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Professional Reading

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PROFESSIONAL READING

“The graphic presentations of the forces causing and resulting from the southwest monsoon are common knowledge to the fleet sailor of today. These lessons learned in the school of hard knocks (and high seas) have immensely increased knowledge In the words of one destroyer OOD, ‘Eating during the monsoon is not just a job, it’s an adventure.’ Clearly, the *Atlas* is the preferred method of learning about the southwest monsoon.”

Lieutenant Commander John N. Petrie, US Navy

Couper, Alastair, ed. *The Times Atlas of the Oceans*. New York: Van Nostrand-Reinhold, 1983. 272pp. \$90.50.

Alastair Couper has assembled an examination of the oceans which starts at the earth’s core and expands outward as far as the sun. The analysis is presented in a series of closely interrelated essays which are best described as executive summaries. The subject matter is divided into four general categories: the ocean environment, resources of the ocean, ocean trade, and a final section which covers a number of diverse aspects of the condition and use of the sea.

The “Introduction” to the *Atlas* makes the claim that, “It is . . . more than an inventory of ocean resources and transport linkages It provides an informed starting point for a sound understanding of the ocean resource system involving man and the marine environment.” After reading the *Atlas*, one gains the impression that this ambitious claim is characteristic of the British understatement—geographic, geomorphic, topographic, meteorologic, biologic, ecologic, economic, commercial, navigational, political,

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naval, historic, scientific, legal, archeologic, and even recreational aspects of the oceans' form, exploitation, and use are explored. Each of these topics is treated clearly and succinctly with maps, charts, and graphs elucidating complex data and concepts in a way which will neither overwhelm the novice nor insult the intelligence of the professional.

Simply put, the *Atlas* provides an overview of a wide variety of issues, deals with them in surprising depth, and does so in a clear straightforward manner. Furthermore, the work is extensively cross-referenced so that interrelated matters can be dealt with more fully.

The *Atlas* is, however, a thoroughly British work. While the slight variations in spelling and usage are little more than a curiosity, it is somewhat difficult for the American sailor to deal with wind speed being expressed in terms of meters per second, or even kilometers per hour. This description is used throughout the *Atlas* and the reason is unclear. In an environment in which measurement is made simple and has been a standard for centuries, using nautical miles and knots would seem sensible—especially when an American market is expected. Units of measurement are also treated in Appendix I but no nomograph or speed conversion tables provided. This seems an unfortunate oversight in an otherwise superb volume.

The presentation of weather phenomena is impressive and highlights data highly prized by destroyer sailors. "The stormiest waters in the world are those of the Southern Ocean and extra-tropical parts of the North Atlantic and North Pacific Oceans." And, ". . . over the South China Sea, the northern half of the Indian Ocean and western parts of the Pacific . . . monsoonal reversals occur."

The graphic presentations of the forces causing and resulting from the southwest monsoon are common knowledge to the fleet sailor of today. These lessons learned in the school of hard knocks (and high seas) have immensely increased the knowledge of this phenomenon in the five years since the Iranian Revolution. In the words of one destroyer OOD, "Eating during the monsoon is not just a job, it's an adventure." Clearly, the *Atlas* is the preferred method of learning about the southwest monsoon.

The descriptions and explanations of meteorological phenomena is an excellent review of weather conditions at sea. It is not a replacement for texts such as *Knight's* or *Bowditch* but does provide sufficient data to explain the weather's effect on the ocean. The ocean's effect on ships is also presented—but the mariner must look elsewhere to find out how to survive the storms the *Atlas* allows him to understand.

Contributor J.M. Walker, however, overstates his case when he alleges, ". . . tropical cyclones can bring benefits. Insurance compensation and grants-in-aid create short-term booms. Rain after drought can improve agriculture and help replenish reservoirs." This leads one to wonder if Mr. Walker has ever witnessed the devastation which justifies the insurance

claims and grants he sees as beneficial. These funds rarely can approach the costs incurred. Deciding between the hardships of a drought and those of a hurricane becomes easier when it is realized that a drought has never blown down a building.

The *Atlas*, responsibly, acknowledges how little we do know about the oceans' environment by pointing out that all weather phenomena are not currently explainable. The formation of the depressions which grow to become tropical cyclones and the factors which cause anomalies in weather patterns are two examples of this. *El Niño*, the failure of the Peruvian (Humboldt) current to flow, which kills large numbers of birds by removing their food supply from the surface layer is recognizable, but neither predictable nor explainable. This is significant since it results in or is associated with ". . . sea surface temperature anomalies in the western Pacific Ocean, deficiencies in monsoon rain in the Indian subcontinent, drought in the Sahelian zone of North Africa and cold winters in the USA."

The legendary tales of monstrous waves, long dismissed as sea stories, are verified in the *Atlas*. Based on the data collected in the past quarter century, wave formation is now understood to possess the potential for those "stranger than fiction" reports which infrequently terrify sailors. Mr. Walker reports, ". . . the highest reliably measured wave in the open sea is still that encountered by USS *Ramapo* in the North Pacific in 1933. That ship, a tanker 146m long, en route from Manila to San Diego, was overtaken by waves of period 14.8 seconds travelling at 55 knots. The greatest wave height observed was 34m." It would seem easy to understand why larger waves have not been reliably reported. The *Atlas* itself answers this in explaining why the capable mariner must have a healthy respect for the sea and should always view his vessel's security with wariness. "The force of the sea is such that it can expose the slightest structural weakness, bad cargo storage, or lack of vigilance. Many ships have been lost in the North Atlantic by the sheer destructive force of the sea while many more have gone down when cargo has shifted due to excessive rolling."

The treatment given to the oceans consistently drives home the message that man uses them at his own peril. The interaction of the sea and the atmosphere is the most formidable adversary the sailor can encounter. This bitter truth is powerfully illustrated by many writers of fact and fiction but perhaps nowhere as well as in the *Atlas's* account of the following incident.

"The crews of the trawlers *Lorella* and *Rodrigo* described their plight to their families over the ship's radio as they lay head-on to gale force winds north of Iceland on 26 January 1955. Waves were breaking on board and spray froze on the superstructure. Nothing could be done to stop the accumulation of ice and the boats capsized with the loss of all hands."

The treatment of hazards at sea also includes a succinct and chilling account of the loss of the *Titanic* with 1490 lives. This incident is part of

another theme developed in the *Atlas*; that the results of human error are equally as dangerous as the elements can be at sea. Several collisions and groundings are recounted, all testifying to the principle that is found in almost every night order book, "Eternal Vigilance is the Price of Safety!"

Many of the sections of the book include fascinating stories which testify to the unpredictability of the sea and the remarkable potential of its nature. The *Ramapo's* wave pales in the light of the Trolltunga iceberg which was larger than the island of Trinidad. It travelled the South Atlantic for well over 11 years. The explanation of "holes in the sea" is equally fascinating. The "holes" are really the deep troughs which precede "episodic" or "freak" waves off the east coast of South Africa. Although rare, they are exceptionally dangerous because they can only be seen when a ship is actually on the brink of the trough. The wave which follows can be as high as 20 meters and can easily crush the bows of a vessel.

One of the more frightening accounts in the book, however, has to do with pollution. It gains this distinction because it demonstrates that man's failure to protect the sea has the potential of threatening all mankind. In the 1950s a Japanese fishing community suffered widespread brain damage as a result of eating polluted fish. The semienclosed seas, such as the Baltic and the Mediterranean, could become so polluted that they would no longer support life. The ramifications for the global ecology of such an event are staggering.

The following statistics give some idea of the scope of the potential problem. "It has been estimated that the sewage of some 31 million people enters the North Sea and amounts to some 7.3 million cubic meters per day, the bulk of which is untreated. The total flow of industrial effluent into the North Sea is estimated to be at about five million cubic meters per day and includes chemicals, heavy metals and oil."

Possibly the most interesting aspect of the *Atlas* for the naval officer is the clarity with which the strategic importance of the oceans is presented—without addressing issues in terms of their strategic value. The statistics make this quality self-evident. "Seaborne trade accounts for over 80 per cent of international trade by volume. From the end of the Second World War until 1979 the growth in seaborne trade averaged 8 per cent per annum" A related issue is the role of flags of convenience. These "open registry" procedures now claim 30 percent of all tonnage. One graph, the "Index of National Interest in Seaborne Trade," shows the impact on flag of convenience ships on "apparent" interest. Liberia has the most number of ships registered to fly its flag. The actual investment of Liberia in the shipping industry places it twenty-ninth. The fact that Liberia is not truly invested in the merchant fleet flying its flag is certainly not lost on other states. Yet it would be difficult for US warships to assist ships not flying the US flag under

the existing legal order. This leaves the US-owned shipping registered in Liberia in a sort of no man's land for some purposes.

Further, "Sea transport is the cheapest means by far of moving large quantities of commodities over long distance. In 1980 a total of 3672 million tons of goods moved by sea, of which 1866 million were dry cargo and 1806 petroleum. A transport task of 16,710 billion ton-miles was performed by merchant ships at a freight cost of 0.6 cents per ton-mile." A quick perusal of the trade routes and flows listed in the *Atlas* reveals the interdependencies between the industrialized states and those which provide raw materials.

The resources of the ocean itself and ocean areas also hold tremendous strategic importance. Beyond the future potential to exploit tides, waves, sea temperature, and the hydrogen found in sea water for what could be an inexhaustible energy supply, the oceans offer immediately exploitable resources which will generate intense international competition. "As a result of greater determination to claim sea areas and ocean resources, more states have been developing modern, versatile and 'appropriate' levels of naval forces capable of defending their perceived rights and asserting claims in near and distant waters."

This is no small problem. The *Atlas* dedicates six pages to the subject of maritime territorial disputes showing that there is no area of the world where they do not exist.

Surprisingly, two disputes between Mexico and the United States go without mention. Mexico's Foreign Secretary, Bernardo Sepulveda Amor, has requested a study of two areas involving immense maritime resources. The first is a group of eight islands in the Pacific near the United States-Mexican border which the United States took control of in 1858 under the Jackson Treaty. The treaty calls for the islands to revert to Mexican control after 100 years, yet they remain under the jurisdiction of the United States. The area is currently being exploited by US oil companies. The second area involves the maritime border in the Gulf of Mexico. The area in question is 25,000 square miles of oil-rich maritime real estate which was agreed to belong to the United States under a treaty signed in 1978. The US Senate, however, has thus far failed to ratify the treaty.

It is noteworthy that the assessment of the Argentine motivation in the Falklands/Malvinas conflict acknowledges the relationship of the islands to the Argentine claims in Antarctica. This is the same theory advanced, earlier and independently, by Commander Marshall Van Sant Hall, USN as a Research Associate at the Naval War College's Center for Advanced Research—a portion of his work was published in the November-December 1983 edition of this journal. The reviewer tested this theory in conversation with Argentine Ambassador Alejandro Orfila, the Secretary-General of the Organization of American States in February of 1984. Ambassador Orfila agreed that the improvement of the Antarctic claim was probably an

underlying motivation. He further indicated his belief that the opportunity for the parties to renegotiate the Antarctic Treaty in 1991 would constitute the greatest challenge we must face in the final decade of this century.

The discussion of the Falklands/Malvinas crisis underrates the threat posed to British forces by Argentine submarines. Had the *Queen Elizabeth II* or one of the carriers been sunk prior to the landing—or even severely damaged, instead of the *General Belgrano*—the outcome of the conflict could have been quite different. The Thatcher government might have folded instead of Galtieri's.

The charts of today's worldwide territorial seas, exclusive economic zones, and continental shelves clearly show that the "high seas" are rapidly disappearing. The strategic consequences of this for maritime states remain to be seen, but they are both foreseeable and pernicious.

There is a good thumbnail sketch of naval operations since World War II. It does not claim to be all inclusive and one would be better served by using the appendix to Sir James Cable's recent update of *Gunboat Diplomacy*. Nevertheless, the *Atlas* would be a useful place to start research on a specific event because of the chronological format used in the supplementary appendix that briefs each incident listed in the text.

The treatment of the Indian Ocean in the Naval Operations section asserts that the Soviets are only supported at Aden. This ignores the use of the roadstead at Socotra Island and the Soviet-built facilities at Dehalak, Ethiopia in the Red Sea which service the Soviet naval forces operating in the theater.

The *Atlas*, despite the minor inaccuracies noted, is a well-written work which constitutes a valuable resource. It should be a part of every wardroom library and required reading for career-minded junior officers. It will provide them with knowledge in breadth, if not in depth, in the shortest possible time. For this temporarily land-locked sailor, it provided a much needed "simulated" visit to the sea.

Ambrose, Stephen E. *Eisenhower: Soldier, General of the Army, President-Elect, 1890-1952*. New York: Simon & Schuster, 1983. 637pp. \$22.95

Originally dismissed by many scholars as an individual with limited abilities who simply happened to be in the right place at the right time, Dwight D. Eisenhower is now being recognized for his extraordinary

talents and achievements in both the military and the political realms. To an extent, this "Eisenhower revisionism" can be traced to revelations in recently opened documents, most notably the Eisenhower "diaries." As with most revisionism, however, the key factor in the Eisenhower reassessment has been the impact of recent events on our perceptions of