

**HANDBOOK OF THE LAW OF STORMS;
BEING A DIGEST OF THE PRINCIPAL
FACTS OF REVOLVING
STORMS. FOR THE USE OF
COMMANDERS IN HER MAJESTY'S
NAVY AND THE MERCANTILE MARINE**

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Handbook of the Law of Storms; Being a Digest of the Principal Facts of Revolving Storms. For the Use of Commanders in Her Majesty's Navy and the Mercantile Marine by William Radcliff Birt

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A New Edition, with Important Additions.



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PREFACE.

It is frequently the custom, in introducing a new work to the notice of the public, to offer some remarks, by way of apology for the author's intrusion into the rank of writers already received as acknowledged authorities on the subject in question. It is, however, conceived that the following pages do not stand in need of such an introduction: the time has arrived when the rotation of storms may be treated not in the manner of an investigation, but as an acknowledged fact. It is true the names of Capper, Redfield, Reid, Piddington, and Thom, must ever be associated with the literature of storms; and a most noble superstructure has been raised by the indefatigable exertions of these gentlemen. It is, however, not the less true that the science of storms has arrived at that stage of its development that, in works professedly written for the guidance of seamen, much that is found in the volumes of the above-named writers may now be dispensed with. Most of them consist of collections of individual facts, placed in a lucid and intelligible manner before the mind of the seaman; but in the application of the principles developed he has to exercise his own judgment, to regard the details more or less with the eye

of science, and to draw his conclusions from the individual cases before him. The science of storms has passed from the stage of the development of its laws to the reception in the minds of most scientific men, of a great and grand meteorological fact, composed it may be of separate and individual facts, which, with some degree of propriety, lay claim to the designation of the "facts of revolving storms." Now, it is the object of the following pages to place before the reader such a digest of these facts, arranged in a natural and consecutive order, and succeeded by an announcement of the phenomena resulting from them, that a seaman, without the trouble of consulting logs, or arranging isolated records of the wind, weather, &c., may at once learn his position in a cyclone, and ascertain the proper course to adopt for the purpose of avoiding its fury.

Not many years had elapsed after the first publication of this work, before Meldrum, at the Mauritius, commenced his studies of storms in the Indian Ocean, which have resulted in a further development of the nature of storms generally, by shewing that in many cases the movement of the wind is of a spiral character, which modifies very materially the bearing of the centre and margin from the ship, a fact greatly calculated to perplex the mariner. The requisite additions for aiding commanders in applying this increased knowledge, will be found in the body of the work, and it is hoped that the intricacy introduced by spiral storms will be rendered much easier to overcome by these additions.

With this view, as well as to condense the work into a compass suitable for extensive use on ship-board, all reference to existing logs and previous writers, except in a few important instances, has been dispensed with. Any seaman, desirous of making himself acquainted with the mode of developing the "Law of Storms," and determining the essential "facts of hurricanes," can, with great advantage, study the works of all the above-mentioned writers; but, for practical purposes, it is hoped the following digest will be found sufficient to announce the danger and apply the remedy. In every department of the work assiduous attention has been directed to the determination of the position of the vessel without the aid of storm cards or horns, hurricane circles, storm pointers, or any other kind of instrument, the barometer alone excepted, the commander depending solely on the direction and hauling of the wind for this important information; for, if it be true that the "Law of Storms," as developed by Mr. Redfield and Col. Reid, is invariable in both hemispheres, then the results, as detailed in this work, must necessarily follow; and if once the bearing of the centre of the storm, as determined by the direction of the wind and the position of the ship, in either semicircle, by its hauling, be deeply impressed on the mind, the commander has not the slightest difficulty, under any circumstances that may arise, of ascertaining his position.

It must not, however, from the comparative facility with which the "Law of Storms" enables us

to determine the position of a ship, be concluded that the science is in any way complete. Already one important fact has been added to our knowledge since this work first appeared, but we have yet much to learn, especially with regard to the varied directions in which storms move. Considerable attention has accordingly been bestowed on the storm-paths both of the northern and southern hemispheres, which, although of a less practical nature than some other portions of the work, may yet be found valuable, at all events in indicating further lines of research in this direction. Impressed with the idea that "abstract science," under all circumstances, bears remotely, if not immediately, on the wellbeing of society, we have not shrunk from placing before the public our views of the storm-paths in all localities, even at the risk of giving to our otherwise practical work the appearance of a scientific volume, and incurring the oft-repeated cry, when immediate benefit does not appear, of "*Cui bono?*"

The great value of increased information on this, and indeed every other branch of the science of storms, has induced a remark or two in the body of the work, to the effect that all such information will be acceptable, if forwarded to the Publishers. Both time and trouble may be saved by any communications of this nature being forwarded direct to the address below.

Where it has been deemed necessary to enunciate general rules as resulting from the essential phenomena of storms, such rules, in order to catch the

eye of the seaman, and to stand out as particular objects of study, are printed in a larger and different type; and, to render the work as extensively useful and as complete as possible, a copious index has been added, by the use of which a seaman may readily turn to any part of the volume bearing on his particular case. Those articles of greater utility are referred to under two or more heads.

STRATFORD, ESSEX,
August 20, 1878.