WHERE IS JACK FROST?

Nobody has Seen Him Since the Blizzard.

HE MAY NEVER COME BACK.

Weather Sharps Say this Winter Mildness is Due to Changed Conditions Away Out West.

NEW ORLEANS OFFERS TO MAKE ICE FOR US.

Gen. Greely and Other Signal Service People Say the Gulf Stream has Not Affected the Weather—The Course of Storms Across the Country has Changed—They New Go North of Us and Pull a Warm Southern Blanket Up Over Us—Sergeant Dunn Says that Artificial Irrigation in the Western Arid Lands May have Created the New Storm Generator which has Upset the Old System—Has the New Order of Things Come to Stay?—The Hottest Winter Ever Known in the South—The Ice Supply Everywhere Almost Exhausted—How Ice is Made Cheaply and Successfully in New Orleans

New York has had no zero weather since February, 1886. The year 1889 averaged warmer than any twelve months for fourteen years. Not since the blizzard of March, 1888, have we had any genuine winter weather, save a sudden fluke of the thermometer late in February of last year, when the mercury touched two degrees above zero one night and then rebounded. The absence of snow has been even more noticeable. The sleigh bells were silent all through the season of 1888-89, and nobody has had a legitimate excuse for appearing on runners so far this winter. Rain fell more copiously in 1889 than in any previous year since 1868.

Do these facts signify any permanent change in the climate of New York and the Atlantic coast? It is a common saying among people of middle and advanced age that the severity of average winter weather has much moderated during the past generation. Great snow storms, they say, were of much more frequent occurrence thirty and forty years ago than they have been during recent winters. The blizzard is the only great storm within popular recollection, and that was really only a local phenomenon, coming out of season and affecting only a limited area around the metropolis. Some people in discussing the mild conditions which have since prevailed during the winter months have argued that the blizzard was a great climatic cataclysm which marked a new era in the meteorological history of this region. Others of more scientific turn of mind have ascribed the change to an inshore shifting of the Gulf Stream, and some of them have noses acute enough to detect even the indescribable flavor in the moist atmosphere which they say the Gulf Stream gives to the air of London. Lastly, the professional weather sharps declare emphatically that the causes of temperature and humidity changes are not local or in any way connected with marine influences, but that they are located away off in the foothills of the Rocky Mountains, and that—startling to contemplate—they may be permanent.

Nobody has a right to argue, say all the scientists, that because a single season or two seasons may be extremely wet or dry, hot or cold, that a permanent climatic change is indicated. Natural forces are slow and sometimes erratic, but after no matter how extreme a digression they almost always come back to one general average. This rule may be relied upon as long as there is no change in conditions. But permanent local changes in climatic conditions sometimes have taken place, and they have been accomplished by artificial means. If a water supply is turned into a desert, nature herself immediately cooperates in maintaining fertility where before was arid sterility. Vegetation induced by artificial means perpetuates itself by providing a natural rainfall where before were barren sands which produced no rain clouds. Such a change in conditions, it is said, is rapidly taking place in the extreme West. A new storm-generating centre has appeared there, and the products of the new weather laboratory have for several months been distributed over the country according to an entirely new system. It may be said in a general way that most New York weather comes from the interior rather than from the ocean. Storms and cold waves in winter come almost invariably from the northwest or southwest via the Mississippi valley to the Atlantic coast. Formerly these storm centres passed out to sea within about 200 miles of New York. Within a few months they have almost invariably followed a new and extreme northerly course across the Canadian provinces. The effect upon New York has been to draw up over us moist, warm winds from the southeast and southwest, and to maintain for months a very high average humidity in the atmosphere.

If this new order of things is to continue, what will be the effect upon the health and comfort of the people? The climate that some say is threatened is something much resembling that of London. Now, London weather is something by no means to be desired. We had a typical London December—fog, mist, rain, a flurry of snow, mud, rubbers, mackintoshes, and umbrellas for about twenty-five days out of the thirty-one. But London is not an unhealthy town. New York ranks above it, but the difference can be more truthfully ascribed to greater destitution and less efficient sanitary precautions among the London poor than to any superiority in New York's climate. But whether there is any difference or not between the two towns as regards the effect of weather upon health, there will be no question in the minds of those who have tried the climate of both cities as to which has the best air, the most sunshine, and the best general comfort-giving weather.

It is a mistake, so all the doctors say, to hold the weather responsible for the prevailing epidemic of influenza. The distemper raged with equal severity all over Europe, where they are having average winter weather. It is true that some of the sequelæ of the influenza have been more serious because of the unusual weather, but the responsibility lies with the sufferers and not with the thermometer. People have not accommodated themselves to the new conditions. In clothing, habits, and general manner of life everybody is trying to make the calendar rules apply to the new conditions. Nobody dares go back to spring and fall clothing for fear a sudden readjustment will restore the usual order of things and bring dire penalties on all who discarded heavy flannels and padded overcoats. So hundreds of overclad people in the rush of business get overheated, hurry out into a raw, damp wind, and contract colds or something worse. In one sense, then, it is true that the weather must assume part of the responsibility for the increased mortality now laid upon "la grippe."

There are, of course, some compensations for a loss of the invigorating qualities of a sharp winter atmosphere. Chief of these must be reckoned the improved condition of the poor. Suffering among them is reduced to a minimum by such weather as we have been having. The domestic consumption of coal is cut down about one-half, and if mild weather should continue a reduction in price of fuel would come sooner or later. The absence of snow in a big city is regretted by few, and it means the saving of millions in the course of a season. The embargo on trade which a big snow storm in a town like New York levies costs several fortunes, besides the expense of clearing the streets and walks. The coal men and the ice men are most affected by a mild season such as we are now having, and a continuation of present conditions would be a serious thing for them. But it is said that the effect of a material reduction in the ice supply would not be an unmitigated evil. America is about the only country in the world that drinks ice water, and a great many doctors declare that it is a national vice. But it will take more than even a sharp advance in cost to make any change in the almost universal custom.

THE GULF STREAM THEORY.

When it comes to an analysis of the causes of Jack Frost's abdication from his winter throne there appears a vast array of specious theorizing and a very limited supply of trustworthy scientific data. The idea of some of the locally weather wise that the blizzard marked a turning point in meteorological history may be rejected off hand. The blizzard was a peculiarly violent storm which certain conditions happened to hold poised over New York until it had spent its fury. Such storms, which are limited in area, usually move rapidly along a narrow course, distributing their effects over a long and narrow track. The blizzard passed rapidly over such a track until it reached New York, where it was checked by a counter current.

THE COURSE OF THE GULF STREAM.

The sun-spot theory cannot be followed to any practical conclusion, because it is based upon data largely speculative, and no tangible connection can be made with the information at hand between cause and effect.

There are many advocates of the idea that weather is mild or severe according to the data in a fixed cycle of years. There is the seventy-year theory and the thirty-year theory. Some think that winters change from extreme severity to soft mildness and back again once every seventy years. Others believe the circle is thirty years long. Unfortunately there are no reliable statistics reaching back far enough to prove either of these theories

The Gulf Stream theory is an interesting one, and it has some strong adherents. Everybody knows that if the Gulf Stream didn't warm up the British Isles, our English and Irish and Scotch cousins would have to emigrate promptly to Uncle Sam's and other shores, for without this beneficent influence the climate of Great Britain would be about that of Labrador. But everybody does not know what becomes of the Gulf Stream after it has supplied London with fog. The current splits, as it were, upon the British Isles, and half of it continues on north and northeast, while the rest curves around southeast and then south, down by the coast of Spain and northwestern Africa, turns west and comes back again, joining with the equatorial current, sweeping along the northeastern coast of South America, and reenters the Gulf of Mexico. The westerly current back to America from the other side is widely distributed and comparatively slow. When it reenters the Gulf of Mexico the current swings around the almost circular basin, gathering strength and speed whirlpool fashion as it goes, and then pours out and north again through he narrow passage between Florida and Cuba. It is there swift and powerful and it sweeps northeast in a resistless march. Its course is distinctly marked through the surrounding body of water. It can be detected by the color in many cases, but the thermometer is always a sure guide. The temperature of the stream is from ten to twenty degrees warmer than that of the water outside of it.

Some modern investigators deny that the Gulf Stream really has any influence on the climate of Great Britain and Ireland. Observations made by M. J. Thomet and Mr. Findlay tend to show, in the opinion of those gentlemen, that the stream, after it reaches the vicinity of Newfoundland, in depth and volume is no longer great enough to exert any considerable influence on climate, and therefore the causes of the mild climate of western Europe must be sought elsewhere.

The southeastern coast of Florida is directly swept by the stream. Then it swings off a little from the coast. Cape Hatteras being the nearest point approaching it. The course thence is considerably east of north, and with an outward curve. It takes its way to the Newfoundland Banks. Southern Long Island and Cape Cod are the nearest points on the coast to the path it takes. Cape Cod, by the way, is being carried off in great slices to Canada. Either the Gulf Stream or some other strong ocean current has washed away hundreds of acres from the outer shore of the queer arm which embraces Massachusetts Bay. There is a noticeable change in the coast line every year, and constant alterations in the charts are necessary. Seafaring men say the sand and earth thus picked up by the sea are deposited on George's Banks, which are growing almost as rapidly as Cape Cod is losing.

Farmers and other residents of eastern Long Island are quite unanimous in ascribing the mild weather to a change in the course of the Gulf Stream. Their opinion is a natural one, for warm, moist southerly winds have blown over them much of the time for many weeks, and dandelions are in bloom where ordinarily the earth is hidden by snow drifts. If it is true that the Gulf Stream had in any way shifted, eastern Long Island would be first to feel the effects, and they would there be most pronounced.

While there is evidence that the Gulf Stream does not follow a fixed course, it is pretty well established that its deviations are only temporary, and that when the pressure is removed it flies back into place just like a rubber band when released from tension. The bed of the stream is not the ocean bottom, but a lower stratum or cradle of colder water. This is shifted under the influence of long-continued winds blowing across the course. Frequent reports about the behavior of the Gulf Stream are received from sea captains by the hydrographic offices established in all the large seaports by the Navy Department. The most interesting report of the nature ever received came to the New York office about a month ago. Capt. McKnight, British S. S. Clarinda, reports that at noon, Nov. 26, he was in latitude 38° 51' N., longitude 74° 20' W. At this time the course was set N. true, the idea being to let the Gulf Stream make the easting. He had entered the stream at 10¼ A. M. the thermometer rising from 67° to 74° in less than twenty minutes. Up to 5 A. M. of the 27th the temperature ranged from 74° to 76°, and no cold bands were experienced. Between 5 and 6 A. M. the temperature fell to 55°, and at noon the ship was in latitude 39° 21' N., longitude 74° 25' W., instead of about longitude 74° 08', as the Captain expected. Relative to this observation, Capt. McKnight states as follows: "The position was correct, as also the compass error; this was afterward proved by the way we made Barnegat. These are the facts, and I have no hesitation in saying that during the time in the stream an easterly current had ceased, although northerly set still continued. I think this was caused by the strong E. S. E. wind. I think another good proof of this is that we did not cross any of the cold bands which exist in the stream, but we simply drove through it and carried it right through." On his next trip south, leaving New York Dec. 3, the stream set N. 42° E., 19 miles in 21 hours.

Similar reports are often received regarding a variation in the usual set and velocity of the Gulf Stream, but, in the opinion of the officers of the hydrographic service, such variations can generally be explained by strong prevailing easterly winds. It is probably only the surface current that is affected, and this only temporarily.

All the officers of the signal service reject the Gulf Stream theory in explanation of weather changes. Sergeant Dunn says that if it was true that the stream had shifted enough to have an appreciable effect, the temperature of the inflowing tide in the harbor would show it. The temperature of the water in New York harbor has been taken for 17 years, and there has been no recent change from the general average.

THE NEW COURSE OF STORMS.

It is very easy, in the opinion of the signal service officers, to state the immediate cause of the mild weather of the past two winters. The weather charts show that storms now take a more northerly course than formerly, says Gen. Greely, and those storms drew warm winds from the south up over the Middle States. This is interesting and satisfactory as far as it goes; but what people want to find out is, why these storms have turned the cold shoulder, or rather the very warm shoulder, on New York, and have devoted themselves so exclusively to our Canadian neighbors. More important still, we want to know whether this fickleness or disaffection on the part of western storms is likely to prove permanent. Upon this point Gen. Greely in the interview given herewith gives us no information.

Sergeant Dunn, of the local signal service bureau, agrees with his chief as far as he goes, and he advances some interesting suggestions regarding the ulterior causes of the change. Sergeant Dunn discards entirely the Gulf Stream theory in explanation of the weather changes. Even if the stream had changed its course and literally washed the Atlantic coast, Sergeant Dunn says the effect on the weather would be only intermittent. When the wind happened to be southeast the temperature would be mild, but the storms and cold waves which originate in the West and Northwest would come just the same. The reason the Gulf Stream has a constant effect upon the climate of Great Britain and Ireland is that the current almost surrounds the islands, and winds from every quarter are tempered by its influence. Further proof that the Gulf Stream has not caused the changes Sergeant Dunn finds in the fact that the mild weather has prevailed as generally west of the Alleghany Mountains as east of them, whereas the Gulf Stream would be felt only along the coast.

Sergeant Dunn's storm charts for the past two years show conclusively that New York weather has been mild, though the remote cause is not yet positively discovered. Storms and cold waves alike have, during this period, taken a course 200 or more miles further north than that formerly travelled. Until within a year or two storms which originated in the Northwest or Southwest have ordinarily travelled toward the centre of the Mississippi valley, and then have moved northeast to the coast, reaching the Atlantic within 100 or 200 miles of New York. Each winter storm draws in its wake usually a cold wave, which follows substantially the same track. Now both storms and cold waves follow the great lakes and the St. Lawrence. Storm centres draw currents of wind toward them from every quarter. If a storm centre passed south of New York it would cause cold north winds to blow here. If it passed north of us, as has invariably been the case of late years, it would bring moist southwest to southeast breezes. These warm winds, striking the somewhat cooler zone here, condense their moisture, and fall in copious rains, which have been more of the nature of showers than storms.

These Western storms have lately had a somewhat different point of origin from the old ones. Many storms now originate in the Rocky Mountains and the country about the great desert, as it is called. Within a few years the character of the country there has very much changed. Artificial irrigation has worked wonders with the soil and the general nature of the country. What was formerly an arid desert proves, when watered, to be a most fertile soil. The Pacific coast climate has changed to an even more remarkable extent than has been noted in the East. The old wet and dry seasons west of the Sierras seem to be giving place to our old-fashioned summer and winter. The cause of the climatic changes lies solely in the extreme West. If the changes are caused by artificial influences then they will probably be permanent, and New York will see little more old-fashioned snow and ice. The signal service has no information about the causes of the change in direction of storm courses beyond these points, but a full investigation will doubtless soon be made.

Illustrating the effects of artificial irrigation on the Western plains, Sergeant Dunn says that a New Yorker who, within a year or two, has invested thousands of dollars in an irrigation company in Colorado recently called on him to tell the story of his ill luck. After the ditches of the company had been dug at great expense and the water had been turned on the company began to look for customers to buy their water. But the construction of the great irrigation system itself brought back natural rainfall, which has continued at intervals ever since. The irrigation company has conferred a great boon upon the neighborhood, but it receives only thanks for its pay.

This goes to show that if moisture and a supply of water can once be introduced in the arid wastes of the extreme West, natural forces will maintain the new conditions thus established. But if the consequences of these great local advantages are to be as far reaching as the weather of the past two winters on the Atlantic coast suggests, then the millions of the East will be sure to claim an equal consideration of their interests as is given those of the thousands of the West. If the climate of London is to be imposed upon New York in order to enable the settlers of waste lands in the West to turn the desert into a garden, there will arise an agitation as soon as the situation is fully realized that will relegate the irrigation question and all the political issues that have ever occupied American attention. But it is too soon to sound any popular alarm. The theory suggested is based too much upon mere surmise and too little upon practical investigation. True, the best authorities upon meteorological subjects can advance no other explanation of recent climatic phenomena in the East, and the effects seem to exactly fit the suggested cause. But there has been no systematic or thorough investigation of the subject. Signal service statistics in that part of the country are few in number and widely scattered, and the facilities for the collection of necessary data are thus closely limited. All the changes of importance due to irrigation in the West have taken place within about five years. Private enterprise first demonstrated the wonders which could thus be wrought, and now large corporate interests are engaged in the extensive introduction of artificial water supply in large sections of the arid plains of Colorado, Wyoming, Nevada, and other States. No one who has crossed the continent by the Union and Central Pacific route can forget the little tropical paradise at Humboldt, Nev., where the train stops for dinner. It is not alone that. The station is in the midst of a rich oasis, only half a mile in diameter. Vegetation is luxuriant, and a tiny fountain is playing by the station platform. The whole transformation from the original barren sterility has been wrought by a single artesian well.

The storm paths influenced by the new Western laboratory, while not of very great extent and duration, are most of them of unusual violence. They travel with marvellous rapidity, with a speed, in fact, that is almost unprecedented. Several the present season have swept across the country so as to use up from this six to forty-eight hours. Every one of them has passed far enough north of New York to be without local effect, except in causing brisk southeast to southwest winds. Much damage and loss of life on the great lakes would have been caused if the navigation season had not closed. The lakes are still open, but the fight-houses were closed at the time that ice usually forms, so that there has been practically navigation except daylight trips along shore.

IMMEDIATE PROSPECTS.

Shall we have some late winter weather? Sergeant Dunn says this is the time for cold snaps, if we are going to have any. Ordinarily, New York does not get very cold ice-making weather until about Jan. 15, the coldest weather of the year usually falling within a month following that date, and two weeks apart. Into a snap about a week to ten days. Perhaps we shall have to be contented with the bracing breezes of Thursday, when the thermometer fell a few degrees below freezing, as a typical "cold snap," until it would have it was cold by contrast with the day in an ordinary sense a comfortable, balmy winter.

Nobody who has seen the wild ducks and geese flocking about Great South Bay will believe there is any cold west or anything near. Sportsmen know that the ducks and geese haven't gone South this winter. Neither prophet than the birds. They evidently don't feel at home in Northern waters at this time of year, and the geese find it almost impossible to get a shot at them.

The reports given herewith of the remarkable winter weather which has been experienced all along the coast from Maine to New Orleans make a mighty interesting budget. The facts about the ice supply throughout the country are worth general attention. New Orleans seems to have solved the problem of how to make artificial ice cheaply and profitably. Ice at $6 per ton wholesale is much lower than it will sell for in this town next summer if the dealers fail to get a local cron. The facts about the local supply of ice have been given in THE SUN the past week. Representatives of the big ice companies in New York do not look with favor upon any scheme for manufacturing ice, no matter how far it may become necessary to send for the natural article. They say there will be ice enough here next summer to supply the demand, even if the thermometer does not go below freezing again this winter. But it will cost! The further it is necessary to go for it the higher will be the price the consumer must pay. Very soon after the 1st of February, if there is no local crop in sight, word will go to the farmers and others dwelling upon every stream and pond within the ice zone and next the railroads to cut all the ice they can harvest, and they will be only too glad to work for the dollars that such a condition of things will bring within their reach. The railroads and the farmers will get the profit instead of the local cutters and dealers.

GEN. GREELY'S OPINION.

The High Northerly Course of Storms Causes the Warm Weather.

WASHINGTON, Jan. 11.—The remarkably warm winter that has been experienced up to the present time in nearly all parts of the United States has caused inquiries by the bushel to float into the offices of the signal service, the hydrographic and meteorological divisions of the Navy Department, and other places where the phases of the weather are supposed to be intelligently studied; but so far as can be ascertained these bureaus are unable to furnish any satisfactory explanation of the phenomena. It is safe to say that Gen. Greely, the chief of the signal service, is at a loss to account for the unusual state of things upon any basis of ordinary calculations. That is, he cannot point to any one reason or set of reasons that will explain the matter, although he can show in a thousand different ways what are the local causes that have brought about the very warm December.

It can be stated at the outset that Gen. Greely denies the proposition that has become so popular of late that the climate of either the Atlantic or Pacific coast is undergoing a permanent or radical change. The much mooted question of the course of the Gulf Stream, he says, has nothing whatever to do with the matter, as the most careful observations and investigations of the scientific bureaus of the Government fail to show that the Gulf Stream is undergoing any unusual change. The only cause that would be at all to drive the Gulf Stream inward would be strong sea winds for a long period of time, and the fact is that for some time past the prevailing winds have been off shore. It is also true that in Mississippi the increase in temperature has been even more marked than on the Atlantic coast.

The officers of the Hydrographic Bureau of the Navy Department agree with Gen. Greely in the opinion on this subject. Mr. Hayden, who has devoted years to a profound and conscientious study of the subject, assured THE SUN reporter to-day that there is not the slightest foundation for the claim so persistently put forth in some quarters that the Gulf Stream is rapidly changing its course. Mr. Hayden says that the more the matter is investigated the more the fact becomes apparent that what are regarded as permanent changes in the Gulf Stream are but the effect of temporary local causes, and that some totally different reason must be found for the unusually mild temperature along the coast at present.

In conversation with a SUN reporter to-day on the general subject of climatic changes, Gen. Greely, the Chief Signal Officer, said: "This question of changes in climate is not a new one. It having received careful attention. In this country and Europe in past years. The tendency of the human mind is to believe that local conditions are general, and that several weeks or months of very warm or cold weather are unprecedented. In Europe the idea of changes in climate has been persistently brought forward in late years, and a number of the most distinguished meteorological investigators have carefully examined the subject and have unanimously arrived at the conclusion that the climate of Europe is not changing permanently. It may safely be said that this also applies to the United States as illustrating the fact that excesses of temperature and rainfall are largely local.

"It may be stated that during the present year up to the first of December the following local excesses and deficiencies in temperature have occurred: New England, 1°; upper Lake regions, 1°; extreme Northwest, including Dakota and Montana, 33°; the Missouri valley, middle and lower, 8°; the north slope of the Rocky Mountains, 18°; the southern plateau districts, Arizona and New Mexico, 10°; Utah and Wyoming, 5°; Idaho and western Montana, 9°; Oregon and Washington, 22°; northern California, 14°, and southern California, 10°. During the same period the deficiencies of temperature amounted in the Middle States to 5°; in the South Atlantic States to 12°; in Florida, 23°; in Alabama and Mississippi, 18°; Louisiana and northern Texas, 9°; the Rio Grande valley, 16°; the Ohio valley and Tennessee, 15°; the lower Lake region, 6°; the upper Mississippi valley, 9°, and the southern slope of the Rocky Mountains, 3°.

"The excesses of rainfalls have been as follows: In New England, 7 inches; the Middle Atlantic States, 2½ inches; Florida, nearly 4 inches; the west Gulf States, 2½ inches; the middle Rocky Mountain slope, 2 inches; northern California, 4 inches; southern California, 1½ inches. The rainfall has been deficient in the west Gulf States to the amount of nearly 7 inches; the Ohio valley, 5 inches; the lower lake region, 4 inches; the upper lake region, 4½ inches; the extreme Northwest and upper Mississippi valley, 6½ inches; the Missouri valley, 3½ inches; the north Rocky Mountain slope, 3 inches; Utah, 3 inches; Idaho and Wyoming, 4 inches; Oregon and Washington, 11½ inches. Slight deficiencies have also occurred in the Rio Grande valley and western Texas.

"These figures show, in short," continued Gen. Greely, "that while California has had an excess of rain Oregon has a very large deficiency. Similar contrasting conditions may be noted in other parts of the country as shown by the above figures."

Gen. Greely is equally emphatic in the belief that climatic changes are not due to sun spots, as many people contend they are. The theory has been advanced by many, he says, that the deficiencies and excesses of temperature and rainfall depend upon the number of spots observable on the face of the sun, and that the maximum and minimum of temperature and rainfall occur over the earth as coincident periods with the maxima and minimi of sun spots. Blandford, the meteorological reporter of India, Gen. Greely says, has examined the rainfall of that country for twenty-two consecutive years, and finally concludes that the total rainfall of India affords no evidence whatever that the excess or deficiency is coincident with the sun spots. A similar examination was made by Gen. Greely regarding droughts, by which it appears that, despite the theory that the most rainfall should come in the years of maximum sun spots, some of the most severe droughts have occurred in that year.

Gen. Greely sums up all these observations in the conclusion that the peculiar weather conditions of the past few months are not due to any of the causes named, and that they are not in any way dependent upon the sun spots, but due to the presence of storms passing over the country in high altitudes.

Their passage in the direction of the Gulf of St. Lawrence caused a steady current of air from the south and southwest across the eastern portion of the United States, usually from the Gulf of Mexico, and bringing much colder weather in its rear. The December winds blow from the north and northwest, and are much colder in latitudes of course, than currents from lower latitudes. Gen. Greely also states that the results of his observations and studies of the weather conditions of the United States are always local, and that during December, 1889, the area of the country having positively high temperatures was much greater than usual occurs.

NEW ENGLAND THEORIES.

Reports that the Gulf Stream Has Swung Ashore—Little Ice Left.

BOSTON, Jan. 11.—New Englanders are sweltering in thick flannels, heavy overcoats, and hot, while the robins are hopping about common and trees are budding and flowers blooming in the most springlike manner imaginable. The old inhabitants tell fairy tales about sleigh rides and white-haired patriarchs arouse the envy of their grandchildren by descriptions of coasting and skating frolics. The small boy, instead of gliding over the frozen surface of the frog pond, amuses himself by throwing sticks into the water and then sending his dog after them.

Some thrifty farmers have turned over soil that needed an airing without finding a sign of frost. In fact, winter seems to have forgotten to put his trade mark on anything in the southern part of New England. In Maine and in northern New Hampshire and Vermont there has been cold weather enough to provide a thin covering of ice for the lakes, but running water is as open as in summer. It was just the kind of a climate for invalids until "la grippe" came along. That unpleasant visitor found everybody weakened by the debilitating weather, and has wrought sad havoc until the death rate has assumed alarming proportions.

While the people have been growling the scientists have been trying to account for the phenomenal condition of affairs. There is a wide diversity of opinion here in New England. This is the jumping-off place for storms and so New Englanders don't pay much attention to their origin. But the storms have piled on top of them with so much rapidity, and have been attended with such depressing atmospheric conditions that people are clamoring for a remedy, and the clerks of the Weather Bureau are overwhelmed with inquiries as to how long these conditions will last.

Sergeant Smith, who has charge of New England's weather, spread out a map of the country and gave THE SUN correspondent a few points about the weather, stripped of its technical phrases, "the only one you get here," said he. "I haven't had the time to look into the matter closely enough to give an intelligent opinion as to the reasons therefor. I can tell you that the continued warm weather is caused by a rapid succession of storms moving directly across the country from west to east to the north of us. When the storm centre passes over us in a northerly direction we get the benefit of the rush of wind from the south. That is the whole thing in a nutshell. The storm centres have not been taking the southern route this winter. The area of high pressure has been located so far north that the storms have taken a course almost due east. That has prevented us from having those cold northerly winds. I am not prepared to explain why that high area is so far north, because I have not had time to study into it."

Lieut. Downer, who is in charge of the local hydrographic office, said that he was satisfied from the reports presented by sea Captains that the Gulf Stream had changed its course somewhat. "We have had from several sources," said he, "reports of the presence of warm water about fifty or sixty miles from the coast. Nothing but the Gulf Stream could thus lower the temperature of the water. Then, too, the water in that part of the ocean assigned on the maps to the Gulf Stream has suddenly become cold. That is one proof that the stream has shifted its position. Another proof is the presence along our coast of gulf weed, so called. That is killed by cold water, and sinks after floating a short time. It has never before been found here, showing that the stream is so near the shore that the weed reaches here before sinking. The fishermen at the Newfoundland Grand Banks furnish additional proof. They report that they are forced to replenish their supply of ice, something they have never been obliged to do. The melting of the ice shows that the water is enough warmer to change the temperature of the air."

"What is your explanation of the change?"

"Your opinion is as good as mine. It is largely guess work, owing to insufficient data at hand. It is agreed that the Gulf Stream meets the Arctic current at sea somewhere near the Newfoundland Banks, and both are deflected. The Gulf Stream is forced in an easterly direction, and the Arctic current dives underneath and reappears at sea a long distance off. For two years past the Arctic current has been growing weaker, until now it amounts to nothing. The cause of this cessation is wholly a matter of conjecture. It appears probable that somewhere in the Arctic region there is a mighty wall of ice which has deflected the course of the current, but, as I said before, that is only a guess. Of couse we have no reports from that region. If we could get up there we might be able to explain it. Well, the Gulf Stream, not being opposed by the Arctic current, naturally swings more directly northward, and thus comes nearer our coast. Its effect upon the climate would be noticeable. We are experiencing such a change, any way, and you can draw your own conclusions.

"A very important feature of the open winter is its effect upon the ice crop. A big section of the country depends upon New England's ice crop. Thus far no ice has been gathered and the old stock is so nearly exhausted that already dealers and consumers are beginning to be anxious. Whether or not there will be a famine the dealers are not prepared to say, but certain it is that they all feel there is likely to be before long a most discouraging scarcity unless cold weather, and a good smart spell of it, comes speedily."

"The situation is certainly a serious one," said a member of one of the largest ice firms in this city and a director in the Boston Ice Company, "and men who have money in the business are looking forward somewhat anxiously to see where their stock in trade is coming from. There is no ice in the ponds in Massachusetts, or as far as we know any thick enough to cut in the northern portions of New England. Still the winter is by no means over, and I suppose we shall be able to get ice somewhere. If we don't it will be the first time that such a thing has occurred for many years. There has to be a first time in everything, and this may be the first time, and we may not. Who knows?"

There is less than a month's supply in Boston, and prices are already beginning to stiffen. Boston uses about two thousand tons of ice daily in the summer time, and the demand this winter is unprecedentedly large. Hundreds of thousands of tons are required for a yearly supply for Boston alone, and to supply that quantity double the amount must be cut. With empty houses and no cold weather in sight the prospect is anything but encouraging. There is no duty on ice, and if the New England supply fails the dealers will import from Canada. It never be ore been necessary to do this, and the expense would be great. Maine dealers expect to reap a harvest. In New Hampshire six-inch ice is being cut on some of the lakes. Massachusetts dealers will not cut ice less than ten inches thick nor more than thirteen inches, except for export.

DRY AND HOT AT CHARLESTON

Ice, Natural and Artificial, Sells at Half a Cent a Pound.

CHARLESTON, S. C., Jan. 11.—All the ancient inhabitants of Charleston agree in no statement that there never has been such a winter as this, and their opinion is borne out by the figures of the Signal Bureau. Here are some of the figures: The mean temperature for December was 60°, the highest known in 19 years. Such a winter even in the mild climate is unprecedented. Not only is the temperature extraordinary, but more so is the drought. During the entire month of December the rainfall was less than one-third of an inch.

When it is considered the city, with its population of nearly 70,000, depends almost entirely for its supply of water upon the cisterns, it will be seen that the drought is a very serious matter. There are probably 1,000 negro women who make their living by washing clothes. Without cistern water the women and their families suffer greatly.

So far as the temperature is concerned, the city does not complain. There are over 50,000 people in this city who have never seen snow, and cold weather is comparatively unknown here. This will possibly account for the fact that there is no apprehension here for the last demic of la grippe. The death ray, the large mouth, December, is unknown here. Large infants, many of them, are those born of an ice famine next summer. Upon the supply of natural ice depended entirely upon manufactory established in Southern manufactories. These have made a combine, and have even ceased producing machinery. Large increased factory can, however, supply Charleston with all of the demand. Ice is sold but about one-eighth of a cent per pound at wholesale. The retailers have been selling for one-sixth of the supply of ice in this city at a profit. The other one-sixth is the North the price of ice would probably be up to two cents per pound at retail. It is difficult to get statistics in reference to the sale of the Gulf Stream at this port. THE SUN correspondent has interviewed all of the Southern Captains who are in port. They say that they have not noticed any marked change in the course of the stream, and none of them venture to express an opinion on the subject of the peculiar winter weather. All the ancient mariners in Charleston are equally puzzled on the subject of this queer winter.

A very serious phase of the question presents itself to the truck farmers who furnish the early strawberries and peas to the millionaires of New York. Should the present mild weather continue they may make their fortunes. Should, however, there be a rigorous spring they will be nipped in the bud. Scores of telegrams were received to-day from Northern people by the hotel proprietors asking whether the city was free from la grippe. THE SUN correspondent again called at the Health Department today and was authorized to say that there has not yet been a single case of the prevailing epidemic reported in the city.

NEW ORLEANS WILL SEND US ICE!

The Hottest Winter Ever Known, but They Make Ice for $6 a Ton.

NEW ORLEANS, Jan. 11.—The official thermometer of the signal service station recorded 82° in the shade at 3 P. M. to-day, and was still rising. Other more exposed thermometers ran up to 98°, and there are claims that some reached par. It was the hottest day this winter, or indeed, any winter ever known in New Orleans, and not by one or two, but by many degrees. The present hot spell has continued without interruption for thirty-four days. The thermometer touched 70 Dec. 4, and has remained there or thereabouts ever since. During all December and January to date there has been no cold or even cool spell. The average maximum temperature for December was 74.3°, while the normal maximum temperature for the month is 62°. In other words, it was day after day more than twelve degrees higher than it ought to have been. There are no previous years with which we can make a comparison. The hottest winter known before, that of 1875-76, was seven degrees cooler than the present one has been to date. To this must be added the statement that it was the sunniest December ever known, the amount of sunshine being 50 per cent. greater than the average. December has been the warmest New Orleans April or May without rain.

This phenomenal weather has produced the most extraordinary agricultural results. The editor of the Diamond Leader saw strawberries on Christmas day. Peach trees blossomed early in December, and a number of cotton blooms were reported in Plaquemine parish Jan 2. At this rate cotton would come into market early in March, half a year ahead of time.

Capt. Kerkam of the signal service here was applied to to day by a number of persons interested in planting as to the possibility of a cold snap. He could give but cold comfort, for the records of his office show that no January or February has ever passed without a killing frost. Should one come as usual it will do immense damage, hurt the sugar crop, and almost annihilate the fruit crop. The present winter in the matter of temperature is phenomenal also in the rainfall, or, rather, lack of rainfall. Only a quarter of an inch of rain fell in October, two inches in November, and three-quarters of an inch in December, and practically none to date in January. During three and a quarter months the total rainfall is but little over three inches, a deficiency of a foot or more. This has caused much annoyance and inconvenience. The water supply of New Orleans is deficient, nearly all that used for drinking being rain water obtained from cisterns. These have run dry several times already this winter, and the waterworks company has been called on by the city to open its plugs so that the people living in the poorer quarters of the city destitute of water can supply themselves with the muddy water of the Mississippi.

To make up for the drought we have had the heaviest fogs ever known, so heavy indeed as actually to furnish sufficient moisture to vegetation and to be productive, in conjunction with the grip, of an unprecedented outbreak of colds, rheumatism, bronchitis, pneumonia, neuralgia, and similar diseases.

The Hydrographic Office has no startling reports to make that would explain the weather. The Gulf Stream near here is kept within marked limits by the Bahama banks and the Florida coast, and nothing extraordinary is reported about it, although ship captains coming from points north of Hatteras have something to say about some divergence in it. The reports to the Hydrographic Office are generally of the most satisfactory character. All the arriving ships report the weather warm, but free from atmospheric disturbances of all kinds. The ocean currents on the equator, 500 or 600 miles off the Brazilian coast, are reported by Captains coming from South America to be running with a southeasterly set. This is quite unusual, but no special significance is given it.

The hot winter has made a raid on the ice here, has created a temporary shortness in the supply, and has threatened a famine. Everybody has gone back to ice again. The Consumers' ice factory reports its sales for December more than three times as great as for any previous December. This company stopped operations in November as much to put the works in complete order, and as some new machinery was to be put in expected to remain closed until February; but the stock of ice in the city has got so low that the repairs were hurried up and it will begin manufacturing ice at once to supply the winter demand. There are five artificial ice factories in New Orleans, the Consumers', Peoples', Southern, New Orleans, and Louisiana. The latter is in bad financial condition, having recently passed into the hands of a receiver, but is still engaged in the manufacture of ice. It was one of the first in the field and uses a very old patent. It manufactures ice by the ammonia process, by different patents. The Consumers', which is the largest and most successful company, uses anhydrous ammonia, the others aqueous ammonia. The low temperature which cools the water is produced by compressing the ammonia in one factory, in the other by its absorption. The New Orleans ice factories have driven natural ice out of the market. Formerly the supply here was obtained almost wholly from Boston, but the last lot, of 3,000 tons, has gone out of the market, and for the last year, of Boston ice found its way here from Chicago and St. Louis, a large portion of it in barges which float down the Mississippi River. The factories produce 55,000 to 60,000 tons a year, or more than three times as much as the Consumers' alone. The city is much larger. The Consumers' has a capacity of 110 tons a day, the others of 100 tons, or 310 altogether. So that working at full capacity the New Orleans factories could manufacture 30,000 tons annually, whereas the city consumes only 70,000 or 75,000 tons a year.

The factories go to work during the winter, for it is slightly cheaper to manufacture ice then than during the summer. They stock their ice houses during the winter, and work during the summer to keep up the stock. During the height of summer the demand reaches 600 tons a day, which is considerable more than the factories can turn out. This is an average of five pounds for every man, woman and child in the city. One of the ice is shipped to New Orleans. Most of it here to neighboring towns and cities, as far as Baton Rouge. Double artificial ice Meridian, but they cannot make it as cheaply as the factories, but they cannot make an attempt was made some years ago to introduce a ton a day machine that would manufacture ice. The manufacturer proved unprofitable, conducted on a scale of ice is most profitable.

The New Orleans ice factories are, with one exception, very successful. They have a capital of $662,000. They received last year for their product $360,000, at the rate of $6 per ton. So successful have been the operations that two new ice companies have sprung into existence this year. The present warm spell has been in great case of the prevailing famine in the water somewhat, and increased the famine up North this coming spring in consequence of the present phenomenal warmness to ship ice there for consumption when they can get a good price. The ice men here express the opinion that a famine will occur, and say that several such dealers have approached them on the subject of establishing an artificial ice factory in North as a protection against such contingencies as the present.

NO OTHER WINTERS LIKE THIS.

The Recollections of an Aged Weather Observer in Syracuse.

SYRACUSE, Jan. 11.—M. C. Hand of this city has been a close observer of the weather of this part of the State for the past fifty or sixty years