

Results of the 2nd AVEC scenarios questionnaire on Europe in the 2050s

The AVEC 2 Summer School Participants

Scenarios questionnaire

Your task:

- To consider the current state of the society, economy and environment in Europe
- To think about plausible developments of these by the 2050s
- To assign subjective probabilities to different outcomes

AVEC 2050 Scenarios questionnaire

Please enter your estimate of the percentage likelihood of each outcome listed occurring by 2050

Population of Europe (505 million in 1995)											Totals
Population (million)	< 405	405-430	430-455	455-480	480-505	505-530	530-555	555-580	580-605	> 605	
Likelihood of occurrence (%)											0
Gross Domestic Product (GDP) per capita (OECD Europe = 23600; Eastern Europe = 2800 in 1995)											
OECD Europe (thousand US\$)	< 23.6	23.6-28.6	28.6-33.6	33.6-38.6	38.6-43.6	43.6-48.6	48.6-53.6	53.6-58.6	58.6-63.6	> 63.6	
Likelihood of occurrence (%)											0
Eastern Europe (thousand US\$)	< 2.8	2.8-7.8	7.8-12.8	12.8-17.8	17.8-22.8	22.8-27.8	27.8-32.8	32.8-37.8	37.8-42.8	> 42.8	
Likelihood of occurrence (%)											0
Change in emissions of acidifying and eutrophying compounds (relative to 2000)											
Change in SO ₂ emissions (%)	< -80	-80 - -60	-60 - -40	-40 - -20	-20 - 0	0 - 20	20 - 40	40 - 60	60 - 80	> 80	
Likelihood of occurrence (%)											0
Change in NO _x emissions (%)	< -80	-80 - -60	-60 - -40	-40 - -20	-20 - 0	0 - 20	20 - 40	40 - 60	60 - 80	> 80	
Likelihood of occurrence (%)											0
Change in European land use (relative to 1995)											
Change in agricultural area (%)	< -20	-20 - -15	-15 - -10	-10 - -5	-5 - 0	0 - 5	5 - 10	10 - 15	15 - 20	> 20	
Likelihood of occurrence (%)											0
Change in urban area (%)	< -20	-20 - -15	-15 - -10	-10 - -5	-5 - 0	0 - 5	5 - 10	10 - 15	15 - 20	> 20	
Likelihood of occurrence (%)											0
Change in forest area (%)	< -20	-20 - -15	-15 - -10	-10 - -5	-5 - 0	0 - 5	5 - 10	10 - 15	15 - 20	> 20	
Likelihood of occurrence (%)											0
Relative sea-level change (cm)											
Helsinki, Finland	< -40	-40 - -30	-30 - -20	-20 - -10	-10 - 0	0 - 10	10 - 20	20 - 30	30 - 40	> 40	
Likelihood of occurrence (%)											0
Hamburg, Germany	< -40	-40 - -30	-30 - -20	-20 - -10	-10 - 0	0 - 10	10 - 20	20 - 30	30 - 40	> 40	
Likelihood of occurrence (%)											0
Venice, Italy	< -40	-40 - -30	-30 - -20	-20 - -10	-10 - 0	0 - 10	10 - 20	20 - 30	30 - 40	> 40	
Likelihood of occurrence (%)											0

Global mean annual CO₂ concentration (~377 ppm at Mauna Loa, Hawaii in 2004)

CO ₂ concentration (ppm)	< 270	270-370	370-470	470-570	570-670	670-770	770-870	870-970	970-1070	>1070	
Likelihood of occurrence (%)											0

Climate in northern Europe (north of 47.5°N) relative to 1961-1990

Mean winter (DJF) temperature change (°C)	< -8	-8 - -6	-6 - -4	-4 - -2	-2 - 0	0 - 2	2 - 4	4 - 6	6 - 8	> 8	
Likelihood of occurrence (%)											0
Mean winter (DJF) precipitation change (%)	< -40	-40 - -30	-30 - -20	-20 - -10	-10 - 0	0 - 10	10 - 20	20 - 30	30 - 40	> 40	
Likelihood of occurrence (%)											0
Mean summer (JJA) temperature change (°C)	< -8	-8 - -6	-6 - -4	-4 - -2	-2 - 0	0 - 2	2 - 4	4 - 6	6 - 8	> 8	
Likelihood of occurrence (%)											0
Mean summer (JJA) precipitation change (%)	< -40	-40 - -30	-30 - -20	-20 - -10	-10 - 0	0 - 10	10 - 20	20 - 30	30 - 40	> 40	
Likelihood of occurrence (%)											0

Climate in southern Europe (south of 47.5°N) relative to 1961-1990

Mean winter (DJF) temperature change (°C)	< -8	-8 - -6	-6 - -4	-4 - -2	-2 - 0	0 - 2	2 - 4	4 - 6	6 - 8	> 8	
Likelihood of occurrence (%)											0
Mean winter (DJF) precipitation change (%)	< -40	-40 - -30	-30 - -20	-20 - -10	-10 - 0	0 - 10	10 - 20	20 - 30	30 - 40	> 40	
Likelihood of occurrence (%)											0
Mean summer (JJA) temperature change (°C)	< -8	-8 - -6	-6 - -4	-4 - -2	-2 - 0	0 - 2	2 - 4	4 - 6	6 - 8	> 8	
Likelihood of occurrence (%)											0
Mean summer (JJA) precipitation change (%)	< -40	-40 - -30	-30 - -20	-20 - -10	-10 - 0	0 - 10	10 - 20	20 - 30	30 - 40	> 40	
Likelihood of occurrence (%)											0

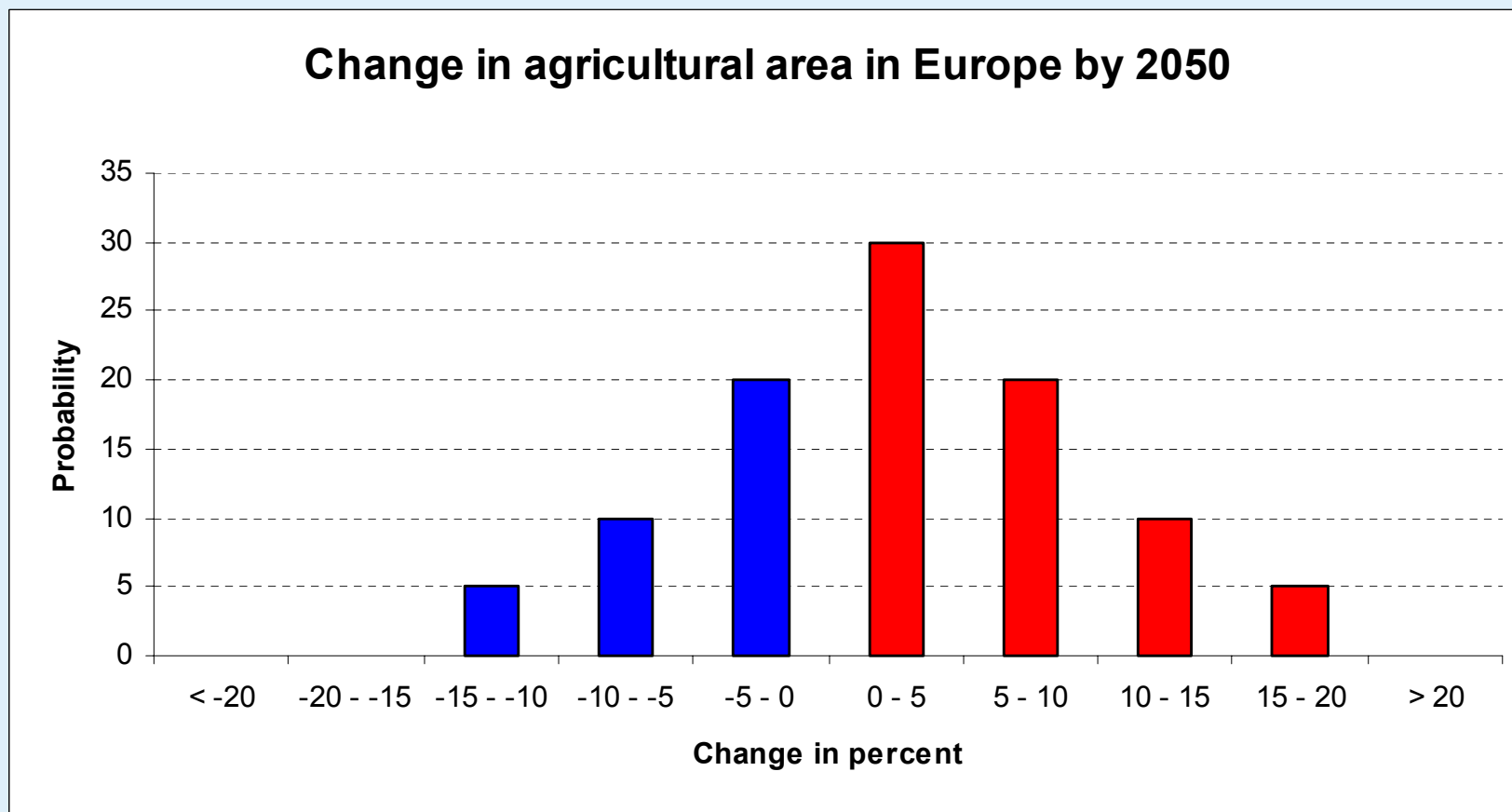
Are you more familiar with regions north or south of latitude 47.5°N?

You have been allocated the following random number:

Error: row totals

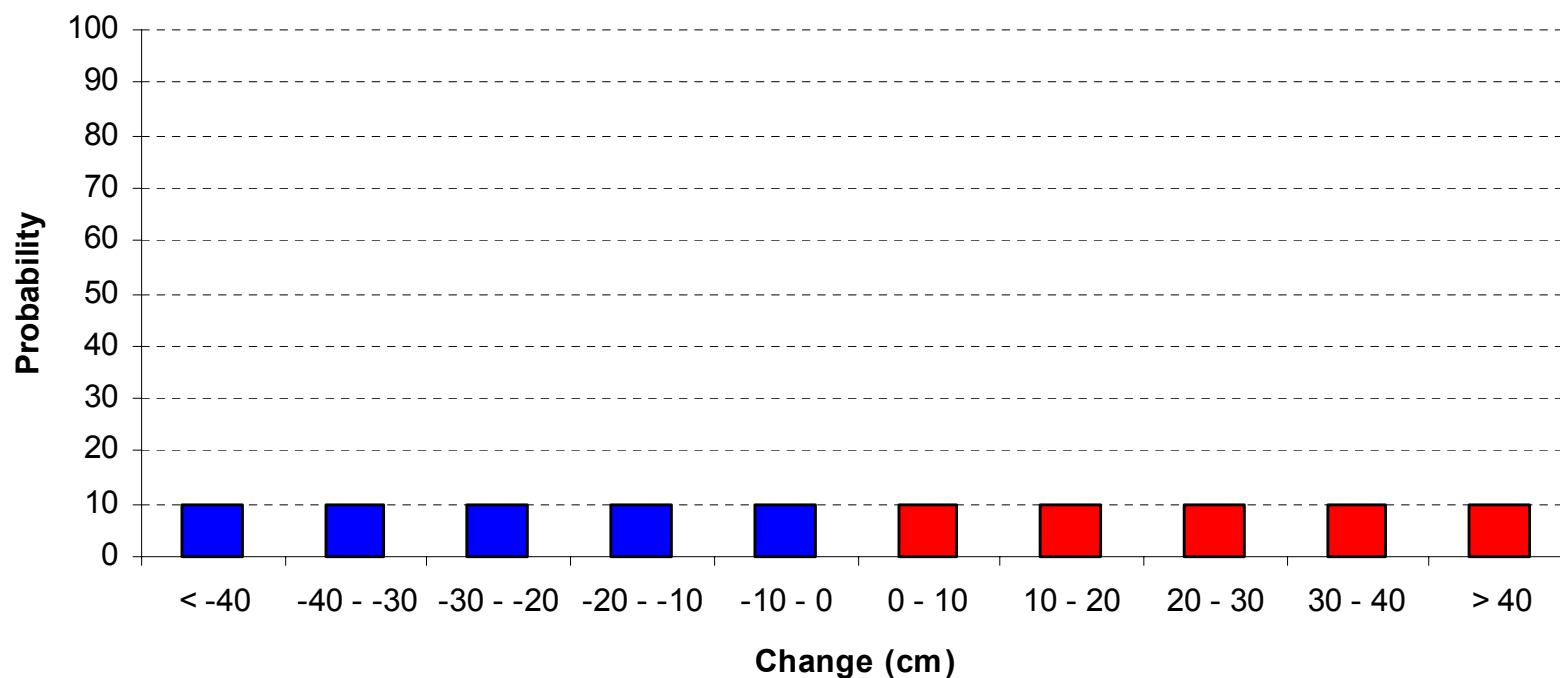
EXIT

A perfectly normal specimen



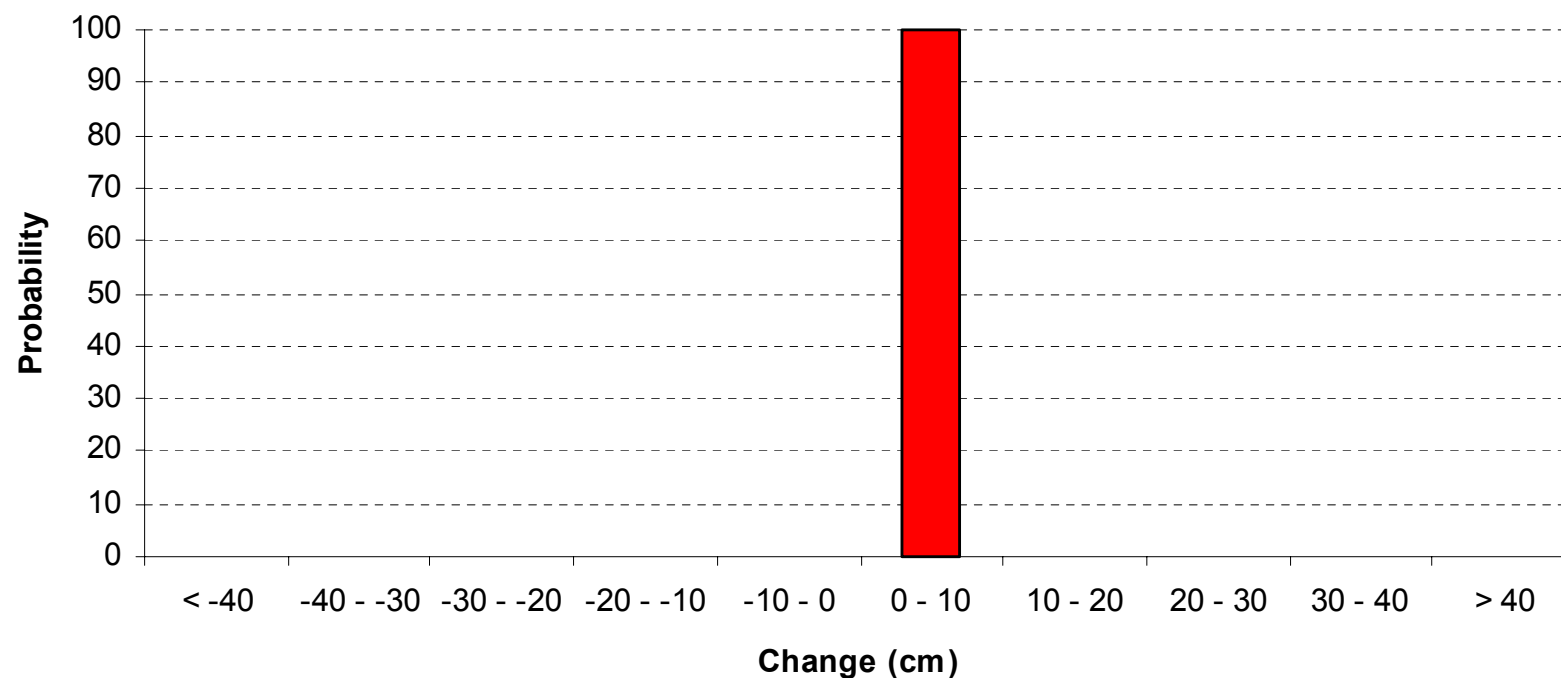
Hedger – anything is possible

Relative sea level change by 2050: Helsinki



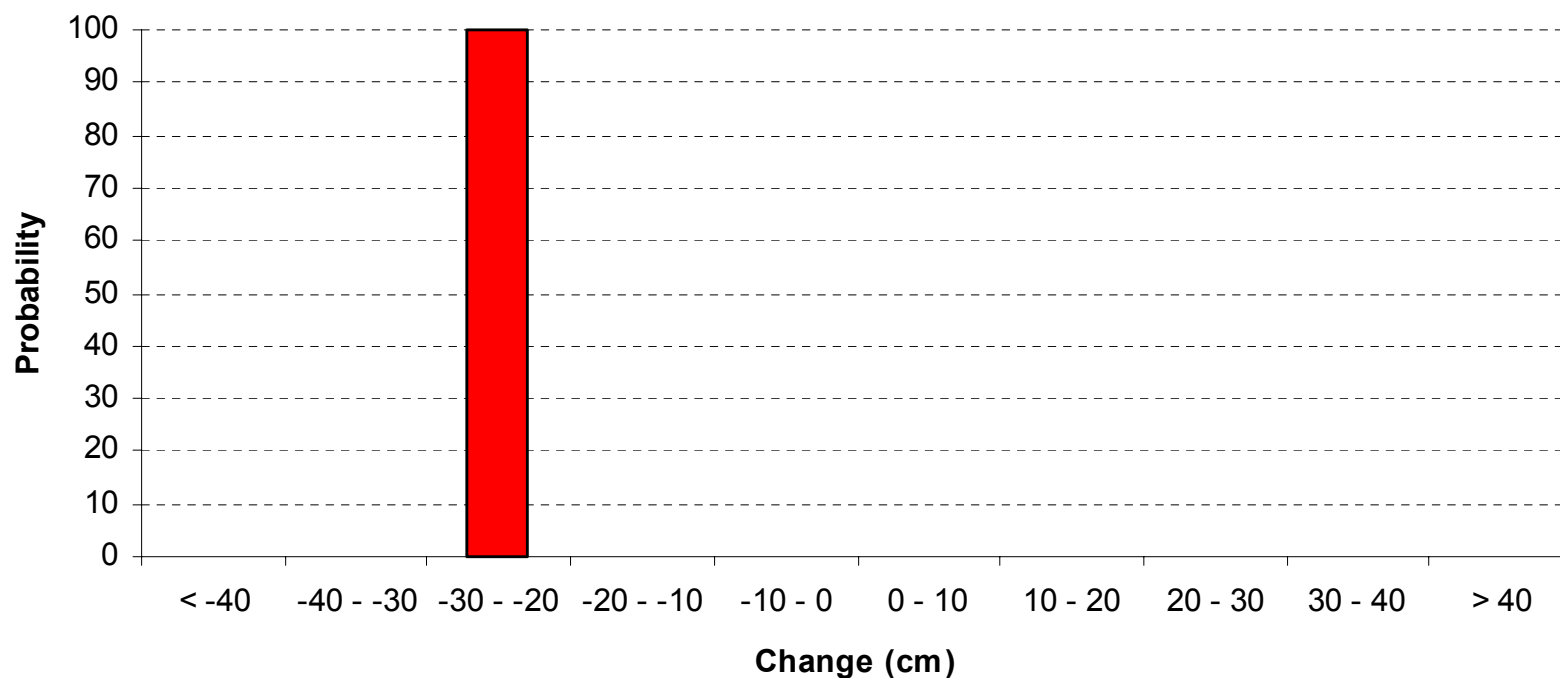
Margaret Thatcher model

Relative sea level change by 2050: Helsinki



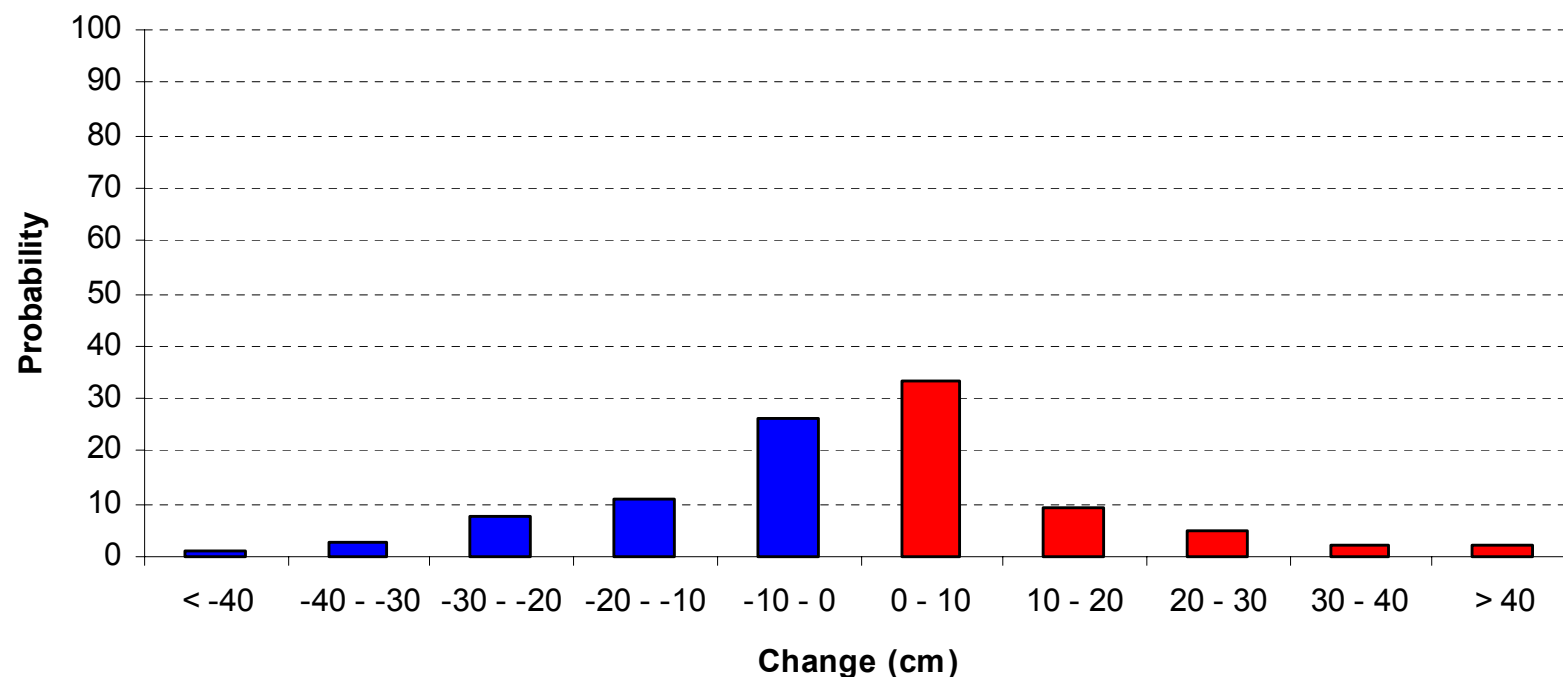
Sorry, but Thatcher is wrong!

Relative sea level change by 2050: Helsinki



The full group – almost normal

Relative sea level change by 2050: Helsinki



Now the full results – well almost

28.10.2005

Sample size (AVEC 2): 36

Sample size (AVEC 1): 46

SRES

B2



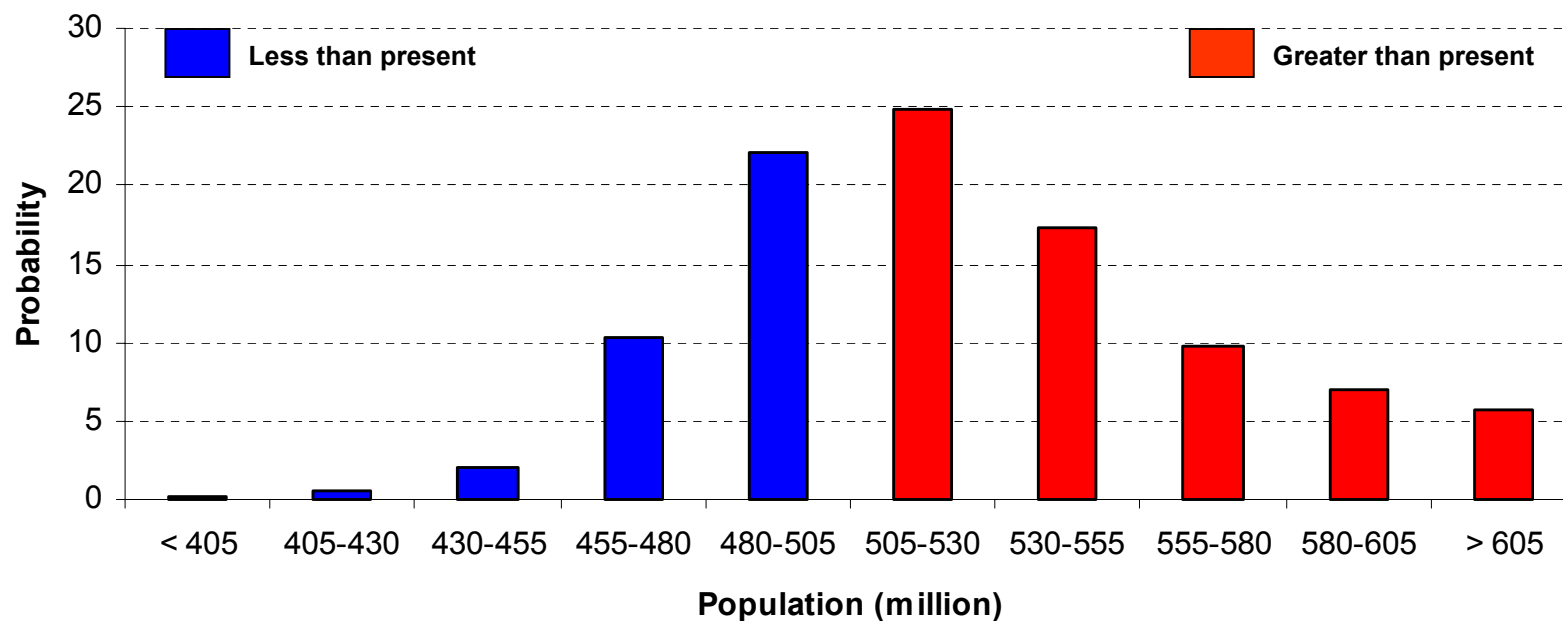
A1, B1



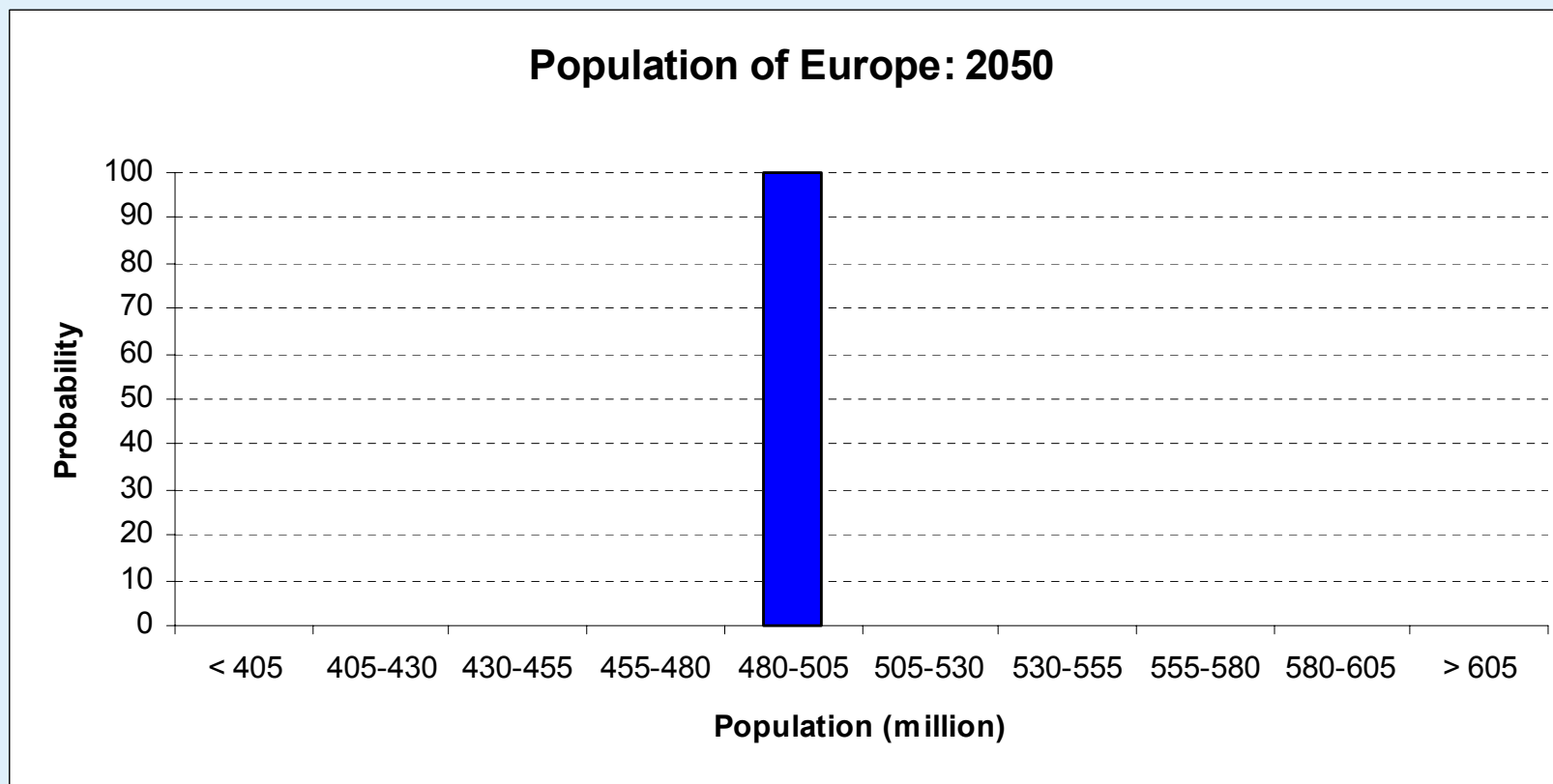
A2



Population of Europe: 2050



Margaret Thatcher model AVEC 2



SRES

B2



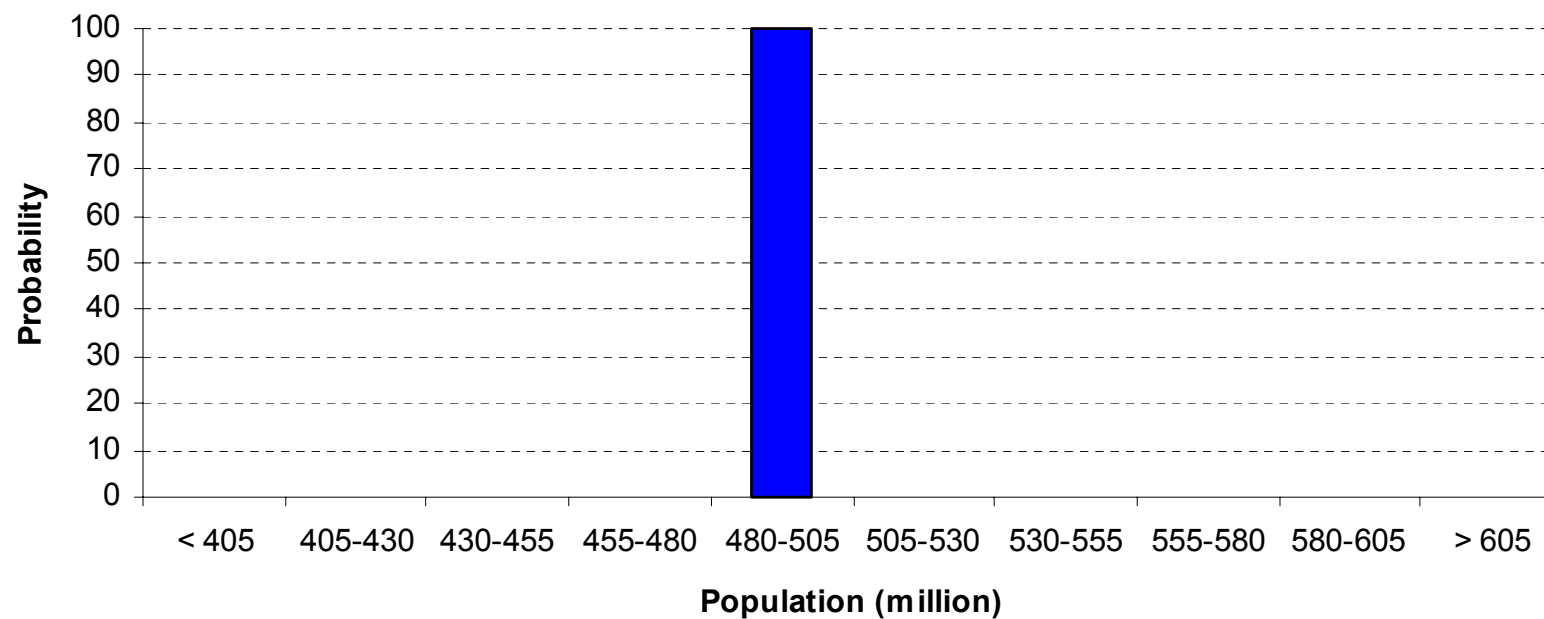
A1, B1



A2



Population of Europe: 2050



SRES

B2



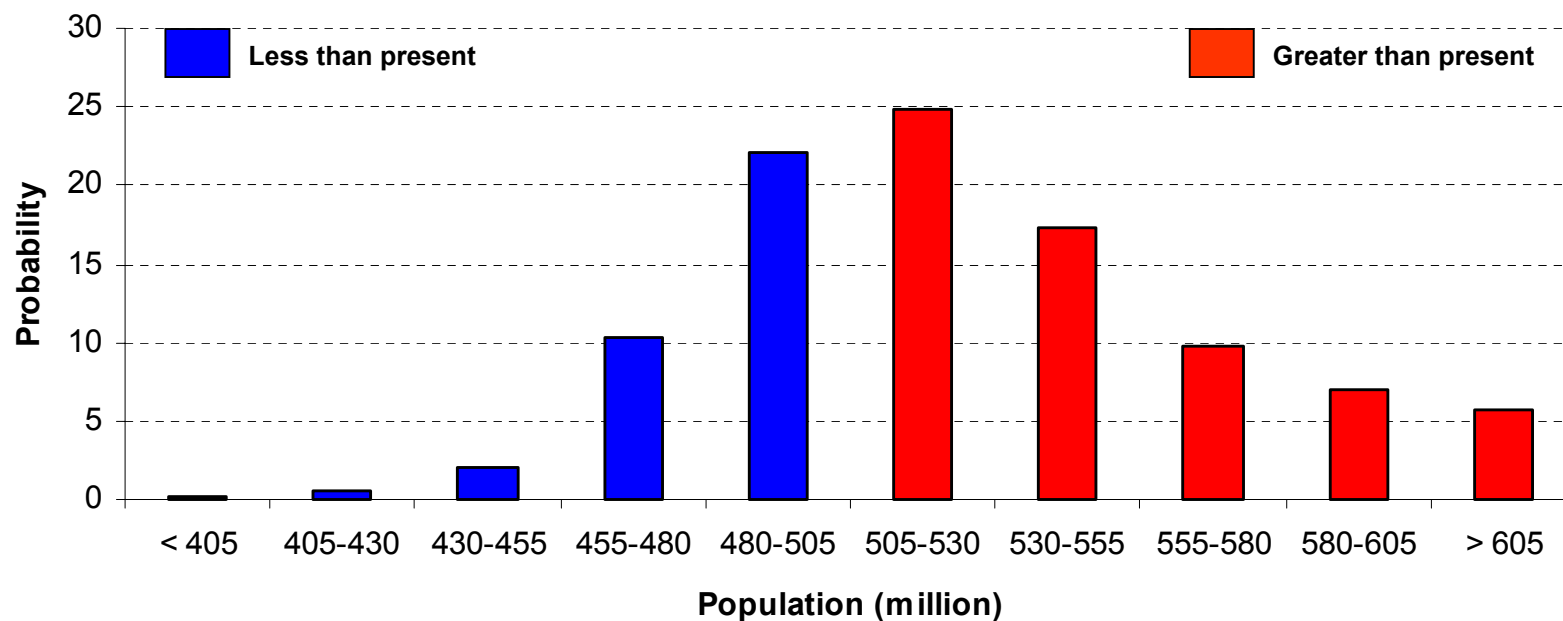
A1, B1



A2



Population of Europe: 2050



SRES

B2



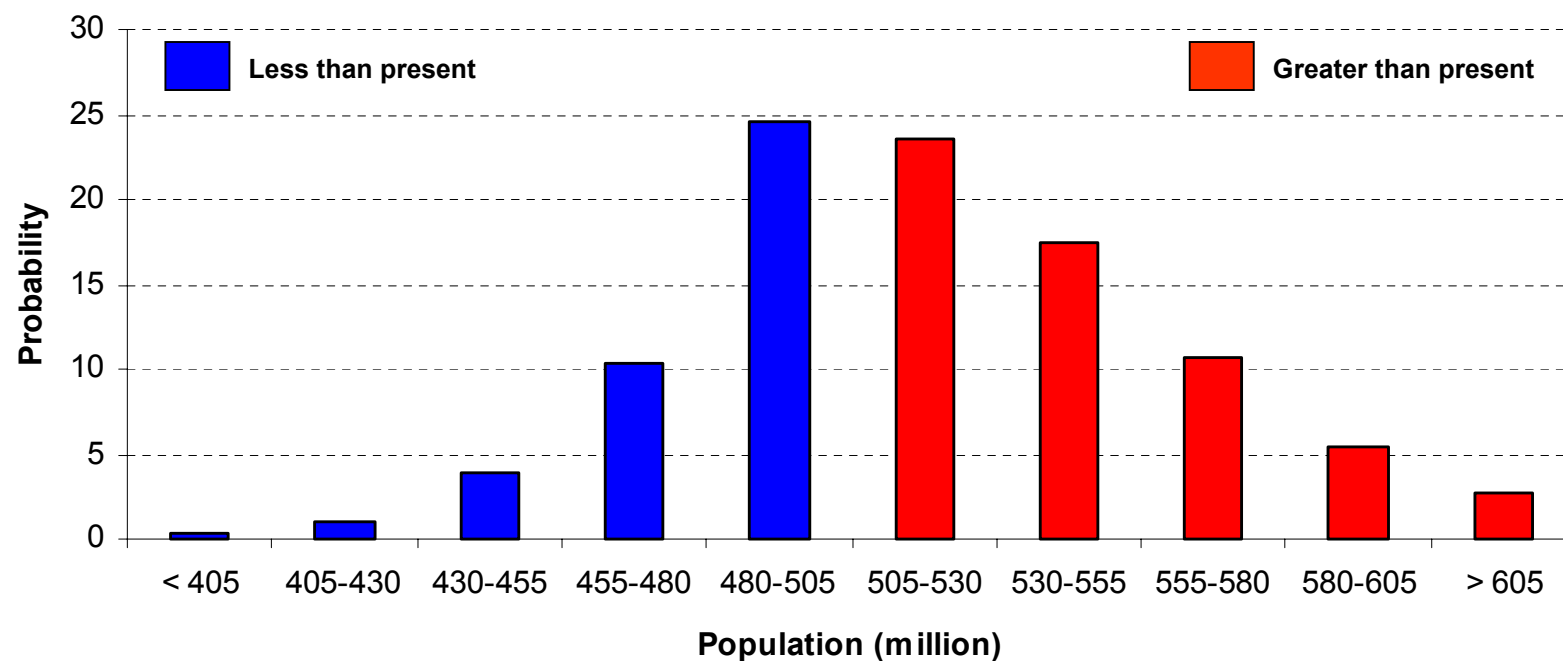
A1, B1



A2



Population of Europe: 2050



SRES

A2



B2



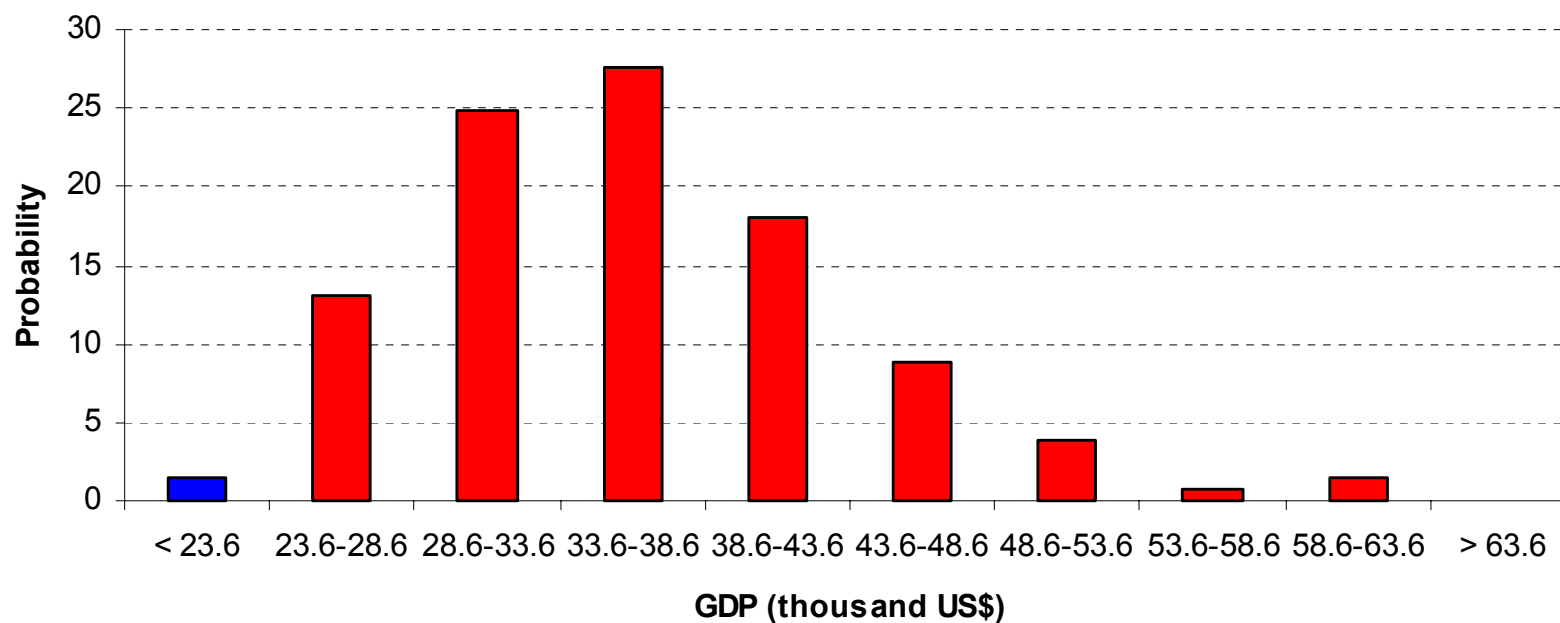
B1



A1



GDP per capita in OECD Europe: 2050



SRES

A2



B2



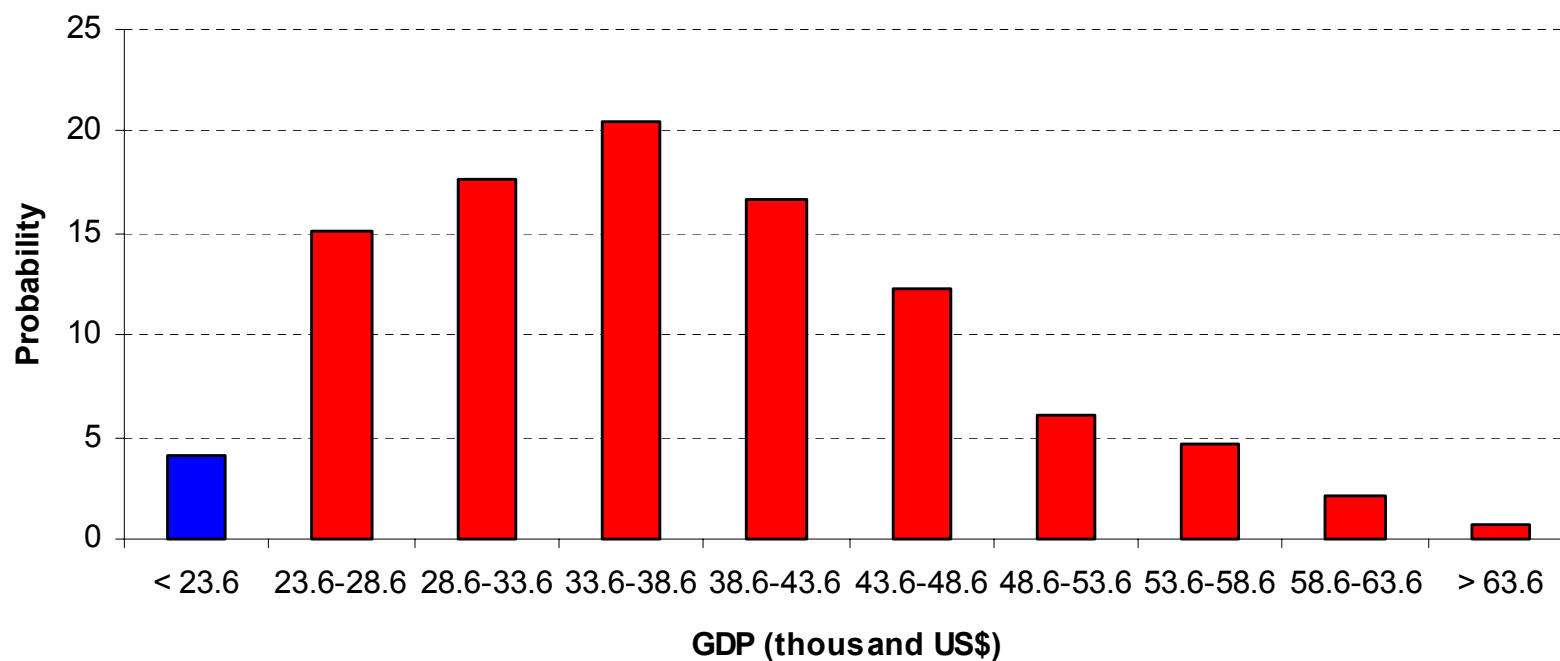
B1



A1



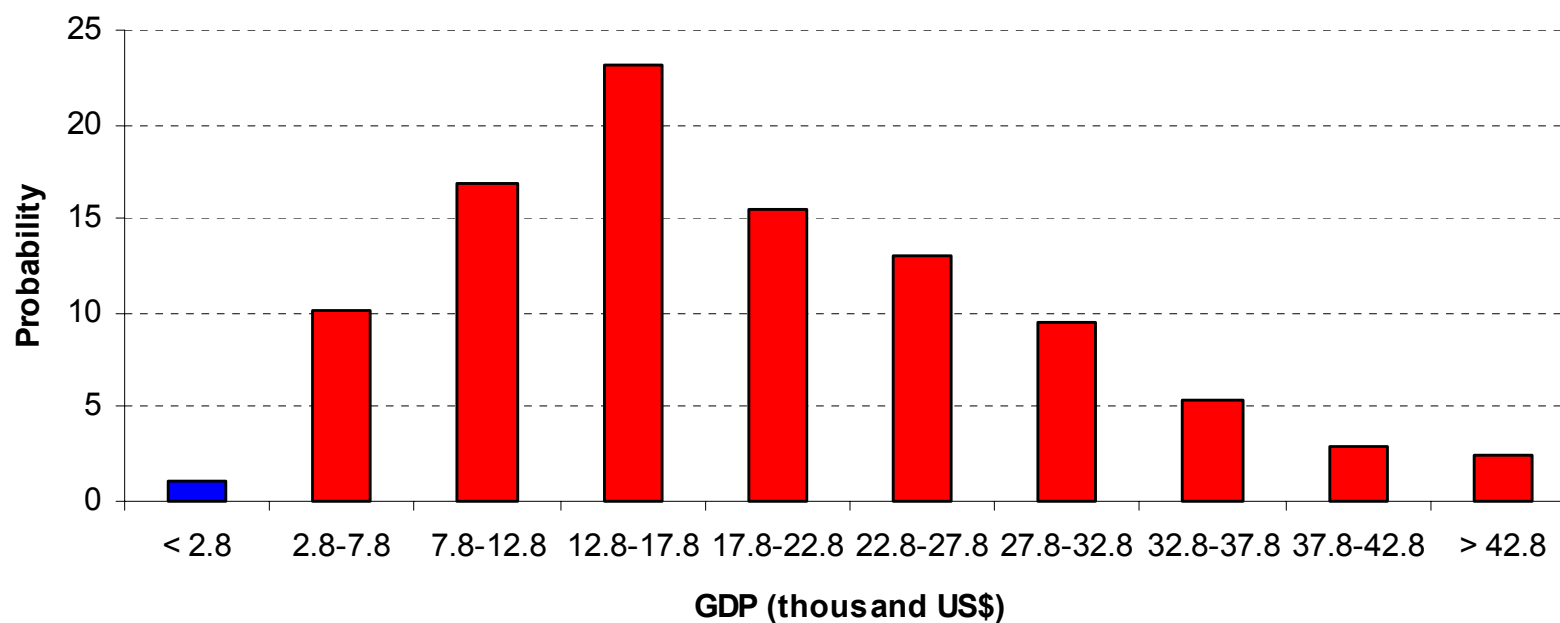
GDP per capita in OECD Europe: 2050



SRES



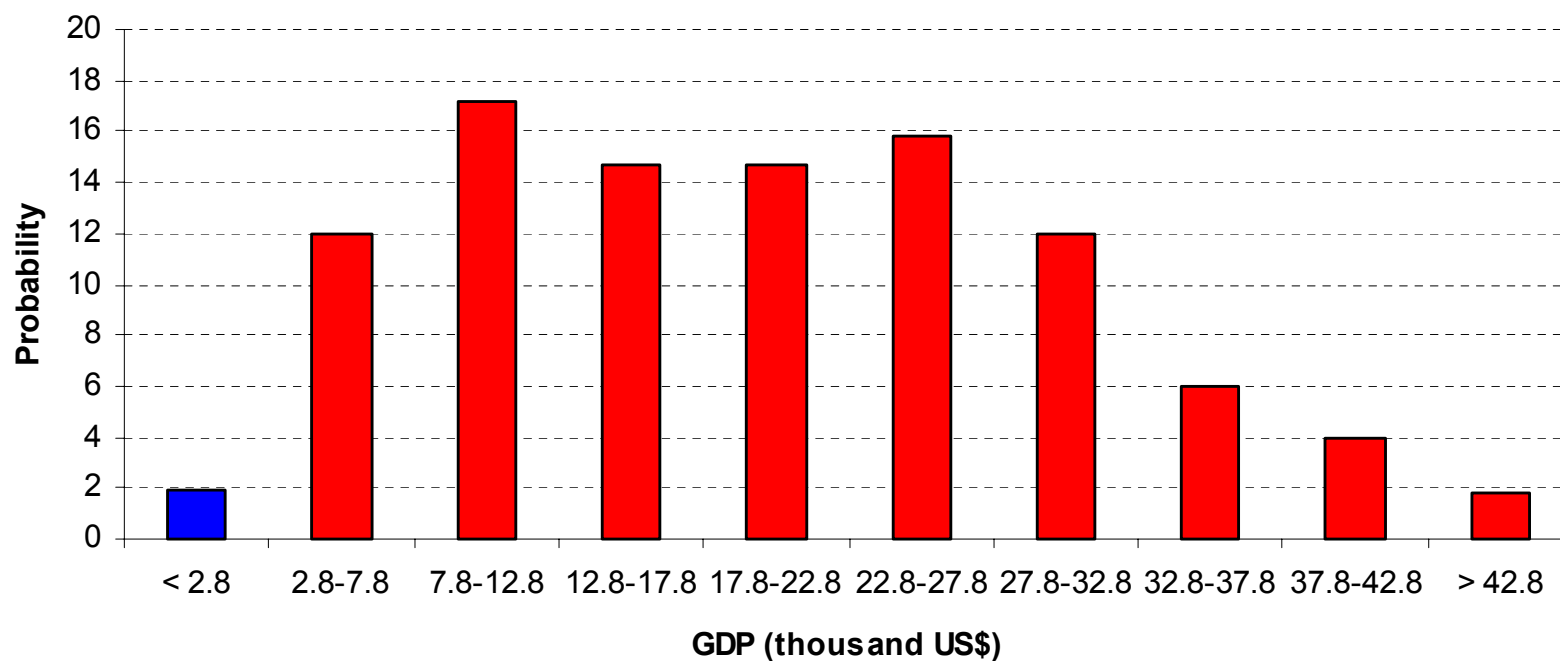
GDP per capita in Eastern Europe: 2050



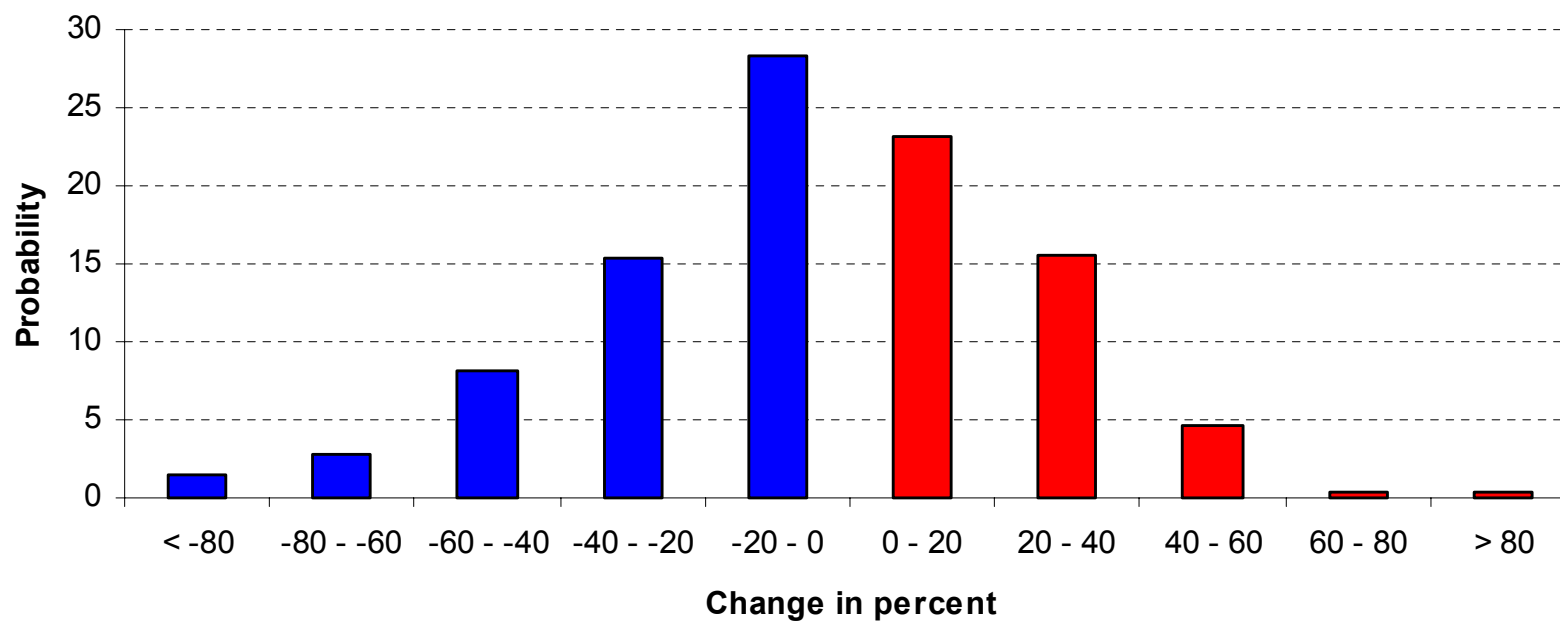
SRES



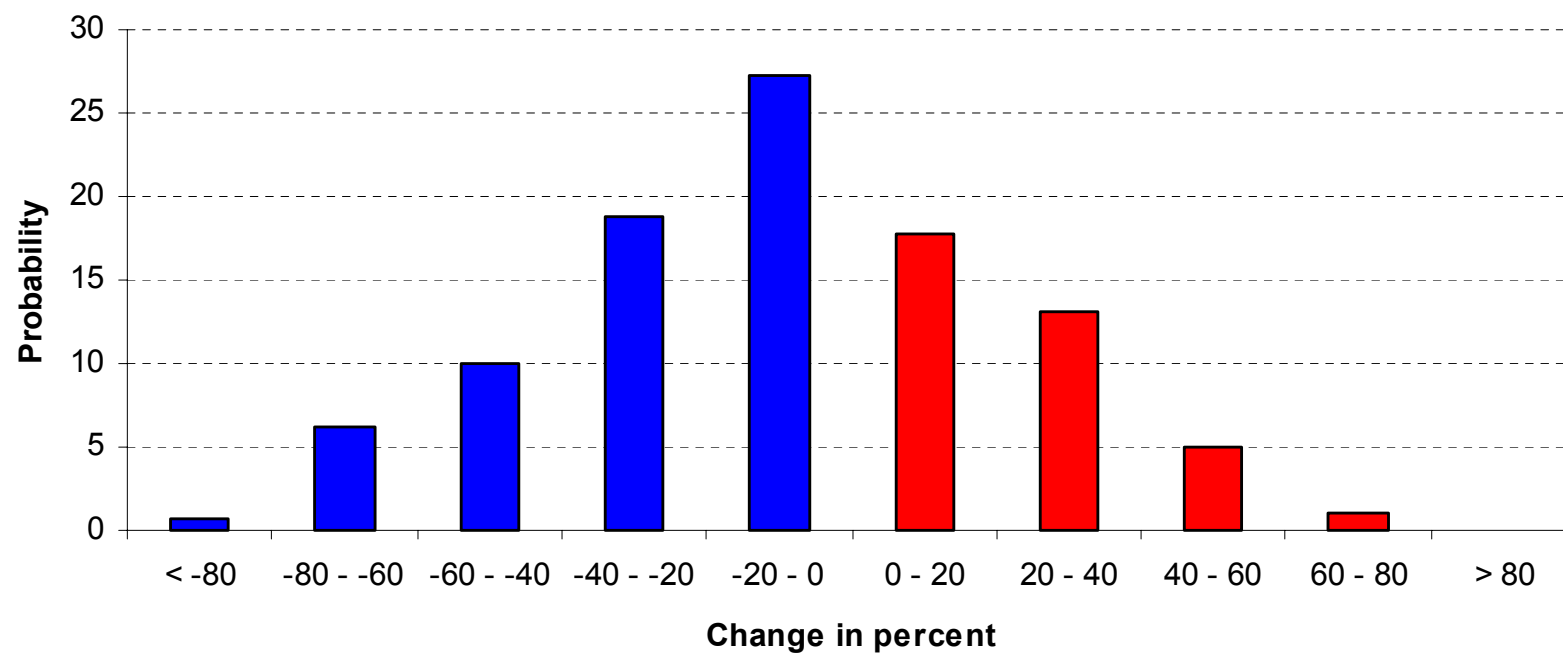
GDP per capita in Eastern Europe: 2050



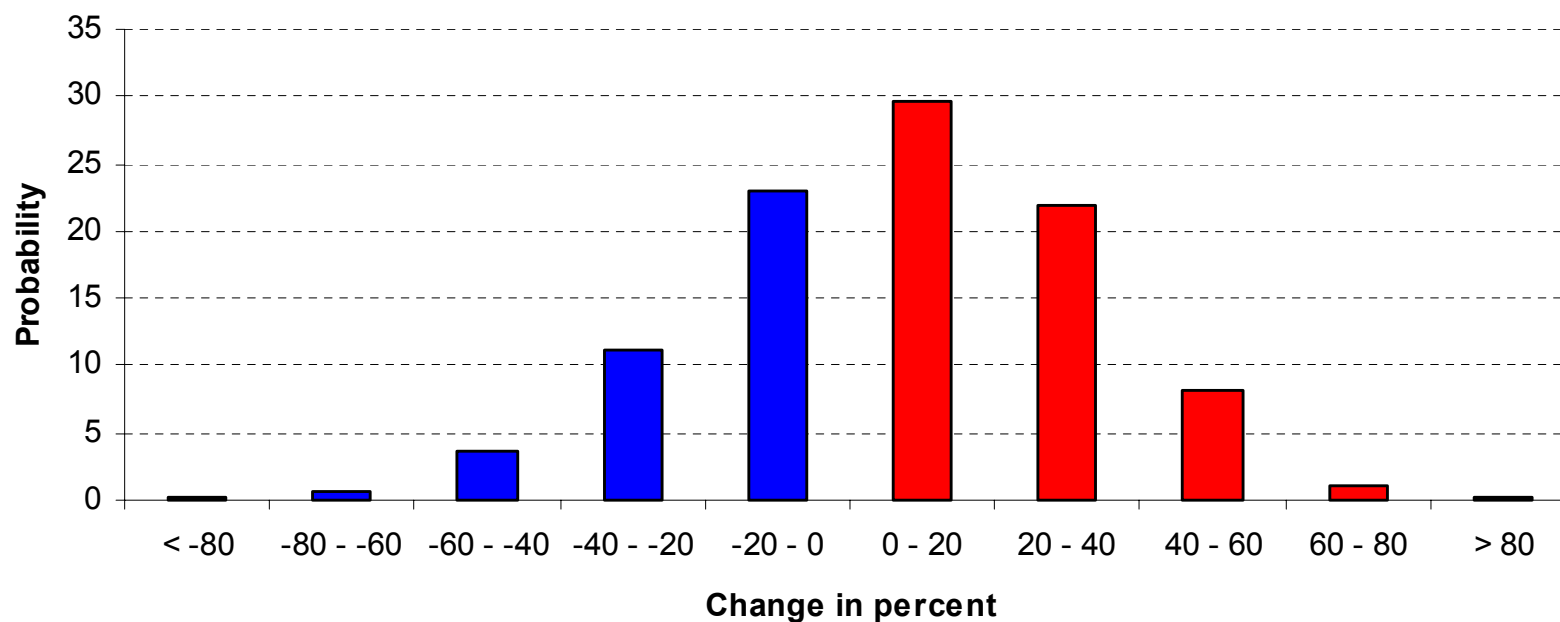
Change in SO₂ emissions in Europe by 2050



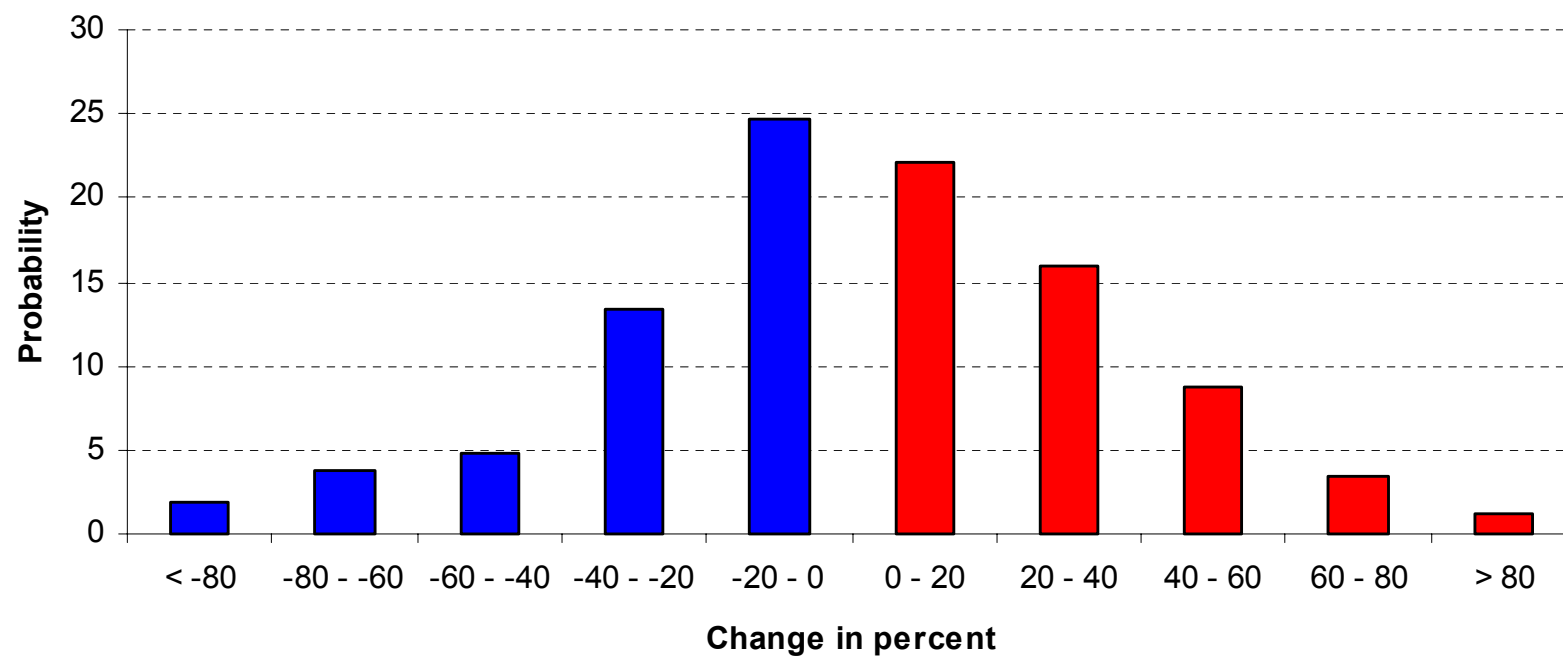
Change in SO₂ emissions in Europe by 2050



Change in NO_x emissions in Europe by 2050



Change in NO_x emissions in Europe by 2050



A1, A2



B1

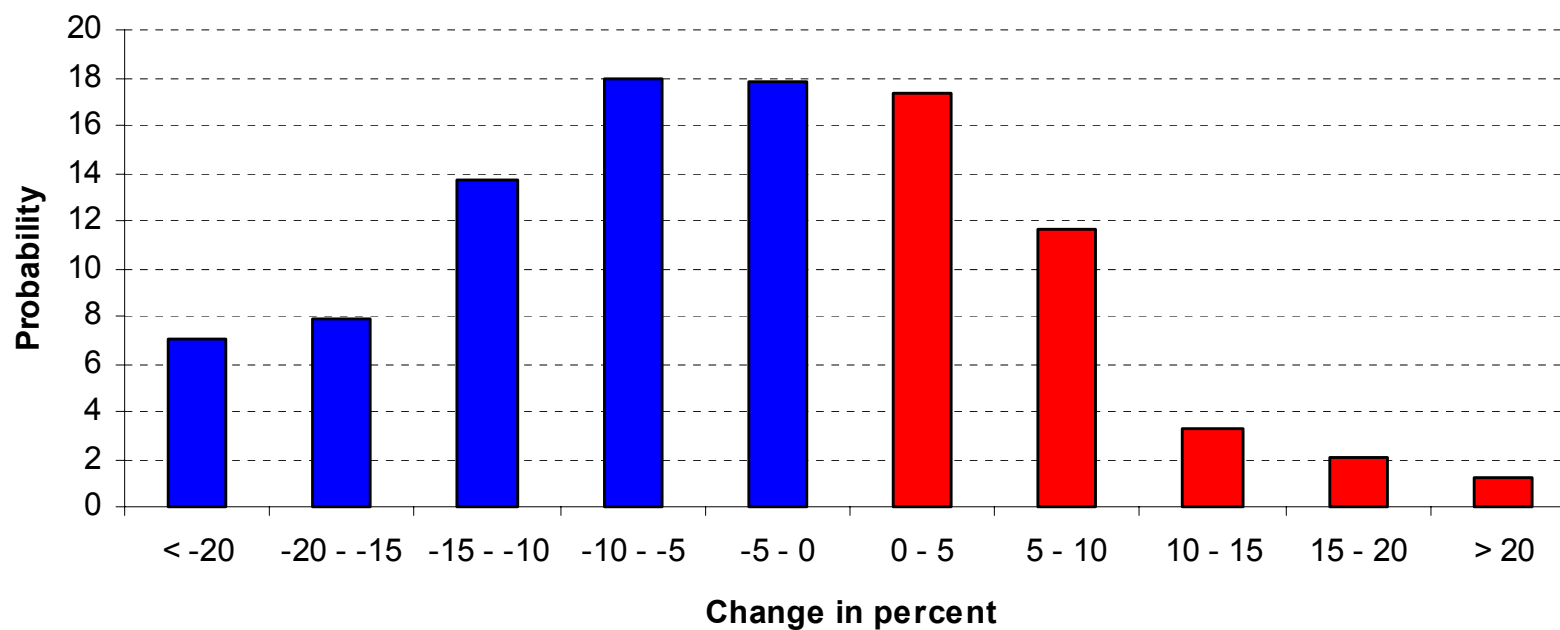


B2



ATEAM

Change in agricultural area in Europe by 2050



A1, A2



B1

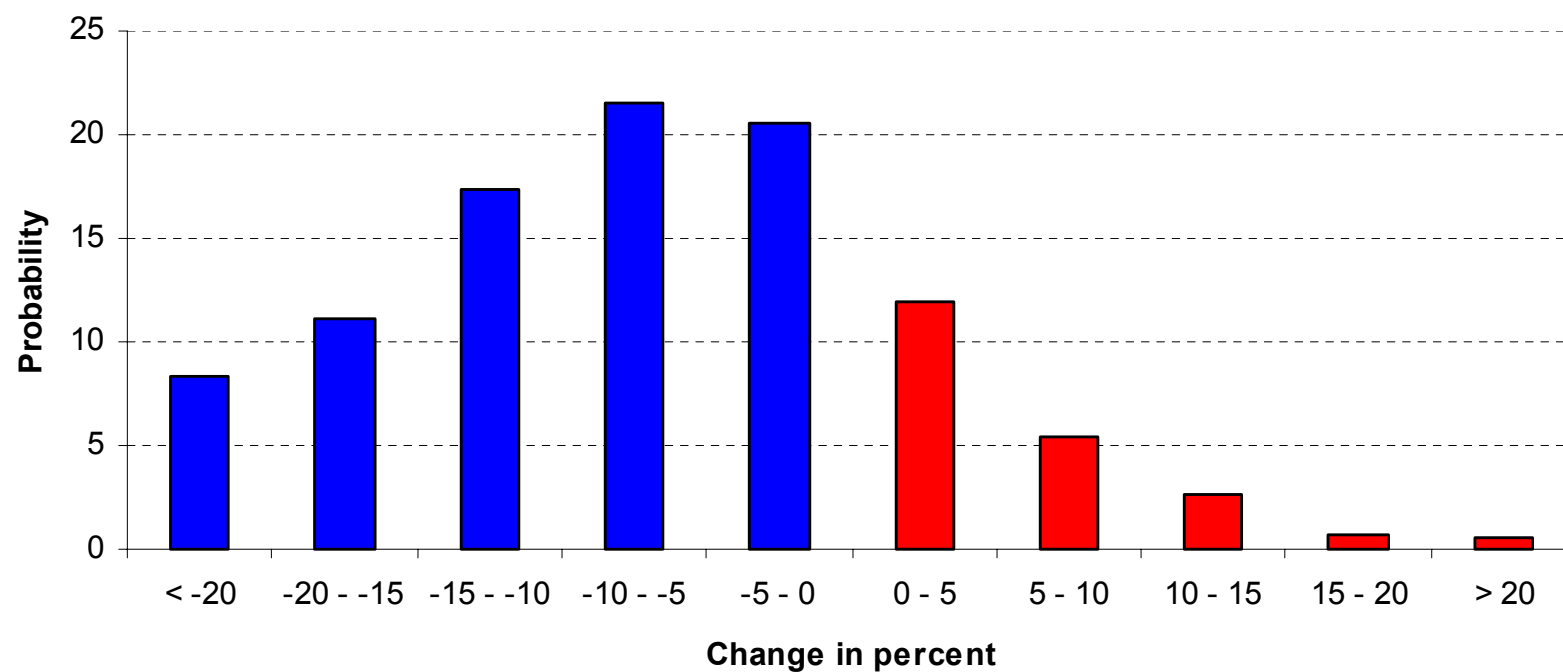


B2

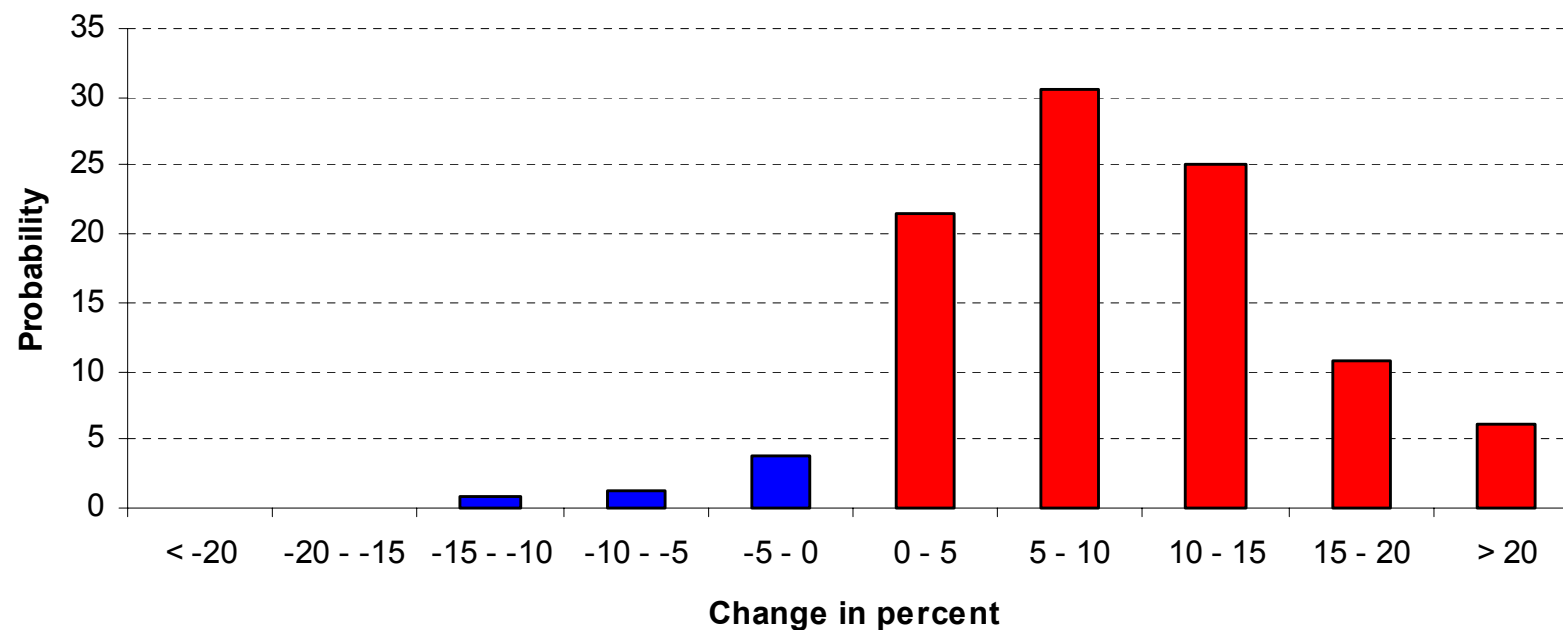


ATEAM

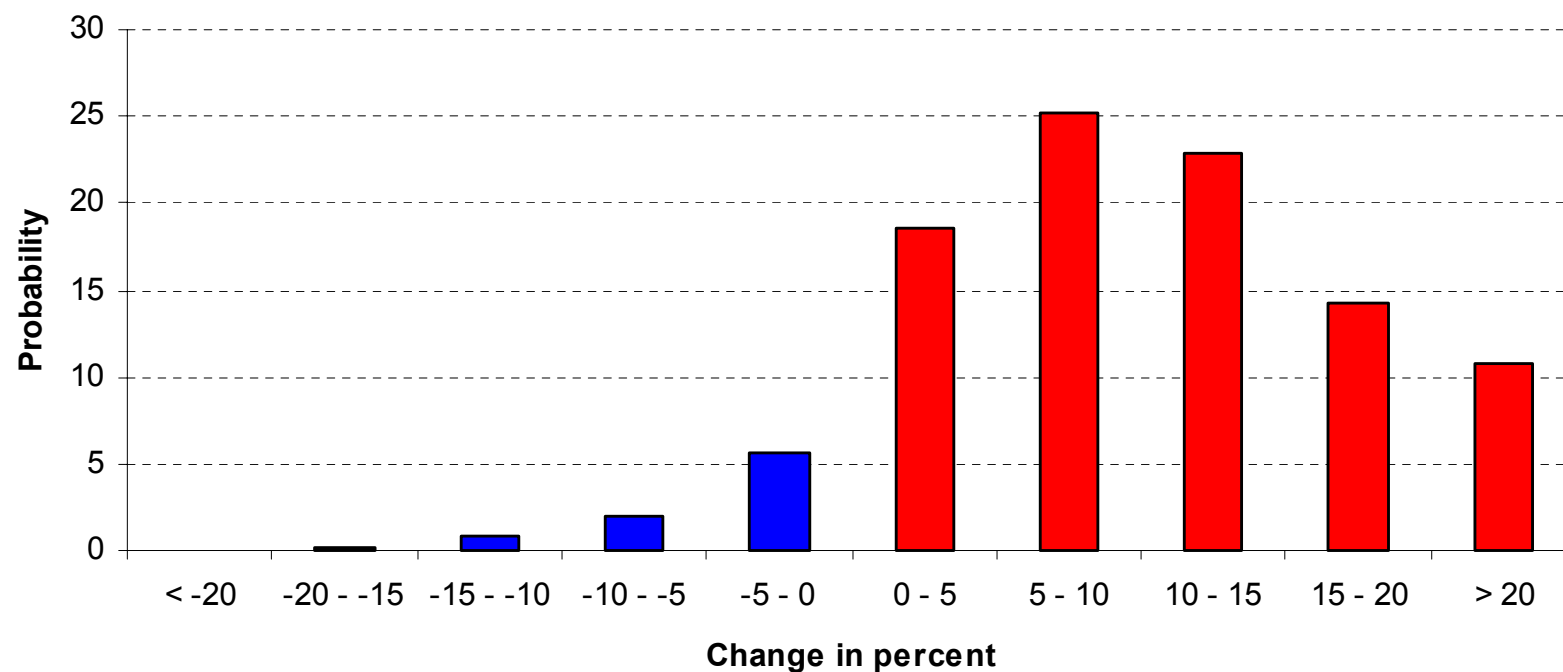
Change in agricultural area in Europe by 2050



Change in urban area in Europe by 2050



Change in urban area in Europe by 2050



ATEAM

A1



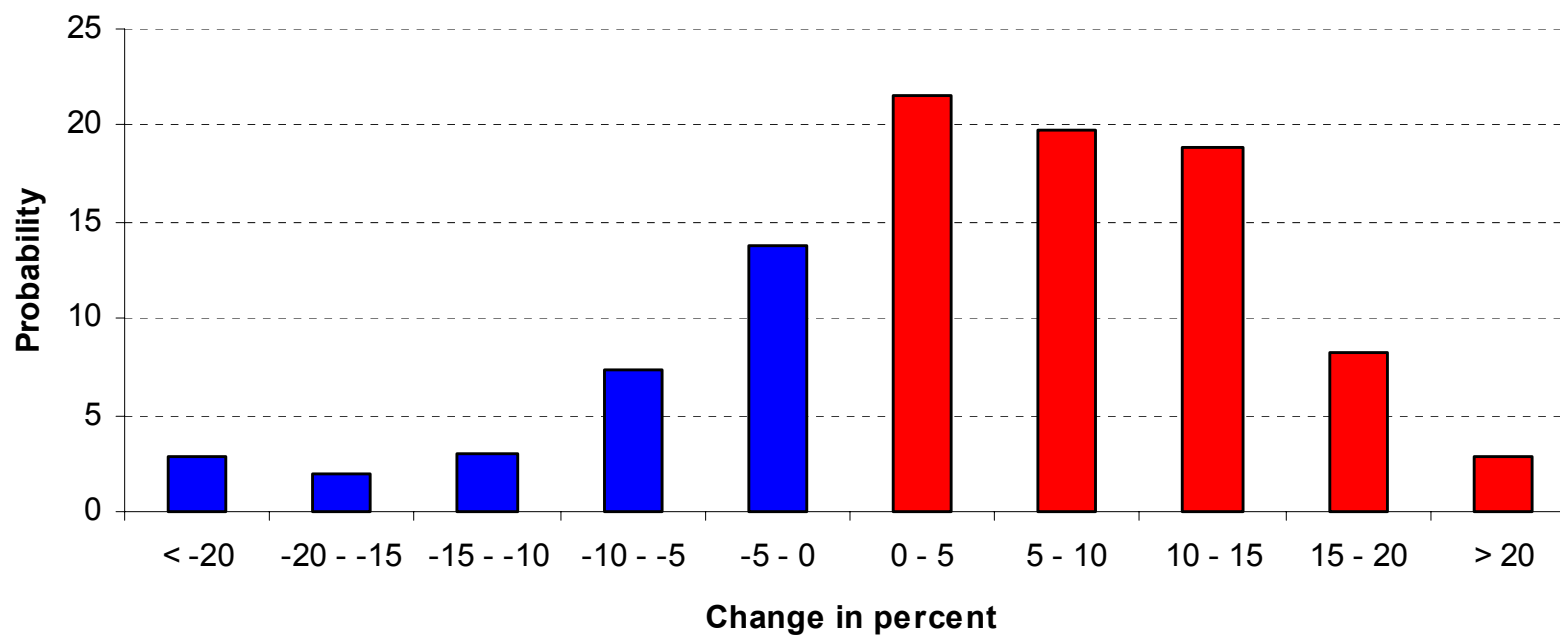
A2, B1



B2



Change in forest area in Europe by 2050



ATEAM

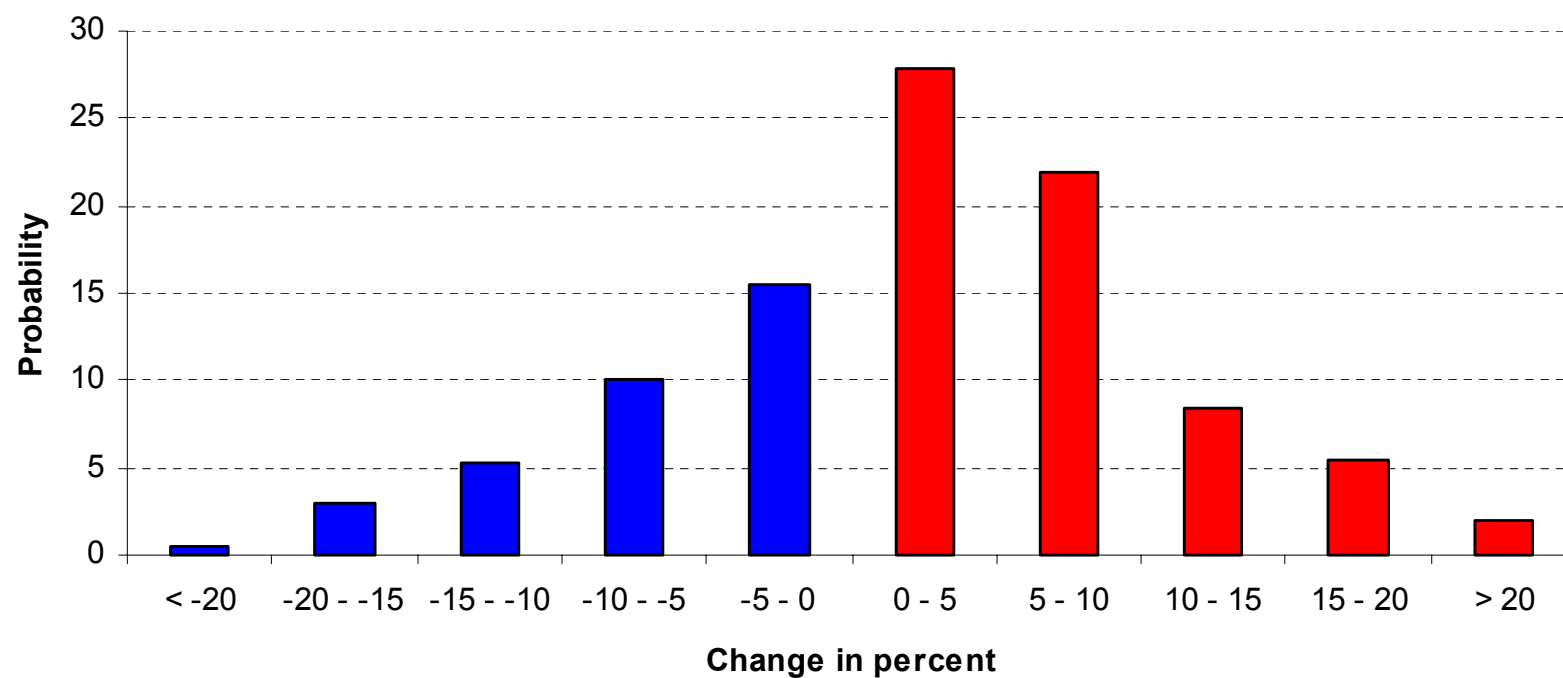
A1

A2, B1

B2



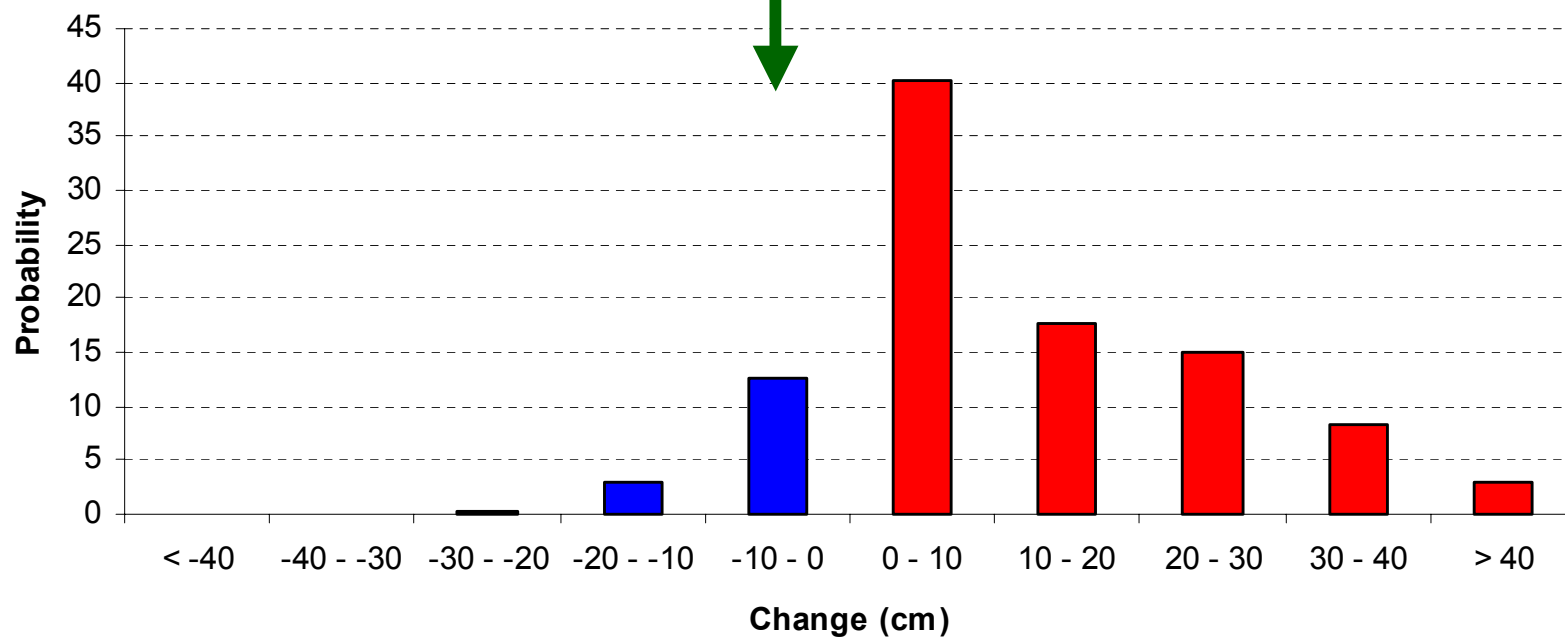
Change in forest area in Europe by 2050



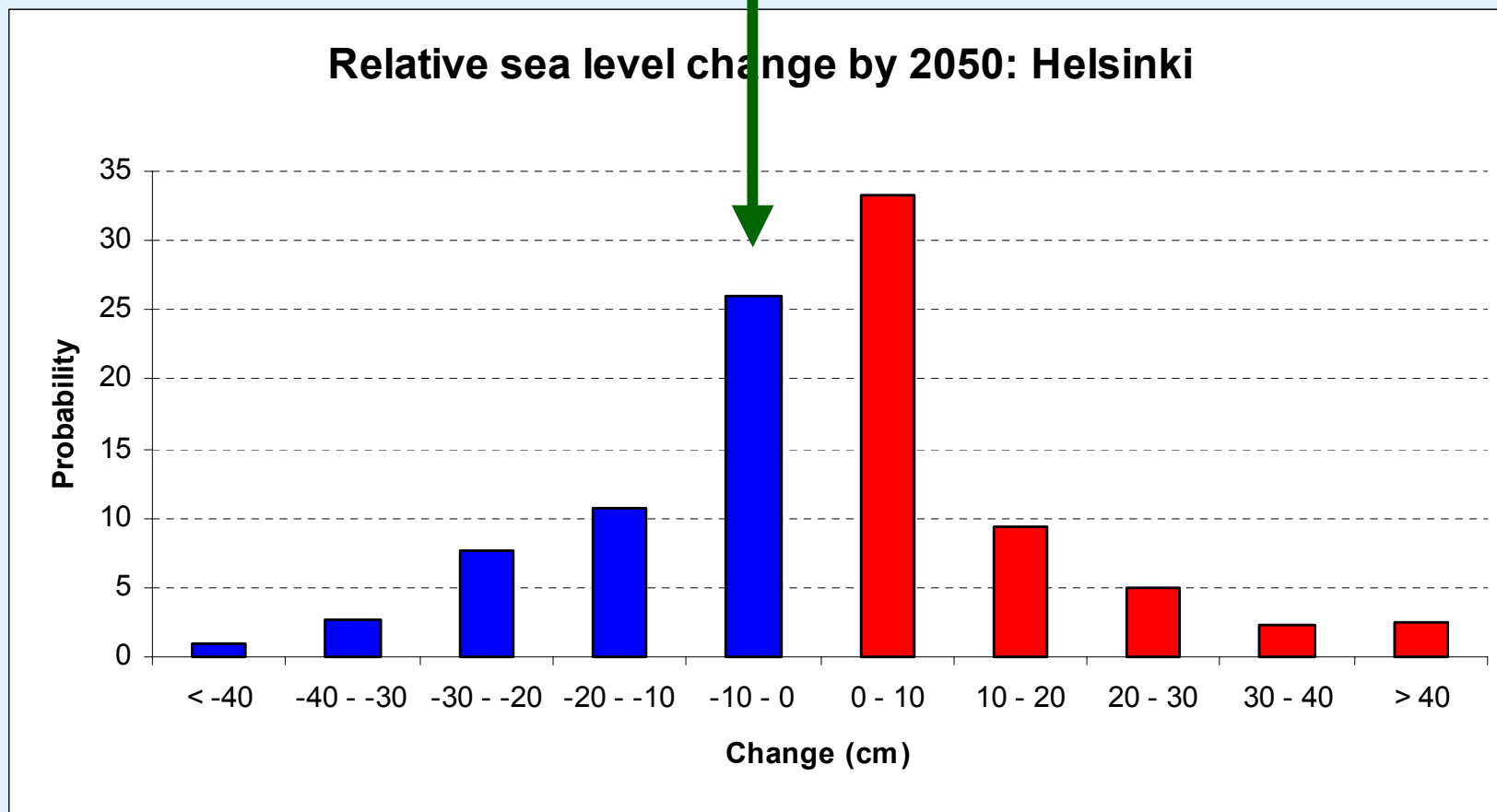
A1, A2, B1, B2 (FINSKEN)



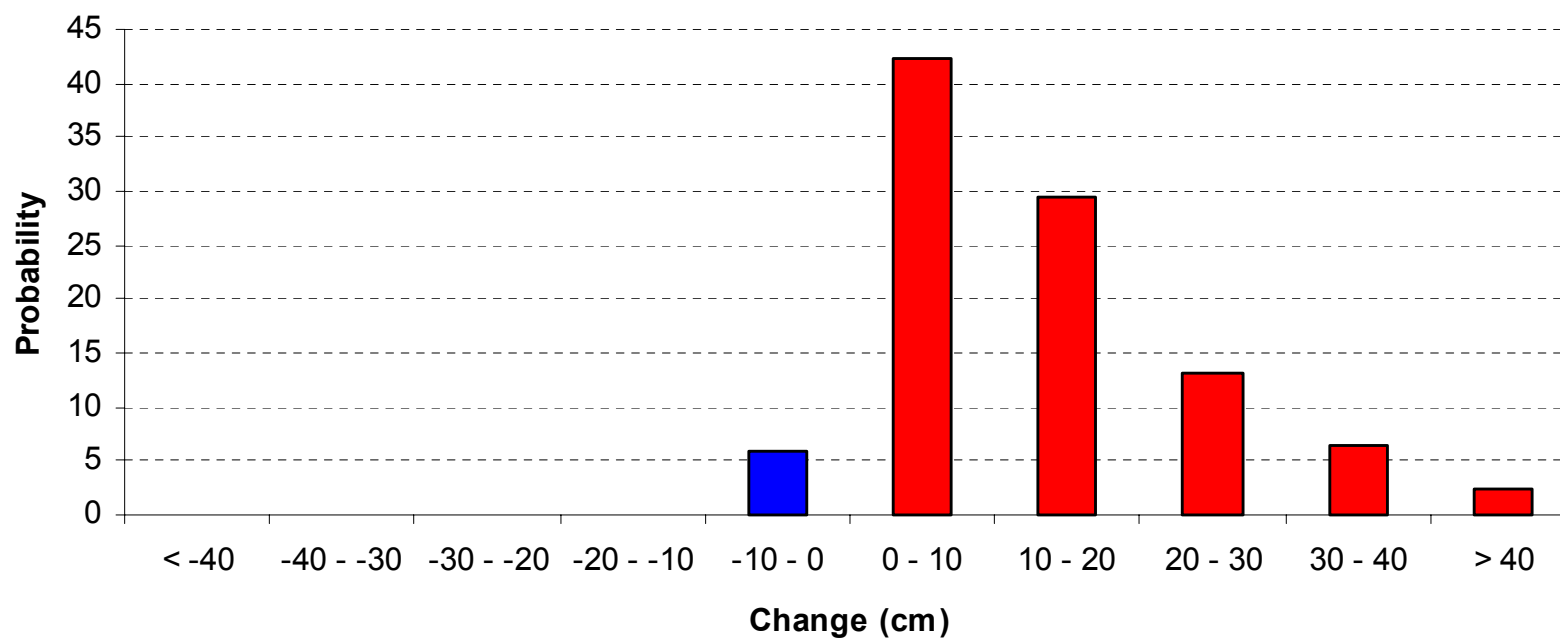
Relative sea level change by 2050: Helsinki



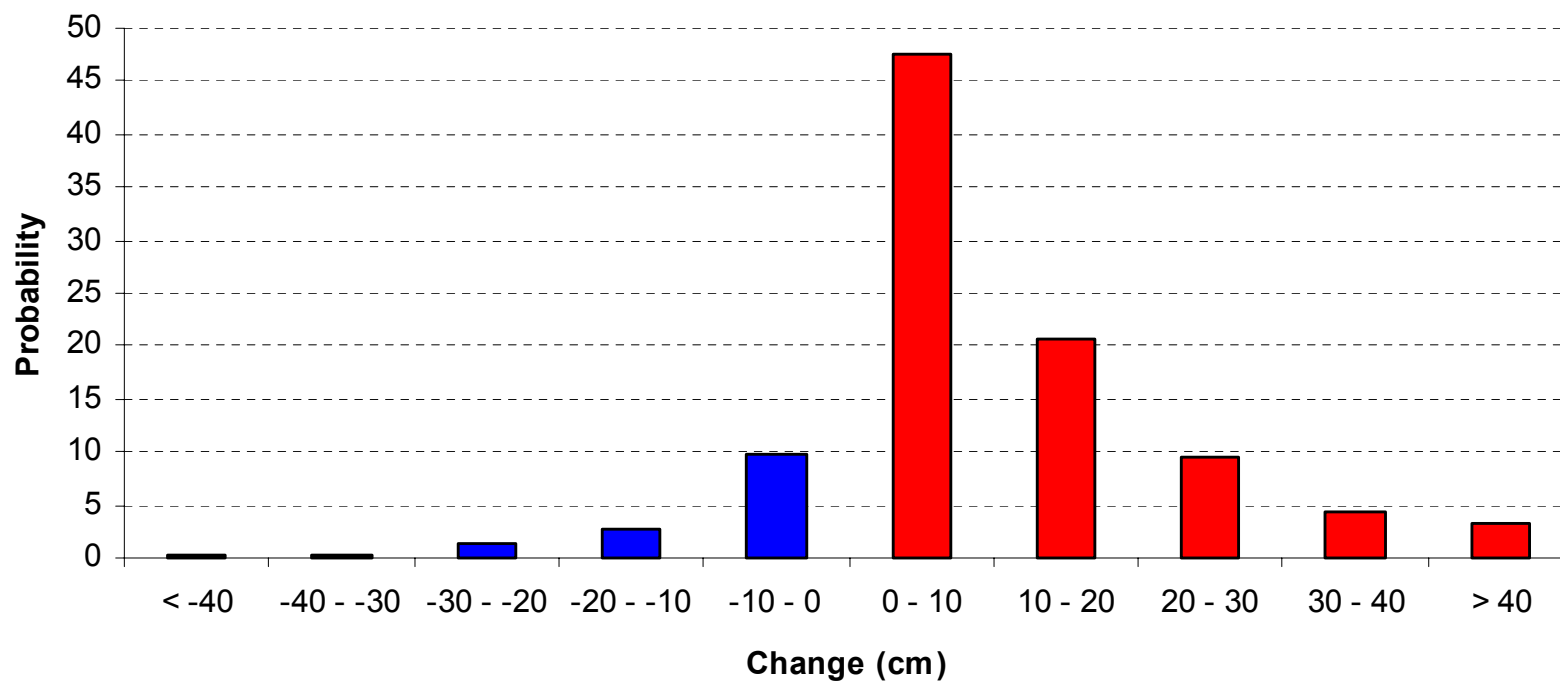
A1, A2, B1, B2 (FINSKEN)



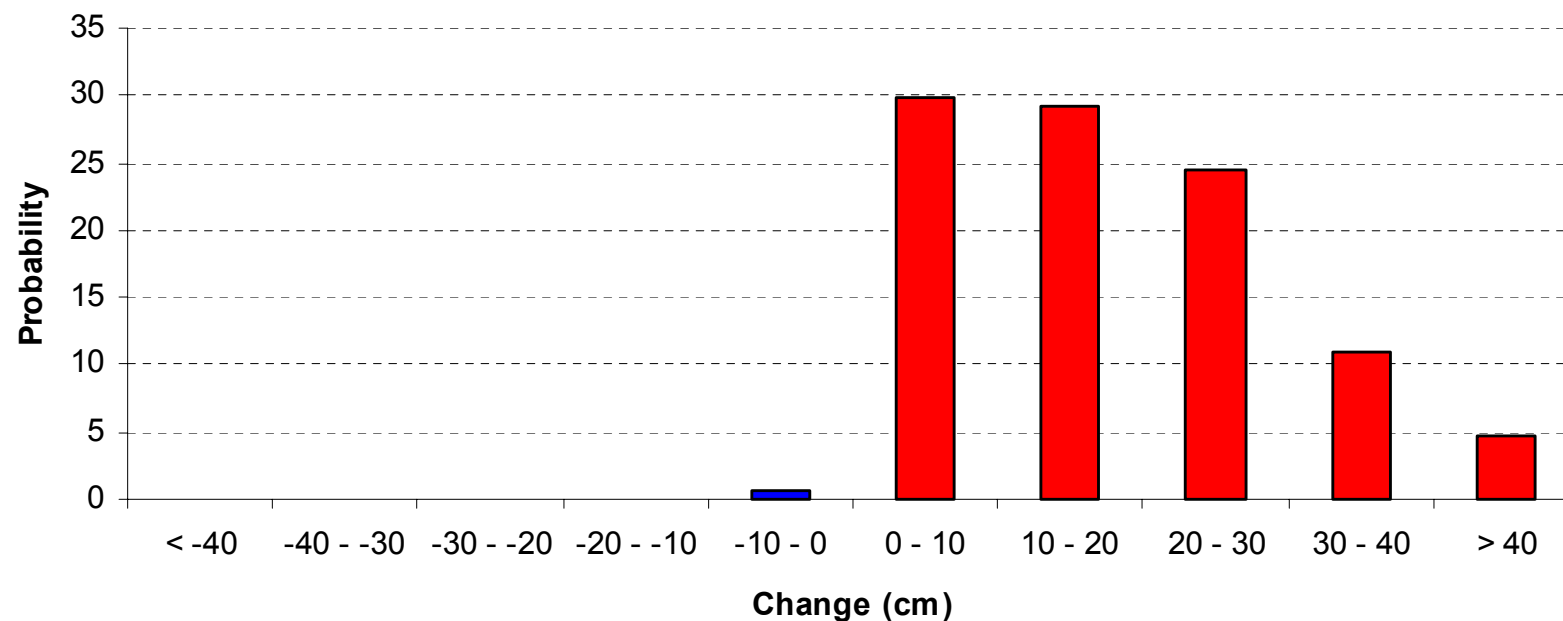
Relative sea level change by 2050: Hamburg



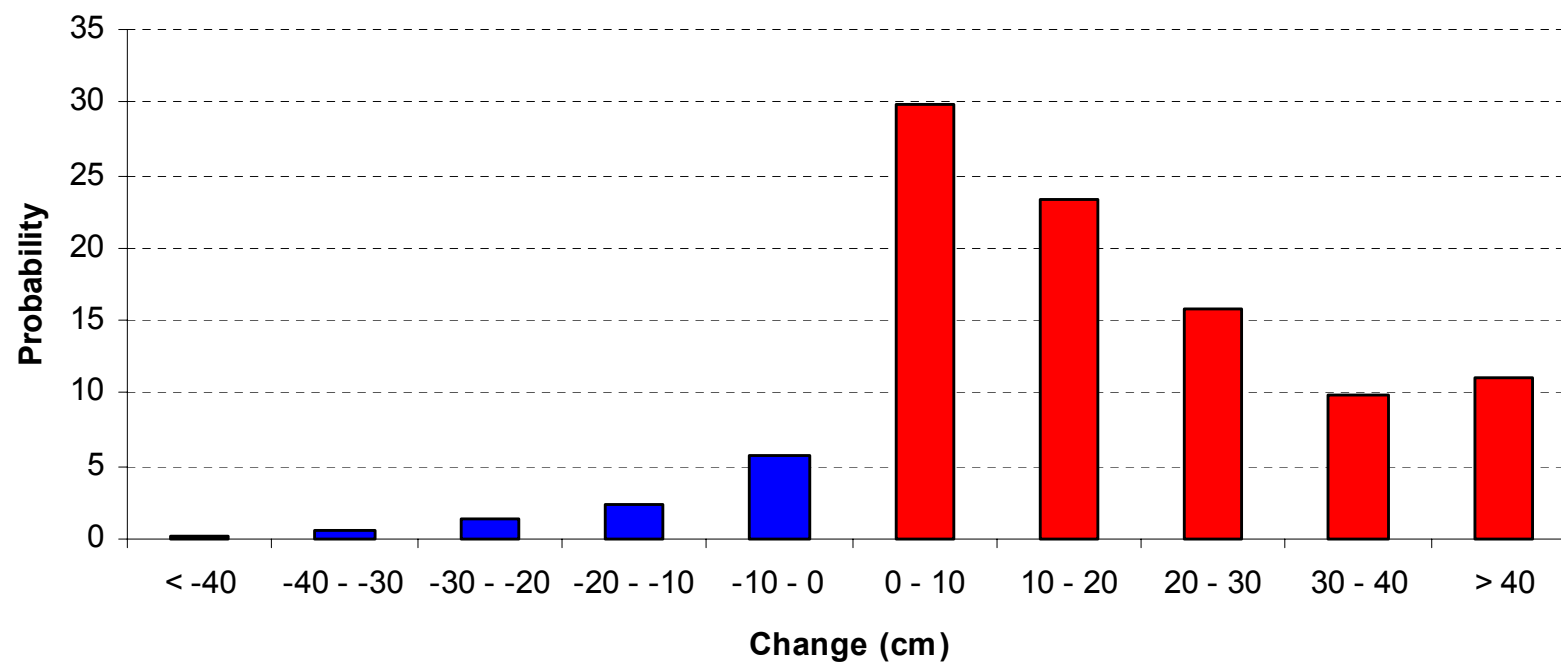
Relative sea level change by 2050: Hamburg



Relative sea level change by 2050: Venice

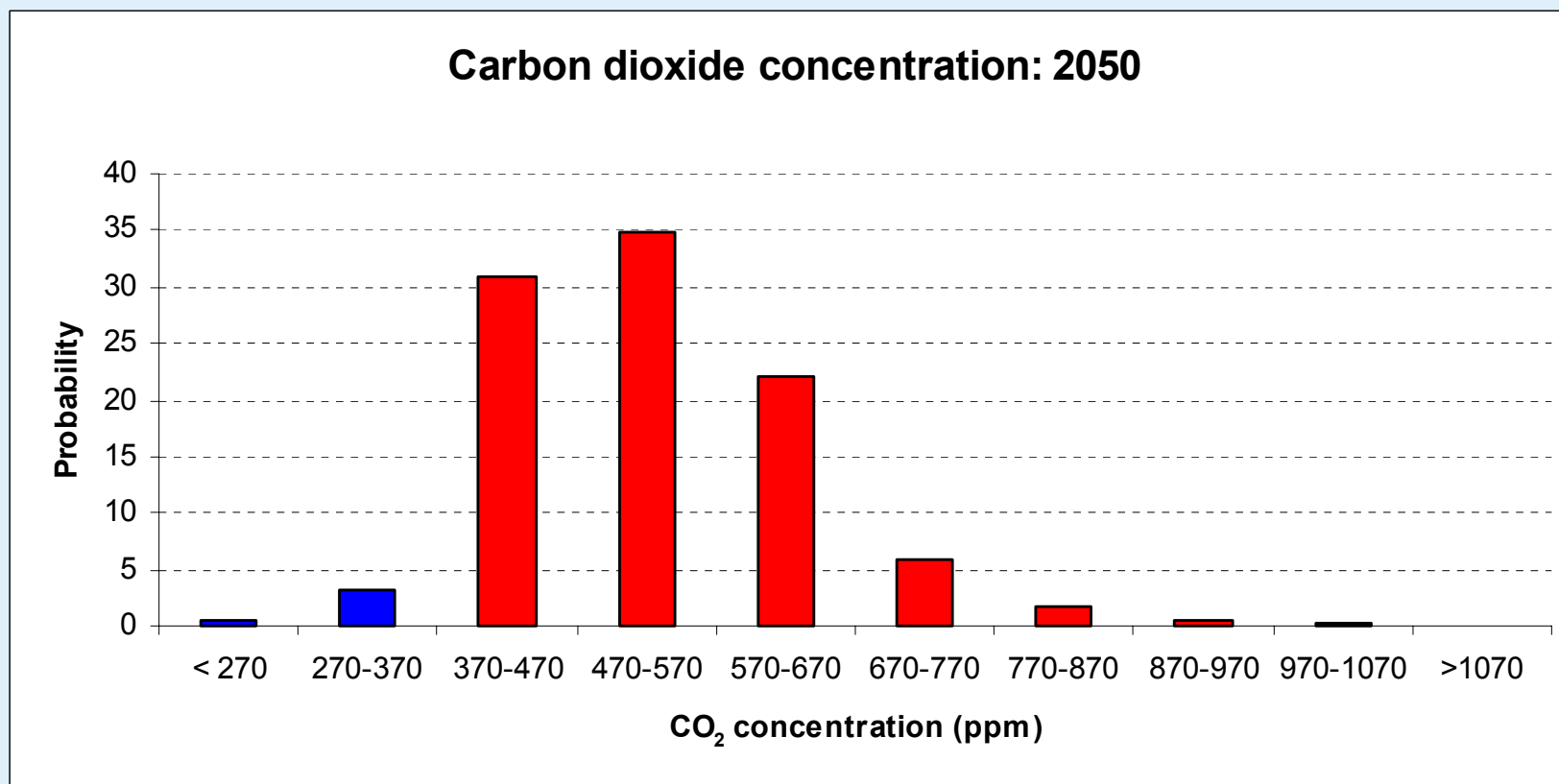


Relative sea level change by 2050: Venice



ATEAM

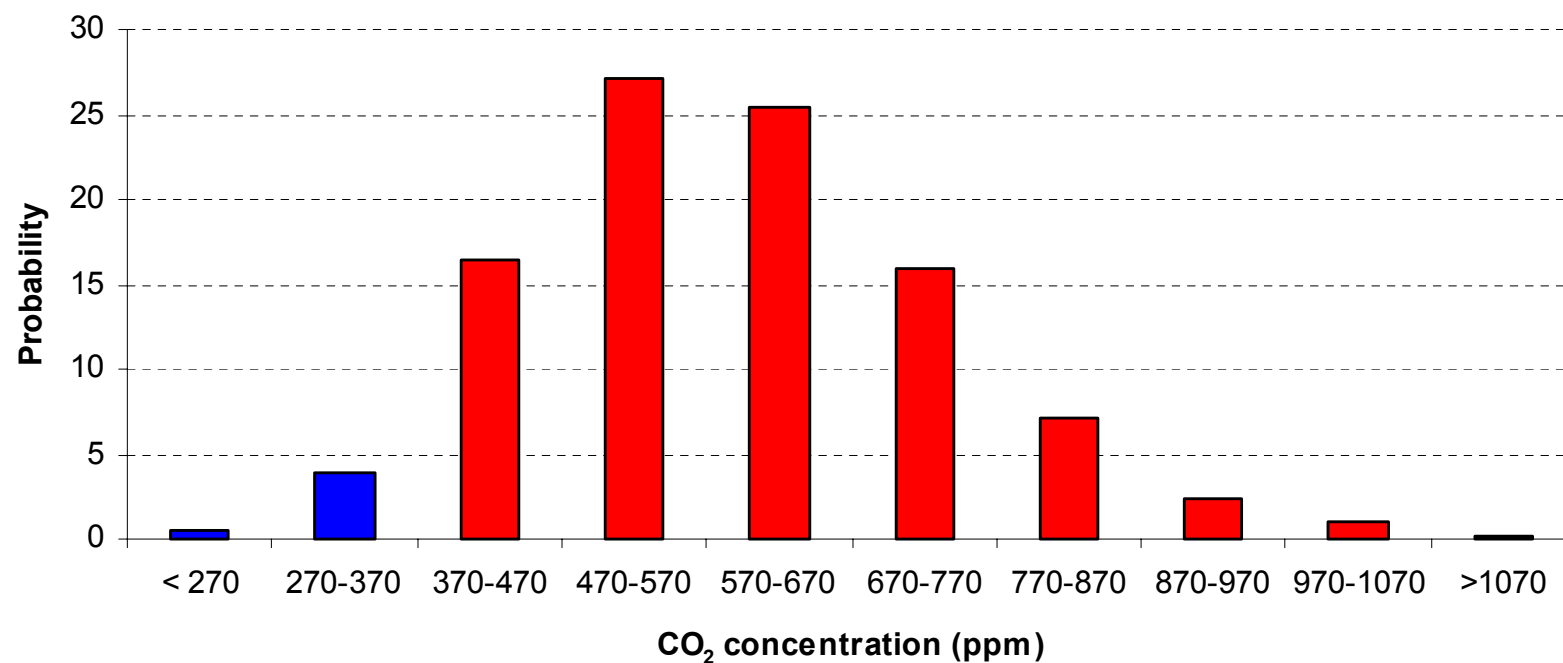
B1 B2 A1 A2



ATEAM

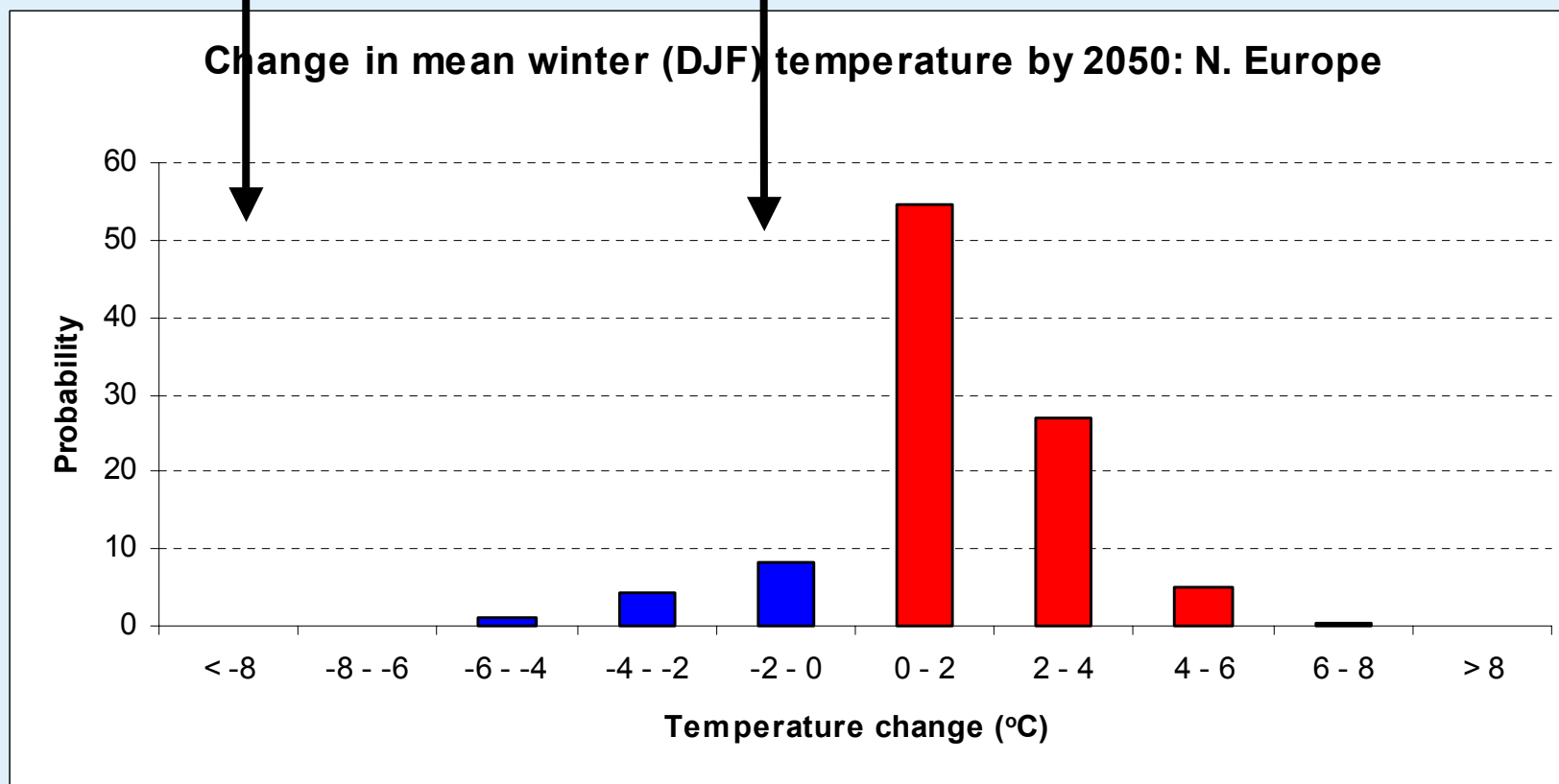
B1 B2 A1 A2

Carbon dioxide concentration: 2050



?

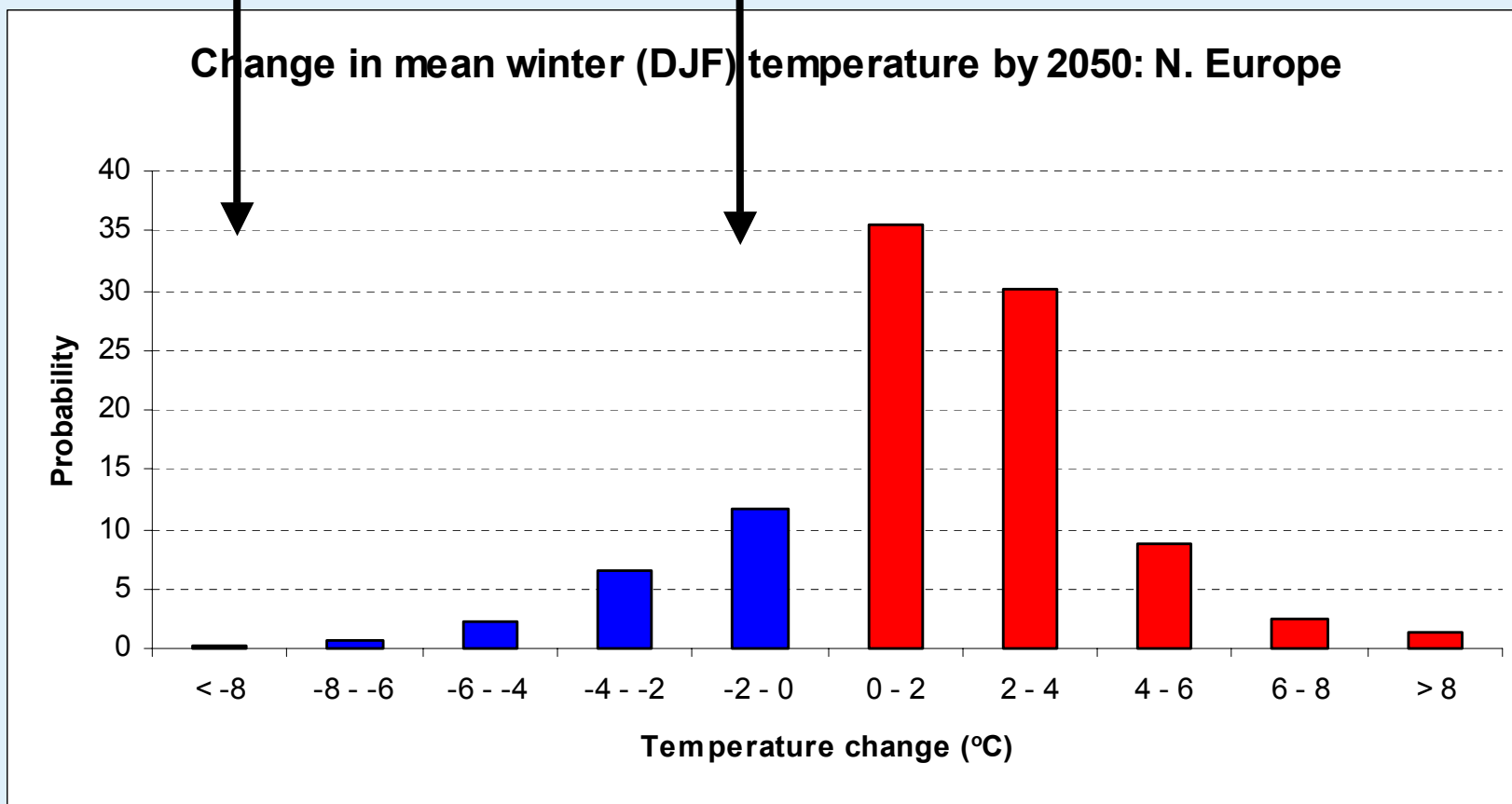
Little Ice Age/THC collapse?



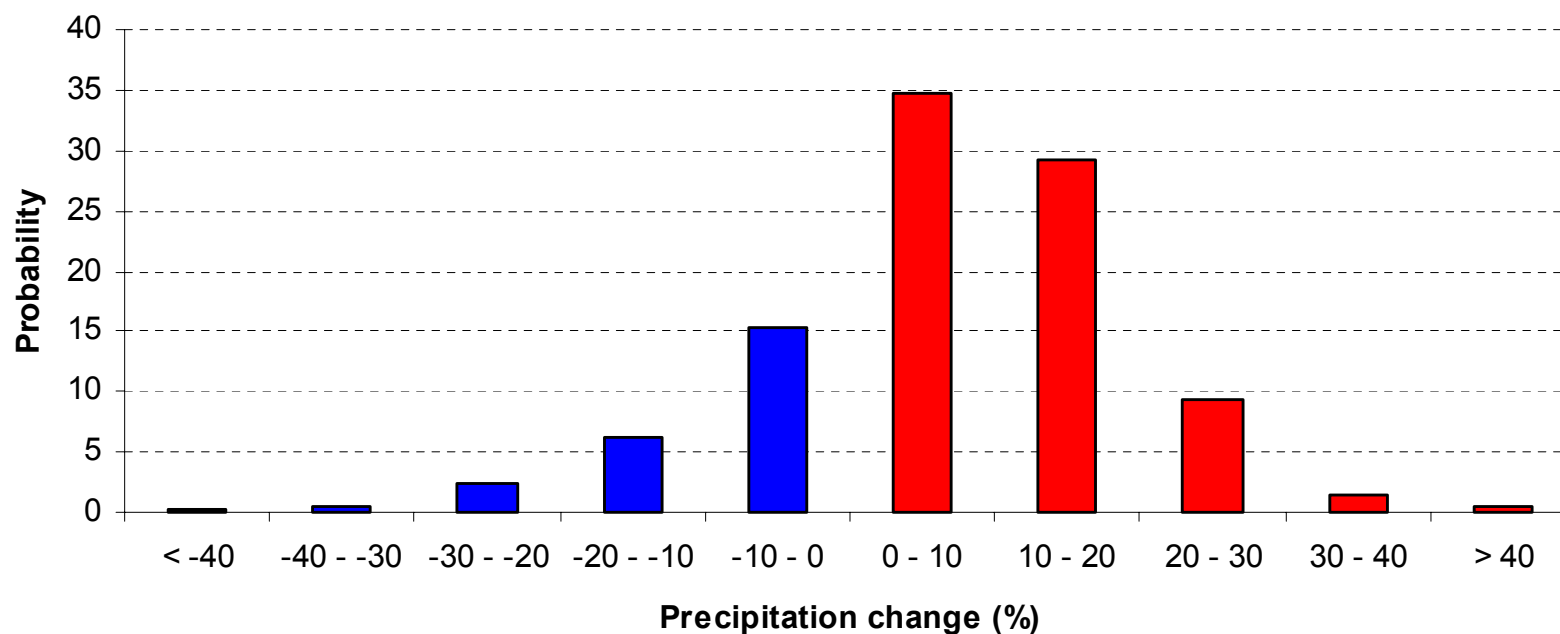
?

Little Ice Age/THC collapse?

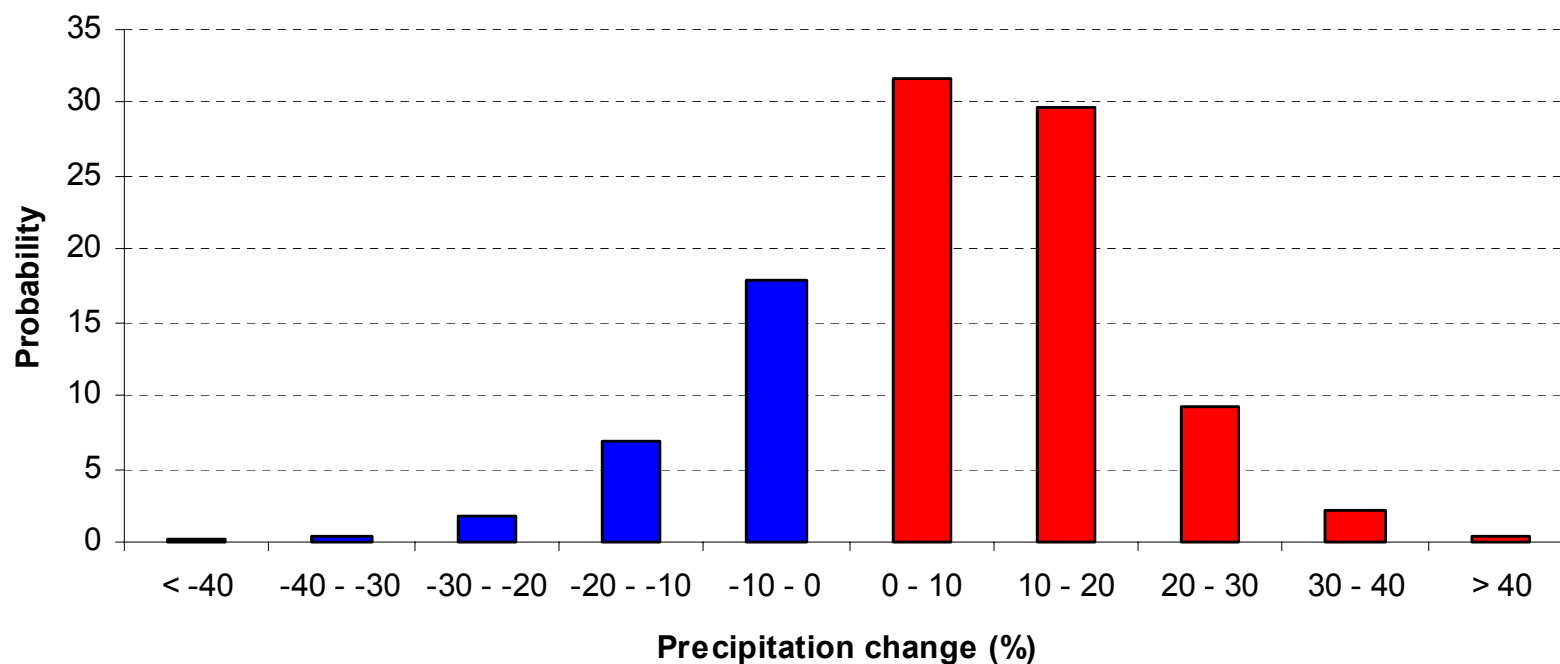
Change in mean winter (DJF) temperature by 2050: N. Europe



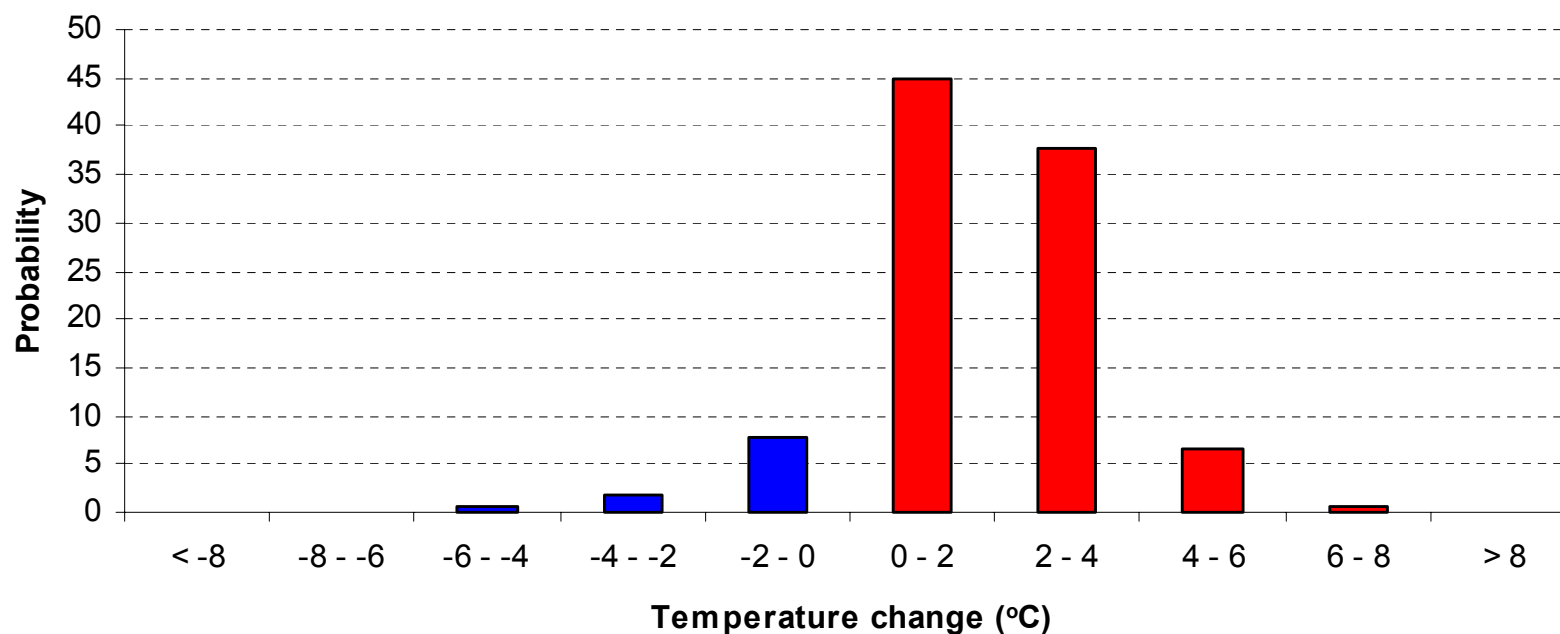
Change in mean winter (DJF) precipitation by 2050: N. Europe



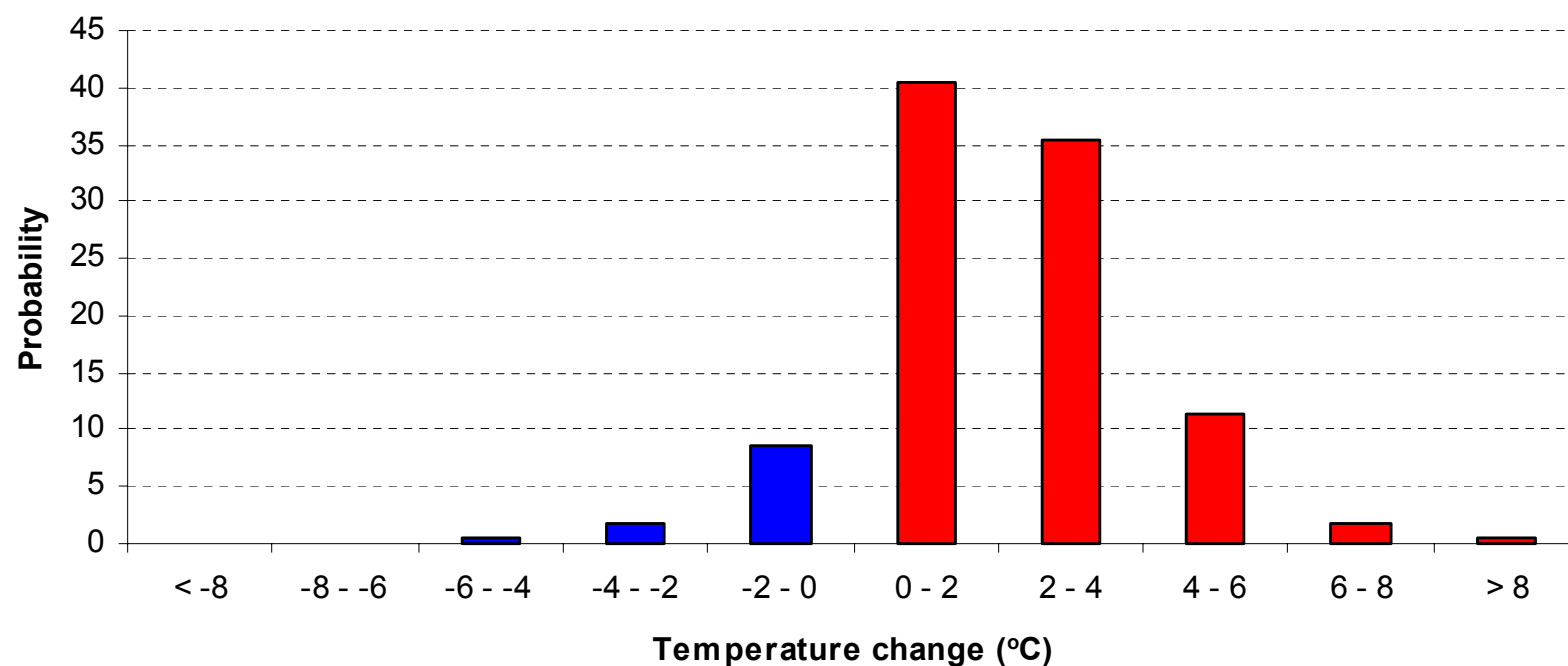
Change in mean winter (DJF) precipitation by 2050: N. Europe

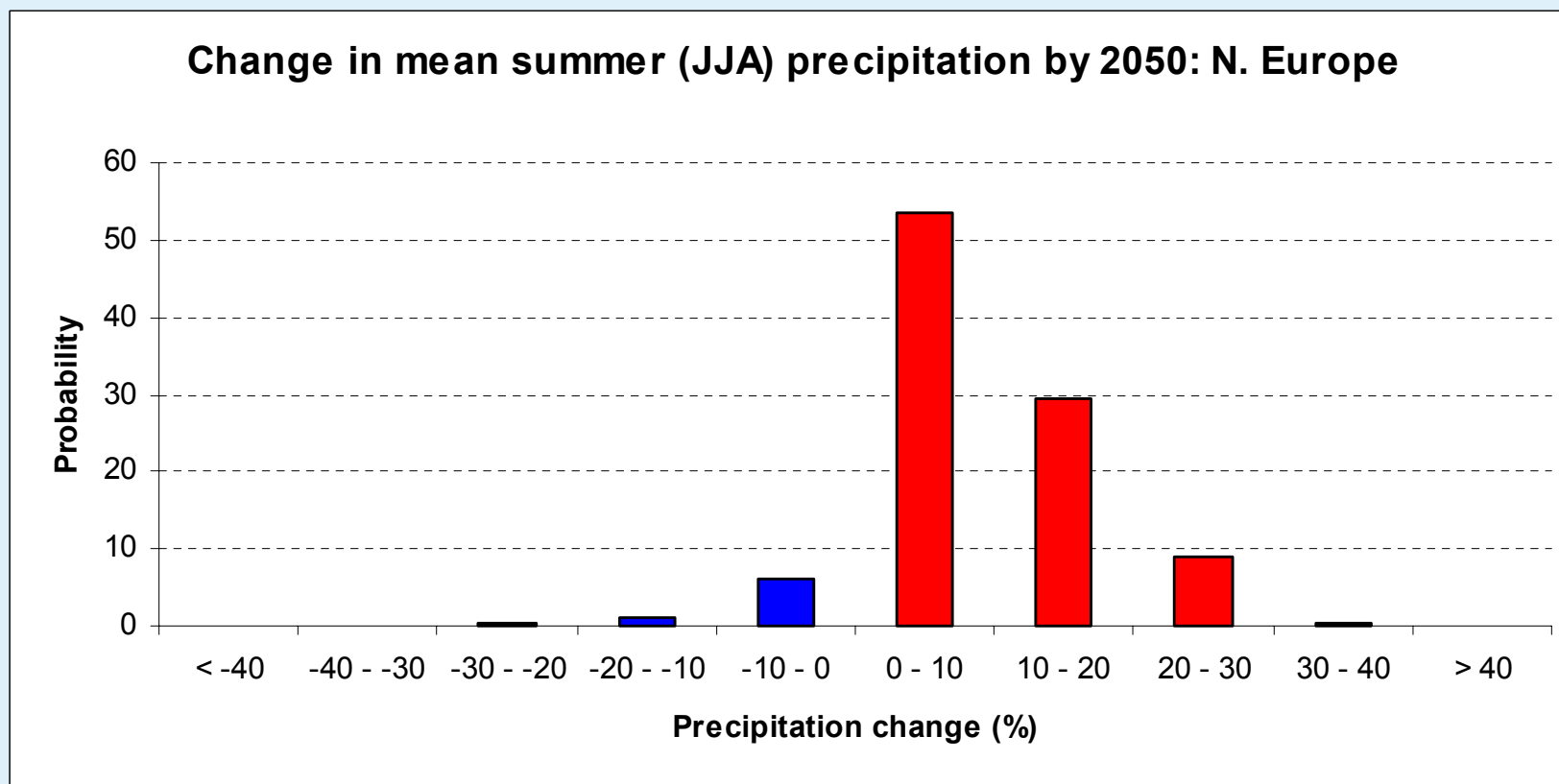


Change in mean summer (JJA) temperature by 2050: N. Europe

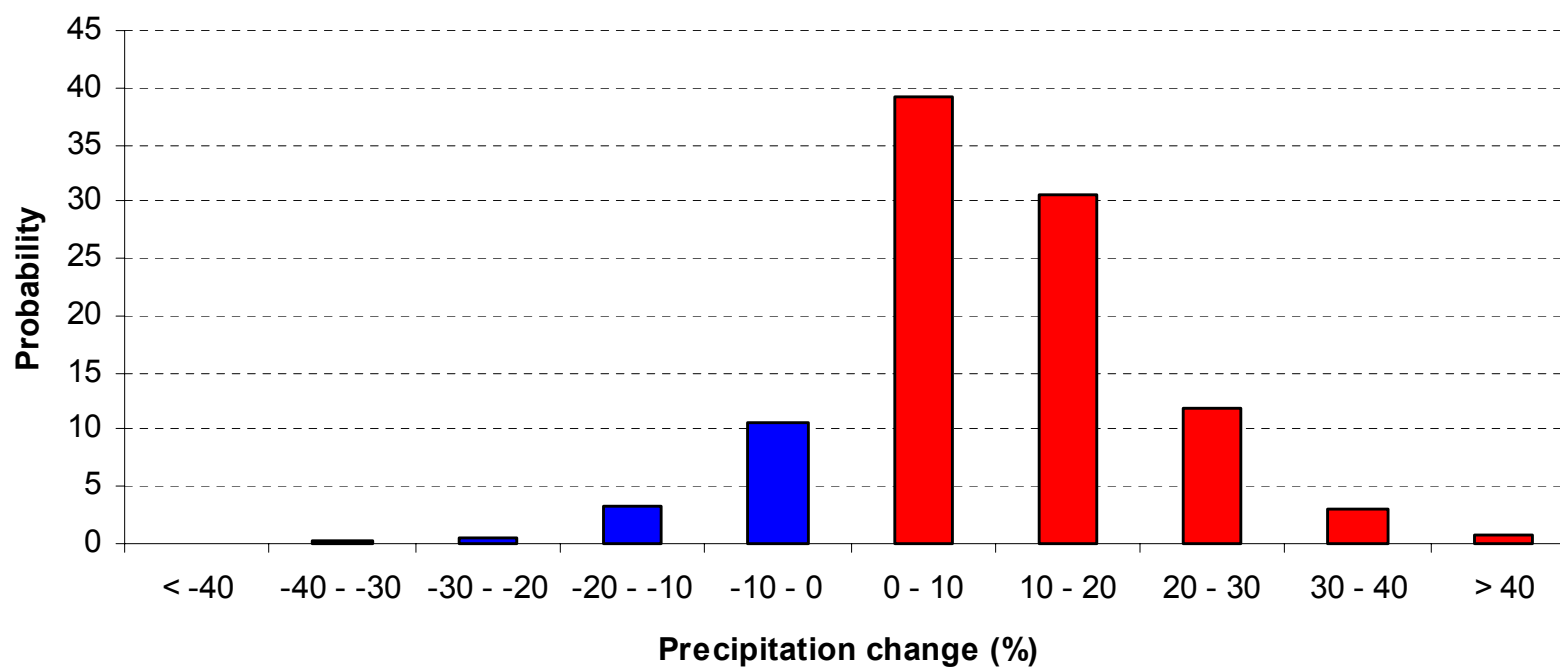


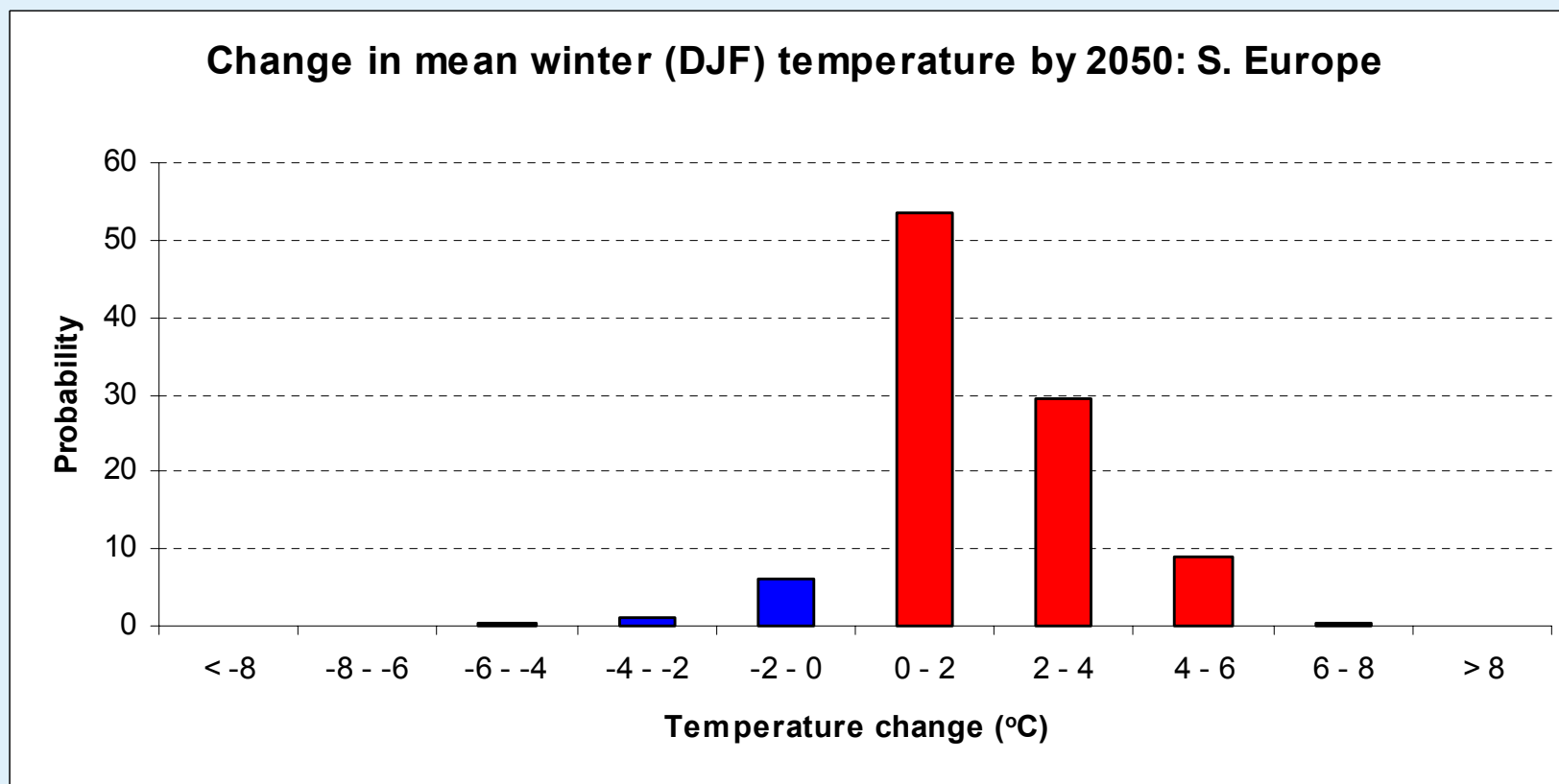
Change in mean summer (JJA) temperature by 2050: N. Europe



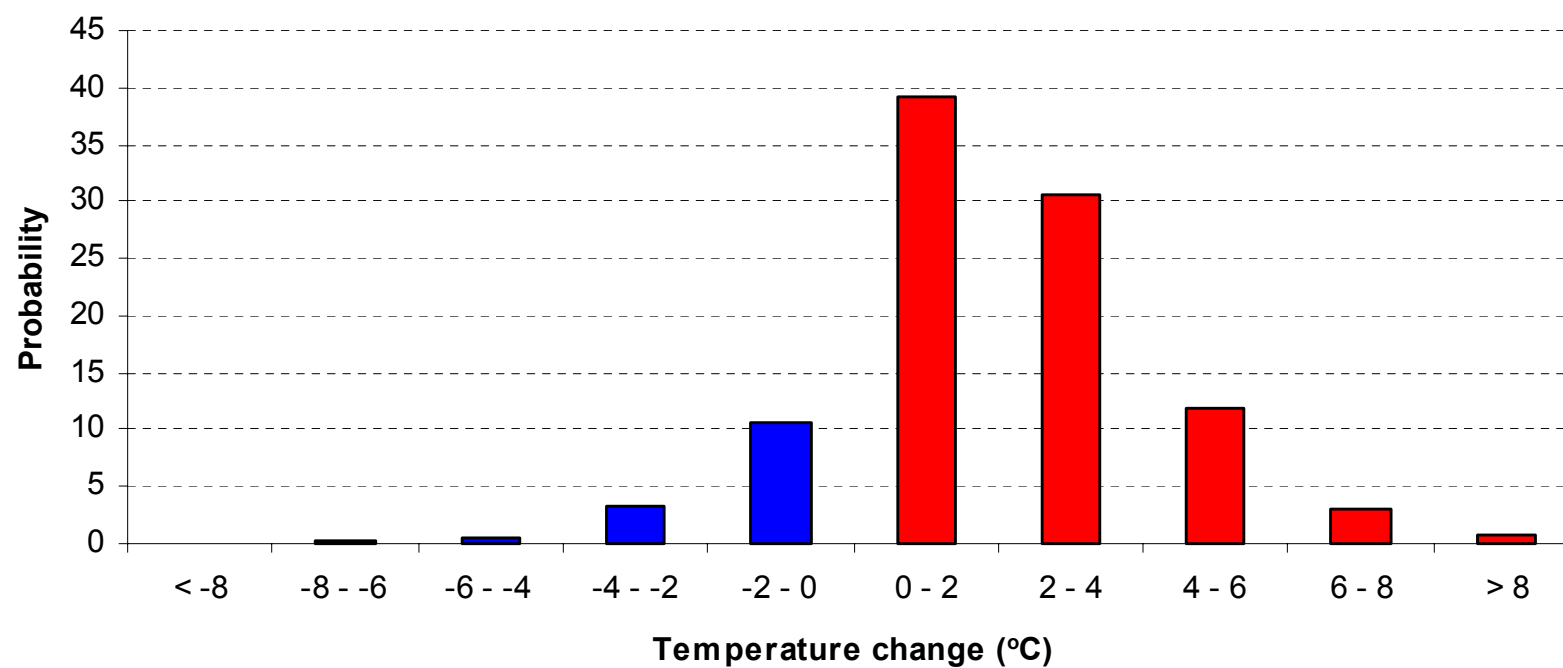


Change in mean summer (JJA) precipitation by 2050: N. Europe

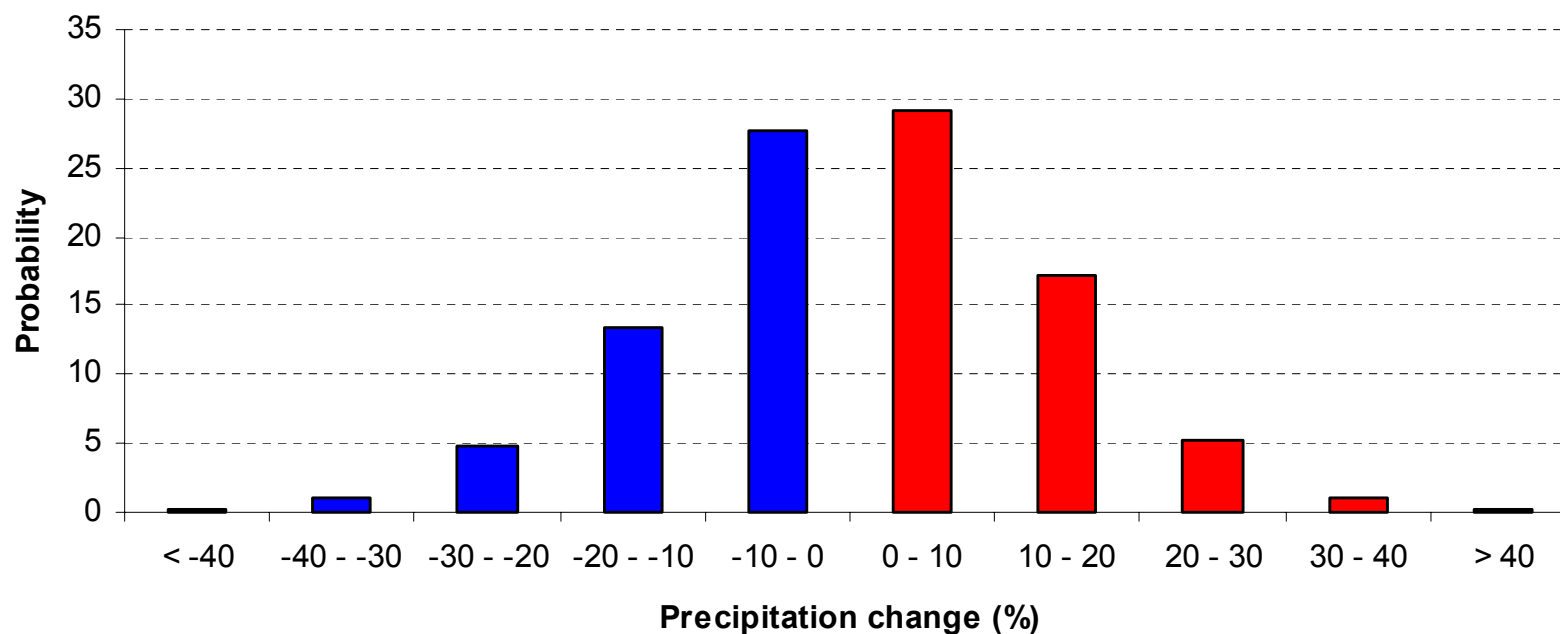




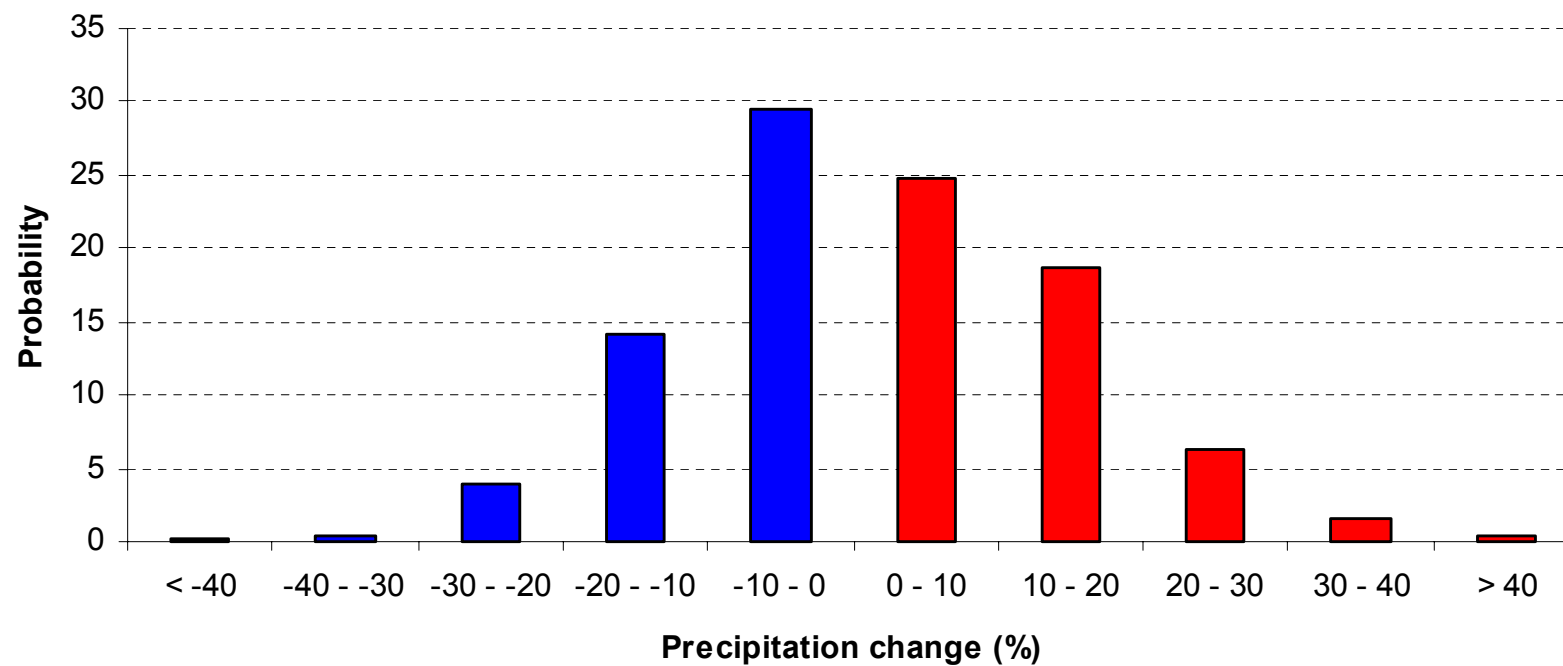
Change in mean winter (DJF) temperature by 2050: S. Europe



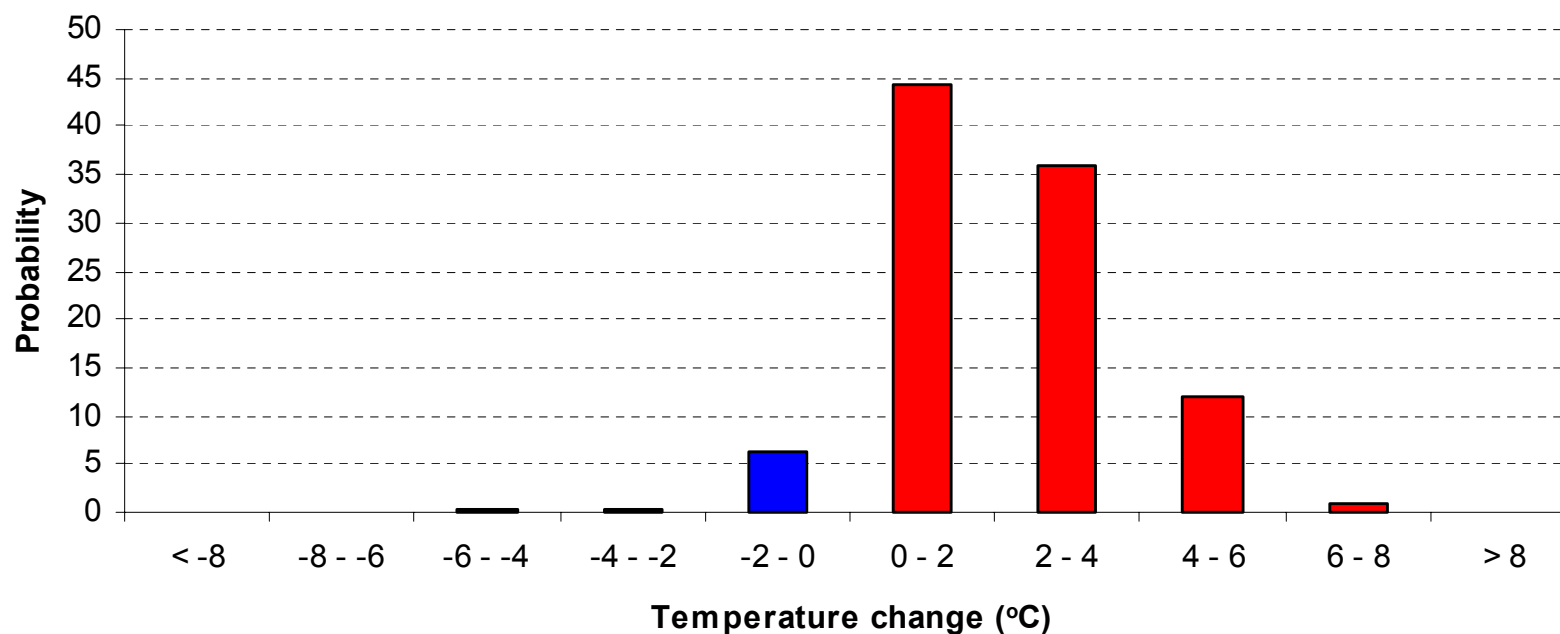
Change in mean winter (DJF) precipitation by 2050: S. Europe



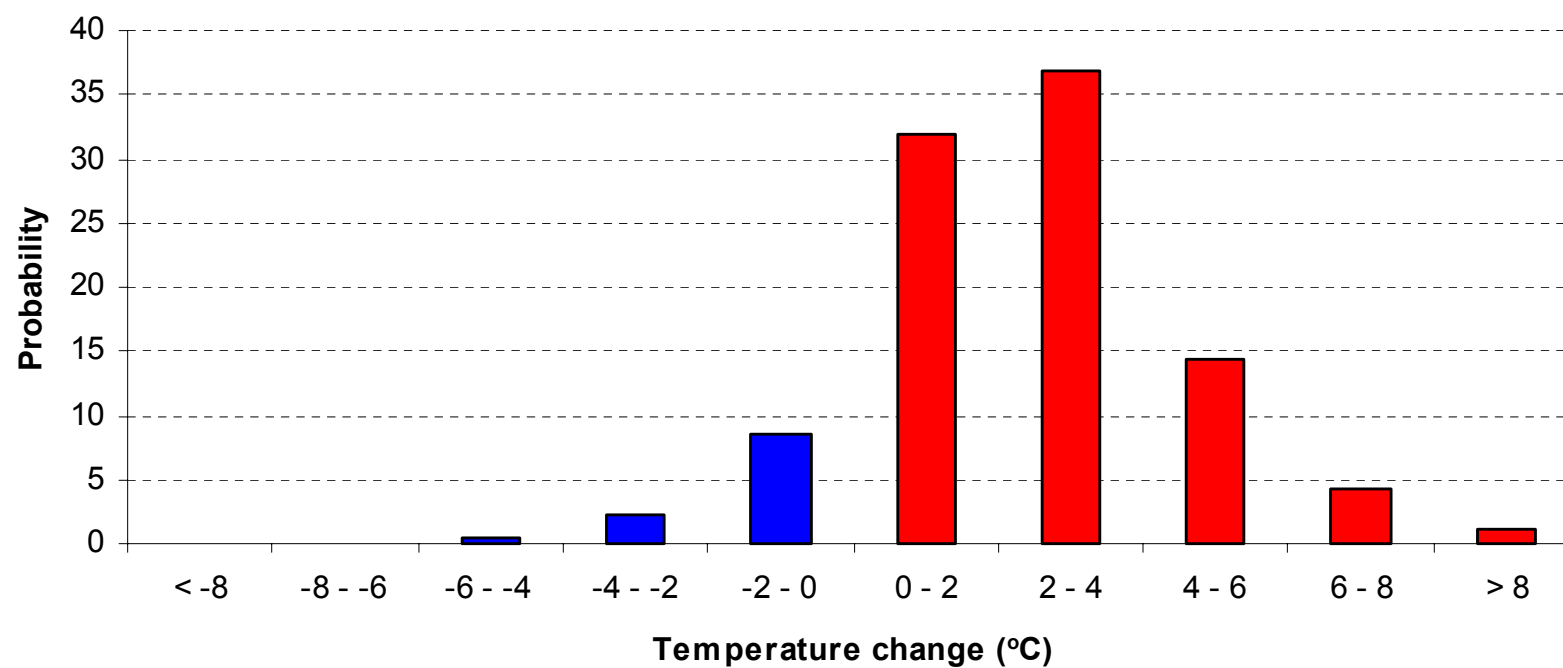
Change in mean winter (DJF) precipitation by 2050: S. Europe



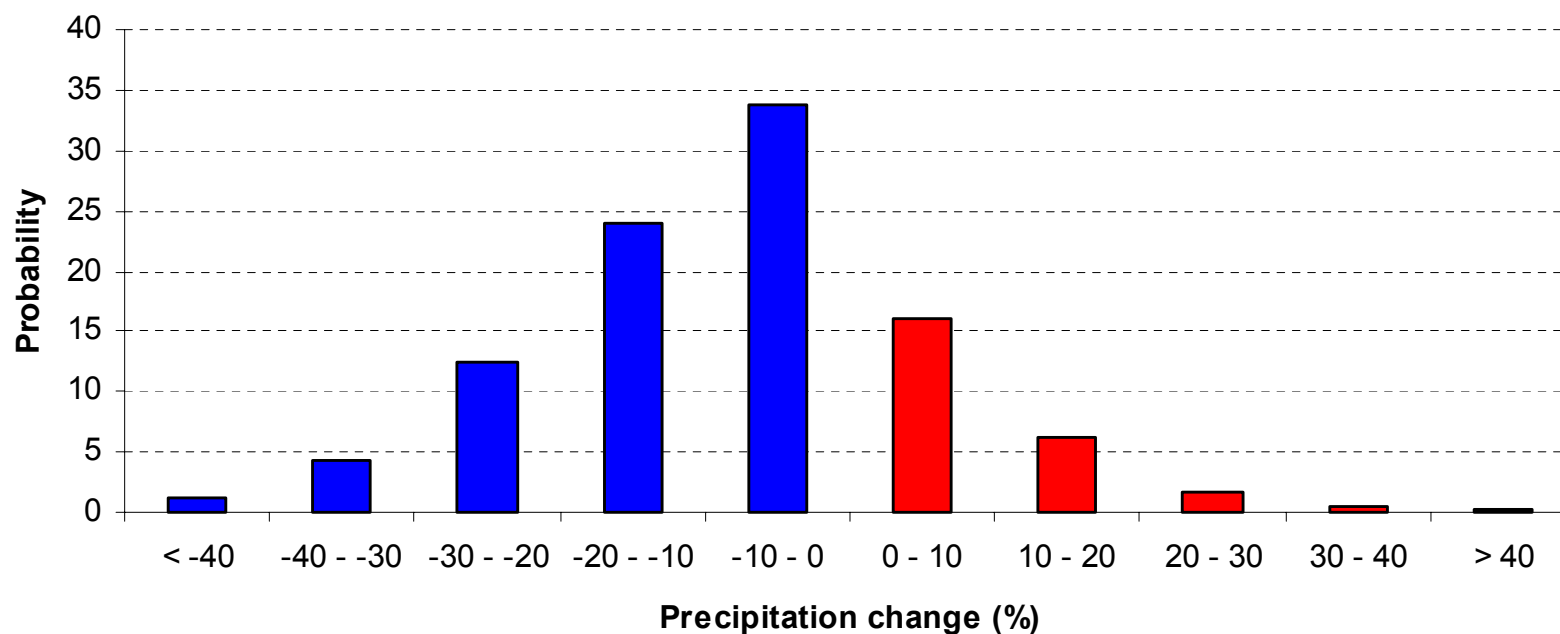
Change in mean summer (JJA) temperature by 2050: S. Europe



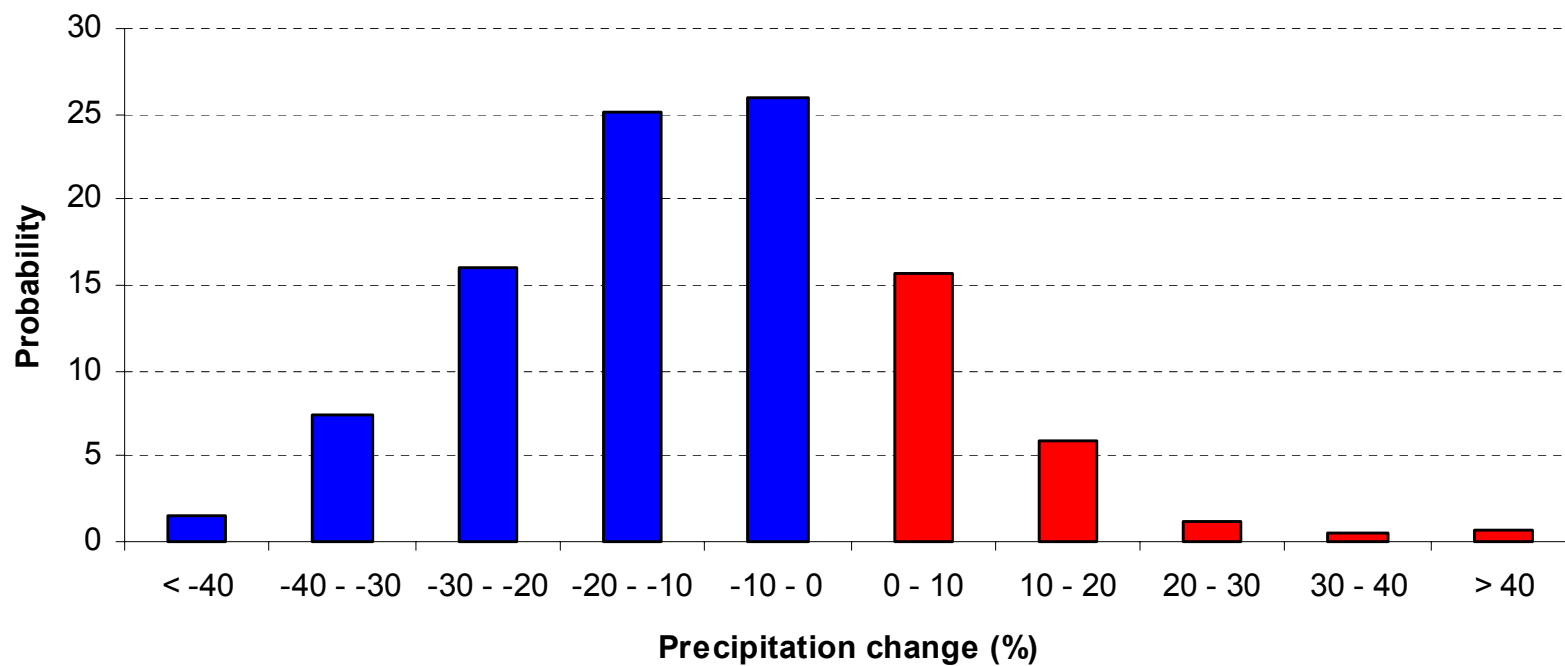
Change in mean summer (JJA) temperature by 2050: S. Europe



Change in mean summer (JJA) precipitation by 2050: S. Europe



Change in mean summer (JJA) precipitation by 2050: S. Europe



The End

Data providers: AVEC 2 Summer School participants

Assistant data processors (AVEC 1) : Anne, Rik,
Dagmar, Sönke, Mark

Technical confusion: Bill Gates

Direction (AVEC 1 and n'AVEC 2 pas): Tim

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