

Best lightweight rain jackets of 2021 for summer and beyond

Waterproof, water-resistant and water-repellent — experts explain the difference between the three when shopping for rain jackets.



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With record-breaking high temperatures in the Pacific Northwest, which is normally known for its milder climate, and the year's first heat wave arriving ahead of the official start of summer, jackets might be the last thing you're thinking about — swimsuits and sweat shorts could be top of mind instead. But the season didn't start off as a scorcher — Memorial Day weekend, the unofficial beginning of summer, was a washout. Google searches for rain jackets have even been trending upwards despite the warm weather.

When shopping for rain jackets or coats, you'll probably come across ones with furtrimmed hoods, including Marmot's Chelsea Coat, or others lined with fleece like this option from L.L.Bean — features that aren't exactly ideal for when the sun is searing. And traditionally, rain jackets tend to be less lightweight. "The classic yellow rain slicker is not breathable — but very waterproof," explained Margaret Frey, a fiber science and apparel design professor at Cornell University. That doesn't mean you can't find a rain jacket that's wearable during sudden summer deluges or drizzles, though. For that, we consulted experts about what to consider before buying a rain jacket and compiled a few men's and women's coats from brands like Everlane, Hunter and more.

Waterproof versus water-resistant versus water-repellent

You might assume that a rain jacket will withstand any water thrown its way. This isn't always the case.

There are three terms you'll usually see when searching for the right rain jacket: waterproof, water-resistant, and water-repellent. While they might seem synonymous, they actually aren't. "Many manufacturers will use these terms and the consumer does not know or understand the difference," said Ashlee Rzyczycki, a visiting assistant professor at St. Thomas University in Florida who specializes in sustainability in fashion. There are slight but significant distinctions between the three — and knowing which does what can help you when deciding between one over the other.

To understand both water resistance and repellency, it could be helpful to first know what waterproof really means when it comes to rain jackets. The word **waterproof** denotes that water *can't* penetrate through the fabric — these textiles can be coated or laminated with layers of materials like PVC, rubber or silicone and tend to be stiffer and less breathable than water-resistant fabrics, mentioned Preethi Gopinath, an associate professor of textiles at Parsons School of Design.

Though a traditional raincoat can be water-resistant *or* waterproof, a waterproof jacket is literally designed to "offer much greater resistance to water penetration especially in a downpour," said Thomas Jefferson University materials technology professor Janet Brady. So, depending on how much protection you need, one might be better over the other.

A **water-resistant** jacket isn't as foolproof, so to speak, but is still very similar. "Technically speaking, one could say that water-resistant and waterproof are similar — these fabrics are made to resist wetting and water penetration," Brady said. Both types typically have a durable water repellency finish, or DWR for short, on the outermost fabric — which will offer a "line of defense" to stop water from saturating the jacket and maintaining breathability, explained Mike Kreis, a sales specialist at outdoor gear company REI.

"The key differences are that waterproof materials will not let water through even in a hard driving rain while water-resistant materials will prevent water from getting through for a while, but eventually if used in the rain for long enough or if the rain is very hard, it will get through," Frey told us. It's the same sentiment Kreis shared, suggesting that water-resistant jackets "excel in light rain for a brief time." Likewise, if you're looking for a *lighter* jacket to wear, Rzyczycki recommended those that are water-resistant.

On the other hand, **water repellency** refers to "the ability of a fabric to resist wetting (minus the penetration aspect)," Brady said. This is what windbreakers from "way back" feature, and some fabrics — including polyester and nylon — already don't absorb water — it just falls off their surfaces, Brady noted. In a sense, water-repellent jackets are somewhat similar to raindrops in a windowpane — the rain just rolls off.

"If one is caught in a heavy downpour, though — the water can penetrate through a fabric by moving *between* fibers and yarns," Brady explained. This is similar to the way Preeti Arya, a textile development and marketing professor at the Fashion Institute of Technology (FIT), described what water-repellent means: "In contact with water, water-repellent materials form drops that can be easily removed from the fabric surface but for longer contact with water or with a higher-pressure difference, the material will absorb water."

What makes a rain jacket lightweight?

Out of the three types of protection mentioned above, jackets designed to be water-resistant or water-repellent are usually more lightweight to wear in contrast to those that are completely waterproof, experts explained. But what makes a rain jacket lightweight can also depend on the fabric and shell it features.

Fabric

When it comes to rain jackets, you'll find the same fabrics used over and over again — and you can separate them into two broad categories: synthetic (including nylon and polyester) and natural materials (like cotton).

While natural fabrics "are breathable by default," synthetics are *designed* to be breathable as their fibers are treated to allow for the wicking of moisture, Arya added. "Therefore, considering the durability and price point, manufacturers use nylon or polyester fibers to make the fabric for raincoats and eventually treat it to make it repellent."

Nylon is among the most popular of these fabrics for a reason. "Nylon is a great material for coats because it is tough and resilient. This means it will wear well and can be strained and flexed without losing its shape," Frey said. Plus, it's meant to be "extremely hydrophobic," Gopinath explained. Its popularity additionally rests on its ability to be lightweight — and that's thanks to its density, which is generally less than other fibers, Brady told us.

One of the relatively newer fabrics in rainwear is Gore-Tex, which has been around for a couple of decades now. It's used in waterproof jackets and is designed to be breathable, almost all the experts we spoke to said. The "layman's description" of breathability when it comes to clothing means the moisture from our skin's surface moves to the outside and evaporates, making you feel more comfortable, Brady mentioned.

"So, the key to how Gore-Tex and similar materials work is first being a hydrophobic (water hating) material chemically – this means that water would form beads on the material and roll off rather than spreading out and soaking in," Frey explained. "Second, the material has very small pores — small enough that a water droplet cannot fit through, but water vapor can escape — so raindrops cannot get in, but moisture evaporating from your body can get out."

Packability also plays a role in how lightweight a rain jacket can be. "Some coats offer the ability to pack down into one of their own pockets, which is a fun feature to have. If it doesn't, you can always roll your jacket up into the hood to keep it contained when it needs to be packed up," Kreis said. But beyond practicality for traveling, jackets that are marketed as ultralight or packable can be more weightless when you wear them. These jackets tend to be made from polyester and nylon as well, Gopinath told us.

Shell

Oftentimes, rain jackets "may be made of multi-layered fabric" that is stitched, bonded or laminated, and the outermost layer that's exposed to the elements and the environment is what's called a shell, Gopinath described.

Shells largely fall into two camps — hard shell and soft shell.

A **hard shell** jacket's job is to keep water and wind out, but it offers little in terms of insulation on top — instead, other layers will help with warmth, according to Kreis. A hard shell will "provide the most protection" against the elements but it's "significantly stiffer and harder to the touch than soft shell," <u>Rzyczycki</u> said. Many manufacturers use fabrics that're both waterproof and breathable like Gore-Tex with hard shells, she added.

A **soft shell** tries to combine "the outermost layer with the mid-layer" and prioritizes "breathability over weather protection" as it's usually water-resistant, Kreis said. These tend to be made from nylon and polyester and are better off used for light rain. "If there is a heavy storm with heavy rain it is likely water will seep through," <u>Rzyczycki</u> explained. "It will also likely have some additional insulation, which will keep you warm if needed."

There's also a separate category of **insulated shells** that can be filled with down or down alternatives like you'd find in different <u>duvets</u>, which can create more warmth through an additional layer, according to <u>Rzyczycki</u>. But, for the summer, these might not be the best option.

"In my opinion, the difference between a 'soft shell' and a 'hard shell' is the packability with soft shells offering a lighter weight, perhaps even thinner material which can be easily folded into a small package easier to carry," Brady argued.