

AIACC Intensive Training Course on
**Development and Application of Scenarios in Impacts, Adaptation
and Vulnerability Assessments**

Tyndall Centre for Climate Change Research
School of Environmental Sciences
University of East Anglia
Norwich, UK

15 ~26 April 2002

Day 0 – Monday, 15th April 2002

- Participants arrive at UEA
- **Reception** on campus **6:00 ~ 7:00pm**

Day 1 – Tuesday, 16th April 2002

Introduction

Intro. 1 - 9:30 ~ 9:45 **(venue*: Callendar Room, Tyndall Centre)**

Clarifying project objectives and designing integrated scenario needs (Neil Leary)

Overview of the AIACC project and objectives of this training course.

Intro. 2 - 9:45 ~ 10:00

Introduction (Gillian Watson)

Welcome, logistical arrangements and overview of the Workshop.

Theme A Project objectives and scenario needs

Participants present the objectives and scenario needs of their projects. Through this information sharing exercise, participants are encouraged to establish potential collaboration on scenario development and application. Four representatives will be selected to speak about different types of scenario needs (e.g., scenarios for historical vulnerability assessment, RCM-based scenarios, statistical downscaling technique-based scenarios, and daily weather data, etc.)

Session A.1 - 10:00 ~ 11:00

*Feedbacks from study teams – group presentations on project objectives and scenario needs
(facilitator: Neil Leary /Xianfu Lu)*

Unless otherwise stated, sessions will take place in the Callendar Room, Tyndall Centre,

Two selected representatives present their project objectives and scenario needs (scenarios for historical vulnerability assessment and RCM-based scenarios, respectively). 20 minutes for each presentation and 10 minutes for Q&A after each presentation.

Coffee/Tea - 11:00 ~ 11:30

Session A.2 - 11:30 ~ 12:30

Feedbacks from study teams – group presentations on project objectives and scenario needs (facilitator: Neil Leary /Xianfu Lu)

Two representatives present their project objectives and scenario needs (statistical downscaling and daily weather generator methods, respectively). 20 minutes for each presentation and 10 minutes for Q&A after each presentation.

Short briefing on the final day presentations

(Xianfu Lu)

Lunch - 12:30 ~ 14:00

Theme B UK's experience

Speakers are invited to share the UK's experience of developing national climate scenarios and applying them to impact and adaptation assessments.

Session B.1 - 14:00 ~ 15:30

Development of the UKCIP02 climate scenarios (John Turnpenny)

Methodology framework for constructing UKCIP02 scenarios; presentation techniques; uncertainty representation, etc. *[Key reference: UKCIP02 report]*

Coffee/Tea - 15:30 ~ 16:00

Session B.2 - 16:00 ~ 17:30

Application of integrated scenarios in Impacts, Adaptation and Vulnerability (I, A & V) assessments – UKCIP experience (Richenda Connell)

How scenarios are applied in I, A & V assessments within the UKCIP framework; (and an introduction of logistics to run a nationwide I, A & V assessment programme). *[Key reference: UKCIP case studies]*

Callendar Room OPEN with networked PCs

~ 21:00

Day 2 – Wednesday, 17th April 2002

Theme C Assessment methods and non-climate futures

The generic methodology framework for climate change impacts, adaptation and vulnerability assessments is introduced; global/regional non-climate futures (SRES) is discussed; and a session is devoted to developing non-climate scenarios for adaptation and vulnerability assessments at national/sub-national scales.

Session C.1 - 9:15 ~ 10:45

Overview of methods for Impacts, Adaptation and Vulnerability Assessments (Gina Ziervogel)

Introduction of the generic methodological framework for impacts, adaptation and vulnerability assessments, with a focus on integrated (socio-economic, environmental and climatic) scenario needs; issues with respect to integration of assessments across sectors and geographical boundaries, consistency across scenarios... [Key reference: *An Adaptation Policy Framework: Capacity building for Stage II Adaptation**, National Communications Support Programme, GEF]

Coffee/Tea - 10:45 ~ 11:00

Session C.2 - 11:00 ~ 12:30

Introduction to the SRES storylines and scenarios (Frans Berkhout)

Introduction to the four SRES storylines; how these global references can be interpreted into regional/national integrated scenarios... [Key references: *IPCC SRES; Developing socio-economic scenarios: for use in vulnerability and adaptation assessments**, UNDP]

Lunch - 12:30 ~ 14:00

Session C.3 - 14:00 ~ 15:30

Historical vulnerability assessment and case studies (Neil Adger & Nick Brooks)

Method(s) for historical vulnerability assessment; non-climatic and climate information required for such assessments; case studies

Coffee/Tea - 15:30 ~ 16:00

Session C.4 - 16:00 ~ 17:30

Development of integrated scenarios in I, V & A assessments (Tim Carter)

The roles of integrated scenarios in I, A & V assessments; matrix of methods/tools to develop integrated scenarios (socio-economic, land-use and land-cover change, environmental, climatic, and sea level scenarios)... [Key reference: *Chapter 3, IPCC TAR WGII; Developing socio-economic scenarios: for use in vulnerability and adaptation assessments**, UNDP]

Currently under review. Contact Bo Lim (Bo.Lim@undp.org) for details.

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Project teams meetings with regional mentors 17:30~18:30

Regional mentors schedule meetings with individual project teams, discuss overall project objectives, scenario needs and strategies to develop scenarios.

Informal discussion – 17:30 ~ 18:00

Participants not meeting with mentors will take advantage of this informal session to reflect on the various sessions of the day. One or two rapporteurs are requested to report back the key messages of each session and their relevance to their projects.
[Facilitators: Sara Beresford, Xianfu Lu]

Callendar Room OPEN with networked PCs ~ 21:00

Day 3 – Thursday, 18th April 2002

Theme D Climate scenarios: methods

This is designed to be the core of the entire training course. A general discussion is given on various aspects of climate scenario development and application in I, A&V assessments. Different types of climate scenarios and scenario methods are introduced sequentially. Two sessions are also included to address the issue of uncertainty and criteria for selecting scenarios, respectively.

Session D.1 - 9:15 ~ 10:45

Climate scenarios in I, A & V assessments (Mike Hulme)

The role of climate scenarios in I, A & V assessments; types of climate scenarios; methods/tools for climate scenario development...[Key reference: Chapter 13, IPCC TAR WGI]

Coffee/Tea - 10:45 ~ 11:00

Session D.2 - 11:00 ~ 12:30

Climate data for sensitivity analysis (Tim Mitchell and Tim Carter)

Incremental and analogue climate scenarios: strengths and weaknesses, global, national datasets available on the Internet (Tim Mitchell); example(s)of application in impact assessments (Tim Carter)

Lunch - 12:30 ~ 14:00

Session D.3 - 14:00 ~ 15:30

General circulation models and IPCC DDC (Xianfu Lu)

Basic physics of GCMs: representations of key processes in the models; strengths and weaknesses; applications in I, A & V assessments; available GCM-based information held at the IPCC DDC website... [Key reference: Chapter 7, 9 and 13, IPCC TAR WGI; IPCC DDC]

Coffee/Tea - 15:30 ~ 16:00

Session D.4 - 16:00 ~ 17:30

Simple climate models (Sarah Raper)

What they do; how they work; strengths and weaknesses; types of studies to which simple climate model outputs could be applied; level of expertise and computing resources required for running simple models; available technical support... [Key reference: Chapter 9 & 13, IPCC TAR WGI]

Project teams meetings with regional mentors 17:30~18:30

Informal discussion 17:30 ~ 18:00

Facilitators: Sara Beresford, Xianfu Lu

Callendar Room OPEN with networked PCs ~ 21:00

Day 4 – Friday, 19th April 2002

Session D.5 - 9:15 ~ 10:45

Downscaling techniques (Bruce Hewitson)

Introduction of dynamic (i.e., RCM) and empirical downscaling methods: what they are, what they do, what level of expertise is needed to use them competently, what resources are required to run them; strengths and weaknesses; types of assessments to which RCMs might be applied. [Key reference: Chapter 10 & 13, IPCC TAR WGI]

Coffee/Tea - 10:45 ~ 11:00

Session D.6 - 11:00 ~ 12:30

Weather generator approach (Rob Wilby)

Role of weather generators in climate scenario construction; strengths and weaknesses; introduction of the Statistical DownScaling Model (SDSM)...

Lunch - 12:30 ~ 14:00

Session D.7 - 14:00 ~ 15:00

ENSO, cyclones and extreme weather (José Marengo)

Coffee/Tea - 15:00 ~ 15:30

Session D.8 - 15:30 ~ 17:00

Representing uncertainties and selecting scenarios (Roger Jones)

Sources of uncertainties; implications of each uncertainty type to various types of studies; methodologies to address/quantify uncertainties; criteria for selecting scenarios. [Key references: Chapter 13, IPCC TAR WGI; Chapter 3, IPCC TAR WGII]

Project teams meetings with regional mentors	17:00~18:00
Informal discussion <i>Facilitators: Sara Beresford, Xianfu Lu</i>	17:00 ~ 17:30
Workshop Dinner	20:00 for 20:30

Day 5 – Saturday, 20th April 2002

- Visit to Broads to view ongoing example of adaptation to river flooding
- Free time in Norwich

Day 6 – Sunday, 21st April 2002

- Visit to Ecotech Centre, Swaffham
- Visit to Cambridge

Day 7 – Monday, 22nd April 2002

Theme E Climate scenarios: hands-on practice

After going through all the ‘theoretical’ elements of scenario development methods/tools, participants are given opportunities to practise a range of methods/tools on dedicated PCs.

Session E.1 - 9:15 ~ 12:30 (venue: IT lab)

SDSM exercise (Rob Wilby to introduce the SDSM; mentors: Rob Wilby, Xianfu Lu, Tim Mitchell)

Lunch - 12:30 ~ 14:00

Session E.2 - 14:00 ~ 17:30 (venue: IT lab)

MAGICC/SCENGEN, CLIMPACTS, (Introduction by Mike Hulme; mentors: Louise Bohn, Xianfu Lu, John Turnpenny)

Callendar Room OPEN with networked PCs ~ 21:00

Day 8 – Tuesday, 23rd April 2002

Session E.3 - 9:15 ~ 12:30 (venue: IT lab)

Hadley Centre RCM tool exercise (Richard Jones and team to introduce the PRECIS system; mentors: Richard Jones and team, Xianfu Lu, Tim Mitchell)

Lunch - 12:30 ~ 14:00

Session E.4 - 14:00 ~ 14:30 (venue: IT lab)

DDC demonstration and visualization (Xianfu Lu)

Session E.5 - 14:30 ~ 17:30 (venue: IT lab)

Further practice with tools of special use (Mentors: Xianfu Lu, Louise Bohn, Tim Mitchell, Richard Jones and team)

Participants have free choices to practise with the tools they perceive most relevant to their projects.

Callendar Room OPEN with networked PCs ~ 21:00

Day 9 – Wednesday, 24th April 2002

Short briefing 9:15 ~ 9:30

To assist participants and mentors with preparing for the final day presentations, the purpose and expected outcomes of these presentations are revisited. *(Mike Hulme)*

Session E.5 (continued) - 9:30 ~ 12:30 (venue: IT lab)

Mentors: Xianfu Lu, Louise Bohn, Tim Mitchell, Richard Jones and team

Lunch - 12:30 ~ 14:00

Theme F Scenario design

After going through the training sessions, participants are encouraged to design a strategy to meet the scenario needs of their project.

Session F.1 * - 14:00 ~ 17:30

Designing a strategy for project study needs and preparing for group presentations (mentors: Roger Jones, Bruce Hewitson, José Marengo, Xianfu Lu)

Callendar Room OPEN with networked PCs ~ 21:00

Day 10 – Thursday, 25th April 2002

Session F.2 - 9:15 ~ 12:30 (Venue: Sports Park)

Group presentations on scenario design (Facilitators: Neil Leary, Mike Hulme)

Participants will be organised into three regional groups to present their scenario development strategies. Each presentation (~ 30 minutes) will be followed by discussions (~ 30 minutes).

Participants are encouraged to start this session before lunch time, if they decide they have already had enough hands-on practice.

Lunch - 12:30 ~ 14:00

Presentation:

How did media report on climate change scenarios? (*Simon Torok*) **14:00~14:45**

A case study on how UK media responded to the launch of the UKCIP02 Climate Change Scenarios Report.

Wrap-up

Participants feedback on the Workshop and make follow-up arrangements with AIACC staff and regional mentors.

Wrap.1 - 14:45 ~ 15:15

Discussion and workshop evaluation (Facilitators: Neil Leary, Mike Hulme)

Coffee/Tea - 15:15 ~ 15:45

Wrap.2 - 15:45 ~ 16:45

Follow-up arrangements with AIACC staff and regional mentors (Neil Leary, Roger Jones, Bruce Hewitson, José Marengo, Xianfu Lu)

Participants break into regional groups, to discuss with AIACC staff and regional mentors on follow-up arrangements.

Farewell social event – 19:30 ~

Day 11 – Friday, 26th April 2002

Participants depart from UEA