

Mr. Ian A. Elliott  
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Nationality: British  
DOB: 7 March 1980

## EMPLOYMENT HISTORY

### **abcGIS**

Exeter, UK

#### **Director**

**JAN 2009 - Present**

Ian is the co-founder and director of abcGIS consulting. abcGIS has been established to provide high quality, state of the art, GIS applications for the conservation of ecologically-important species. abcGIS offer a wide range of services including GIS needs analysis, database creation, GIS application development, web GIS interfaces, report generation and spatial data modelling and analysis.

### **University Of Exeter**

Exeter, UK

#### **Research Associate**

**APRIL 2007 - JULY 2010**

Ian's post-graduate research, conducted at the Marine Spatial Ecology Laboratory, consisted of various projects related to mapping of marine habitats and the design of marine reserves. This involved the creation of a national-scale marine habitat map from Landsat satellite imagery and the use of this map to explore Bahamas-wide mangrove-reef connectivity, to rank the importance of different habitats, to determine the hot spots of beta diversity and the impacts of hurricanes and coral bleaching resulting from global warming.

In collaboration with other members of the group Ian has developed tools for conservation planning with the aim of integrating biodiversity and socio-economic perspectives into reserve-system design and of selecting networks of reserves capable of meeting conservation objectives under different climate change scenarios.

### **University Of Cambridge**

Cambridge, UK

#### **Research Assistant, Centre for Housing and Planning Research**

**AUG 2003 - JAN 2006**

In the Department of Land Economy Ian worked on a number of projects related to the provision of housing in the UK, with particular reference to the provision of social housing through the structuring of social rents. These focused on the statistical analysis of large data sets and the incorporation of results into policy documents.

#### **Information Officer**

**MAY 2003 - SEP 2003**

Ian's duties involved upgrading the existing databases held by the information office in the Department of Applied Mathematics and Theoretical Physics and publishing these interactively online. Further duties included the management of online lecture content and answering related queries from staff and students.

### **Goldman Sachs International**

London, UK

#### **Summer Analyst**

**JUNE 2000 - SEP 2000**

During a three-month internship with a large investment bank in London Ian developed programs to run on the production databases to gather statistics on capacity and usage. The majority of this work was completed on UNIX servers interfacing with the SYBASE database system.

## EDUCATION

**University Of York**

York, UK

**Master of Research**

**OCT 2001-SEP 2002**

**Dissertation:** *Transient effects of grazing and seasonal controllers of primary production in the Southern Ocean.* Location: British Antarctic Survey (BAS), Cambridge, UK. Supervisor: Dr Eugene Murphy.

**Courses taken:** applied statistics, data analysis, dynamical systems, ecological modelling, environmental issues, GIS, group project, multivariate analysis, programming in C, stochastic processes, transferable skills.

**Bachelor of Engineering in Computer Science  
(1st Class Honours)**

**OCT 1998-JULY 2001**

**Dissertation:** *A simulation of probabilistic mobile robot localisation.*

**Barrow Sixth Form College**

Cumbria, UK

**A-Levels**

**1998**

computing (A), mathematics (A), physics (B), general studies (B).

**AS-Level**

**1998**

electronics (B).

**John Ruskin High School**

Coniston, Cumbria, UK

**GCSEs**

**1996**

design & technology (A), english language (A\*), english literature (A), geography (B), german (B), history (B), information technology (A), mathematics (B), sciences (A\*A\*).

## EXPERIENCE

### Geographic Information Systems

Ian, together with Helen Edwards, established abcGIS consulting in January 2009. abcGIS specialises in the provision of high quality, state of the art, web GIS applications for the conservation of ecologically-important species.

Ian is experienced in the creation of data layers, the manipulation of spatial data and formatting visual outputs for presentation. Ian's recent GIS work has included the generation of data layers to describe patterns of biodiversity and climate regimes in Belize and the Bahamas and the presentation of the Bahamas data layers via an online gis. Ian has experience with a wide range of geographic technologies, including ESRI ArcGIS and a number of open source initiatives.

## **Programming**

Ian is proficient at programming in C/C++, Matlab and python. He also has experience of application programming in Visual Basic, Pascal/Delphi, Visual C++ and with graphics libraries including OpenGL and recently DirectX. For web developments Ian also uses many web languages and libraries including HTML, Javascript, CSS, PHP and MySQL.

## **Database Development and Implementation**

Ian has in-depth knowledge of relational database principles and has focused primarily on database design and development in Microsoft Access. He is also familiar with database-driven websites implemented using MySQL. In addition to working extensively with GIS data Ian has considerable experience in creating and maintaining meta data and in data sharing.

## **Communication & Teaching**

Ian has strong presentation skills and is a regular speaker at national and international conferences. Ian is committed to the distribution of scientific information and has co-authored a number of reports and papers. He is an experienced web developer and has a particular interest in the creation of geospatial web tools. These are designed to provide a means of locating, browsing, analysing and distributing spatial data and services within an organization and externally to partners and the public. Solutions have been designed using a range of technologies including ArcGIS, MapServer and OpenLayers.

Ian teaches an introduction to GIS for masters students studying aquatic biology at the University of Exeter. He has taught this component since the course began in 2007 and will continue to lecture in 2011-2012. He also teaches a more practical introduction to mapping and GIS to volunteers on the LEMUR project, in partnership with Ambios.

## **Nature Conservation**

Ian's research has focused primarily on informing computational methods for conserving species of ecological importance. This has included the co-development of a new reserve-selection tool to integrate biodiversity and socio-economic perspectives into the reserve design process and selecting networks of reserves capable of meeting conservation objectives under different climate change scenarios.

## **Local Activities**

Ian holds the position of Secretary for Exeter Green Party and is an active member of the core team. Current projects include organising the Exeter Green Fair, holding public stalls and writing the local manifesto. He is also a Green Party candidate standing for the 2010 local elections.

Ian is an active member of Transition Exeter - a registered Transition Initiative. Ian holds the role of newsletter editor, and is currently the primary point of contact for communications with the public. Ian is also collaborating with members of other Transition groups to develop a ready-to-use website solution (using the Drupal framework) for Transition Initiatives.

## **PUBLICATIONS**

**Edwards, H.J., Elliott, I.A., Eakin, C.M., Irikawa, A., Madin, J.S., McField, M., Morgan, J.A., Van Woesik, R. & Mumby, P.J. (2011).** How much time can herbivore protection buy for coral reefs under realistic regimes of hurricanes and coral bleaching? *Global Change Biology* **17**: 2033-2048.

**Mumby, P.J., Elliott, I.A., Eakin, C. M., Skirving, W., Paris, C.B., Edwards, H.J., Enríquez, S., Iglesias-Prieto, R., Cherubin, L.M. & Stevens, J.R. (2011).** Reserve design for uncertain responses of coral reefs to climate change. *Ecology Letters* **14**: 132-140.

**Edwards, H.J., Elliott, I.A., Pressey, R.L. & Mumby, P.J. (2010)** Incorporating ontogenetic dispersal, ecological processes and conservation zoning into reserve design. *Biological Conservation* **143**: 457-470.

**Harborne A.R., Mumby P.J., Kappel C.V., Dahlgren C.P., Micheli F., Holmes K.E., Sanchirico J.N., Broad K., Elliott I.A., & Brumbaugh D.R. (2008)**. Reserve effects and natural variation in coral reef communities. *Journal of Applied Ecology* **45**: 1010-1018.

## PRESENTATIONS

*It's getting hot in here: managing coral reef ecosystems in a changing climate.* University of Exeter, Exeter, UK, 25 January 2010.

*Patterns of Biodiversity and Climate Change Impacts in the Bahamas.* Bahamas National Trust Public Education Meeting, Nassau, Bahamas, USA, 26 May 2009.

*Reserve Design to Incorporate the Response of Reefs to Coral Bleaching.* Society for Conservation Biology International Marine Conservation Congress, George Mason University, Fairfax, Virginia, USA, 21 May 2009.

*Reserve Design to Incorporate the Response of Reefs to Coral Bleaching.* 11th International Coral Reef Symposium, Florida, USA, July 2008.

Languages: Basic German, Beginners Japanese.

Member: Green Party, Exeter Green Party, Transition Exeter, Devon Mammal Group.

Interests: climate issues, wildlife conservation, horticulture, politics.