OUR PLANET YOUR FUTURE

- So, what do you do for a living?

- What do you predict?

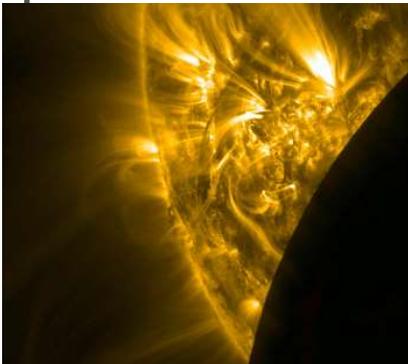# GRAND CHALLENGES

Flooding

Aerosols
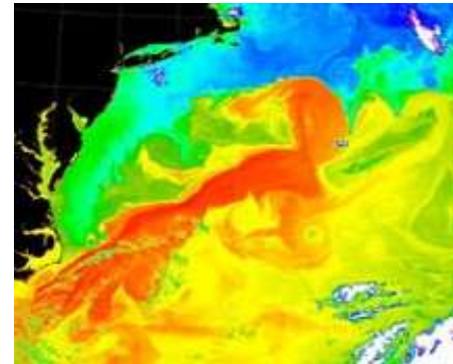
Tropical Cyclones

Space Weather

African Rainfall

Oceans & Climate

DEGREES IN METEOROLOGY AND ENVIRONMENTAL PHYSICS

- We offer the following undergraduate courses:
  - BSc Meteorology and Climate (BB physics and maths)
  - MMet Meteorology and Climate with a <u>year in Oklahoma</u> (AA physics and maths)
  - BSc Mathematics and Meteorology
  - MMath Mathematics and Meteorology

  <u>Environmental Physics</u> BSc (ABB from three A levels including Mathematics and Physics, one of which must be at a grade A)

- More information at <u>www.met.rdg.ac.uk/ug/ugcourses.html</u>

ENVIRONMENTAL PHYSICS AND METEOROLOGY AT READING

The Meteorology Department is at the forefront of Weather, Climate and Space research, with strong links throughout the industry

We run courses with small student numbers

Our courses cover all aspects of Weather, Climate and Space science and include a wide range of practical activities

Our graduates go onto a wide range of scientific careers

ENV PHYSICS MODULES

University of Reading

Part 1	Part 2	Part 3
Calculus	Vector Calculus	General Studies
Linear algebra	Statistics for Weather and Climate Science	Dissertation project
Weather and Climate Fundamentals	Surface Energy Exchange	
Global Environmental Chemistry	Atmospheric chemistry and transport	
Skills for Environmental Science	Numerical Methods for Environmental Science	
Atomic and Nuclear Physics	Instrumentation for Env Measurements	
Physics of the Natural World	Mathematical physics	
	Skills for Graduates	

Maths
Physics
Env Phys
Env Lab
General

ENVIRONMENTAL PHYSICS OPTIONAL MODULES

University of Reading

| Part 2	Part 3
Geophysics	Climate Change
Atmosphere and Ocean Dynamics	Soil, Atmos and Vegetation Modelling
Transport Processes in the Environment	Environmental Modelling
Global Quaternary Climate Change	Remote Sensing Methods/Apps
Monitoring the Earth from Space	Space Weather
Weather Case Studies and Forecasting	Atmospheric Spectroscopy
Practise of Entrepreneurship	Hydrology and Global Env Change
History and Philosophy of Science	Oceanography
Sustainable Resource Management	Boundary Layer Meteorology
French/ German/ Italian/ Spanish	Atmospheric Electricity
	Atmospheric Science Field Course

FUNDAMENTAL PHYSICS: **ELECTROMAGNETISM**
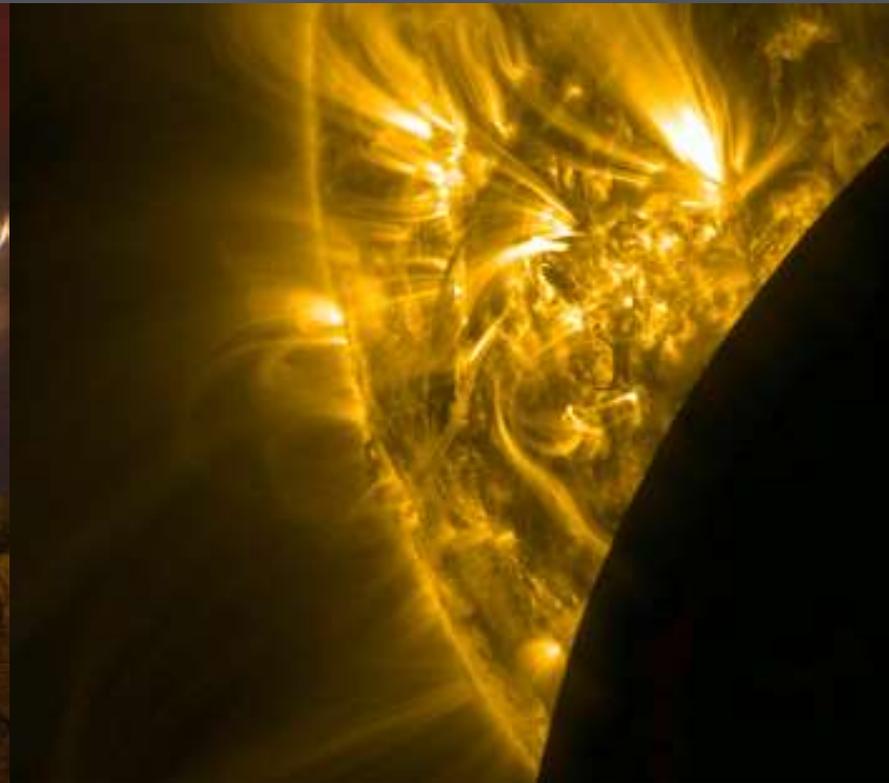
FUNDAMENTAL PHYSICS:
FLUID DYNAMICS
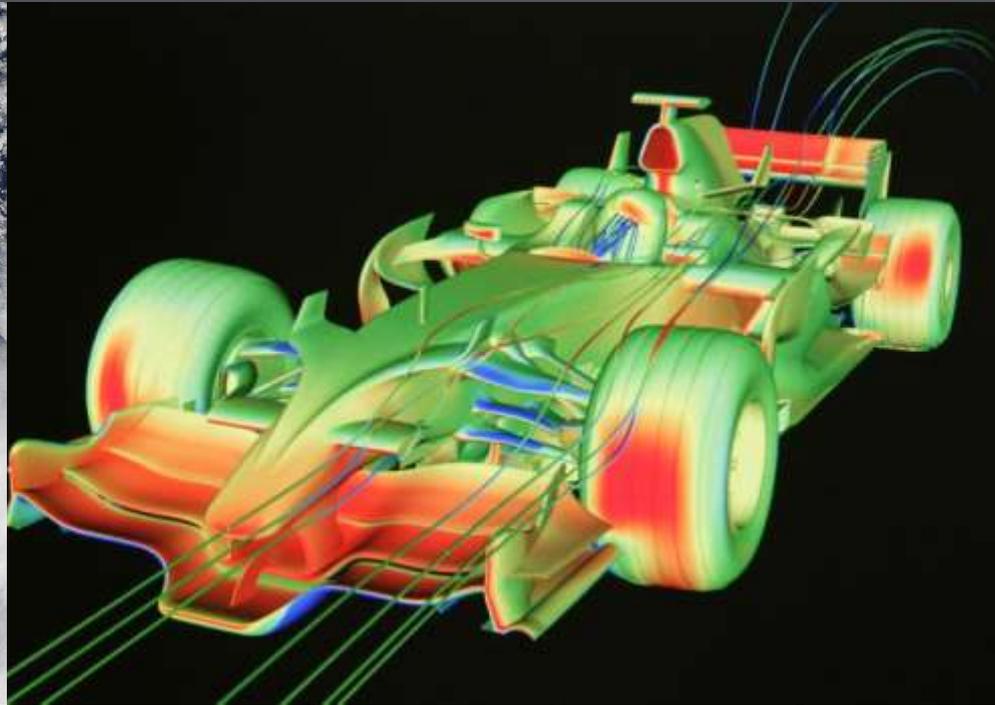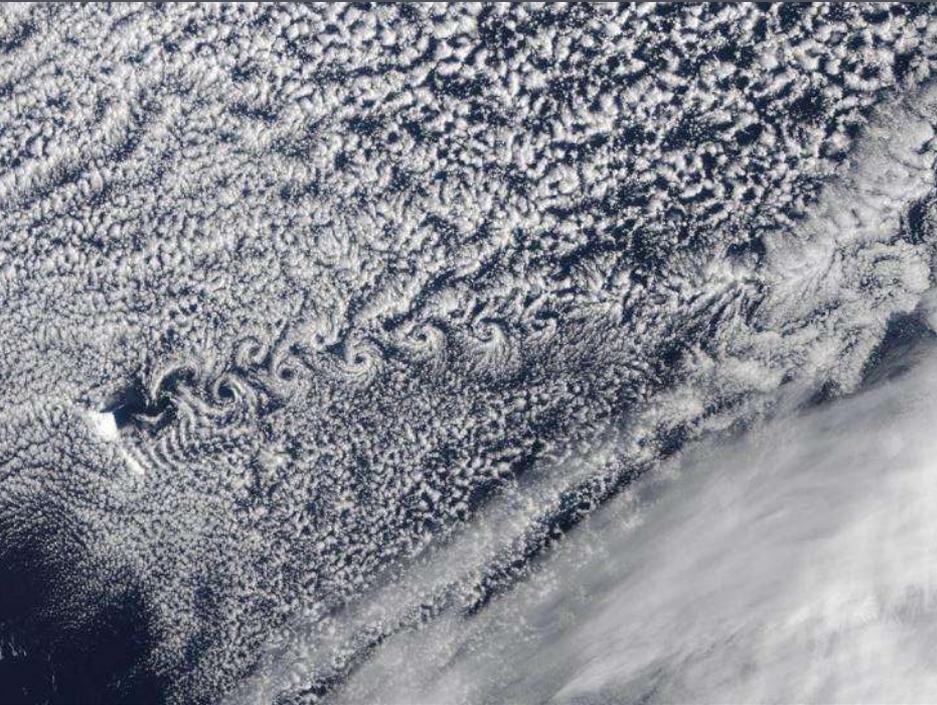
METEOROLOGY MODULES

Year One
- Introduction to Meteorology
- Weather and Climate fundamentals
- Skills for environmental science
- Calculus
- Linear Algebra

Year Two
- Atmosphere & Ocean Dynamics
- Atmospheric physics
- Numerical methods for environmental science
- Surface energy exchange
- Atmospheric analogues
- Skills for graduates
- Ordinary and Partial differential equations

Year Three
- Part 3 project
- Boundary layer meteorology
- General Studies

Maths
Physics
Env Phys
Env Lab
General

METEOROLOGY OPTIONAL MODULES

University of Reading

Year One
- Physics of natural world
- Environmental issues
- Atomic/nuclear physics
- Global environmental chemistry

Year Two
- Global quaternary climate change
- Weather forecasting: practice and presentation
- Institution wide language programme
- Statistics for weather & climate
- Atmospheric Chemistry and Transport

Year Three
- Remote sensing methods and applications
- Climate change
- Dynamics of weather systems
- Oceanography
- Atmospheric field course (Arran)
- Numerical weather prediction
- Global circulation
- Atmospheric electricity

METEOROLOGY AND CLIMATE: MEASURE, EXPERIMENT, SIMULATE
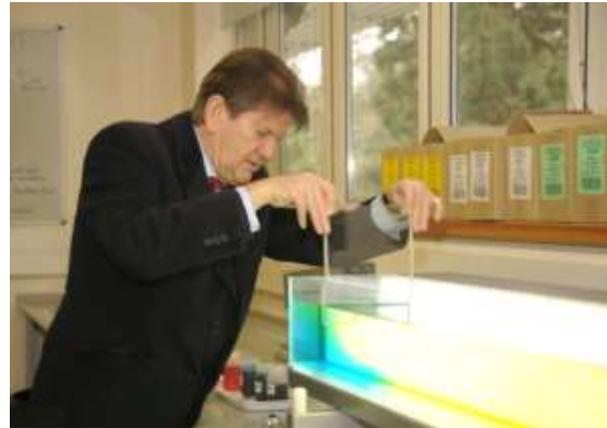
- Plenty of hands-on experience
- Wide variety of skills
- Close-knit group
- Good career prospects

Atmospheric Water (mm) 2009 November 01
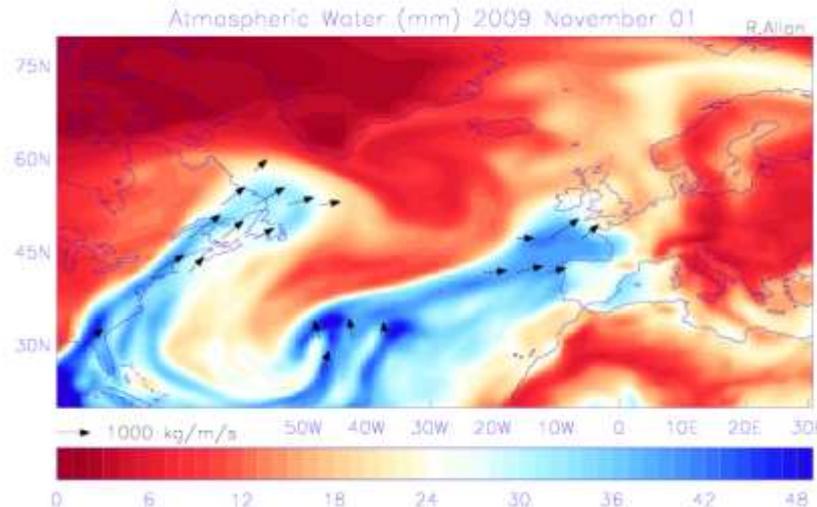
METEOROLOGY DEPARTMENT

© Stephen Burt
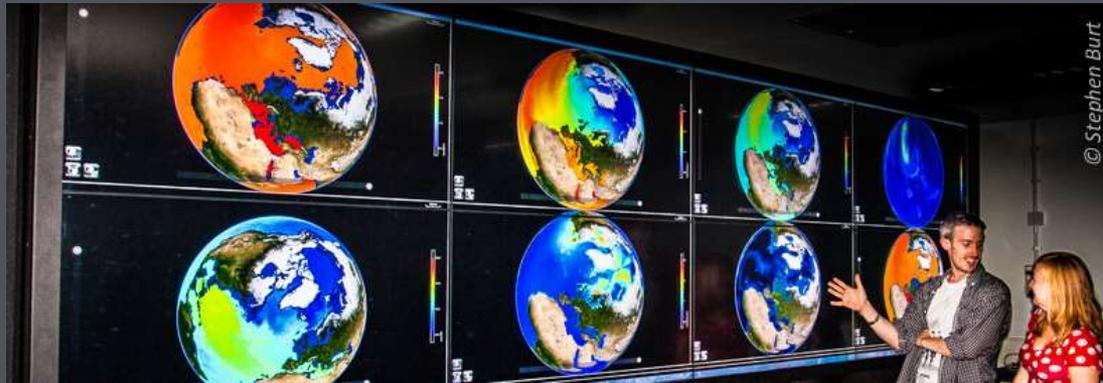
We teach the next generation of weather, climate and space scientists and forecasters

Teaching staff: 45
Research staff:180
Research students: 80
Undergraduate students: 70

METEOROLOGY DEPARTMENT

Small student numbers means we have a very high staff/student ratio of about 1:2

This means we know our students very well

Each member of teaching staff has 2-3 tutees

In some optional modules you will be taught in groups of 5-10.

These numbers are unmatched pretty well anywhere else in the UK for pretty much any subject

NATIONAL **STUDENT SURVEY**

100% overall student satisfaction

100% agreed 'Staff are good at explaining things'

100% agreed 'Staff are enthusiastic about what they are teaching'

100% agreed 'The course is intellectually stimulating'

100% agreed 'The course has helped me to present myself with confidence'

CAREERS

- **Forecasting**

  With organisations around the word including the UK Met Office and a range of private forecasting companies.

- **Research in Weather, Climate and Environmental Science**

  At universities and government research centres around the world.

- **Consultancy**

  For industries in the UK and overseas whose business is affected by weather, climate factors and other environmental factors

FORECASTING

- Met Office is the main employer of forecasters

- Other organisations in the UK and abroad that employ forecasters

- BBC, ITV employ national & regional forecasters and programme researchers

Tomasz Schafernaker

Laura Tobin

RESEARCH AND ACADEMIA

- Department of Meteorology at Reading is one of the leading centres for weather, space weather and climate.

- New multimillion funded Institute for Environmental Analytics hosted at Reading

- Researchers are part of international teams.

- (Un)usual places:

  - *Active volcanoes- sample dust*

  - *Arctic - sea ice formation and destruction*

  - *Deserts - dust storms*

  - *Storm clouds - fly research aircrafts*

  - *Tropics - cyclones and typhoons*

CONSULTANCY

- **Aviation** – RAF and civil
- **Shipping** – RN and commercial vessels
- **Energy providers/traders**
- **Investment Bankers**
- **Insurance companies** and re-insurers
- **Government:**
  - *Health protection (heat waves and cold snaps)*
  - *Highways Agency/Local Authorities (gritting)*
  - *Environment Agency*
  - *Flood defence/prediction (Rivers & coastal*
- **Agriculture** – crop spraying, harvesting
- **The Emergency Services**
- **Leisure organisations** – sports events

ACTUAL CAREERS

- **TV Forcasters:**

  - **Laura Tobin**   **ITV Good Morning**
  - **Tomas Schafernacker**   **BBC Main News**
  - **Jay Wynne**   **BBC Main News**
  - **Holly Green**   **BBC South**
  - **Sean Batty**   **ITV Scotland**
  - **Simon King**   **Radio 5 Live**

MORE CAREERS

- Meteorologist for Swedish Olympic Sailing Team
- Senior Scientist, National Centre for Atmospheric Research, Boulder Colorado
- Manager New Zealand Weather Service
- Weather Producer Sky TV
- Data Manager, British Antarctic Survey
- Head of Forecast Office, Heathrow
- Senior Analyst, Vattenfall Wind Energy, London
- Meteorologist EDF Trading, London
- Meteorologist Officer, Royal Navy
- Head of Catastrophe Research, Hiscox Insurance, London
- Chief Meteorologist, Northern Territory, Darwin, Australia

EMPLOYMENT RATES

85%

Is the employment rate for people with a degree in Meteorology. This is extremely high, with around 85% of graduates finding employment in a related career.

UNIVERSITY OF READING

- 19,000 full and part-time students

- 20% International Students from over 150 countries.

- Over 4,000 staff across all departments

- Around 250 different subjects and combinations of subjects ranging from Sciences, Arts, Humanities

- Science subjects popular e.g. biological sciences, chemistry, food science, microbiology, electronic engineering, meteorology, cybernetics

- Masters and PhD programmes

LIMITLESS **POTENTIAL** | LIMITLESS **OPPORTUNITIES** | LIMITLESS **IMPACT**

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ACADEMIC/INDUSTRIAL **PLACEMENTS**

Placement year

- Open to All students
- Earn from £15,000 to £26,000
- Improves motivation to study and academic performance
- Develops technical & non technical skills graduate employers require
- Secure graduate job earlier with higher starting salary.
- Think of it as your 1st graduate job

Also offer summer placements

e.g., **Space Internship Network (SpIN)**

ACADEMIC/INDUSTRIAL **PLACEMENTS**

Dedicated, in-house placements officer

This year, three summer placements:

- Civil aviation authority

- Dept of Meteorology (through Royal Astro Soc)

- UK Met Office

Previous years:

- Huge range of transport, power, health, insurance, forecasting, instrumentation, etc. companies

- Both private and public sector

CAREER PROSPECTS

Graduates will gain excellent analytical, technical, and personal skills

- Governmental institutions (e.g., British Antarctic Survey, British Geological Survery, Centre for Ecology and Hydrology, Environment Agency, Met Office)

- Environmental and space research and consultancy

- Industry (aviation, transport, energy)

- Other general applications of physics and maths, (e.g., teaching, the scientific civil service, media, emergency services)

- Numerate professions (finance, risk management, insurance, etc).

30

Reading

LATEST **EMPLOYMENT** DATA

2014 graduation group, 6 months on

Full time work	70%
Further study	27%
"Other"	3%
Unemployed	0%

These figures are fairly typical of our student destinations over the past 3 years