

What will it cost?

The cost of the workshop, excluding the optional training day, will be £1,395 per participant. Fees for UK-based participants are normally subject to Value Added Tax (VAT) of 17.5%. We regret that payment can only be accepted in £ sterling. However, we are able to accept payment by major credit and debit cards. Full payment MUST be received prior to the appropriate workshop to guarantee the booking.

In addition to tuition and all course materials, the fee covers the following:

- accommodation in a single, en-suite room for the nights of 1-3 July inclusive.
- evening dinner on 1-3 July inclusive.
- lunch and refreshment breaks on 2-4 July inclusive.

Optional training day: an introduction to CARIS LOTS on 5 July

The additional fee for this day is £400. This includes accommodation and evening dinner on 4 July and breakfast, refreshments and lunch on 5 July.

Accommodation for additional nights can be arranged at cost, subject to availability.



How to book

Places are limited and IBRU workshops are frequently oversubscribed. Please follow the procedure below to book a place:

- 1 Contact Michelle Speak at IBRU to confirm whether a place is still available.
- 2 Once confirmed, complete an online booking form at <http://www.dur.ac.uk/ibru/workshops/booking.html>, or request a hard copy from IBRU.
- 3 This provisional booking will then be acknowledged, and sent with information on 'how to pay' and a deadline for payment of the fee.
- 4 If payment is not received by the deadline given, the place will automatically be released. The original booking will be transferred to a waiting list, and the place only confirmed when payment is received and if a place is still available.

Other administrative information

Venue

Workshop accommodation and teaching will be based at Collingwood College, which is part of Durham University.

Language

Teaching and workshop materials will be in English. We regret that we are unable to provide translation facilities.

Cancellation

Cancellations must be received in writing not later than Monday 18 June 2007, and will be subject to a £50 cancellation fee unless a substitute participant is offered. After this date the full registration fee will apply. Substitutions for registered participants may be made at any time, but we would appreciate prior notification.

Programme changes

IBRU reserves the right to modify the programme as may be necessary, without notice to participants.

Travel to Durham

Full details of the venue, plus maps and travel information will be sent to all participants following registration.



Further information

If you have any questions about the workshop please contact Ms Michelle Speak, Director of External Relations, International Boundaries Research Unit, Department of Geography, Durham University, DH1 3LE, United Kingdom

Direct tel: +44 (0)191 334 1965 Fax: +44 (0)191 334 1962

Email: ibru-events@durham.ac.uk

<http://www.dur.ac.uk/ibru/workshops>



International Boundaries Research Unit

An Introduction to Technical Aspects of Maritime Boundary Delimitation

Monday 2 - Thursday 5 July 2007

Durham University, United Kingdom



Tutors:

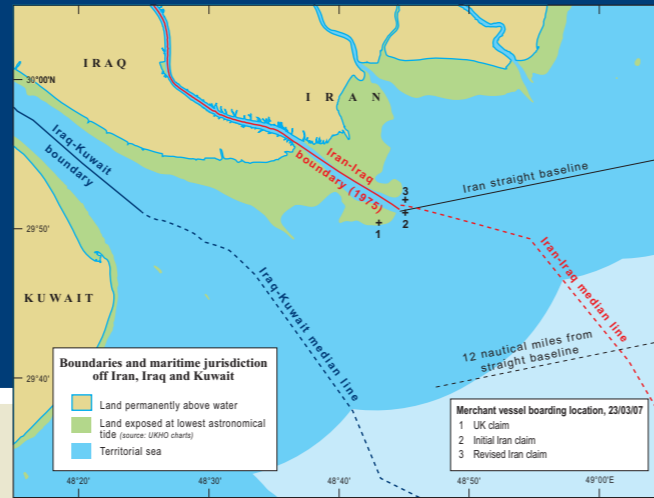
- Mr John Brown Law of the Sea Officer, United Kingdom Hydrographic Office
- Mr Chris Carleton Head of the Law of the Sea Division, United Kingdom Hydrographic Office
- Dr Danny Donoghue Department of Geography, Durham University
- Mr Serge Lévesque CARIS LOTS Product Manager, CARIS Marine Division, Canada
- Mr Martin Pratt Director of Research, International Boundaries Research Unit



Introduction

Maritime boundary delimitation may be primarily a political and legal process, but almost every stage of the process requires decisions about geographical and technical issues. Most governments employ technical experts to assist with the definition of the boundary, but that does not mean that diplomats and lawyers can ignore technical issues. Just as it is important for technical experts to be familiar with the legal principles of maritime boundary delimitation, negotiators will be much more likely to achieve a successful outcome if they understand how boundaries are constructed and how they are defined from a technical perspective.

The purpose of this workshop is to provide non-technicians with a hands-on introduction to the concepts and tools involved in defining a maritime boundary with geographical precision. Combining lectures and practical exercises, the workshop will enhance your analytical skills and help you to avoid creating a technically deficient boundary. No prior technical knowledge is required and scientific jargon will be kept to a minimum.



The recent dispute between Iran and the UK over the location of the Iran-Iraq territorial sea boundary highlights the importance of technical issues in maritime boundary delimitation.

Who should attend?

The workshop will be of value to:

- Diplomats
- Lawyers
- Judges
- Marine policy officials
- Coastal zone managers
- Coastguard officers
- Oil and gas industry executives

Tutors



John Brown began his sea-going career in 1974 and trained as a navigating officer. He joined the UK Hydrographic Office in 1993 after working as a surveyor in the offshore industry for several years. Since joining the Law of the Sea Division he has obtained an MA in International Boundary Studies from King's College London. He has advised several UK Government departments on Law of the Sea matters and has assisted with technical input to UK maritime zone legislation. He is currently working with several foreign governments on delimitation issues, and lectures to senior Royal Navy professional courses and at King's College London.



Chris Carleton spent the last ten years of a 30-year career as a hydrographic surveyor in the Royal Navy specialising in the technical aspects of the law of the sea. In 1996 Chris joined the Hydrographic Office to head the newly-formed Law of the Sea Division. His Division provides technical interpretation of all matters relating to the determination and application of maritime zones, boundaries and on the law of the sea issues world-wide to all departments of the UK Government, and on a commercial basis to foreign Governments, law firms, academia and industry. He has taken part in many boundary negotiations, both bilateral and third party adjudication, and has done a considerable amount of work for the United Nations.



Danny Donoghue is an authority on remote sensing technology and geographic information systems. He has a broadly based research profile that covers applications of remote sensing technology in the fields of spectrometry, forestry, coastal ecology, land use change and archaeology. Recent projects include studies on the use of artificial neural networks for image processing, the study of airborne thermal infrared imagery for geology and archaeology, the use of declassified space photography and high spatial resolution imagery for archaeological prospection.



Serge Lévesque is Product Manager for CARIS LOTS at CARIS Headquarters in Fredericton, Canada. He holds a BSc in Geological Engineering from Laval University in Québec and an MSc in Oceanography from Dalhousie University, Nova Scotia. As a consultant geophysicist, Mr Lévesque worked for the Geological Survey of Canada on geophysical data compilations of the North Atlantic and Arctic oceans, and on tectonic plate reconstructions at the Bedford Institute of Oceanography. Mr Lévesque was Research Associate at the Atlantic Centre for Remote Sensing of the Oceans from 1993 to 1995. He worked in the private sector on remote sensing airborne surveys and in the offshore before joining CARIS in 1999.



Martin Pratt joined the International Boundaries Research Unit in 1994 and is now the Unit's Director of Research. He has written extensively on land and maritime boundary issues around the world and has advised governments, commercial organisations and NGOs on a wide range of boundary and sovereignty disputes. Martin works with Michelle Speak in developing and running IBRU's training workshop programme; he also manages IBRU's website, the Unit's GIS resources and the int-boundaries email list.

Programme

Monday 2 July	0900-0915	Introduction	
	0915-1030	Understanding datums, coordinates and charts 1	<ul style="list-style-type: none"> • Ellipsoids and geodetic datums • Map projections • Coordinates • 'Straight' lines
	1100-1215	Understanding datums, coordinates and charts 2	<ul style="list-style-type: none"> • The use of charts in maritime boundary delimitation • Chart features and symbols • Vertical datums • Scale and measuring distance
	1215-1300	Practical exercise: charts	
	1300-1400	Lunch	
Tuesday 3 July	1400-1515	Constructing maritime limits and boundaries	<ul style="list-style-type: none"> • Graphical and computational methods • Maritime limits • Tools for constructing maritime limits and boundaries • Median lines • Reduced effect
	1545-1700	Practical exercise: constructing limits and median lines	
	0900-1045	Other technical tasks	<ul style="list-style-type: none"> • Establishing straight and archipelagic baselines • Defining relevant coastlines and the relevant area • Measuring coastline length • Identifying the general direction of the coast • Distinguishing islands and rocks
	1100-1230	Continental shelf beyond 200 nautical miles	<ul style="list-style-type: none"> • The nature of the continental margin • Formulae for defining the outer limit of the continental shelf • The Commission on the Limits of the Continental Shelf • Acquiring and evaluating data
Wednesday 4 July	1230-1330	Lunch	
	1330-1515	Practical exercise: other technical tasks	
	1545-1700	Sources of geographic data	<ul style="list-style-type: none"> • Satellite imagery and aerial photography • Field surveys • Public domain datasets • Commercial datasets
	0900-1000	Using Geographic Information Systems to manage and analyse data	<ul style="list-style-type: none"> • Principles of GIS • GIS applications • GIS software and data
Thursday 5 July	1000-1100	CARIS LOTS as a tool for constructing maritime limits and boundaries	
	1130-1230	The role of the technical expert in boundary negotiations and third-party adjudication cases	<ul style="list-style-type: none"> • Preparatory work • During negotiations • During adjudication hearings • Technical elements of a maritime boundary treaty • The manipulation of cartographic information
	1230-1300	Closing discussion and wrap-up	
	1300	Lunch	
Thursday 5 July	All Day	<ul style="list-style-type: none"> • Building a baseline model • Defining territorial sea and EEZ limits • Constructing a median line and identifying relevant basepoints • Constructing a 'half-effect' line • Calculating geodetic areas 	

Optional training day: an introduction to CARIS LOTS

This optional training day will give interested participants an opportunity to explore how specialist computer software can assist in the construction and analysis of maritime limits and boundaries. Led by the CARIS LOTS product manager, the session will include a series of practical exercises covering topics such as: