

when we cultivate the land and plant our crops, we do so in full knowledge of the impending chances of disaster. On the one hand we have no right to expect uninterrupted immunity and prosperity, nor on the other hand when disaster comes have we any right to be discouraged and say that the land or the crop, or we ourselves personally, are accursed. Never in the history of the world has it ever been possible for any one to carry out to successful completion his schemes and plans without an intense struggle against all forms of opposition, and in this struggle, it is not so much the strongest will as it is the highest intellect that succeeds.

INTERNATIONAL COURTESY.

Several times in the history of the Weather Bureau, both under the Secretary of War and the Secretary of Agriculture, it has happened that the Bureau has found it necessary to adopt certain rules appropriate to the courteous intercourse of nations as equals. Such rules may sometimes have seemed to make science subordinate and national honor supreme. This is as it should be, although we occasionally find an unreasonable independent thinker who will not willingly submit to this or any other form of subordination.

We see no reason why science and scientists should not be amenable to the common law, to international law, and to the laws of international and individual courtesy—laws which are oftentimes not formulated but are fully recognized by all fair-minded people, juries, and judges, and which are nearly all summed up in the golden rule: "Do unto others as you would have them do unto you."

In the early history of the Weather Bureau it was clearly recognized by that most cautious diplomat, General Myer, that although his authority was absolute within the United States and under the limitation of the laws of Congress, yet it did not extend one foot beyond the seven league limit of our Atlantic and Pacific coasts, and was bounded sharply by our Mexican and Canadian boundaries. By a most courteous and generous arrangement, he secured from the Canadian Government the daily observations that he needed and gave to the Chief of the Dominion Service such observations, predictions, and warnings as would strengthen his service. Later, when he needed observations from distant oceans and countries in order to trace the complete history of our storms, he invited each nation to cooperate with him on the same basis as in the case of Canada, and every one responded most heartily. In order to strengthen this union of all nations in one great work, he subsequently presented a general request to the International Meteorological Congress of 1873 at Vienna and secured a strong vote in its favor.

In the same year, in order that our own hurricanes might be better forecast, he asked permission of the governments having colonies in the West Indies to establish Weather Bureau stations with the privilege of using his meteorological cipher system in making daily reports. In some cases this was declined, in other cases it was allowed; but in every case there was no question as to the necessity of treating each nation, large or small, with the same courtesy. About 1878, when a private party in New York gave great offence to the British Meteorological Office, great scandal to practical meteorology, and great annoyance to the British public by frequent publication in England of storms about to arrive from America, General Myer was obliged to explain that he, personally, had no authority in this matter. He could, of course, prevent the publication of unauthorized weather predictions within the United States, but could not prevent their publication in Great Britain. However, realizing that we might, as individuals, privately assist our colleagues in their dilemma, the Editor made a quite careful examina-

tion of every prediction that had been published in this unofficial manner in England, and his report, showing but 17 per cent of real verifications and about 25 per cent of partial verifications, was so widely distributed in England and so convincing that it soon became undesirable for the enterprising Anglo-American newspaper to continue such work. The intruder was defeated on his own ground and the rules of international courtesy were fully complied with. Afterwards, a daily telegram was sent from the Chief of the Weather Bureau at Washington to the Director at Paris, advising him of the condition of the atmosphere on this side of the Atlantic; and this still continues. This is simply advice to him, not a prediction for publication to the people of France. The new West Indian branch of the Weather Bureau service preserves precisely the same international comity. The respective observers inform the local insular colonies of the approach of a hurricane only when local governments desire this to be done. No act is allowed that could in any way be interpreted as an effort or willingness on our part to override local rights and the authority of the sometimes long-established local meteorological officials.

The questions that have lately excited so much public attention in reference to the relation between the meteorological observatory at Manila and the forecasts for China and Japan could easily be settled by adopting the same international courtesy that has distinguished the policy of the Weather Bureau. It would seem that, although the Spanish Government has relinquished national rights in the Philippines, yet the Jesuits at the Manila Observatory are loth to surrender their old-time privileges. Through the indulgence of the British and other colonial offices, they have for several years conducted a voluntary storm-warning system for both the Philippines and the adjacent coasts of Asia. The French, German, English, Spanish, and native authorities stood in such complex relations to each other that out of pure courtesy and conservatism, and because nobody else offered to do the work, they all allowed the voluntary work of the Manila Observatory to go on from year to year. The question now arises, whether our temporary military government in the Philippines should, or should not, respond favorably to the request of the English officials at Hongkong, to the effect that the warnings from Manila be confined to the Philippines. If the meteorologists at Manila have anything to communicate relative to storms approaching China, Japan, or colonial stations, such as Hongkong, why can not the communication be sent, as a matter of international courtesy, to the meteorological offices of those places? Why should not the latter bear the responsibility of giving proper local warnings? Why should local papers and harbor masters circulate warnings from irresponsible parties?

When we consider the uncertainty of even the best storm predictions, one must wonder that the Manila meteorologists are willing to risk their reputation by such long-range work, several days ahead, and for places a thousand miles away. We are not surprised at Dr. Doberck's complaint of the inaccuracy of the predictions and the harm that they do the public. Admiral Dewey testifies that the work at Manila has been very satisfactory, so far as he can judge from his experience in the Philippines, but he says nothing about the China coast. The publications of the Manila Observatory show a laudable energy in the study of typhoons, although based on rather scanty data. The present question is not as to the study of storms, or the ability to predict them, but as to the right of issuing public predictions that may in any way bear the stamp of official authority, as emanating from, or allowed by, or even feebly recognized by, the Government of the United States. On this point there can be no doubt. The Philippines are now, by treaty, recognized by all the world as a portion of the territory of the United States.

What we shall do with them will doubtless be decided after the present insurrection is subdued. Meantime the inhabitants must submit with the best grace they can to American laws and the laws of nations.

We are glad to learn that the meteorologists at Manila are themselves wholly of this same opinion, and have in their circulars of March 7, 1899, publicly announced that they will strictly abide by the orders of the Secretary of War through the Provost-Marshal-General of Manila.

It is not necessary to enter into the question of the relative merits of meteorological systems. Each has its own field, and must be satisfied to achieve success therein. It is disastrous to science whenever one man or one institution overrides, absorbs, or destroys the honest work of his neighbors. "Cooperation and not monopoly," is the only principle that can lead to success in the study and practice of meteorology.

RECENT EARTHQUAKES.

March 12, 4:18:47 a. m., northwest to southeast at Leon, Managua, Granada, and San Juan del Sur, all in Nicaragua.

April 5, Oakland, Cal., a light shock.

April 14, Cuyamaca, Cal.

April 16 and 18, Hydesville, Cal.

April 29 (central time), Indiana: Prairie Creek 8:00 p. m. Shelbyville, 8:00 p. m., lasting sixty seconds. Delphi, 8:05 p. m., of moderate strength; Mauzy, 8:05 p. m., two distinct shocks; the duration was about five seconds. Jeffersonville, heavy shock, 8:07 p. m. from southeast to northwest; duration twelve seconds. Princeton, slight shock, 8:03 p. m. Seymour, very distinct, 8:07 p. m.; duration seventeen seconds.

April 29, Kentucky: Henderson, 8:4:57 p. m., central time, lasting about three seconds. Irvington, about 8:00 p. m., lasting about fifteen seconds.

April 29, Illinois: A light earthquake shock was felt over the southeast part of the State; it was noticeable as far north and west as Decatur and Tuscola, and thence southeastward to Palestine and Mount Carmel. The time of its occurrence is variously given from 8:00 to 8:15 p. m., but it is probable that 8:05 or 8:06, central time, was about the correct time, and its duration about ten or twelve seconds; no damage was done.

April 30, California: Moderately heavy shock at Alvarado, Campbell, Capitola, Coyote, Gilroy, Glenwood, Hollister, Los Gatos, Niles (Centerville), Oakland, Pacific Grove, San Francisco, San Leandro, Santa Cruz, Soledad, Stanford University, Stockton.

May 16: Mr. Wm. A. Eddy reports a slight vibration observed in New York City at 2:25 p. m. and at 8:15 a. m. of the same date in Connecticut. He proposes to establish a seismic observatory and may possibly set up one of Milne's horizontal pendulum apparatus for the detection of gentle undulations.

Professor Morley reports no disturbance of his seismograph at Cleveland during April.

NATIONAL GEOGRAPHIC SOCIETY.

Meteorology and geography are so closely associated that the voluntary and regular observers of the Weather Bureau

will, doubtless, many of them be glad to have their attention called to the National Geographic Society, whose Secretary, Mr. F. H. Newell, is in charge of the hydrography of the United States Geological Survey.

This Society, in return for its annual due of \$2 per year, sends the National Geographic Magazine, which is one of the best mediums for obtaining and distributing general climatological and geographical information, and we commend it most heartily to observers and teachers. Any article intended for publication in that magazine should be sent direct to Mr. Newell.

THE WEATHER SERVICE OF JAMAICA, WEST INDIES.

We regret to find a note in the Jamaica weather report, No 236, for the month of February, 1899, stating that this will be the last report to be compiled and signed by Mr. Robert Johnstone, who says:

On account of the retrenchment effected by the Government by the abolition of the present Weather Service (vide W. R., No. 236, just being issued) my services, and those of Mr. Romney will be dispensed with, and my connection with the Weather Service, which began with its establishment, and has lasted for over eighteen years, will cease at the end of the current month.

The subsequent numbers of the Jamaica reports give fuller details as to the disaster that has overtaken the service. All work now depends upon Mr. Maxwell Hall individually, and his own home, Kempshot Observatory, Montego Bay, in the western part of the island, is to be his post office address. It is difficult for us to realize what a sad blow this is to the hopes that many have fondly cherished relative to meteorology in the most beautiful spot of all the West Indies. If any one can devise any method by which to rehabilitate this service in Jamaica we hope to hear from him.

DAILY INTERNATIONAL EXCHANGE WITH MEXICO.

The Mexican daily telegraphic weather service before alluded to in the MONTHLY WEATHER REVIEW for March, 1899, page 107, has now adopted a system of exchange with the United States.

About 30 stations telegraph daily reports direct to the Weather Bureau office at Galveston at the same time that they are sent to the headquarters in the City of Mexico. A cipher code will be used similar to that adopted in the United States.

Conversely a number of reports from Weather Bureau stations received at Galveston will be forwarded thence to Mexico. Among these stations are the following: San Diego, Yuma, Phenix, El Paso, Abilene, San Antonio, Galveston, New Orleans, Mobile, Key West.

The interchange between New Orleans and Mexico will be made over the cable of the Mexican Cable Company from Galveston to Tampico, Vera Cruz, and Coatzacoalcos. This company has for a long time been interchanging weather reports between its terminal stations, and now enters heartily into the more extensive international exchange which augurs so much for the progress of meteorology.