

SCCIP
scottish climate change
impacts partnership



**SMALL TOWN AND
RURAL DEVELOPMENT GROUP**
**LAND USE
CONSULTANTS**



Carse of Gowrie Climate Change Panel

Carse of Gowrie Climate Change Panel

Session 1: your area
22 February 2011

Welcome

Carse of Gowrie Climate Change Panel

Introduction and background

Climate change - national policy agenda
National research for Scottish Natural Heritage
Nairn and the Machars
Scottish Climate Change Impacts Partnership
Perth and Kinross Council
Ground rules!
Dialogue...

Carse of Gowrie Climate Change Panel

Overview of the process

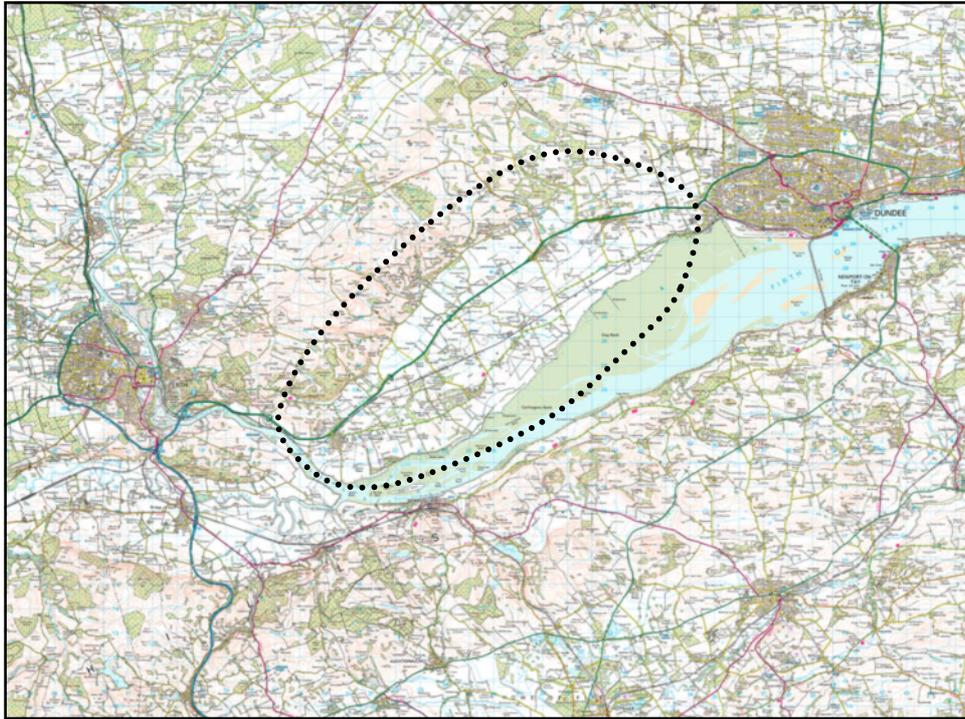
Session 1: your area and its climate
Session 2: how climate change could affect the area
Session 3: choices and trade-offs: your priorities

Carse of Gowrie Climate Change Panel

What's the area we are looking at?

Carse of Gowrie Climate Change Panel





The local area

How would you describe the area to someone who's never been here?

Think about the different **places** or particular **features** that make up the area

Think about those places or features which make the area **distinctive** or which you think are particularly **special** or **important**

Equally importantly, think about the negative things about the area – **current problems or issues**

Carse of Gowrie Climate Change Panel

- natural environment
- built environment
- local economy
- social and community
- culture and heritage

- strengths
- weaknesses

Carse of Gowrie Climate Change Panel

Adapting to Climate Change Workshops

OUR NATURAL ENVIRONMENT

Forests and Woodlands, Rivers and Lochs, Mountains and Moorland, Coast and Sea, Fields and Farmland, Flora and Fauna

STRENGTHS

WEAKNESSES

Carse of Gowrie Climate Change Panel

Adapting to Climate Change Workshops

OUR NATURAL ENVIRONMENT

Forests and Woodlands, Rivers and Lochs, Mountains and Moorland, Coast and Sea, Fields and Farmland, Flora and Fauna

STRENGTHS	WEAKNESSES
<p><i>Drummond Castle and Gardens</i> <i>Circular walk around the village</i> <i>Views over farmland and woodlands to the Highlands</i> <i>River Earn - walking and fishing</i> <i>Bennybeg geological dyke - climbing</i> <i>Torlum hills - great views along Strathearn towards the Ochils and Sidlaws</i> <i>Bennybeg Pond</i></p>	

Carse of Gowrie Climate Change Panel

Adapting to Climate Change Workshops

OUR NATURAL ENVIRONMENT

Forests and Woodlands, Rivers and Lochs, Mountains and Moorland, Coast and Sea, Fields and Farmland, Flora and Fauna

STRENGTHS	WEAKNESSES
<p><i>Drummond Castle and Gardens</i> <i>Circular walk around the village</i> <i>Views over farmland and woodlands to the Highlands</i> <i>River Earn - walking and fishing</i> <i>Bennybeg geological dyke - climbing</i> <i>Torlum hills - great views along Strathearn towards the Ochils and Sidlaws</i> <i>Bennybeg Pond</i></p>	<p><i>Loss of old trees along field boundaries</i> <i>Noise from traffic along the A822</i> <i>Flooding along burns and the River Earn</i> <i>Grey squirrels taking over from the reds</i> <i>The scars left by clear felled forestry</i></p>

Carse of Gowrie Climate Change Panel

Process

List the places or features on the sheet

Mark and number the main places and features on the map

We are here to help

Carse of Gowrie Climate Change Panel

The changing climate

Carse of Gowrie Climate Change Panel

The changing climate

Weather refers to day to day or year to year variations in conditions

Climate refers to average conditions – usually taken over a 30 year period. Allows trends and patterns to be detected. Based on long term global patterns.

Carse of Gowrie Climate Change Panel

The changing climate

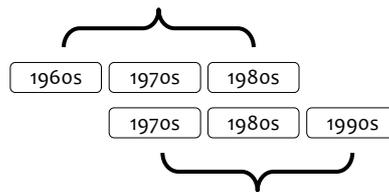
Weather refers to day to day or year to year variations in conditions

Climate refers to average conditions – usually taken over a 30 year period. Allows trends and patterns to be detected. Based on long term global patterns.

Carse of Gowrie Climate Change Panel

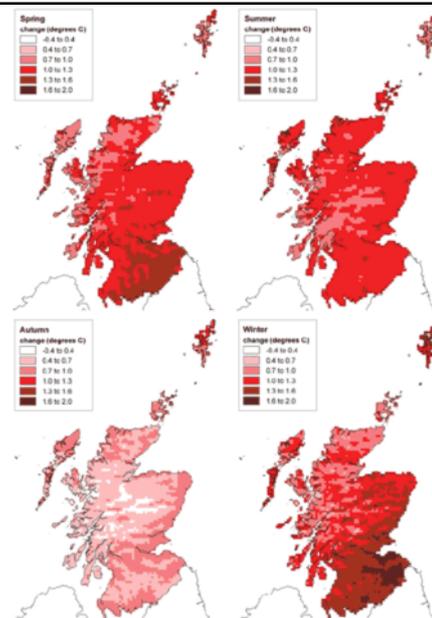
Recent climate data

Comparison of figures for the thirty years from 1961-1990 with the thirty years from 1971-2000 indicates the climate is already changing..



Carse of Gowrie Climate Change Panel

Temperature
it's already getting warmer
(between 1 and 1.6°C)

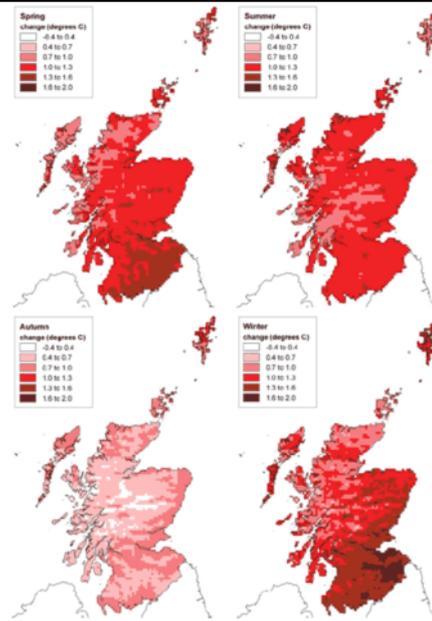


Patterns of change in average temperature (in °C) between 1961 and 2004 for each season
Source: SNIFFER (2006) Climate Trends Handbook
www.sniffer.org.uk

Carse of Gowrie Climate Change Panel

Temperature
it's already getting warmer
 (between 1 and 1.6°C)

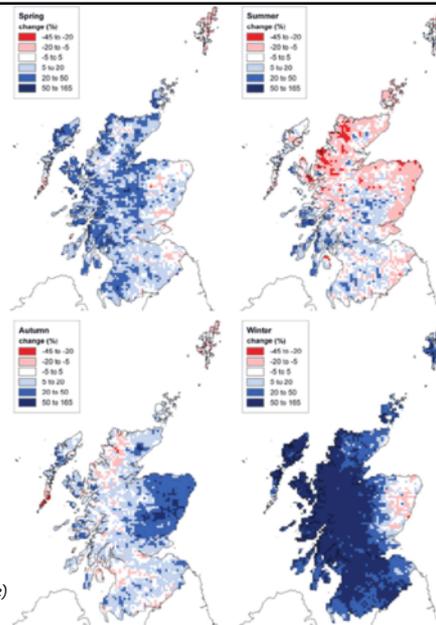
Autumn
+0.7 to 1°C
Spring and summer
+1 to 1.3°C
Winter
+1.3°C to 2°C



Patterns of change in average temperature (in °C) between 1961 and 2004 for each season
 Source: SNIFFER (2006) Climate Trends Handbook
www.sniffer.org.uk

Carse of Gowrie Climate Change Panel

Rain, hail, sleet and snow
Overall trend towards drier summers
and wetter winters – though with
important variations

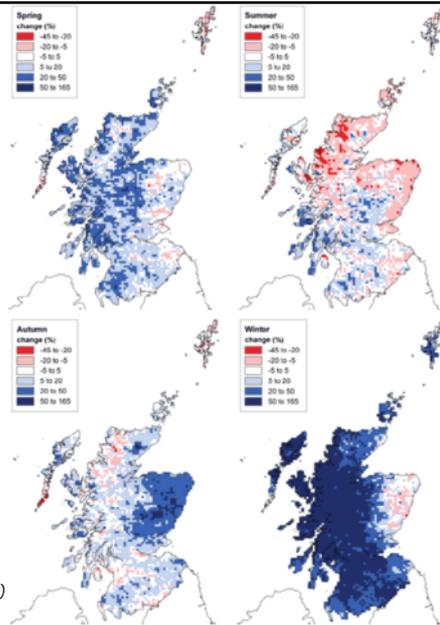


Patterns of change in precipitation totals (as a percentage) between 1961 and 2004 for each season.
 Source: SNIFFER (2006) Climate Trends Handbook
www.sniffer.org.uk

Carse of Gowrie Climate Change Panel

Rain, hail, sleet and snow
 Overall trend towards drier summers
 and wetter winters – though with
 important variations

Spring
 Little change on the Carse,
 drier on the Sidlaws

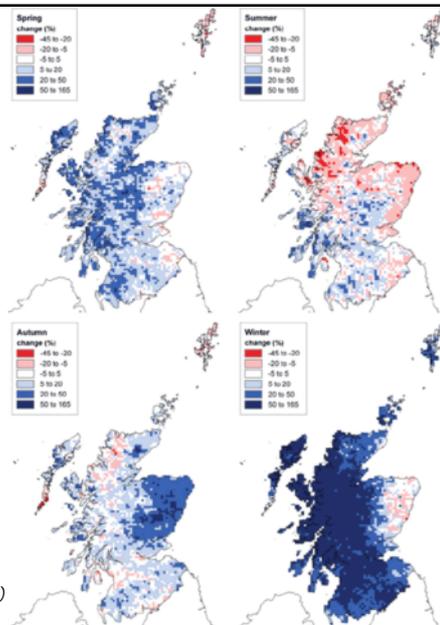


Patterns of change in precipitation totals (as a percentage)
 between 1961 and 2004 for each season.
 Source: SNIFFER (2006) Climate Trends Handbook
www.sniffer.org.uk

Carse of Gowrie Climate Change Panel

Rain, hail, sleet and snow
 Overall trend towards drier summers
 and wetter winters – though with
 important variations

Spring
 Little change on the Carse,
 drier on the Sidlaws
Summer
 Little change on the Carse – drier
 to the east, wetter to the north



Patterns of change in precipitation totals (as a percentage)
 between 1961 and 2004 for each season.
 Source: SNIFFER (2006) Climate Trends Handbook
www.sniffer.org.uk

Carse of Gowrie Climate Change Panel

Rain, hail, sleet and snow

Overall trend towards drier summers and wetter winters – though with important variations

Spring

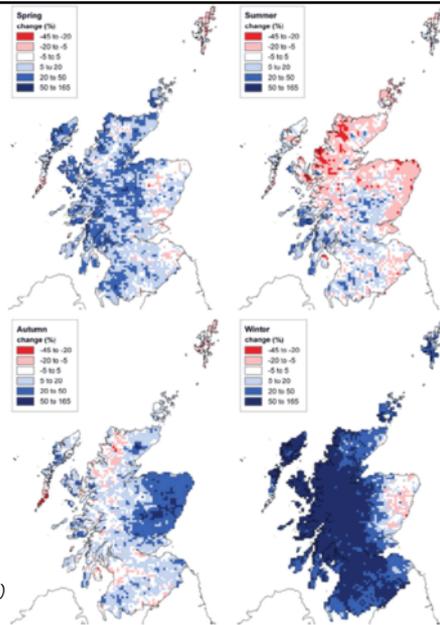
Little change on the Carse, drier on the Sidlaws

Summer

Little change on the Carse – drier to the east, wetter to the north

Autumn

Up to 50% wetter



Patterns of change in precipitation totals (as a percentage) between 1961 and 2004 for each season.
Source: SNIFFER (2006) Climate Trends Handbook
www.sniffer.org.uk

Carse of Gowrie Climate Change Panel

Rain, hail, sleet and snow

Overall trend towards drier summers and wetter winters – though with important variations

Spring

Little change on the Carse, drier on the Sidlaws

Summer

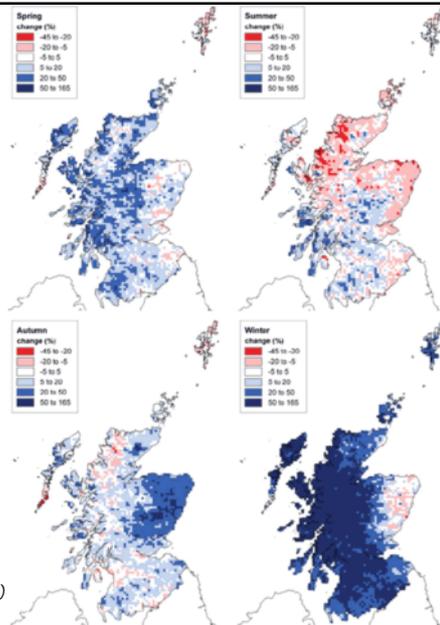
Little change on the Carse – drier to the east, wetter to the north

Autumn

Up to 50% wetter

Winter

Up to 50% wetter in the west, up to 20% wetter in the east



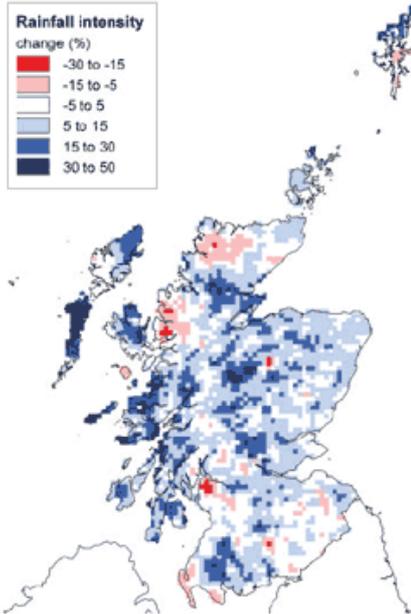
Patterns of change in precipitation totals (as a percentage) between 1961 and 2004 for each season.
Source: SNIFFER (2006) Climate Trends Handbook
www.sniffer.org.uk

Carse of Gowrie Climate Change Panel

Rainfall

Some areas seeing an increase in intensity of rainfall

+ 5 to 15%



Pattern of change (as a percentage) in rainfall intensity each year on days with 1mm or more of rain, from 1961 to 2004.
Source: SNIFFER (2006) Climate Trends Handbook
www.sniffer.org.uk

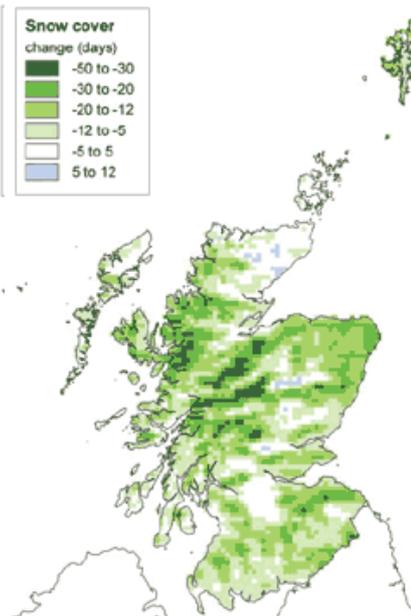
Carse of Gowrie Climate Change Panel

Snow cover

Parts of the Highlands seeing up to 50 days less snow cover per year

Between 5 and 12 days less on the Carse

Up to 20 or even 30 days less on the Sidlaws



Pattern of change in snow cover (in days) each year, from 1961 to 2004.
Source: SNIFFER (2006) Climate Trends Handbook
www.sniffer.org.uk

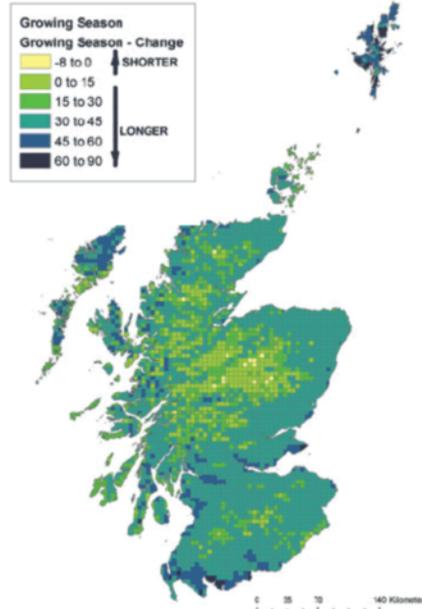
Carse of Gowrie Climate Change Panel

Growing season

Already more than a month longer than in the 1960s

+ 30-45 days

*Pattern of change in the length of the growing season (in days) from 1961 to 2004 calculated from the extended UKCIP02 dataset.
Source: SNIFFER (2006) Climate Trends Handbook
www.sniffer.org.uk*



Carse of Gowrie Climate Change Panel

... in summary

climate records suggest it is already getting warmer, winters are much wetter, the growing season is longer and the snowy winters of our childhoods are less common

Carse of Gowrie Climate Change Panel

Discussion

Have you noticed any ways in which the climate is changing here in the Carse of Gowrie?

- Rainfall
- Temperature
- Summers
- Winters

Carse of Gowrie Climate Change Panel

Future climate change

Latest UK Climate Projections published in 2009

Complex data covering different time periods, different emission scenarios and based on differing levels of probability.

Key messages:

- Summers will become hotter and drier
- Winters will become milder and, in most parts of Scotland, wetter

UKCP09 assumptions (timescale, emission levels, probability)

Carse of Gowrie Climate Change Panel

