

The following striking weather phenomena occurring in tropical America is pointed out here, which shows remarkable coincidence and possible bearing on migration of North American birds. In Northern Hemisphere winter, a displacement of the Atlantic high pressure circulation cell takes place southward. This is associated with a movement of the inter-tropical convergence zone of cloudy weather from around 10 degrees N. Lat. south to the equator. Thus in the middle of December the air above 5000 feet in Central America and northern South America changes from moist layers, often heavily laden with altostratus clouds, to a dry condition with relative humidities of 30% or less. Greater stability and dryness eliminate most thunderstorm activity, and the dry season is on. The return of the wet season with its heavy clouds occurs again in the middle of April. Although this effect is much modified by topography, the basic difference in cloud cover is the same over the whole region.

Referring to Text-fig. 1, it is seen that the decrease in cloud cover occurs about a month before birds should leave the winter range for the north. The magnitude of the seasonal change in light is shown by the following figures recorded by Weather Bureau sun duration recorders over a period of years. These figures measure the actual time the sun is out from behind clouds.

HOURS OF SUNSHINE PER DAY			
	Canal Zone	Florida	Ohio
	(20 yrs. data)	(40 yrs. data)	(40 yrs. data)
June—August:	4.8 hrs.	8.0—8.0 hrs.	9.0—10.0 hrs.
December—February	7.9 hrs.	6.0—7.5 hrs.	3.0—4.0 hrs.

This cloud-cover effect is not confined entirely to the tropics. Comparison of the data above shows the extent that cloud-cover in Ohio in winter, due to passage of winter frontal systems, further cuts down on the light of the short days as contrasted with summer when extensive frontal cloud systems are less common.

A further consideration is the quality of light. The clouds persisting in the American tropics until the middle of December are predominantly bluish. These clouds filter the shorter wave-lengths so that the change in December is an increase in intensity of all wave-lengths and a very large increase in the shorter lengths.

Whether these interesting changes have a bearing on bird migration will have to be proved by experiments carried on in the tropics with tropical wintering species. The purpose here is to point out that changes of light intensity correspond well with bird migrations and changes further north.—HOWARD T. ODUM, *Chapel Hill, North Carolina.*

Golden Eagle captures Red-shouldered Hawk.—Among the many thrilling and exciting happenings incident to hawk-watching on Hawk Mountain, are the occasional performances of raptors making passes at, or harrying, one another. More than once I have seen Sparrow Hawks, or Sharp-shinned Hawks, and even Goshawks, pester Golden Eagles in passage over the Sanctuary. Almost always the large birds have exhibited the indifference and serenity becoming to the "lords of the air." An oft-repeated question at the Sanctuary is, "Do the hawks ever kill anything as they pass?" My answer had always been, "No." But on November 1, 1946, I saw an astonishing thing, at an incredible height over the lookout rocks. Lying on my back and scanning the zenith with my 7 x 50 binocular, I picked up a small hawk making frequent passes at a much larger, dark bird. The smaller bird persisted in

annoying its fellow traveller. I switched to an 18-power glass. The dark bird proved to be an adult Golden Eagle. It made a sudden thrust forward, executed an Immelmann turn as effortlessly as a fly landing on a ceiling, and then, to my amazement, it seized the smaller hawk which seemed to put up a momentary, hopeless struggle. Down came the two birds precipitously, the eagle with set wings and clutching its victim. As the eagle plunged to earth, the wings of the smaller bird were fully outstretched, and I glimpsed the ruddy breast of the Red-shouldered Hawk. The eagle, still clutching its prey, disappeared into the densely wooded flank of the ridge. This immemorial drama of the wilderness took place in a matter of seconds.—MAURICE BROWN, *Hawk Mountain Sanctuary, Route 2, Kempton, Pennsylvania.*

Brant in Vermont.—Last fall (1945), at Charlotte, Vermont, about ten miles south of Burlington, I noticed a large bird in a pasture bordering Lake Champlain. When I was about 150 yards away, the bird walked to the bank of the lake and disappeared over the edge. I ran to the bank, recognized the bird as a Brant, and shot it. I retrieved it by swimming, and may add that Lake Champlain was a little chilly. I did not realize at the time that this was an unusual record until a recent conversation with Mr. Clarence Cottam of the U. S. Fish and Wildlife Service who suggested that the matter might be of interest to the readers of *The Auk*.—ROBERT S. RUSSELL, *6030 Kenwood Ave., Chicago, Illinois.*

Evening Grosbeaks in New Brunswick in late July.—During the week of July 21, 1946, the writer was fishing with some business associates at Oxbow-on-Tobique, a point twelve miles northeast from the town of Plaster Rock along the Tobique River.

At about four o'clock on the afternoon of July 25, while we were standing on our canoe float, two birds were seen to alight in a near-by dead tree. Through binoculars they were readily identified as a pair of Evening Grosbeaks (*Hesperiphona vespertina*); the bright color of the male bird was easily seen with the naked eye. While the writer is not familiar with New Brunswick ornithology nor with the status of the Evening Grosbeak in that province, he was immediately aware that the mid-summer presence of these birds so far to the east was decidedly unusual, as this species does not regularly breed east of the state of Michigan. The birds in question were studied carefully for about five minutes when they flew off and were not seen again.

As no nest or young were seen, this can hardly be claimed as a breeding record, although the presence of a male and female at this time of year seem to indicate a strong possibility that they were breeding birds.

It was unusual coincidence upon returning home on July 27 to find in the *Auk* for July an article on the presence of this same species in late June in the Adirondacks. The writer would be very glad indeed to hear of any other summer records of the Evening Grosbeak in the eastern United States or Canada.—R. DUDLEY ROSS, *23 Jefferson Avenue, Arlington, New Jersey.*

Bullock's Oriole in Arkansas.—So far as I am aware, the Bullock's Oriole, *Icterus b. bullockii*, has never been recorded for the state of Arkansas. It would appear, however, that in the vicinity of Little Rock it is not an infrequent visitor.

In checking over some banding data resulting from the operations of Mrs. Rowland Thomas of North Little Rock, my attention was attracted by the records of two orioles (37-220692 and 37-220693) listed as *Icterus bullockii* and banded on September 1, 1938 and September 8, 1938 respectively. Concluding that this was merely an erroneous use of the name, I wrote Mrs. Thomas to that effect and stated that since