

articles of value to teachers, and that it is now successfully entering on a second year. The *Journal* has commended itself to the Geographical Association of England, and one of their members has been at their suggestion appointed on the board of associate editors.

DUNES IN NORTH GERMANY.

THE drift plain of North Germany is intersected by broad valleys, many of which are the work of glacial rivers. Dunes are common on the valley floors, and those near the Elbe above Boizenburg are described by P. Sabban (*Die Düne der süd-westlichen Heide Mecklenburgs* *** Mitth. Meckl. Geol. Landesanst., VIII., Rostock, 1897). It is suggested that the dunes were chiefly formed when the glacial waters were withdrawn, leaving extensive barren gravelly plains; and that dunes, therefore, do not indicate a period of dry climate. Many of them are now more or less overgrown; some are forested, and one of these is shown in an excellent plate. Small dunes and sand deposits are found on the uplands, where the sands are blown up from the valleys. Mention is made of the manner in which dunes shed water, so that after a heavy rain they are wet to a depth of only a few inches—a point to which Shaler has called attention in this country.

In this connection, it may be stated that Keilhack reports an advance of about 9 meters yearly for several travelling dunes near the Baltic coast (*Jahrb. preuss. geol. Landesamt.* (1896), 1897, 194–198), giving a good view of a heavy dune invading a pine forest.

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CURRENT NOTES ON METEOROLOGY.

THE GULF STREAM AND THE TEMPERATURE OF EUROPE.

MEINARDUS, in the *Meteorologische Zeitschrift* for March, finds a relation between

the temperatures of the Gulf Stream waters off the Norwegian coast and the temperatures of central Europe, which relation he expresses as follows: I. A high (low) temperature in central Europe in the late winter (Feb.–Mar.) and early spring (Mar.–Apr.) usually follows a high (low) temperature of the Gulf Stream off the Norwegian coast in early winter (Nov.–Jan.). II. The greater the difference in pressure between Denmark and Iceland in the period September (or Nov.) to January, the higher is the temperature of the Gulf Stream and of the Norwegian coast in the same months (Nov.–Jan.), and the higher is the air temperature in central Europe in the succeeding months (Feb.–Apr.). III. The difference in pressure above noted has only an indefinite relation to the temperatures prevailing at the same time in central Europe, and no relation to the temperatures of May and June.

ATMOSPHERIC DUST.

A SERIES of interesting observations on the 'dust' of the atmosphere is described by Melander in a recent work ('*Sur la condensation de la vapeur d'eau dans l'atmosphère*,' Helsingfors, 1897), as noted by Maurer in the *Meteorologische Zeitschrift* for March. The investigation was carried on by means of the Aitken dust counter, and included 3,000 observations in Finland, the Sahara, and elsewhere. Some of the results are as follows: The number of dust particles increases with the dryness of the air, there being usually a minimum in the afternoon. Winds from the land carry more dust than those from over the water, and those blowing out of an anticyclone, or down from high mountains, are very dusty. Products of combustion furnish a portion of the dust particles which cause condensation in the atmosphere. The important problem as to whether or not precipitation can occur without the assistance

of dust particles is not yet solved, but it seems certain that where these particles are present they are the effective cause of the precipitation.

METEOROLOGICAL CONDITIONS OF THE KLONDIKE REGION.

IN the 'Klondike Number' of the *National Geographic Magazine* (April) General Greely has collected, in a brief article, what little is known about the climatic conditions of the Klondike district. The observations of most interest are those made at Dawson between August, 1895, and November, 1896. From December 1, 1895, to February 1, 1896, the temperature fell below zero every day. It was below -40° on 28 days; below -50° on 14 days, and below -60° on 9 days. The January, 1896, mean was -40.7° and the February mean -35.4° . Bright weather is the rule in winter, and from October 1, 1895, to May 1, 1896, snow fell only on one day in seven. During June, July and August, 1896, the temperature rose above 70° on 29 days and above 80° on 3 days. July was the only month in which the minimum did not sink below freezing. In June it rained on 12 days. Observations at Fort Reliance, near Dawson, made in 1880-81, gave December, January and February means of -31° , -7° and -29° respectively. The thermometer registered between -40° and -66° on 35 days. Snow fell on but one day in February, and 25 days were perfectly clear.

CLIMATE AND COMMERCE.

THE control of the severe winter cold of Russia and Siberia over the commerce of those countries is well known, the blockading of their great ports by ice during the winter being one of the serious drawbacks in the development of their import and export trade. But now the ingenuity of man comes into play, and by means of huge steam rams it is found possible to keep open many of the important harbors throughout

the cold season. Vladivostok now has a steam ram which is effective in keeping open its harbor. In Finland the port of Hangö is also kept open by a steam ram, and Admiral Makarof, of the Russian navy, thinks it perfectly feasible to maintain communication, through the winter, between the sea and the port of St. Petersburg. The struggles of man to overcome the difficulties which nature, through climate, puts in his way are among the most interesting of his many activities.

RECENT PUBLICATION.

FRANK H. BIGELOW: *Abstract of a Report on Solar and Terrestrial Magnetism in their Relations to Meteorology*. U. S. Department of Agriculture, Weather Bureau, Bulletin No. 21. Washington, 1898. 8vo, pp. 176, Chs. 39.

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CURRENT NOTES ON ANTHROPOLOGY.

MEXICAN ARCHÆOLOGY.

IN the *Journal of American Folk-Lore* (Vol. X., No. 39), Mrs. Zelia Nuttall has an article on 'Ancient Mexican Superstitions' containing much information from early and scarce authorities relating to the beliefs current among the natives at the time of the conquest. Her conclusion is that most of the superstitions were simple and harmless and sprang from the same mental sources as those which prevail in civilized countries to-day.

A full description of the remarkable temple-pyramid of Tepoztlan, south of the City of Mexico, is published by Dr. Seler in *Globus* (Bd. 73, No. 8). It is illustrated with twenty-two engravings, plans and views, and contains the identification of a number of the hieroglyphic inscriptions. The gods to whom the temple was dedicated appear to have been those connected with agriculture.