

The European Climate Observations, Modelling and Services (ECOMS) initiative was formed in June 2012 to ensure close coordination and cooperation across European Commission funded climate modelling and climate services projects and to act as an advisory group / think tank to identify priorities and research and investment needs in the field of climate modelling and services. ECOMS is promoted by the European Commission and led by three European projects: SPECS, EUPORIAS and NACLIM. It includes representatives of the other European framework programme 7 projects on climate research and infrastructure.

## EUPORIAS

*Aim is to develop new scientific capability and prototype services to help decision-makers in climate-sensitive sectors on seasonal to decadal timescales.*

Recent advances in our understanding and forecasting of climate and climate change have brought us to the point where skilful and useful predictions are being made. These forecasts hold the potential for being of great value for a wide range of decision-makers who are affected by the vagaries of the climate and who would benefit from understanding and better managing climate-related risks. However, such climate information is currently under-used, mis-used, or not used at all. EUPORIAS has developed tools and services to exploit emerging capability from the climate community, and to engage with the users (and potential users) of such tools and services to help decision-makers make better informed decisions.

Through the development of prototype services, each with a very specific end user, EUPORIAS has developed a suite of climate services for key sectors (such as wind energy, transport, agriculture, water management, health and tourism), pulling the scientific methodologies, tools and techniques through to demonstrated societal benefit.

The North Atlantic Ocean is one of the most important drivers for the global ocean circulation and its variability on time scales beyond inter-annual. Global climate variability is to a large extent triggered by changes in the North Atlantic sea surface state: sea surface temperature and sea ice distribution. On a regional scale, these parameters strongly impact on weather and climate in Europe, determining precipitation patterns and strengths, as well as changes in temperature and wind patterns. Knowledge of these factors, and of their development in the years to come, is of paramount importance for society and key economic sectors, which have to base their planning and decisions on robust climate information. NACLIM contributed to this goal by assessing the quality of decadal climate forecasts using observational and model data, by optimizing the North Atlantic observational system and by quantifying the impact on oceanic ecosystems and on European urban societies.



SPECS has been undertaking research and dissemination activities to deliver a new generation of climate prediction systems for seasonal-to-decadal time scales as well as to provide actionable climate information for a wide range of users. The improved understanding and seamless predictions offer better estimates of the future frequency of high-impact, extreme climatic events and of the prediction uncertainty. New services to convey climate information and its quality have been used. SPECS is, among other things, the glue to coalesce the outcome of previous research efforts that hardly took climate prediction into account. It ensures interoperability so as to easily incorporate their application in an operational context, provides the basis for improving the capacity of European policy making, industry and society to adapt to near-future climate variations and a coordinated response to some of the GFCS (Global Framework for Climate Services) components.



# International Conference on Climate Science and Climate Services

05 - 07 October 2016 at Met Office, Exeter, UK



200 invited participants with speakers and panellists from leading research institutions, international organisations, the European Commission, IPCC and WCRP



# Conference Programme (Highlights\*)

## 5 October 2016

09:00-12:45 Invited keynote speakers including WMO, WCRP, IPCC, European Commission

14:00-18:00 Ocean observations and climate predictability  
(overview talks, early career researcher talks, panel discussion)

18:00 Poster session and networking event with buffet and drinks

## 6 October 2016

09:00-13:00 Climate predictions (overview talks, early career researcher talks, panel discussion)

14:00-18:00 Climate Services (overview talks, early career researcher talks, panel discussion)

## 7 October 2016

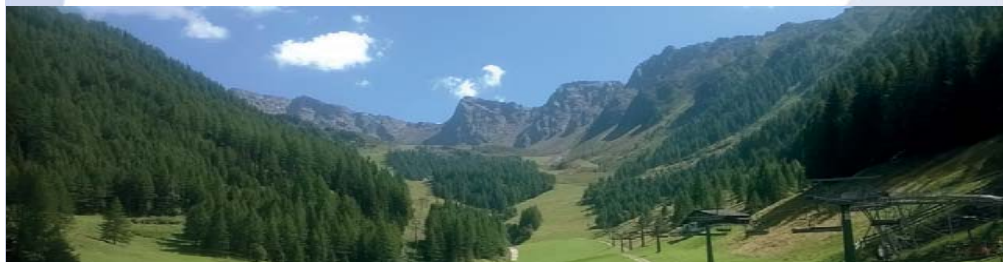
09:00-10:30 Cross-cutting themes and societal relevance

11:00-12:45 What next for science, highlights and recommendations

12:45 Closing remarks

\* Detailed programme see attached agenda

This conference is funded by the European Commission through EUPORIAS, NAELIM and SPECS



## Meeting Venue

Met Office, FitzRoy Road, Exeter, Devon EX1 3PB, United Kingdom

# Conference Dinner at Exeter Castle

4 October 2016 | 18:45



1. It was built on the orders of William the Conqueror when the mother of his arch enemy Harold defied the Norman army for 18 days holding out behind the old Roman walls of the city. William wasn't going to have any more of that nonsense so up went the castle in 1068.
2. The castle was held by a chap called Baldwin de Redvers in 1136 in a war known as The Anarchy in 1136. His opponent was King Stephen who surrounded the castle with his army for three months before it surrendered – when all the wine ran out.
3. During the siege, King Stephen built an earthen fortification at the site now known as Danes Castle – now the site of the fire brigade.
4. In the English Civil War the castle was held for Parliament until the cavaliers under Prince Maurice came along and captured it by using Cornish soldiers in 1643. Three years later it fell again – this time to the Roundheads under Thomas Fairfax. It was the last time it saw action.
5. English playwright William Shakespeare mentions the castle in his play 'Richard III', when the King visited it in 1483.
6. In 1770 the crumbling edifice had a make-over. Out went the medieval fixtures and fittings and in came a Georgian court house. Much of the stone work was knocked down to make way for the Regency style building.
7. Extensions were added to the castle courthouse in 1895 and 1905. It was used to judge the citizens of the city and beyond until 2004.
8. Temperance Lloyd, Susannah Edwards, Mary Trembles and Alice Molland, the last people to be executed for witchcraft were tried here in the mid 17th Century.
9. Exeter Castle is now called Rougemont Castle because of the red stones of Devon used in its construction and because they spoke French when it was built.
10. The castle today is a mix of Grade I and Grade II listed buildings and can't be knocked about by marauding Cavaliers anymore.

# AGENDA

## 05 October

	Speaker	Institute*
08:30	Coffee and Registration	
09:00	Welcome & local arrangements	Met Office
09:15	Intro to ECOMS by science coordinators: EUPORIAS, NACLIM, SPECS	Met Office, BSC, UHAM
09:30	European Commission perspective on research and development	EC DG RTD
09:45	European Commission perspective on Copernicus (Climate Change Service)	EC DG Grow
10:00	Science perspective	Met Office
10:15	Perspective of UN/WMO/GFCS	WMO
10:45	COFFEE BREAK	
11:15	Perspective of IPCC	IPCC
11:45	Perspective of WCRP	WCRP
12:15	Panel Discussion	
12:45	LUNCH	
	<b>Session I: Ocean Observations and Climate Predictability</b>	
14:00	Topic 1: Predictability of oceanic and atmospheric quantities	MPI
14:20	On polar-nonpolar linkages: observations and model diversity	UPMC LOCEAN/BSC
14:40	Predicting sea surface temperature in the Nordic and Barents Seas	UIB
15:00	Topic 2: Observation of North Atlantic parameters	GEOMAR
15:20	First year-round results from the Irminger Current on the Reykjanes Ridge	NIOZ
15:40	The 11.5-year record of the AMOC at 26°N as observed by the RAPID array	NOCS
16:00	COFFEE BREAK	
16:30	Topic 3: Initialization of prediction systems with ocean observations	UHAM CEN
16:50	Impact of TOP1-3 on Urban Climate System	VITO
17:10	Impact of TOP1-3 on Marine Ecosystem	HAV
17:30	Panel Discussion	
18:00	Poster session	
19:00	Buffet and drinks (and posters continued)	

## 06 October

	Speaker	Institute*
08:30	Coffee	
	<b>Session II: Climate Predictions</b>	
09:00	Topic 1: Forecast quality assessment: making skill and bias information meaningful to the users	Univ Oxford
09:20	Climate prediction for climate services	Univ Exeter
09:40	Grand European and Asian-Pacific Multi-Model Seasonal Forecasts:...	ENEA
10:00	Topic 2: Downscaling or bias adjustment? You name it, the user rules	INPE
10:20	Advantages & limitations of different downscaling techniques...	PREDICTIA/UNICAN
10:40	Developing an empirical benchmark for seasonal-to-decadal prediction	Univ Reading
11:00	COFFEE BREAK	
11:30	Topic 3: Forecast system development: what next?	Met Office
11:50	Expanding the concept of climate forecast verification	BSC
12:10	Perturbing the atmosphere in coupled seasonal forecasts...	MétéoFrance
12:30	Panel Discussion	
13:00	LUNCH	
	<b>Session III: Climate Services</b>	
14:00	Topic 1: Engagement - Users and co-production	DNVGL
14:20	A complex landscape of users	Univ of Leeds
14:40	The added value of communication and social science	BSC
15:00	Topic 2: Value of regionalisation and downscaling	ICTP
15:20	Multi RCM downscaling of seasonal hindcasts in eastern Africa	SMHI
15:40	Downscaling tools for adapting climate predictions to the user's needs...	CSIC
16:00	COFFEE BREAK	
16:30	Topic 3: Impact modelling and initialisation	Univ Exeter/Met Office
16:50	Analysis of the seasonal hydrological forecasting skill over Europe...	SMHI
17:10	Communicating confidence and uncertainty in seasonal forecasts	Univ of Leeds
17:30	Panel Discussion	

## 07 October

		Speaker	Institute*
08:30	Coffee		
	ECOMS Cross-cutting themes/pillar topics and their societal relevance		
09:00	Theme 1 + Q&A: Climate information and societal relevance (urban+marine)	Xavier Rodó and Mark Pyne	IC3, DTU Aqua
09:30	Theme 2 + Q&A: Do climate forecasts really matter in the user world?	Lisa Goddard	IRI
10:00	Theme 3 + Q&A: Engagement, Evaluation & Entrepreneurship	Roger Street	University of Oxford
10:30	COFFEE BREAK		
	Forward look (what next for science?)		
11:00	Talk 1: Global modelling activities	Ralf Döscher	SMHI
11:15	Talk 2: Initialisation and ensemble generation	Johanna Baehr	UHAM CEN
11:30	highlights, lessons learnt and recommendations from NACLIM	Detlef Quadfasel	UHAM CEN
11:45	highlights, lessons learnt and recommendations from SPECS	Francisco Doblas-Reyes	BSC
12:00	highlights, lessons learnt and recommendations from EUPORIAS	Carlo Buontempo	Met Office
12:15	The future of climate services - European research outlook	Diogo de Gusmão-Sørensen	EC DG RTD
12:25	Panel discussion, comments on cross-cutting activities (ECOMS)	R. Döscher, J. Baehr, D. Quadfasel, F. Doblas-Reyes, C. Buontempo and de Gusmão-Sørensen [C. Hewitt to facilitate]	
12:45	Closing remarks	C. Hewitt, F. Doblas-Reyes, D. Quadfasel	
13:00	End of conference		



EUPORIAS  
Coordinated by Met Office UK: Chris Hewitt

NACLIM  
Coordinated by Uni Hamburg: Detlef Quadfasel

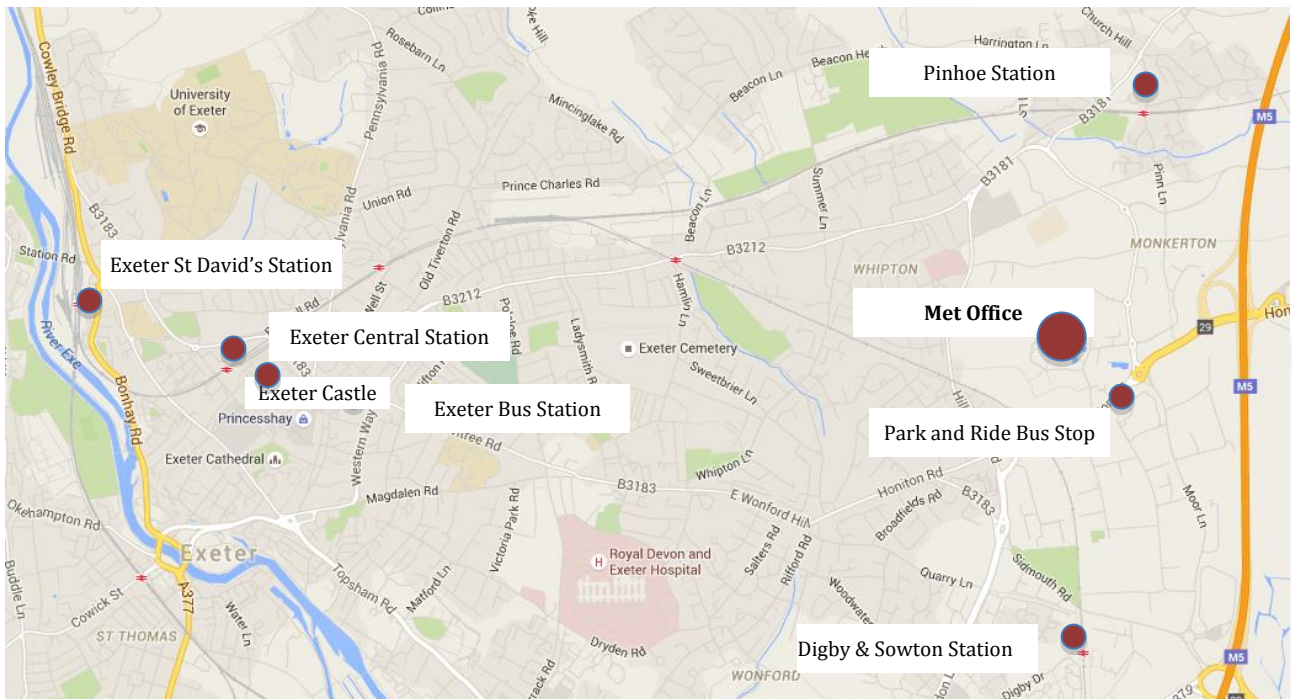
SPECS  
Coordinated by BSC Spain: Francisco Doblas-Reyes

Contact: Paula Newton  
Paula.Newton@metoffice.gov.uk

## \* Institutes and Organizations

<b>Initials</b>	<b>Full name</b>
BSC	Barcelona Supercomputing Center
CSIC	Spanish National Research Council
DNVGL	DNV GL Group [Det Norske Veritas, Norway and Germanischer Lloyd, Germany]
DTU Aqua	Technical University of Denmark - National Institute of Aquatic Resources
EC DG GROW	European Commission Directorates-General Internal Market, Industry, Entrepreneurship and SMEs
EC DG RTD	European Commission Directorates-General Research and Innovation
ENEA	Italian National Agency for New Technologies, Energy and Sustainable Economic Development
GEOMAR	GEOMAR Helmholtz Centre for Ocean Research Kiel
HAV	Havstovan Faroe Marine Research Institute
IC3	The Catalan Institute of Climate Sciences
ICTP	Abdus Salam International Centre for Theoretical Physics
INPE	National Institute of Space Research Brazil
IPCC	Intergovernmental Panel on Climate Change
IRI	International Research Institute for Climate and Society, Columbia University
Met Office	Met Office
MétéoFrance	Meteo France
MPI	Max Planck Institute for Meteorology
NERSC	Nansen Environmental and Remote Sensing Center
NIOZ	Royal Netherlands Institute for Sea Research
NOCS	National Oceanography Centre and the University of Southampton
PREDICTIA	Predictia Intelligent Data Solutions
SMHI	Swedish Meteorological and Hydrological Institute
UHAM CEN	University of Hamburg - Center for Earth System Research and Sustainability
Uni of Leeds	University of Leeds
Univ Exeter	University of Exeter
Univ Oxford	University of Oxford
Univ Reading	University of Reading
UPMC L'OCEAN	Pierre et Marie Curie University - Expérimentation et Approche Numérique
VITO	Flemish Institute for Technological Research
WCRP	World Climate Research Programme
WMO	World Meteorological Organization

# Directions



Exeter Airport →

## By air

Most international flights arrive at London Heathrow (180 miles from Exeter). However, there are several flights daily from Paris and Amsterdam to Bristol Airport (66 miles from Exeter). New flight routes to Exeter Airport (two miles from the Met Office) are regularly introduced. Currently Flybe flies direct from Paris Charles De Gaulle Airport and Amsterdam to Exeter Airport.

## From Exeter Airport

Bus 56 (56A and B) runs between Exeter Airport, Exeter St David's Railway Station, the Met Office and Exeter City Centre Bus Station with approximately one bus an hour.

Alternatively, there is a taxi stand outside the Arrivals building at Exeter Airport. **BOOKING IS RECOMMENDED** tel: **+44 (0)1392 66 66 66** book on-line: [appletaxisexeter.co.uk](http://appletaxisexeter.co.uk)

## From Bristol Airport

Take the bus from Bristol Airport to Bristol Temple Meads railway station. The bus runs every 20 minutes and the journey takes about 25 minutes. A full timetable is available at the Bristol Airport website (<http://www.bristolairport.co.uk/to-and-from-the-airport/trains>). There are regular trains to/ from Exeter and Bristol Temple Meads station (about one per hour). Train journey takes about an hour.

## From Heathrow Airport

The Heathrow Express train departs Heathrow Airport for London Paddington rail station every 15 minutes. Journey time is between 15 and 23 minutes. A typical journey from Paddington to Exeter St Davids takes as little as 2 hours 15 minutes.

An alternative is to get the Railair coach service to Reading rail station, where all the trains between London Paddington and Exeter stop. The service operates every 20 minutes and journey time is between 40 minutes and 1 hour ([http://www.heathrow.com/transport-and-directions/buses-and-coaches/rail\\_air-bus-links](http://www.heathrow.com/transport-and-directions/buses-and-coaches/rail_air-bus-links)).

There are about 12 National Express coaches a day between Heathrow Airport and Exeter bus station. The journey time is 3.5 to 4 hours (<http://www.nationalexpress.com/en/airports/heathrow-airport.aspx>).

### **From Gatwick Airport**

Take the train from Gatwick Airport to Reading rail station. This train runs hourly and takes about 75 minutes. From Reading there is a frequent service to Exeter St Davids (journey time about two hours).

## **By rail**

Frequent direct services operate from Paddington and Waterloo stations in London to Exeter St Davids and Exeter Central. A typical journey from London to Exeter takes around 2 hours 15 minutes, and from the Midlands around 2 hours 30 minutes.

The stations closest to the Met Office site are Pinhoe station to the north and Digby & Sowton station to the south. Note: these stations are not serviced as frequently as Exeter St Davids. Pinhoe can be reached from London Waterloo from the east or Exeter St Davids from the west and south. It is possible to travel direct to Digby & Sowton without changing trains from stations on the Paignton line.

See [National Rail Enquiries](#) for more information and full timetables.

## **By bus and coach**

### **From Exeter city centre**

The Park and Ride service (PR2/M2) provides a regular, quick route from Exeter city centre every 12 minutes, and stops at the Honiton Road Park and Ride stop. This is a 5-10 minute walk to the Met Office. This service departs from Paris Street (stop 17), or Sidwell Street (stop 19). Journey time is approximately 20 minutes.

Service B operates every half hour and passes Pinhoe railway station. On the journey from the city centre you need to alight at Honiton Road Park and Ride stop, from which is a 5-10 minute walk to the Met Office. However, on the return journey the service passes through the Met Office site. This service departs from the High Street (stop 3) and Sidwell Street (stop 19). Journey time is approximately 26 minutes.

Service 56 operates approximately hourly from the main bus station in Paris Street. Journey time is approximately 26 minutes.

### **From Exeter St Davids railway station**

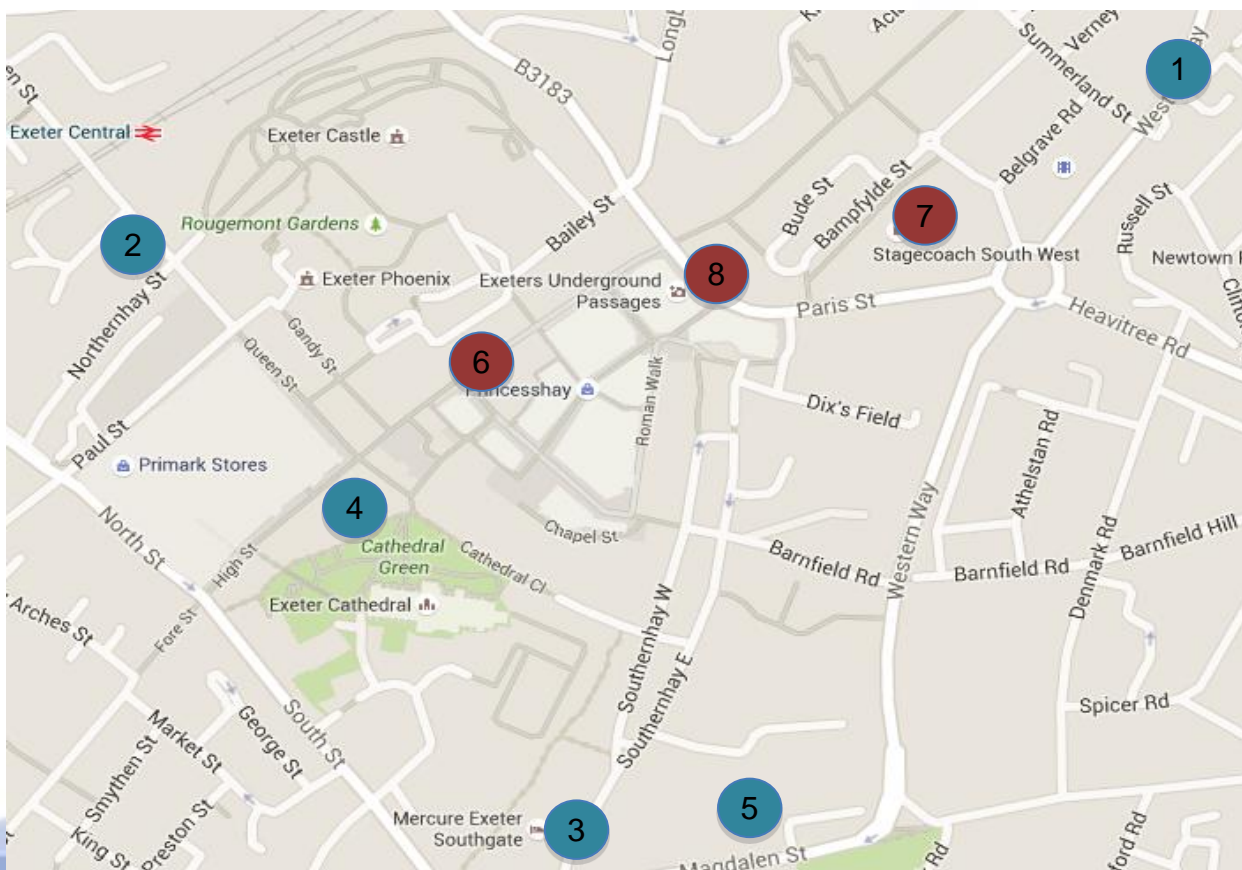
Bus 56 operates hourly and passes through the Met Office site before continuing to Exeter Airport. Journey time is approximately 26 minutes.

Timetables, plus maps of bus routes and Exeter city centre bus stops, are available from [Stagecoach](#)

Typical walking times and distances from the Met Office site are:

- to Honiton Road Park and Ride: 5-10 minutes (700 m)
- to Pinhoe Station: 20-25 minutes (1.5 km)
- to Digby and Sowton Station: 25 minutes (2 km)

# Locations in Exeter



Hotels ① - ⑤ are located in the city centre close to amenities, restaurants and the bus stop for the Met Office.

- |   |   |
|---|---|
| ① Jurys Inn<br>Western Way, Exeter, Devon EX1 2DB<br>Tel: +44 (0) 1392 312400                   | ② The Rougemont Hotel (Mercure)<br>Queen Street, Exeter, EX4 3SP<br>Tel: +44 (0)1392 312268                 |
| ③ Southgate Hotel<br>Southernhay East, Exeter, EX1 1QF<br>Tel: +44 (0)1392 412812               | ④ The Royal Clarence Hotel/Abode Exeter<br>Cathedral Yard, Exeter, EX1 1HD<br>Tel: +44 (0)1392 319955       |
| ⑤ Premier Inn Exeter Central<br>Southernhay Gardens, Exeter, EX1 1SG<br>Tel: +44 (0)1392 319955 | ⑥ High Street<br>⑦ Bus Station<br>⑧ Park & Ride to Met Office (Paris Street, adjacent to Next retail store) |

## Other Information

While you're here, why not take time to explore Exeter and the surrounding region. The following websites have recommendations on what to do and see:

<http://visitexeter.co.uk> - What to do in Exeter

<http://www.heartofdevon.com/exeter/visiting-exeter> - What's on in Exeter

<http://www.heartofdevon.com> - What to do and see in the rest of Devon