

FIRE IN THE FOREST

How destructive or beneficial are forest fires to wildlife? Should we be trying to reduce or increase the amount of fire in forests? How are forest fires controlled, and why does this sometimes fail? What effect will climate change have? These and many other questions are answered in this richly illustrated book, written in non-technical language. The journey starts in the long geological history of fire, leading up to our present love-hate relationship with it. Exploring the physics of how a single flame burns, the journey continues through how whole forests burn and the anatomy of firestorms. The positive and negative ecological effects of fires are explored, from plants and wildlife to whole landscapes. The journey ends with how fires are controlled, and a look to the future. This book will be of interest to ecologists, biogeographers and anyone with an interest in forest fires and the role they play.

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Cambridge University Press
978-0-521-82229-9 - Fire in the Forest
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with contributions from
Kelvin Hirsch and Peter Hobson



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CAMBRIDGE UNIVERSITY PRESS
Cambridge, New York, Melbourne, Madrid, Cape Town, Singapore,
São Paulo, Delhi, Dubai, Tokyo, Mexico City

Cambridge University Press
The Edinburgh Building, Cambridge CB2 8RU, UK

Published in the United States of America by
Cambridge University Press, New York

www.cambridge.org
Information on this title: www.cambridge.org/9780521822299

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First published 2010

Printed in the United Kingdom at the University Press, Cambridge

A catalogue record for this publication is available from the British Library

Library of Congress Cataloging-in-Publication Data

Thomas, Peter A.

Fire in the forest / Peter A. Thomas and Rob McAlpine ; with contributions from
Kelvin Hirsch & Peter Hobson.

p. cm.

ISBN 978-0-521-82229-9 (Hardback)

1. Forest fires. I. McAlpine, Rob. II. Title.

SD421.T49 2010

634.9'618-dc22 2010026385

ISBN 978-0-521-82229-9 Hardback

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To our families who have stood with us during this project.
Caroline, Benjamin and Graeme (RSM); Judy, Matthew and Daniel (PAT).

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Preface

Year after year pictures in the media show towering flames threatening people's homes, livelihoods, and their very lives in places as diverse as North America, Europe and Australia – why does this happen? Conflicting stories continually appear over whether fire is rapidly destroying the animals, habitats and plants we treasure in our forests, or whether fire is their salvation, the key to diversity and ecosystem rebirth – where does the truth lie? With global warming predictions, do we face more and larger fires or will technology be able to tame this potentially savage enemy? This book delves into these and other questions, providing a factual account and perspective of how fire burns in the forest, what it does and how it might be controlled.

Where the published work of others is used, or where good sources of extra information are recommended, the authors and the date of the publication are given so that the source can be found in the references at the end of the book. This inevitably has resulted in a compromise; we've tried to keep this to a minimum to help the text flow but give sufficient references to help the reader who wishes to find out more. Our apologies if we fail you at any point.

We are indebted to the many people who provided information and insights and who read part or all of this book. In particular we are grateful to Dave Bowman, Yeonsook Choung, Helene Cleveland, Malcolm Gill, Jim Gould, Richard Hobbs, Scott Keelan, John Packham, Marc-André Parisien, Steve Pyne, Tim Sheldan, Brian Stocks, Jan Volney, Mike Weber, Tim Williamson and Mike Wotton. People were also remarkably kind in sharing pictures and photographs with us; these are gratefully acknowledged in the figure legends. All other photographs were taken by PAT. We are very grateful to Andy Lawrence who did his usual superb job in drawing many of the colour figures. Despite the help of others, if errors remain they are our fault. Please do let us know where you do find errors or you disagree with the stance taken.

PAT is happy to record that some of the background for this book was researched while a Bullard Fellow at Harvard University, Massachusetts.

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