

Canadian Journal of Zoology 38:99-113; 1960) appear to be mathematically impossible; 7) the accepted idea that natural selection increases population density only if genotypes differ in their ability to survive density-dependent mortality does not appear to be valid; and 8) density-independent cases can be treated the same as density-dependent cases for determining the Evolutionarily Stable Strategy of a life history.

Any person working with life-table analysis, life history, or age-specific genetic problems should spend some time with this book.

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Weather for Outdoorsmen: A Complete Guide to Understanding and Predicting Weather in Mountains and Valleys, on the Water, and in the Woods

By Walter F. Dabberdt. 1981. Scribner's, New York. xv + 240 pp., illus. U.S. \$16.95.

This book should be read by naturalists who want a practical understanding of the causes of present weather patterns and who want to know how to predict future patterns. The book is written by a professional meteorologist in an easy-to-understand popular style with a glossary. Its primary purpose is to allow the reader to know how to anticipate bad weather so he can take effective actions in the field and to know how to plan activities requiring good weather. How weather patterns on water differ from those on land and how they differ in mountains, valleys and forests is amply discussed.

The text discusses how to utilize weather recording instruments and the clouds in different types of environments appropriate to a field naturalist. It describes cloud formations, what causes different types of cloud formations, and what type of upcoming weather can be predicted from each type of formation. It describes how to predict upcoming weather with $\pm 80\%$ accuracy using barometric pressure, the most important variable. Using barometric pressure, wind direction and cloud type, one can accurately forecast upcoming weather $\pm 90\%$ of the time. How to interpret relative

humidity and temperature readings to determine if dew or frost will form is explained.

The book explains how to ascertain the best location to pitch a tent depending on the cloud cover and temperature since many times only a few meters' difference in location will make a huge difference in how well you sleep. How to keep from getting caught in fog while boating and how to avoid electrocution from lightning storms when in the field are described.

In short, what causes wind, fog, rain, clouds, different temperatures, and sunny weather is discussed in this book. Changes in many of these parameters affect our nervous system, causing changes in behavior and emotion which lead to sociological and psychological implications. Persons reading this book will not have as many trips to the field prematurely ended because of rain since most of these days can be avoided simply by looking at the color of the sky and the cloud-type in the morning. I recommend this book for all field naturalists.

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The Weather Almanac

Edited by J. A. Ruffner and F. E. Bair. 1981. 3rd edition. Gale Research, Detroit. 801 pp., illus. U.S. \$48.

This volume contains a wealth of information about the weather. There are eleven principal sections. The first, titled "U.S. weather in atlas format", uses maps with charts at various localities to give month-by-month changes in temperatures, precipitation, snowfall and amount of sunshine. Prevailing wind directions are shown as arrows on a map and the growing season data are presented in tabular form.

The section on "Storms, severe weather and geo-

physical phenomena" discusses thunderstorms, winter storms, floods, volcanoes, etc., how to prepare for each, as well as how to react when caught in a severe situation.

Subsequent sections deal with atmospheric factors that influence health, air pollution, weather fundamentals, forecasting, energy (solar and wind), and record setting weather. The chapter on *Round-the world weather* includes 33 Canadian sites from Aklavik, N. W. T. to St. John's, Newfoundland.

"Weather of 180 selected U.S. cities" occupies

nearly half the book. Each city has a four page entry. The first page describes the environment of the city and how it is influenced by the major weather systems, discusses growing seasons, temperatures and precipitation. The remainder of the entry is composed of tables on normals, means and extremes, heating and cooling degree days, snowfall, temperature and precipitation. Most of the tables have years and months on the two axes.

The last section is a "Special report: climatic changes", which discusses the process of change, the carbon dioxide problem and the effect of energy technologies on climate.

There are scattered photographs of such events as

tornadoes, thunderstorms and volcanic eruptions but they are quite grainy and dark. In a few places, e. g., pages 33 and 179, the lettering on tables and graphs is so small that it is illegible. Throughout the book, temperatures are given in fahrenheit degrees and precipitation is in inches. There is a glossary and an index.

Overall this is an informative volume which provides an interesting introduction to weather and geophysical phenomena and a mass of detailed statistics for selected cities.

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The Guinness Book of Mountains and Mountaineering

By Edward Pyatt. 1980. Distributed by Sterling Publishing, New York. 256 pp., illus. U.S. \$19.95.

Mountains affect people in different ways. Beautiful, exhilarating and foreboding are a few adjectives applied to mountains and they don't adequately explain the spiritual influence of mountains upon man. Edward Pyatt's book touches on these and many other aspects of mountains and their interaction with man.

The introductory 62 pages consider the definitions of a mountain, then give a synopsis of plate tectonics, volcanoes, glaciers, weather, medicine, mapping, flora and fauna, recreation, living in the mountains, etc. The main part of the book treats the mountains of the world in geographic areas, e.g., The Alps, North America. Each page has (in the left column, occupying one third of the page width) an annotated listing of the

principal mountains in the ranges found in that geographic area. For example, under Canadian mountains, we see that Mt. Waddington is also known as mystery mountain, is 3994 meters high, and was first ascended in 1936 by Weissner and House. In all, over seven pages are devoted to mountains in Canada. Mount Edith Cavell is shown in color and several other peaks are pictured in black and white.

The text emphasizes man's expeditions to conquer summits. It is nicely presented and written in a readable style. The photographs, maps and illustrations effectively complement the text. Overall it is an excellent introduction to mountains and mountaineering.

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