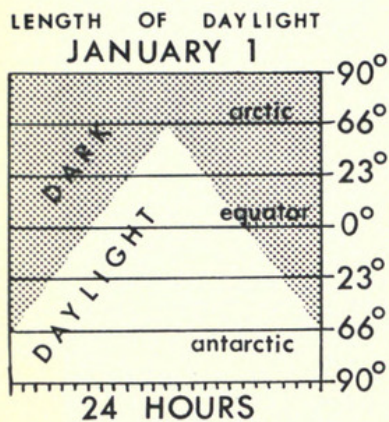


January through the year

By DR. AUSTIN L. RAND,

THE seasons follow the sun, which reaches its northernmost point on December 22, nearly over the southern tip of Florida. The tilt of the earth's orbit around the sun is caused by the tilt of the earth's axis. In the northern hemisphere, the sun's rays are slanted to the sun's rays for six months of the year. In the southern hemisphere, the sun's rays are slanted to the sun's rays for six months of the year. In the tropics, the sun is always overhead, and the seasons are correlated with the amount of rainfall. In the tropics, the wet season stimulates the greater amount of reproduction. In the dry season, some species are very severe.

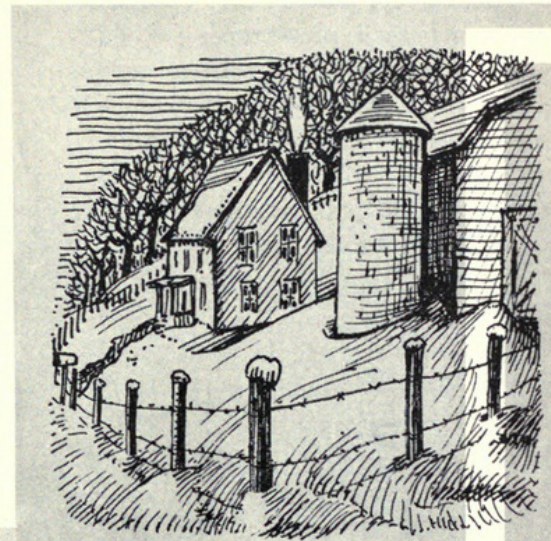
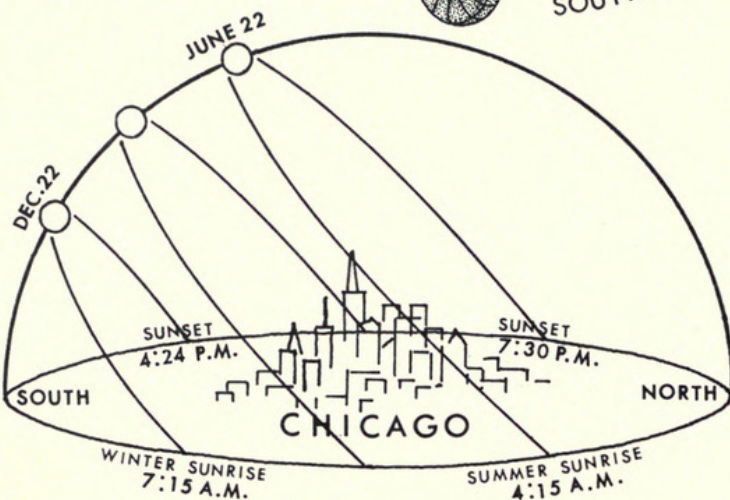
In the temperate and polar regions the seasons are produced by the succession of the seasons. In the tropics, where the sun is always overhead, the seasons are correlated with the amount of rainfall. In the tropics, the wet season stimulates the greater amount of reproduction. In the dry season, some species are very severe.



Above: The duration of daylight through the latitudes.

Upper right: The earth in its orbit around the sun.

Right: The course of the sun in the sky, summer and winter, over Chicago.



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TROPICS

Barro Colorado, in latitude 10°N.: Here the average January temperature is 80°F.. There is no spring, summer, autumn, and winter based on temperature. Rather, January is the end of the wet season and the beginning of the dry; only certain trees lose their leaves, but the forest floor is carpeted with rustling dead leaves. Balsa trees are loaded with vase-like, ivory-colored flowers six inches long, and to these come a dozen species of birds—parakeets, hummingbirds, tanagers, and honeycreepers—monkeys, and insects, to eat flower parts or juices. Another big forest tree bears ripe, two-inch nuts with a thin, fleshy coating. Raccoon-like coatis and howling monkeys climb among the branches, pick the nuts, eat off the flesh, then drop the nuts. These are scooped up from the ground by agoutis and peccaries.



TROPICS AT EQUATOR

The mouth of the Amazon River, in latitude 0° near Para (Caripi): It is early January, with cloudless blue skies; a sea breeze; the murmur of water on the beach. The river bank is masked with lofty walls of green trees, and there are many palms. In the clearings are palm-thatched huts; beyond are groves of bananas, mango trees, cotton, and papayas. Orange trees are loaded with blooms, about which hummingbirds whirl. At dusk, moths come to the flowers, and bats emerge from the red tiles of the house roofs. In late January, the dry season abruptly ends. On the first rainy night tree frogs, crickets, goatsuckers, and owls join in a deafening chorus. In the daytime, dragonflies swarm and winged ants and termites come forth in great numbers.



TROPIC EDGE

Southern Florida, in latitude 23°–24° N.: This is the average January temperature of 71°F., with from occasional years and a growing season of 365 days. In the temperate zone concept of summer and winter. It is summer, judging by swallows feeding green, wet prairies, the flowers in the gardens, a activity of butterflies and dragonflies. Ocean bathing fishing continue, but it is late summer or autumn time judging by the green vegetables and ripe on the shore birds on the beaches; winter, judging by less cypress and gumbo limbo trees, the need for houses for warmth some days; and spring, judging by nesting of herons. A visitor from the tropics would recognize the palms and bamboos familiar, would recognize the bougainvillea and hibiscus, caladium and croton.

SOUTH TEMPERATE

The La Plata River

It is the hottest month of the year. The January temperature of the season for birds, which is past; rheas and tinamous on the plains; many of them still here, and will not winter home in Brazil. The equator refugees from the barn swallows, bobolinks, the many sandpipers, of months ago on the edge of the pampas, will stay.

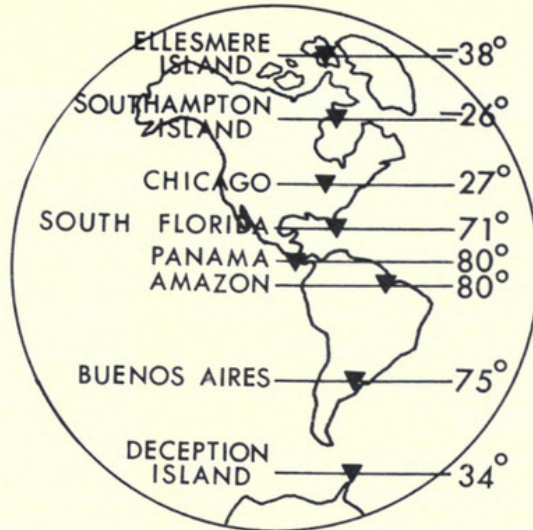
the LATITUDES

designed and illustrated by
e. john piffner, staff artist

Chief Curator, Zoology

its farthest point north on June
and its farthest point south on
December. This apparent move-
ment of the axis to the plane of the
equator, the North Pole is pre-
sented, while the South Pole, away
from the sun, is in months of darkness. The reverse

brings warmth and withdraws
it, summer, autumn, and winter.
The sun is nearly overhead, while there are
large amounts of rainfall, so that dry
seasons are considerable regularity. The wet
season and growth, but unless the
sun and reproduce then.



HIGH ARCTIC

Western Ellesmere Island, in latitude 80°N., about 600 miles south of the North Pole: This is the middle of the arctic night, where the sun does not appear above the horizon for four months, and the depth of the arctic winter, where the average winter temperature is -38° . The annual average temperature is -4° F., and arctic conditions are extreme. It is a country of glacier-topped mountains; bare ridges blown clear of snow, exposing rock, gravel, and sparse, scattered, dwarf plants; and snow drifts up to 100 feet deep in sheltered places. The rivers and lakes are frozen shut, and new ice, six feet or more thick, joins the coast with the equally thick ice fields covering the polar sea. All the land birds have long since departed, as have the many shore and water birds which nested in June. Musk ox feed on exposed plants; lemmings in burrows under the snow.



TEMPERATE

Latitude 42° about halfway between the North Pole and the equator (2,800 and 2,600 miles away): Here is the coldest month of the northern hemisphere, with an average January temperature of $+27^{\circ}$ F. The landscape is of snow-covered fields, grey leafless oak or maple, occasional groves of green pines, and ponds rimmed with leafless shrubs and dead reeds. In Michigan with an ice barrier along the coast, the driving wind-driven ice fields. Farmsteads and plant life is dormant; many birds, and some bats have migrated south. There are some birds, such as ducks, on Lake Michigan. Geese, woodpeckers in woodlots, tree sparrows, hawk hawks in the fields. Raccoon, rabbits, leave trails in the snow, while shrews and mice live in burrows beneath it.



LOW ARCTIC

Southampton Island, in latitude 64°N.: It is midwinter, with a temperature average of -26° F., and extremes of -60° and $+32^{\circ}$ F. The tundra snow cover varies from a few inches to snowbanks 20 feet deep—at most, a few twigs of dwarf willow stick up through the snow. Four to eight feet of ice cover the lakes, and there is a foot of snow on the sea ice which locks fast the shoreline and extends far offshore to where waves keep the sea from freezing. The sun comes above the horizon for only a short time at midday. Caribou and arctic hares feed in the open; lemmings under the snow; seals and white whales at the edge of the ice. Wolves, arctic foxes, weasels, polar bears, ptarmigan, and snowy owls live on the land; eiders, murres, and gulls at the open water. The female polar bears bear young in chambers in the snow.



ANTARCTIC

The Antarctic Archipelago ("Palmer Land," "Graham Land," etc.), in latitude 62°-70° south: The average January temperature is 34° F. This is the middle of the southern summer, with a prolonged antarctic day in a land of extreme polar conditions. Mountains rise to 10,000 feet, and even in summer the snow falls faster than it melts, so that snow lies everywhere except on steep slopes. Much of the adjacent sea is covered with pack ice. Vegetation, all low and herbaceous, is at a minimum, and the few land invertebrate animals are active for but a small part of the year. About 25 species of birds have been recorded in the archipelago, but some, such as the albatrosses, are wanderers from more northern latitudes. Some 15 species of birds breed, drawing all their sustenance from the sea; these include penguins, a cormorant, a sheath bill, skua, a kelp gull, and the antarctic tern, which have eggs or young in January.



Argentina, in latitude 35° S.: The year, with an average temperature of 50° F. The peak of the breeding season is in September and October, and many young following them. In summer nesting birds are back for their southern winter, such as the yellow-billed cuckoos, and have arrived in force a couple of months and the flooded ponds for a couple of months.



Rand, Austin Loomer. 1962. "January through the Latitudes." *Bulletin* 33(1), 4-5.

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