

Antarctic Map Folio Series

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Two folios were published in August. Folio 12, *Geologic Maps of Antarctica*, which had been in preparation since 1965, includes the work of 25 geologists from 8 countries. Seventeen plates in the folio are devoted to regional maps, mostly at 1:1,000,000 scale; five plates are of the continent as a whole; and a final plate presents a map of Gondwanaland, a hypothetical continent that is presumed to have included present-day South America, Africa, Arabia, Madagascar, Ceylon, peninsular India, Antarctica, Australia, and perhaps New Zealand. The geologic similarities between Antarctica and other southern landmasses strengthen the case for Gondwanaland.

Folio 13 includes two sections. The major one is *Circumpolar Characteristics of Antarctic Waters*, by A. L. Gordon and R. D. Goldberg. This section includes 18 plates, 15 of which are devoted to the horizontal distribution of temperature, salinity, and oxygen at standard levels. Another plate is a station map, and the two remaining plates present meridional profiles of temperature, salinity, and oxygen. The second section of the folio is *Sound Channels in Antarctic Waters*, by K. Hunkins. This section has a single plate which presents summer and winter maps of sound velocity in the axis of the sound channel and a series of velocity-depth graphs to show the seasonal and latitudinal variations in the depth at which the sound channel is found.

Two folios which are scheduled for publication in the next few months are devoted to birds and to fishes. The bird maps include locations of breeding sites, and specimen and sighting records. There will be an extensive bibliography of data sources to document breeding localities and northernmost records. For some species, the southernmost records will also be documented. The maps for this folio have been compiled under the supervision of George Watson, who will also author an explanatory text.

The folio on antarctic fishes presents maps of the locations where coastal and deep-water varieties have been found. The maps have been compiled by Hugh DeWitt; data from other workers will be added.

A folio in preparation will include bathymetric maps by Bruce Heezen, and a map of the subglacial topography of Antarctica by C. R. Bentley. Another folio will have maps of marine sediments by Grant Goodell. These maps will be supplemented by maps compiled by J. P. Kennett and R. J. Echols of localities where various fossil Foraminifera have been found in the sediments.

A folio summarizing the history of antarctic exploration and scientific investigation is in preparation by staff members of the American Geographical Society. The final folio in preparation will include maps and graphs on antarctic mammals.

Participation in Antarctic Expeditions

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Under this program, nine scientific visits were made to the Antarctic during Fiscal Year 1970. A Smithsonian party led by Richard H. Benson and including J. Merida, Oliver Flint, and J. Winslow, participated in *Hero* Cruise 69-5. Eight of the stations visited by the Swedish Antarctic Expedition of 1895 and the Challenger Deep Sea Expedition of 1873-1876 were revisited for comparable collections of ostracodes. Using a Sanders epibenthic sled and a Peterson grab, bottom samples were taken and sieved for ostracodes. An additional ten stations provided samples from various depths up to 960 m with the epibenthic sled. The samples are currently under study.

Gary F. Hevel of the Smithsonian participated in an expedition to Campbell Island led by Henry Imshaug of Michigan State University. This expedition resulted in significant collections for study at the Smithsonian.

Two Smithsonian staff members, H. Adair Fehrmann and H. A. Symmonds, went to Punta Arenas from February to May, 1970, to participate in *Hero* Cruise 70-2. The primary purpose of this trip was to accompany Bureau of Commercial Fisheries scientists and collect, preserve, package, and ship natural history specimens collected as a part of their exploratory fish-netting operations. Additional collections were taken whenever possible. Nine drums of samples were returned on the USCGC *Glacier*, and ten additional drums were shipped from Punta Arenas. Fifty-three benthic and nine shore stations were taken. Rich and varied benthic collections were taken off Deception Island in the South Shetlands, in Neumayer Channel, off Port Famine in the Strait of Magellan, and off Dawson Island (adjacent to Tierra del Fuego).

Also, the Smithsonian sent two scientists, William Cummings and Paul Thompson, to Punta Arenas to study whales off the Chilean coast. This trip was interesting and fruitful, but full reports have not yet been completed.