



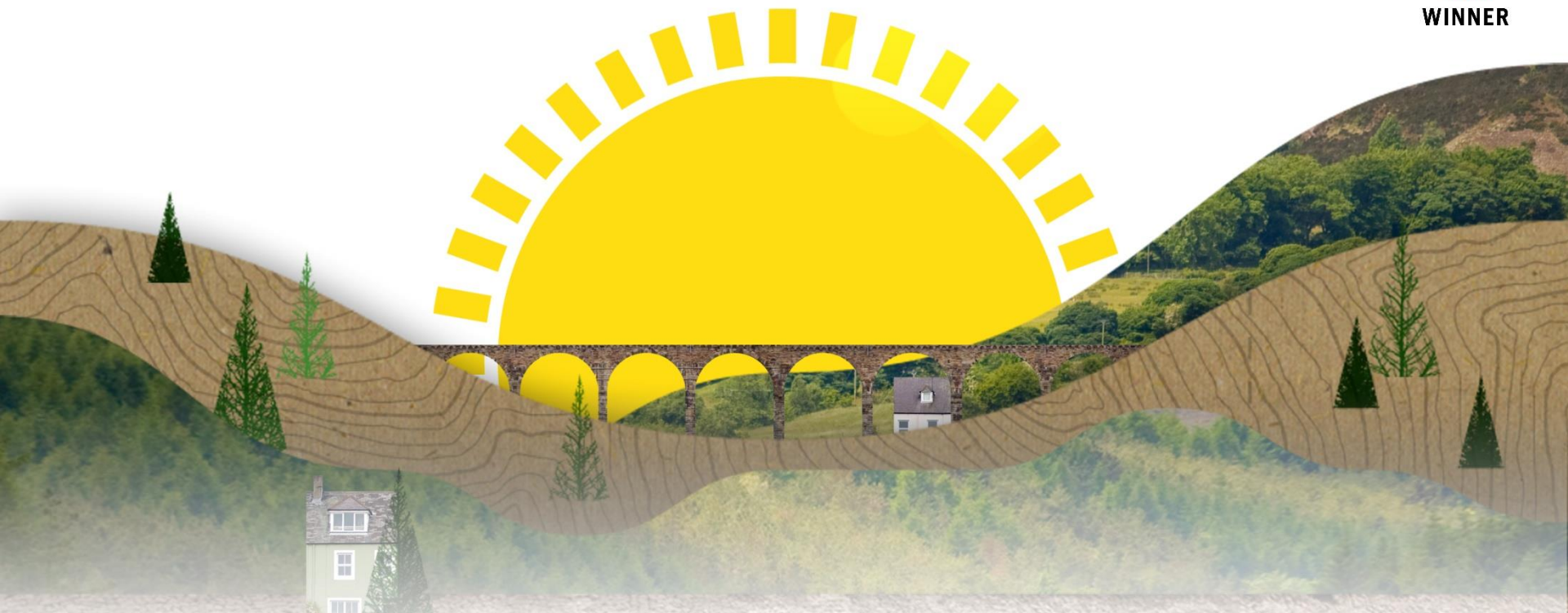
Reactions

**LONDON
MARKET
AWARDS**

2014
WINNER

CADCORP HOUSING CONFERENCE

Rob Carling, Technical Director – Business Development





SCIENCE



AWARDS



LARGEST



GLOBAL

PEOPLE

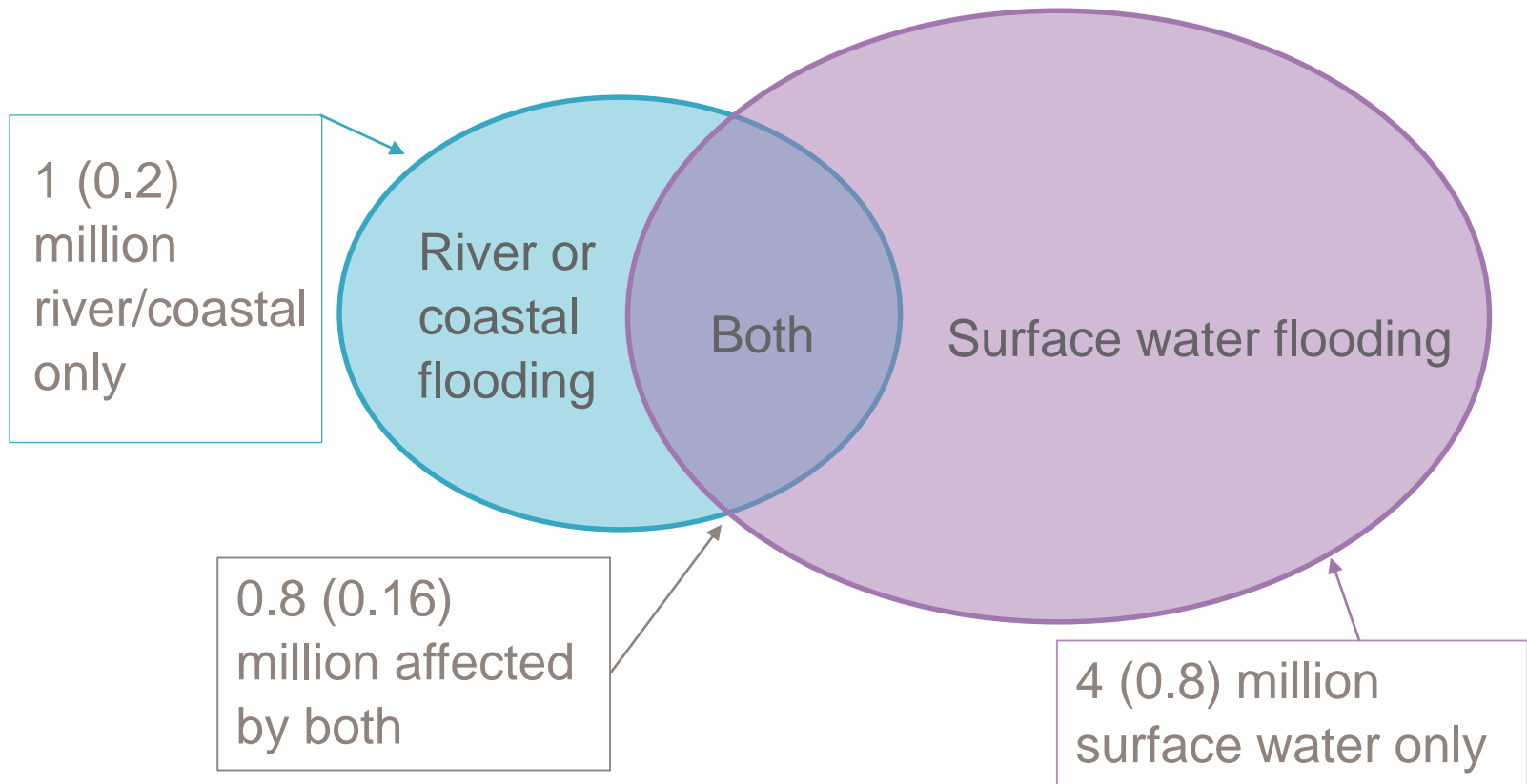


What we will cover

- Flood data overview
- Insurance view point
- Planning for floods
- Summary

Flooding - scale of problem

Housing associations provide **two and a half million homes**, 20% of England's housing stock¹



(Properties at risk of flooding according to JBA GB Comprehensive Flood Map)

¹ http://s3-eu-west-1.amazonaws.com/pub.housing.org.uk/Climate_Change_-_final.pdf

Flood facts

2007

- Yorkshire and Humber region alone over 700 housing association homes were seriously affected
- 50% of affected households had no home contents insurance
- costs in excess of £20m were incurred by housing associations¹

2013/2014

- 49 residents evacuated from over 55s care home²
- Sovereign Housing had over 50 properties flood in the South East, costs exceeded £2m
- landlords could face inflated repair bills to meet the cost of nationwide flood damage³

1 Don't Think it Can't Happen - Anti Flood Tool Kit for Housing Associations

2 <http://www.hanover.org.uk/media-centre/press-releases/residents-thank-local-community-for-christmas-treat/>

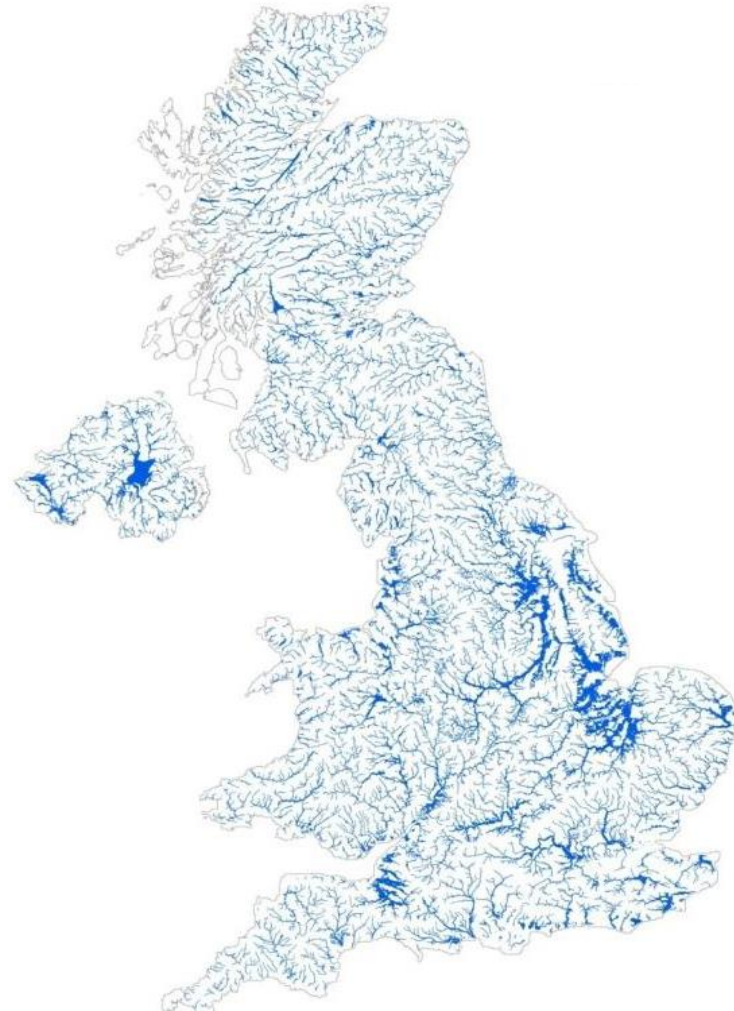
3 <http://m.insidehousing.co.uk/7002252.article?mobilesite=enabled>

Flood map overview

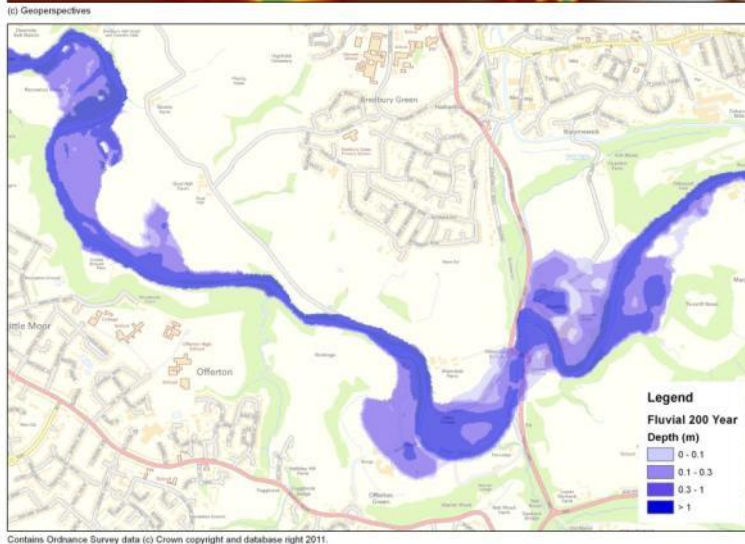
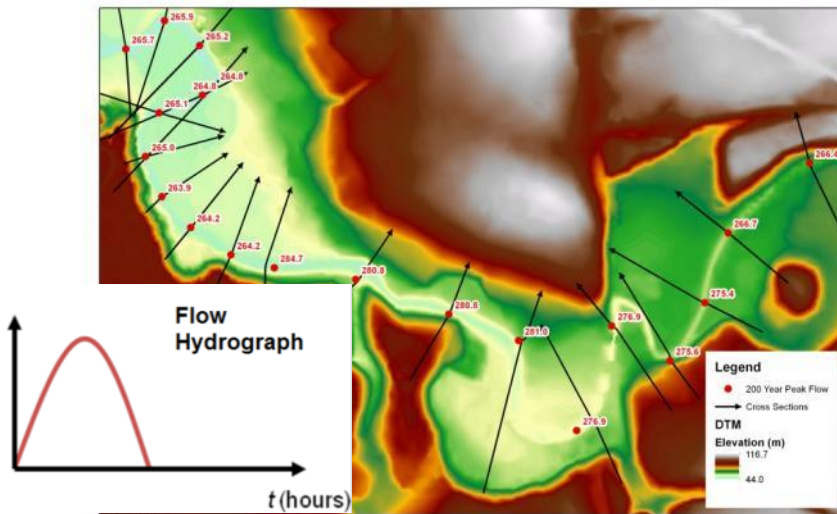
Most detailed available consistent nationwide hazard mapping

- Current and mature
- 5 metre mapping resolution
- 6 perils

Developed using JBA's acclaimed 2D JFlow hydraulic modelling software

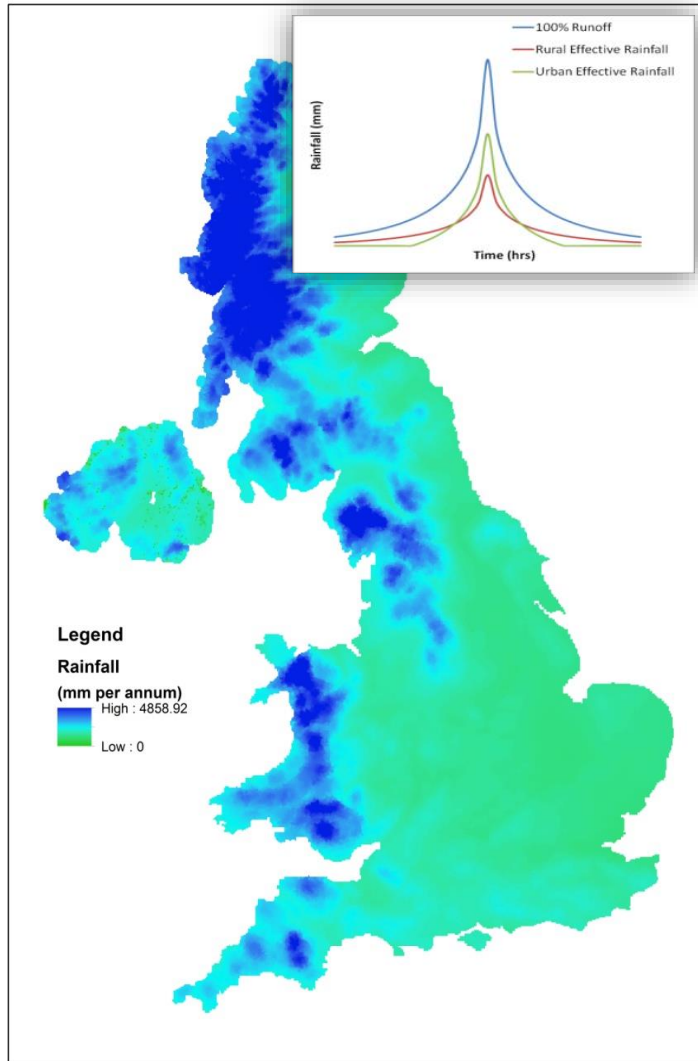


River modelling process

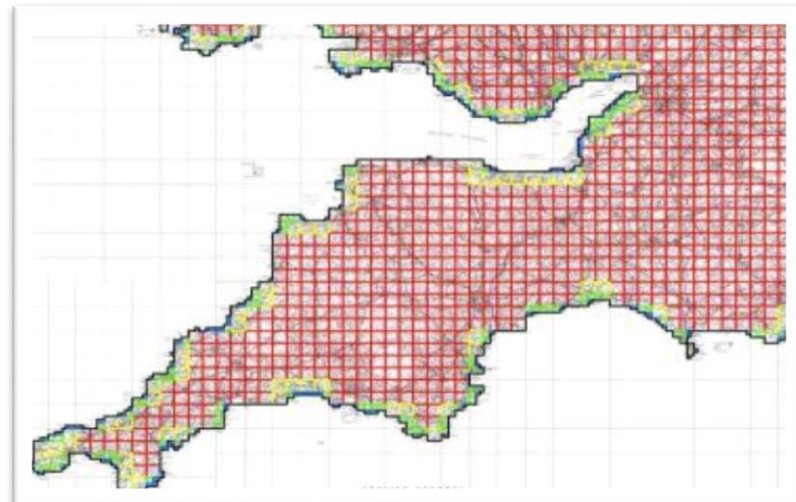


- Over 120,000km of watercourses modelled
- An inflow point every 400m along modelled watercourses
- Peak flows estimated from Flood Estimation Handbook
- Hydrographs created for each inflow point
- 2 dimensional modelling approaches used throughout

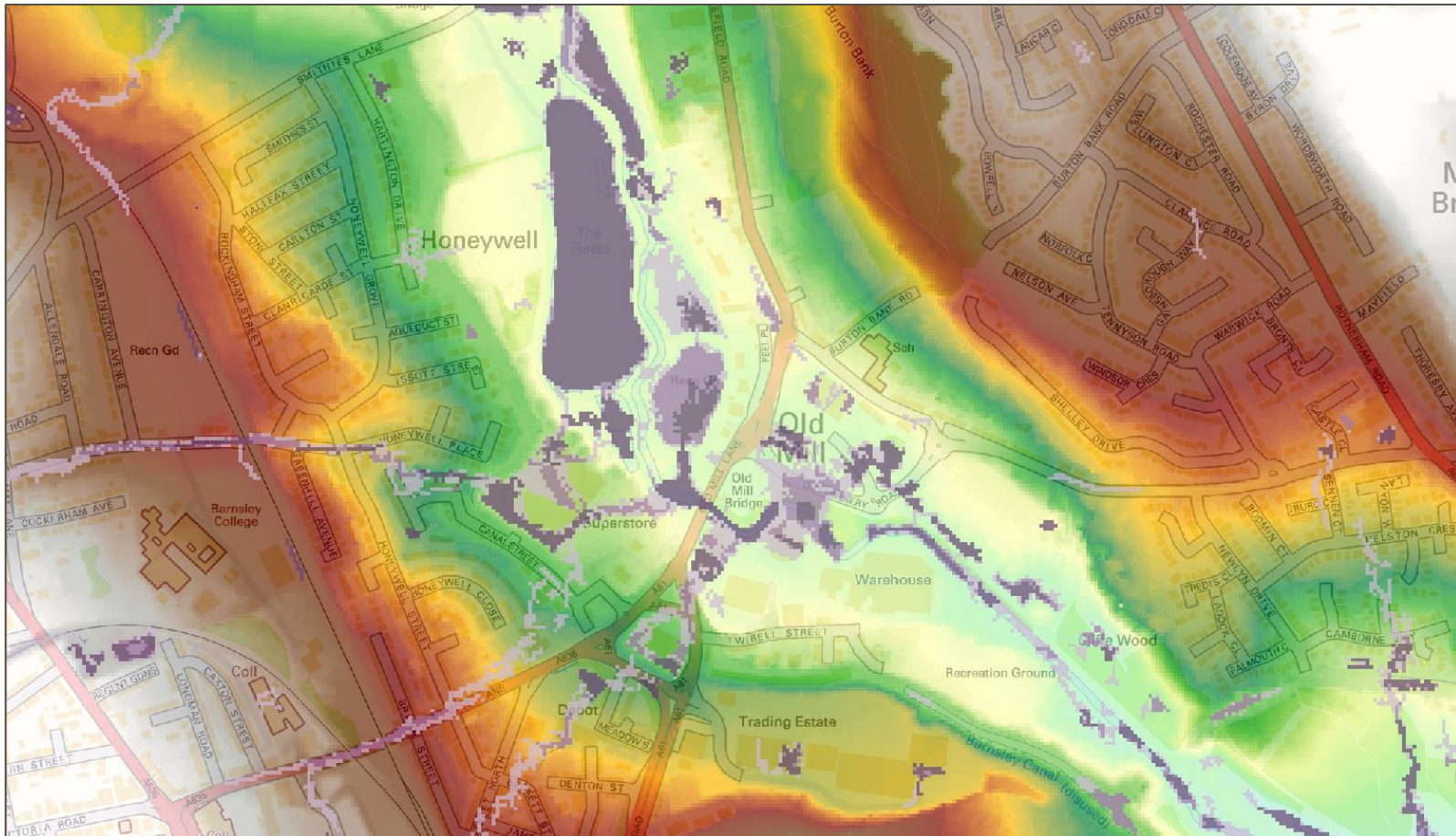
Surface water



- Every 5km x 5km square has unique rainfall
- Hyetographs altered to reflect differences in drainage
- Model 1hr (intense) and 10hr (persistent) duration



Barnsley – showing height map



JBA matrix

COASTAL							
	>1m	0.3<x<=1m	0.1<x<=0.3m	0<x<=0.1m		No flood	Breach Areas
75	20	17	14	10		0	2
100	15	12	10	6		0	2
200	12	7	4	2		0	1
1000	3	2	1	1		0	1

RIVER							
	>1m	0.3<x<=1m	0.1<x<=0.3m	0.0005<x<=0.1m		No flood	Defended Score
20	22	20	18	13		0	n/a
75	18	15	12	10		0	7
100	13	10	8	5		0	5
200	10	5	2	1		0	3
1000	3	2	1	1		0	1

JBA Defended areas dataset taken into account where applicable

SURFACE WATER						
	>1m	0.3<x<=1m	0.1<x<=0.3m	0.05<x<=0.1m		No flood
75	10	8	5	4		0
200	6	4	3	2		0
1000	5	3	2	1		0

GROUNDWATER

Scores 1 for each type it falls within

Create a flood plan

- Highlight acknowledged risks (i.e business operations, housing stock flood risk, repair services etc)
- Identify any controls/preventative action to be put into place
- Raise awareness of key tasks and responsibilities
- Minimise problems and difficulties should flooding occur
- Demonstrate to insurers your work in relation to minimising identified risks

Summary

- Flooding predicted to be a more frequent threat in the future.
- It will have adverse impact on Housing Associations' customers and their businesses.
- Outcomes might include higher insurance premiums, service disruption and higher costs of maintenance contracts.
- Good quality, affordable flood data is readily available to quantify risks.

Boring but important bits

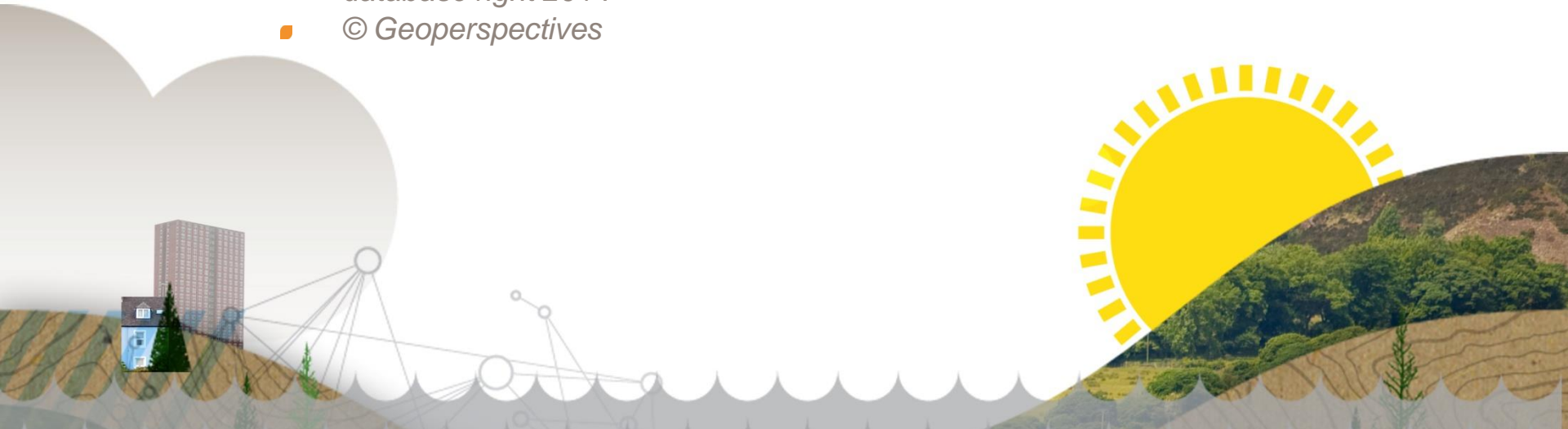
This presentation was prepared for Cadcorp on 03.02.2015 by Rob Carling. You can contact me on +44 (0) 1756 79991, Mobile 07957 374718 or by email: robert.carling@jbarisk.com

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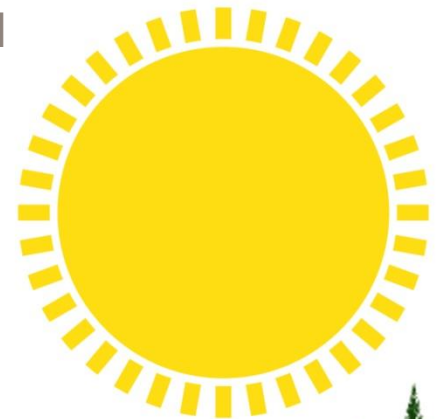



Reactions

**LONDON
MARKET
AWARDS**

2014
WINNER

Out of 101 shortlisted “best places to live”, the Sunday Times awarded the number one spot to Skipton



THE MULTI AWARD
WINNING INN

THE
TEMPEST
ARMS