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Todd Heitkamp still remembers the day his professor first explained the basics of barometric pressure in a Weather 101 class at the University of Wisconsin in Madison.

Barometric pressure is just the weight of the air, the prof said. It constantly pushes down on everything, like a big hand. It presses down on you, the earth and the surface of the water. He went on to say that stormy weather results from low pressure, when the 'hand of the atmosphere' pushes down with less strength. On the opposite end of the spectrum, clear blue skies come from high pressure, or a heavy hand, the teacher said.

Heitkamp instantly recognized how that analogy could help fishermen understand how fish behave. Most people use a barometer simply to help them guess as to whether they should take an umbrella with them. But, barometric pressure readings can also predict whether fish are likely to be biting, or if they will soon be biting- or, perhaps, if it's best to stay home.

Time on the water has confirmed the professor was speaking the truth, according to Heitkamp, who's been a meteorologist for the National Weather Service for the past 20 years.

"Weather is the most important influence on fishing," says Heitkamp. "In the tackle industry, I see all the latest gadgets and tackle. But what people haven't come up with is how to control the weather. If the weather doesn't cooperate, there's nothing you can do."

In simple terms, here's how Heitkamp sees it:

Barometric pressure- the weight of the air- decreases as a storm approaches. It's called low pressure. To understand how it works, imagine the palm of that giant hand the professor talked about easing up as it presses on the water's surface. Its touch is lighter. The water isn't as compressed as it was, and fish can move more easily through it. The mood of many fish often changes to what we might call a more 'active' mood. They move around more freely and feed.

A storm also brings clouds and wave-creating wind, reducing sunlight penetration. Active fish can move to shallower water. The sonar screen shows them moving up off the bottom. Or, they just move shallower on shoreline-connected and midlake structures.

Heitkamp believes that the absolute best fishing periods often occur when barometric pressure reaches its lowest point, just before the front arrives.

"The old saying, that fish bite best right before the storm," he says, "is true." So, Heitkamp says, the best time to head to the lake is when the forecast calls for storms moving into the area.

The picture changes when the storm is over. Barometric pressure starts to rise again. The giant hand presses down harder, and the water becomes more compact. High pressure also brings clear, bluebird skies, and light penetration is often intense for the next several days. Fish feel the increased pressure and become less active. They move tight to cover or deeper, where the sun isn't so bright. Their mood is lethargic.

"With underwater cameras, you can watch fish come up to a bait and not bite it," observes Heitkamp. "People don't understand that, but when air pressure is high, fish become less aggressive. They just come up and look. They may eventually take it, but you have to work a little harder."

The effect of the pressure change is most pronounced on the first day after the storm passes.

Heitkamp said time of year must also be considered. The impact of a change in barometric pressure is more severe in winter. For one reason, the swing between high and low pressure is more drastic during the cold months. For another, the same high pressure is affecting less water volume when part of it is locked up as ice.

The old saying, "Wind from the east, fish bite the least," has a basis in fact, he added. "Wind comes from the east the longer high pressure is in place," he says. "By then, high pressure has taken a real toll on the fish."

You can't do anything about the weather. But, you can watch the barometer and predict where fish will be, how they'll behave and what tactics to use.

Weather, if you understand it, can help you choose where and how to fish.