

## **Water & Carbon Cycles**

Series Editor: Simon Ross

## **Contents**

TOPIC I	Systems in physical geography
Topic 2	The water cycle at a global scale
Topic 3	The drainage basin hydrological cycle 21
Topic 4	Runoff variation and the storm hydrograph 31
Topic 5	Water balance and the soil moisture budget 40
Topic 6	River catchment case studies
Topic 7	The global carbon cycle
Topic 8	The global carbon cycle – processes 70
Topic 9	Carbon budgets and the two 'greenhouse effects' 79
Topic 10	The carbon budget, the natural environment and human activity
Topic 11	The interaction between the water and carbon cycles in terms of climate change, and strategies to manage it 101
Topic 12	The water and carbon cycles and climate change, in the context of an ecosystem: the tropical rainforest
Topic 13	The water and carbon cycles and climate change, in the context of an ecosystem: the Arctic tundra

## Copyright notice

All rights reserved. No part of this resource file may be reformatted, adapted, varied or modified by the user other than specifically for teaching purposes. A purchasing institution is entitled to print off and make photocopies for student use. No part may be reproduced or transmitted in any form or by any means without the written permission of the publishers other than for teaching purposes within the purchasing institution.

The cover photograph of Vermilion

Cliffs National Monument is reproduced by permission of Dennis Frates/Alamy. Other images are reproduced by kind permission of Incamerastock/Alamy (p. 8), Phill Crean A/Alamy (p. 17), Arterra Picture Library/Alamy (p. 29), geophotos/Alamy (p. 35), John Bentley/Alamy (p. 36), Commission Air/Alamy (p. 38), Prisma by Dukas Presseagentur GmbH/Alamy (p. 42), Barry Hitchcox/Alamy (p. 52), Michael Pearcy/Alamy (p. 53), Science History Images/Alamy (p. 58), Science History Images/Alamy (p. 63), Curved Light USA/Alamy

(p. 68), Zoonar GmbH/Alamy (p. 118), Worldwild Picture Library/Alamy (p. 124), Vicki Beaver/Alamy (p. 131), Dave G. Houser/Alamy (p. 138). Artwork and design by Ralph Hall © Cross Academe Limited 2017 www.crossacademe.co.uk ISBN 978-1-911160-13-7 Published by: Cross Academe Limited St John's House 5 South Parade

Oxford OX2 7JL