

our ambassadors communicated with the British, French and German authorities for the purpose of having the representatives of those governments instructed to accord special privileges to the *Albatross*. The President has cordially approved the assignment of the vessel to this work.

In a recent letter Professor Agassiz refers to his explorations in the Bahamas, the Bermudas, Cuba, Florida, the Fiji Islands, the Australian Great Barrier Reef, the Sandwich Islands, the Bay of Panama, the Galapagos Archipelago and the Gulf of California, and then says:

The expedition now proposed I consider the most important one I have undertaken since the cruise of the 'Blake' in 1877-80. It covers an area of the Pacific which has not as yet been touched, as nothing is known of the line San Francisco to Tahiti, Tahiti to Fiji, Ellice and Jaluit, and Marshall Islands to Honolulu; and most important results should be obtained with a vessel so admirably fitted for the work as the *Albatross*. In addition to the deep-sea work, we expect to visit many of the atolls and elevated reefs abounding along our track, and hope to throw additional light on the debatable theory of coral reefs. The proposed *Albatross* expedition is one which, with fair success, is sure to be creditable to this country. Since the great exploring expedition of Wilkes this government has done but little in the greater field of oceanic exploration as a whole, though the minor expeditions undertaken in connection with the work of the Coast Survey and the Fish Commission have been among the most satisfactory explorations of limited areas of our coast.

It is the intention to have the Fish Commission and the Museum of Comparative Zoölogy jointly publish the reports embodying the results of the expedition.

HUGH M. SMITH.

U. S. COMMISSION OF FISH AND FISHERIES.

THE SCIENTIFIC STUDY OF IRRIGATION.

THE appropriation for the irrigation investigations in charge of the Office of Experiment Stations, Department of Agriculture, having been increased at the recent session of Congress from \$10,000 to \$35,000, of which sum \$10,000 was made immedi-

ately available, these investigations are being further developed and the work in connection with them is being more thoroughly organized. The scope of the investigations has been more accurately defined in the last appropriation act. As there stated, funds are provided "To enable the Secretary of Agriculture to investigate and report upon the laws and institutions relating to irrigation, and upon the use of irrigation waters, with special suggestions of better methods for the utilization of irrigation waters in agriculture than those in common use, and for the preparation, printing and illustration of reports and bulletins on irrigation; and the agricultural experiment stations are hereby authorized and directed to cooperate with the Secretary of Agriculture in carrying out said investigations in such manner and to such extent as may be warranted by a due regard to the varying conditions and needs of the respective States and Territories, and as may be mutually agreed upon."

The first bulletin prepared in connection with these investigations, which has recently been issued, contains a discussion of the irrigation laws which control the diversion and use of water from the Missouri River and its tributaries, by Professor Elwood Mead, including papers on the water laws of Colorado and Nebraska, by the engineers of these States. Other bulletins of a similar character are in preparation.

For the present the investigations on the use of irrigation water will be largely confined to the determination of the actual amount of water used by successful farmers in different parts of the irrigated region on different soils and in the growing of different crops.

A temporary organization for the administration of these investigations has been effected by the appointment of Professor Elwood Mead as irrigation expert in charge,

and headquarters have been established at Cheyenne, Wyoming. It is hoped that some work may be done during the present season in most of the States and Territories west of the Mississippi River in which irrigation is practiced to any considerable extent. Arrangements have also been made to aid the New Jersey experiment stations in continuing their investigations, which have already attracted much favorable attention in the East.

As far as practicable the cooperation of the experiment stations will be sought in these investigations, and it is to be hoped that one result of this work will be that the stations will not only be able to develop their investigations relating to irrigation in the lines in which the Department will work under this appropriation, but also in other important lines involving operations by different divisions of the station. It is believed that, by concentrating their efforts on problems based on the requirements of agriculture under irrigation, the stations in a number of States and Territories may materially enhance their usefulness.

It should be clearly understood that the irrigation investigations of this Department are intended to cover only a limited portion of the field of investigations relating to agriculture under irrigation which the stations and the different divisions of the Department may properly undertake. An effort will be made to mark out a line of work for these investigations which will give them a distinct place between the investigations of the Geological Survey relating to the topography and water supply of the irrigated region, and those of the different branches of the Department and stations which relate to the climate and plants of that region. Aside from the studies of the laws and institutions of communities in which irrigation is practiced, the irrigation investigations will have for their chief ob-

ject the determination of the economic and profitable utilization of water in agriculture as it is supplied to the farmer through reservoirs, canals and ditches. In these investigations, as in nearly all others relating to the complex science of agriculture, there will be many points of contact with investigations conducted under other auspices, and thus many opportunities for co-operative effort will be presented. With so large a field of operations and so great interests at stake, there will be abundant room for all the agencies now at work for the benefit of agriculture of the irrigated region to fully utilize all the means at their command. Besides the development of the irrigation investigations, the Department will, for example, continue studies of alkali soils, the native and cultivated plants and trees best adapted to the arid regions, and other related questions.

The people of that vast area of our country in which agriculture and the other industries are so largely dependent on the successful practice of irrigation are to be congratulated that attention was more earnestly and successfully drawn to their needs during the recent session of Congress than ever before, and more ample provision than heretofore was made for studying the problems of agriculture in that region, through increased appropriations for the work of the Geological Survey and different branches of the Department of Agriculture.

A. C. TRUE,
Director.

THE INTERNATIONAL CATALOGUE OF SCIENTIFIC LITERATURE.—SECOND CONFERENCE.

II.

It becoming apparent that no early conclusion would be reached, based on the resolution of Professor Armstrong, it was withdrawn, and Dr. Adler moved "That the registration symbols used in the Cata-