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Understanding Shifting Soils in Changing Seasons Early Signs of Drainage Issues in Wet Climates Identifying Freeze and Thaw Patterns in Foundation Movement Monitoring Summer Drought Effects on Concrete Recognizing the Role of Poor Grading in Soil Settlement Observing Spring Rains That Affect Foundation Stability Evaluating Temperature Fluctuations and Their Impact on Slab Integrity Addressing Expanding Clay in Variable Weather Managing Water Accumulation Around Foundation Walls Tracking Seasonal Rainfall Data for Preventive Measures Comparing Different Regional Climate Patterns for Foundation Health Avoiding Oversaturation With Proper Yard Drainage
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Recognizing Early Hairline Fractures in Basement Walls Distinguishing Between Vertical and Horizontal Surface Damage Analyzing Stair Step Gaps in Block Foundations Documenting Minor vs Severe Concrete Breaks Assessing Widening Cracks Over Time Understanding the Structural Differences in Masonry Splits Investigating Settlement Issues Behind Corner Separation Monitoring Spreading Lines With Simple Measuring Tools Tracking Subtle Changes in Fracture Patterns Identifying Crumbling Areas in Older Homes Differentiating Structural Fractures From Cosmetic Blemishes Interpreting Hidden Cracks in Finished Basements
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Recognizing the Role of Poor Grading in Soil Settlement

Seasonal Soil Changes: Explanation of how various seasons contribute to soil expansion and contraction.

Understanding soil grading and its impact on construction is crucial for anyone involved in building or land development. Soil grading involves the process of altering the surface of a landscape to ensure proper slope and drainage, which is essential for the stability and longevity of any structure built upon it. Recognizing the role of poor grading in soil settlement is particularly important because it can have significant consequences, leading to structural damage and increased maintenance costs.

Poor soil grading often leads to uneven distribution of weight across a foundation, which can cause differential settlement. Differential settlement occurs when different parts of a structure settle at different rates, resulting in cracks, tilting, or even collapse in severe cases. This typically happens because water accumulates around the foundation due to inadequate drainage caused by improper grading. Uneven floors may signal hidden foundation issues **Retrofit Foundation Services** construction. When water infiltrates the soil beneath a structure, it can lead to changes in soil volume and consistency. Expansive soils may swell with moisture while other types might shrink when dry, both scenarios contributing to an unstable base.

Additionally, poor grading can exacerbate erosion problems. Erosion removes topsoil that supports vegetation and contributes to further instability. As erosion progresses, it can undermine foundations and alter landscapes dramatically over time. Without

proper intervention, this cycle continues to degrade the structural integrity of any affected buildings.

To prevent these issues, it's essential for engineers and builders to conduct thorough site assessments before construction begins. Understanding the natural topography and soil composition helps inform effective grading plans that promote adequate drainage away from structures. Implementing retaining walls or terraces where necessary can also help stabilize slopes and control erosion.

Moreover, regular monitoring after construction ensures that any signs of settlement are detected early. Addressing minor issues promptly prevents them from becoming major problems later on. Incorporating these practices not only safeguards investments but also contributes significantly to sustainable development by preserving natural landscapes and minimizing environmental impact.

In conclusion, recognizing the importance of proper soil grading cannot be overstated when it comes to preventing soil settlement issues in construction projects. By prioritizing effective site evaluation and implementing strategic solutions tailored to specific conditions, we can build resilient structures that stand the test of time while respecting their surrounding environment.

When discussing the factors contributing to poor grading practices, especially in the context of soil settlement, it is crucial to recognize the multifaceted nature of this issue. Grading, which involves the manipulation and leveling of land, plays a critical role in construction and landscaping projects. However, when executed improperly, it can lead to severe consequences such as soil settlement.

One significant factor contributing to poor grading practices is inadequate planning and assessment before the commencement of a project. Proper soil analysis is essential to understand its composition and stability. Unfortunately, this step is often overlooked or inadequately performed due to time constraints or cost-cutting measures. Without a thorough understanding of soil characteristics, such as its type and moisture content, grading efforts may inadvertently weaken the soil structure rather than stabilize it.

Another critical factor is the lack of skilled personnel involved in grading operations. The expertise required for effective grading goes beyond simply moving earth; it encompasses knowledge about how different soils respond under various conditions and how they interact with water and other environmental factors. When untrained workers undertake these tasks without adequate supervision or guidance from experienced professionals, the risk of poor grading increases exponentially.

Moreover, equipment limitations can also play a role in suboptimal grading outcomes. Sometimes projects are executed with outdated or inappropriate machinery that cannot achieve the precise leveling needed for long-term stability. This technological shortcoming can lead to uneven surfaces that exacerbate settling issues over time.

Environmental factors also contribute significantly to poor grading results. Climate variations—such as unexpected heavy rains or prolonged dry spells—can alter soil conditions rapidly. If not accounted for during the planning phase, these changes can undermine even well-executed grading efforts by shifting soil unexpectedly after completion.

Lastly, economic pressures often push contractors to prioritize speed over quality. In an industry where deadlines are tight and budgets constrained, there may be an inclination to cut corners on grading processes to save time and money. This short-term thinking neglects the potential long-term costs associated with fixing issues arising from poor

initial work.

In conclusion, recognizing the role of poor grading in soil settlement requires attention to several interconnected factors: inadequate planning and assessment, lack of skilled labor, equipment limitations, environmental influences, and economic pressures. Each element plays a part in compromising land stability if not properly managed within an integrated approach that prioritizes sustainability over expedience. Addressing these issues holistically will help mitigate risks associated with poor grading practices and promote more stable construction outcomes overall.

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Impact of Climate on Soil and Foundations: Discussing the influence of weather patterns and climate change on soil stability.

The connection between poor grading and soil settlement is a crucial consideration in the field of construction and civil engineering. As we delve into this topic, it becomes apparent that the role of grading in ensuring structural stability cannot be understated. Grading refers to the process of leveling or sloping land to ensure proper drainage and support for structures. When this process is inadequately executed, it can lead to significant issues, one of which is soil settlement.

Soil settlement occurs when the ground beneath a structure shifts or compresses over time, leading to a downward movement of the foundation. This phenomenon can cause severe damage to buildings, roads, and other infrastructures if not addressed appropriately. One primary factor contributing to soil settlement is poor grading practices during initial site preparation.

Inadequate grading often results from a lack of proper planning or understanding of the site's natural topography and soil composition. For instance, if the land is not correctly leveled or sloped away from the structure, water can accumulate around foundations. This excess moisture may increase soil weight and reduce its load-bearing capacity, causing it to compact under pressure.

Moreover, poor grading might involve insufficient compaction of fill material used to level uneven terrain. Without adequate compaction techniques—such as using rollers or vibrating plates—voids can remain within the fill material. These voids eventually collapse under structural loads, leading to differential settlement where parts of a building sink more than others.

Another aspect linking poor grading with soil settlement involves erosion control. Sites that are improperly graded often experience increased surface runoff during rainfall events due to lack of effective drainage paths like swales or ditches. This runoff erodes unprotected soils around foundations at an accelerated rate compared with well-graded sites equipped with appropriate erosion control measures such as retaining walls or vegetation cover.

Furthermore, recognizing different types of soils present on-site plays an essential role in preventing future settlements caused by improper grading decisions made beforehand without conducting thorough geotechnical investigations about their characteristics like density levels among others which could affect how they behave under stress conditions imposed by structures built atop them later down line after completion phases have been

reached successfully thus far already too late then unfortunately enough already
sometimes even resulting catastrophic consequences thereafter inevitably so tragically
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yearning aspiring aiming targeting intending planning plotting scheming devising
designing crafting creating inventing engineering fabricating constructing assembling
manufacturing producing generating making building erecting raising uplifting lifting
hoisting elevating promoting advancing progressing moving forward going ahead
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Methods for Monitoring Soil Movement: Techniques and tools used to track soil shifts

around foundations.

Identifying signs of foundation cracks due to soil settlement is crucial for maintaining the integrity and safety of any structure. One significant factor contributing to soil settlement is poor grading. Understanding the role of grading in soil settlement can help homeowners and builders take preventive measures to protect their properties from potential damage.

Grading refers to the slope or incline of the ground surrounding a building's foundation. Proper grading ensures that water drains away from the structure, preventing moisture accumulation around the foundation. However, when grading is inadequate or improperly executed, it can lead to several problems, including soil erosion and increased pressure on the foundation walls. Over time, these issues may result in uneven settlement and visible cracks in the foundation.

One of the most common signs of foundation cracks due to soil settlement is vertical or diagonal fissures along the walls or floors. These cracks often indicate that parts of the foundation have sunk or shifted because of uneven support from beneath. Homeowners might also notice doors and windows misaligning or becoming difficult to open and close as a result of this movement.

Poor grading exacerbates these issues by allowing water to pool near the base of a building, further destabilizing already compromised soil. This accumulation increases hydrostatic pressure on basement walls, leading them to bow inward or crack under stress. In extreme cases, prolonged exposure to such conditions can even cause sections of a house's framework to separate at joints.

To prevent these issues from arising, property owners should prioritize proper site preparation before construction begins. This involves ensuring that land slopes away from all sides at an angle sufficient enough typically about six inches within ten feet so rainwater naturally channels away without causing undue saturation around foundations.

Additionally, regular inspections are essential for early detection if problems do arise despite best efforts during initial setup phases; catching symptoms early allows prompt intervention before damages escalate beyond simple repair solutions like installing French drains or re-grading landscapes accordingly.

In conclusion, recognizing poor grading's role in promoting detrimental soil settlements highlights its importance not just during build stages but throughout ongoing maintenance routines too: vigilance now safeguards investments against future adversities stemming directly back towards foundational integrity being compromised through negligence initially unaddressed until later stages unfortunately reached past easier remediation possibilities once previously available had timely attention been given earlier instead when first needed most importantly so!

Repair Solutions for Foundation Cracks: Different strategies and technologies available for repairing cracks in

foundations due to shifting soils.

Assessing the extent of damage in structures affected by soil settlement is a critical task that requires a comprehensive understanding of various factors contributing to the issue. One significant factor that often plays a pivotal role in soil settlement is poor grading. Recognizing the impact of inadequate grading practices is essential for engineers, builders, and property owners alike to mitigate potential risks and ensure structural integrity.

Poor grading refers to the improper leveling and compaction of soil during construction or landscaping activities.

Recognizing the Role of Poor Grading in Soil Settlement - Nashville

1. structural failure
2. Nashville
3. space

This can lead to uneven surfaces, insufficient drainage, and ultimately, soil settlement. When the ground beneath a structure settles unevenly, it can cause a multitude of problems ranging from minor cosmetic issues like cracks in walls or floors to severe structural damages such as foundation failure.

To assess the extent of damage caused by poor grading-induced soil settlement, professionals must first conduct a thorough site investigation. This involves examining

both surface conditions and subsurface characteristics to identify signs of distress. Visual inspections can reveal obvious symptoms like tilting or sinking structures, while more detailed evaluations might include geotechnical surveys using tools such as ground-penetrating radar (GPR) or borehole sampling.

Once potential areas of concern are identified, it's crucial to determine whether poor grading is indeed the root cause. This involves analyzing historical data about the site's development and comparing it with current conditions. Factors such as changes in water drainage patterns due to improper slopes or lack of adequate compacting techniques during initial construction could be contributing factors.

Understanding how poor grading contributes to soil settlement helps professionals develop effective remediation strategies. Solutions may include regrading the site to improve water runoff management or employing underpinning techniques to stabilize foundations affected by differential settlement. In some cases, installing drainage systems such as French drains might be necessary to prevent further saturation and movement within problematic soils.

Moreover, recognizing poor grading's role in soil settlement emphasizes the importance of preventive measures during initial site preparation stages. Proper planning and execution can significantly reduce future risks associated with soil movement. By ensuring adequate compaction levels are achieved and maintaining appropriate slope gradients for drainage purposes from the outset, builders can help safeguard structures against potential settling issues down the line.

In conclusion, assessing damage extent in structures impacted by poor grading-induced soil settlement requires an integrated approach combining careful site evaluation with knowledge about potential causative factors like inadequate leveling techniques or ineffective water management practices during construction phases. By acknowledging these elements' influence on structural stability early on—and implementing necessary

corrective actions—stakeholders involved at every level from planning through maintenance processes will better protect investments into built environments while promoting long-term durability across diverse settings globally today!

Preventative Measures: Tips for homeowners to minimize the risk of foundation damage from seasonal soil changes.

Foundation cracks are a homeowner's nightmare, often indicating underlying issues that require prompt attention. One of the most common culprits behind these structural concerns is soil settlement, exacerbated by poor grading. Understanding how inadequate grading contributes to soil settlement and subsequently to foundation damage is crucial in both preventing and addressing these issues effectively.

Poor grading refers to the improper leveling or sloping of land around a building, which can lead to water mismanagement. Ideally, the ground should slope away from the foundation to ensure proper drainage.

Recognizing the Role of Poor Grading in Soil Settlement – structural failure

1. crawl space
2. wall
3. leak

When water accumulates near the foundation due to poor grading, it seeps into the soil, increasing its moisture content and causing it to expand. Over time, as conditions dry out, the soil contracts. This continuous cycle of expansion and contraction leads to uneven settling of the foundation—a process known as differential settlement.

Recognizing poor grading as a precursor to soil settlement provides an opportunity for preventative action. Homeowners should regularly inspect their properties for signs of improper drainage such as pooling water or erosion channels. Corrective measures might include regrading the landscape by adding or removing soil to create a slope that directs water away from the house. In some cases, installing drainage systems like French drains can further mitigate water accumulation and reduce pressure on the foundation.

When foundation cracks caused by soil settlement do occur despite preventive measures, several repair methods can be employed. Epoxy injections are commonly used for minor cracks; this involves injecting epoxy resin into cracks under pressure, bonding them together and restoring structural integrity. For more severe cases where settling has resulted in significant movement or instability, underpinning might be necessary. This involves extending the foundation downwards using piers driven into stable soil layers below or expanding footings with additional concrete support.

Moreover, mudjacking—or slab jacking—can be utilized to correct sunken concrete slabs by pumping a slurry beneath them to restore their original level. Though primarily used for sidewalks and driveways, this method can also stabilize foundations under certain circumstances.

In conclusion, recognizing poor grading's role in contributing to soil settlement is essential for maintaining home stability and safety. Proactive management through proper grading practices not only prevents costly repairs but also preserves property value over time. Should cracks develop due to settled soils despite best efforts at prevention, various repair techniques—from simple epoxy injections to complex underpinning—are available options tailored to address specific degrees of damage while ensuring long-lasting solutions for homeowners grappling with foundational challenges triggered by inadequate drainage strategies.

Case Studies and Real-Life Examples: Examination of past incidents where shifting soils led to significant foundation issues and subsequent repairs.

Proper soil grading is an essential aspect of construction and landscaping that often goes unnoticed until problems arise, such as soil settlement. Understanding preventive

measures and best practices for soil grading can help mitigate these issues, ensuring stability and longevity for structures and landscapes alike.

One of the primary roles of proper soil grading is to manage water flow. Poor grading can lead to inadequate drainage, which results in water accumulation around foundations or other critical areas. This excess moisture can cause the soil to become saturated, leading to erosion or settling over time. To prevent these issues, it is crucial to establish a slope away from buildings or structures. Generally, a slope of 5% over the first ten feet from the foundation is recommended to direct water away efficiently.

Compaction is another vital practice when addressing soil grading. Proper compaction increases soil density, reducing air pockets that might later collapse under pressure or moisture changes. Using mechanical compactors ensures uniform compaction across the graded area, providing a stable base for construction projects or landscaping features.

Additionally, selecting appropriate fill material plays a significant role in preventing poor grading outcomes. The fill should be free of organic matter and debris that may decompose over time, causing voids and subsequent settling. Utilizing well-graded aggregates with various particle sizes can enhance compaction effectiveness and overall stability.

Vegetative cover is also an important component in maintaining effective grading practices. Plants help stabilize the soil with their root systems while absorbing excess moisture that could otherwise contribute to erosion or settling. Selecting native plants suited to local climate conditions will ensure they thrive with minimal maintenance, providing long-term stabilization benefits.

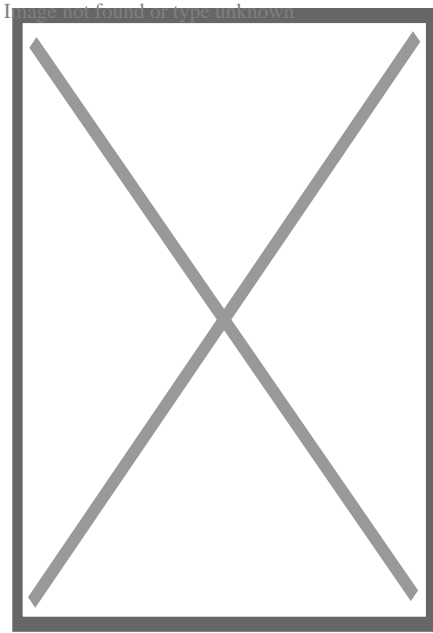
Regular inspections and maintenance are necessary steps in managing proper soil grading over time. Even well-graded sites may experience shifts due to environmental factors or ongoing usage impacts. Periodic checks allow for early detection of potential issues such as pooling water, eroded areas, or vegetation decline—enabling timely intervention before significant problems develop.

Furthermore, understanding local regulations and codes regarding site preparation and grading ensures compliance while promoting best practices tailored to regional needs. These guidelines are often based on extensive research into local soil types and climate conditions, offering valuable insights into effective strategies for minimizing settlement risks.

In conclusion, recognizing the role of poor grading in soil settlement highlights the importance of preventive measures and best practices in this field. By focusing on proper slopes for drainage, adequate compaction techniques, suitable fill materials, vegetative stabilization methods, regular maintenance routines, and adherence to local regulations—construction professionals can significantly reduce the likelihood of settlement-related issues while enhancing project durability and success rates overall.

About erosion

For other uses, see [Erosion \(disambiguation\)](#).



An actively eroding rill on an intensively-farmed field in eastern Germany. This phenomenon is aggravated by poor agricultural practices because when ploughing, the furrows were traced in the direction of the slope rather than that of the terrain contour lines.

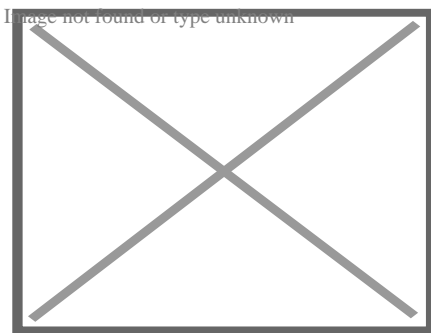
Erosion is the action of surface processes (such as water flow or wind) that removes soil, rock, or dissolved material from one location on the Earth's crust and then transports it to another location where it is deposited. Erosion is distinct from weathering which involves no movement.^[1]^[2] Removal of rock or soil as clastic sediment is referred to as *physical* or *mechanical* erosion; this contrasts with *chemical* erosion, where soil or rock material is removed from an area by dissolution.^[3] Eroded sediment or solutes^[3] may be transported just a few millimetres, or for thousands of kilometres.

Agents of erosion include rainfall;^[4] bedrock wear in rivers; coastal erosion by the sea and waves; glacial plucking, abrasion, and scour; areal flooding; wind abrasion; groundwater processes; and mass movement processes in steep landscapes like landslides and debris flows. The rates at which such processes act control how fast a surface is eroded. Typically, physical erosion proceeds the fastest on steeply sloping surfaces, and rates may also be sensitive to some climatically controlled properties including amounts of water supplied (e.g., by rain), storminess, wind

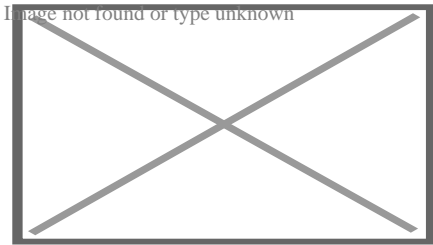
speed, wave fetch, or atmospheric temperature (especially for some ice-related processes). Feedbacks are also possible between rates of erosion and the amount of eroded material that is already carried by, for example, a river or glacier.^{[5][6]} The transport of eroded materials from their original location is followed by deposition, which is arrival and emplacement of material at a new location.^[1]

While erosion is a natural process, human activities have increased by 10–40 times the rate at which soil erosion is occurring globally.^[7] At agriculture sites in the Appalachian Mountains, intensive farming practices have caused erosion at up to 100 times the natural rate of erosion in the region.^[8] Excessive (or accelerated) erosion causes both "on-site" and "off-site" problems. On-site impacts include decreases in agricultural productivity and (on natural landscapes) ecological collapse, both because of loss of the nutrient-rich upper soil layers. In some cases, this leads to desertification. Off-site effects include sedimentation of waterways and eutrophication of water bodies, as well as sediment-related damage to roads and houses. Water and wind erosion are the two primary causes of land degradation; combined, they are responsible for about 84% of the global extent of degraded land, making excessive erosion one of the most significant environmental problems worldwide.^[9] ^[10] ^[11]

Intensive agriculture, deforestation, roads, anthropogenic climate change and urban sprawl are amongst the most significant human activities in regard to their effect on stimulating erosion.^[12] However, there are many prevention and remediation practices that can curtail or limit erosion of vulnerable soils.



A natural arch produced by the wind erosion of differentially weathered rock in Jebel Kharaz, Jordan



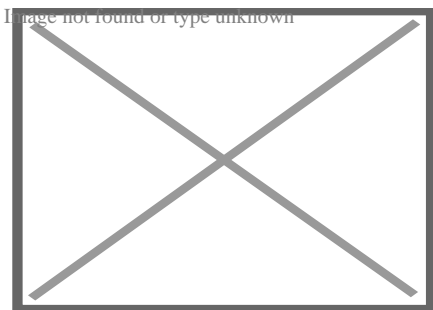
A wave-like sea cliff produced by coastal erosion, in Jinshitan Coastal National Geopark, Dalian, Liaoning Province, China

Physical processes

[edit]

Rainfall and surface runoff

[edit]



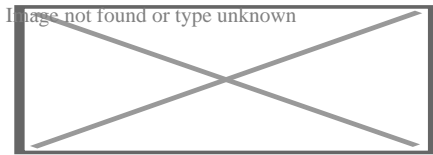
Soil and water being splashed by the impact of a single raindrop

Rainfall, and the surface runoff which may result from rainfall, produces four main types of soil erosion: *splash erosion*, *sheet erosion*, *rill erosion*, and *gully erosion*.

Splash erosion is generally seen as the first and least severe stage in the soil erosion process, which is followed by sheet erosion, then rill erosion and finally gully erosion (the most severe of the four).^[10]:â€œ60–61â€^[13]

In *splash erosion*, the impact of a falling raindrop creates a small crater in the soil,^[14] ejecting soil particles.^[4] The distance these soil particles travel can be as much as 0.6 m (2.0 ft) vertically and 1.5 m (4.9 ft) horizontally on level ground.

If the soil is saturated, or if the rainfall rate is greater than the rate at which water can infiltrate into the soil, surface runoff occurs. If the runoff has sufficient flow energy, it will transport loosened soil particles (sediment) down the slope.^[15] *Sheet erosion* is the transport of loosened soil particles by overland flow.^[15]



A spoil tip covered in rills and gullies due to erosion processes caused by rainfall: Rummu, Estonia

Rill erosion refers to the development of small, ephemeral concentrated flow paths which function as both sediment source and sediment delivery systems for erosion on hillslopes. Generally, where water erosion rates on disturbed upland areas are greatest, rills are active. Flow depths in rills are typically of the order of a few centimetres (about an inch) or less and along-channel slopes may be quite steep. This means that rills exhibit hydraulic physics very different from water flowing through the deeper, wider channels of streams and rivers.^[16]

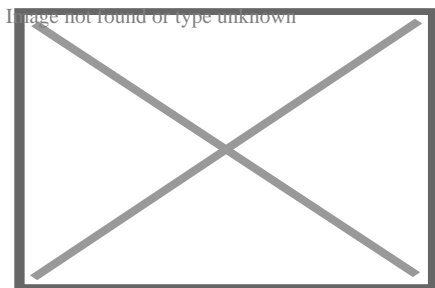
Gully erosion occurs when runoff water accumulates and rapidly flows in narrow channels during or immediately after heavy rains or melting snow, removing soil to a considerable depth.^{[17][18][19]} A gully is distinguished from a rill based on a critical cross-sectional area of at least one square foot, i.e. the size of a channel that can no longer be erased via normal tillage operations.^[20]

Extreme gully erosion can progress to formation of badlands. These form under conditions of high relief on easily eroded bedrock in climates favorable to erosion. Conditions or disturbances that limit the growth of protective vegetation (rhexistasy) are a key element of badland formation.^[21]

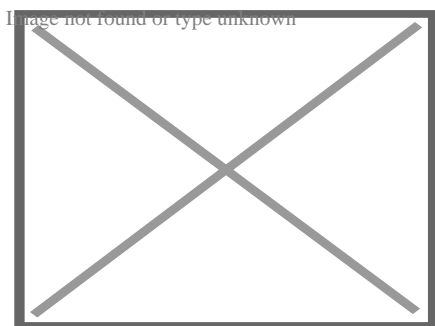
Rivers and streams

[edit]

Further information on water's erosive ability: Hydraulic action



Dobbingstone Burn, Scotland, showing two different types of erosion affecting the same place. Valley erosion is occurring due to the flow of the stream, and the boulders and stones (and much of the soil) that are lying on the stream's banks are glacial till that was left behind as ice age glaciers flowed over the terrain.



Layers of chalk exposed by a river eroding through them

Green land erosion

Image not found or type unknown

Green land erosion

Valley or stream erosion occurs with continued water flow along a linear feature. The erosion is both downward, deepening the valley, and headward, extending the valley into the hillside, creating head cuts and steep banks. In the earliest stage

of stream erosion, the erosive activity is dominantly vertical, the valleys have a typical V-shaped cross-section and the stream gradient is relatively steep. When some base level is reached, the erosive activity switches to lateral erosion, which widens the valley floor and creates a narrow floodplain. The stream gradient becomes nearly flat, and lateral deposition of sediments becomes important as the stream meanders across the valley floor. In all stages of stream erosion, by far the most erosion occurs during times of flood when more and faster-moving water is available to carry a larger sediment load. In such processes, it is not the water alone that erodes: suspended abrasive particles, pebbles, and boulders can also act erosively as they traverse a surface, in a process known as *traction*.^[22]

Bank erosion is the wearing away of the banks of a stream or river. This is distinguished from changes on the bed of the watercourse, which is referred to as *scour*. Erosion and changes in the form of river banks may be measured by inserting metal rods into the bank and marking the position of the bank surface along the rods at different times.^[23]

Thermal erosion is the result of melting and weakening permafrost due to moving water.^[24] It can occur both along rivers and at the coast. Rapid river channel migration observed in the Lena River of Siberia is due to thermal erosion, as these portions of the banks are composed of permafrost-cemented non-cohesive materials.^[25] Much of this erosion occurs as the weakened banks fail in large slumps. Thermal erosion also affects the Arctic coast, where wave action and near-shore temperatures combine to undercut permafrost bluffs along the shoreline and cause them to fail. Annual erosion rates along a 100-kilometre (62-mile) segment of the Beaufort Sea shoreline averaged 5.6 metres (18 feet) per year from 1955 to 2002.^[26]

Most river erosion happens nearer to the mouth of a river. On a river bend, the longest least sharp side has slower moving water. Here deposits build up. On the narrowest sharpest side of the bend, there is faster moving water so this side tends to erode away mostly.

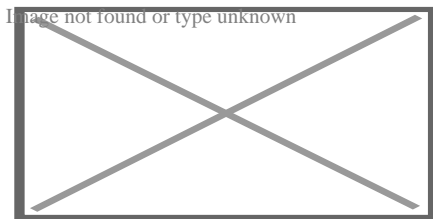
Rapid erosion by a large river can remove enough sediments to produce a river anticline,^[27] as isostatic rebound raises rock beds unburdened by erosion of overlying beds.

Coastal erosion

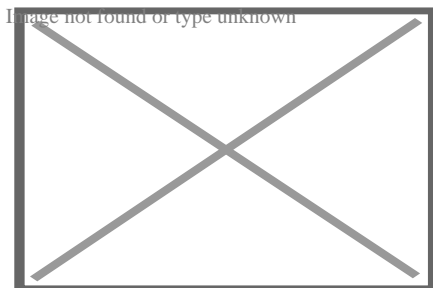
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Main article: Coastal erosion

See also: Beach evolution



Wave cut platform caused by erosion of cliffs by the sea, at Southerndown in South Wales



Erosion of the boulder clay (of Pleistocene age) along cliffs of Filey Bay, Yorkshire, England

Shoreline erosion, which occurs on both exposed and sheltered coasts, primarily occurs through the action of currents and waves but sea level (tidal) change can also play a role.

Sea-dune erosion at Talacre beach, Wales

Hydraulic action takes place when the air in a joint is suddenly compressed by a wave closing the entrance of the joint. This then cracks it. *Wave pounding* is when

the sheer energy of the wave hitting the cliff or rock breaks pieces off. *Abrasion* or *corrasion* is caused by waves launching sea load at the cliff. It is the most effective and rapid form of shoreline erosion (not to be confused with *corrosion*). *Corrosion* is the dissolving of rock by carbonic acid in sea water.^[28] Limestone cliffs are particularly vulnerable to this kind of erosion. *Attrition* is where particles/sea load carried by the waves are worn down as they hit each other and the cliffs. This then makes the material easier to wash away. The material ends up as shingle and sand. Another significant source of erosion, particularly on carbonate coastlines, is boring, scraping and grinding of organisms, a process termed *bioerosion*.^[29]

Sediment is transported along the coast in the direction of the prevailing current (longshore drift). When the upcurrent supply of sediment is less than the amount being carried away, erosion occurs. When the upcurrent amount of sediment is greater, sand or gravel banks will tend to form as a result of deposition. These banks may slowly migrate along the coast in the direction of the longshore drift, alternately protecting and exposing parts of the coastline. Where there is a bend in the coastline, quite often a buildup of eroded material occurs forming a long narrow bank (a spit). Armoured beaches and submerged offshore sandbanks may also protect parts of a coastline from erosion. Over the years, as the shoals gradually shift, the erosion may be redirected to attack different parts of the shore.^[30]

Erosion of a coastal surface, followed by a fall in sea level, can produce a distinctive landform called a raised beach.^[31]

Chemical erosion

[edit]

See also: Karst topography

Chemical erosion is the loss of matter in a landscape in the form of solutes.

Chemical erosion is usually calculated from the solutes found in streams. Anders

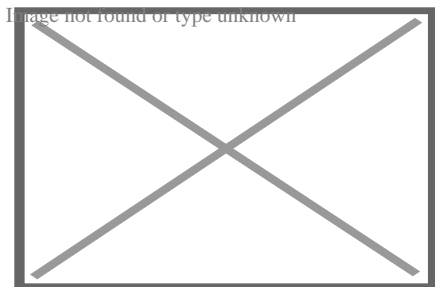
Rapp pioneered the study of chemical erosion in his work about Kärkevagge

published in 1960.[³²]

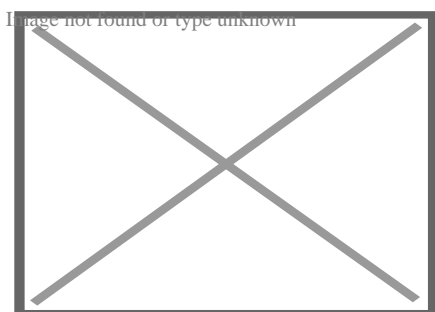
Formation of sinkholes and other features of karst topography is an example of extreme chemical erosion.[³³]

Glaciers

[edit]



The Devil's Nest (*Pirunpesä*), the deepest ground erosion in Europe,^[34] located in Jalasjärvi, Kurikka, Finland



Glacial moraines above Lake Louise, in Alberta, Canada

Glaciers erode predominantly by three different processes: abrasion/scouring, plucking, and ice thrusting. In an abrasion process, debris in the basal ice scrapes along the bed, polishing and gouging the underlying rocks, similar to sandpaper on wood. Scientists have shown that, in addition to the role of temperature played in valley-deepening, other glaciological processes, such as erosion also control cross-valley variations. In a homogeneous bedrock erosion pattern, curved channel cross-section beneath the ice is created. Though the glacier continues to incise vertically, the shape of the channel beneath the ice eventually remain

constant, reaching a U-shaped parabolic steady-state shape as we now see in glaciated valleys. Scientists also provide a numerical estimate of the time required for the ultimate formation of a steady-shaped U-shaped valley—approximately 100,000 years. In a weak bedrock (containing material more erodible than the surrounding rocks) erosion pattern, on the contrary, the amount of over deepening is limited because ice velocities and erosion rates are reduced.^[35]

Glaciers can also cause pieces of bedrock to crack off in the process of plucking. In ice thrusting, the glacier freezes to its bed, then as it surges forward, it moves large sheets of frozen sediment at the base along with the glacier. This method produced some of the many thousands of lake basins that dot the edge of the Canadian Shield. Differences in the height of mountain ranges are not only being the result tectonic forces, such as rock uplift, but also local climate variations. Scientists use global analysis of topography to show that glacial erosion controls the maximum height of mountains, as the relief between mountain peaks and the snow line are generally confined to altitudes less than 1500 m.^[36] The erosion caused by glaciers worldwide erodes mountains so effectively that the term *glacial buzzsaw* has become widely used, which describes the limiting effect of glaciers on the height of mountain ranges.^[37] As mountains grow higher, they generally allow for more glacial activity (especially in the accumulation zone above the glacial equilibrium line altitude),^[38] which causes increased rates of erosion of the mountain, decreasing mass faster than isostatic rebound can add to the mountain.^[39] This provides a good example of a negative feedback loop. Ongoing research is showing that while glaciers tend to decrease mountain size, in some areas, glaciers can actually reduce the rate of erosion, acting as a *glacial armor*.^[37] Ice can not only erode mountains but also protect them from erosion. Depending on glacier regime, even steep alpine lands can be preserved through time with the help of ice. Scientists have proved this theory by sampling eight summits of northwestern Svalbard using Be10 and Al26, showing that northwestern Svalbard transformed from a glacier-erosion state under relatively mild glacial maxima temperature, to a glacier-armor state occupied by cold-based, protective ice during much colder glacial maxima temperatures as the Quaternary ice age

progressed.^[40]

These processes, combined with erosion and transport by the water network beneath the glacier, leave behind glacial landforms such as moraines, drumlins, ground moraine (till), glaciokarst, kames, kame deltas, moulins, and glacial erratics in their wake, typically at the terminus or during glacier retreat.^[41]

The best-developed glacial valley morphology appears to be restricted to landscapes with low rock uplift rates (less than or equal to 2mm per year) and high relief, leading to long-turnover times. Where rock uplift rates exceed 2mm per year, glacial valley morphology has generally been significantly modified in postglacial time. Interplay of glacial erosion and tectonic forcing governs the morphologic impact of glaciations on active orogens, by both influencing their height, and by altering the patterns of erosion during subsequent glacial periods via a link between rock uplift and valley cross-sectional shape.^[42]

Floods

[edit]

The mouth of the River Seaton in Cornwall after heavy rainfall caused flooding in the

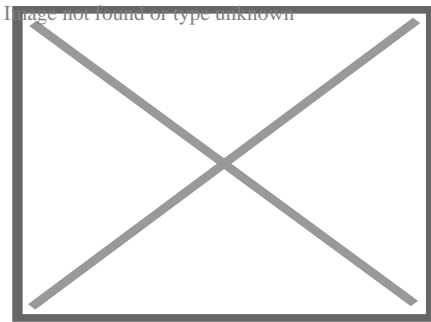
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The mouth of the River Seaton in Cornwall after heavy rainfall caused flooding in the area and cause a significant amount of the beach to erode; leaving behind a tall sand bank in its place

At extremely high flows, kolks, or vortices are formed by large volumes of rapidly rushing water. Kolks cause extreme local erosion, plucking bedrock and creating pothole-type geographical features called rock-cut basins. Examples can be seen in the flood regions result from glacial Lake Missoula, which created the channeled scablands in the Columbia Basin region of eastern Washington.^[43]

Wind erosion

[edit]



Árbol de Piedra, a rock formation in the Altiplano, Bolivia sculpted by wind erosion

Main article: Aeolian processes

Wind erosion is a major geomorphological force, especially in arid and semi-arid regions. It is also a major source of land degradation, evaporation, desertification, harmful airborne dust, and crop damage—especially after being increased far above natural rates by human activities such as deforestation, urbanization, and agriculture.^[44]^[45]

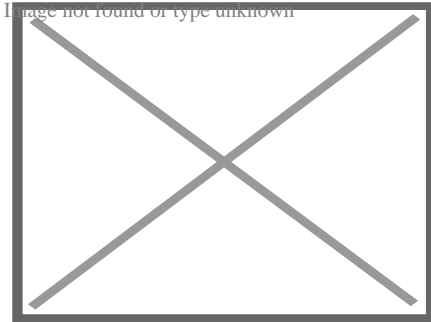
Wind erosion is of two primary varieties: *deflation*, where the wind picks up and carries away loose particles; and *abrasion*, where surfaces are worn down as they are struck by airborne particles carried by wind. Deflation is divided into three categories: (1) *surface creep*, where larger, heavier particles slide or roll along the ground; (2) *saltation*, where particles are lifted a short height into the air, and bounce and saltate across the surface of the soil; and (3) *suspension*, where very small and light particles are lifted into the air by the wind, and are often carried for long distances. Saltation is responsible for the majority (50–70%) of wind erosion, followed by suspension (30–40%), and then surface creep (5–25%).^[46]^[47]

Wind erosion is much more severe in arid areas and during times of drought. For example, in the Great Plains, it is estimated that soil loss due to wind erosion can

be as much as 6100 times greater in drought years than in wet years.^[48]

Mass wasting

[edit]



A wadi in Makhtesh Ramon, Israel, showing gravity collapse erosion on its banks

Main article: Mass wasting

Mass wasting or *mass movement* is the downward and outward movement of rock and sediments on a sloped surface, mainly due to the force of gravity.^[49]^[50]

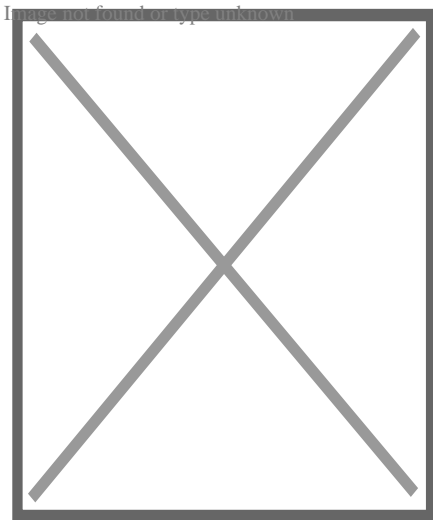
Mass wasting is an important part of the erosional process and is often the first stage in the breakdown and transport of weathered materials in mountainous areas.^[51] It moves material from higher elevations to lower elevations where other eroding agents such as streams and glaciers can then pick up the material and move it to even lower elevations. Mass-wasting processes are always occurring continuously on all slopes; some mass-wasting processes act very slowly; others occur very suddenly, often with disastrous results. Any perceptible down-slope movement of rock or sediment is often referred to in general terms as a landslide. However, landslides can be classified in a much more detailed way that reflects the mechanisms responsible for the movement and the velocity at which the movement occurs. One of the visible topographical manifestations of a very slow form of such activity is a scree slope.^[citation needed]

Slumping happens on steep hillsides, occurring along distinct fracture zones, often within materials like clay that, once released, may move quite rapidly downhill. They will often show a spoon-shaped isostatic depression, in which the material has begun to slide downhill. In some cases, the slump is caused by water beneath the slope weakening it. In many cases it is simply the result of poor engineering along highways where it is a regular occurrence.^[52]

Surface creep is the slow movement of soil and rock debris by gravity which is usually not perceptible except through extended observation. However, the term can also describe the rolling of dislodged soil particles 0.5 to 1.0 mm (0.02 to 0.04 in) in diameter by wind along the soil surface.^[53]

Submarine sediment gravity flows

[edit]



Bathymetry of submarine canyons in the continental slope off the coast of New York and New Jersey

On the continental slope, erosion of the ocean floor to create channels and submarine canyons can result from the rapid downslope flow of sediment gravity flows, bodies of sediment-laden water that move rapidly downslope as turbidity currents. Where erosion by turbidity currents creates oversteepened slopes it can

also trigger underwater landslides and debris flows. Turbidity currents can erode channels and canyons into substrates ranging from recently deposited unconsolidated sediments to hard crystalline bedrock.^{[54][55][56]} Almost all continental slopes and deep ocean basins display such channels and canyons resulting from sediment gravity flows and submarine canyons act as conduits for the transfer of sediment from the continents and shallow marine environments to the deep sea.^{[57][58][59]} Turbidites, which are the sedimentary deposits resulting from turbidity currents, comprise some of the thickest and largest sedimentary sequences on Earth, indicating that the associated erosional processes must also have played a prominent role in Earth's history.

Factors affecting erosion rates

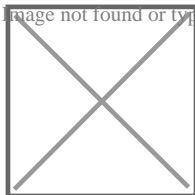
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Climate

[edit]

See also: Climatic geomorphology

The amount and intensity of precipitation is the main climatic factor governing soil erosion by water. The relationship is particularly strong if heavy rainfall occurs at times when, or in locations where, the soil's surface is not well protected by vegetation. This might be during periods when agricultural activities leave the soil bare, or in semi-arid regions where vegetation is naturally sparse. Wind erosion requires strong winds, particularly during times of drought when vegetation is sparse and soil is dry (and so is more erodible). Other climatic factors such as

average temperature and temperature range may also affect erosion, via their effects on vegetation and soil properties. In general, given similar vegetation and ecosystems, areas with more precipitation (especially high-intensity rainfall), more wind, or more storms are expected to have more erosion.

In some areas of the world (e.g. the mid-western US), rainfall intensity is the primary determinant of erosivity (for a definition of *erosivity* check,[⁶⁰]) with higher intensity rainfall generally resulting in more soil erosion by water. The size and velocity of rain drops is also an important factor. Larger and higher-velocity rain drops have greater kinetic energy, and thus their impact will displace soil particles by larger distances than smaller, slower-moving rain drops.[⁶¹]

In other regions of the world (e.g. western Europe), runoff and erosion result from relatively low intensities of stratiform rainfall falling onto the previously saturated soil. In such situations, rainfall amount rather than intensity is the main factor determining the severity of soil erosion by water.[¹⁷] According to the climate change projections, erosivity will increase significantly in Europe and soil erosion may increase by 13–22.5% by 2050 [⁶²]

In Taiwan, where typhoon frequency increased significantly in the 21st century, a strong link has been drawn between the increase in storm frequency with an increase in sediment load in rivers and reservoirs, highlighting the impacts climate change can have on erosion.[⁶³]

Vegetative cover

[edit]

See also: Vegetation and slope stability

Vegetation acts as an interface between the atmosphere and the soil. It increases the permeability of the soil to rainwater, thus decreasing runoff. It shelters the soil from winds, which results in decreased wind erosion, as well as advantageous changes in microclimate. The roots of the plants bind the soil together, and

interweave with other roots, forming a more solid mass that is less susceptible to both water^[64] and wind erosion. The removal of vegetation increases the rate of surface erosion.^[65]

Topography

[edit]

The topography of the land determines the velocity at which surface runoff will flow, which in turn determines the erosivity of the runoff. Longer, steeper slopes (especially those without adequate vegetative cover) are more susceptible to very high rates of erosion during heavy rains than shorter, less steep slopes. Steeper terrain is also more prone to mudslides, landslides, and other forms of gravitational erosion processes.^[61]:â€28–30â€^[66]^[67]

Tectonics

[edit]

Main article: Erosion and tectonics

Tectonic processes control rates and distributions of erosion at the Earth's surface. If the tectonic action causes part of the Earth's surface (e.g., a mountain range) to be raised or lowered relative to surrounding areas, this must necessarily change the gradient of the land surface. Because erosion rates are almost always sensitive to the local slope (see above), this will change the rates of erosion in the uplifted area. Active tectonics also brings fresh, unweathered rock towards the surface, where it is exposed to the action of erosion.

However, erosion can also affect tectonic processes. The removal by erosion of large amounts of rock from a particular region, and its deposition elsewhere, can result in a lightening of the load on the lower crust and mantle. Because tectonic processes are driven by gradients in the stress field developed in the crust, this unloading can in turn cause tectonic or isostatic uplift in the region.^[51]:â€99â€^[68]

In some cases, it has been hypothesised that these twin feedbacks can act to localize and enhance zones of very rapid exhumation of deep crustal rocks beneath places on the Earth's surface with extremely high erosion rates, for example, beneath the extremely steep terrain of Nanga Parbat in the western Himalayas. Such a place has been called a "tectonic aneurysm".^[69]

Development

[edit]

Human land development, in forms including agricultural and urban development, is considered a significant factor in erosion and sediment transport, which aggravate food insecurity.^[70] In Taiwan, increases in sediment load in the northern, central, and southern regions of the island can be tracked with the timeline of development for each region throughout the 20th century.^[63] The intentional removal of soil and rock by humans is a form of erosion that has been named *lisasion*.^[71]

Erosion at various scales

[edit]

Mountain ranges

[edit]

See also: denudation and planation

Mountain ranges take millions of years to erode to the degree they effectively cease to exist. Scholars Pitman and Golovchenko estimate that it takes probably more than 450 million years to erode a mountain mass similar to the Himalaya into an almost-flat peneplain if there are no significant sea-level changes.^[72] Erosion of mountains massifs can create a pattern of equally high summits called summit accordance.^[73] It has been argued that extension during post-orogenic collapse is

a more effective mechanism of lowering the height of orogenic mountains than erosion.^[74]

Examples of heavily eroded mountain ranges include the Timanides of Northern Russia. Erosion of this orogen has produced sediments that are now found in the East European Platform, including the Cambrian Sablya Formation near Lake Ladoga. Studies of these sediments indicate that it is likely that the erosion of the orogen began in the Cambrian and then intensified in the Ordovician.^[75]

Soils

[edit]

Further information: soil erosion and pedogenesis

If the erosion rate exceeds soil formation, erosion destroys the soil.^[76] Lower rates of erosion can prevent the formation of soil features that take time to develop. Inceptisols develop on eroded landscapes that, if stable, would have supported the formation of more developed Alfisols.^[77]

While erosion of soils is a natural process, human activities have increased by 10–40 times the rate at which erosion occurs globally. Excessive (or accelerated) erosion causes both "on-site" and "off-site" problems. On-site impacts include decreases in agricultural productivity and (on natural landscapes) ecological collapse, both because of loss of the nutrient-rich upper soil layers. In some cases, the eventual result is desertification. Off-site effects include sedimentation of waterways and eutrophication of water bodies, as well as sediment-related damage to roads and houses. Water and wind erosion are the two primary causes of land degradation; combined, they are responsible for about 84% of the global extent of degraded land, making excessive erosion one of the most significant environmental problems.^{[10][78]}

Often in the United States, farmers cultivating highly erodible land must comply with a conservation plan to be eligible for agricultural assistance.^[79]

Consequences of human-made soil erosion

[edit]

Main articles: Human impact on the environment, Environmental impact of agriculture, Soil retrogression and degradation, and Land degradation

See also

[edit]

- Bridge scour – Erosion of sediment near bridge foundations by water
- Cellular confinement – Confinement system used in construction and geotechnical engineering
- Colluvium – Loose, unconsolidated sediments deposited at the base of a hillslope
- Groundwater sapping
- Lessivage
- Space weathering – Type of weathering
- Vetiver System – System of soil and water conservation

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- The Soil and Water Conservation Society

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Rivers, streams and springs

**Rivers
(lists)**

- Alluvial river
- Braided river
- Blackwater river
- Channel
- Channel pattern
- Channel types
- Confluence
- Distributary
- Drainage basin
- Subterranean river
- River bifurcation
- River ecosystem
- River source
- Tributary
- Arroyo
- Bourne
- Burn
- Chalk stream
- Coulee
- Current

Streams

- Stream bed
- Stream channel
- Streamflow
- Stream gradient
- Stream pool
- Perennial stream
- Winterbourne

Springs
(list)

- Estavelle/Inversac
- Geyser
- Holy well
- Hot spring
 - list
 - list in the US
- Karst spring
 - list
- Mineral spring
- Ponor
- Rhythmic spring
- Spring horizon

**Sedimentary processes
and erosion**

- Abrasion
- Anabranch
- Aggradation
- Armor
- Bed load
- Bed material load
- Granular flow
- Debris flow
- Deposition
- Dissolved load
- Duncutting
- Erosion
- Headward erosion
- Knickpoint
- Palaeochannel
- Progradation
- Retrogradation
- Saltation
- Secondary flow
- Sediment transport
- Suspended load
- Wash load
- Water gap

Fluvial landforms

- Ait
- Alluvial fan
- Antecedent drainage stream
- Avulsion
- Bank
- Bar
- Bayou
- Billabong
- Canyon
- Chine
- Cut bank
- Estuary
- Floating island
- Fluvial terrace
- Gill
- Gulch
- Gully
- Glen
- Meander scar
- Mouth bar
- Oxbow lake
- Riffle–pool sequence
- Point bar
- Ravine
- Rill
- River island
- Rock–cut basin
- Sedimentary basin
- Sedimentary structures
- Strath
- Thalweg
- River valley
- Wadi

Fluvial flow

- Helicoidal flow
- International scale of river difficulty
- Log jam
- Meander
- Plunge pool
- Rapids
- Riffle
- Shoal
- Stream capture
- Waterfall
- Whitewater
- Agricultural wastewater

Surface runoff

- First flush
- Urban runoff
- 100-year flood
- Crevasse splay
- Flash flood
- Flood
 - Urban flooding
 - Non-water flood

Floods and stormwater

- Flood barrier
- Flood control
- Flood forecasting
- Flood-meadow
- Floodplain
- Flood pulse concept
- Flooded grasslands and savannas
- Inundation
- Storm Water Management Model
- Return period

Point source pollution

- Effluent
- Industrial wastewater
- Sewage
- Baer's law
- Baseflow
- Bradshaw model
- Discharge (hydrology)
- Drainage density
- Exner equation
- Groundwater model
- Hack's law
- Hjulström curve
- Hydrograph
- Hydrological model
- Hydrological transport model
- Infiltration (hydrology)
- Main stem
- Playfair's law
- Relief ratio
- River Continuum Concept
- Rouse number
- Runoff curve number
- Runoff model (reservoir)
- Stream gauge
- Universal Soil Loss Equation
- WAFLEX
- Wetted perimeter
- Volumetric flow rate

River measurement and modelling

River engineering

- Aqueduct
- Balancing lake
- Canal
- Check dam
- Dam
- Drop structure
- Daylighting
- Detention basin
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- Fish ladder
- Floodplain restoration
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- Levee
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- Fly fishing
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- River surfing
- Riverboarding
- Stone skipping
- Triathlon
- Whitewater canoeing
- Whitewater kayaking
- Whitewater slalom

River sports

- Aquifer
 - Aquatic toxicology
 - Body of water
 - Hydraulic civilization
 - Limnology
 - Riparian zone
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 - River cruise
 - Sacred waters
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- Rivers by length
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Things To Do in Cook County

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Glessner House

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WNDR Museum

4 (3534)

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Schiller Woods

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Chicago's Chinatown Gateway

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Shedd Aquarium

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Lake Katherine Nature Center and Botanic Gardens

4.8 (3252)

Driving Directions in Cook County

Driving Directions From Delia Aldridge MD to United Structural Systems of Illinois, Inc

Driving Directions From Barrington Lakes Apartments to United Structural Systems of Illinois, Inc

Driving Directions From Stephen Grabowski, MD to United Structural Systems of Illinois, Inc

Driving Directions From AMC South Barrington 24 to United Structural Systems of Illinois, Inc

Waterproofing service

Concrete contractor

Structural engineer

foundation repair near me

foundation crack repair service

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Reviews for United Structural Systems of Illinois, Inc

United Structural Systems of Illinois, Inc

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Sarah McNeily

(5)

USS was excellent. They are honest, straightforward, trustworthy, and conscientious. They thoughtfully removed the flowers and flower bulbs to dig where they needed in the yard, replanted said flowers and spread the extra dirt to fill in an area of the yard. We've had other services from different companies and our yard was really a mess after. They kept the job site meticulously clean. The crew was on time and friendly. I'd recommend them any day! Thanks to Jessie and crew.

United Structural Systems of Illinois, Inc

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Jim de Leon

(5)

It was a pleasure to work with Rick and his crew. From the beginning, Rick listened to my concerns and what I wished to accomplish. Out of the 6 contractors that quoted the project, Rick seemed the MOST willing to accommodate my wishes. His pricing was definitely more than fair as well. I had 10 push piers installed to stabilize and lift an addition of my house. The project commenced at the date that Rick had disclosed initially and it was completed within the same time period expected (based on Rick's original assessment). The crew was well informed, courteous, and hard working. They were not loud (even while equipment was being utilized) and were well spoken. My neighbors were very impressed on how polite they were when they entered / exited my property (saying hello or good morning each day when they crossed paths). You can tell they care about the customer concerns. They ensured that the property would be put back as clean as possible by placing MANY sheets of plywood down prior to excavating. They compacted the dirt back in the holes extremely well to avoid large stock piles of soils. All the while, the main office was calling me to discuss updates and expectations of completion. They provided waivers of lien, certificates of insurance, properly acquired permits, and JULIE locates. From a construction background, I can tell you that I did not see any flaws in the way they operated and this an extremely professional company. The pictures attached show the push piers added to the foundation (pictures 1, 2 & 3), the amount of excavation (picture 4), and the restoration after dirt was placed back in the pits and compacted (pictures 5, 6 & 7). Please notice that they also sealed two large cracks and steel plated these cracks from expanding further (which you can see under my sliding glass door). I, as well as my wife, are extremely happy that we chose United Structural Systems for our contractor. I would happily tell any of my friends and family to use this contractor should the opportunity arise!

United Structural Systems of Illinois, Inc

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Dave Kari

(5)

What a fantastic experience! Owner Rick Thomas is a trustworthy professional. Nick and the crew are hard working, knowledgeable and experienced. I interviewed every company in the area, big and small. A homeowner never wants to hear that they have foundation issues. Out of every company, I trusted USS the most, and it paid off in the end. Highly recommend.

United Structural Systems of Illinois, Inc

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Chris Abplanalp

(5)

USS did an amazing job on my underpinning on my house, they were also very courteous to the proximity of my property line next to my neighbor. They kept things in order with all the dirt/mud they had to excavate. They were done exactly in the timeframe they indicated, and the contract was very details oriented with drawings of what would be done. Only thing that would have been nice, is they left my concrete a little muddy with boot prints but again, all-in-all a great job

United Structural Systems of Illinois, Inc

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Paul Gunderlock

(4)

The staff was helpful, very nice and easy to work with and completed the work timely and cleaned up well. Communications faltered a bit at times and there was an email communications glitch which was no fault of anyone, but no big deal and all ended up fine. We sure feel better to have this done and hope that is the end of our structural issues. It does seem like (after talking to several related companies), that it would be great if some of these related companies had a structural engineer on staff vs using on the job expertise gained over years – which is definitely valuable! But leaves a bit of uncertainty – and probably saves money for both sides may be the trade-off? So far, so good though! Thank you.

Recognizing the Role of Poor Grading in Soil Settlement [View GBP](#)

Frequently Asked Questions

What is poor grading in the context of soil and its impact on foundation settlement?

Poor grading refers to inadequate slope or uneven distribution of soil around a structure. It can lead to improper drainage, causing water accumulation near the foundation, which increases the risk of soil erosion and settlement, ultimately affecting foundation stability.

How does poor grading contribute to cracks in building foundations?

Poor grading can cause water to pool around the foundation, increasing hydrostatic pressure and leading to soil expansion or contraction. This movement places stress on the foundation, potentially resulting in cracks as it settles unevenly.

What signs indicate that poor grading might be affecting my home's foundation?

Signs include visible cracks in walls or floors, doors or windows sticking, sloping floors, and areas where water pools after rain. These symptoms suggest potential issues with soil settlement influenced by poor grading.

Can improving soil grading prevent further damage to an already cracked foundation?

Yes, correcting the grading around your home can improve drainage and reduce moisture-related stresses on the foundation. While it won't fix existing cracks, it helps prevent additional movement and cracking.

Should I consult a professional for assessing poor grading's impact on my homes foundation?

Absolutely. A professional evaluation is crucial for accurately diagnosing issues related to poor grading and implementing effective solutions like regrading or installing proper drainage systems to protect your home's integrity.

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