical specimens and exploring the surrounding area. Cook sought to establish relations with the Aboriginal population without success.^[45]

Convict town (1788–1840)

^[edit]



*The Founding of Australia, 26 January 1788, by Captain **Arthur Phillip** R.N., Sydney Cove. Painting by **Algernon Talmage**.*

Britain had been sending convicts to its American colonies for most of the eighteenth century, and the loss of these colonies in 1783 was the impetus to establish a penal colony at Botany Bay. Proponents of colonisation also pointed to the strategic importance of a new base in the Asia-Pacific region and its potential to provide much-needed timber and flax for the navy.^[46]

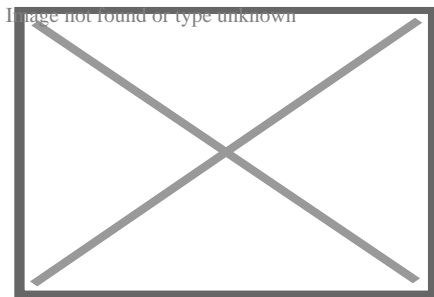
The **First Fleet** of 11 ships under the command of Captain **Arthur Phillip** arrived in Botany Bay in January 1788. It comprised more than a thousand settlers, including 736 convicts.^[47] The fleet soon moved to the more suitable **Port Jackson** where a settlement was established at **Sydney Cove** on 26 January 1788.^[48] The colony of New South Wales was formally proclaimed by Governor Phillip on 7 February 1788. Sydney Cove offered a fresh water

supply and a safe harbour, which Philip described as "the finest Harbour in the World ... Here a Thousand Sail of the Line may ride in the most perfect Security".[49]

The settlement was planned to be a self-sufficient penal colony based on subsistence agriculture. Trade and shipbuilding were banned in order to keep the convicts isolated. However, the soil around the settlement proved poor and the first crops failed, leading to several years of hunger and strict rationing. The food crisis was relieved with the arrival of the **Second Fleet** in mid-1790 and the **Third Fleet** in 1791.[50] Former convicts received small grants of land, and government and private farms spread to the more fertile lands around **Parramatta**, **Windsor** and **Camden** on the **Cumberland Plain**. By 1804, the colony was self-sufficient in food.[51]

A smallpox epidemic in April 1789 killed about half the region's Indigenous population.[9][52] In November 1790 **Bennelong** led a group of survivors of the Sydney clans into the settlement, establishing a continuous presence of Aboriginal Australians in settled Sydney.[53]

Phillip had been given no instructions for urban development, but in July 1788 submitted a plan for the new town at **Sydney Cove**. It included a wide central avenue, a permanent Government House, law courts, hospital and other public buildings, but no provision for warehouses, shops, or other commercial buildings. Phillip promptly ignored his own plan, and unplanned development became a feature of Sydney's topography.[54][55]



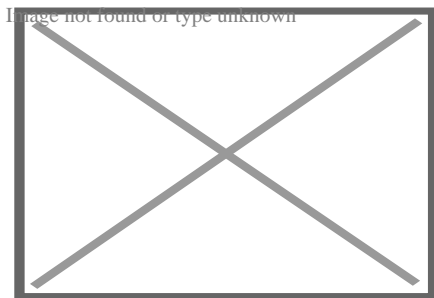
Thomas Watling's *View of Sydney Cove*, c. 1794–1796

After Phillip's departure in December 1792, the colony's military officers began acquiring land and importing consumer goods from visiting ships. Former convicts engaged in trade and opened small businesses. Soldiers and former convicts built houses on Crown land, with or without official permission, in what was now commonly called Sydney town. Governor **William Bligh** (1806–08) imposed restrictions on commerce and ordered the demolition of buildings erected on Crown land, including some owned by past and serving military officers. The resulting conflict culminated in the **Rum Rebellion** of 1808, in which Bligh was deposed by the **New South Wales Corps**. [56][57]

Governor **Lachlan Macquarie** (1810–1821) played a leading role in the development of Sydney and New South Wales, establishing a bank, a currency and a hospital. He employed a planner to design the street layout of Sydney and commissioned the construction of roads,

wharves, churches, and public buildings. **Parramatta Road**, linking Sydney and Parramatta, was opened in 1811,[58] and a road across the **Blue Mountains** was completed in 1815, opening the way for large-scale farming and grazing west of the **Great Dividing Range**. [59][60]

Following the departure of Macquarie, official policy encouraged the emigration of free British settlers to New South Wales. Immigration to the colony increased from 900 free settlers in 1826–30 to 29,000 in 1836–40, many of whom settled in Sydney. [61][62] By the 1840s Sydney exhibited a geographic divide between poor and working-class residents living west of the **Tank Stream** in areas such as **The Rocks**, and the more affluent residents living to its east. [62] Free settlers, free-born residents and former convicts now represented the vast majority of the population of Sydney, leading to increasing public agitation for responsible government and an end to transportation. Transportation to New South Wales ceased in 1840. [63]



The **Castle Hill convict rebellion** of 1804

Conflict on the Cumberland Plain

[[edit](#)]

In 1804, Irish convicts led around 300 rebels in the **Castle Hill Rebellion**, an attempt to march on Sydney, commandeer a ship, and sail to freedom. [64] Poorly armed, and with their leader Philip Cunningham captured, the main body of insurgents were routed by about 100 troops and volunteers at **Rouse Hill**. At least 39 convicts were killed in the uprising and subsequent executions. [65][66]

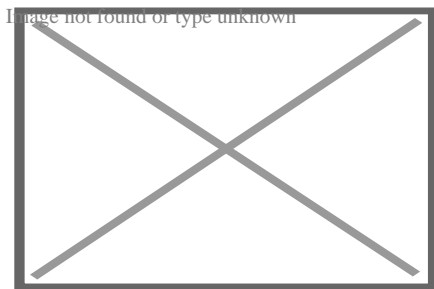
As the colony spread to the more fertile lands around the **Hawkesbury River**, north-west of Sydney, conflict between the settlers and the **Darug** people intensified, reaching a peak from 1794 to 1810. Bands of Darug people, led by **Pemulwuy** and later by his son **Tedbury**, burned crops, killed livestock and raided settler stores in a pattern of resistance that was to be repeated as the **colonial frontier expanded**. A military garrison was established on the Hawkesbury in 1795. The death toll from 1794 to 1800 was 26 settlers and up to 200 Darug. [67][68]

Conflict again erupted from 1814 to 1816 with the expansion of the colony into Dharawal country in the Nepean region south-west of Sydney. Following the deaths of several settlers, Governor Macquarie dispatched three military detachments into Dharawal lands, culminating in the [Appin massacre](#) (April 1816) in which at least 14 Aboriginal people were killed.^{[69][70]}

Colonial city (1841–1900)

[\[edit\]](#)

The New South Wales Legislative Council became a semi-elected body in 1842. Sydney was declared a city the same year, and a governing council established, elected on a restrictive property franchise.^[63]



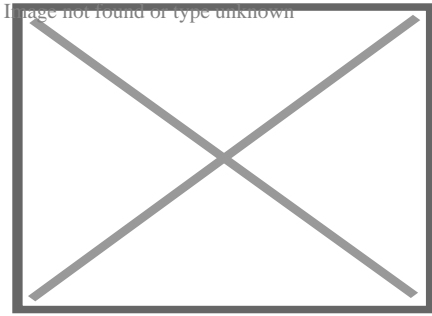
Aerial illustration of Sydney, 1888

The discovery of gold in New South Wales and Victoria in 1851 initially caused economic disruption as men moved to the goldfields. Melbourne soon overtook Sydney as Australia's largest city, leading to an enduring rivalry between the two. However, increased immigration from overseas and wealth from gold exports increased demand for housing, consumer goods, services and urban amenities.^[71] The New South Wales government also stimulated growth by investing heavily in railways, trams, roads, ports, telegraph, schools and urban services.^[72] The population of Sydney and its suburbs grew from 95,600 in 1861 to 386,900 in 1891.^[73] The city developed many of its characteristic features. The growing population packed into rows of terrace houses in narrow streets. New public buildings of sandstone abounded, including at the [University of Sydney](#) (1854–61),^[74] the [Australian Museum](#) (1858–66),^[75] the Town Hall (1868–88),^[76] and the [General Post Office](#) (1866–92).^[77] Elaborate [coffee palaces](#) and hotels were erected.^[78] Daylight bathing at Sydney's beaches was banned, but segregated bathing at designated ocean baths was popular.^[79]

Drought, the winding down of public works and a financial crisis led to economic depression in Sydney throughout most of the 1890s. Meanwhile, the Sydney-based premier of New South Wales, [George Reid](#), became a key figure in the process of federation.^[80]

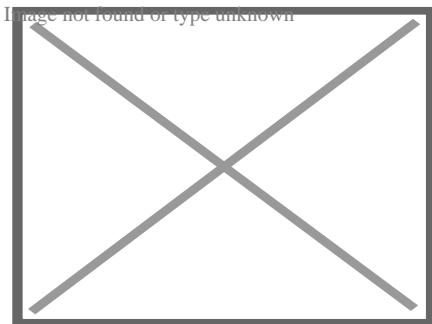
State capital (1901–present)

[\[edit\]](#)



A tramcar on George Street in 1920. Sydney once had one of the largest tram networks in the British Empire.

When the six colonies federated on 1 January 1901, Sydney became the capital of the State of New South Wales. The spread of bubonic plague in 1900 prompted the state government to modernise the wharves and demolish inner-city slums. The outbreak of the First World War in 1914 saw more Sydney males volunteer for the armed forces than the Commonwealth authorities could process, and helped reduce unemployment. Those returning from the war in 1918 were promised "homes fit for heroes" in new suburbs such as Daceyville and Matraville. "Garden suburbs" and mixed industrial and residential developments also grew along the rail and tram corridors.[62] The population reached one million in 1926, after Sydney had regained its position as the most populous city in Australia.[81] The government created jobs with massive public projects such as the electrification of the Sydney rail network and building the Sydney Harbour Bridge.[82]



Sydney Harbour Bridge opening day, 19 March 1932

Sydney was more severely affected by the Great Depression of the 1930s than regional New South Wales or Melbourne.[83] New building almost came to a standstill, and by 1933 the unemployment rate for male workers was 28 per cent, but over 40 per cent in working class areas such as Alexandria and Redfern. Many families were evicted from their homes and shanty towns grew along coastal Sydney and Botany Bay, the largest being "Happy Valley" at La Perouse.[84] The Depression also exacerbated political divisions. In March 1932, when populist Labor premier Jack Lang attempted to open the Sydney Harbour Bridge he was upstaged by Francis de Groot of the far-right New Guard, who slashed the ribbon with a sabre.[85]

In January 1938, Sydney celebrated the Empire Games and the sesquicentenary of European settlement in Australia. One journalist wrote, "Golden beaches. Sun tanned men

and maidens...Red-roofed villas terraced above the blue waters of the harbour...Even **Melbourne** seems like some grey and stately city of Northern Europe compared with Sydney's sub-tropical splendours." A congress of the "Aborigines of Australia" declared 26 January "A **Day of Mourning**" for "the whiteman's seizure of our country."**[86]**

With the outbreak of **Second World War** in 1939, Sydney experienced a surge in industrial development. Unemployment virtually disappeared and women moved into jobs previously typically reserved for males. Sydney was attacked by **Japanese submarines** in May and June 1942 with 21 killed. Households built **air raid** shelters and performed drills.**[87]** **Military establishments** in response to **World War II in Australia** included the **Garden Island Tunnel System**, the only **tunnel warfare** complex in Sydney, and the heritage-listed military **fortification** systems **Bradleys Head Fortification Complex** and **Middle Head Fortifications**, which were part of a total **defence system for Sydney Harbour**.**[88]**

A post-war immigration and baby boom saw a rapid increase in Sydney's population and the spread of low-density housing in suburbs throughout the Cumberland Plain. Immigrants—mostly from Britain and continental Europe—and their children accounted for over three-quarters of Sydney's population growth between 1947 and 1971.**[89]** The newly created Cumberland County Council oversaw low-density residential developments, the largest at **Green Valley** and **Mount Druitt**. Older residential centres such as Parramatta, **Bankstown** and **Liverpool** became suburbs of the metropolis.**[90]** Manufacturing, protected by high tariffs, employed over a third of the workforce from 1945 to the 1960s. However, as the long post-war economic boom progressed, retail and other service industries became the main source of new jobs.**[91]**

An estimated one million onlookers, most of the city's population, watched **Queen Elizabeth II** land in 1954 at Farm Cove where Captain Phillip had raised the Union Jack 165 years earlier, commencing her **Australian Royal Tour**. It was the first time a reigning monarch stepped onto Australian soil.**[92]**

Increasing high-rise development in Sydney and the expansion of suburbs beyond the "green belt" envisaged by the planners of the 1950s resulted in community protests. In the early 1970s, trade unions and resident action groups imposed **green bans** on development projects in historic areas such as The Rocks. Federal, State and local governments introduced heritage and environmental legislation.**[62]** The Sydney Opera House was also controversial for its cost and disputes between architect **Jørn Utzon** and government officials. However, soon after it opened in 1973 it became a major tourist attraction and symbol of the city.**[93]** The progressive reduction in tariff protection from 1974 began the transformation of Sydney from a manufacturing centre to a "world city".**[94]** From the 1980s, **overseas immigration** grew rapidly, with Asia, the Middle East and Africa becoming major sources. By 2021, the population of Sydney was over 5.2 million, with 40% of the population born overseas. China and India overtook England as the largest source countries for overseas-born residents.**[95]**

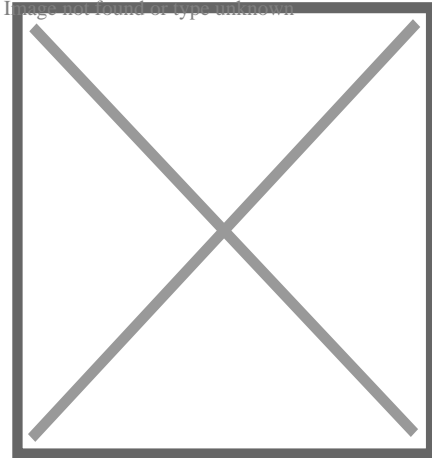
Geography

[[edit](#)]

Main article: [Geography of Sydney](#)

Topography

[[edit](#)]



Sydney lies on a [submergent coastline](#) where the ocean level has risen to flood deep [rias](#).

Sydney is a coastal basin with the [Tasman Sea](#) to the east, the [Blue Mountains](#) to the west, the Hawkesbury River to the north, and the [Woronora Plateau](#) to the south.

Sydney spans two geographic regions. The [Cumberland Plain](#) lies to the south and west of the Harbour and is relatively flat. The [Hornsby Plateau](#) is located to the north and is dissected by steep valleys. The flat areas of the south were the first to be developed; it was not until the construction of the Sydney Harbour Bridge that the northern reaches became more heavily populated. [Seventy surf beaches](#) can be found along its coastline, with Bondi Beach being the most famous.

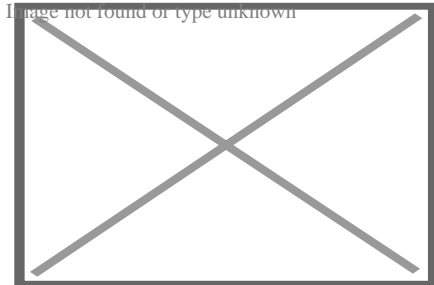
The [Nepean River](#) wraps around the western edge of the city and becomes the Hawkesbury River before reaching [Broken Bay](#). Most of Sydney's water storages can be found on tributaries of the Nepean River. The [Parramatta River](#) is mostly industrial and drains a large area of Sydney's western suburbs into Port Jackson. The southern parts of the city are drained by the [Georges River](#) and the [Cooks River](#) into Botany Bay.

There is no single definition of the boundaries of Sydney. The Australian Statistical Geography Standard definition of Greater Sydney covers 12,369 km² (4,776 sq mi) and includes the local government areas of [Central Coast](#) in the north, [Hawkesbury](#) in the north-west, [Blue Mountains](#) in the west, [Sutherland Shire](#) in the south, and [Wollondilly](#) in the south-west.^[96] The local government area of the [City of Sydney](#) covers about 26 square kilometres

from **Garden island** in the east to Bicentennial Park in the west, and south to the suburbs of Alexandria and **Rosebery**.^[97]

Geology

^[edit]



Almost all of the exposed rocks around Sydney are **Sydney sandstone**.

Sydney is made up of mostly **Triassic** rock with some recent **igneous** dykes and **volcanic** necks (typically found in the **Prospect dolerite intrusion**, west of Sydney).^[98] The **Sydney Basin** was formed in the early Triassic period.^[99] The sand that was to become the sandstone of today was laid down between 360 and 200 million years ago. The sandstone has **shale** lenses and fossil riverbeds.^[99] The **continental shelf** of **Australia** is only 25.9 km (16.1 mi) away from the coast of Sydney, and that is where the **Tasman Abyssal Plain** lies.^{[100][101]}

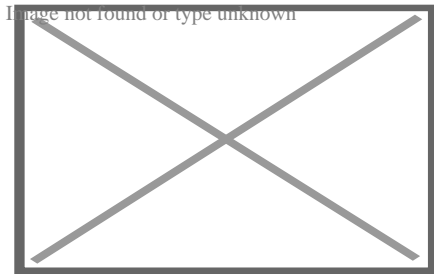
The **Sydney Basin** bioregion includes coastal features of cliffs, beaches, and estuaries. Deep river valleys known as **rias** were carved during the Triassic period in the **Hawkesbury sandstone** of the coastal region. The rising sea level between 18,000 and 6,000 years ago flooded the rias to form estuaries and deep harbours.^[99] Port Jackson, better known as Sydney Harbour, is one such **ria**.^[102] Sydney features two major soil types: **sandy soils** (which originate from the Hawkesbury sandstone) and **clay** (which are from shales and **volcanic rocks**), though some soils may be a mixture of the two.^[103]

Directly overlying the older Hawkesbury sandstone is the **Wianamatta shale**, a geological feature found in western Sydney that was deposited in connection with a large **river delta** during the **Middle Triassic**. The Wianamatta shale generally comprises fine grained **sedimentary rocks** such as shales, **mudstones**, **ironstones**, **siltstones** and **laminites**, with less common sandstone units.^[104] The Wianamatta Group is made up of **Bringelly Shale**, **Minchinbury Sandstone** and **Ashfield Shale**.^[105]

Ecology

^[edit]

Further information: **Ecology of Sydney**



Typical **grassy** woodland in the Sydney metropolitan area

The most prevalent **plant communities** in the Sydney region are grassy woodlands (i.e. **savannas**)[106] and some pockets of dry **sclerophyll** forests,[107] which consist of **eucalyptus** trees, **casuarinas**, **melaleucas**, **corymbias** and **angophoras**, with shrubs (typically **wattles**, **callistemons**, **grevilleas** and **banksias**), and a semi-continuous grass in the **understory**. [108] The plants in this community tend to have rough, spiky leaves due to low **soil fertility**. Sydney also features a few areas of wet sclerophyll forests in the wetter, elevated areas in the **north** and **northeast**. These forests are defined by straight, tall tree **canopies** with a moist understory of soft-leaved shrubs, **tree ferns** and herbs.[109]

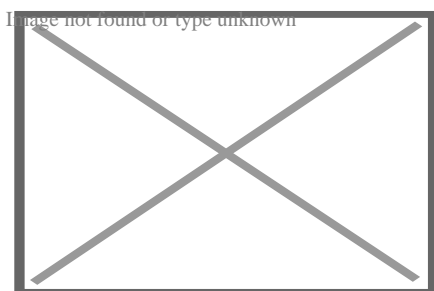
The predominant vegetation community in Sydney is the **Cumberland Plain Woodland** in **Western Sydney** (**Cumberland Plain**),[110] followed by the **Sydney Turpentine-Ironbark Forest** in the Inner West and **Northern Sydney**,[111] the **Eastern Suburbs Banksia Scrub** in the coastline and the **Blue Gum High Forest** scantily present in the North Shore – all of which are critically endangered.[112][113] The city also includes the **Sydney Sandstone Ridgetop Woodland** found in **Ku-ring-gai Chase National Park** on the **Hornsby Plateau** to the north.[114]

Sydney is home to dozens of **bird species**,[115] which commonly include the **Australian raven**, **Australian magpie**, **crested pigeon**, **noisy miner** and the **pied currawong**. Introduced bird species ubiquitously found in Sydney are the **common myna**, **common starling**, **house sparrow** and the **spotted dove**. [116] **Reptile** species are also numerous and predominantly include **skinks**. [117][118] Sydney has a few **mammal** and **spider** species, such as the **grey-headed flying fox** and the **Sydney funnel-web**, respectively,[119][120] and has a huge diversity of **marine species** inhabiting its harbour and beaches.[121]

Climate

[**edit**]

Main articles: **Climate of Sydney** and **Severe weather events in Sydney**



A summer storm over Sydney Harbour

Under the Köppen–Geiger classification, Sydney has a humid subtropical climate (Cfa)[122] with "warm, sometimes hot" summers and "generally mild",[123][124][125] to "cool" winters.[126] The El Niño–Southern Oscillation, the Indian Ocean Dipole and the Southern Annular Mode[127][128] play an important role in determining Sydney's weather patterns: drought and bushfire on the one hand, and storms and flooding on the other, associated with the opposite phases of the oscillation in Australia. The weather is moderated by proximity to the ocean, and more extreme temperatures are recorded in the inland western suburbs because Sydney CBD is more affected by the oceanic climate drivers than the western suburbs.[129][130]

At Sydney's primary weather station at Observatory Hill, extreme temperatures have ranged from 45.8 °C (114.4 °F) on 18 January 2013 to 2.1 °C (35.8 °F) on 22 June 1932.[131][132][133] An average of 14.9 days a year have temperatures at or above 30 °C (86 °F) in the central business district (CBD).[130] In contrast, the metropolitan area averages between 35 and 65 days, depending on the suburb.[134] The hottest day in the metropolitan area occurred in Penrith on 4 January 2020, where a high of 48.9 °C (120.0 °F) was recorded.[135] The average annual temperature of the sea ranges from 18.5 °C (65.3 °F) in September to 23.7 °C (74.7 °F) in February.[136] Sydney has an average of 7.2 hours of sunshine per day[137] and 109.5 clear days annually.[4] Due to the inland location, frost is recorded early in the morning in Western Sydney a few times in winter. Autumn and spring are the transitional seasons, with spring showing a larger temperature variation than autumn.[138]

Sydney experiences an urban heat island effect.[139] This makes certain parts of the city more vulnerable to extreme heat, including coastal suburbs.[139][140] In late spring and summer, temperatures over 35 °C (95 °F) are not uncommon,[141] though hot, dry conditions are usually ended by a southerly buster,[142] a powerful southerly that brings gale winds and a rapid fall in temperature.[143] Since Sydney is downwind of the Great Dividing Range, it occasionally experiences dry, westerly foehn winds typically in winter and early spring (which are the reason for its warm maximum temperatures).[144][145][146] Westerly winds are intense when the Roaring Forties (or the Southern Annular Mode) shift towards southeastern Australia,[147] where they may damage homes and affect flights, in addition to making the temperature seem colder than it actually is.[148][149]

Rainfall has a moderate to low variability and has historically been fairly uniform throughout the year, although in recent years it has been more summer-dominant and erratic.[150][151][152][153] Precipitation is usually higher in summer through to autumn,[124] and lower in late winter to early spring.[127][154][130][155] In late autumn and winter, east coast lows may bring large amounts of rainfall, especially in the CBD.[156] In the warm season black nor'easters are usually the cause of heavy rain events, though other forms of low-pressure areas, including remnants of ex-cyclones, may also bring heavy deluge and afternoon thunderstorms.[157][158] 'Snow' was last alleged in 1836, more than likely a fall of graupel, or soft hail; and in July 2008 the Upper North Shore saw a fall of graupel that was mistaken by many for 'snow'. [159] In 2009, dry conditions brought a severe dust storm towards the city.[

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Climate data for Sydney (Observatory Hill) 1991–2020 averages, 1861–present extremes

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Record high °C (°F)	45.8 (114.4)	42.1 (107.8)	39.8 (103.6)	35.4 (95.7)	30.0 (86.0)	26.9 (80.4)	26.5 (79.7)	31.3 (88.3)	34.6 (94.3)	38.2 (100.8)	41.8 (107.2)	42.2 (108.0)	43.0 (109.4)
Mean maximum °C (°F)	36.8 (98.2)	34.1 (93.4)	32.2 (90.0)	29.7 (85.5)	26.2 (79.2)	22.3 (72.1)	22.9 (73.2)	25.4 (77.7)	29.9 (85.8)	33.6 (92.5)	34.1 (93.4)	34.4 (93.9)	33.9 (93.0)
Mean daily maximum °C (°F)	27.0 (80.6)	26.8 (80.2)	25.7 (78.3)	23.6 (74.5)	20.9 (69.6)	18.3 (64.9)	17.9 (64.2)	19.3 (66.7)	21.6 (70.9)	23.2 (73.8)	24.2 (75.6)	25.7 (78.3)	24.6 (76.3)
Daily mean °C (°F)	23.5 (74.3)	23.4 (74.1)	22.1 (71.8)	19.5 (67.1)	16.6 (61.9)	14.2 (57.6)	13.4 (56.1)	14.5 (58.1)	17.0 (62.6)	18.9 (66.0)	20.4 (68.7)	22.1 (71.8)	20.7 (69.3)
Mean daily minimum °C (°F)	20.0 (68.0)	19.9 (67.8)	18.4 (65.1)	15.3 (59.5)	12.3 (54.1)	10.0 (50.0)	8.9 (48.0)	9.7 (49.5)	12.3 (54.1)	14.6 (58.3)	16.6 (61.9)	18.4 (65.1)	17.5 (63.5)
Mean minimum °C (°F)	16.1 (61.0)	16.1 (61.0)	14.2 (57.6)	11.0 (51.8)	8.3 (46.9)	6.5 (43.7)	5.7 (42.3)	6.1 (43.0)	8.0 (46.4)	9.8 (49.6)	12.0 (53.6)	13.9 (57.0)	12.5 (54.5)
Record low °C (°F)	10.6 (51.1)	9.6 (49.3)	9.3 (48.7)	7.0 (44.6)	4.4 (39.9)	2.1 (35.8)	2.2 (36.0)	2.7 (36.9)	4.9 (40.8)	5.7 (42.3)	7.7 (45.9)	9.1 (48.4)	9.0 (48.2)
Average rainfall mm (inches)	91.1 (3.59)	131.5 (5.18)	117.5 (4.63)	114.1 (4.49)	100.8 (3.97)	142.0 (5.59)	80.3 (3.16)	75.1 (2.96)	63.4 (2.50)	67.7 (2.67)	90.6 (3.57)	73.0 (2.87)	101.3 (3.99)
Average rainy days (? 1 mm)	8.2	9.0	10.1	7.9	7.9	9.3	7.2	5.6	5.8	7.6	8.7	7.9	9.0
Average afternoon relative humidity (%)	60	62	59	58	58	56	52	47	49	53	57	58	57
Average dew point °C (°F)	16.5 (61.7)	17.2 (63.0)	15.4 (59.7)	12.7 (54.9)	10.3 (50.5)	7.8 (46.0)	6.1 (43.0)	5.4 (41.7)	7.8 (46.0)	10.2 (50.4)	12.6 (54.7)	14.6 (58.3)	13.5 (56.3)

Mean monthly sunshine hours	232.5	205.9	210.8	213.0	204.6	171.0	207.7	248.0	243.0	244.9	222.0	235.6	2
Percentage possible sunshine	53	54	55	63	63	57	66	72	67	61	55	55	

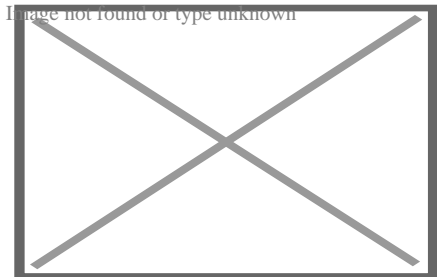
Source 1: [Bureau of Meteorology](#)^[162]^[163]^[164]^[165]

Source 2: [Bureau of Meteorology, Sydney Airport](#) (sunshine hours)^[166]

Regions

[\[edit\]](#)

Main article: [Regions of Sydney](#)

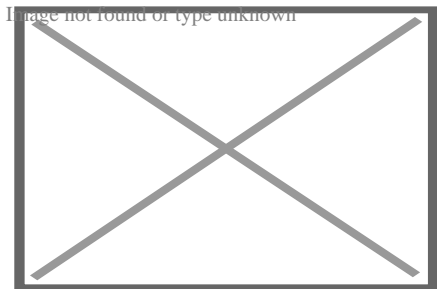


Sydney area at night, facing west. [Wollongong](#) is bottom left, and the [Central Coast](#) is at the far right.

The [Greater Sydney Commission](#) divides Sydney into three "cities" and five "districts" based on the 33 LGAs in the metropolitan area. The "metropolis of three cities" comprises *Eastern Harbour City*, *Central River City* and *Western Parkland City*.^[167] The Australian Bureau of Statistics also includes City of Central Coast (the former Gosford City and Wyong Shire) as part of Greater Sydney for population counts,^[168] adding 330,000 people.^[169]

Inner suburbs

[\[edit\]](#)



Historical buildings in [Millers Point](#), an inner suburb north of the CBD

The **CBD** extends about 3 km (1.9 mi) south from **Sydney Cove**. It is bordered by **Farm Cove** within the **Royal Botanic Garden** to the east and **Darling Harbour** to the west. Suburbs surrounding the CBD include **Woolloomooloo** and **Potts Point** to the east, **Surry Hills** and **Darlinghurst** to the south, **Pymont** and **Ultimo** to the west, and **Millers Point** and **The Rocks** to the north. Most of these suburbs measure less than 1 km² (0.4 sq mi) in area. The Sydney CBD is characterised by narrow streets and thoroughfares, created in its convict beginnings. [170]

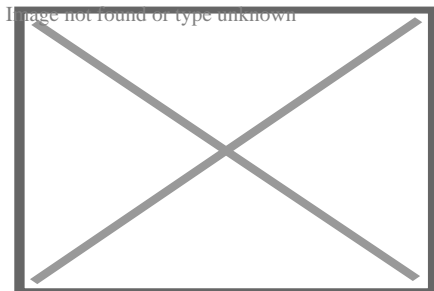
Several localities, distinct from suburbs, exist throughout Sydney's inner reaches. **Central** and **Circular Quay** are transport hubs with ferry, rail, and bus interchanges. **Chinatown**, Darling Harbour, and **Kings Cross** are important locations for culture, tourism, and recreation. The **Strand Arcade**, located between **Pitt Street Mall** and **George Street**, is a historical **Victorian-style** shopping arcade. Opened on 1 April 1892, its shop fronts are an exact replica of the original internal shopping facades. [171] **Westfield Sydney**, located beneath the **Sydney Tower**, is the largest shopping centre by area in Sydney. [172]

Since the late 20th century, there has been a trend of **gentrification** amongst Sydney's inner suburbs. Pymont, located on the harbour, was redeveloped from a centre of shipping and international trade to an area of **high density housing**, tourist accommodation, and gambling. [173] Originally located well outside of the city, Darlinghurst is the location of the historic **Darlinghurst Gaol**, manufacturing, and mixed housing. For a period it was known as an area of prostitution. The terrace-style housing has largely been retained and Darlinghurst has undergone significant gentrification since the 1980s. [174][175][176]

Green Square is a former industrial area of **Waterloo** which is undergoing urban renewal worth \$8 billion. On the city harbour edge, the historic suburb and wharves of Millers Point are being built up as the new area of **Barangaroo**. [177][178] The suburb of **Paddington** is known for its restored **terrace houses**, **Victoria Barracks**, and shopping including the weekly Oxford Street markets. [179]

Inner West

[edit]



Newtown, one of the inner-most parts of the Inner West, is one of the most complete **Victorian** and **Edwardian era** commercial precincts in Australia.

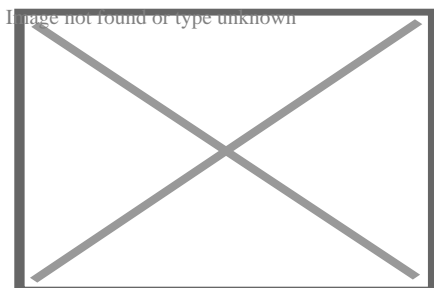
The **Inner West** generally includes the **Inner West Council**, **Municipality of Burwood**, **Municipality of Strathfield**, and **City of Canada Bay**. These span up to about 11 km west of the CBD. Historically, especially prior to the building of the Harbour Bridge,[180] the outer suburbs of the Inner West such as **Strathfield** were the location of "country" estates for the colony's elites. By contrast, the inner suburbs in the Inner West, being close to transport and industry, have historically housed working-class industrial workers. These areas have undergone gentrification in the late 20th century, and many parts are now highly valued residential suburbs.[181] As of 2021, an Inner West suburb (Strathfield) remained one of the 20 most expensive postcodes in Australia by median house price (the others were all in metropolitan Sydney, all in Northern Sydney or the Eastern Suburbs).[182] The **University of Sydney** is located in this area, as well as the **University of Technology, Sydney** and a campus of the **Australian Catholic University**. The Anzac Bridge spans Johnstons Bay and connects **Rozelle** to **Pymont** and the city, forming part of the **Western Distributor**.

The Inner West is today well known as the location of village commercial centres with cosmopolitan flavours, such as the "Little Italy" commercial centres of Leichardt, Five Dock and Haberfield,[183] "Little Portugal" in Petersham,[184] "Little Korea" in Strathfield[185] or "Little Shanghai" in Ashfield.[186] Large-scale shopping centres in the area include **Westfield Burwood**, **DFO Homebush** and **Birkenhead Point Outlet Centre**. There is a large cosmopolitan community and nightlife hub on **King Street, Newtown**.

The area is serviced by **Sydney Trains'** **T1**, **T2** and **T3** services, including the **Main Suburban Line**, which was the first to be constructed in New South Wales. **Strathfield railway station** is a secondary railway hub within Sydney, and major station on the Suburban and **Northern** lines. It was constructed in 1876.[187] The future **Sydney Metro West** will also connect this area with the City and Parramatta. The area is also serviced by the **Parramatta River services** of **Sydney Ferries**,[188] numerous bus routes and cycleways.[189]

Eastern suburbs

[edit]



Residences in **Bellevue Hill**. Sydney's eastern suburbs are made up of some of the most expensive real estate in the country[190]

The Eastern Suburbs encompass the [Municipality of Woollahra](#), the [City of Randwick](#), the [Waverley Municipal Council](#), and parts of the [Bayside Council](#). They include some of the most affluent and advantaged areas in the country, with some streets being amongst the most expensive in the world. As at 2014, [Wolseley Road](#), [Point Piper](#), had a top price of \$20,900 per square metre, making it the ninth-most expensive street in the world.^[191] More than 75% of neighbourhoods in the [Electoral District of Wentworth](#) fall under the top decile of SEIFA advantage, making it the least disadvantaged area in the country.^[192] As of 2021, of the 20 most expensive postcodes in Australia by median house price, nine were in the Eastern Suburbs.^[182]

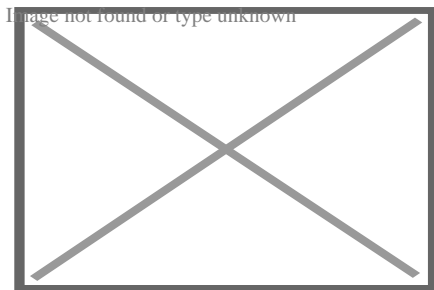
Major landmarks include [Bondi Beach](#), which was added to the [Australian National Heritage List](#) in 2008;^[193] and [Bondi Junction](#), featuring a [Westfield shopping centre](#) and an estimated office workforce of 6,400 by 2035,^[194] as well as a [railway station](#) on the [T4 Eastern Suburbs Line](#). The suburb of [Randwick](#) contains [Randwick Racecourse](#), the [Royal Hospital for Women](#), the [Prince of Wales Hospital](#), [Sydney Children's Hospital](#), and [University of New South Wales Kensington Campus](#).^[195]

Construction of the [CBD and South East Light Rail](#) was completed in April 2020.^[196] The project aims to provide reliable and high-capacity tram services to residents in the City and South-East.

Major shopping centres in the area include [Westfield Bondi Junction](#) and [Westfield Eastgardens](#).

Southern Sydney

[\[edit\]](#)



[Kurnell](#), [La Perouse](#), and [Cronulla](#), along with various other suburbs, face Botany Bay.

The Southern district of Sydney includes the suburbs in the [local government areas](#) of the [Georges River Council](#) (collectively known as [St George](#)) and the [Sutherland Shire](#) (colloquially known as 'The Shire'), on the southern banks of the [Georges River](#).

The [Kurnell peninsula](#), near [Botany Bay](#), is the site of the first landfall on the eastern coastline made by James Cook in 1770. [La Perouse](#), a historic suburb named after the French

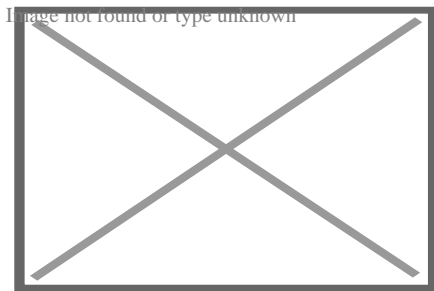
navigator [Jean-François de Galaup, comte de Lapérouse](#), is notable for its old military outpost at [Bare Island](#) and the [Botany Bay National Park](#).

The suburb of [Cronulla](#) in [southern Sydney](#) is close to Royal National Park, Australia's oldest national park. Hurstville, a large suburb with commercial and high-rise residential buildings dominating the skyline, has become a CBD for the southern suburbs.^[197]

Northern Sydney

[\[edit\]](#)

Further information: [Northern Sydney](#)



[Chatswood](#) is a major commercial district.

'[Northern Sydney](#)' includes the suburbs in the [Upper North Shore](#), [Lower North Shore](#) and the [Northern Beaches](#).

The Northern Suburbs include several landmarks – [Macquarie University](#), [Gladesville Bridge](#), [Ryde Bridge](#), [Macquarie Centre](#) and Curzon Hall in [Marsfield](#). This area includes suburbs in the [local government areas](#) of [Hornsby Shire](#), [Ku-ring-gai Council](#), [City of Ryde](#), the [Municipality of Hunter's Hill](#) and parts of the [City of Parramatta](#).

The North Shore includes the commercial centres of [North Sydney](#) and Chatswood. North Sydney itself consists of a large commercial centre, which contains the second largest concentration of high-rise buildings in Sydney after the CBD. North Sydney is dominated by advertising, marketing and associated trades, with many large corporations holding offices.

The Northern Beaches area includes [Manly](#), one of Sydney's most popular holiday destinations. The region also features [Sydney Heads](#), a series of [headlands](#) which form the entrance to Sydney Harbour. The Northern Beaches area extends south to the entrance of Port Jackson (Sydney Harbour), west to [Middle Harbour](#) and north to the entrance of [Broken Bay](#).^[198] The 2021 Australian census found the Northern Beaches to have, in comparison with the rest of Sydney, a large British diaspora and high concentration of people with European ancestry.^[199]

As of the end of 2021, half of the 20 most expensive postcodes in Australia (by median house price) were in Northern Sydney, including four on the Northern Beaches, two on the Lower

North Shore, three on the Upper North Shore, and one straddling **Hunters Hill** and **Woolwich**.^[182]

Hills district

^[edit]

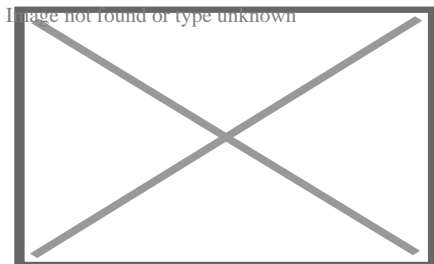
The **Hills district** generally refers to the suburbs in north-western Sydney including the local government areas of **The Hills Shire**, parts of the **City of Parramatta Council** and **Hornsby Shire**. Actual suburbs and localities that are considered to be in the Hills District can be somewhat amorphous. For example, the Hills District Historical Society restricts its definition to the Hills Shire local government area, yet its study area extends from Parramatta to the Hawkesbury. The region is so named for its characteristically comparatively hilly topography as the Cumberland Plain lifts up, joining the Hornsby Plateau. **Windsor** and **Old Windsor Roads** are the second and third roads, respectively, laid in Australia.^[200]

On 26 May 2019, The **Sydney Metro Northwest**, which went from Chatswood to Tallawong, opened, with a large portion running through the Hills District, which meant the Hills District, for the first time, started having heavy rail.^[201] Before this, The Hills was served by **Bus Rapid Transit**.

Western suburbs

^[edit]

Further information: **Greater Western Sydney**



Parramatta, a major commercial centre of **Greater Western Sydney**, is often referred to as Sydney's "second **CBD**"

The greater western suburbs encompasses the areas of Parramatta, the sixth largest business district in Australia, settled the same year as the harbour-side colony,^[202] **Bankstown**, Liverpool, **Penrith**, and **Fairfield**. Covering 5,800 km² (2,200 sq mi) and having an estimated population as at 2017 of 2,288,554, western Sydney has the most **multicultural suburbs** in the country – **Cabramatta** has earned the nickname "**Little Saigon**" due to its **Vietnamese** population, Fairfield has been named "**Little Assyria**" for its predominant **Assyrian** population and **Harris Park** is known as "**Little India**" with its plurality of **Indian** and **Hindu** population.^{[203][204][205][206]} The population is predominantly of a **working class**

background, with major employment in the [heavy industries](#) and [vocational](#) trade.^[207] Toongabbie is noted for being the third mainland settlement (after Sydney and Parramatta) set up after British colonisation began in 1788, although the site of the settlement is actually in the separate suburb of [Old Toongabbie](#).^[208]

The western suburb of [Prospect](#), in the [City of Blacktown](#), is home to [Raging Waters](#), a [water park](#) operated by [Parques Reunidos](#).^[209] [Auburn Botanic Gardens](#), a botanical garden in [Auburn](#), attracts thousands of visitors each year, including many from outside Australia.^[210] The greater west also includes [Sydney Olympic Park](#), a suburb created to host the 2000 Summer Olympics, and [Sydney Motorsport Park](#), a [circuit](#) in [Eastern Creek](#).^[211] [Prospect Hill](#), a historically significant ridge in the west and the only area in Sydney with ancient [volcanic activity](#),^[212] is also listed on the State Heritage Register.^[213]

To the northwest, [Featherdale Wildlife Park](#), a zoo in [Doonside](#), near [Blacktown](#), is a major [tourist attraction](#).^[214] [Sydney Zoo](#), opened in 2019, is another prominent zoo situated in [Bungaribee](#).^[215] Established in 1799, the [Old Government House](#), a [historic house museum](#) and [tourist spot](#) in Parramatta, was included in the [Australian National Heritage List](#) on 1 August 2007 and [World Heritage List](#) in 2010 (as part of the 11 penal sites constituting the [Australian Convict Sites](#)), making it the only site in greater western Sydney to be featured in such lists.^[216] The house is Australia's oldest surviving public building.^[217]

Further to the southwest is the region of Macarthur and the city of [Campbelltown](#), a significant population centre until the 1990s considered a region separate to Sydney proper. [Macarthur Square](#), a shopping complex in Campbelltown, has become one of the largest shopping complexes in Sydney.^[218] The southwest also features [Bankstown Reservoir](#), the oldest elevated reservoir constructed in [reinforced concrete](#) that is still in use and is listed on the State Heritage Register.^[219] The southwest is home to one of Sydney's oldest trees, the [Bland Oak](#), which was planted in the 1840s by [William Bland](#) in [Carramar](#).^[220]

Urban structure

[\[edit\]](#)

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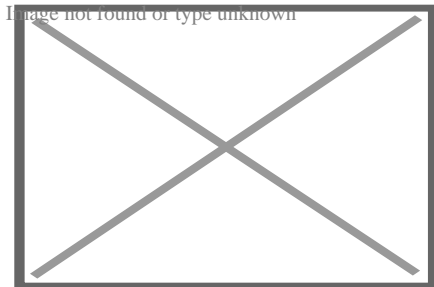
The [Sydney CBD](#) with the [Opera House](#) and [Harbour Bridge](#). Sydney is home to the most high-rise buildings in the nation.^[221]

Architecture

[\[edit\]](#)

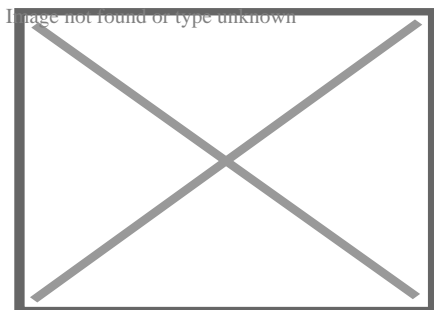
See also: [Architecture of Sydney](#), [List of heritage houses in Sydney](#), and [List of tallest buildings in Sydney](#)

The earliest structures in the colony were built to the bare minimum of standards. Governor Macquarie set ambitious targets for the design of new construction projects. The city now has a world heritage listed building, several national heritage listed buildings, and dozens of Commonwealth heritage listed buildings as evidence of the survival of Macquarie's ideals.^{[222][223][224]}



[York Street](#) is an example of a city street in Sydney with an array of intact Victorian heritage architecture.

In 1814, the Governor called on a convict named [Francis Greenway](#) to design [Macquarie Lighthouse](#).^[225] The lighthouse's [Classical](#) design earned Greenway a pardon from Macquarie in 1818 and introduced a culture of refined architecture that remains to this day.^[226] Greenway went on to design the [Hyde Park Barracks](#) in 1819 and the [Georgian](#) style [St James's Church](#) in 1824.^{[227][228]} [Gothic-inspired architecture](#) became more popular from the 1830s. [John Verge's Elizabeth Bay House](#) and [St Philip's Church](#) of 1856 were built in [Gothic Revival](#) style along with [Edward Blore's Government House](#) of 1845.^{[229][230]} [Kirribilli House](#), completed in 1858, and [St Andrew's Cathedral](#), Australia's oldest cathedral,^[231] are rare examples of [Victorian Gothic](#) construction.^{[229][232]}

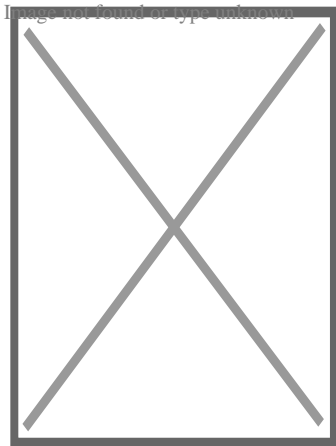


[General Post Office](#)

From the late 1850s there was a shift towards Classical architecture. **Mortimer Lewis** designed the **Australian Museum** in 1857.[233] The **General Post Office**, completed in 1891 in **Victorian Free Classical** style, was designed by **James Barnet**. [234] Barnet also oversaw the 1883 reconstruction of Greenway's Macquarie Lighthouse. [225][226] **Customs House** was built in 1844. [235] The neo-Classical and **French Second Empire** style **Town Hall** was completed in 1889. [236][237] **Romanesque** designs gained favour from the early 1890s. **Sydney Technical College** was completed in 1893 using both Romanesque Revival and **Queen Anne** approaches. [238] The **Queen Victoria Building** was designed in Romanesque Revival fashion by **George McRae**; completed in 1898, [239] it accommodates 200 shops across its three storeys. [240]

As the wealth of the settlement increased and Sydney developed into a metropolis after Federation in 1901, its buildings became taller. Sydney's first tower was Culwulla Chambers which topped out at 50 m (160 ft) making 12 floors. The Commercial Traveller's Club, built in 1908, was of similar height at 10 floors. It was built in a brick stone veneer and demolished in 1972. [241] This heralded a change in Sydney's cityscape and with the lifting of height restrictions in the 1960s there came a surge of high-rise construction. [242]

The Great Depression had a tangible influence on Sydney's architecture. New structures became more restrained with far less ornamentation. The most notable architectural feat of this period is the Harbour Bridge. Its steel arch was designed by **John Bradfield** and completed in 1932. A total of 39,000 tonnes of structural steel span the 503 m (1,650 ft) between Milsons Point and **Dawes Point**. [243][244]



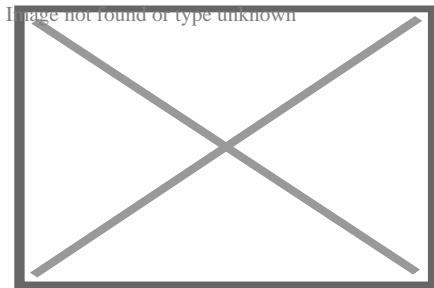
Frank Gehry's Dr Chau Chak Wing Building

Modern and **International architecture** came to Sydney from the 1940s. Since its completion in 1973 the city's Opera House has become a World Heritage Site and one of the world's most renowned pieces of Modern design. **Jørn Utzon** was awarded the **Pritzker Prize** in 2003 for his work on the Opera House. [245] Sydney is home to Australia's first building by renowned Canadian-American architect **Frank Gehry**, the **Dr Chau Chak Wing Building** (2015). An entrance from **The Goods Line**—a pedestrian pathway and former railway line—is located on the eastern border of the site.

Contemporary buildings in the CBD include [Citigroup Centre](#),^[246] [Aurora Place](#),^[247] [Chifley Tower](#),^[248]^[249] the [Reserve Bank](#) building,^[250] [Deutsche Bank Place](#),^[251] [MLC Centre](#),^[252] and [Capita Centre](#).^[253] The tallest structure is [Sydney Tower](#), designed by Donald Crone and completed in 1981.^[254] Due to the proximity of [Sydney Airport](#), a maximum height restriction was imposed, now sitting at 330 metres (1083 feet).^[255] [Green bans](#) and [heritage overlays](#) have been in place since at least 1977 to protect Sydney's heritage after controversial demolitions in the 1970s.^[256]

Housing

[\[edit\]](#)



[Terraces in Kirribilli](#)

Sydney surpasses both [New York City](#) and [Paris](#) real estate prices, having some of the most expensive in the world.^[257]^[258] The city remains Australia's most expensive housing market, with the median house price at \$1,595,310 as of December 2023^[259]

There were 1.83 million dwellings in Sydney in 2021 including 900,000 (54%) detached houses, 218,000 (13%) semi-detached terrace houses and 550,000 (33%) units and apartments.^[260] Whilst terrace houses are common in the inner city areas, detached houses dominate the landscape in the outer suburbs. Due to environmental and economic pressures, there has been a noted trend towards denser housing, with a 30% increase in the number of apartments between 1996 and 2006.^[261] Public housing in Sydney is managed by the [Government of New South Wales](#).^[262] Suburbs with large concentrations of public housing include [Claymore](#), [Macquarie Fields](#), [Waterloo](#), and [Mount Druitt](#).

A range of heritage housing styles can be found throughout Sydney. Terrace houses are found in the inner suburbs such as [Paddington](#), [The Rocks](#), [Potts Point](#) and [Balmain](#), many of which have been the subject of [gentrification](#).^[263]^[264] These terraces, particularly those in suburbs such as The Rocks, were historically home to Sydney's miners and labourers. In the present day, terrace houses now make up some of the most valuable real estate in the city.^[265] Surviving large mansions from the Victorian era are mostly found in the oldest suburbs, such as [Double Bay](#), [Darling Point](#), [Rose Bay](#) and [Strathfield](#).^[266]

[Federation](#) homes, constructed around the time of Federation in 1901, are located in a large number of suburbs that developed thanks to the arrival of railways in the late 19th century,

such as [Penshurst](#) and [Turramurra](#), and in large-scale planned "garden suburbs" such as [Haberfield](#). Workers cottages are found in [Surry Hills](#), [Redfern](#), and [Balmain](#). [California bungalows](#) are common in [Ashfield](#), [Concord](#), and [Beecroft](#). Larger modern homes are predominantly found in the outer suburbs, such as [Stanhope Gardens](#), [Kellyville Ridge](#), [Bella Vista](#) to the northwest, [Bossley Park](#), [Abbotsbury](#), and [Cecil Hills](#) to the west, and [Hoxton Park](#), [Harrington Park](#), and [Oran Park](#) to the southwest.^[267]

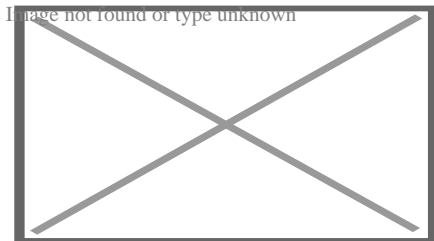
Parks and open spaces

[\[edit\]](#)

Main article: [Parks in Sydney](#)

The [Anzac War Memorial](#) in [Hyde Park](#) is a public memorial dedicated to the [Australian Imperial Force](#) of [World War I](#).

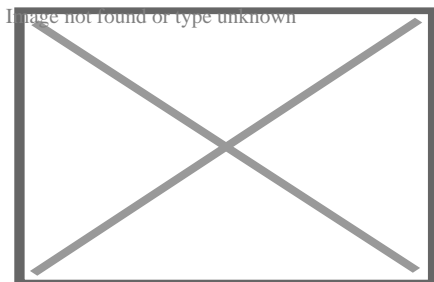
The [Royal Botanic Garden](#) is the most iconic green space in the region, hosting both scientific and leisure activities.^[268] There are 15 separate parks under the City administration.^[269] Parks within the city centre include [Hyde Park](#), [The Domain](#) and [Prince Alfred Park](#).



The [Centennial Parklands](#) is the largest park in the City of Sydney, comprising 189 ha (470 acres).^[270]

The [Centennial Parklands](#) is the largest park in the City of Sydney, comprising 189 ha (470 acres).

The inner suburbs include [Centennial Park](#) and [Moore Park](#) in the east (both within the City of Sydney local government area), while the outer suburbs contain [Sydney Park](#) and [Royal National Park](#) in the south, [Ku-ring-gai Chase National Park](#) in the north, and [Western Sydney Parklands](#) in the west, which is [one of the largest urban parks](#) in the world. The [Royal National Park](#) was proclaimed in 1879 and with 13,200 ha (51 sq mi) is the second oldest national park in the world.^[271]



The **Anzac War Memorial** in **Hyde Park** is a public memorial dedicated to the achievement of the **Australian Imperial Force** of **World War I**.^[272]

Hyde Park is the oldest parkland in the country.^[273] The largest park in the Sydney metropolitan area is Ku-ring-gai Chase National Park, established in 1894 with an area of 15,400 ha (59 sq mi).^[274] It is regarded for its well-preserved records of indigenous habitation – more than 800 rock engravings, cave drawings and middens.^[275]

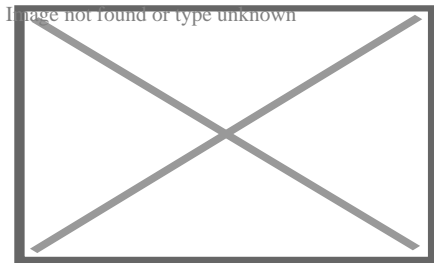
The area now known as The Domain was set aside by Governor Arthur Phillip in 1788 as his private reserve.^[276] Under the orders of Macquarie the land to the immediate north of The Domain became the Royal Botanic Garden in 1816. This makes them the oldest botanic garden in Australia.^[276] The Gardens host scientific research with herbarium collections, a library and laboratories.^[277] The two parks have a total area of 64 ha (0.2 sq mi) with 8,900 individual plant species and receive over 3.5 million annual visits.^[278]

To the south of The Domain is Hyde Park, the oldest public parkland in Australia which measures 16.2 ha (0.1 sq mi).^[279] Its location was used for both relaxation and **grazing** of animals from the earliest days of the colony.^[280] Macquarie dedicated it in 1810 for the "recreation and amusement of the inhabitants of the town" and named it in honour of **Hyde Park** in **London**.

Economy

^[edit]

Main article: **Economy of Sydney**



The **central business district**. Sydney is the financial and economic centre of Australia, having the largest economy and contributing a quarter of Australia's total **GDP**.^[281]

Researchers from **Loughborough University** have ranked Sydney amongst the top ten world cities that are highly integrated into the global economy.^[282] The Global Economic Power Index ranks Sydney eleventh in the world.^[283] The Global Cities Index recognises it as fourteenth in the world based on global engagement.^[284] There is a significant concentration of foreign banks and multinational corporations in Sydney and the city is promoted as Australia's financial capital and one of **Asia Pacific**'s leading financial hubs.^{[285][286]}

The prevailing economic theory during early colonial days was **mercantilism**, as it was throughout most of Western Europe.[287] The economy struggled at first due to difficulties in cultivating the land and the lack of a stable monetary system. Governor Macquarie created **two coins** from every **Spanish silver dollar** in circulation.[287] The economy was **capitalist** in nature by the 1840s as the proportion of free settlers increased, the maritime and wool industries flourished, and the powers of the **East India Company** were curtailed.[287]

Wheat, gold, and other minerals became export industries towards the end of the 1800s.[287] Significant capital began to flow into the city from the 1870s to finance roads, railways, bridges, docks, courthouses, schools and hospitals. **Protectionist** policies after **federation** allowed for the creation of a manufacturing industry which became the city's largest employer by the 1920s.[287] These same policies helped to relieve the effects of the Great Depression during which the unemployment rate in New South Wales reached as high as 32%.[287] From the 1960s onwards Parramatta gained recognition as the city's second CBD and finance and tourism became major industries and sources of employment.[287]

Sydney's nominal gross domestic product was AU\$400.9 billion and AU\$80,000 per capita[288] in 2015.[289][286] Its gross domestic product was AU\$337 billion in 2013, the largest in Australia.[289] The financial and insurance services industry accounts for 18.1% of gross product, ahead of professional services with 9% and manufacturing with 7.2%. The creative and technology sectors are also focus industries for the City of Sydney and represented 9% and 11% of its economic output in 2012.[290][291]

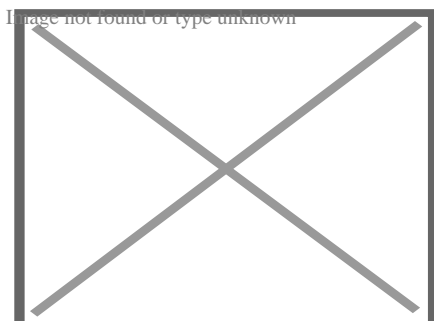
Businesses

[edit]

There were 451,000 businesses based in Sydney in 2011, including 48% of the top 500 companies in Australia and two-thirds of the regional headquarters of multinational corporations.[292] Global companies are attracted to the city in part because its time zone spans the closing of business in North America and the opening of business in Europe. Most foreign companies in Sydney maintain significant sales and service functions but comparably less production, research, and development capabilities.[293] There are 283 multinational companies with regional offices in Sydney.[294]

Domestic economics

[edit]



Pitt Street, a major street in the **CBD**, runs from **Circular Quay** in the north to **Waterloo** in the south, and is home to many large high-end retailers.[295]

Sydney has been ranked between the fifteenth and the fifth most expensive city in the world and is the most expensive city in Australia.[296] Of the 15 categories only measured by UBS in 2012, workers receive the seventh highest wage levels of 77 cities in the world.[296] Working residents of Sydney work an average of 1,846 hours per annum with 15 days of leave.[296]

The labour force of Greater Sydney Region in 2016 was 2,272,722 with a participation rate of 61.6%.[297] It comprised 61.2% full-time workers, 30.9% part-time workers, and 6.0% unemployed individuals.[260][298] The largest reported occupations are professionals, clerical and administrative workers, managers, technicians and trades workers, and community and personal service workers.[260] The largest industries by employment across Greater Sydney are Health Care and Social Assistance (11.6%), Professional Services (9.8%), Retail Trade (9.3%), Construction (8.2%), Education and Training (8.0%), Accommodation and Food Services (6.7%), and Financial and Insurance Services (6.6%).[2] The Professional Services and Financial and Insurance Services industries account for 25.4% of employment within the City of Sydney.[299]

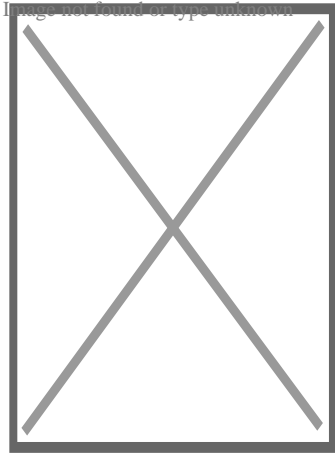
In 2016, 57.6% of working-age residents had a weekly income of less than \$1,000 and 14.4% had a weekly income of \$1,750 or more.[300] The median weekly income for the same period was \$719 for individuals, \$1,988 for families, and \$1,750 for households.[301]

Unemployment in the City of Sydney averaged 4.6% for the decade to 2013, much lower than the current rate of unemployment in Western Sydney of 7.3%.[286][302] Western Sydney continues to struggle to create jobs to meet its population growth despite the development of commercial centres like Parramatta. Each day about 200,000 commuters travel from Western Sydney to the CBD and suburbs in the east and north of the city.[302]

Home ownership in Sydney was less common than renting prior to the Second World War but this trend has since reversed.[261] Median house prices have increased by an average of 8.6% per annum since 1970.[303][304] The median house price in March 2014 was \$630,000.[305] The primary cause of rising prices is the increasing cost of land and scarcity.[306] 31.6% of dwellings in Sydney are rented, 30.4% are owned outright and 34.8% are owned with a mortgage.[260] 11.8% of mortgagees in 2011 had monthly loan repayments of less than \$1,000 and 82.9% had monthly repayments of \$1,000 or more.[2] 44.9% of renters for the same period had weekly rent of less than \$350 whilst 51.7% had weekly rent of \$350 or more. The median weekly rent in Sydney in 2011 was \$450.[2]

Financial services

[edit]



State Savings Bank

Macquarie gave a charter in 1817 to form the first bank in Australia, the [Bank of New South Wales](#).^[307] New private banks opened throughout the 1800s but the financial system was unstable. Bank collapses were frequent and a crisis point was reached in 1893 when 12 banks failed.^[307]

The Bank of New South Wales exists to this day as [Westpac](#).^[308] The Commonwealth Bank of Australia was formed in Sydney in 1911 and began to issue notes backed by the resources of the nation. It was replaced in this role in 1959 by the [Reserve Bank of Australia](#), also based in Sydney.^[307] The [Australian Securities Exchange](#) began operating in 1987 and with a market capitalisation of \$1.6 trillion is now one of the ten largest exchanges in the world.^[309]

The Financial and Insurance Services industry now constitutes 43% of the economic product of the City of Sydney.^[285] Sydney makes up half of Australia's finance sector and has been promoted by consecutive Commonwealth Governments as [Asia Pacific](#)'s leading financial centre.^{[20][21][310]} In the 2017 [Global Financial Centres Index](#), Sydney was ranked as having the eighth most competitive financial centre in the world.^[311]

In 1985 the Federal Government granted 16 banking licences to foreign banks and now 40 of the 43 foreign banks operating in Australia are based in Sydney, including the [People's Bank of China](#), [Bank of America](#), [Citigroup](#), [UBS](#), [Mizuho Bank](#), [Bank of China](#), [Banco Santander](#), [Credit Suisse](#), [Standard Chartered](#), [State Street](#), [HSBC](#), [Deutsche Bank](#), [Barclays](#), [Royal Bank of Canada](#), [Société Générale](#), [Royal Bank of Scotland](#), [Sumitomo Mitsui](#), [ING Group](#), [BNP Paribas](#), and [Investec](#).^{[285][307][312][313]}

Manufacturing

[\[edit\]](#)

Main article: [Manufacturing in Australia](#)

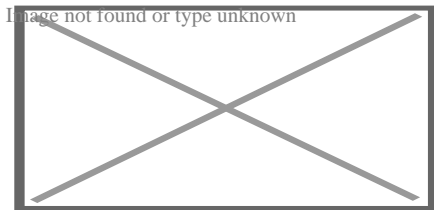
Sydney has been a manufacturing city since the 1920s. By 1961 the industry accounted for 39% of all employment and by 1970 over 30% of all Australian manufacturing jobs were in

Sydney.[314] Its status has declined in recent decades, making up 12.6% of employment in 2001 and 8.5% in 2011.[2][314] Between 1970 and 1985 there was a loss of 180,000 manufacturing jobs.[314] Despite this, Sydney still overtook Melbourne as the largest manufacturing centre in Australia in the 2010s,[315] with a manufacturing output of \$21.7 billion in 2013.[316] Observers have credited Sydney's focus on the domestic market and high-tech manufacturing for its resilience against the high **Australian dollar** of the early 2010s.[316] The *Smithfield-Wetherill Park Industrial Estate* in **Western Sydney** is the largest **industrial estate** in the Southern Hemisphere and is the centre of manufacturing and distribution in the region.[317]

Tourism and international education

[[edit](#)]

Main article: **Tourism in Sydney**



Darling Harbour is a major entertainment and tourism precinct.

Sydney is a gateway to Australia for many international visitors and ranks among the top sixty most visited cities in the world.[318] It has hosted over 2.8 million international visitors in 2013, or nearly half of all international visits to Australia. These visitors spent 59 million nights in the city and a total of \$5.9 billion.[24] The countries of origin in descending order were China, New Zealand, the United Kingdom, the United States, South Korea, Japan, Singapore, Germany, Hong Kong, and India.[319]

The city also received 8.3 million domestic overnight visitors in 2013 who spent a total of \$6 billion.[319] 26,700 workers in the City of Sydney were directly employed by tourism in 2011.[320] There were 480,000 visitors and 27,500 people staying overnight each day in 2012.[320] On average, the tourism industry contributes \$36 million to the city's economy per day.[320]

Popular destinations include the Sydney Opera House, the Sydney Harbour Bridge, **Watsons Bay**, **The Rocks**, Sydney Tower, **Darling Harbour**, the Royal Botanic Garden, the **Australian Museum**, the **Museum of Contemporary Art**, the **Art Gallery of New South Wales**, the **Queen Victoria Building**, **Sea Life Sydney Aquarium**, **Taronga Zoo**, **Bondi Beach**, **Luna Park** and **Sydney Olympic Park**.[321]

Major developmental projects designed to increase Sydney's tourism sector include a **casino and hotel** at Barangaroo and the redevelopment of **East Darling Harbour**, which involves a new **exhibition and convention centre**, now Australia's largest.[322][323][324]

Sydney is the highest-ranking city in the world for international students. More than 50,000 international students study at the city's universities and a further 50,000 study at its **vocational** and English language schools.^{[284][325]} International education contributes \$1.6 billion to the local economy and creates demand for 4,000 local jobs each year.^[326]

Housing affordability

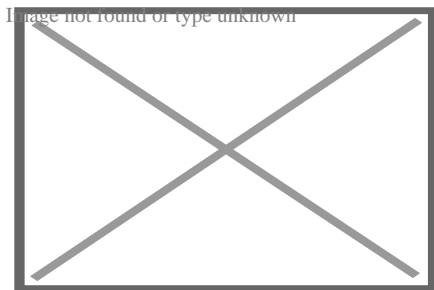
^[edit]

In 2023, Sydney was ranked the least affordable city to buy a house in Australia and the second least affordable city in the world, after Hong Kong,^[327] with the average Sydney house price in late 2023 costing A\$1.59 million, and the average unit price costing A\$795,000.^[328] As of early 2024, Sydney is often described in the media as having a housing shortage, or suffering a housing crisis.^{[329][330]}

Demographics

^[edit]

Main article: **Demographics of Sydney**



Chinese New Year celebrations in **Chinatown**. Sydney is home to the nation's largest population of **Chinese Australians**.^[331]

The population of Sydney in 1788 was less than 1,000.^[332] With convict transportation it almost tripled in ten years to 2,953.^[333] For each decade since 1961 the population has increased by more than 250,000.^[334] The 2021 census recorded the population of Greater Sydney as 5,231,150.^[1] The Australian Treasury expects the population will grow to 6.5 million in 2033–34.^[335] The four most densely populated suburbs in Australia are located in Sydney with each having more than 13,000 residents per square kilometre (33,700 residents per square mile).^[336] Between 1971 and 2018, Sydney experienced a net loss of 716,832 people to the rest of Australia, but its population grew due to overseas arrivals and a healthy birth rate.^[337]

The median age of Sydney residents is 37 and 14.8% of people are 65 or older.^[260] 48.6% of Sydney's population is married whilst 36.7% have never been married.^[260] 49.0% of families are couples with children, 34.4% are couples without children, and 14.8% are single-

parent families.[260]

Ancestry and immigration

[edit]

Country of birth (2021)[11]

At the 2021 census, the most common ancestries were:[11]

- o English (21.8%)
- o Australian (20.4%)[N 2]
- o Chinese (11.6%)
- o Irish (7.2%)
- o Scottish (5.6%)
- o Indian (4.9%)
- o Italian (4.3%)
- o Lebanese (3.5%)
- o Filipino (2.7%)
- o Greek (2.6%)
- o Vietnamese (2.5%)
- o German (2.2%)
- o Korean (1.4%)
- o Nepalese (1.4%)
- o Australian Aboriginal (1.4%)[339]
- o Maltese (1.1%)

At the 2021 census, 40.5% of Sydney's population was born overseas. Foreign countries of birth with the greatest representation are mainland China, India, England, Vietnam, Philippines and New Zealand.[11]

At the 2021 census, 1.7% of Sydney's population identified as being Indigenous — Aboriginal Australians and Torres Strait Islanders.[N 3][340]

Language

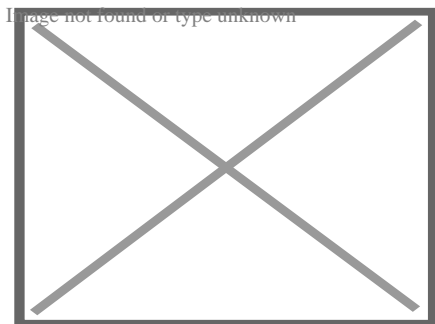
[edit]

42% of households in Sydney use a language other than English, with the most common being Mandarin (5%), Arabic (4.2%), Cantonese (2.8%), Vietnamese (2.2%) and Hindi (1.5%).[340]

Birthplace[N 1]	Population
Australia	2,970,737
Mainland China	238,316
India	187,810
England	153,052
Vietnam	93,778
Philippines	91,339
New Zealand	85,493
Lebanon	61,620
Nepal	59,055
Iraq	52,604
South Korea	50,702
Hong Kong SAR	46,182
South Africa	39,564
Italy	38,762
Indonesia	35,413
Malaysia	35,002
Fiji	34,197
Pakistan	31,025

Religion

[[edit](#)]



St Mary's Cathedral is the **cathedral** church of the **Roman Catholic Archdiocese of Sydney**.

In 2021, **Christianity** was the largest religious affiliation at 46%, the largest denominations of which were **Catholicism** at 23.1% and **Anglicanism** at 9.2%. 30.3% of Sydney residents identified as having no religion. The most common non-Christian religious affiliations were **Islam** (6.3%), **Hinduism** (4.8%), **Buddhism** (3.8%), **Sikhism** (0.7%), and **Judaism** (0.7%). About 500 people identified with traditional Aboriginal religions.^[11]

The **Church of England** was the only recognised church before Governor Macquarie appointed official Catholic chaplains in 1820.^[341] Macquarie also ordered the construction of **churches** such as St Matthew's, St Luke's, St James's, and St Andrew's. Religious groups, alongside secular institutions, have played a significant role in education, health and charitable services throughout Sydney's history.^[342]

Crime

[[edit](#)]

Main article: **Crime in Sydney**

Crime in Sydney is low, with ***The Independent*** ranking Sydney as the fifth safest city in the world in 2019.^[343] However, drug use is a significant problem. Methamphetamine is heavily consumed compared to other countries, while heroin is less common.^[344] One of the biggest crime-related issues in recent times was the introduction of **lockout laws** in February 2014,^[345] in an attempt to curb alcohol-fuelled violence. Patrons could not enter clubs or bars in the inner-city after 1:30am, and last drinks were called at 3am. The lockout laws were removed in January 2020.^[346]

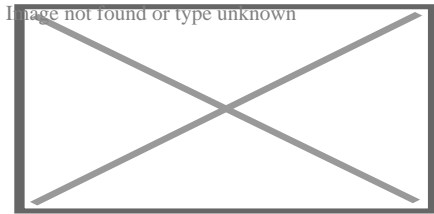
Culture

[[edit](#)]

Main article: **Culture of Sydney**

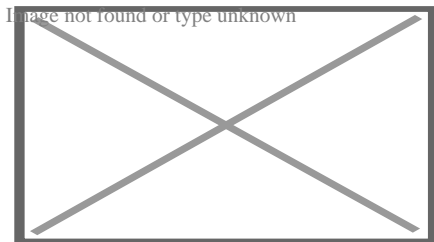
Science, art, and history

[edit]



The [Art Gallery of New South Wales](#), located in [The Domain](#), is the fourth largest public gallery in Australia.

[Ku-ring-gai Chase National Park](#) is rich in [Indigenous Australian](#) heritage, containing around 1,500 pieces of [Aboriginal rock art](#) – the largest cluster of Indigenous sites in Australia. The park's indigenous sites include [petroglyphs](#), art sites, [burial sites](#), [caves](#), marriage areas, birthing areas, [midden](#) sites, and tool manufacturing locations, which are dated to be around 5,000 years old. The inhabitants of the area were the [Garigal](#) people.^[347]^[348] Other [rock art sites](#) exist in the Sydney region, such as in [Terrey Hills](#) and [Bondi](#), although the locations of most are not publicised to prevent damage by vandalism, and to retain their quality, as they are still regarded as sacred sites by Indigenous Australians.^[349]



The [State Library of New South Wales](#) holds the oldest library collections in Australia.

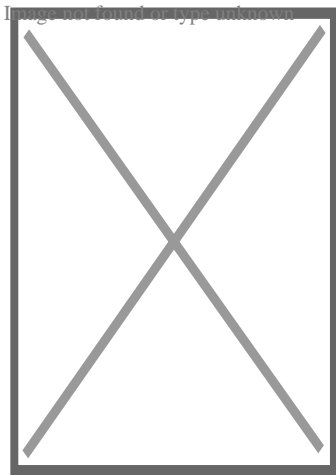
The [Australian Museum](#) opened in Sydney in 1827 with the purpose of collecting and displaying the natural wealth of the colony.^[350] It remains Australia's oldest natural history museum. In 1995 the [Museum of Sydney](#) opened on the site of the first [Government House](#). It recounts the story of the city's development.^[351] Other museums include the [Powerhouse Museum](#) and the [Australian National Maritime Museum](#).^[352]^[353]

The [State Library of New South Wales](#) holds the oldest library collections in Australia, being established as the [Australian Subscription Library](#) in 1826.^[354] The [Royal Society of New South Wales](#), formed in 1866, encourages "studies and investigations in science, art, literature, and philosophy". It is based in a terrace house in [Darlington](#) owned by the [University of Sydney](#).^[355] The [Sydney Observatory](#) building was constructed in 1859 and used for astronomy and meteorology research until 1982 before being converted into a museum.^[356]

The **Museum of Contemporary Art** was opened in 1991 and occupies an **Art Deco** building in **Circular Quay**. Its collection was founded in the 1940s by artist and art collector John Power and has been maintained by the University of Sydney.[357] Sydney's other significant art institution is the **Art Gallery of New South Wales** which coordinates the **Archibald Prize** for portraiture.[358] Sydney is also home to contemporary art gallery **Artspace**, housed in the historic **Gunnery Building** in **Woolloomooloo**, fronting **Sydney Harbour**.[359]

Entertainment

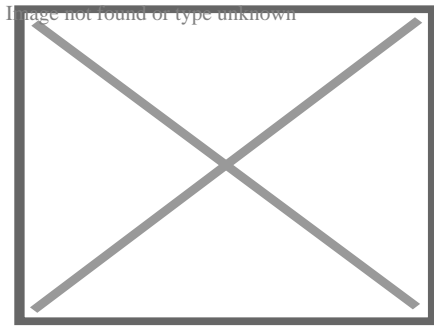
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The **State Theatre** on **Market Street** was opened in 1929.

Sydney's first commercial theatre opened in 1832 and nine more had commenced performances by the late 1920s. The live medium lost much of its popularity to the cinema during the Great Depression before experiencing a revival after World War II.[360] Prominent theatres in the city today include **State Theatre**, **Theatre Royal**, **Sydney Theatre**, **The Wharf Theatre**, and **Capitol Theatre**. **Sydney Theatre Company** maintains a roster of local, classical, and international plays. It occasionally features Australian theatre icons such as **David Williamson**, **Hugo Weaving**, and **Geoffrey Rush**. The city's other prominent theatre companies are **New Theatre**, **Belvoir**, and **Griffin Theatre Company**. Sydney is also home to **Event Cinemas**' first theatre, which opened on **George St** in 1913, under its former Greater Union brand; the theatre currently operates, and is regarded as one of Australia's busiest cinema locations.

The Sydney Opera House is the home of **Opera Australia** and **Sydney Symphony**. It has staged over 100,000 performances and received 100 million visitors since opening in 1973.[245] Two other important performance venues in Sydney are **Town Hall** and the **City Recital Hall**. The **Sydney Conservatorium of Music** is located adjacent to the Royal Botanic Garden and serves the Australian music community through education and its biannual **Australian Music Examinations Board** exams.[361]



A concert at the [Sydney Opera House](#)

Many writers have originated in and set their work in Sydney. Others have visited the city and commented on it. Some of them are commemorated in the [Sydney Writers Walk](#) at Circular Quay. The city was the headquarters for Australia's first published newspaper, the [Sydney Gazette](#).^[362] Watkin Tench's *A Narrative of the Expedition to Botany Bay* (1789) and *A Complete Account of the Settlement at Port Jackson in New South Wales* (1793) have remained the best-known accounts of life in early Sydney.^[363] Since the infancy of the establishment, much of the literature set in Sydney were concerned with life in the city's slums and working-class communities, notably [William Lane](#)'s *The Working Man's Paradise* (1892), [Christina Stead](#)'s *Seven Poor Men of Sydney* (1934) and [Ruth Park](#)'s *The Harp in the South* (1948).^[364] The first Australian-born female novelist, [Louisa Atkinson](#), set several novels in Sydney.^[365] Contemporary writers, such as [Elizabeth Harrower](#), were born in the city and set most of their work there—Harrower's debut novel *Down in the City* (1957) was mostly set in a [King's Cross](#) apartment.^[366]^[367]^[368] Well known contemporary novels set in the city include [Melina Marchetta](#)'s *Looking for Alibrandi* (1992), [Peter Carey](#)'s *30 Days in Sydney: A Wildly Distorted Account* (1999), [J. M. Coetzee](#)'s *Diary of a Bad Year* (2007) and [Kate Grenville](#)'s *The Secret River* (2010). The [Sydney Writers' Festival](#) is held annually between April and May.^[369]

Filmmaking in Sydney was prolific until the 1920s when spoken films were introduced and American productions gained dominance.^[370] The [Australian New Wave](#) saw a resurgence in film production, with many notable features shot in the city between the 1970s and 80s, helmed by directors such as [Bruce Beresford](#), [Peter Weir](#) and [Gillian Armstrong](#).^[371] [Fox Studios Australia](#) commenced production in Sydney in 1998. Successful films shot in Sydney since then include *The Matrix*, *Lantana*, *Mission: Impossible 2*, *Moulin Rouge!*, *Star Wars: Episode II – Attack of the Clones*, *Australia*, *Superman Returns*, *The Great Gatsby* and *Anyone but You*. The [National Institute of Dramatic Art](#) is based in Sydney and has several famous alumni such as [Mel Gibson](#), [Judy Davis](#), [Baz Luhrmann](#), [Cate Blanchett](#), [Hugo Weaving](#) and [Jacqueline McKenzie](#).^[372]

Sydney hosts several festivals throughout the year. The city's [New Year's Eve](#) celebrations are the largest in Australia.^[373] The [Royal Easter Show](#) is held every year at Sydney Olympic Park. [Sydney Festival](#) is Australia's largest arts festival.^[374] The travelling rock music festival [Big Day Out](#) originated in Sydney. The city's two largest film festivals are [Sydney Film Festival](#) and [Tropfest](#). [Vivid Sydney](#) is an annual outdoor exhibition of art

installations, light projections, and music. In 2015, Sydney was ranked the 13th top **fashion capital** in the world.[375] It hosts the **Australian Fashion Week** in autumn. **Sydney Mardi Gras** has commenced each February since 1979.

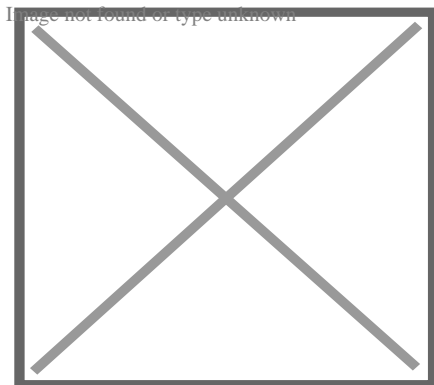
Sydney's **Chinatown** has had numerous locations since the 1850s. It moved from **George Street** to Campbell Street to its current setting in Dixon Street in 1980.[376] Little Italy is located in Stanley Street.[287]

Restaurants, bars and nightclubs can be found in the entertainment hubs in the Sydney CBD (**Darling Harbour**, **Barangaroo**, **The Rocks** and **George Street**), **Oxford Street**, **Surry Hills**, **Newtown** and **Parramatta**. [377][378] **Kings Cross** was previously considered the red-light district. **The Star** is the city's casino and is situated next to **Darling Harbour** while the new **Crown Sydney** resort is in nearby **Barangaroo**. [379]

Media

[edit]

Main article: **Media in Sydney**



Australia's national broadcaster, the **ABC**, is headquartered in **Ultimo**.

The ***Sydney Morning Herald*** is Australia's oldest newspaper still in print; it has been published continuously since 1831.[380] Its competitor is ***The Daily Telegraph***, in print since 1879.[381] Both papers have Sunday tabloid editions called ***The Sun-Herald*** and ***The Sunday Telegraph*** respectively. ***The Bulletin*** was founded in Sydney in 1880 and became Australia's longest running magazine. It closed after 128 years of continuous publication.[382] Sydney heralded Australia's first newspaper, the ***Sydney Gazette***, published until 1842.

Each of Australia's three commercial television networks and two public broadcasters is headquartered in Sydney. **Nine's** offices and news studios are in **North Sydney**, **Ten** is based in **Pymont**, and **Seven** is based in **South Eveleigh** in **Redfern**. [383][384][385][386] The **Australian Broadcasting Corporation** is located in **Ultimo**, [387] and the **Special Broadcasting Service** is based in **Artarmon**. [388] Multiple digital channels have been provided by all five networks since 2000. **Foxtel** is based in **North Ryde** and sells subscription cable television to

most of the urban area.[389] Sydney's first **radio stations** commenced broadcasting in the 1920s. Radio has managed to survive despite the introduction of television and the Internet. [390] **2UE** was founded in 1925 and under the ownership of Nine Entertainment is the oldest station still broadcasting.[390] Competing stations include the more popular **2GB**, **ABC Radio Sydney**, **KIIS 106.5**, **Triple M**, **Nova 96.9** and **2Day FM**. [391]

Sport and outdoor activities

[edit]

Main article: **Sport in Sydney**

Sydney's earliest migrants brought with them a passion for sport but were restricted by the lack of facilities and equipment. The first organised sports were **boxing**, **wrestling**, and horse racing from 1810 in **Hyde Park**. [392] Horse racing remains popular and events such as the **Golden Slipper Stakes** attract widespread attention. The first cricket club was formed in 1826 and matches were played within Hyde Park throughout the 1830s and 1840s. [392] Cricket is a favoured sport in summer and big matches have been held at the **Sydney Cricket Ground** since 1878. The **New South Wales Blues** compete in the **Sheffield Shield** league and the **Sydney Sixers** and **Sydney Thunder** contest the national **Big Bash** Twenty20 competition.

First played in Sydney in 1865, rugby grew to be the city's most popular football code by the 1880s. One-tenth of the state's population attended a New South Wales versus New Zealand rugby match in 1907. [392] Rugby league separated from rugby union in 1908. The **New South Wales Waratahs** contest the **Super Rugby** competition, while the **Sydney Rays** represent the city in the **National Rugby Championship**. The national **Wallabies** rugby union team competes in Sydney in international matches such as the **Bledisloe Cup**, **Rugby Championship**, and **World Cup**. Sydney is home to nine of the seventeen teams in the **National Rugby League** competition: **Canterbury-Bankstown Bulldogs**, **Cronulla-Sutherland Sharks**, **Manly-Warringah Sea Eagles**, **Penrith Panthers**, **Parramatta Eels**, **South Sydney Rabbitohs**, **St George Illawarra Dragons**, **Sydney Roosters**, and **Wests Tigers**. New South Wales contests the annual **State of Origin** series against **Queensland**.

Sydney FC and the **Western Sydney Wanderers** compete in the **A-League Men** and **A-League Women** competitions. The **Sydney Swans** and **Greater Western Sydney Giants** are local **Australian rules football** clubs that play in the **Australian Football League** and the **AFL Women's**. The **Sydney Kings** compete in the **National Basketball League**. The **Sydney Uni Flames** play in the **Women's National Basketball League**. The **Sydney Blue Sox** contest the **Australian Baseball League**. The **NSW Pride** are a member of the **Hockey One League**. The **Sydney Bears** and **Sydney Ice Dogs** play in the **Australian Ice Hockey League**. The **Swifts** are competitors in the national women's netball league.

Major sporting venues

[edit]

Stadium Australia

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Stadium Australia
Sydney Cricket Ground

○

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Sydney Cricket Ground
Western Sydney Stadium

○

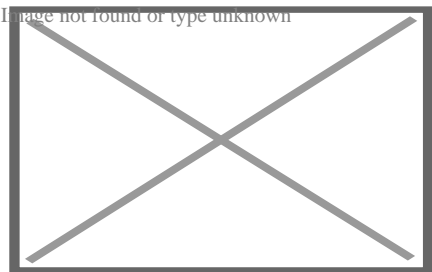
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Western Sydney Stadium
Sydney Football Stadium

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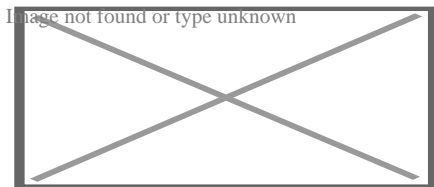
Sydney Football Stadium



Sailing on Sydney Harbour

Women were first allowed to participate in recreational swimming when separate baths were opened at **Woolloomooloo Bay** in the 1830s. From being illegal at the beginning of the century, sea bathing gained immense popularity during the early 1900s and the first **surf lifesaving** club was established at **Bondi Beach**.^{[392][393]} **Disputes about appropriate clothing** for surf bathing surfaced occasionally and concerned men as well as women. The **City2Surf** is an annual 14 km (8.7 mi) running race from the CBD to Bondi Beach and has been held since 1971. In 2010, 80,000 runners participated which made it the largest run of its kind in the world.^[394]

Sailing races have been held on **Sydney Harbour** since 1827.^[395] Yachting has been popular amongst wealthier residents since the 1840s and the **Royal Sydney Yacht Squadron** was founded in 1862. The **Sydney to Hobart Yacht Race** is a 1,170 km (727 mi) event that starts from Sydney Harbour on Boxing Day.^[396] Since its inception in 1945 it has been recognised as one of the most difficult yacht races in the world.^[397] Six sailors died and 71 vessels of 115 failed to finish in the 1998 edition.^[398]



Sydney Olympic Park was built for the **2000 Olympics** and has become a major sporting and recreational precinct.

The **Royal Sydney Golf Club** is based in **Rose Bay** and since its opening in 1893 has hosted the **Australian Open** on 13 occasions.^[392] **Royal Randwick Racecourse** opened in 1833 and holds several major cups throughout the year.^[399]

Sydney benefitted from the construction of significant sporting infrastructure in preparation for its hosting of the 2000 Summer Olympics. The Sydney Olympic Park accommodates athletics, aquatics, tennis, hockey, archery, baseball, cycling, equestrian, and rowing facilities. It also includes the high capacity **Stadium Australia** used for rugby, soccer, and Australian rules football. The **Sydney Football Stadium** was completed in 1988 and was used for rugby and soccer matches. Sydney Cricket Ground was opened in 1878 and is used for both cricket and Australian rules football fixtures.^[392]

Sydney was one of the host cities during the **2023 FIFA Women's World Cup**. Sydney Football Stadium and Stadium Australia were selected as venues, with the later hosting the **final**.^[400]

The **Sydney International** tennis tournament is held here at the beginning of each year as the warm-up for **the Grand Slam in Melbourne**. Two of the most successful **tennis** players in history (**Ken Rosewall** and **Todd Woodbridge**) were born in and live in the city.

Sydney co-hosted the [FIBA Oceania Championship](#) in 1979, 1985, 1989, 1995, 2007, 2009 and 2011.

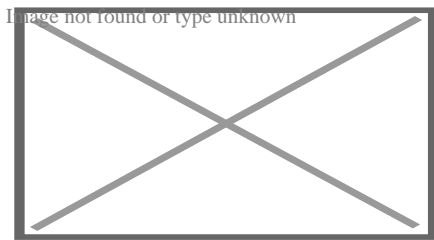
Government

[\[edit\]](#)

See also: [Local government areas of New South Wales](#)

Historical governance

[\[edit\]](#)



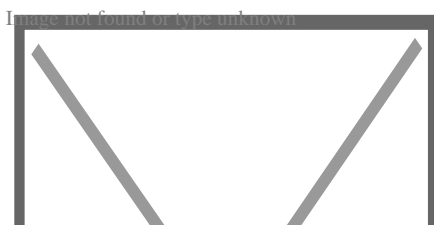
[Parliament House](#) holds the [Government of New South Wales](#) and is the oldest public building in Australia.

The first five governors had near autocratic power in the colony of New South Wales, subject only to the laws of England and the supervision of the Colonial Office in London. Sydney was the seat of government for the colony which encompassed over half the Australian continent. [\[401\]](#) The first Legislative Council met in 1826,[\[402\]](#) and in 1842, the imperial parliament expanded and reformed the council, making it partly elected.[\[403\]](#) In the same year, the town of Sydney officially became a city and an elected municipal council was established.[\[404\]](#)[\[405\]](#) The council had limited powers, mostly relating to services such as street lighting and drainage.[\[406\]](#) Its boundaries were restricted to an area of 11.6 square kilometres, taking in the city centre and the modern suburbs of [Woolloomooloo](#), [Surry Hills](#), [Chippendale](#), and [Pyrmont](#).[\[63\]](#) As Sydney grew, other municipal councils were formed to provide local administration.[\[407\]](#)

In 1856, New South Wales achieved responsible government with the introduction of a bicameral parliament, based in Sydney, comprising a directly elected [Legislative Assembly](#) and a nominated [Legislative Council](#).[\[408\]](#) With the federation of the Australian colonies in 1901, Sydney became the capital of the state of New South Wales and its administration was divided between the Commonwealth, State and constituent local governments.[\[408\]](#)

Government in the present

[\[edit\]](#)

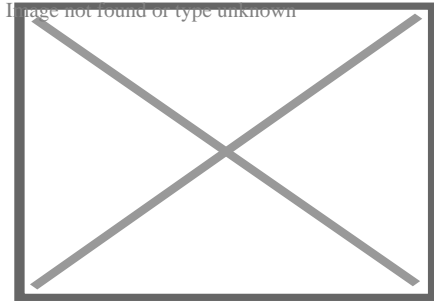


The **Sydney Town Hall** is the seat of the **City of Sydney**; the oldest **local government** in the city

In common with other Australian capital cities, Sydney has no single local government covering its whole area. **Local government areas** have responsibilities such as local roads, libraries, child care, community services and waste collection, whereas the state government retains responsibility for main roads, traffic control, public transport, policing, education, and major infrastructure project.[409] There are 33 local government areas which are wholly or mostly within Greater Sydney as defined by the Australian Statistical Geography Standard.[96][410]

- **Bayside**
- **Canterbury-Bankstown**
- **Blacktown**
- **Blue Mountains**
- **Burwood**
- **Camden**
- **Campbelltown**
- **Canada Bay**
- **Central Coast**
- **Cumberland**
- **Fairfield**
- **Georges River**
- **Hawkesbury**
- **The Hills**
- **Hornsby**
- **Hunter's Hill**
- **Inner West**
- **Ku-ring-gai**
- **Lane Cove**
- **Liverpool**
- **Mosman**
- **North Sydney**
- **Northern Beaches**
- **Parramatta**
- **Penrith**
- **Randwick**
- **Ryde**
- **Strathfield**
- **Sutherland**
- **Sydney**
- **Waverley**
- **Willoughby**

- Wollondilly
- Woollahra



Government House is the official residence of the **Governor of New South Wales**

Sydney is the location of the secondary official residences of the **Governor-General** and **Prime Minister** – **Admiralty House** and **Kirribilli House** respectively.[411] The **Parliament of New South Wales** sits in **Parliament House** on **Macquarie Street**. This building was completed in 1816 and first served as a hospital. The Legislative Council moved into its northern wing in 1829 and by 1852 had entirely supplanted the surgeons from their quarters.[412] Several additions have been made as the Parliament has expanded, but it retains its original **Georgian** façade.[413] **Government House** was completed in 1845 and has served as the home of 25 Governors and 5 Governors-General.[414] The **Cabinet of Australia** also **meets** in Sydney when needed.

The highest court in the state is the Supreme Court of New South Wales, located in Queen's Square.[415] The city is also the home of numerous branches of the intermediate **District Court of New South Wales** and the lower **Local Court of New South Wales**.[416]

In the past, the state has tended to resist amalgamating Sydney's more populated local government areas as merged councils could pose a threat to its governmental power.[417] Established in 1842, the City of Sydney is one such local government area and includes the CBD and some adjoining inner suburbs.[418] It is responsible for fostering development in the local area, providing local services (waste collection and recycling, libraries, parks, sporting facilities), promoting the interests of residents, supporting organisations that target the local community, and attracting and providing infrastructure for commerce, tourism, and industry. [419] The City of Sydney is led by an elected Council and **Lord Mayor**.[420]

In federal politics, Sydney was initially considered as a **possibility for Australia's capital city**; the newly created city of **Canberra** ultimately filled this role.[421] Seven Australian **Prime Ministers have been born in** Sydney, more than any other city, including first Prime Minister **Edmund Barton** and current Prime Minister **Anthony Albanese**.

Essential public emergency services are provided and managed by the State Government. Greater Sydney is served by:

- **New South Wales Police Force**

- [New South Wales Ambulance](#)
- [Fire and Rescue NSW](#)

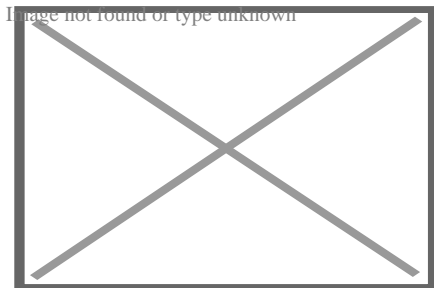
Infrastructure

[\[edit\]](#)

Education

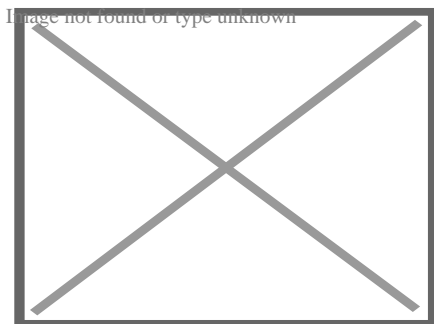
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Main article: [Education in Sydney](#)



The [University of Sydney](#)

Education became a focus for the colony from the 1870s when public schools began to form and schooling became compulsory.^[422] By 2011, 90% of working age residents had completed some schooling and 57% had completed the highest level of school.^[2] 1,390,703 people were enrolled in an educational institution in 2011 with 45.1% of these attending school and 16.5% studying at a university.^[260] Undergraduate or postgraduate qualifications are held by 22.5% of working age Sydney residents and 40.2% of working age residents of the City of Sydney.^{[2][423]} The most common fields of tertiary qualification are commerce (22.8%), engineering (13.4%), society and culture (10.8%), health (7.8%), and education (6.6%).^[2]



The [University of Technology Sydney](#)

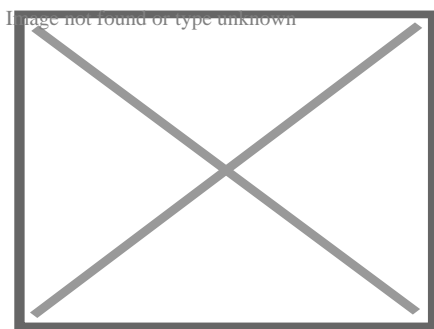
There are six public universities based in Sydney: The [University of Sydney](#), [University of New South Wales](#), [University of Technology Sydney](#), [Macquarie University](#), [Western Sydney University](#), and [Australian Catholic University](#). Five public universities maintain secondary

campuses in the city: the [University of Notre Dame Australia](#), [Central Queensland University](#), [Victoria University](#), [University of Wollongong](#), and [University of Newcastle](#). [Charles Sturt University](#) and [Southern Cross University](#) operate secondary campuses only designated for international students. In addition, four public universities offer programs in Sydney through third-party providers: [University of the Sunshine Coast](#), [La Trobe University](#), [Federation University Australia](#) and [Charles Darwin University](#). 5.2% of residents of Sydney are attending a university.[424] The University of New South Wales and the University of Sydney are ranked equal 19th in the world,[425] the University of Technology Sydney is ranked in the top 100,[425] while Macquarie University is ranked 237, and Western Sydney University is ranked 474.[426] Sydney has public, denominational, and independent schools. 7.8% of Sydney residents are attending primary school and 6.4% are enrolled in secondary school. [424] There are 935 public preschool, primary, and secondary schools in Sydney that are administered by the [New South Wales Department of Education](#). [427] 14 of the 17 selective secondary schools in New South Wales are based in Sydney.[428]

Public vocational education and training in Sydney are run by [TAFE New South Wales](#) and began with the opening of the [Sydney Technical College](#) in 1878.[238] The college became the [Sydney Institute](#) in 1992 and now operates alongside its sister TAFE facilities across the Sydney metropolitan area, namely the [Northern Sydney Institute](#), the [Western Sydney Institute](#), and the [South Western Sydney Institute](#). At the 2011 census, 2.4% of Sydney residents are enrolled in a TAFE course.[424]

Health

[[edit](#)]



The [Sydney Hospital](#), completed in 1816

The first hospital in the new colony was a collection of tents at [The Rocks](#). Many of the convicts that survived the trip suffered from [dysentery](#), smallpox, [scurvy](#), and [typhoid](#). Healthcare facilities remained inadequate despite the arrival of a prefabricated hospital with the [Second Fleet](#) and the construction of new hospitals at Parramatta, [Windsor](#), and [Liverpool](#) in the 1790s.[429]

Governor Macquarie arranged for the construction of [Sydney Hospital](#), completed in 1816.[429] Parts of the facility have been repurposed for use as [Parliament House](#) but the hospital

itself still operates. The city's first emergency department was established at Sydney Hospital in 1870. Demand for emergency medical care increased from 1895 with the introduction of an ambulance service.[429] The Sydney Hospital also housed Australia's first teaching facility for nurses, the Nightingale Wing, established with the input of [Florence Nightingale](#) in 1868.[430]

Healthcare was recognised as a right in the early 1900s and Sydney's public hospitals came under the oversight of the Government of New South Wales.[429] The administration of healthcare across Sydney is handled by eight local health districts: Central Coast, Illawarra Shoalhaven, Sydney, Nepean Blue Mountains, Northern Sydney, South Eastern Sydney, South Western Sydney, and Western Sydney.[431] The [Prince of Wales Hospital](#) was established in 1852 and became the first of several major hospitals to be opened.[432] [St Vincent's Hospital](#) was founded in 1857,[176] followed by [Royal Alexandra Hospital for Children](#) in 1880,[433] the [Prince Henry Hospital](#) in 1881,[434] the [Royal Prince Alfred Hospital](#) in 1882,[435] the [Royal North Shore Hospital](#) in 1885,[436] the [St George Hospital](#) in 1894,[437] and the [Nepean Hospital](#) in 1895.[438] [Westmead Hospital](#) in 1978 was the last major facility to open.[439]

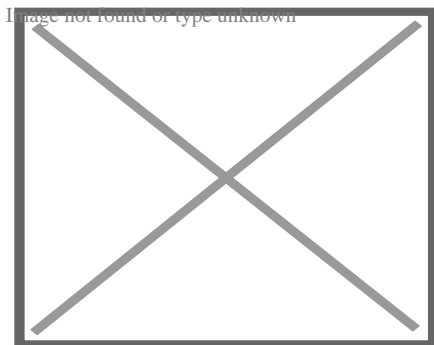
Transport

[[edit](#)]

Main article: [Transport in Sydney](#)

Roads

[[edit](#)]



[Light Horse Interchange](#), the largest of its kind in Australia

The motor vehicle, more than any other factor, has determined the pattern of Sydney's urban development since [World War II](#).[\[440\]](#) The growth of low-density housing in the city's outer suburbs has made car ownership necessary for hundreds of thousands of households. The percentage of trips taken by car has increased from 13% in 1947 to 50% in 1960 and 70% in 1971.[\[440\]](#) The most important roads in Sydney were the nine [Metroads](#), including the 110 km (68 mi) [Sydney Orbital Network](#). Sydney's reliance on motor vehicles and its sprawling road network has been criticised by proponents of mass public transport and high-

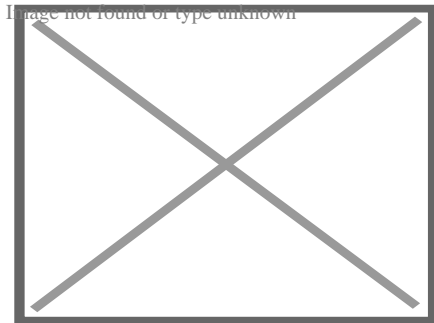
density housing.[441][442][443] The **Light Horse Interchange** in western Sydney is the largest in the southern hemisphere.[444]

There can be up to 350,000 cars using Sydney's roads simultaneously during peak hour, leading to significant traffic congestion.[440] 84.9% of Sydney households own a motor vehicle and 46.5% own two or more.[260] With a rate of 26.3% in 2014, Sydney has the highest utilisation of public transport for travel to work of any Australian capital.[445] In contrast, in 2014 only 25.2% of working residents in the City of Sydney use a car, whilst 15.8% take a train, 13.3% use a bus, and 25.3% walk.[446] Several significant infrastructure projects have been completed since. The CBD features a **series of alleyways and lanes** that provide **off-street** vehicular access to city buildings and as well as pedestrian routes through city buildings.[447]

Suburban trains

[[edit](#)]

Main article: [Sydney Trains](#)



Central station is the busiest railway station in Australia, and the city's main public transport hub.

Established in 1906, **Central station** is the largest and busiest railway station in the state and is the main hub of the city's **rail network**.[448] **Sydney Trains** is the **suburban rail** service. Its tracks form part of the New South Wales railway network. It serves 168 stations across the city and had an annual ridership of 302 million passenger journeys in 2023–24.[449] Sydney's railway was first constructed in 1854 with progressive extension to the network to serve both freight and passengers. The main station is the **Central railway station** in the southern part of the CBD. In the 1850s and 1860s, the railway reached areas that are now outer suburbs of Sydney.[440]

Metro

[[edit](#)]

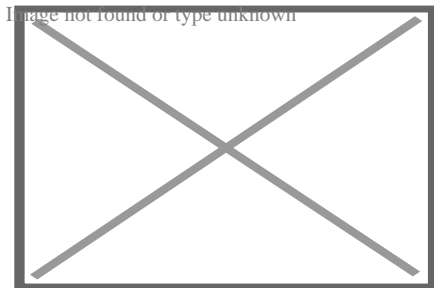
Main article: [Sydney Metro](#)

Sydney Metro, a driverless **rapid transit** system separate from the suburban commuter network, commenced operation in May 2019 and was extended through the city to Sydenham on 19 August 2024. This line will be extended to Bankstown in 2025 and a new line through the inner west to Parramatta is planned to be built by 2030.^{[450][451]} It currently serves 21 stations. A line to serve the greater west is planned for 2026 and will include a station for the **second international airport**.

Light rail

^[edit]

Main article: **Light rail in Sydney**



The **CBD and South East Light Rail** connects Sydney's CBD with the Eastern Suburbs.

Sydney once had one of the **largest tram networks** in the British Empire after London.^[452] It served routes covering 291 km (181 mi). The internal combustion engine made buses more flexible than trams and consequently more popular, leading to the progressive closure of the network with the final tram operating in 1961.^[440] From 1930 there were 612 buses across Sydney carrying 90 million passengers per annum.^[453]

In 1997, the **Inner West Light Rail** opened between Central station and **Wentworth Park**. It was extended to **Lilyfield** in 2000 and then **Dulwich Hill** in 2014. It links the **Inner West** and **Darling Harbour** with **Central station** and facilitated 9.1 million journeys in the 2016–17 financial year.^[454] A second, the **CBD and South East Light Rail** 12 km (7.5 mi) line serving the CBD and Eastern Suburbs opened in 2019–2020.^[455] A **light rail line** serving Western Sydney opened in 2024.

Buses

^[edit]

Main article: **Buses in Sydney**

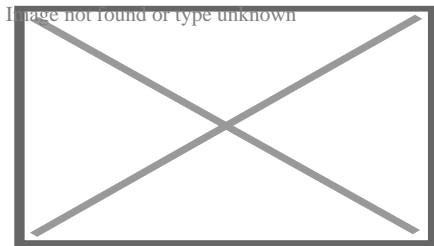
Bus services are conducted by private operators under contract to **Transport for NSW**. Integrated tickets called **Opal cards** operate on bus routes. In total, nearly 225 million

boardings were recorded across the bus network.[456] **NightRide** is a nightly bus service that operate between midnight and 5am.

Ferries

[edit]

Main articles: **Sydney Ferries**, **List of Sydney Harbour ferries**, and **Timeline of Sydney Harbour ferries**



A **Freshwater-class ferry** Departing **Circular Quay** to Manly

At the time the Sydney Harbour Bridge opened in 1932, the city's **ferry service** was the largest in the world.[457] Patronage declined from 37 million passengers in 1945 to 11 million in 1963 but has recovered somewhat in recent years.[440] From its hub at **Circular Quay**, the **ferry network** extends from **Manly** to **Parramatta**.^[457] Ferries in sydney are operated by **Transdev Sydney Ferries** and operates 10 routes.

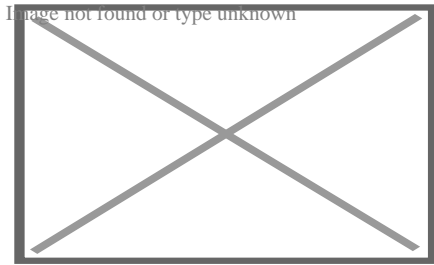
Airports

[edit]

Sydney Airport, officially "Sydney Kingsford-Smith Airport", is located in **Mascot**. It services 46 international and 23 domestic destinations.[26] As the busiest airport in Australia, it handled 37.9 million passengers in 2013 and 530,000 tonnes of freight in 2011.[26] A second airport, **Western Sydney Airport**, is under construction at **Badgerys Creek** and will open in late 2026,[458] at a cost of \$2.5 billion.[459] Notably, it will not feature a **curfew**, unlike Sydney Kingsford-Smith Airport, which imposes a suspension of all aircraft operations between 11 pm and 6 am. **Bankstown Airport** is Sydney's second busiest airport, and serves general aviation, charter and some scheduled cargo flights. Bankstown is also the fourth busiest airport in Australia by number of aircraft movements.[460] **Port Botany** has surpassed Port Jackson as the city's major shipping port. Cruise ship terminals are located at **Sydney Cove** and **White Bay**.

Utilities

[edit]



Warragamba Dam is Sydney's largest water supply dam.

Obtaining sufficient fresh water was difficult during early colonial times. A catchment called the **Tank Stream** sourced water from what is now the CBD but was little more than an open sewer by the end of the 1700s.[461] The Botany Swamps Scheme was one of several ventures during the mid-1800s that saw the construction of wells, tunnels, steam pumping stations, and small dams to service Sydney's growing population.[461]

The **Upper Nepean Scheme** came into operation in 1886. It transports water 100 km (62 mi) from the **Nepean**, **Cataract**, and **Cordeaux** rivers and continues to service about 15% of Sydney's water needs.[461] Dams were built on these three rivers between 1907 and 1935.[461] In 1977 the **Shoalhaven Scheme** brought several more dams into service.[462]

The state-owned corporation **WaterNSW** now manages eleven major dams: **Warragamba**, one of the largest domestic water supply dams in the world,[463] **Woronora**, **Cataract**, **Cordeaux**, **Nepean**, **Avon**, **Wingecarribee Reservoir**, **Fitzroy Falls Reservoir**, **Tallowa**, the **Blue Mountains Dams**, and **Prospect Reservoir**. [464] Water is collected from five catchment areas covering 16,000 km² (6,178 sq mi) and total storage amounts to 2.6 TL (0.6 cu mi). [464] The **Sydney Desalination Plant** came into operation in 2010.[461] WaterNSW supplies bulk water to **Sydney Water**, a state-owned corporation that operates water distribution, sewerage and storm water management services.

Sydney's electricity infrastructure is maintained by **Ausgrid** and **Endeavour Energy**. [465][466] Their combined networks include over 815,000 poles and 83,000 km (52,000 mi) of cables. **Submarine communications cable** systems in Sydney include the **Australia–Japan Cable**, **Telstra Endeavour** and the **Southern Cross Cable**, which link Australia and countries in the Pacific.[467][468][469]

Environmental issues and pollution reduction

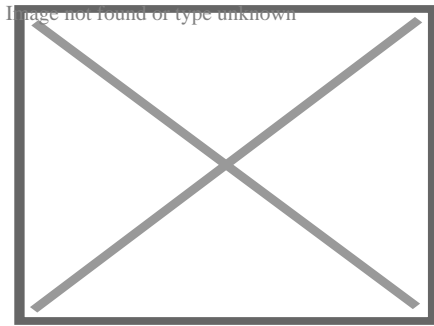
[edit]

Main article: **Environmental issues in Australia**

Further information: **Climate change in Australia** and **Renewable energy in Australia**

Air quality

[edit]



George Street and bushfire smoke in December 2019

As **climate change**, **greenhouse gas emissions** and pollution have become a major issue for Australia, Sydney has in the past been criticised for its lack of focus on reducing pollution and emissions and maintaining **water quality**.^[470] The release of the Metropolitan Air Quality Scheme (MAQS) led to a broader understanding of the causation of pollution in Sydney, allowing the government to form appropriate responses.^[471]

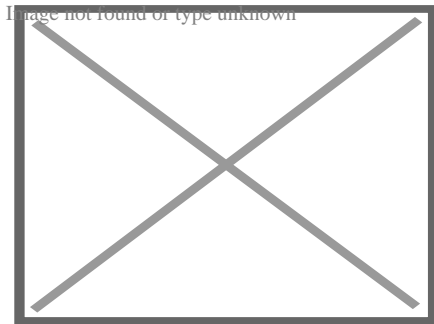
The **2019–20 Australian bushfire season** significantly impacted outer Sydney and dramatically reduced air quality, leading to a smoky haze that lingered for days. The **air quality** was 11 times the **hazardous** level in some days,^{[472][473]} worse than **New Delhi's**;^[474] it was compared to "smoking 32 cigarettes" by Brian Oliver, a respiratory diseases scientist at the **University of Technology Sydney**.^[475] Since Sydney is surrounded by bushland and forest,^[476] bushfires can ring the region in a **natural phenomena** that is labelled "ring of fire".^{[477][478][479][480][481]}

The City of Sydney became the first council in Australia to achieve formal certification as **carbon-neutral** in 2008.^{[482][483]} The city has reduced its 2007 carbon emissions by 6% and since 2006 has reduced carbon emissions from city buildings by up to 20%.^{[484][485]} The *Sustainable Sydney 2030* program presented a guide to reducing energy in homes and offices by 30%.^{[484][486]} Reductions in energy consumption have slashed energy bills by \$30 million a year.^[487] **Solar panels** have been established on many CBD buildings to minimise carbon pollution by around 3,000 tonnes a year.^[488]

The city also has an "**urban forest** growth strategy", in which it aims to regularly increase the **tree coverage** in the city by frequently planting trees with strong leaf density and **vegetation** to provide cleaner air and create moisture during hot weather, thus lowering city temperatures.^[489] Sydney has also become a leader in the development of **green office buildings** and enforcing the requirement of all building proposals to be energy-efficient. The **One Central Park** development, completed in 2013, is an example of this implementation.^{[490][491][492][493]}

Car-dependency

[[edit](#)]



Traffic congestion on the [Warringah Freeway](#), [Milsons Point](#)

Australian cities are some of the most [car-dependent](#) cities in the world,[\[494\]](#) especially by world city standards, although Sydney's is the lowest of Australia's major cities at 66%.[\[495\]](#) Sydney also has the [highest usage of public transport](#) in an Australian city, at 27%—comparable with New York City, Shanghai and Berlin. Despite its high ranking for an Australian city, Sydney has a low level of mass-transit services, with a historically low-density layout and significant [urban sprawl](#), thus increasing the likelihood of car dependency.[\[496\]](#)[\[497\]](#)

Strategies have been implemented to reduce private [vehicle pollution](#) by encouraging [mass](#) and [public transit](#),[\[498\]](#) initiating the development of high density housing and introducing a fleet of 10 new [electric cars](#), the largest order of the pollution-free vehicle in Australia.[\[499\]](#) Electric cars do not produce carbon monoxide and [nitrous oxide](#), which contribute to climate change.[\[500\]](#)[\[501\]](#) [Cycling trips](#) increased by 113% across Sydney's inner-city from 2010 to 2015, at which point about 2,000 bikes were passing through top peak-hour intersections on an average weekday.[\[484\]](#) Transport developments in the [north-west](#) and east of the city have been designed to encourage use of the expanding public transportation system.

Sister cities

[[edit](#)]

[Sister cities](#) of Sydney include:

- [San Francisco, United States of America](#)
- [Wellington, New Zealand](#)
- [Florence, Italy](#)
- [Nagoya, Japan](#)
- [Portsmouth, United Kingdom](#)

See also

[[edit](#)]

- [flag New South Wales portal](#)
- [List of museums in Sydney](#)
- [List of people from Sydney](#)
- [List of public art in the City of Sydney](#)
- [List of songs about Sydney](#)
- [Outline of Sydney](#)

Notes

[\[edit\]](#)

- [^] In accordance with the Australian Bureau of Statistics source, [England](#), [Scotland](#), [Mainland China](#) and the Special Administrative Regions of [Hong Kong](#) and [Macau](#) are listed separately.
- [^] The Australian Bureau of Statistics has stated that most who nominate "Australian" as their ancestry are part of the [Anglo-Celtic](#) group.[\[338\]](#)
- [^] Indigenous identification is separate to the ancestry question on the Australian Census and persons identifying as Aboriginal or Torres Strait Islander may identify any ancestry.

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- [Official Sydney tourism site](#)
- [Historical film clips of Sydney](#) on the [National Film and Sound Archive](#) of Australia's *australianscreen online*
- [Qantas Farewell Flight B747-400 Queen of the Skies – Sydney Final Flight QF747](#) on [YouTube](#) – includes a low-level joyflight around Sydney showing various aspects of the city on 13 July 2020 (starts at 05:20)
-  [Geographic data related to Sydney](#) at [OpenStreetMap](#)
- [Dictionary of Sydney – the history of Sydney](#) ([Archived](#) 24 March 2019 at the [Wayback Machine](#))
- [Sydney Official History Archives](#)
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- Northern Beaches
- Northern Suburbs
- North Shore
- Southern Sydney
- South Western Sydney
- St George

Local government areas of Sydney

- Bayside
- Blacktown
- Burwood
- Camden
- Canterbury Bankstown
- Canada Bay
- Cumberland
- Fairfield
- Georges River
- Hawkesbury
- The Hills
- Hornsby
- Hunter's Hill
- Inner West
- Ku-ring-gai
- Lane Cove
- Liverpool
- Mosman
- North Sydney
- Northern Beaches
- Parramatta
- Penrith
- Randwick
- Ryde
- Strathfield
- Sutherland
- City of Sydney
- Waverley
- Willoughby
- Woollahra

List of Sydney suburbs

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Sydney landmarks

Buildings / structures

- Admiralty House
- Archibald Fountain
- Australia Square
- Bankstown Reservoir
- Boothtown Aqueduct
- Cadmans Cottage
- Campbell's Stores
- The Cenotaph
- Central station
- Chifley Tower
- Citigroup Centre
- International Convention Centre
- Deutsche Bank Place
- Dr Chau Chak Wing Building
- El Alamein Fountain
- Finger Wharf
- General Post Office (No. 1 Martin Place)
- Government House
- Governor Phillip Tower
- Hong Kong House
- Hyde Park Barracks
- King Street Wharf
- Kirribilli House
- Long Bay
- Macquarie Lighthouse
- Mint
- Observatory
- Old Government House
- Old Mining Museum Building
- Opera House
- Overseas Passenger Terminal
- Parliament House
- Parramatta Gaol
- Regimental Square
- The Ribbon
 - IMAX Sydney
- Queen Victoria Building
- St Andrew's Cathedral
- St Mary's Cathedral
- Sydney Airport
- Sydney Tower
- The Toaster
- Town Hall
- War Memorial
- Warragamba Dam
- White Bay Cruise Terminal
- World Square

Bridges

- Anzac
- Captain Cook
- Gladesville
- *Glebe Island* (disused)
- Harbour
- Pyrmont
- Roseville
- Spit
- Tom Uglys

Major centres and localities

- Central Business District
- Chatswood
- Chinatown
- Kings Cross
- North Sydney
- Parramatta
- Pitt Street Mall
- The Rocks

Urban renewal projects

- Barangaroo
- Bays Precinct
- Central Park
- Darling Harbour
- Green Square
- Sydney Olympic Park
- Waterloo

Parks and nature

- Auburn Botanic Gardens
- Balaka Falls
- Balls Head Reserve
- Bents Basin
- Berowra Valley National Park
- Bicentennial Park
- Bland Oak
- Blue Mountains National Park
- Centennial Parklands
- Central Gardens Nature Reserve
- Chinese Garden of Friendship
- Cronulla sand dunes
- Cumberland State Forest
- Farm Cove
- Featherdale Wildlife Park
- Garigal National Park
- Garawarra Conservation Area
- Georges River National Park
- Heathcote National Park
- Hyde Park
- Kamay Botany Bay National Park
- Ku-ring-gai Chase
- Lane Cove National Park
- Macquarie Place
- Paddington Reservoir
- Parramatta Park
- Prospect dolerite intrusion
- Prospect Hill
- Prospect Nature Reserve
- Royal Botanic Garden
- Royal National Park
- Sydney Harbour National Park
- Sydney Park
- The Domain
- Western Sydney Parklands
 - Western Sydney Regional Park

Cultural institutions

- Art Gallery of New South Wales
- Australian Museum
- Australian National Maritime Museum
- Chau Chak Wing Museum
- Harry's Cafe de Wheels
- Manly Art Gallery and Museum
- Museum of Contemporary Art
- Museum of Sydney
- Justice and Police Museum
- Powerhouse Museum
- Sea Life Sydney Aquarium
- State Library
- Sydney Conservatorium of Music
- Sydney Zoo
- Taronga Zoo

Sport

- Australian Golf Club
- Canterbury Park Racecourse
- Dunc Gray Velodrome
- Lakes Golf Club
- Macquarie Ice Rink
- Randwick Racecourse
- Rosehill Gardens Racecourse
- Royal Sydney Golf Club
- Stadium Australia
- State Sports Centre
- Sydney Cricket Ground
- Sydney Football Stadium
- Sydney International Regatta Centre
- Sydney Motorsport Park
- Sydney Olympic Park
 - Athletic Centre
 - Aquatic Centre
 - Hockey Centre
 - Tennis Centre
 - Sydney Showground Stadium
- Warwick Farm Racecourse
- Wentworth Park
- Western Sydney International Dragway
- Western Sydney Stadium

Entertainment

- Capitol Theatre
- Crown Sydney
- Disney Studios Australia
- Entertainment Quarter
- Luna Park
- Lyric Theatre
- Plaza Theatre
- Raging Waters
- Roslyn Packer Theatre
- The Star
- State Theatre
- Sydney SuperDome
- Theatre Royal

Beaches

- Bondi
- Cronulla
- Manly
- Palm

Islands

- Bare
- Clark
- Cockatoo
- Fort Denison
- Garden
- Goat
- Rodd
- Shark
- Snapper
- Spectacle

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Theatre in Sydney

Central Sydney

- Belvoir Street Theatre
 - Belvoir
- Capitol Theatre
- Genesian Theatre
- Roslyn Packer Theatre
- Seymour Centre
- State Theatre
- Sydney Lyric
 - Foundry Theatre
- Sydney Opera House
- Theatre Royal
- Wharf Theatre

Inner West

- Carriageworks
- New Theatre
- PACT Theatre

Western Suburbs

- Riverside Theatres Parramatta
- Sydney Coliseum Theatre

North Shore

- Ensemble Theatre
- Independent Theatre
- Marian Street Theatre
- The Concourse, Chatswood

Northern Beaches

- Glen Street Theatre

Eastern Suburbs

- Darlinghurst Theatre
- Hayes Theatre
- Old Fitz Theatre
- Parade Theatre
- Stables Theatre (Griffin Theatre Company)

Former theatres

- Criterion Theatre
- Garrick Theatre
- Her Majesty's Theatre
- Minerva Theatre
- Palace Theatre
- Paris Theatre
- Phillip Street Theatre
- Plaza Theatre
- Regent Theatre
- Tivoli Theatre

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Sports teams based in **Sydney**

Australian rules football

AFL

- Sydney Swans
- Greater Western Sydney Giants

AFLW

- Sydney Swans
- Greater Western Sydney Giants

Baseball

ABL

- Sydney Blue Sox

Claxton Shield

- New South Wales Patriots

Basketball

NBL

- Sydney Kings

WNBL

- Sydney Flames

Cricket	Sheffield Shield	○ New South Wales Blues
	Matador BBQs One Day Cup	
	WNCL	○ New South Wales Breakers
	Big Bash League	○ Sydney Sixers ○ Sydney Thunder
	Women's Big Bash League	○ Sydney Sixers ○ Sydney Thunder
Field hockey	AHL	○ New South Wales Waratahs
	WAHL	○ New South Wales Arrows
	Hockey One	○ NSW Pride
Futsal (F-League)		○ Dural Warriors ○ East Coast Heat F.C. ○ Sydney Scorpions
Handball		○ Sydney University Handball Club
Ice hockey	AIHL	○ Sydney Bears ○ Sydney Ice Dogs
	AWIL	○ Sydney Sirens

Netball

- SSN**
 - Giants Netball
 - NSW Swifts
- ANL**
 - Giants Netball Academy
 - NNSW Waratahs

Rugby league

- NRL**
 - Canterbury-Bankstown Bulldogs
 - Cronulla-Sutherland Sharks
 - Manly Warringah Sea Eagles
 - Parramatta Eels
 - Penrith Panthers
 - St. George Illawarra Dragons
 - South Sydney Rabbitohs
 - Sydney Roosters
 - Wests Tigers

- NRLW**
 - Canterbury-Bankstown Bulldogs
 - Cronulla-Sutherland Sharks
 - Parramatta Eels
 - St. George Illawarra Dragons
 - Sydney Roosters
 - Wests Tigers

Rugby union

- Super Rugby**
 - New South Wales Waratahs
- Super W**
 - New South Wales Waratahs
- NRC**
 - Greater Sydney Rams
 - Sydney Rays

Soccer

A-League Men

- Macarthur FC
- Sydney FC
- Western Sydney Wanderers

A-League Women

- Sydney FC
- Western Sydney Wanderers

Water polo (ANWPL)

- Balmain Water Polo Club
- Cronulla Sharks Water Polo Club
- Drummoyne Devils
- Sydney Uni Water Polo Club
- UNSW Wests Magpies

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New South Wales

General

- [Economy](#)
- [Energy](#)
- [Flag](#)
- [Geography](#)
- [Geology](#)
- [Government](#)
- [History](#)
- [Local Government](#)
- [Parliament](#)
- [Police](#)
- [Politics](#)
- [People](#)
- [Rail transport](#)
- [Regions](#)
- [Sport](#)
 - [Australian rules football](#)
 - [Cricket](#)
 - [Rugby league](#)
 - [Rugby union](#)
 - [Soccer](#)
- [Symbols](#)

New South Wales

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Sydney

- Canterbury-Bankstown
- Central Business District
- Eastern Suburbs
- Forest District
- Greater Western Sydney
- Hills District
- Inner West
- Macarthur
- Northern Beaches
- Northern Sydney
- North Shore
- Southern Sydney
- South Western Sydney
- St George

Regions

- Central Coast
- Central Tablelands
- Central West
- Far West
- Greater Blue Mountains
- Hunter
- Illawarra
- Mid North Coast
- Monaro
- New England
- North West Slopes
- Northern Rivers
- Northern Tablelands
- Orana
- Riverina
- South Coast
- South Western Slopes
- Southern Highlands
- Southern Tablelands
- Upper Hunter

Rest of state

- Cities
- Sydney
 - Albury
 - Armidale
 - Bathurst
 - Blue Mountains
 - Broken Hill
 - Cessnock
 - Coffs Harbour
 - Dubbo
 - Gosford
 - Goulburn
 - Grafton
 - Griffith
 - Hawkesbury
 - Lake Macquarie
 - Lismore
 - Lithgow
 - Maitland
 - Newcastle
 - Orange
 - Queanbeyan
 - Shellharbour
 - Shoalhaven
 - Tamworth
 - Taree
 - Wagga Wagga
 - Wollongong

Image New South Wales portal

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Capital cities of Australia

National and ACT Canberra	NSW Sydney	NT Darwin
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List of cities in Australia

- **v**
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Cities of Australia

Australian Capital Territory Canberra (*national capital*)

- Albury
- Armidale
- Bathurst
- Broken Hill
- Cessnock
- Coffs Harbour
- Dubbo
- Gosford
- Goulburn
- Grafton
- Griffith
- Lake Macquarie
- Lismore
- Lithgow
- Maitland
- Newcastle
- Orange
- Port Macquarie
- Queanbeyan
- **Sydney**
- Tamworth
- Wagga Wagga
- Wollongong

New South Wales

Northern Territory

- **Darwin**
- Palmerston

Queensland

- **Brisbane**
- Bundaberg
- Cairns
- Caloundra
- Gladstone
- Gold Coast
- Gympie
- Hervey Bay
- Ipswich
- Mackay
- Maryborough
- Mount Isa
- Rockhampton
- Sunshine Coast
- Toowoomba
- Townsville

South Australia

- **Adelaide**
- Mount Gambier
- Murray Bridge
- Port Augusta
- Port Lincoln
- Port Pirie
- Victor Harbor
- Whyalla

Tasmania

- Burnie
- Devonport
- **Hobart**
- Launceston

Victoria

- Ararat
- Bairnsdale
- Ballarat
- Benalla
- Bendigo
- Castlemaine
- Colac
- Geelong
- Hamilton
- Horsham
- **Melbourne**
- Mildura
- Moe
- Morwell
- Portland
- Sale
- Seymour
- Shepparton
- Stawell
- Swan Hill
- Traralgon
- Wangaratta
- Warragul
- Warrnambool
- Wodonga

Western Australia

- Albany
- Bunbury
- Busselton
- Geraldton
- Kalgoorlie-Boulder
- Mandurah
- **Perth**

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Summer Olympic Games host cities

- 1896: ~~Creteil~~ ~~Image not found or type unknown~~
- 1900: ~~France~~ ~~Image not found or type unknown~~
- 1904: ~~United States~~ ~~Image not found or type unknown~~
- 1908: ~~United Kingdom~~ ~~Image not found or type unknown~~
- 1912: ~~Sweden~~ ~~Image not found or type unknown~~
- 1916: ~~None~~ ~~[c1]~~
- 1920: ~~Belgium~~ ~~Image not found or type unknown~~
- 1924: ~~France~~ ~~Image not found or type unknown~~
- 1928: ~~Netherlands~~ ~~Image not found or type unknown~~
- 1932: ~~United States~~ ~~Image not found or type unknown~~
- 1936: ~~Germany~~ ~~Image not found or type unknown~~
- 1940: ~~None~~ ~~[c2]~~
- 1944: ~~None~~ ~~[c2]~~
- 1948: ~~United Kingdom~~ ~~Image not found or type unknown~~
- 1952: ~~Finland~~ ~~Image not found or type unknown~~
- 1956: ~~Australia~~ ~~Image not found or type unknown~~
- 1960: ~~Italy~~ ~~Image not found or type unknown~~
- 1964: ~~Japan~~ ~~Image not found or type unknown~~
- 1968: ~~Mexico~~ ~~Image not found or type unknown~~
- 1972: ~~West Germany~~ ~~Image not found or type unknown~~
- 1976: ~~Canada~~ ~~Image not found or type unknown~~
- 1980: ~~Soviet Union~~ ~~Image not found or type unknown~~
- 1984: ~~United States~~ ~~Image not found or type unknown~~
- 1988: ~~South Korea~~ ~~Image not found or type unknown~~
- 1992: ~~Spain~~ ~~Image not found or type unknown~~
- 1996: ~~United States~~ ~~Image not found or type unknown~~
- 2000: ~~Australia~~ ~~Image not found or type unknown~~
- 2004: ~~Greece~~ ~~Image not found or type unknown~~
- 2008: ~~China~~ ~~Image not found or type unknown~~
- 2012: ~~United Kingdom~~ ~~Image not found or type unknown~~
- 2016: ~~Brazil~~ ~~Image not found or type unknown~~
- 2020: ~~Japan~~ ~~Image not found or type unknown~~ ~~[c3]~~
- 2024: ~~France~~ ~~Image not found or type unknown~~
- 2028: ~~United States~~ ~~Image not found or type unknown~~
- 2032: ~~Australia~~ ~~Image not found or type unknown~~

[c1] Cancelled due to World War I; [c2] Cancelled due to World War II; [c3] Postponed to 2021 due to the COVID-19 pandemic

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Summer Paralympic Games host cities

- | | | |
|---|--|--|
| ○ 1960: Italy Rome | ○ 1980: Netherlands | ○ 2000: Australia |
| ○ 1964: Japan Tokyo | ○ 1984: United States New York City / United Kingdom Manchester | ○ 2004: Greece Athens |
| ○ 1968: Israel Tel Aviv | ○ 1988: Sweden Solna | ○ 2008: China Beijing |
| ○ 1972: West Germany Hamburg | ○ 1992: Spain Barcelona / Spain Madrid | ○ 2012: United Kingdom London |
| ○ 1976: Canada Toronto | ○ 1996: United States Atlanta | |

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Commonwealth Games host cities

- | | | | |
|--|---|--|--|
| ○ 1930: Canada Hamilton | ○ 1958: Wales Gardiff | ○ 1978: Canada Edmonton | ○ 1998: Malaysia Kuala Lumpur |
| ○ 1934: England London | ○ 1962: Australia Melbourne | ○ 1982: Australia Brisbane | ○ 2002: England Manchester |
| ○ 1938: Australia Sydney | ○ 1966: Jamaica Kingston | ○ 1986: Scotland Glasgow | ○ 2006: Australia Melbourne |
| ○ 1950: New Zealand Dunedin | ○ 1970: Scotland Edinburgh | ○ 1990: New Zealand Dunedin | ○ 2010: India Delhi |
| ○ 1954: Canada Vancouver | ○ 1974: New Zealand Christchurch | ○ 1994: Canada Vancouver | ○ 2014: Scotland Glasgow |

Portals:

- **flag** **New South Wales**
- **flag** **Australia**

Sydney at Wikipedia's sister projects:

- **Definitions** from Wiktionary
- **Media** from Commons
- **News** from Wikinews
- **Quotations** from Wikiquote
- **Texts** from Wikisource
- **Textbooks** from Wikibooks
- **Resources** from Wikiversity
- **Travel guides** from Wikivoyage
- **Data** from Wikidata

Authority control databases Image not found or type unknown Edit this at Wikidata

International

- VIAF
- FAST
- WorldCat

National

- Germany
- United States
- France
- BnF data
- Japan
- Czech Republic
- Spain
- Croatia
- Sweden
- Israel
- Catalonia

Geographic

- MusicBrainz area

Other

- IdRef
- NARA

About MediaWiki

Not to be confused with Wikimedia.

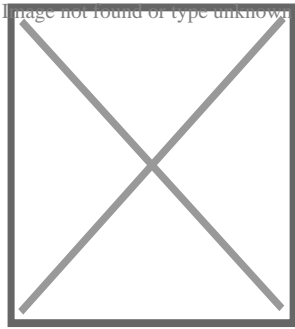
This article **relies excessively on references to primary sources**. Please improve this article by adding **secondary or tertiary sources**.



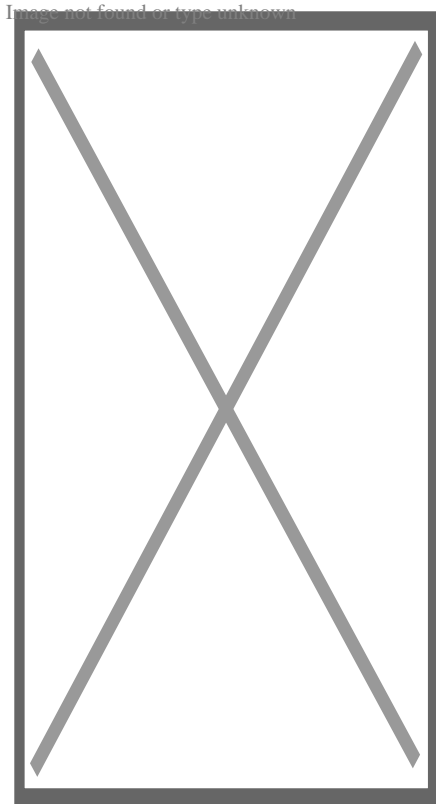
Find sources: "MediaWiki" – news • newspapers • books • scholar • JSTOR (January 2025) (Learn how and when to remove this message)

- gerrit.wikimedia.org/g/mediawiki/core/ Image not found or type unknown Edit this at Wikidata

MediaWiki



Screenshot



The **Main Page** of the **English Wikipedia**
running an alpha version of MediaWiki
1.40

Original author(s)	○ Magnus Manske
	○ Lee Daniel Crocker
Developer(s)	Wikimedia Foundation
Initial release	January 25, 2002; 23 years ago

Stable release	1.43.0[1]  Edit this on Wikidata December 2024; 2 months ago
Repository	
Written in	PHP[2] Windows, macOS,
Operating system	Linux, FreeBSD, OpenBSD, Solaris
Size	79.05 MiB (compressed)
Available in	459[3] languages
Type	Wiki software
License	GPLv2+[4]
Website	mediawiki.org  Edit this at Wikidata

MediaWiki is free and open-source wiki software originally developed by Magnus Manske for use on Wikipedia on January 25, 2002, and further improved by Lee Daniel Crocker,[5][6] after which development has been coordinated by the Wikimedia Foundation. It powers several wiki hosting websites across the Internet, as well as most websites hosted by the Wikimedia Foundation including Wikipedia, Wiktionary, Wikimedia Commons, Wikiquote, Meta-Wiki and Wikidata, which define a large part of the set requirements for the software.[7] Besides its usage on Wikimedia sites, MediaWiki has been used as a knowledge management and content management system on websites such as Fandom, wikiHow and major internal installations like Intellipedia and Diplopedia.

MediaWiki is written in the PHP programming language and stores all text content into a database. The software is optimized to efficiently handle large projects, which can have terabytes of content and hundreds of thousands of views per second.[7][8] Because Wikipedia is one of the world's largest and most visited websites, achieving scalability through multiple layers of caching and database replication has been a major concern for developers. Another major aspect of MediaWiki is its internationalization; its interface is available in more than 400 languages.[9] The software has hundreds of configuration settings[10] and more than 1,000 extensions available for enabling various features to be added or changed.[11]

Key features

[edit]

MediaWiki provides a rich core feature set and a mechanism to attach extensions to provide additional functionality.

Internationalization and localisation

[[edit](#)]

Niklas Laxström explains the features that allowed [translatewiki.net](#) to provide MediaWiki with more than 400 locales.

Due to the strong emphasis on multilingualism in the Wikimedia projects, [internationalization and localization](#) has received significant attention by developers. The user interface has been fully or partially translated into more than 400 languages on [translatewiki.net](#),^[9] and can be further customized by site administrators (the entire interface is editable through the wiki).

Several extensions, most notably those collected in the MediaWiki Language Extension Bundle, are designed to further enhance the multilingualism and internationalization of MediaWiki.

Installation and configuration

[[edit](#)]

Installation of MediaWiki requires that the user have [administrative privileges](#) on a server running both PHP and a compatible type of SQL [database](#). Some users find that setting up a [virtual host](#) is helpful if the majority of one's site runs under a framework (such as [Zope](#) or [Ruby on Rails](#)) that is largely incompatible with MediaWiki.^[12] [Cloud hosting](#) can eliminate the need to deploy a new server.^[13]

An installation PHP script is accessed via a [web browser](#) to initialize the wiki's settings. It prompts the user for a minimal set of required parameters, leaving further changes, such as enabling uploads,^[14] adding a site logo,^[15] and installing extensions, to be made by modifying configuration settings contained in a file called LocalSettings.php.^[16] Some aspects of MediaWiki can be configured through special pages or by editing certain pages; for instance, abuse filters can be configured through a special page,^[17] and certain gadgets can be added by creating [JavaScript](#) pages in the MediaWiki namespace.^[18] The MediaWiki community publishes a comprehensive installation guide.^[19]

Markup

[[edit](#)]

One of the earliest differences between MediaWiki (and its predecessor, [UseModWiki](#)) and other wiki engines was the use of "[free links](#)" instead of [CamelCase](#). When MediaWiki was created, it was typical for wikis to require text like "WorldWideWeb" to create a link to a page about the [World Wide Web](#); links in MediaWiki, on the other hand, are created by surrounding

words with double square brackets, and any spaces between them are left intact, e.g. `[[World Wide Web]]`. This change was logical for the purpose of creating an encyclopedia, where accuracy in titles is important.

MediaWiki uses an extensible^[20] **lightweight wiki markup** designed to be easier to use and learn than **HTML**. Tools exist for converting content such as **tables** between MediaWiki markup and HTML.^[21] Efforts have been made to create a MediaWiki markup spec, but a consensus seems to have been reached that Wikicode requires **context-sensitive grammar** rules.^{[22][23]} The following side-by-side comparison illustrates the differences between wiki markup and HTML:

MediaWiki s
(the "behind the s
used to add forma

====A dialogue====
"Take some more `[[tea]]`," the March Hare said to Alice, very earnestly.

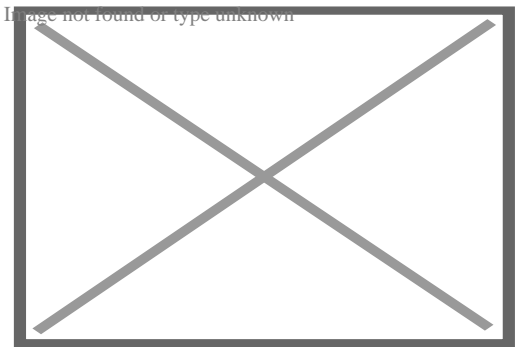
"I've had nothing yet," Alice replied in an offended tone: "so I can't take more."

"You mean you can't take "less"," said the Hatter: "it's ""very"" easy to take "more" than nothing."

(Quotation above from *Alice's Adventures in Wonderland* by Lewis Carroll)

Editing interface

`[edit]`
See also: **VisualEditor**



Editing interface of MediaWiki 1.44.0-wmf.4 with **syntax highlighting**, showing the edit toolbar of 2017 wikitext editor and some examples of wiki syntax

MediaWiki's default page-editing tools have been described as somewhat challenging to learn.[24] A survey of students assigned to use a MediaWiki-based wiki found that when they were asked an **open question** about main problems with the wiki, 24% cited technical problems with formatting, e.g. "Couldn't figure out how to get an image in. Can't figure out how to show a link with words; it inserts a number." [25]

To make editing long pages easier, MediaWiki allows the editing of a subsection of a page (as identified by its header). A registered user can also indicate whether or not an edit is minor. Correcting spelling, grammar or punctuation are examples of minor edits, whereas adding paragraphs of new text is an example of a non-minor edit.

Sometimes while one user is editing, a second user saves an edit to the same part of the page. Then, when the first user attempts to save the page, an **edit conflict** occurs. The second user is then given an opportunity to merge their content into the page as it now exists following the first user's page save.

MediaWiki's user interface has been localized in many different languages. A language for the wiki content itself can also be set, to be sent in the "Content-Language" HTTP header and "lang" **HTML attribute**.

VisualEditor has its own integrated wikitext editing interface known as 2017 wikitext editor, the older editing interface is known as 2010 wikitext editor.

Application programming interface

[**edit**]

MediaWiki has an extensible **web API** (**application programming interface**) that provides direct, high-level access to the data contained in the MediaWiki databases. Client programs can use the API to log in, get data, and post changes. The API supports thin web-based JavaScript clients and end-user applications (such as vandal-fighting tools). The API can be accessed by the **backend** of another web site.[26] An extensive **Python bot** library, **Pywikibot**, [27] and a popular semi-automated tool called **AutoWikiBrowser**, also interface with the API. [28] The API is accessed via URLs such as

<https://en.wikipedia.org/w/api.php?action=query&list=recentchanges>. In this case, the query would be asking Wikipedia for information relating to the last 10 edits to the site. One of the perceived advantages of the API is its language independence; it listens for **HTTP** connections from clients and can send a response in a variety of formats, such as **XML**, serialized PHP, or **JSON**. [29] **Client code** has been developed to provide layers of **abstraction** to the API. [30]

Tracking edits

[edit]

Among the features of MediaWiki to assist in tracking edits is a Recent Changes feature that provides a list of recent edits to the wiki. This list contains basic information about those edits such as the editing user, the edit summary, the page edited, as well as any tags (e.g. "possible **vandalism**")^[31] added by customizable abuse filters and other extensions to aid in combating unhelpful edits.^[32] On more active wikis, so many edits occur that it is hard to track Recent Changes manually. Anti-vandal software, including user-assisted tools,^[33] is sometimes employed on such wikis to process Recent Changes items. Server load can be reduced by sending a continuous feed of Recent Changes to an **IRC channel** that these tools can monitor, eliminating their need to send requests for a refreshed Recent Changes feed to the API.^{[34][35]}

Another important tool is watchlisting. Each logged-in user has a watchlist to which the user can add whatever pages he or she wishes. When an edit is made to one of those pages, a summary of that edit appears on the watchlist the next time it is refreshed.^[36] As with the recent changes page, recent edits that appear on the watchlist contain clickable links for easy review of the article history and specific changes made.

There is also the capability to review all edits made by any particular user. In this way, if an edit is identified as problematic, it is possible to check the user's other edits for issues.

MediaWiki allows one to link to specific versions of articles. This has been useful to the scientific community, in that expert peer reviewers could analyse articles, improve them and provide links to the trusted version of that article.^[37]

Navigation

[edit]

Wikilinks

[edit]

Navigation through the wiki is largely through internal wikilinks. MediaWiki's wikilinks implement page existence detection, in which a link is colored blue if the target page exists on the local wiki and red if it does not. If a user clicks on a red link, they are prompted to create an article with that title. Page existence detection makes it practical for users to create "wikified" articles—that is, articles containing links to other pertinent subjects—without those other articles being yet in existence.

Interwiki links

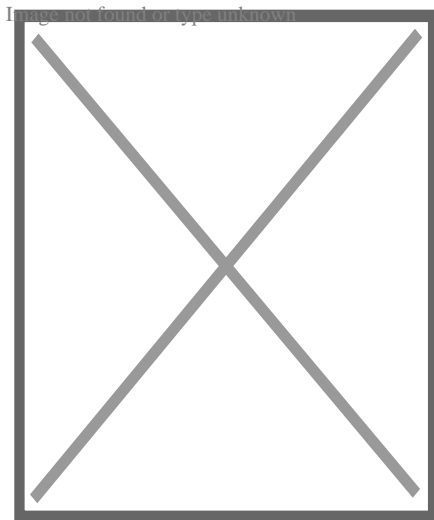
[[edit](#)]

"Inter-wiki link" redirects here. For help with interwiki linking on Wikipedia, see [Help:Interwiki linking](#).

Interwiki links function much the same way as namespaces. A set of interwiki prefixes can be configured to cause, for instance, a page title of wikiquote:Jimbo Wales to direct the user to the Jimbo Wales article on [Wikiquote](#).^[38] Unlike internal wikilinks, interwiki links lack page existence detection functionality, and accordingly there is no way to tell whether a blue interwiki link is broken or not.

Interlanguage links

[[edit](#)]



An example of interlanguage links

Interlanguage links are the small navigation links that show up in the sidebar in most MediaWiki skins that connect an article with related articles in other languages within the same Wiki family. This can provide language-specific communities connected by a larger context, with all wikis on the same server or each on its own server.^[39]

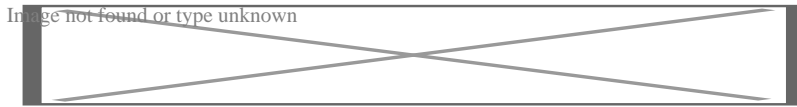
Previously, Wikipedia used interlanguage links to link an article to other articles on the same topic in other editions of Wikipedia. This was superseded by the launch of Wikidata.^[40]

Content organization

[[edit](#)]

Page tabs and associated pages

[[edit](#)]



MediaWiki page tabs, using the "Vector 2010" skin. The red coloration of the "discussion" tab indicates that the article does not yet have a talk page. As with any other red wikilink, clicking on it prompts the user to create the page.

Page tabs are displayed at the top of pages. These tabs allow users to perform actions or view pages that are related to the current page. The available default actions include viewing, editing, and discussing the current page. The specific tabs displayed depend on whether the user is logged into the wiki and whether the user has sysop privileges on the wiki. For instance, the ability to move a page or add it to one's watchlist is usually restricted to logged-in users. The site administrator can add or remove tabs by using JavaScript or installing extensions.^[41]

Each page has an associated history page from which the user can access every version of the page that has ever existed and generate [diffs](#) between two versions of his choice. Users' contributions are displayed not only here, but also via a "user contributions" option on a sidebar. In a 2004 article, Carl Challborn and Teresa Reimann noted that "While this feature may be a slight deviation from the collaborative, 'ego-less' spirit of wiki purists, it can be very useful for educators who need to assess the contribution and participation of individual student users."^[42]

Namespaces

[[edit](#)]

"Talk page" redirects here. For talk pages on Wikipedia, see [Help:Talk pages](#).

MediaWiki provides many features beyond [hyperlinks](#) for structuring content. One of the earliest such features is [namespaces](#). One of Wikipedia's earliest problems had been the separation of encyclopedic content from pages pertaining to maintenance and communal discussion, as well as personal pages about encyclopedia editors. Namespaces are prefixes before a page title (such as "User:" or "Talk:") that serve as descriptors for the page's purpose and allow multiple pages with different functions to exist under the same title. For instance, a page titled "[[The Terminator]]", in the default namespace, could describe [the 1984 movie](#) starring [Arnold Schwarzenegger](#), while a page titled "[[User:The Terminator]]" could be a profile describing a user who chooses this name as a pseudonym. More commonly, each namespace has an associated "Talk:" namespace, which can be used to

discuss its contents, such as "User talk:" or "Template talk:". The purpose of having discussion pages is to allow content to be separated from discussion surrounding the content.
[43][44]

Namespaces can be viewed as **folders** that separate different basic types of information or functionality. Custom namespaces can be added by the site administrators. There are 16 namespaces by default for content, with 2 "pseudo-namespaces" used for dynamically generated "Special:" pages and links to media files. Each namespace on MediaWiki is numbered: content page namespaces have even numbers and their associated talk page namespaces have odd numbers.[45]

Category tags

[[edit](#)]

Users can create new categories and add pages and files to those categories by appending one or more category tags to the content text. Adding these tags creates links at the bottom of the page that take the reader to the list of all pages in that category, making it easy to browse related articles.[46] The use of categorization to organize content has been described as a combination of:

- **Collaborative tagging systems** like [del.icio.us](#) and
- **Hierarchical classifications** like the [Dewey Decimal Classification](#).[47]

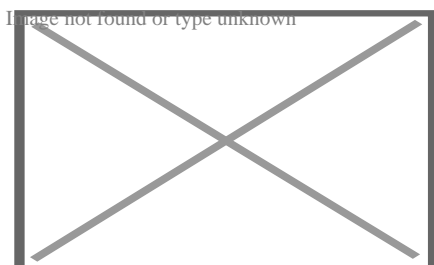
Subpages

[[edit](#)]

In addition to namespaces, content can be ordered using *subpages*. This simple feature provides automatic **breadcrumbs** of the pattern [[Page title/Subpage title]] from the page after the slash (in this case, "Subpage title") to the page before the slash (in this case, "Page title").

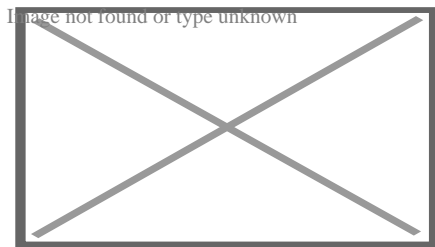
Customization

[[edit](#)]



Users can configure custom **JavaScript** that is executed on every pageview. This has led to JavaScript tools that users can "install", the "navigation popups" tool shown here displays a small preview of an article when hovering over a link title.

If the feature is enabled, users can customize their stylesheets and configure **client-side JavaScript** to be executed with every pageview. On Wikipedia, this has led to a large number of additional tools and helpers developed through the wiki and shared among users. For instance, *navigation popups* is a custom JavaScript tool that shows previews of articles when the user hovers over links and also provides shortcuts for common maintenance tasks.^[48]



A **screenshot** of a wiki using MediaWiki with a customized skin

The entire MediaWiki user interface can be edited through the wiki itself by users with the necessary permissions (typically called "administrators"). This is done through a special namespace with the prefix "MediaWiki:", where each page title identifies a particular user interface message. Using an extension,^[49] it is also possible for a user to create personal scripts, and to choose whether certain sitewide scripts should apply to them by toggling the appropriate options in the user preferences page.

Templates

^[edit]

The "MediaWiki:" namespace was originally also used for creating custom text blocks that could then be dynamically loaded into other pages using a special syntax. This content was later moved into its own namespace, "Template:".

Templates are text blocks that can be dynamically loaded inside another page whenever that page is requested. The template is a special link in double **curly brackets** (for example "Disputed"), which calls the template (in this case located at **Template:Disputed**) to load in place of the template call.

Templates are **structured documents** containing **attribute–value pairs**. They are defined with **parameters**, to which are assigned **values** when **transcluded** on an article page. The name of the parameter is **delimited** from the value by an **equals sign**. A class of templates known as **infoboxes** is used on Wikipedia to collect and present a subset of information about its subject, usually on the top (mobile view) or top right-hand corner (desktop view) of the document.

Pages in other namespaces can also be transcluded as templates. In particular, a page in the main namespace can be transcluded by prefixing its title with a colon; for example, :MediaWiki transcludes the article "MediaWiki" from the main namespace. Also, it is possible to mark the portions of a page that should be transcluded in several ways, the most basic of which are:[50]

- `<noinclude>...</noinclude>`, which marks content that is not to be transcluded;
- `<includeonly>...</includeonly>`, which marks content that is not rendered unless it is transcluded;
- `<onlyinclude>...</onlyinclude>`, which marks content that is to be the *only* content transcluded.

A related method, called template *substitution* (called by adding `subst:` at the beginning of a template link) inserts the contents of the template into the target page (like a **copy and paste** operation), instead of loading the template contents dynamically whenever the page is loaded. This can lead to inconsistency when using templates, but may be useful in certain cases, and in most cases requires fewer **server** resources (the actual amount of savings can vary depending on wiki configuration and the complexity of the template).

Templates have found many different uses. Templates enable users to create complex table layouts that are used consistently across multiple pages, and where only the content of the tables gets inserted using template parameters. Templates are frequently used to identify problems with a Wikipedia article by putting a template in the article. This template then outputs a graphical box stating that the article content is disputed or in need of some other attention, and also categorize it so that articles of this nature can be located. Templates are also used on user pages to send users standard messages welcoming them to the site,[51] giving them awards for outstanding contributions,[52][53] warning them when their behavior is considered inappropriate,[54] notifying them when they are blocked from editing,[55] and so on.

Groups and restriction of access

[edit]

MediaWiki offers flexibility in creating and defining user groups. For instance, it would be possible to create an arbitrary "ninja" group that can block users and delete pages, and whose edits are hidden by default in the recent changes log. It is also possible to set up a group of "autoconfirmed" users that one becomes a member of after making a certain number of edits and waiting a certain number of days.[56] Some groups that are enabled by default are bureaucrats and sysops. Bureaucrats have the power to change other users' rights. Sysops have power over page protection and **deletion** and the blocking of users from editing. MediaWiki's available controls on editing rights have been deemed sufficient for publishing and maintaining important documents such as a manual of **standard operating procedures** in

a hospital.^[57]

MediaWiki comes with a basic set of features related to restricting access, but its original and ongoing design is driven by functions that largely relate to content, not content segregation. As a result, with minimal exceptions (related to specific tools and their related "Special" pages), page access control has never been a high priority in core development and developers have stated that users requiring secure user access and authorization controls should not rely on MediaWiki, since it was never designed for these kinds of situations. For instance, it is extremely difficult to create a wiki where only certain users can read and access some pages.^[58] Here, wiki engines like **Foswiki**, **MoinMoin** and **Confluence** provide more flexibility by supporting advanced security mechanisms like **access control lists**.

Extensibility

^[edit]

The MediaWiki codebase contains various **hooks** using **callback functions** to add additional PHP code in an **extensible** way. This allows developers to write extensions without necessarily needing to modify the core or having to submit their code for review. Installing an extension typically consists of adding a line to the configuration file, though in some cases additional changes such as database updates or core patches are required.

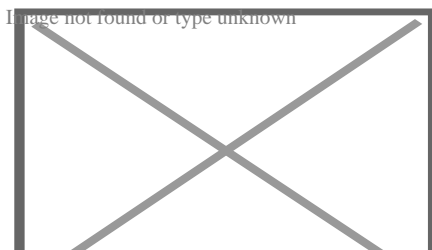
Five main extension points were created to allow developers to add features and functionalities to MediaWiki. Hooks are run every time a certain event happens; for instance, the ArticleSaveComplete hook occurs after a save article request has been processed.^[59] This can be used, for example, by an extension that notifies selected users whenever a page edit occurs on the wiki from new or anonymous users.^[60] New tags can be created to process data with opening and closing tags (<newtag>...</newtag>).^[61] Parser functions can be used to create a new command (...).^[62] New special pages can be created to perform a specific function. These pages are dynamically generated. For example, a special page might show all pages that have one or more links to an external site or it might create a form providing user submitted feedback.^[63] **Skins** allow users to customize the look and feel of MediaWiki.^[64] A minor extension point allows the use of **Amazon S3** to host image files.^[65]

Extensions

^[edit]

Text manipulation

^[edit]



Tim Starling in 2008

Among the most popular extensions is a parser function extension, ParserFunctions, which allows different content to be rendered based on the result of **conditional statements**.^[66] These conditional statements can perform functions such as evaluating whether a parameter is empty, comparing strings, evaluating mathematical expressions, and returning one of two values depending on whether a page exists. It was designed as a replacement for a notoriously inefficient template called Qif.^[67] Schindler recounts the history of the ParserFunctions extension as follows:^[68]

In 2006 some Wikipedians discovered that through an intricate and complicated interplay of templating features and CSS they could create conditional wiki text, i.e. text that was displayed if a template parameter had a specific value. This included repeated calls of templates within templates, which bogged down the performance of the whole system. The developers faced the choice of either disallowing the spreading of an obviously desired feature by detecting such usage and explicitly disallowing it within the software or offering an efficient alternative. The latter was done by Tim Starling, who announced the introduction of parser functions, wiki text that calls functions implemented in the underlying software. At first, only conditional text and the computation of simple mathematical expressions were implemented, but this already increased the possibilities for wiki editors enormously. With time further parser functions were introduced, finally leading to a framework that allowed the simple writing of extension functions to add arbitrary functionalities, like e.g. geo-coding services or widgets. This time the developers were clearly reacting to the demand of the community, being forced either to fight the solution of the issue that the community had (i.e. conditional text), or offer an improved technical implementation to replace the previous practice and achieve an overall better performance.

Another parser functions extension, StringFunctions, was developed to allow evaluation of string length, string position, and so on. Wikimedia communities, having created awkward workarounds to accomplish the same functionality,^[69] clamored for it to be enabled on their projects.^[70] Much of its functionality was eventually integrated into the ParserFunctions extension,^[71] albeit disabled by default and accompanied by a warning from Tim Starling that enabling string functions would allow users "to implement their own parsers in the ugliest, most inefficient programming language known to man: MediaWiki wikitext with ParserFunctions."^[72]

Since 2012 an extension, Scribunto, has existed that allows for the creation of "modules"—wiki pages written in the scripting language **Lua**—which can then be run within templates and standard wiki pages. Scribunto has been installed on Wikipedia and other Wikimedia sites since 2013 and is used heavily on those sites. Scribunto code runs significantly faster than corresponding wikitext code using ParserFunctions.^[73]

For footnotes and academic-related display

[\[edit\]](#)

Another very popular extension is a citation extension that enables footnotes to be added to pages using inline references.^[74] This extension has, however, been criticized for being difficult to use and requiring the user to memorize complex syntax. A gadget called **RefToolbar** attempts to make it easier to create citations using common templates. MediaWiki has some extensions that are well-suited for academia, such as mathematics extensions^[75] and an extension that allows molecules to be rendered in **3D**.^[76]

Integration

[\[edit\]](#)

A generic Widgets extension exists that allows MediaWiki to integrate with virtually anything. Other examples of extensions that could improve a wiki are category suggestion extensions^[77] and extensions for inclusion of **Flash Videos**,^[78] YouTube videos,^[79] and **RSS feeds**.^[80] **Metavid**, a site that archives video footage of the **U.S. Senate** and **House** floor proceedings, was created using code extending MediaWiki into the domain of collaborative video authoring.^[81]

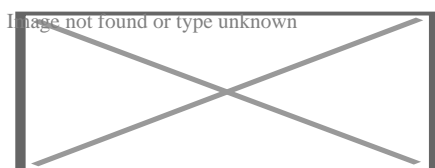
Combating linkspam

[\[edit\]](#)

There are many **spambots** that search the web for MediaWiki installations and add **linkspam** to them, despite the fact that MediaWiki uses the **nofollow** attribute to discourage such attempts at **search engine optimization**.^[82] Part of the problem is that third party republishers, such as **mirrors**, may not independently implement the nofollow tag on their websites, so marketers can still get **PageRank** benefit by inserting links into pages when those entries appear on third party websites.^[83] **Anti-spam** extensions have been developed to combat the problem by introducing **CAPTCHAs**,^[84] **blacklisting** certain URLs,^[85] and allowing bulk deletion of pages recently added by a particular user.^[86]

Searches and queries

[\[edit\]](#)



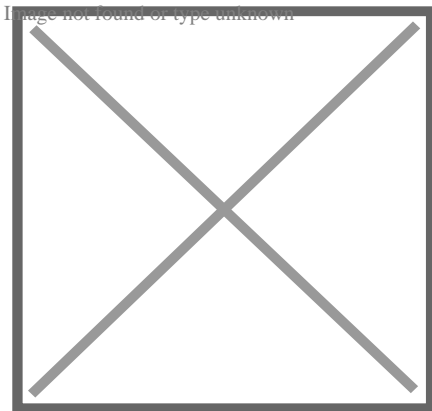
A search box showing a **drop-down list**

MediaWiki comes pre-installed with a standard text-based search. Extensions exist to let MediaWiki use more sophisticated third-party search engines, including **Elasticsearch** (which since 2014 has been in use on Wikipedia), **Lucene**^[87] and **Sphinx**.^[88]

Various MediaWiki extensions have also been created to allow for more complex, **faceted search**, on both data entered within the wiki and on **metadata** such as pages' revision history.^{[89][90]} **Semantic MediaWiki** is one such extension.^{[91][92]}

Rich content

[edit]



Images can be arranged in galleries, a feature that is used extensively for Wikimedia's media archive, **Wikimedia Commons**.

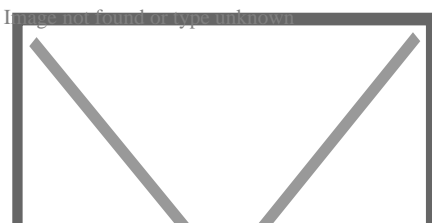
Various extensions to MediaWiki support **rich content** generated through specialized syntax. These include mathematical formulas using **LaTeX**, graphical timelines over mathematical **plotting**, **musical scores** and **Egyptian hieroglyphs**.

The software supports a wide variety of uploaded media files, and allows image galleries and thumbnails to be generated with relative ease. There is also support for **Exif metadata**. MediaWiki operates the **Wikimedia Commons**, one of the largest **free content** media archives.

For WYSIWYG editing, **VisualEditor** is available to use in MediaWiki which simplifying editing process for editors and has been bundled since MediaWiki 1.35.^[93] Other extensions exist for handling WYSIWYG editing to different degrees.^[94]

Database

[edit]



A schematic of the MediaWiki database structure

MediaWiki can use either the **MySQL/MariaDB**, **PostgreSQL** or **SQLite relational database management system**. Support for **Oracle Database** and **Microsoft SQL Server** has been dropped since MediaWiki 1.34.[95] A MediaWiki database contains several dozen **tables**, including a page table that contains page titles, page ids, and other metadata;[96] and a revision table to which is added a new row every time an edit is made, containing the page id, a brief textual summary of the change performed, the user name of the article editor (or its IP address the case of an unregistered user) and a timestamp.[97][98]

In a 4½ year period prior to 2008, the MediaWiki database had 170 **schema** versions.[99] Possibly the largest schema change was done in 2005 with MediaWiki 1.5, when the storage of metadata was separated from that of content, to improve performance flexibility. When this upgrade was applied to Wikipedia, the site was locked for editing, and the schema was converted to the new version in about 22 hours. Some software enhancement proposals, such as a proposal to allow sections of articles to be watched via watchlist, have been rejected because the necessary schema changes would have required excessive Wikipedia downtime.[100]

Performance and storage

[edit]

Because it is used to run one of the highest-traffic sites on the Web, Wikipedia, MediaWiki's performance and **scalability** have been highly optimized.[101] MediaWiki supports **Squid**, **load-balanced** database replication, client-side caching, **memcached** or table-based caching for frequently accessed processing of query results, a simple static file cache, feature-reduced operation, revision compression, and a job queue for database operations. MediaWiki developers have attempted to optimize the software by avoiding expensive algorithms, database queries, etc., caching every result that is expensive and has temporal locality of reference, and focusing on the hot spots in the code through **profiling**. [102]

MediaWiki code is designed to allow for data to be written to a read-write database and read from read-only databases, although the read-write database can be used for some read operations if the read-only databases are not yet up to date. **Metadata**, such as article revision history, article relations (links, categories etc.), user accounts and settings can be stored in core databases and cached; the actual revision text, being more rarely used, can be stored as append-only **blobs** in external storage. The software is suitable for the operation of large-scale **wiki farms** such as **Wikimedia**, which had about 800 wikis as of August 2011. However, MediaWiki comes with no built-in GUI to manage such installations.

Empirical evidence shows most revisions in MediaWiki databases tend to differ only slightly from previous revisions. Therefore, subsequent revisions of an article can be concatenated and then compressed, achieving very high **data compression ratios** of up to 100x.[102]

For more information on the architecture, such as how it stores wikitext and assembles a page, see [External links](#).

Limitations

[\[edit\]](#)

The parser serves as the *de facto* standard for the MediaWiki syntax, as no formal syntax has been defined. Due to this lack of a formal definition, it has been difficult to create **WYSIWYG** editors for MediaWiki, although several WYSIWYG extensions do exist, including the popular **VisualEditor**.

MediaWiki is not designed to be a suitable replacement for dedicated **online forum** or blogging software,[\[103\]](#) although extensions do exist to allow for both of these.[\[104\]](#)[\[105\]](#)

It is common for new MediaWiki users to make certain mistakes, such as forgetting to sign posts with four tildes (~~~~),[\[106\]](#) or manually entering a plaintext signature,[\[107\]](#) due to unfamiliarity with the idiosyncratic particulars involved in communication on MediaWiki discussion pages. On the other hand, the format of these discussion pages has been cited as a strength by one educator, who stated that it provides more fine-grain capabilities for discussion than traditional threaded discussion forums. For example, instead of 'replying' to an entire message, the participant in a discussion can create a hyperlink to a new wiki page on any word from the original page. Discussions are easier to follow since the content is available via hyperlinked wiki page, rather than a series of reply messages on a traditional threaded discussion forum. However, except in few cases, students were not using this capability, possibly because of their familiarity with the traditional linear discussion style and a lack of guidance on how to make the content more '**link-rich**'.[\[108\]](#)

MediaWiki by default has little support for the creation of dynamically assembled documents, or pages that aggregate data from other pages. Some research has been done on enabling such features directly within MediaWiki.[\[109\]](#) The **Semantic MediaWiki** extension provides these features. It is not in use on Wikipedia, but in more than 1,600 other MediaWiki installations.[\[110\]](#) The Wikibase Repository and Wikibase Repository client are however implemented in **Wikidata** and **Wikipedia** respectively, and to some extent provides **semantic web** features, and linking of centrally stored data to infoboxes in various Wikipedia articles.

Upgrading MediaWiki is usually fully automated, requiring no changes to the site content or template programming. Historically troubles have been encountered when upgrading from significantly older versions.[\[111\]](#)

Security

[\[edit\]](#)

MediaWiki developers have enacted security standards, both for core code and extensions. [112] SQL queries and HTML output are usually done through wrapper functions that handle validation, escaping, filtering for prevention of cross-site scripting and SQL injection. [113] Many security issues have had to be patched after a MediaWiki version release, [114] and accordingly MediaWiki.org states, "The most important security step you can take is to keep your software up to date" by subscribing to the announcement mailing list and installing security updates that are announced. [115]

Support

[edit]

Support for MediaWiki users consists of:

- MediaWiki.org, including the Support Desk.
- An official mailing list, Mediawiki-l.
- Several books have been written about MediaWiki administration, [116] including some free online books. [117][118]

License

[edit]

MediaWiki is free and open-source and is distributed under the terms of the GNU General Public License version 2 or any later version. Its documentation, located at its official website at www.mediawiki.org, is released under the Creative Commons BY-SA 4.0 license, with a set of help pages intended to be freely copied into fresh wiki installations and/or distributed with MediaWiki software in the public domain instead to eliminate legal issues for wikis with other licenses. [119][120] MediaWiki's development has generally favored the use of open-source media formats. [121]

Development

[edit]

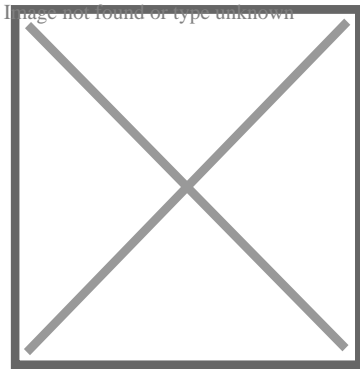
MediaWiki has an active volunteer community for development and maintenance. MediaWiki developers are spread around the world, though with a majority in the United States and Europe. Face-to-face meetings and programming sessions for MediaWiki developers have been held once or several times a year since 2004. [122]

Anyone can submit patches to the project's Git/Gerrit repository. [123] There are also paid programmers who primarily develop projects for the Wikimedia Foundation. MediaWiki developers participate in the Google Summer of Code by facilitating the assignment of

mentors to students wishing to work on MediaWiki core and extension projects.[124] During the year prior to November 2012, there were about two hundred developers who had committed changes to the MediaWiki core or extensions.[125] Major MediaWiki releases are generated approximately every six months by taking snapshots of the development branch, which is kept continuously in a runnable state;[126] **minor releases**, or **point releases**, are issued as needed to correct **bugs** (especially security problems). MediaWiki is developed on a **continuous integration** development model, in which software changes are pushed live to Wikimedia sites on regular basis.[126] MediaWiki also has a public **bug** tracker, *phabricator.wikimedia.org*, which runs **Phabricator**. The site is also used for **feature** and **enhancement** requests.

History

[**edit**]



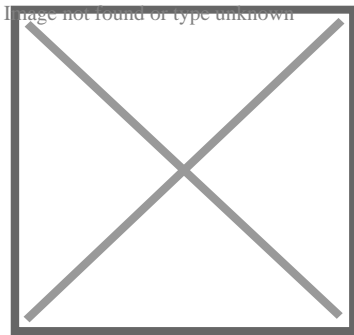
Magnus Manske in 2012

When Wikipedia was launched in January 2001, it ran on an existing **wiki software** system, **UseModWiki**. UseModWiki is written in the **Perl** programming language, and stores all wiki pages in text (**.txt**) files. This software soon proved to be limiting, in both functionality and performance. In mid-2001, **Magnus Manske**—a developer and student at the **University of Cologne**, as well as a **Wikipedia editor**—began working on new software that would replace UseModWiki, specifically designed for use by Wikipedia. This software was written in the **PHP** scripting language, and stored all of its information in a **MySQL** database. The new software was largely developed by August 24, 2001, and a test wiki for it was established shortly thereafter.

The first full implementation of this software was the new **Meta Wikipedia** on November 9, 2001. There was a desire to have it implemented immediately on the English-language Wikipedia.[127] However, Manske was apprehensive about any potential **bugs** harming the nascent website during the period of the final exams he had to complete immediately prior to Christmas;[128] this led to the launch on the English-language Wikipedia being delayed until January 25, 2002. The software was then, gradually, deployed on all the Wikipedia language sites of that time. This software was referred to as "the PHP script" and as "phase II", with the name "phase I", retroactively given to the use of UseModWiki.

Increasing usage soon caused load problems to arise again, and soon after, another rewrite of the software began; this time being done by [Lee Daniel Crocker](#), which became known as "phase III". This new software was also written in PHP, with a MySQL backend, and kept the basic interface of the phase II software, but with the added functionality of a wider [scalability](#). The "phase III" software went live on Wikipedia in July 2002.

The [Wikimedia Foundation](#) was announced on June 20, 2003. In July, Wikipedia contributor Daniel Mayer suggested the name "MediaWiki" for the software, as a play on "Wikimedia".[\[129\]](#) The MediaWiki name was gradually phased in, beginning in August 2003. The name has frequently caused confusion due to its (intentional) similarity to the "Wikimedia" name (which itself is similar to "Wikipedia").[\[130\]](#) The first version of MediaWiki, 1.1, was released in December 2003.



MediaWiki logo until April 1, 2021

The old [product logo](#) was created by [Erik Möller](#), using a flower photograph taken by [Florence Nibart-Devouard](#), and was originally submitted to the logo contest for a new [Wikipedia logo](#), held from July 20 to August 27, 2003.[\[131\]\[132\]](#) The logo came in third place, and was chosen to represent MediaWiki rather than Wikipedia, with the second place logo being used for the Wikimedia Foundation.[\[133\]](#) The double square brackets ([\[\[\]\]](#)) symbolize the [syntax](#) MediaWiki uses for creating [hyperlinks](#) to other wiki pages; while the [sunflower](#) represents the diversity of content on Wikipedia, its constant growth, and the wilderness.[\[134\]](#)

Later, Brooke Vibber, the [chief technical officer](#) of the [Wikimedia Foundation](#),[\[135\]](#) took up the role of [release manager](#).[\[136\]\[101\]](#)

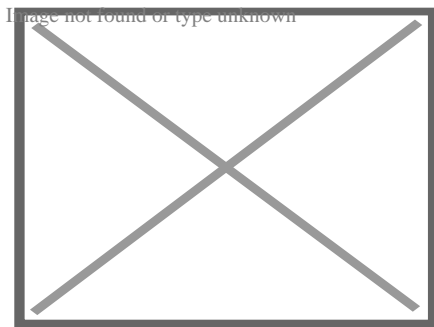
Major milestones in MediaWiki's development have included: the [categorization system](#) (2004); [parser](#) functions, (2006); [Flagged Revisions](#), (2008);[\[68\]](#) the "[ResourceLoader](#)", a delivery system for [CSS](#) and JavaScript (2011);[\[137\]](#) and the [VisualEditor](#), a "what you see is what you get" ([WYSIWYG](#)) editing platform (2013).[\[138\]](#)

The contest of designing a new logo was initiated on June 22, 2020, as the old logo was a bitmap image and had "high details", leading to problems when rendering at high and low resolutions, respectively. After two rounds of voting, the new and current MediaWiki logo designed by [Serhio Magpie](#) was selected on October 24, 2020, and officially adopted on April 1, 2021.[\[139\]](#)

Sites using MediaWiki

[[edit](#)]

See also: [Category:MediaWiki websites](#)



[Fandom](#) also makes use of MediaWiki.

MediaWiki's most famous use has been in [Wikipedia](#) and, to a lesser degree, the Wikimedia Foundation's other projects. [Fandom](#), a [wiki hosting service](#) formerly known as Wikia, runs on MediaWiki. Other public wikis that run on MediaWiki include [wikiHow](#) and [SNPedia](#). [WikiLeaks](#) began as a MediaWiki-based site, but is no longer a wiki.

A number of alternative wiki encyclopedias to Wikipedia run on MediaWiki, including [Citizendium](#), [Metapedia](#), [Scholarpedia](#) and [Conservapedia](#). MediaWiki is also used internally by a large number of companies, including [Novell](#) and [Intel](#).^[140]^[141]

Notable usages of MediaWiki within governments include [Intellipedia](#), used by the [United States Intelligence Community](#), [Diplopedia](#), used by the [United States Department of State](#), and milWiki, a part of [milSuite](#) used by the [United States Department of Defense](#). [United Nations agencies](#) such as the [United Nations Development Programme](#) and [INSTRAW](#) chose to implement their wikis using MediaWiki, because "this software runs Wikipedia and is therefore guaranteed to be thoroughly tested, will continue to be developed well into the future, and future technicians on these wikis will be more likely to have exposure to MediaWiki than any other wiki software."^[142]

The [Free Software Foundation](#) uses MediaWiki to implement the [LibrePlanet](#) site.^[143]

Comparison to other online collaboration software

[[edit](#)]

Main article: [Comparison of wiki software](#)

Users of online [collaboration software](#) are familiar with MediaWiki's functions and layout due to its noted use on Wikipedia. A 2006 overview of social software in academia observed that "Compared to other wikis, MediaWiki is also fairly aesthetically pleasing, though simple, and has an easily customized side menu and [stylesheet](#)."^[144] However, in one assessment in

2006, [Confluence](#) was deemed to be a superior product due to its very usable API and ability to better support multiple wikis.^[76]


A 2009 study at the [University of Hong Kong](#) compared [TWiki](#) to MediaWiki. The authors noted that TWiki has been considered as a collaborative tool for the development of educational papers and technical projects, whereas MediaWiki's most noted use is on Wikipedia. Although both platforms allow discussion and tracking of progress, TWiki has a "Report" part that MediaWiki lacks. Students perceived MediaWiki as being easier to use and more enjoyable than TWiki. When asked whether they recommended using MediaWiki for [knowledge management](#) course group project, 15 out of 16 respondents expressed their preference for MediaWiki giving answers of great certainty, such as "of course", "for sure".^[145] TWiki and MediaWiki both have flexible plug-in architecture.^[146]

A 2009 study that compared students' experience with MediaWiki to that with [Google Docs](#) found that students gave the latter a much higher rating on user-friendly layout.^[147]

A 2021 study conducted by the [Brazilian Nuclear Engineering Institute](#) compared a MediaWiki-based [knowledge management system](#) against two others that were based on [DSpace](#) and [Open Journal Systems](#), respectively.^[148] It highlighted ease of use as an advantage of the MediaWiki-based system, noting that because the Wikimedia Foundation had been developing MediaWiki for a site aimed at the general public (Wikipedia), "its user interface was designed to be more user-friendly from start, and has received large user feedback over a long time", in contrast to DSpace's and OJS's focus on niche audiences.^[148]

See also

[\[edit\]](#)

-  [Free and open-source software portal](#)
- [List of content management systems](#)
- [List of wiki software](#)
- [BlueSpice](#)
- [Semantic MediaWiki](#)
- [XOWA](#) – for viewing Wikipedia and other wikis offline
- [PHP](#) – a programming language that powers MediaWiki

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- [Wikimania](#)

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People (list)

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- [Lee Daniel Crocker](#)
- [Florence Devouard](#)
- [Sue Gardner](#)
- [David Gerard](#)
- [James Heilman](#)
- [Maryana Iskander](#)
- [Dariusz Jemielniak](#)
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- Carlos Bandeirense Mirandópolis hoax
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Content use	<ul style="list-style-type: none"> ○ DBpedia ○ Depths of Wikipedia ○ Google and Wikipedia ○ Health information ○ Kiwix ○ Science information ○ Wikipedia-based education
Related	<ul style="list-style-type: none"> ○ <i>The Iraq War: A Historiography of Wikipedia Changelogs</i> ○ LGBTQ and Wikipedia ○ <i>Magna Carta (An Embroidery)</i> ○ People imprisoned for editing Wikipedia ○ Print Wikipedia ○ Wiki rabbit hole ○ Wikimedia Foundation ○ Wikimedia movement ○ Wikipedia for World Heritage ○ Wikipedia in India ○ Wikiracing ○ List of online encyclopedias ○ List of wikis

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- **e**

Wikimedia Foundation

Projects ○ [Wikipedia community \(Wikipedians\)](#)

Current

- [Maryana Iskander](#)
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- [Dariusz Jemielniak](#)
- [Rebecca MacKinnon](#)
- [Raju Nariseti](#)
- [Rosie Stephenson-Goodknight](#)
- [Esra'a Al Shafei](#)
- [Jimmy Wales](#)

People

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- [Bishakha Datta](#)
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Related

- *The Signpost*
- *Wikipedia Monument*
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- Google and Wikipedia
- Wikipedia for World Heritage

Authority control databases Image not found or type unknown [Edit this at Wikidata](#)

International

- VIAF
- FAST

National

- Germany
- United States
- France
- BnF data
- Israel

Other

- IdRef

About World Wide Web

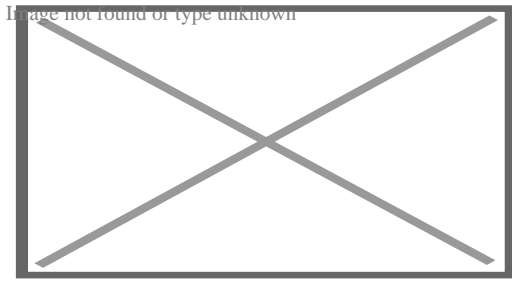
This article is about the global system of pages accessed via HTTP. For the worldwide computer network, see [Internet](#). For the web browser, see [WorldWideWeb](#). "WWW" and "The Web" redirect here. For other uses, see [WWW \(disambiguation\)](#) and [The Web \(disambiguation\)](#).

World Wide Web

Abbreviation WWW

Year started 1989; 36 years ago by [Tim Berners-Lee](#)

- Organization**
- CERN (1989–1994)
 - W3C (1994–current)



A web page from Wikipedia displayed in Google Chrome

The **World Wide Web** (WWW or simply **the Web**) is an **information system** that enables **content** sharing over the **Internet** through user-friendly ways meant to appeal to users beyond **IT** specialists and hobbyists.[1] It allows documents and other **web resources** to be accessed over the Internet according to specific rules of the **Hypertext Transfer Protocol** (HTTP).[2]

The Web was invented by English computer scientist **Tim Berners-Lee** while at **CERN** in 1989 and opened to the public in 1993. It was conceived as a "universal linked information system".[3][4][5] Documents and other media content are made available to the network through **web servers** and can be accessed by programs such as **web browsers**. Servers and resources on the World Wide Web are identified and located through character strings called **uniform resource locators** (URLs).

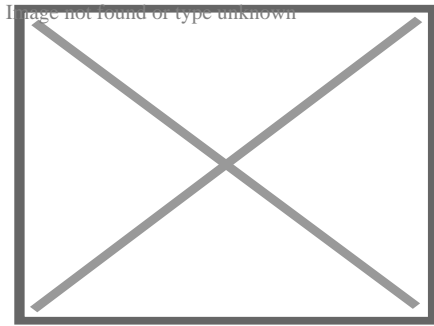
The original and still very common document type is a **web page** formatted in **Hypertext Markup Language** (HTML). This markup language supports **plain text**, **images**, embedded **video** and **audio** contents, and **scripts** (short programs) that implement complex user interaction. The HTML language also supports **hyperlinks** (embedded URLs) which provide immediate access to other web resources. **Web navigation**, or web surfing, is the common practice of following such hyperlinks across multiple websites. **Web applications** are web pages that function as **application software**. The information in the Web is transferred across the Internet using HTTP. Multiple web resources with a common theme and usually a common **domain name** make up a **website**. A single web server may provide multiple websites, while some websites, especially the most popular ones, may be provided by multiple servers. Website content is provided by a myriad of companies, organizations, government agencies, and **individual users**; and comprises an enormous amount of educational, entertainment, commercial, and government information.

The Web has become the world's dominant **information systems platform**. [6][7][8][9] It is the primary tool that billions of people worldwide use to interact with the Internet.[2]

History

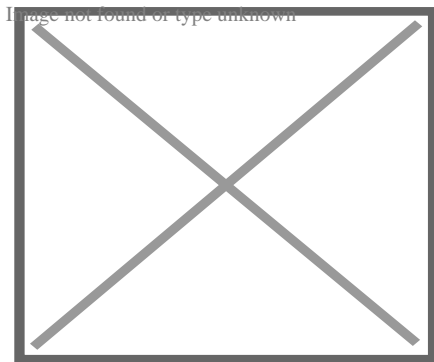
[[edit](#)]

Main article: [History of the World Wide Web](#)



This [NeXT Computer](#) was used by [Sir Tim Berners-Lee](#) at [CERN](#) and became the world's first [Web server](#).

The Web was invented by English computer scientist [Tim Berners-Lee](#) while working at [CERN](#).^{[10][11]} He was motivated by the problem of storing, updating, and finding documents and data files in that large and constantly changing organization, as well as distributing them to collaborators outside CERN. In his design, Berners-Lee dismissed the common [tree structure](#) approach, used for instance in the existing CERNDOC documentation system and in the [Unix filesystem](#), as well as approaches that relied in tagging files with [keywords](#), as in the VAX/NOTES system. Instead he adopted concepts he had put into practice with his private [ENQUIRE](#) system (1980) built at CERN. When he became aware of [Ted Nelson's hypertext](#) model (1965), in which documents can be linked in unconstrained ways through [hyperlinks](#) associated with "hot spots" embedded in the text, it helped to confirm the validity of his concept.^{[12][13]}



The historic World Wide Web logo, designed by [Robert Cailliau](#). Currently, there is no widely accepted logo in use for the WWW.

The model was later popularized by [Apple's HyperCard](#) system. Unlike Hypercard, Berners-Lee's new system from the outset was meant to support links between multiple databases on independent computers, and to allow simultaneous access by many users from any computer on the Internet. He also specified that the system should eventually handle other media besides text, such as graphics, speech, and video. Links could refer to mutable data files, or even fire up programs on their server computer. He also conceived "gateways" that would

allow access through the new system to documents organized in other ways (such as traditional computer **file systems** or the **Usenet**). Finally, he insisted that the system should be decentralized, without any central control or coordination over the creation of links.^{[4][14][10][11]}

Berners-Lee submitted a proposal to CERN in May 1989, without giving the system a name.^[4] He got a working system implemented by the end of 1990, including a browser called **WorldWideWeb** (which became the name of the project and of the network) and **an HTTP server** running at CERN. As part of that development he defined the first version of the HTTP protocol, the basic URL syntax, and implicitly made HTML the primary document format.^[15] The technology was released outside CERN to other research institutions starting in January 1991, and then to the whole Internet on 23 August 1991. The Web was a success at CERN, and began to spread to other scientific and academic institutions. Within the next two years, **there were 50 websites created**.^{[16][17]}

CERN made the Web protocol and code available royalty free in 1993, enabling its widespread use.^{[18][19]} After the **NCSA** released the **Mosaic web browser** later that year, the Web's popularity grew rapidly as **thousands of websites** sprang up in less than a year.^{[20][21]} Mosaic was a graphical browser that could display inline images and submit **forms** that were processed by the **HTTPd server**.^{[22][23]} **Marc Andreessen** and **Jim Clark** founded **Netscape** the following year and released the **Navigator browser**, which introduced **Java** and **JavaScript** to the Web. It quickly became the dominant browser. Netscape **became a public company** in 1995 which triggered a frenzy for the Web and started the **dot-com bubble**.^[24] Microsoft responded by developing its own browser, **Internet Explorer**, starting the **browser wars**. By bundling it with Windows, it became the dominant browser for 14 years.^[25]

Berners-Lee founded the **World Wide Web Consortium** (W3C) which created **XML** in 1996 and recommended replacing HTML with stricter **XHTML**.^[26] In the meantime, developers began exploiting an IE feature called **XMLHttpRequest** to make **Ajax** applications and launched the **Web 2.0** revolution. **Mozilla**, **Opera**, and Apple rejected XHTML and created the **WHATWG** which developed **HTML5**.^[27] In 2009, the W3C conceded and abandoned XHTML.^[28] In 2019, it ceded control of the HTML specification to the WHATWG.^[29]

The World Wide Web has been central to the development of the **Information Age** and is the primary tool billions of people use to interact on the **Internet**.^{[30][31][32][9]}

Nomenclature

^[edit]



This section **needs additional citations for verification**. Please help **improve this article by adding citations to reliable sources** in this section. Unsourced material may be challenged and removed. *(August 2023)* (***Learn how and when to remove this message***)

Tim Berners-Lee states that *World Wide Web* is officially spelled as three separate words, each capitalised, with no intervening hyphens.[33] Nonetheless, it is often called simply *the Web*, and also often *the web*; see [Capitalization of Internet](#) for details. In Mandarin Chinese, *World Wide Web* is commonly translated via a [phono-semantic matching](#) to *wàn wéi wǎng* (万维网), which satisfies *www* and literally means "10,000-dimensional net", a translation that reflects the design concept and proliferation of the World Wide Web.

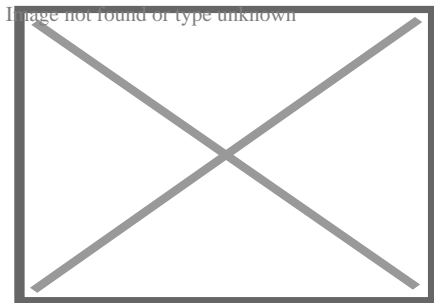
Use of the *www* prefix has been declining, especially when [web applications](#) sought to brand their domain names and make them easily pronounceable. As the [mobile Web](#) grew in popularity,^{[[citation needed](#)]} services like [Gmail.com](#), [Outlook.com](#), [Myspace.com](#), [Facebook.com](#) and [Twitter.com](#) are most often mentioned without adding "*www.*" (or, indeed, ".com") to the domain.[34]

In English, *www* is usually read as *double-u double-u double-u*.^{[[35](#)]} Some users pronounce it *dub-dub-dub*, particularly in New Zealand.^{[[36](#)]} [Stephen Fry](#), in his "Podgrams" series of podcasts, pronounces it *wuh wuh wuh*.^{[[37](#)]} The English writer [Douglas Adams](#) once quipped in *The Independent on Sunday* (1999): "The World Wide Web is the only thing I know of whose shortened form takes three times longer to say than what it's short for".^{[[38](#)]}

Function

[[edit](#)]

Main articles: [HTTP](#) and [HTML](#)



The World Wide Web functions as an [application layer protocol](#) that is run "on top of" (figuratively) the Internet, helping to make it more functional. The advent of the [Mosaic](#) web browser helped to make the web much more usable, to include the display of images and moving images ([GIFs](#)).

The terms *Internet* and *World Wide Web* are often used without much distinction. However, the two terms do not mean the same thing. The Internet is a global system of [computer networks](#) interconnected through telecommunications and [optical networking](#). In contrast, the World Wide Web is a global collection of documents and other [resources](#), linked by hyperlinks and [URIs](#). Web resources are accessed using [HTTP](#) or [HTTPS](#), which are application-level Internet protocols that use the Internet transport protocols.^{[[2](#)]}

Viewing a **web page** on the World Wide Web normally begins either by typing the **URL** of the page into a web browser or by following a hyperlink to that page or resource. The web browser then initiates a series of background communication messages to fetch and display the requested page. In the 1990s, using a browser to view web pages—and to move from one web page to another through hyperlinks—came to be known as 'browsing,' 'web surfing' (after **channel surfing**), or 'navigating the Web'. Early studies of this new behaviour investigated user patterns in using web browsers. One study, for example, found five user patterns: exploratory surfing, window surfing, evolved surfing, bounded navigation and targeted navigation.[39]

The following example demonstrates the functioning of a web browser when accessing a page at the URL `http://example.org/home.html` . The browser resolves the server name of the URL (`example.org`) into an **Internet Protocol address** using the globally distributed **Domain Name System** (DNS). This lookup returns an IP address such as `203.0.113.4` or `2001:db8:2e::7334`. The browser then requests the resource by sending an **HTTP** request across the Internet to the computer at that address. It requests service from a specific TCP port number that is well known for the HTTP service so that the receiving host can distinguish an HTTP request from other network protocols it may be servicing. HTTP normally uses **port number 80** and for HTTPS it normally uses **port number 443**. The content of the HTTP request can be as simple as two lines of text:

```
GET /home.html HTTP/1.1
Host: example.org
```

The computer receiving the HTTP request delivers it to web server software listening for requests on port 80. If the web server can fulfil the request it sends an HTTP response back to the browser indicating success:

```
HTTP/1.1 200 OK
Content-Type: text/html; charset=UTF-8
```

followed by the content of the requested page. Hypertext Markup Language (**HTML**) for a basic web page might look like this:

```
<html>
  <head>
    <title>Example.org – The World Wide Web</title>
  </head>
  <body>
```

```
<p>The World Wide Web, abbreviated as WWW and commonly known ...</p>
</body>
</html>
```

The web browser **parses** the HTML and interprets the markup (<title>, <p> for paragraph, and such) that surrounds the words to format the text on the screen. Many web pages use HTML to reference the URLs of other resources such as images, other embedded media, **scripts** that affect page behaviour, and **Cascading Style Sheets** that affect page layout. The browser makes additional HTTP requests to the web server for these other **Internet media types**. As it receives their content from the web server, the browser progressively **renders** the page onto the screen as specified by its HTML and these additional resources.

HTML

[[edit](#)]

Main article: [HTML](#)

Hypertext Markup Language (HTML) is the standard **markup language** for creating **web pages** and **web applications**. With **Cascading Style Sheets** (CSS) and **JavaScript**, it forms a triad of **cornerstone** technologies for the World Wide Web.^[40]

Web browsers receive HTML documents from a **web server** or from local storage and **render** the documents into multimedia web pages. HTML describes the structure of a web page **semantically** and originally included cues for the appearance of the document.

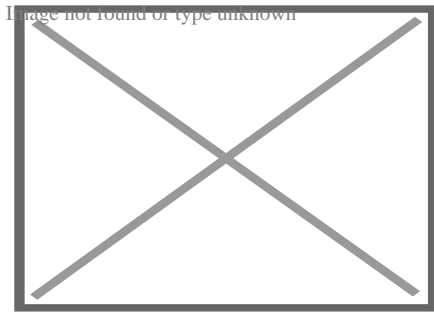
HTML elements are the building blocks of HTML pages. With HTML constructs, **images** and other objects such as **interactive forms** may be embedded into the rendered page. HTML provides a means to create **structured documents** by denoting structural **semantics** for text such as headings, paragraphs, lists, **links**, quotes and other items. HTML elements are delineated by *tags*, written using **angle brackets**. Tags such as and <input /> directly introduce content into the page. Other tags such as <p> surround and provide information about document text and may include other tags as sub-elements. Browsers do not display the HTML tags, but use them to interpret the content of the page.

HTML can embed programs written in a **scripting language** such as **JavaScript**, which affects the behaviour and content of web pages. Inclusion of CSS defines the look and layout of content. The **World Wide Web Consortium** (W3C), maintainer of both the HTML and the CSS standards, has encouraged the use of CSS over explicit presentational HTML since 1997.^[41]

Linking

[[edit](#)]

Most web pages contain hyperlinks to other related pages and perhaps to downloadable files, source documents, definitions and other web resources. In the underlying HTML, a hyperlink looks like this: `Example.org Homepage`.



Graphic representation of a minute fraction of the WWW, demonstrating **hyperlinks**

Such a collection of useful, related resources, interconnected via hypertext links is dubbed a *web* of information. Publication on the Internet created what Tim Berners-Lee first called the *WorldWideWeb* (in its original **CamelCase**, which was subsequently discarded) in November 1990.^[42]

The hyperlink structure of the web is described by the **webgraph**: the nodes of the web graph correspond to the web pages (or URLs) the directed edges between them to the hyperlinks. Over time, many web resources pointed to by hyperlinks disappear, relocate, or are replaced with different content. This makes hyperlinks obsolete, a phenomenon referred to in some circles as link rot, and the hyperlinks affected by it are often called "**dead**" **links**. The ephemeral nature of the Web has prompted many efforts to archive websites. The **Internet Archive**, active since 1996, is the best known of such efforts.

WWW prefix

^[edit]

Many hostnames used for the World Wide Web begin with *www* because of the long-standing practice of naming **Internet** hosts according to the services they provide. The **hostname** of a **web server** is often *www*, in the same way that it may be *ftp* for an **FTP server**, and *news* or *nntp* for a **Usenet news server**. These hostnames appear as Domain Name System (DNS) or **subdomain** names, as in *www.example.com*. The use of *www* is not required by any technical or policy standard and many websites do not use it; the first web server was *nxoc01.cern.ch*.^[43] According to Paolo Palazzi, who worked at CERN along with Tim Berners-Lee, the popular use of *www* as subdomain was accidental; the World Wide Web project page was intended to be published at *www.cern.ch* while *info.cern.ch* was intended to be the CERN home page; however the DNS records were never switched, and the practice of prepending *www* to an institution's website domain name was subsequently copied.^[44]^[better source needed] Many established websites still use the prefix, or they employ other subdomain names such as *www2*, *secure* or *en* for special purposes. Many such web servers are set up so that both

the main domain name (e.g., example.com) and the www subdomain (e.g., www.example.com) refer to the same site; others require one form or the other, or they may map to different web sites. The use of a subdomain name is useful for **load balancing** incoming web traffic by creating a **CNAME record** that points to a cluster of web servers. Since, currently^[as of?], only a subdomain can be used in a CNAME, the same result cannot be achieved by using the bare domain root.^[45]^[dubious – discuss]

When a user submits an incomplete domain name to a web browser in its address bar input field, some web browsers automatically try adding the prefix "www" to the beginning of it and possibly ".com", ".org" and ".net" at the end, depending on what might be missing. For example, entering "microsoft" may be transformed to *http://www.microsoft.com/* and "openoffice" to *http://www.openoffice.org*. This feature started appearing in early versions of **Firefox**, when it still had the working title 'Firebird' in early 2003, from an earlier practice in browsers such as **Lynx**.^[46]^[unreliable source?] It is reported that Microsoft was granted a US patent for the same idea in 2008, but only for mobile devices.^[47]

Scheme specifiers

^[edit]

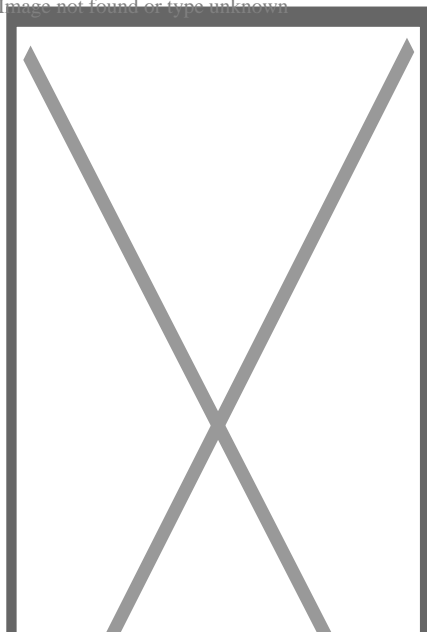
The scheme specifiers *http://* and *https://* at the start of a web **URI** refer to **Hypertext Transfer Protocol** or **HTTP Secure**, respectively. They specify the communication protocol to use for the request and response. The HTTP protocol is fundamental to the operation of the World Wide Web, and the added encryption layer in HTTPS is essential when browsers send or retrieve confidential data, such as passwords or banking information. Web browsers usually automatically prepend *http://* to user-entered URIs, if omitted.

Pages

^[edit]

Main article: **Web page**

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A screenshot of the home page of Wikimedia Commons

A *web page* (also written as *webpage*) is a document that is suitable for the World Wide Web and **web browsers**. A web browser displays a web page on a **monitor** or **mobile device**.

The term *web page* usually refers to what is visible, but may also refer to the contents of the **computer file** itself, which is usually a **text file** containing **hypertext** written in **HTML** or a comparable **markup language**. Typical web pages provide **hypertext** for browsing to other web pages via **hyperlinks**, often referred to as *links*. Web browsers will frequently have to access multiple **web resource** elements, such as reading **style sheets**, **scripts**, and images, while presenting each web page.

On a network, a web browser can retrieve a web page from a remote **web server**. The web server may restrict access to a private network such as a corporate intranet. The web browser uses the **Hypertext Transfer Protocol** (HTTP) to make such requests to the **web server**.

A **static web page** is delivered exactly as stored, as **web content** in the web server's **file system**. In contrast, a **dynamic web page** is generated by a **web application**, usually driven by **server-side software**. Dynamic web pages are used when each user may require completely different information, for example, bank websites, web email etc.

Static page

[**edit**]

Main article: **Static web page**

A *static web page* (sometimes called a *flat page/stationary page*) is a **web page** that is delivered to the user exactly as stored, in contrast to **dynamic web pages** which are generated by a **web application**.

Consequently, a static web page displays the same information for all users, from all contexts, subject to modern capabilities of a **web server** to **negotiate content-type** or language of the document where such versions are available and the server is configured to do so.

Dynamic pages

[**edit**]

Main articles: **Dynamic web page** and **Ajax (programming)**

Image not found or type unknown



Dynamic web page: example of server-side scripting (PHP and MySQL)

A *server-side dynamic web page* is a **web page** whose construction is controlled by an **application server** processing server-side scripts. In server-side scripting, **parameters** determine how the assembly of every new web page proceeds, including the setting up of more client-side processing.

A *client-side dynamic web page* processes the web page using JavaScript running in the browser. JavaScript programs can interact with the document via **Document Object Model**, or DOM, to query page state and alter it. The same client-side techniques can then dynamically update or change the DOM in the same way.

A dynamic web page is then reloaded by the user or by a **computer program** to change some variable content. The updating information could come from the server, or from changes made to that page's DOM. This may or may not truncate the browsing history or create a saved version to go back to, but a *dynamic web page update* using **Ajax** technologies will neither create a page to go back to nor truncate the **web browsing history** forward of the displayed page. Using Ajax technologies the end **user** gets *one dynamic page* managed as a single page in the **web browser** while the actual **web content** rendered on that page can vary. The Ajax engine sits only on the browser requesting parts of its DOM, *the* DOM, for its client, from an application server.

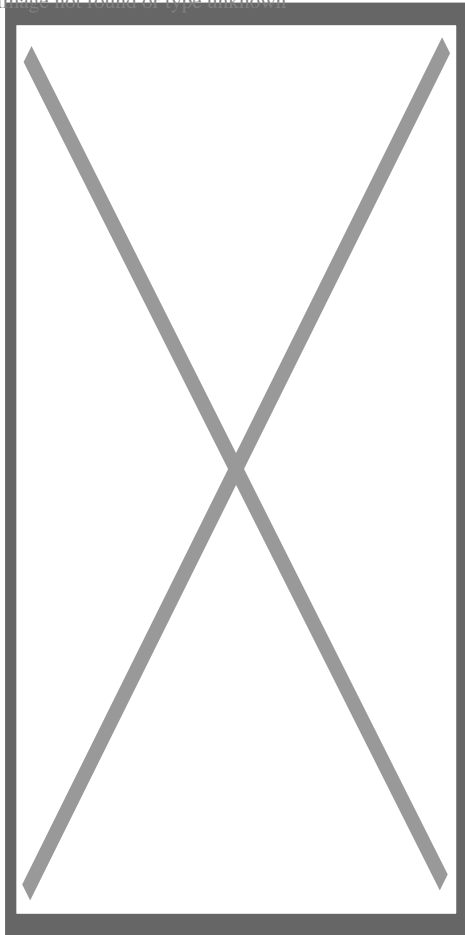
Dynamic HTML, or DHTML, is the umbrella term for technologies and methods used to create web pages that are not **static web pages**, though it has fallen out of common use since the popularization of **AJAX**, a term which is now itself rarely used.^[*citation needed*] Client-side-scripting, server-side scripting, or a combination of these make for the dynamic web experience in a browser.

JavaScript is a **scripting language** that was initially developed in 1995 by **Brendan Eich**, then of **Netscape**, for use within web pages.^[48] The standardised version is **ECMAScript**.^[48] To make web pages more interactive, some web applications also use JavaScript techniques such as **Ajax** (**asynchronous** JavaScript and **XML**). **Client-side script** is delivered with the page that can make additional HTTP requests to the server, either in response to user actions such as mouse movements or clicks, or based on elapsed time. The server's responses are used to modify the current page rather than creating a new page with each response, so the server needs only to provide limited, incremental information. Multiple Ajax requests can be handled at the same time, and users can interact with the page while data is retrieved. Web pages may also regularly **poll** the server to check whether new information is available.^[49]

Website

[**edit**]

Image not found or type unknown



The usap.gov website

Main article: [Website](#)

A *website*^[50] is a collection of related web resources including [web pages](#), [multimedia](#) content, typically identified with a common [domain name](#), and published on at least one [web server](#). Notable examples are wikipedia.org, google.com, and amazon.com.

A website may be accessible via a public [Internet Protocol](#) (IP) network, such as the [Internet](#), or a private [local area network](#) (LAN), by referencing a [uniform resource locator](#) (URL) that identifies the site.

Websites can have many functions and can be used in various fashions; a website can be a [personal website](#), a corporate website for a company, a government website, an organization website, etc. Websites are typically dedicated to a particular topic or purpose, ranging from entertainment and [social networking](#) to providing news and education. All publicly accessible websites collectively constitute the World Wide Web, while private websites, such as a company's website for its employees, are typically a part of an [intranet](#).

Web pages, which are the building blocks of websites, are [documents](#), typically composed in [plain text](#) interspersed with [formatting instructions](#) of Hypertext Markup Language ([HTML](#),

XHTML). They may incorporate elements from other websites with suitable **markup anchors**. Web pages are accessed and transported with the **Hypertext Transfer Protocol** (HTTP), which may optionally employ encryption (**HTTP Secure**, HTTPS) to provide security and privacy for the user. The user's application, often a **web browser**, renders the page content according to its HTML markup instructions onto a **display terminal**.

Hyperlinking between web pages conveys to the reader the **site structure** and guides the navigation of the site, which often starts with a **home page** containing a directory of the site **web content**. Some websites require user registration or **subscription** to access content. Examples of **subscription websites** include many business sites, news websites, **academic journal** websites, gaming websites, file-sharing websites, **message boards**, web-based **email**, **social networking** websites, websites providing real-time price quotations for different types of markets, as well as sites providing various other services. **End users** can access websites on a range of devices, including **desktop** and **laptop computers**, **tablet computers**, **smartphones** and **smart TVs**.

Browser

[**edit**]

Main article: **Web browser**

A *web browser* (commonly referred to as a *browser*) is a **software user agent** for accessing information on the World Wide Web. To connect to a website's **server** and display its pages, a user needs to have a web browser program. This is the program that the user runs to download, format, and display a web page on the user's computer.

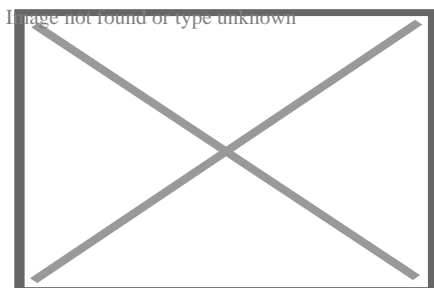
In addition to allowing users to find, display, and move between web pages, a web browser will usually have features like keeping bookmarks, recording history, managing cookies (see below), and home pages and may have facilities for recording passwords for logging into websites.

The most popular browsers are **Chrome**, **Safari**, **Edge**, **Samsung Internet** and **Firefox**.^[51]

Server

[**edit**]

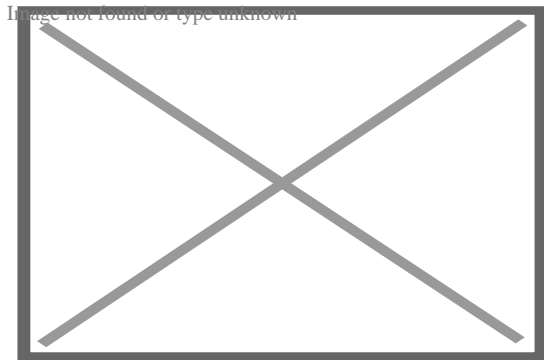
Main article: **Web server**



The inside and front of a **Dell PowerEdge** web server, a computer designed for **rack mounting**

A *Web server* is **server software**, or hardware dedicated to running said software, that can satisfy World Wide Web client requests. A web server can, in general, contain one or more websites. A web server processes incoming network requests over **HTTP** and several other related protocols.

The primary function of a web server is to store, process and deliver **web pages** to **clients**.^[52] The communication between client and server takes place using the **Hypertext Transfer Protocol (HTTP)**. Pages delivered are most frequently **HTML documents**, which may include **images**, **style sheets** and **scripts** in addition to the text content.



Multiple web servers may be used for a high traffic website; here, **Dell** servers are installed together to be used for the **Wikimedia Foundation**.

A **user agent**, commonly a **web browser** or **web crawler**, initiates communication by making a **request** for a specific resource using HTTP and the server responds with the content of that resource or an **error message** if unable to do so. The resource is typically a real file on the server's **secondary storage**, but this is not necessarily the case and depends on how the webserver is **implemented**.

While the primary function is to serve content, full implementation of HTTP also includes ways of receiving content from clients. This feature is used for submitting **web forms**, including **uploading** of files.

Many generic web servers also support **server-side scripting** using **Active Server Pages (ASP)**, **PHP** (Hypertext Preprocessor), or other **scripting languages**. This means that the behaviour of the webserver can be scripted in separate files, while the actual server software remains unchanged. Usually, this function is used to generate HTML documents **dynamically** ("on-the-fly") as opposed to returning **static documents**. The former is primarily used for retrieving or modifying information from **databases**. The latter is typically much faster and more easily **cached** but cannot deliver **dynamic content**.

Web servers can also frequently be found **embedded** in devices such as **printers**, **routers**, **webcams** and serving only a **local network**. The web server may then be used as a part of a

system for monitoring or administering the device in question. This usually means that no additional software has to be installed on the client computer since only a web browser is required (which now is included with most **operating systems**).

Optical Networking

[[edit](#)]

Optical networking is a sophisticated infrastructure that utilizes optical fiber to transmit data over long distances, connecting countries, cities, and even private residences. The technology uses optical microsystems like **tunable lasers**, filters, **attenuators**, switches, and wavelength-selective switches to manage and operate these networks.[53][54]

The large quantity of optical fiber installed throughout the world at the end of the twentieth century set the foundation of the Internet as it's used today. The information highway relies heavily on optical networking, a method of sending messages encoded in light to relay information in various telecommunication networks.[55]

The **Advanced Research Projects Agency Network** (ARPANET) was one of the first iterations of the Internet, created in collaboration with universities and researchers 1969.[56][57][58][59] However, access to the ARPANET was limited to researchers, and in 1985, the **National Science Foundation** founded the **National Science Foundation Network** (NSFNET), a program that provided supercomputer access to researchers.[59]

Limited public access to the Internet led to pressure from consumers and corporations to privatize the network. In 1993, the US passed the **National Information Infrastructure Act**, which dictated that the National Science Foundation must hand over control of the optical capabilities to commercial operators.[60][61]

The privatization of the Internet and the release of the World Wide Web to the public in 1993 led to an increased demand for Internet capabilities. This spurred developers to seek solutions to reduce the time and cost of laying new fiber and increase the amount of information that can be sent on a single fiber, in order to meet the growing needs of the public.[62][63][64][65]

In 1994, Pirelli S.p.A.'s optical components division introduced a wavelength-division multiplexing (WDM) system to meet growing demand for increased data transmission. This four-channel WDM technology allowed more information to be sent simultaneously over a single optical fiber, effectively boosting network capacity.[66][67]

Pirelli wasn't the only company that developed a WDM system; another company, the **Ciena Corporation** (Ciena), created its own technology to transmit data more efficiently. **David Huber**, an optical networking engineer and entrepreneur **Kevin Kimberlin** founded Ciena in 1992.[68][69][70] Drawing on laser technology from **Gordon Gould** and William Culver of

[Optelecom, Inc.](#), the company focused on utilizing optical amplifiers to transmit data via light. [\[71\]\[72\]\[73\]](#) Under chief executive officer Pat Nettles, Ciena developed a dual-stage optical amplifier for dense wavelength-division multiplexing (DWDM), patented in 1997 and deployed on the Sprint network in 1996. [\[74\]\[75\]\[76\]\[77\]\[78\]](#)

Cookie

[\[edit\]](#)

Main article: [HTTP cookie](#)

An *HTTP cookie* (also called *web cookie*, *Internet cookie*, *browser cookie*, or simply *cookie*) is a small piece of data sent from a website and stored on the user's computer by the user's [web browser](#) while the user is browsing. Cookies were designed to be a reliable mechanism for websites to remember [stateful](#) information (such as items added in the shopping cart in an online store) or to record the user's browsing activity (including clicking particular buttons, [logging in](#), or recording which pages were visited in the past). They can also be used to remember arbitrary pieces of information that the user previously entered into form fields such as names, addresses, passwords, and credit card numbers.

Cookies perform essential functions in the modern web. Perhaps most importantly, *authentication cookies* are the most common method used by web servers to know whether the user is logged in or not, and which account they are logged in with. Without such a mechanism, the site would not know whether to send a page containing sensitive information or require the user to authenticate themselves by logging in. The security of an authentication cookie generally depends on the security of the issuing website and the user's [web browser](#), and on whether the cookie data is encrypted. Security vulnerabilities may allow a cookie's data to be read by a [hacker](#), used to gain access to user data, or used to gain access (with the user's credentials) to the website to which the cookie belongs (see [cross-site scripting](#) and [cross-site request forgery](#) for examples). [\[79\]](#)

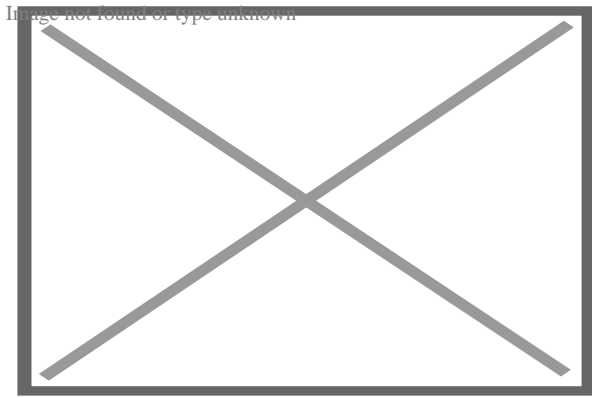
Tracking cookies, and especially third-party tracking cookies, are commonly used as ways to compile long-term records of individuals' browsing histories – a potential [privacy concern](#) that prompted European [\[80\]](#) and U.S. lawmakers to take action in 2011. [\[81\]\[82\]](#) European law requires that all websites targeting [European Union](#) member states gain "informed consent" from users before storing non-essential cookies on their device.

Google [Project Zero](#) researcher Jann Horn describes ways cookies can be read by [intermediaries](#), like [Wi-Fi](#) hotspot providers. When in such circumstances, he recommends using the browser in [private browsing](#) mode (widely known as [Incognito mode](#) in Google Chrome). [\[83\]](#)

Search engine

[\[edit\]](#)

Main article: [Search engine](#)



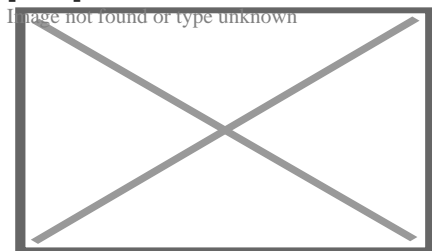
The results of a search for the term "lunar eclipse" in a web-based [image search](#) engine

A *web search engine* or *Internet search engine* is a [software system](#) that is designed to carry out *web search* (*Internet search*), which means to search the World Wide Web in a systematic way for particular information specified in a [web search query](#). The search results are generally presented in a line of results, often referred to as [search engine results pages](#) (SERPs). The information may be a mix of [web pages](#), images, videos, infographics, articles, research papers, and other types of files. Some search engines also [mine data](#) available in [databases](#) or [open directories](#). Unlike [web directories](#), which are maintained only by human editors, search engines also maintain [real-time](#) information by running an [algorithm](#) on a [web crawler](#). Internet content that is not capable of being searched by a web search engine is generally described as the [deep web](#).

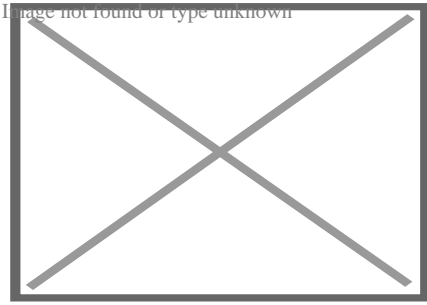
In 1990, [Archie](#), the world's first search engine, was released. The technology was originally an index of [File Transfer Protocol](#) (FTP) sites, which was a method for moving files between a client and a server network.^{[84][85]} This early search tool was superseded by more advanced engines like [Yahoo!](#) in 1995 and [Google](#) in 1998.^{[86][87]}

Deep web

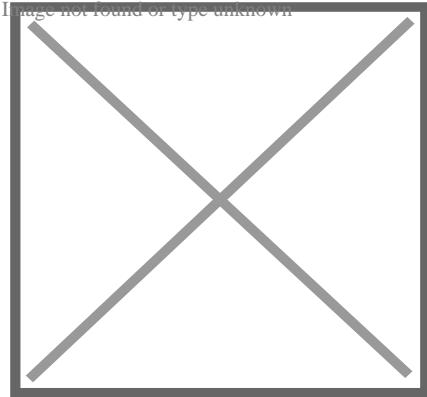
[\[edit\]](#)



Deep web diagram



Deep web vs surface web



Surface Web & Deep Web

Main article: [Deep web](#)

The deep web,^[88] *invisible web*,^[89] or *hidden web*^[90] are parts of the World Wide Web whose contents are not [indexed](#) by standard [web search engines](#). The opposite term to the deep web is the [surface web](#), which is accessible to anyone using the Internet.^[91] [Computer scientist](#) Michael K. Bergman is credited with coining the term *deep web* in 2001 as a search indexing term.^[92]

The content of the deep web is hidden behind [HTTP](#) forms,^{[93][94]} and includes many very common uses such as [web mail](#), [online banking](#), and services that users must pay for, and which is protected by a [paywall](#), such as [video on demand](#), some online magazines and newspapers, among others.

The content of the deep web can be located and accessed by a direct [URL](#) or [IP address](#) and may require a password or other security access past the public website page.

Caching

[\[edit\]](#)

A [web cache](#) is a server computer located either on the public Internet or within an enterprise that stores recently accessed web pages to improve response time for users when the same content is requested within a certain time after the original request. Most web browsers also implement a [browser cache](#) by writing recently obtained data to a local data storage device. HTTP requests by a browser may ask only for data that has changed since the last access.

Web pages and resources may contain expiration information to control caching to secure sensitive data, such as in [online banking](#), or to facilitate frequently updated sites, such as news media. Even sites with highly dynamic content may permit basic resources to be refreshed only occasionally. Web site designers find it worthwhile to collate resources such as CSS data and JavaScript into a few site-wide files so that they can be cached efficiently. Enterprise [firewalls](#) often cache Web resources requested by one user for the benefit of many users. Some [search engines](#) store cached content of frequently accessed websites.

Security

[\[edit\]](#)

For [criminals](#), the Web has become a venue to spread [malware](#) and engage in a range of [cybercrime](#), including (but not limited to) [identity theft](#), [fraud](#), [espionage](#), and [intelligence gathering](#).^[95] Web-based [vulnerabilities](#) now outnumber traditional computer security concerns,^{[96][97]} and as measured by [Google](#), about one in ten web pages may contain malicious code.^[98] Most web-based [attacks](#) take place on legitimate websites, and most, as measured by [Sophos](#), are hosted in the United States, China and Russia.^[99] The most common of all malware [threats](#) is [SQL injection](#) attacks against websites.^[100] Through HTML and URIs, the Web was vulnerable to attacks like [cross-site scripting](#) (XSS) that came with the introduction of JavaScript^[101] and were exacerbated to some degree by [Web 2.0](#) and Ajax [web design](#) that favours the use of scripts.^[102] In one 2007 estimate, 70% of all websites are open to XSS attacks on their users.^[103] [Phishing](#) is another common threat to the Web. In February 2013, RSA (the security division of EMC) estimated the global losses from phishing at \$1.5 billion in 2012.^[104] Two of the well-known phishing methods are Covert Redirect and Open Redirect.

Proposed solutions vary. Large security companies like [McAfee](#) already design governance and compliance suites to meet post-9/11 regulations,^[105] and some, like [Finjan Holdings](#) have recommended active real-time inspection of programming code and all content regardless of its source.^[95] Some have argued that for enterprises to see Web security as a business opportunity rather than a [cost centre](#),^[106] while others call for "ubiquitous, always-on [digital rights management](#)" enforced in the infrastructure to replace the hundreds of companies that secure data and networks.^[107] [Jonathan Zittrain](#) has said users sharing responsibility for computing safety is far preferable to locking down the Internet.^[108]

Privacy

[\[edit\]](#)

Main article: [Internet privacy](#)

Every time a client requests a web page, the server can identify the request's [IP address](#). Web servers usually log IP addresses in a [log file](#). Also, unless set not to do so, most web

browsers record requested web pages in a viewable *history* feature, and usually **cache** much of the content locally. Unless the server-browser communication uses HTTPS encryption, web requests and responses travel in plain text across the Internet and can be viewed, recorded, and cached by intermediate systems. Another way to hide **personally identifiable information** is by using a **virtual private network**. A VPN **encrypts** traffic between the client and VPN server, and masks the original IP address, lowering the chance of user identification.

When a web page asks for, and the user supplies, personally identifiable information—such as their real name, address, e-mail address, etc. web-based entities can associate current web traffic with that individual. If the website uses **HTTP cookies**, username, and password authentication, or other tracking techniques, it can relate other web visits, before and after, to the identifiable information provided. In this way, a web-based organization can develop and build a profile of the individual people who use its site or sites. It may be able to build a record for an individual that includes information about their leisure activities, their shopping interests, their profession, and other aspects of their **demographic profile**. These profiles are of potential interest to marketers, advertisers, and others. Depending on the website's **terms and conditions** and the local laws that apply information from these profiles may be sold, shared, or passed to other organizations without the user being informed. For many ordinary people, this means little more than some unexpected emails in their inbox or some uncannily relevant advertising on a future web page. For others, it can mean that time spent indulging an unusual interest can result in a deluge of further targeted marketing that may be unwelcome. Law enforcement, counterterrorism, and espionage agencies can also identify, target, and track individuals based on their interests or proclivities on the Web.

Social networking sites usually try to get users to use their real names, interests, and locations, rather than pseudonyms, as their executives believe that this makes the social networking experience more engaging for users. On the other hand, uploaded photographs or unguarded statements can be identified to an individual, who may regret this exposure. Employers, schools, parents, and other relatives may be influenced by aspects of social networking profiles, such as text posts or digital photos, that the posting individual did not intend for these audiences. **Online bullies** may make use of personal information to harass or **stalk** users. Modern social networking websites allow fine-grained control of the privacy settings for each posting, but these can be complex and not easy to find or use, especially for beginners.^[109] Photographs and videos posted onto websites have caused particular problems, as they can add a person's face to an online profile. With modern and potential **facial recognition technology**, it may then be possible to relate that face with other, previously anonymous, images, events, and scenarios that have been imaged elsewhere. Due to image caching, mirroring, and copying, it is difficult to remove an image from the World Wide Web.

Standards

[**edit**]

Main article: **Web standards**

Web standards include many interdependent standards and specifications, some of which govern aspects of the [Internet](#), not just the World Wide Web. Even when not web-focused, such standards directly or indirectly affect the development and administration of websites and [web services](#). Considerations include the [interoperability](#), [accessibility](#) and [usability](#) of web pages and web sites.

Web standards, in the broader sense, consist of the following:

- *Recommendations* published by the [World Wide Web Consortium \(W3C\)](#)^[110]
- "Living Standard" made by the [Web Hypertext Application Technology Working Group \(WHATWG\)](#)
- *Request for Comments* (RFC) documents published by the [Internet Engineering Task Force \(IETF\)](#)^[111]
- *Standards* published by the [International Organization for Standardization \(ISO\)](#)^[112]
- *Standards* published by [Ecma International](#) (formerly ECMA)^[113]
- *The Unicode Standard* and various *Unicode Technical Reports* (UTRs) published by the [Unicode Consortium](#)^[114]
- Name and number registries maintained by the [Internet Assigned Numbers Authority \(IANA\)](#)^[115]

Web standards are not fixed sets of rules but are constantly evolving sets of finalized technical specifications of web technologies.^[116] Web standards are developed by [standards organizations](#)—groups of interested and often competing parties chartered with the task of standardization—not technologies developed and declared to be a standard by a single individual or company. It is crucial to distinguish those specifications that are under development from the ones that already reached the final development status (in the case of [W3C](#) specifications, the highest maturity level).

Accessibility

[\[edit\]](#)

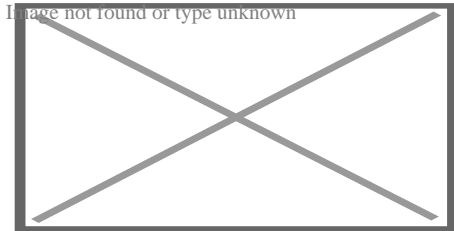
Main article: [Web accessibility](#)

There are methods for accessing the Web in alternative mediums and formats to facilitate use by individuals with [disabilities](#). These disabilities may be visual, auditory, physical, speech-related, cognitive, neurological, or some combination. Accessibility features also help people with temporary disabilities, like a broken arm, or ageing users as their abilities change.^[117] The Web is receiving information as well as providing information and interacting with society. The World Wide Web Consortium claims that it is essential that the Web be accessible, so it can provide equal access and [equal opportunity](#) to people with disabilities.^[118] Tim Berners-Lee once noted, "The power of the Web is in its universality. Access by everyone regardless of disability is an essential aspect."^[117] Many countries regulate web accessibility as a requirement for websites.^[119] International co-operation in the W3C [Web Accessibility Initiative](#) led to simple guidelines that web content authors as well as software developers can

use to make the Web accessible to persons who may or may not be using **assistive technology**.^{[117][120]}

Internationalisation

[\[edit\]](#)



A global map of the **Web Index** for countries in 2014

The W3C **Internationalisation** Activity assures that web technology works in all languages, scripts, and cultures.^[121] Beginning in 2004 or 2005, **Unicode** gained ground and eventually in December 2007 surpassed both **ASCII** and Western European as the Web's most frequently used **character map**.^[122] Originally **RFC 3986** allowed resources to be identified by **URI** in a subset of US-ASCII.

RFC 3987 allows more characters—any character in the **Universal Character Set**—and now a resource can be identified by **IRI** in any language.^[123]

See also

[\[edit\]](#)

- **Engineering portal**
- **Internet portal**
- **World portal**

- **Decentralized web**
- **Electronic publishing**
- **Gopher (protocol)**, an early alternative to the WWW
- **Internet metaphors**
- **Internet security**
- **Lists of websites**
- **Minitel**, a predecessor of the WWW
- **Streaming media**
- **Web 1.0**

- Web 2.0
- Web 3.0
- Web3
- Web3D
- Web development tools
- Web literacy

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External links

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Wikimedia Commons has media related to **World Wide Web**.

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Wikibooks has a book on the topic of: **Nets, Webs and the Information Infrastructure**

- **The first website**
- **Early archive of the first Web site**
- **Internet Statistics: Growth and Usage of the Web and the Internet**
- **Living Internet** A comprehensive history of the Internet, including the World Wide Web
- **World Wide Web Consortium (W3C)**
- **W3C Recommendations Reduce "World Wide Wait"**
- **World Wide Web Size** Daily estimated size of the World Wide Web
- **Antonio A. Casilli, Some Elements for a Sociology of Online Interactions**
- **The Erdős-Rényi Webgraph Server Archived** 1 March 2021 at the **Wayback Machine** offers weekly updated graph representation of a constantly increasing fraction of the WWW
- **The 25th Anniversary of the World Wide Web Archived** 11 July 2021 at the **Wayback Machine** is an animated video produced by **USAID** and **TechChange** which explores the role of the WWW in addressing extreme **poverty**

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Telecommunications

History

- Beacon
- Broadcasting
- Cable protection system
- Cable TV
- Communications satellite
- Computer network
- Data compression
 - audio
 - DCT
 - image
 - video
- Digital media
 - Internet video
 - online video platform
 - social media
 - streaming
- Drums
- Edholm's law
- Electrical telegraph
- Fax
- Heliographs
- Hydraulic telegraph
- Information Age
- Information revolution
- Internet
- Mass media
- Mobile phone
 - Smartphone
- Optical telecommunication
- Optical telegraphy
- Pager
- Photophone
- Prepaid mobile phone
- Radio
- Radiotelephone
- Satellite communications
- Semaphore
 - Phryctoria
- Semiconductor
 - device
 - MOSFET
 - transistor
- Smoke signals
- Telecommunications history
- Telautograph
- Telegraphy
- Teletypewriter (teletype)

Pioneers

- Nasir Ahmed
- Edwin Howard Armstrong
- Mohamed M. Atalla
- John Logie Baird
- Paul Baran
- John Bardeen
- Alexander Graham Bell
- Emile Berliner
- Tim Berners-Lee
- Francis Blake
- Jagadish Chandra Bose
- Charles Bourseul
- Walter Houser Brattain
- Vint Cerf
- Claude Chappe
- Yogen Dalal
- Donald Davies
- Daniel Davis Jr.
- Amos Dolbear
- Thomas Edison
- Philo Farnsworth
- Reginald Fessenden
- Lee de Forest
- Elisha Gray
- Oliver Heaviside
- Robert Hooke
- Erna Schneider Hoover
- Harold Hopkins
- Gardiner Greene Hubbard
- Bob Kahn
- Dawon Kahng
- Charles K. Kao
- Narinder Singh Kapany
- Hedy Lamarr
- Roberto Landell
- Innocenzo Manzetti
- Guglielmo Marconi
- Robert Metcalfe
- Antonio Meucci
- Samuel Morse
- Jun-ichi Nishizawa
- Charles Grafton Page
- Radia Perlman
- Alexander Stepanovich Popov
- Tivadar Puskás
- Johann Philipp Reis
- Claude Shannon

Transmission media

- Coaxial cable
- Fiber-optic communication
 - optical fiber
- Free-space optical communication
- Molecular communication
- Radio waves
 - wireless
- Transmission line
 - telecommunication circuit

Network topology and switching

- Bandwidth
- Links
- Network switching
 - circuit
 - packet
- Nodes
 - terminal
- Telephone exchange

Multiplexing

- Space-division
- Frequency-division
- Time-division
- Polarization-division
- Orbital angular-momentum
- Code-division

Concepts

- Communication protocol
- Computer network
- Data transmission
- Store and forward
- Telecommunications equipment

Types of network



- Cellular network
- Ethernet
- ISDN
- LAN
- Mobile
- NGN
- Public Switched Telephone
- Radio
- Television
- Telex
- UUCP
- WAN
- Wireless network

Notable networks

- ARPANET
- BITNET
- CYCLADES
- FidoNet
- Internet
- Internet2
- JANET
- NPL network
- Toasternet
- Usenet

Locations

- Africa
- Americas
 - North
 - South
- Antarctica
- Asia
- Europe
- Oceania
- *Global telecommunications regulation bodies*

-  **Telecommunication portal**
-  **Category**
-  **Outline**
-  **Commons**

- **v**
- **t**
- **e**

Web syndication

History

Blogging

Podcasting

Vlogging

Web syndication technology

Types

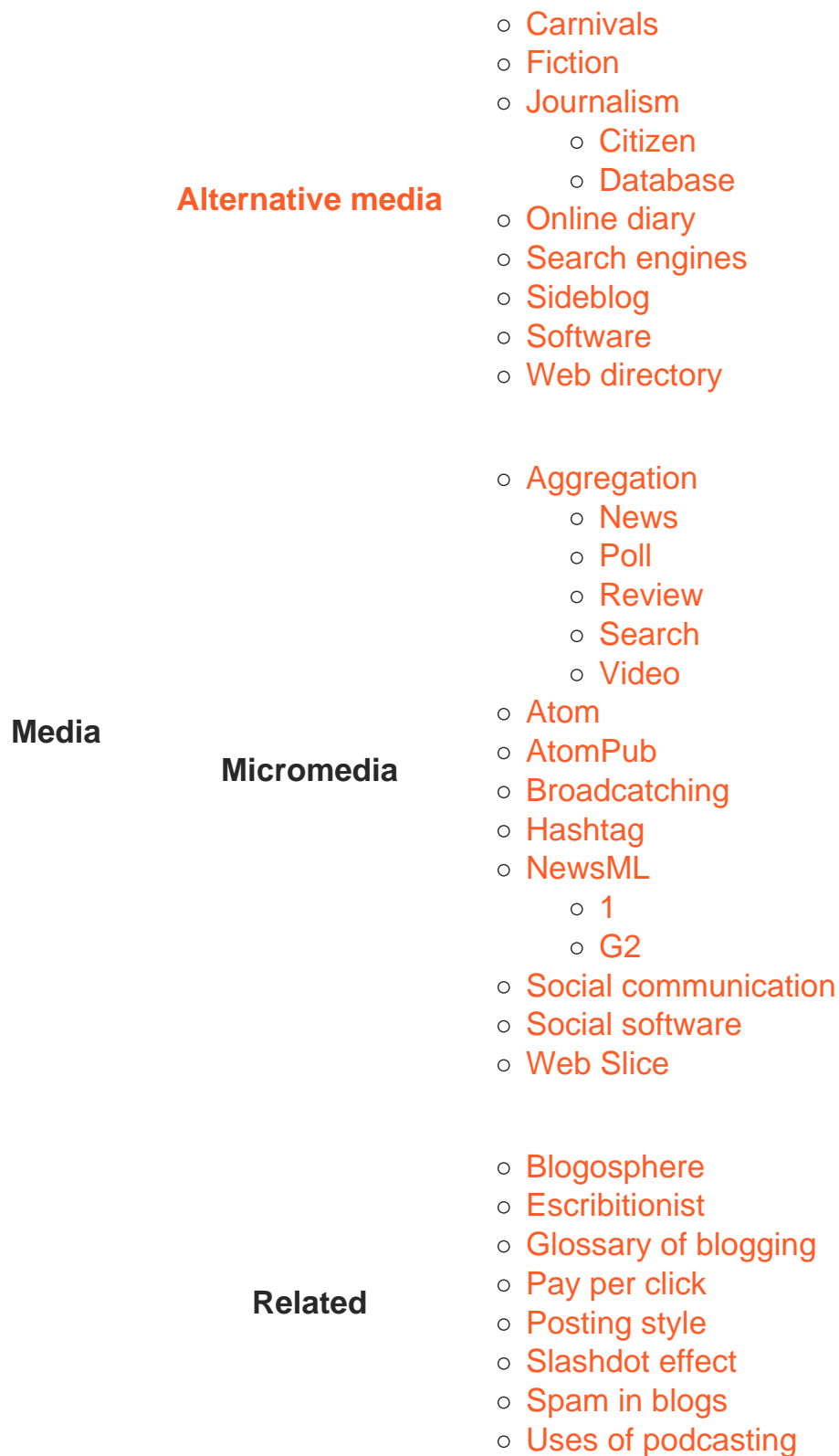
- Art
- Bloggernacle
- Classical music
- Corporate
- Dream diary
- Edublog
- Electronic journal
- Fake
- Family
- Fashion
- Food
- Health
- Law
- Lifelog
- MP3
- News
- Photoblog
- Police
- Political
- Project
- Reverse
- Travel
- Warblog

Technology	General	<ul style="list-style-type: none"> ○ BitTorrent ○ Feed URI scheme
	Features	<ul style="list-style-type: none"> ○ Linkback ○ Permalink ○ Ping ○ Pingback ○ Reblogging ○ Refback ○ Rollback ○ Trackback
	Mechanism	<ul style="list-style-type: none"> ○ Thread ○ Geotagging ○ RSS enclosure ○ Synchronization
	Memetics	<ul style="list-style-type: none"> ○ Atom feed ○ Data feed ○ Photofeed ○ Product feed ○ RDF feed ○ Web feed
	RSS	<ul style="list-style-type: none"> ○ GeoRSS ○ MRSS ○ RSS TV
	Social	<ul style="list-style-type: none"> ○ Inter-process communication ○ Mashup ○ Referencing ○ RSS editor ○ RSS tracking ○ Streaming media
	Standard	<ul style="list-style-type: none"> ○ OPML ○ RSS Advisory Board ○ Usenet ○ World Wide Web ○ XBEL ○ XOXO

- Audio podcast
- Enhanced podcast
- Mobilecast
- Narrowcasting
- Peercasting
- Screencast
- Slidecasting
- Videocast
- Webcomic
- Webtoon
- Web series

Form

- Anonymous blogging
- Collaborative blog
- Columnist
- Instant messaging
- Liveblogging
- Microblog
- Mobile blogging
- Spam blog
- Video blogging
- Motovlogging



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Semantic Web

Background

- Databases
- Hypertext
- Internet
- Ontologies
- Semantics
- Semantic networks
- World Wide Web

Sub-topics

- Dataspaces
- Hyperdata
- Linked data
- Rule-based systems

Applications

- Semantic analytics
- Semantic broker
- Semantic computing
- Semantic mapper
- Semantic matching
- Semantic publishing
- Semantic reasoner
- Semantic search
- Semantic service-oriented architecture
- Semantic wiki
- Solid

Related topics

- [Collective intelligence](#)
- [Description logic](#)
- [Folksonomy](#)
- [Geotagging](#)
- [Information architecture](#)
- [iXBRL](#)
- [Knowledge extraction](#)
- [Knowledge management](#)
- [Knowledge representation and reasoning](#)
- [Library 2.0](#)
- [Digital library](#)
- [Digital humanities](#)
- [Metadata](#)
- [References](#)
- [Topic map](#)
- [Web 2.0](#)
- [Web engineering](#)
- [Web Science Trust](#)

Syntax and supporting technologies

- HTTP
- IRI
 - URI
- RDF
 - triples
 - RDF/XML
 - JSON-LD
 - Turtle
 - TriG
 - Notation3
 - N-Triples
 - TriX (no W3C standard)
- RRID
- SPARQL
- XML
- Semantic HTML

Schemas, ontologies and rules

- Common Logic
- OWL
- RDFS
- Rule Interchange Format
- Semantic Web Rule Language
- ALPS
- SHACL

Standards

Semantic annotation

- eRDF
- GRDDL
- Microdata
- Microformats
- RDFa
- SAWSDL
- Facebook Platform

Common vocabularies

- DOAP
- Dublin Core
- FOAF
- Schema.org
- SIOC
- SKOS

Microformat vocabularies

- hAtom
- hCalendar
- hCard

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Frequently Asked Questions

What does SEO mean for my business?

SEO, or search engine optimisation, means improving your website's structure, content, and overall performance to rank higher in search results. This leads to more organic traffic, increased brand visibility, and better conversion rates, ultimately supporting your business's

growth.

What is SEO marketing?

SEO marketing is the process of using search engine optimization techniques to enhance your online presence. By optimizing your website, creating relevant content, and building authority, you attract organic traffic from search engines, increase brand awareness, and drive conversions.

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