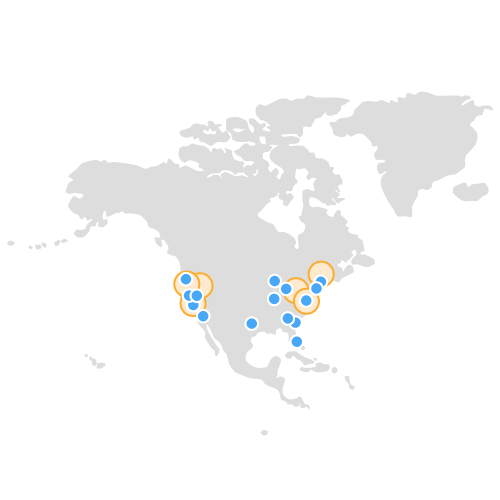
**Regions and Availability Zones**

## **Region Maps and Edge Networks**

* North America

* South America

* Europe/Middle East/Africa

* Asia Pacific
* 

Map Key

Regions

Regions

Edge_Locations

Edge locations

US East (Northern Virginia) Region  
Availability Zones: 6  
*Launched 2006*

Local Zones: 10  
*Launched 2020*

GovCloud (US-West) Region  
Availability Zones: 3  
*Launched 2011*

US East (Ohio) Region  
Availability Zones: 3  
*Launched 2016*

GovCloud (US-East) Region  
Availability Zones: 3  
*Launched 2018*

US West (Northern California) Region  
Availability Zones: 3\*  
*Launched 2009*

US West (Oregon) Region  
Availability Zones: 4  
*Launched 2011*  
Local Zones: 7  
*Launched 2019*

Canada (Central) Region\*\*  
Availability Zones: 3  
*Launched 2016* [Learn more at AWS Canada](https://aws.amazon.com/canada/)

[*Visit here to see full list of AWS Services available in each AWS Region.*](https://aws.amazon.com/about-aws/global-infrastructure/regional-product-services/?p=ugi&l=na)

Edge locations - Ashburn, VA; Atlanta GA; Boston, MA; Chicago, IL; Dallas/Fort Worth, TX; Denver, CO; Hillsboro, OR; Houston, TX; Jacksonville, FL; Los Angeles, CA; Miami, FL; Minneapolis, MN; Montreal, QC; New York, NY; Newark, NJ; Palo Alto, CA; Phoenix, AZ; Philadelphia, PA; Querétaro, MX; San Jose, CA; Seattle, WA; Toronto, ON; Vancouver, BC

AWS Local Zones - Atlanta, Boston, Chicago, Dallas, Denver, Houston, Kansas City, Las Vegas, Los Angeles, Miami, Minneapolis, New York City (located in New Jersey), Philadelphia, Phoenix, Portland, Seattle

Regional Edge Caches - California; Northern Virginia; Ohio; Oregon

[Learn more about the Global Edge Network >>](https://aws.amazon.com/cloudfront/features/?p=ugi&l=na)

*\*New customers can access two Availability Zones in US West (Northern California).*

*\*\*Located in the Montreal metropolitan area*

## **Regions**

AWS has the concept of a Region, which is a physical location around the world where we cluster data centers. We call each group of logical data centers an Availability Zone. Each AWS Region consists of multiple, isolated, and physically separate AZs within a geographic area. Unlike other cloud providers, who often define a region as a single data center, the multiple AZ design of every AWS Region offers advantages for customers. Each AZ has independent power, cooling, and physical security and is connected via redundant, ultra-low-latency networks. AWS customers focused on high availability can design their applications to run in multiple AZs to achieve even greater fault-tolerance. AWS infrastructure Regions meet the highest levels of security, compliance, and data protection.

AWS provides a more extensive global footprint than any other cloud provider, and to support its global footprint and ensure customers are served across the world, AWS opens new Regions rapidly. AWS maintains multiple geographic Regions, including Regions in North America, South America, Europe, China, Asia Pacific, South Africa, and the Middle East.

## **Availability Zones**

An Availability Zone (AZ) is one or more discrete data centers with redundant power, networking, and connectivity in an AWS Region. AZs give customers the ability to operate production applications and databases that are more highly available, fault tolerant, and scalable than would be possible from a single data center. All AZs in an AWS Region are interconnected with high-bandwidth, low-latency networking, over fully redundant, dedicated metro fiber providing high-throughput, low-latency networking between AZs. All traffic between AZs is encrypted. The network performance is sufficient to accomplish synchronous replication between AZs. AZs make partitioning applications for high availability easy. If an application is partitioned across AZs, companies are better isolated and protected from issues such as power outages, lightning strikes, tornadoes, earthquakes, and more. AZs are physically separated by a meaningful distance, many kilometers, from any other AZ, although all are within 100 km (60 miles) of each other.

## **AWS Local Zones**

[AWS Local Zones](https://aws.amazon.com/about-aws/global-infrastructure/localzones/) place compute, storage, database, and other select AWS services closer to end-users. With AWS Local Zones, you can easily run highly-demanding applications that require single-digit millisecond latencies to your end-users such as media & entertainment content creation, real-time gaming, reservoir simulations, electronic design automation, and machine learning.

Each AWS Local Zone location is an extension of an AWS Region where you can run your latency sensitive applications using AWS services such as Amazon Elastic Compute Cloud, Amazon Virtual Private Cloud, Amazon Elastic Block Store, Amazon File Storage, and Amazon Elastic Load Balancing in geographic proximity to end-users. AWS Local Zones provide a high-bandwidth, secure connection between local workloads and those running in the AWS Region, allowing you to seamlessly connect to the full range of in-region services through the same APIs and tool sets.

## **AWS Wavelength**

[AWS Wavelength](https://aws.amazon.com/wavelength/) enables developers to build applications that deliver single-digit millisecond latencies to mobile devices and end-users. AWS developers can deploy their applications to Wavelength Zones, AWS infrastructure deployments that embed AWS compute and storage services within the telecommunications providers’ datacenters at the edge of the 5G networks, and seamlessly access the breadth of AWS services in the region. This enables developers to deliver applications that require single-digit millisecond latencies such as game and live video streaming, machine learning inference at the edge, and augmented and virtual reality (AR/VR). AWS Wavelength brings AWS services to the edge of the 5G network, minimizing the latency to connect to an application from a mobile device. Application traffic can reach application servers running in Wavelength Zones without leaving the mobile provider’s network. This reduces the extra network hops to the Internet that can result in latencies of more than 100 milliseconds, preventing customers from taking full advantage of the bandwidth and latency advancements of 5G.

## **AWS Outposts**

[AWS Outposts](https://aws.amazon.com/outposts/) bring native AWS services, infrastructure, and operating models to virtually any data center, co-location space, or on-premises facility. You can use the same AWS APIs, tools, and infrastructure across on-premises and the AWS cloud to deliver a truly consistent hybrid experience. AWS Outposts is designed for connected environments and can be used to support workloads that need to remain on-premises due to low latency or local data processing needs.

## **AWS Services**

AWS offers a broad set of global cloud-based products including compute, storage, database, analytics, networking, machine learning and AI, mobile, developer tools, IoT, security, enterprise applications, and much more.   
  
The following core services are included in all Region launches: Amazon API Gateway, Amazon Aurora, Amazon CloudWatch, Amazon DynamoDB, Amazon EC2 Auto Scaling, Amazon ElastiCache, Amazon Elastic Block Store (EBS), Amazon Elastic Compute Cloud (EC2), Amazon Elastic Container Registry (ECR), Amazon Elastic Container Service (ECS), Amazon Elastic MapReduce (EMR), Amazon OpenSearch Service, Amazon EventBridge, Amazon Kinesis Data Streams, Amazon Redshift, Amazon Relational Database Service (RDS), Amazon Route 53, Amazon Simple Notification Service (SNS), Amazon Simple Queue Service (SQS), Amazon Simple Storage Service (S3), Simple Workflow Service (SWF), Amazon Virtual Private Cloud (VPC), AWS Application Auto Scaling, AWS Certificate Manager, AWS CloudFormation, AWS CloudTrail, AWS CodeDeploy, AWS Config, AWS Database Migration Service, AWS Direct Connect, AWS Identity & Access Management (IAM), AWS Key Management Service, AWS Lambda, AWS Marketplace, AWS Health Dashboard, AWS Step Functions, AWS Support, AWS Systems Manager, AWS Trusted Advisor, AWS VPN, and Elastic Load Balancing (ELB).

In addition, the following services usually launch within 12 months of a new Region launch: Amazon Athena, Amazon CloudFront, Amazon Elastic File System (EFS), Amazon Elastic Kubernetes Services (EKS), Amazon GuardDuty, Amazon Kinesis Firehose, Amazon MQ, Amazon SageMaker, AWS Backup, AWS Batch, AWS Certificate Manager Private Certificate Authority, AWS Chatbot, AWS CodeBuild, AWS Console Mobile App, AWS Directory Service, AWS Fargate, AWS Glue, AWS LakeFormation, AWS License Manager, AWS Organizations, AWS Resource Access Manager (RAM), AWS Secrets Manager, AWS Security Hub, AWS Service Catalog, AWS Storage Gateway, AWS Transit Gateway, AWS WAF, and AWS X-Ray.  
  
Customers can share their interest for local region delivery, request service roadmap information, or gain insight on service interdependency (under NDA) [by contacting your AWS sales representative](https://aws.amazon.com/contact-us/?p=ugi). Please note that due to the nature of the service, some AWS services are delivered globally rather than regionally, such as Amazon Route 53, Amazon Chime, Amazon WorkDocs, Amazon WorkMail, Amazon WorkSpaces, and Amazon WorkLink.

## **High Availability**

Unlike other technology infrastructure providers, each AWS Region has multiple AZs. As we’ve learned from running the leading cloud infrastructure technology platform since 2006, customers who care about the availability and performance of their applications want to deploy these applications across multiple AZs in the same region for fault tolerance and low latency. AZs are connected to each other with fast, private fiber-optic networking, enabling you to easily architect applications that automatically fail-over between AZs without interruption.

The AWS control plane (including APIs) and AWS Management Console are distributed across AWS Regions and utilize a multi-AZ architecture within each region to deliver resilience and ensure continuous availability. This ensures that customers avoid having a critical service dependency on a single data center. AWS can conduct maintenance activities without making any critical service temporarily unavailable to any customer.

## **Improving Continuity**

In addition to replicating applications and data across multiple data centers in the same Region using AZs, you can also choose to increase redundancy and fault tolerance further by replicating data across AWS Regions. You can do this by using both private, high speed networking and public internet connections to provide an additional layer of business continuity, or to provide low latency access across the globe.

## **Compliance and Data Residency**

If you have data residency requirements, you can choose the AWS Region that is in close proximity to your desired location. You retain complete control and ownership over the region in which your data is physically located, making it easy to meet regional compliance and data residency requirements. You can rest assured knowing that not only does AWS comply with General Data Protection and Regulation (GDPR), but we have services and tools to enable you to build GDPR-compliant infrastructure on top of AWS. Organizations from startups to enterprises and the public sector have access to infrastructure in their country to leverage advanced technologies including analytics, artificial Intelligence, database, Internet of Things (IoT), machine learning, mobile services, serverless, and more to drive innovation.