



**Karstifiable rocks
(potential karst aquifer)**

-  Continuous carbonate rocks
-  Discontinuous carbonate rocks

WOKAM database;
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ATLANTIC
OCEAN



NORTH SEA

IRISH SEA

IRELAND

Castleton

UNITED KINGDOM

CELTIC SEA

Wookey
Hole

Bath
Hot Springs

Bedhampton
and Havant

ENGLISH
CHANNEL

FRANCE


ATLANTIC
OCEAN

 MIKAS spring

270

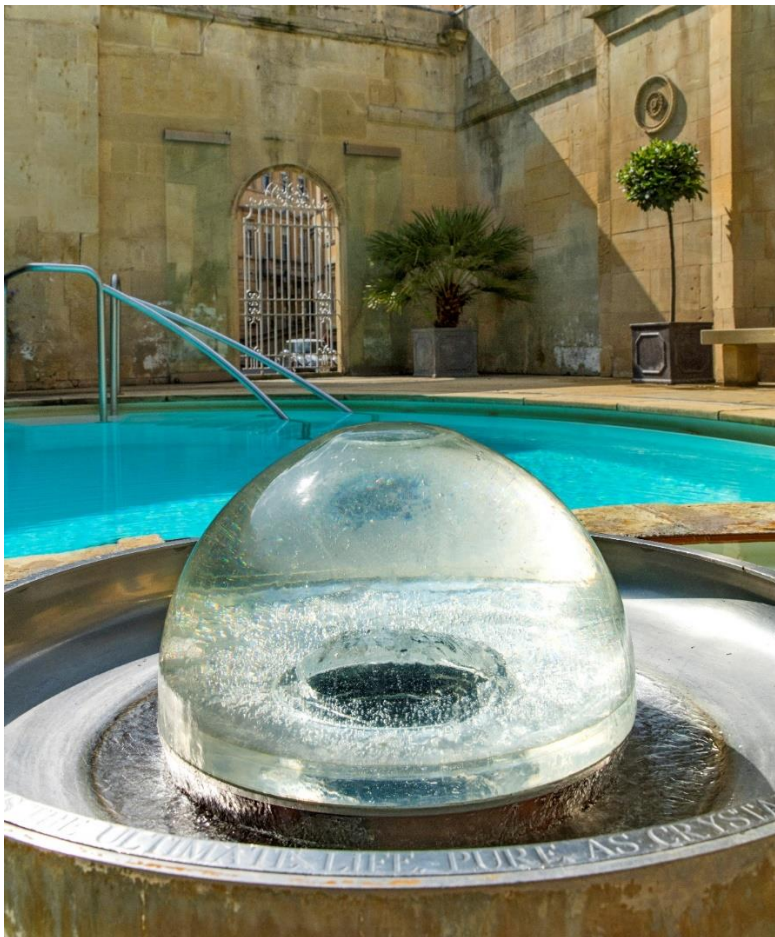
540

Km

Country	MIKAS springs	Coordinates / Nearby City	Spring discharge (Q in l/s,min/av/max) / tapped or not	Criteria* in order / Main justification */ H-historic, A-aesthetic, S-scientific, E-Economic, Ec-ecologic	Data collected by
United Kingdom 	1. Bath Hot Springs	N 51°22'51.15" W 02°21'31.51" Z = 25 m asl Bath	15 (constant) Tapped three sources (King's, Cross, Hetling) for medical treatment	H, E, S <i>The Bath Hot springs were developed as a spa in Roman times. The historical economic importance of the Roman baths at Bath has been recognised for many centuries. The city of Bath is designated a World Heritage Site, which is due to the historical development of the hot springs which led to the prosperity and subsequent historical development of the City. Numerous studies estimate that thermal water has been in circulation in the limestone for at least 1000 years (Holocene). The Bath hot springs remain an important tourist attraction to this day, attracting more than 1 million visitors each year.</i>	Louise Maurice
	2. Bedhampton and Havant	N 50°51'10" W 00°59'50.0" Z= 6 m asl Portsmouth	610/1110/1960 Tapped (multiple covered upwellings) for potable water supply	S, E, H <i>The springs provide a hugely important public water supply. Bedhampton and Havant springs currently supplying approximately 250,000 people in Southern England. They are the largest Chalk karst spring complex in the UK with average flows of > 1000 l/s, which makes them one of the highest discharge springs of any geology in the UK and possibly the largest chalk springs in the world. The Chalk in England has historically not been considered a karst aquifer, and even now much hydrogeological work and groundwater management and protection does not consider karst. These springs and their studies contributed to the recognition and development of conceptual ideas about chalk karst and its importance for groundwater protection.</i>	Louise Maurice, Andy Farrant
	3. Castleton spring group	N 53° 20' 30.8" W 01° 46' 43.7" Z = 188 m asl Derbyshire, Castleton	17/ c.365/ 9600 Group of springs: Peak Cavern Rising (PCR), Slop Moll (SM) and Russet Well (RW). None is tapped	S, H, A, Ec <i>Whole catchment is a designated Site of Special Scientific Interest (SSSI) with multiple surface (dolines, sinking streams) & underground features formed in Carboniferous Limestone. Springs drain an extensive (>16km) vadose - phreatic cave system which in medieval times was known as "The Devil's Arse" because the gurgling sound made by a siphon inside the cave. Springs and cave are of great historical importance, the. Peveril Castle was established directly above them in 11 Ct. The cave has been visited by tourists for over 400 years and was described by Martel following a visit in 1897. One of the few springs systems in UK in which there have been detailed studies of the</i>	John Gunn

				<i>aquatic invertebrate community. Depigmented fish have been observed in the springs by cave divers.</i>	
	4. Wookey Hole spring	N 51°13'45.94" W2°40'17.60" Z = 54 m asl Mendip Hills, Wells	- / 790 / - Not tapped	<p style="text-align: center;">H, A, E, S</p> <i>Cave resurgence point is in cliffs of Carboniferous limestone. The cave is known to have been inhabited in prehistoric times, with discoveries of archaeological remains. In the 17th Century the spring was used for the development of a paper mill. The cave is the site of some of the earliest cave diving in 1935. Wookey Hole is important tourist cave, and is known by some of early works on Karst hydrogeology in UK (Atkinson 1977).</i>	Louise Maurice, Andy Farrant

MIKAS - Bath Hot Springs



The Cross Bath Spring (photo provided by Thermae Bath Spa)



*One of the Bath hot springs
(photo copyright Alan Gray)*



The old thermal baths fed by hot springs (photo copyright Alan Gray)

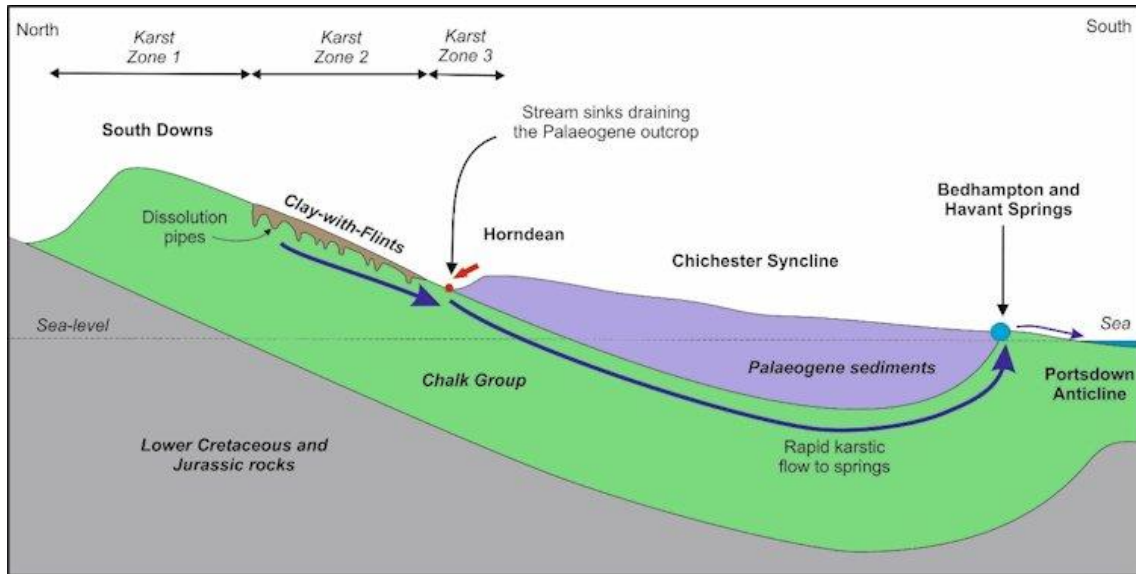
MIKAS – Bedhampton and Havant



Spring overflow following public supply abstraction (Photo copyright Portsmouth Water)

Spring upwelling hatch at the Public Water supply site (Photo copyright Portsmouth Water)





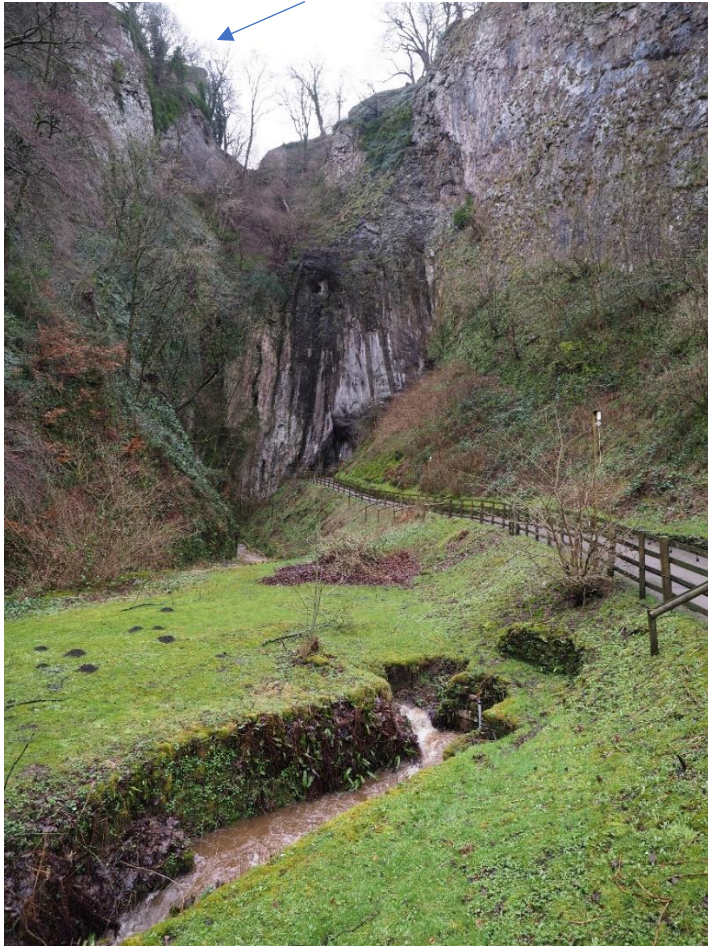
Schematic cross section showing flow to Bedhampton and Havant springs under the Chichester syncline, in karstic networks in the Chalk beneath the Palaeogene sediment cover. Geological material © NERC. All rights reserved. Topography © Crown Copyright reserved.

MIKAS – Castleton spring group

Photos of springs during high flow, 6 February 2022. All photos by John Gunn

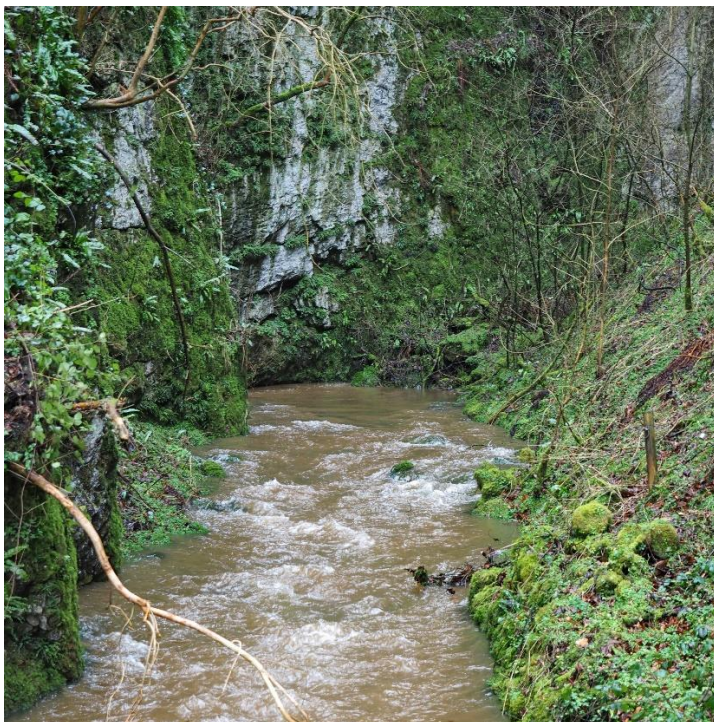


Russett Well (note the pressure dome)



Peak Cavern Gorge. Slop Moll is in bottom right. Path on right leads to entrance of tourist cave "The Devil's Arse". Peak Cavern Rising is mid-left and is shown in detail on lower photo.

The arrow is pointing to the ruins of Peveril Castle



MIKAS – Wookey Hole spring



Wookey Hole Resurgence in context (photo by Andrew Farrant)



Wookey Hole Resurgence in detail (photo by Chris Howes)



Penelope Powell and Graham Balcombe kitted up in Wookey Hole Cave for the first ever cave dive in 1935. Historical photo courtesy of Mendip Cave Registry and Archive Cave Diving Group: Image and caption from: <https://xray-mag.com/content/diving-then-and-now-wookee-hole-caves-birthplace-cave-diving>