

F O C U S

Birds and Weather



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Rich Stallcup

BIRDS THAT ARE NATIVE to any area can be seen as “weathervanes,” reflecting local climate effects. Their adaptations and activities indicate responses throughout the natural community to seasons and weather conditions.

Birds have evolved physical and behavioral strategies for dealing with ordinary weather within their range. They are waterproof, they know how and when to seek shelter, and because they are feathered, they can thermoregulate (stay warm in cold and cool in heat). Migratory kinds are able to depart from high latitudes before the cold season sets in.

Exceptional and extreme weather causes problems for birds: sometimes there are many casualties for migrants over water; sometimes results are devastating to local species with small terrestrial populations.

Many birds—organisms with unusually high metabolism—adapt better to hot conditions than very cold ones: it is much harder for them to recover body heat than to cool off. For example, many desert species do not need much water, as they derive enough fluid from their insect prey. Tropical seabirds pant and quiver their gular pouches to fan their innards.

Some birds have evolved physical designs for cold, such as extra and denser feathering, but what dictates cold-weather survival is the ability to forage. Among small songbirds in winter, bark and cone gleaners do the best: chickadees, creepers, nuthatches, and woodpeckers can always find insect or spider eggs hidden in dark crannies.

Among the victims of cold weather are population pioneers trying to open up expanded wintering opportunities to the north. Severe winters may kill the pioneers (like Carolina Wrens in the Northeast and Midwest, and Montezuma Quail in southeastern Arizona and southwestern New Mexico).



An exhausted Yellow Warbler, survivor of a storm over the Gulf of Mexico, rests on a truck fender on the Texas coast.

Wild weather

LIKE ANY LIVING THING, birds are subject to weather extremes, and local populations may be decimated by single wild-weather events. Here a few anecdotes, some from *The Encyclopedia of North American Birds* by John K. Terres.

Hail: Dangerous hailstorms in North America happen mostly in the interior during afternoons in June and July. They can kill birds, other wildlife, domestic stock, and even humans! In 1938, two California Condor corpses found at the carcass of a horse after a hailstorm were believed killed by hail. In July 1953, two extreme hailstorms in Canada killed an estimated 150,000 waterfowl “with terrible destruction of songbirds, hawks, owls, grouse, coots....” Thousands of Sandhill Cranes and many small birds were killed by hail in 1960 near Elida, New Mexico.

Ice: During World War II many Common Loons from a flock over the Atlantic fell to the deck of a battleship, their wings encased in ice.

Lightning: There are only a few published reports of lightning strikes on birds. John James Audubon saw two nighthawks struck down by lightning during a thunderstorm at Indian Key, Florida. In April 1939, 34 of 75

flocking White Pelicans fell to the ground near Nelson, Nebraska. All were dead; some had feathers singed by the bolt.

Storms: Northbound migrants in the Atlantic Flyway leave the Yucatan Peninsula headed for the U.S. and Canada in April and May. Warblers, vireos, flycatchers, thrushes, and others take off at dusk for the 14- to 18-hour nonstop flight across the Gulf of Mexico to Alabama, Louisiana, or Texas. Except for oil rigs (which are sometimes crawling with birds), there is nowhere to stop for rest and refueling. Usually the trip is easy, and most birds fly right over the U.S. coast to find better forest and forage somewhat inland—unless, that is, a “norther” (strong wind, sometimes with rain, blowing hard against the avian travelers) develops after take-off. The trip then is much more difficult, and the birds that survive arrive exhausted, falling into the first bush they see. Birders at locations on the U.S. Gulf Coast can then see numerous individuals and species up close, right along the beach—survivors of a weather ordeal that doubtless proved fatal to a great many more songbirds.

An exceptional bird-weather event occurred in May 1998, when Bristle-thighed Curlews migrating thousands of miles nonstop over the Pacific collided with a violent storm. Tired (and some clearly injured) survivors of this El Nino-related phenomenon showed up, for the first time on record, on the West Coast of North America—a delight for birders but also cause for concern for the species’ small worldwide population (see *Observer* 126, Fall 2001).

Birds do well in weather to which they have adapted over time. When the elements change too rapidly, or generate extremes, many cannot cope. Birds’ responses to weather, observed and scientifically understood, are sensitive “weathervanes” of climate change.

Rich Stallcup is PRBO’s Naturalist, in our Education Program.

