Natural infrastructure can reduce flooding by giving rivers more room to flow within a floodplain, while enhancing water infiltration and storage to slow runoff.

**Natural infrastructure examples and benefits**

- **Barrier islands**: offshore sand islands that absorb wave energy to reduce erosion.
- **Bioswales and rain gardens**: low-lying vegetated areas that slow and cleanse urban runoff.
- **Cover crops**: planted agricultural fields to increase soil permeability and slow surface runoff.
- **Double U drainage ditch**: a two-tiered drainage ditch that captures sediment, removes nutrients, and supports wetland growth.
- **Floodplain restoration**: restoration approach that puts the stream channel and floodplain at or near historical elevations and locations, benefiting water quality, increasing absorption and providing wildlife habitat.
- **Gully stuffing**: logs and woody debris placed in ditches, gullies, or channels to slow the flow of water and trap sediment.
- **Hydrologic restoration**: structures, such as sediment and freshwater diversions, that reconnect rivers to wetlands to restore hydrology, deliver sediment and build and maintain coastal land.
- **Large woody debris**: wooden structures or tree stumps placed in streams to decrease stream velocity near river banks and reduce erosion of banks.
- **Leaky dams**: woody debris placed across a stream or channel that allows fish passage, provides habitat, and disperses and slows flow of water.
- **Large mangroves**: coastal shrubs/trees with dense roots and stems that reduce wave energy and height, trap storm debris, and slow inland transfer of water.
- **Maritime forest**: dense coastal vegetation that reduces wind and wave energy and captures debris to buffer coastal areas from storm damages.
- **Oyster, shellfish, and coral reefs**: function like submerged breakwaters to buffer coastal areas from waves and reduce erosion, while oyster and shellfish reefs improve water quality.
- **Set-back levees**: levees built well beyond the river to allow natural floodplain flooding and store water, slow stream velocity, and reduce downstream flood height.
- **Two-stage ditch**: drainage ditches that have been modified to include floodplain benches that mimic a natural floodplain. During storm events, two-stage ditches allow the water to spread out onto the floodplain, slowing it down and leading to greater channel stability.
- **Vegetated dunes**: vegetated mounds or ridges adjacent to beaches or on barrier islands that trap and stabilize sand and absorb storm surge and waves.
- **Wetlands**: act as sponges by slowing and absorbing water to reduce flood heights and storm surge velocity and height.

**How natural infrastructure reduces flooding**

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