

L.A. Weather, An Intuitive View: "High Pressure and Headaches"

Paying attention to the weather predictions, sky, temperature range, wind, and patterns (e.g., change in wind direction, often daily) can help improve people's lives, because we can be smarter about how to adapt to "invisible forces." If we ignore it, we can miss obvious causes for discomfort, or sharp changes which catch us without a jacket, or over-dressed and dry during a "Santa Ana" condition.

Air pressure changes make cells swell in and out. Think of how a water bottle becomes disfigured if you drink without taking a breath, i.e., keeping a seal on the opening. As water is sucked out, air pressure pushes in on the plastic. High air pressure pushes on cells in the same way; and low pressure, in a sense, 'pulls' them out, which may push on nerves either way. If dehydration (water loss) takes some of the cushion out of pillow-y surrounding cells, pain can result in the nerve network, which is a bit like electrical wiring.

I think it is the sharp change (gradient) that affects people, because bodies need some time to adjust, a bit like acclimating to higher altitude, but without a loss of oxygen.

High pressure, dehydration, headaches, and dizziness:

Many people in L.A. get puzzling headaches and can't identify the source, but it is often a switch in pressure systems: if you develop a habit of looking at the L.A. Times weather page (back page of "B" California section), you'll see. If there is an "H" over the Great Basin (Nevada and Utah, called that because of internal drainage), it means sinking air is circulating clockwise (an "anticyclone"), bringing winds from the E/NE (East/Northeast), so plan for dry, desert air. In dry air, sweat evaporates so quickly that we may be unaware we're sweating, and a headache or slight dizzy feeling are like a "red alert."

Weathercasters call these "offshore winds," which are not "winds from the ocean," as widely thought. The whole city is confused by this term, and many 'freak out' when we get these in January, because they don't understand the hot days, cold nights, and compressional heating of high pressure, descending air. It's a "normal" condition, but if not expected, people worry "it's the end times," or are superstitious of earthquakes. There is no such thing as earthquake weather! If you hear the term, "offshore," in the forecast, **think "desert winds," and plan how you would adapt to a desert day:** take 2-3 water bottles to work, and refill them (I can easily drink 5-6 on a long teaching day, and still feel dry), send extra water with your children and remind them to drink it, exercise when it's cooler (and when the wind has dispersed the pollutants), and wear layered clothing for the hotter days and cooler nights.

Watch out for people around you: they might not be drinking enough, and may feel they are getting sick because of dry throats, cough, fatigue, stinging eyes, and/or dizziness. If people at work are grouchy, they may have headache pain from dehydration or the high pressure itself. If you or others become dizzy, drink as much water as you can, and if possible, lean back or lie down to let blood flow recirculate through your head.

Without a forecast, you can also anticipate a hotter, dry day if cars are wet with dew in the a.m., it's sunny, and a brownish haze is hanging over the city: high-pressure air sinks and compresses pollutants, dust, and condensing water, and cars become dirty when

the dew evaporates. Take care not to inhale too many particulates if you exercise these mornings.

These kinds of days may feel beautiful if not too hot and dessicating, but take special understanding. If your sinuses never bother you, thank God, but be aware so you can help others. Children in L.A. and other cities have a high incidence of asthma, and many people have allergies with cold-like symptoms. Desert winds may be bringing in allergens, dust, and compressed pollutants that make eyes sting. In the South Bay, we are lucky that the wind often reverses mid-day with the western sea breezes cleaning the air up, for us (not so lucky for areas E. of us, where pollutants are blown).

Low pressure and sinus headaches in sensitive people: When winter low-pressure systems bring cold fronts with rain (mid-latitude cyclones passing from W to E), or a strong coastal/ Catalina eddy system, with winds from the SE, higher pressure usually chases after it. In sensitive people, "barometer-like" sinuses and tissues are "opened up" by the lighter, low pressure air, and **the gradient, or sharp change in pressure, pushes on the cells and nerves, triggering aches.** Some people get arthritis pain, and wrack their brains trying to analyze why. Yes, there are other headache causes, like "too much caffeine," not enough sleep or water, unhealthy air, etc.; but sometimes, recognizing what weather is passing through is the external cause, and there's no need for "false guilt."¹

For teachers and future teachers: Be sure to line kids up at the drinking fountain after recess (or if it's grossly dirty, provide cups for drinking), or the students' brains will be too dry to learn, especially on dry days. If you feel dry, they're dry; and dryness hinders learning because of diminished blood flow in the brain. Think of how a wilted plant looks "tired": give 'em water, and they'll perk back up.

Melanie Patton Renfrew, Ph.D., Professor of Geography, Los Angeles Harbor College; Carer about people's lack of awareness of the invisible realm, including temperature, pressure, and humidity.²

* Is this a blog?

¹ (If you have a hangover, don't drink so much, or wine's sulfates or champagne trigger headaches in some people, too. Alcohol's diuretic effect increases urine excretion, thus draining the body of water and some soluble nutrients. Alcohol's negative effects are described well at <http://www.nutramed.com/alcohol/alcoholneg.htm>, but I am not trying to sell their product.)

² Disclaimer: This is friendly advice "À votre santé," for your health and enjoyment, based on my and others' experiences and observations over 2 decades, including a lot of time spent in Westwood (UCLA), East L.A. (CSULA), Burbank (Woodbury U.), Carson (CSUDH), the South Bay (here and El Camino), Buena Park and Anaheim (theme parks; we like rides). I am not a medical doctor, although medical geography was my specialty for my M.A. I think about the invisible world all day long, the seen and the unseen.