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May 26, 1926

A Science Service Feature

? WHY THE WEATHER ?

Mailed May 19, 1926

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SOUNDING THE ATMOSPHERE
VS
SOUNDING THE OCEAN

The fundamental principles of aerology and oceanography are identical. Just compare two operations now going on, both under international cooperation: those in atmospheric sounding in the civilized countries of the world, and those in oceanography in various well-travelled areas.

The soundings require, as minimum essentials, observations which will provide at various levels the distribution of densities and pressures or their equivalents. In the atmosphere, pressure, temperature, humidity and wind are four elements, any two of which suffice if known accurately for different levels over a region. Corresponding are bathymetric pressure, sea temperature, salinity, and current. Salinity corresponds to humidity, for each is the only important variable in the composition of sea water or the lower atmosphere. In atmospheric sounding all four are observed when possible, the extra items over the two required serving to establish the height. In oceanographic work, sea temperature and salinity are observed at depths always fairly accurately known by the length of wire out. Pressure or current observations are difficult to make in the sea, though easy to make in the air.

Aerologists, in determining winds affecting flyers, are fortunate in being able to get wind, their most important item, directly. The oceanographer, to figure which way an iceberg will drift, must observe these temperatures and salinities and from these compute his pressures and currents.

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21st and B Sts.,
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