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# SCIENCE NEWS BULLETIN

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## NEXT WINTER WILL BE SEVERE, WEATHER RECORDS INDICATE.

(By Science Service)

Washington, August .- That next winter will be a cold one is the indication of weather data compiled by Dr. C. F. Brooks, formerly meteorologist of the Weather Bureau here and now associate professor of meteorology and climatology at Clark University.

An analysis of the weather records of over a century indicates that we are now experiencing a series of alternations of severe and warm winters. Last fall, on the basis of his investigations, Dr. Brooks said that last winter would be warm. It was. And now he says that it is not unreasonable to expect that next winter will be a cold one and that the winter of 1922-23 will be a warm one.

The weather seems to be repeating itself. The present series of sharply alternating winters began in 1917-18 with the cold weather of that year. The winter of 45 years before, 1872-73, inaugurated a series of winters that were severe, warm, severe, warm etc. until 1882-83. And 113 years ago, indications from incompletely kept records are that the winter of 1804-5 began a similar series of alternations.

These two previous remarkable series of alternating cold and warm winters and the present one had almost identical preliminaries, Dr. Brooks has found. All three series were preceded by a few moderately mild winters, an ordinary or moderately cold winter, and then a severe winter, which opened the swings up and down in the winter temperature. The first of the moderate winters of the present series was 1913-14.

If the present surging of hot and cold winters is following the same pattern of the alternations of the seventies and the eighties, it is expected that they will end with a severe winter in 1927-28.

Dr. Brooks' findings are based on weather records from New Bedford, Mass., New York, N.Y., Washington, D.C., Cincinnati, Ohio, and Chicago, Ill. for the present series and the alternations of 45 years ago. The data of the series at the beginning of the century were obtained from records made at Cincinnati, O., and at New Haven, Conn.

They seem to hold for the whole world, however, as he has noted that when large changes between the characters of successive winters occur on one side of the Atlantic, large ones are usually occuring on the other side as well. Places as far separated as Paris and Washington show this connection.

"Such sequences of alternating colder and warmer winters were evidently the result of an oscillatory movement of the North Atlantic and North American 'grand centers of action of the atmosphere'," Dr. Brooks says.

That the centers of action of the atmosphere or the points of high and low pressure should be intensively studied from winter to winter to allow successful forecasts of the characters of winters, is urged by Dr. Brooks.

In discussing the predictions of the familiar non-scientific weather prophets who periodically make long-range forecasts of the weather of the following winter Dr. Brooks points out that American and European investigators seem to have established the fact that in ordinary times a season appreciably above or below normal in temperature is likely to be followed by one to three or more seasons having temperature departures in the same direction.

"Thus it may be that 'forecasters' of mild or cold winters who rely on some biological signs in autumn may justly claim more than chance success, though for reasons different from those commonly advanced," he declares. "Five out of the seven winter predictions which came to me last fall from newspapers east of the Mississippi River were to the effect that last winter would be mild, according to indications afforded by birds, worms, squirrels, muskrats, frogs, etc."

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## DON'T GET WATER IN YOUR NOSE WHEN YOU SWIM.

By Wallace Craig.
(Science Service)

Sew this label on your bathing suit: Never Get Water In Your Nose.

There are two reasons for giving this advice. The first is, that water irritates the delicate membranes which line all the air passages. If you have ever got your nose full of water, you know that this produces a most uncomfortable feeling, which lasts as long as the least bit of water remains in the nasal cavity. The same principle is illustrated by the fact that when you are drinking water, if a drop goes the wrong way and gets into your windpipe, it makes you cough. A person who has been nearly drowned, but is rescued and resuscitated, finds that the water in his lungs produces a pain so intense that it is agony. All these facts show us that water, even if perfectly pure, is irritating to the air passages.

But the water in which we bathe is never perfectly pure. It generally contains a great quantity of germs. This furnishes a second reason why it is unsanitary to allow bathing-water to enter the nose. If you could swim in a clear mountain lake, far from human habitation, the danger from germs would be slight. But when you bathe at a resort where there are many other bathers, the water is always full of germs and should be kept strictly out of the nasal passages.

Animals which breathe air, but live largely in the water, such as seals, are able to close the nostrils tight and thus keep water out. You can readily observe this is any zoological park. In the seal pond you may often see a seal swimming round and round his enclosure, and diving under water always at a certain point in his round. If you watch him, you will see that every time he comes to his ducking place, just before putting his head under water, he closes his nostrils perfectly tight.

There are many boys who take the same precaution as the seal. They never duck their heads under water without first seizing the nose between thumb and finger. I used to think that these boys were "sissies", but I have learned that they are really wise boys. They are taught by nature, somewhat as the seal is taught by nature, to close the nostrils before going under water.

Those who neglect this precaution are making themselves liable to catarrh and other troubles which may become serious in later years. Deafness is one complication that may result from getting water in the nose, because the irritation spreads through the Eustachian tube, which is a passage leading from the back of the nasal cavity to the ear.

Some persons, when they bathe, put cotton in the ears to keep the water out. This is comparatively unimportant, unless the ear drums are broken, because the water from the outer ear cannot penetrate the drum. Of course, so long as your outer ear is full of water you cannot hear well; but this causes no permanent injury. On the other hand, if water enters the nose, the irritation spreads from there through the Eustachian tube to the delicate parts of the ear inside the drum, and the inflammation of these parts may cause permanent deafness.

Diving is injurious to the ear - and the greater the height of the dive, the greater the injury - because of the sudden pressure on the drum when the head enters the water. Persons who have the least tendency to ear trouble are advised not to dive at all.

(By Science Service)

Release Wednesday, August .

Washington, August 24.- Add blood red snow, with the taste of watermelons, to the wonders of America's national parks. Out in Rocky Mountain Park in Colorado, on the continental divide that rises nearly 12,000 feet above sealevel, tourists have seen the colored snow and have asked why they see red.

The rays of the setting sun reflecting on the snow at about twilight has been blamed by those who travelled by toward the close of the day, but in full daylight the redness of the snow does not disappear.

Countless billions of tiny organisms, that move and grow and reproduce in that cold environment are responsible, government experts have found. Protococcus nivalis is the name of this microscopic bolshevik, who has the characteristics of both the plant and animal kingdoms.

The coloration of the snow is more intensive a quarter of an inch below the surface, and the streaks that are often red as blood have a sweetish taste when placed on the tongue.

This strange snow color/is believed to have come from the arctic regions, where it has been fount in the past. Scientists believe that its spores may have been brought down from the north by the Chinook winds.

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ANCIENT REDWOOD GROVE,
MADE MEMORIAL TO WAR HERO.

(By Science Service)

A grove of redwoods, near Eureka, California, was recently dedicated as a memorial to Col. Raynal C. Bolling who lost his life in action during the war.

At the ceremonies, it was urged that similar memorials for preserving the ancient forest trees and perpetuating the memory of those who gave their lives in the war should be established. The Save the Redwoods League, which conducted the ceremonies has already acquired areas of redwoods which will remain unmolested for generations, and are planning to save other groves.

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INTERNATIONAL CONGRESS ON
EUGENICS TO BE HELD.

(By Science Service)

New York, August .- Plans are being completed for the Second International Congress of Eugenics that will be held here at the American Musuem of Natural History from September 22 to 28, 1921.

Noted scientists from all parts of America, from Sweden, France, England and other parts of Europe will tell of progress in eugenics. Studies of human heredity and pure genetics will be explained and what factors influence the human family will be discussed. Scientists will tell of their progress in discovering the effect of human racial differences on the progress of history and the relation of eugenics to the state, society and education.

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SCIENTISTS SAVE FUTURE
FLAX CROP.

(By Science Service)

Fargo, N.D. August - Efforts to combat the wilt which threatened the important flax industry of North Dakota, and which resulted in the development of a wilt-resistant flax, attracted great interest among 50 cereal disease specialists who have been visiting the state experiment station and Red River Valley grain fields here. The party consisting of plant disease experts from the United States, England, and Japan planned the trip of inspection to follow the sessions of the summer meeting of the American Phytopathological and Cereal Disease Conference, held in St.

Paul recently. Faced with the problem of combating the wilt which was causing serious losses to the flax industry in North Dakota, where half of the nation's flax crop is grown, scientists at the state experiment station began to make selections of single plants which were less affected by the fungus disease than others. Seed selected from these plants produced plots of flax from which further careful selections were made. By taking advantage of the tendency of plants to inherit this disease resistance, a flax was finally produced which was little effected by the dreaded wilt. This work, accomplished under the direction of H. L. Bolley, has benefited the production of linseed oil, made from flax seed.

Proof has been obtained that when the best strains of resistant flax are crossed with ordinary non-resistant flax, the resistant quality is transmitted to the plants that result from seeds of the cross.

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GREENLAND WEATHER-RADIO STATION WILL AID U.S. FORECASTS

(By Science Service)

Washington, August .- The establishment of a meteorological station in Greenland, equipped with high-power radio, which has been planned by the Danish Government and will be accomplished at an early date, will provide an important link between the weather observations of America and Europe.

The new station will be of untold value to weather forecasting in Europe, and may also aid the weather predictions of Canada and the United States also. At present American observations can not be used in Europe. The new station was recommended by the International Commission for Weather Telegraphy which met in London last November.

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EXPERIMENTS SHOW BIRDS AND BEES ARE COLOR-BLIND.

(By Science Service)

Some curious experiments on the color vision of animals are reported from Germany. Rice was strewn on a black cloth, and was then illuminated with colored light. Chickens and pigeons picked up the grains in red, yellow or green light, but seemed quite unconscious of their presence in blue and in violet light. This gives a new complexion to the supposed function of bright plumage, as an attraction for the mate. Where the color is a beautiful irridescent blue, in our estimate, one is now led to suspect that to the bird it appears an uninteresting black. But conclusions must be made with reserve in such matters. A curious observation which is also reported in this connection, is that yellow birds, and in particular the yellow crested parrot (cockatoo), display a violent dislike for persons dressed in blue.

Experiments have also been made on bees. They were fed with sugar in a bowl of selected color, until they were thoroughly accustomed to it. They were then given the choice of a blue or a black bowl. They picked out the blue to which they were accustomed. A similar experiment made with green and red bowls proved a failure, seemingly because the insects were unable to recognize these colors, as distinguished from a black bowl.

In the case of birds color blindness is perhaps accounted for by the fact that their retina contains yellow and red oily drops, which absorb blue and violet light, and transmit only the yellow and red. This reminds one somewhat of the method employed in photography for sensitising plates and films for different colors by giving them a bath in certain coal tar dyes.

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DEVICE CONQUERS FOG ON BRITISH RAILROADS

(By Science Service)

London, August .- London fog that may swoop down suddenly upon the landscape and blot out the railroad signals is being conquered by a new signalling device now in use on several British railroads. Auxiliary signals several hundred yards from the regular signals are placed so that the train crew has two chances of seeing the signal instead of only one. Heretofore signalmen have placed torpedoes on the track as warning signals in case of sudden fog, but this method was found to be impracticable in the case of automatically controlled signals.

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(Editors: These shorts can be used for a daily feature or as fillers. There are six bunches of them, one for each week day.)

DO YOU KNOW THAT-

Water flowing from deep artesian wells is always warm, on account of the internal heat of the earth.

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The hoatzin, one of the strangest birds of South America, is notorious for its bad odor. Some authorities say it is so frightful that the bird can only be skinned under water. These stories are denied by Dr. C. W. Beebe, of New York, who has not only skinned hoatzins but also eaten them.

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Tungstic carbide is almost as hard as the diamond, which is still the hardest substance known. By a process of rolling or forging, and by the addition of carbon, German metallurgists hope to make this substance even harder than the diamond.

The Amazon is so broad at its mouth that ships can easily be out of sight of land after entering the river. Sailors have been known to die of thirst while adrift in the fresh water of the river, supposing themselves out at sea.

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DO YOU KNOW THAT-

The "ballistic wind" is a fictitious wind assumed in computing the flight of projectiles to express the total effect of the winds that actually occur. Its use was introduced during the world war.

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For his invention of Babbitt metal, a soft, anti-friction alloy used for bearings, Isaac Babbitt received a reward of $20,000 from Congress.

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More than 90 per cent of all the lakes in the world are due to glaciation.

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A shaft sunk at Yakutsk, Siberia, in the hope of finding water for the town, failed to penetrate below the permanently frozen ground, or "ground ice," even at a depth of 382 feet. In Alaska several shafts have been sunk about 200 feet, and one reached 365 feet, without penetrating below the frozen ground.

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DO YOU KNOW THAT-

The volume of water in the Potomac River which flows past Washington is sometimes 250 times as great in flood as at low water.

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The fiber of some species of milkweed has been used in making rope. The lint found in the pods, while fine and silky, lacks twist and cannot be used for spinning, but it has been used for stuffing pillows.

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Niagara Falls came into existence because ice in past ages closed the ancient outlet of Lake Erie. The lake overflowed along a new course, which caused it to tumble over a cliff.

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American railroads consume about one-fourth of all the coal mined in the country. Much of this coal is used in carrying coal, which constitutes one-third of all railroad freight. The hauling of coal could be greatly reduced by installing power plants at coal mines and distributing the output of the mine in the shape of electricity.

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DO YOU KNOW THAT-

The Tampico region of Mexico produces more petroleum than any other area of equal extent in the world.

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Two of the greatest waterfalls in the world, rivaling Niagara, bear the name of Victoria. One is on the River Zambesi, in Africa, and the other on the River Iguazu in South America. Neither has yet been used for generating power.

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The earliest writing was done with reeds and brushes. Then the stylus came into use. Quill pens were introduced in the sixth century A.D. and steel pens at the beginning of the nineteenth century.

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Mysterious lights which have often been reported as seen at a distance over certain mountains in North Carolina are probably brush discharges of electricity on a large scale, similar to the so-called "Andes lightning," seen along the crest of the Andes.

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DO YOU KNOW THAT-

When diverging beams and shadows extend downward from the sun the idea popularly prevails that the sun is "drawing water." No such process actually occurs, however. The beams are seen when the air is charged with dust or a watery haze, made visible by the solar rays.

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Bagasse is sugar-cane from which the juice has been extracted in the mill. It is dried and used as fuel.

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The world's supply of peat is estimated at the large figure of 13,000,000,000 tons, but if peat were substituted for coal as fuel the entire supply would be exhausted in six or seven years.

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In Boston and many other coast cities the tides are utilized in the disposal of the sewage, part of which is held in reservoirs until strong outgoing tidal currents have developed. Before the turn of the tide the sewage has been carried so far that it has become mixed with an immense body of ocean water and is rendered harmless.

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DO YOU KNOW THAT-

An average American town uses for all purposes from 50 to 150 gallons of water a day for each inhabitant.

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The former German and now British island of Nauru, in the Pacific, is estimated to contain at least 40,000,000 tons of phosphate rock available for collecting and mining. A British company is shipping 100,000 tons annually from the island.

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Though a great many animals have claws, only human beings and certain families of apes have flat nails on their fingers and toes.

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When George Stephenson, the pioneer railway builder, declared that a speed of fifteen miles an hour was entirely practicable he was greeted with derisive laughter and his sanity was seriously questioned. In the course of his duties in building the road, 112 miles long, from London to Birmingham he walked the whole distance upward of twenty times.

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