

Working Group I Contribution to the IPCC Fourth Assessment Report Climate Change 2007: The Physical Science Basis

List of Authors

Chapter 1: Historical Overview of Climate Change Science

Coordinating Lead Authors

| | | |
|--------------------|--------|--|
| Hervé LE TREUT | France | <i>Historical Overview of Climate Change Science</i> |
| Richard SOMERVILLE | USA | <i>Historical Overview of Climate Change Science</i> |

Lead Authors

| | | |
|-------------------|---------|--|
| Ulrich CUBASCH | Germany | <i>Climate processes, Climate modelling, Uncertainties</i> |
| Yihui DING | China | <i>Climate processes, Climate modelling</i> |
| Cecilie MAURITZEN | Norway | <i>Climate processes, Climate modelling, Uncertainties</i> |
| Abdalah MOKSSIT | Morocco | <i>Observations</i> |
| Thomas PETERSON | USA | <i>Observations</i> |
| Michael PRATHER | USA | <i>Climate processes, Climate modelling, Uncertainties</i> |

Review Editors

| | | |
|-----------------|-----------------|--|
| Alphonsus BAEDE | The Netherlands | <i>Historical Overview of Climate Change Science</i> |
| David GRIGGS | United Kingdom | <i>Historical Overview of Climate Change Science</i> |
| Maria MARTELO | Venezuela | <i>Working Group I Vice Chair</i> |

Chapter 2: Changes in Atmospheric Constituents and in Radiative Forcing

Coordinating Lead Authors

| | | |
|-------------------------|----------------|---|
| Piers M. de F. FORSTER | United Kingdom | <i>Changes in Atmospheric Constituents and in Radiative Forcing</i> |
| Venkatachalam RAMASWAMY | USA | <i>Changes in Atmospheric Constituents and in Radiative Forcing</i> |

Lead Authors

| | | |
|------------------|-----------------|---|
| Paulo ARTAXO | Brazil | <i>Aerosol Forcing, Land-use Forcing</i> |
| Terje BERNTSEN | Norway | <i>Greenhouse gases, Aircraft Effects, GWPs</i> |
| Richard A. BETTS | United Kingdom | <i>Land-use Forcing</i> |
| David W. FAHEY | USA | <i>Greenhouse gases, Aircraft Effects</i> |
| James HAYWOOD | United Kingdom | <i>Aerosol Forcing</i> |
| Judith LEAN | USA | <i>Solar and volcanic forcing</i> |
| David C. LOWE | New Zealand | <i>Greenhouse gases,</i> |
| Gunnar MYHRE | Norway | <i>Land-use Forcing, Aircraft Effects, GWPs</i> |
| John NGANGA | Kenya | <i>Aerosol Forcing</i> |
| Ronald PRINN | USA | <i>Greenhouse gases, GWPs</i> |
| Graciela RAGA | Mexico | <i>Aerosol Forcing</i> |
| Michael SCHULZ | France | <i>Aerosol Forcing</i> |
| Rob VAN DORLAND | The Netherlands | <i>Greenhouse gases, Solar and volcanic forcing</i> |

Review Editors

| | | |
|-------------------------|-------|---|
| Teruyuki NAKAJIMA | Japan | <i>Changes in Atmospheric Constituents and in Radiative Forcing</i> |
| Veerabhadran RAMANATHAN | USA | <i>Changes in Atmospheric Constituents and in Radiative Forcing</i> |

Chapter 3: Observations: Surface and Atmospheric Climate Change

Coordinating Lead Authors

| | | |
|-----------------|----------------|---|
| Philip JONES | United Kingdom | <i>Observations: Surface and Atmospheric Climate Change</i> |
| Kevin TRENBERTH | USA | <i>Observations: Surface and Atmospheric Climate Change</i> |

Lead Authors

| | | |
|-----------------------|-----------------|---|
| Peter AMBENJE | Kenya | <i>Surface climate, Tropics and sub-tropics, Extreme events</i> |
| Roxana BOJARIU | Romania | <i>Atmospheric circulation, Patterns of variability</i> |
| David EASTERLING | USA | <i>Surface climate, Extreme events</i> |
| Albert KLEIN TANK | The Netherlands | <i>Surface climate, Tropics and sub-tropics, Extra-tropics</i> |
| David PARKER | United Kingdom | <i>Surface climate, Free atmosphere, Atmospheric circulation, Patterns of variability, Tropics and sub-tropics, Extra-tropics</i> |
| Fatemeh RAHIMZADEH | Iran | <i>Surface climate</i> |
| James A. RENWICK | New Zealand | <i>Surface climate, Atmospheric circulation, Patterns of variability, Tropics and sub-tropics, Extra-tropics</i> |
| Matilde M. RUSTICUCCI | Argentina | <i>Patterns of variability, Tropics and sub-tropics, Extreme events</i> |
| Brian SODEN | USA | <i>Surface climate, Free atmosphere</i> |
| Panmao ZHAI | China | <i>Patterns of variability, Tropics and sub-tropics, Extreme events</i> |

Review Editors

| | | |
|-------------------|----------------|---|
| Brian HOSKINS | United Kingdom | <i>Observations: Surface and Atmospheric Climate Change</i> |
| Bubu Pateh JALLOW | The Gambia | <i>Working Group I Vice Chair</i> |
| Tom KARL | USA | <i>Observations: Surface and Atmospheric Climate Change</i> |

Chapter 4: Observations: Changes in Snow, Ice and Frozen Ground

Coordinating Lead Authors

| | | |
|-------------|---------|---|
| Peter LEMKE | Germany | <i>Observations: Changes in Snow, Ice and Frozen Ground</i> |
| Jiawen REN | China | <i>Observations: Changes in Snow, Ice and Frozen Ground</i> |

Lead Authors

| | | |
|------------------|-----------|--|
| Richard ALLEY | USA | <i>Snow, Sea ice, Glaciers, Ice shelves, Ice sheets, Frozen ground</i> |
| Ian ALLISON | Australia | <i>Sea ice, Ice shelves, Glaciers</i> |
| Jorge CARRASCO | Chile | <i>Snow, Sea ice, Ice shelves</i> |
| Gregory FLATO | Canada | <i>Snow, Sea ice, Ice shelves, Ice sheets, Frozen ground</i> |
| Yoshiyuki FUJI | Japan | <i>Ice shelves, Ice sheets</i> |
| Georg KASER | Austria | <i>Glaciers</i> |
| Philip MOTE | USA | <i>Snow</i> |
| Robert H. THOMAS | USA | <i>Ice sheets, Ice shelves</i> |
| Tingjun ZHANG | USA | <i>Snow, Frozen ground</i> |

Review Editors

| | | |
|--------------|-------|---|
| Roger BARRY | USA | <i>Observations: Changes in Snow, Ice and Frozen Ground</i> |
| Toshio KOIKE | Japan | <i>Observations: Changes in Snow, Ice and Frozen Ground</i> |

Chapter 5: Observations: Oceanic Climate Change and Sea Level

Coordinating Lead Authors

| | | |
|----------------------|-----------|---|
| Nathaniel L. BINDOFF | Australia | <i>Observations: Ocean Climate Change and Sea Level</i> |
| Jurgen WILLEBRAND | Germany | <i>Observations: Ocean Climate Change and Sea Level</i> |

Lead Authors

| | | |
|----------------------------|----------------|---|
| Vincenzo ARTALE | Italy | <i>Ocean physics, Sea level</i> |
| Anny CAZENAVE | France | <i>Ocean physics, Sea level</i> |
| Jonathan GREGORY | United Kingdom | <i>Sea level projections</i> |
| Sergey GULEV | Russia | <i>Ocean physics, Ocean circulation</i> |
| Kimio HANAWA | Japan | <i>Ocean physics, Ocean circulation</i> |
| Corrine LE QUÉRÉ | Germany | <i>Biogeochemical tracers</i> |
| Sydney LEVITUS | USA | <i>Ocean physics, Ocean circulation</i> |
| Yukihiro NOJIRI | Japan | <i>Biogeochemical tracers</i> |
| C. K. SHUM | USA | <i>Sea level</i> |
| Lynne D. TALLEY | USA | <i>Ocean physics, Ocean circulation</i> |
| Alakkat S. UNNIKRISSHANNAN | India | <i>Sea level</i> |

Review Editors

| | | |
|------------------|-------------|---|
| Laurent LABEYRIE | France | <i>Observations: Ocean Climate Change and Sea Level</i> |
| David WRATT | New Zealand | <i>Working Group I Vice Chair</i> |

Chapter 6: Paleoclimate

Coordinating Lead Authors

| | | |
|-------------------|--------|---------------------|
| Eystein JANSEN | Norway | <i>Paleoclimate</i> |
| Jonathan OVERPECK | USA | <i>Paleoclimate</i> |

Lead Authors

| | | |
|-------------------------|----------------|--|
| Keith BRIFFA | United Kingdom | <i>Paleoclimatic proxies</i> |
| Jean-Claude DUPLESSY | France | <i>Proxies, Paleoclimatic observations, Abrupt climate change, Modelling</i> |
| Fortunat JOOS | Switzerland | <i>Proxies, Paleoclimatic observations, Modelling</i> |
| Valérie MASSON-DELMOTTE | France | <i>Proxies, Paleoclimatic observations, Abrupt climate change, Modelling</i> |
| Daniel OLAGO | Kenya | <i>Proxies, Paleoclimatic observations</i> |
| Bette OTTO-BLIESNER | USA | <i>Paleoclimatic observations, Abrupt climate change, Modelling</i> |
| Wm. Richard PELTIER | Canada | <i>Paleoclimatic observations, Modelling</i> |
| Stefan RAHMSTORF | Germany | <i>Paleoclimatic observations, Abrupt climate change, Modelling</i> |
| Rengaswamy RAMESH | India | <i>Proxies, Paleoclimatic observations</i> |
| Dominique RAYNAUD | France | <i>Proxies, Paleoclimatic observations</i> |
| David RIND | USA | <i>Paleoclimatic observations, Modelling</i> |
| Olga SOLOMINA | Russia | <i>Proxies, Paleoclimatic observations</i> |
| Ricardo VILLALBA | Argentina | <i>Proxies, Paleoclimatic observations</i> |
| De'er ZHANG | China | <i>Paleoclimatic observations, Modelling</i> |

Review Editors

| | | |
|-------------|--------|-----------------------------------|
| Jean JOUZEL | France | <i>Working Group I Vice Chair</i> |
|-------------|--------|-----------------------------------|

John MITCHELL

United Kingdom *Modelling*

Chapter 7: Couplings Between Changes in the Climate System and Biogeochemistry

Coordinating Lead Authors

| | | |
|-------------------|---------|---|
| Guy BRASSEUR | Germany | <i>Coupling Between Changes in the Climate System and Biogeochemistry</i> |
| Kenneth L. DENMAN | Canada | <i>Coupling Between Changes in the Climate System and Biogeochemistry</i> |

Lead Authors

| | | |
|------------------------------|----------------|---|
| Amnat CHIDTHAISONG | Thailand | <i>Atmospheric chemistry</i> |
| Philippe CIAIS | France | <i>Carbon cycle, Land surface</i> |
| Peter COX | United Kingdom | <i>Carbon cycle, Land surface</i> |
| Robert DICKINSON | USA | <i>Land surface, Biogeochemical cycles</i> |
| Didier HAUGLUSTAINE | France | <i>Atmospheric chemistry, Air quality</i> |
| Christoph HEINZE | Norway | <i>Marine biogeochemical cycles</i> |
| Elisabeth HOLLAND | USA | <i>Carbon cycle, Atmospheric chemistry, Land surface, Biogeochemical cycles</i> |
| Daniel JACOB | USA | <i>Atmospheric chemistry, Air quality, Biogeochemical cycles</i> |
| Ulrike LOHMANN | Canada | <i>Air quality, Aerosol effects, Biogeochemical cycles</i> |
| Srikanthan (S.) RAMACHANDRAN | India | <i>Air quality, Aerosol effects</i> |
| Pedro Leite da SILVA DIAS | Brazil | <i>Land surface, Biogeochemical cycles</i> |
| Steven C. WOFSY | USA | <i>Carbon cycle, Land surface, Biogeochemical cycles</i> |
| Xiaoye ZHANG | China | <i>Air quality, Aerosol effects</i> |

Review Editors

| | | |
|-------------------|----------|---|
| Kansri BOONPRAGOB | Thailand | <i>Working Group I Vice Chair</i> |
| Martin HEIMANN | Germany | <i>Coupling Between Changes in the Climate System and Biogeochemistry</i> |
| Mario MOLINA | USA | <i>Coupling Between Changes in the Climate System and Biogeochemistry</i> |

Chapter 8: Climate Models and their Evaluation

Coordinating Lead Authors

| | | |
|-----------------|----------------|--|
| David RANDALL | USA | <i>Climate Models and their Evaluation</i> |
| Richard A. WOOD | United Kingdom | <i>Climate Models and their Evaluation</i> |

Lead Authors

| | | |
|----------------------|-----------|---|
| Sandrine BONY | France | <i>Current climate, Processes, Climate sensitivity</i> |
| Robert COLMAN | Australia | <i>Current climate, Processes, Climate sensitivity</i> |
| Thierry FICHEFET | Belgium | <i>Thresholds and abrupt events, Simple models</i> |
| John FYFE | Canada | <i>Current climate, Climate variability, Processes, Extremes</i> |
| Vladimir KATTSOV | Russia | <i>Current climate, Climate variability simulations</i> |
| Andrew PITMAN | Australia | <i>Current climate simulations, Climate processes</i> |
| Jagadish SHUKLA | USA | <i>Current climate, Climate variability</i> |
| Jayaraman SRINIVASAN | India | <i>Current climate, Climate variability, Processes</i> |
| Ron STOUFFER | USA | <i>Current climate, Climate variability, Processes, Extremes, Climate sensitivity</i> |

| | | |
|----------------|-------|--|
| Akimasa SUMI | Japan | <i>Current climate, Climate variability, Processes, Extremes</i> |
| Karl E. TAYLOR | USA | <i>Current climate, Climate variability, Extremes, Climate sensitivity</i> |

Review Editors

| | | |
|-----------------|-----------|--|
| Elisa MANZINI | Italy | <i>Climate Models and their Evaluation</i> |
| Taroh MATSUNO | Japan | <i>Climate Models and their Evaluation</i> |
| Bryant MCAVANEY | Australia | <i>Climate Models and their Evaluation</i> |

Chapter 9: Understanding and Attributing Climate Change

Coordinating Lead Authors

| | | |
|-----------------|--------|---|
| Gabriele HEGERL | USA | <i>Understanding and Attributing Climate Change</i> |
| Francis ZWIERS | Canada | <i>Understanding and Attributing Climate Change</i> |

Lead Authors

| | | |
|----------------------|----------------|--|
| Pascale BRACONNOT | France | <i>Pre-industrial climate change</i> |
| Nathan GILLETT | Canada | <i>Reliability of predictions, Instrumental era climate change</i> |
| Yong LUO | China | <i>Climate response, Instrumental era climate change</i> |
| Jose Antonio MARENGO | Brazil | <i>Reliability of predictions, Instrumental era climate change</i> |
| Neville NICHOLLS | Australia | <i>Reliability of predictions, Instrumental era climate change</i> |
| Joyce PENNER | USA | <i>Climate response, Instrumental era climate change</i> |
| Peter A. STOTT | United Kingdom | <i>Climate response, Reliability of predictions, Instrumental era climate change</i> |

Review Editors

| | | |
|---------------|--------|---|
| David KAROLY | USA | <i>Understanding and Attributing Climate Change</i> |
| Laban OGALLO | Kenya | <i>Understanding and Attributing Climate Change</i> |
| Serge PLANTON | France | <i>Understanding and Attributing Climate Change</i> |

Chapter 10: Global Climate Projections

Coordinating Lead Authors

| | | |
|----------------|-------------|-----------------------------------|
| Gerald MEEHL | USA | <i>Global Climate Projections</i> |
| Thomas STOCKER | Switzerland | <i>Global Climate Projections</i> |

Lead Authors

| | | |
|-----------------------|----------------|--|
| William COLLINS | USA | <i>Future radiative forcing, Timescales of response, Global projections, Model uncertainties</i> |
| Pierre FRIEDLINGSTEIN | France | <i>Timescales of response, Global projections, Model uncertainties</i> |
| Amadou Thierno GAYE | Senegal | <i>Timescales of response, Global projections</i> |
| Jonathan GREGORY | United Kingdom | <i>Global projections, Sea level projections, Model uncertainties</i> |
| Akio KITO | Japan | <i>Global projections, Model uncertainties</i> |
| Reto KNUTTI | Switzerland | <i>Climate change over different time scales, EMICs</i> |
| James MURPHY | United Kingdom | <i>Global projections, Model uncertainties</i> |
| Akira NODA | Japan | <i>Global projections, Model uncertainties</i> |
| Sarah RAPER | United Kingdom | <i>Global projections, Simple models</i> |
| Ian G. WATTERSON | Australia | <i>Global projections, Model uncertainties</i> |
| Andrew WEAVER | Canada | <i>Global projections, Sea level projections, Model uncertainties</i> |
| Zong-Ci ZHAO | China | <i>Global projections, Model uncertainties</i> |

Review Editors

Myles ALLEN United Kingdom *Global Climate Projections*
Govind Ballabh PANT India *Global Climate Projections*

Chapter 11: Regional Climate Projections**Coordinating Lead Authors**

Jens Hesselbjerg CHRISTENSEN Denmark *Regional Climate Projections*
Bruce HEWITSON South Africa *Regional Climate Projections*

Lead Authors

Aristita BUSUIOC Romania *Downscaling, Regional projections*
Anthony CHEN Jamaica *Small Islands*
Xuejie GAO China *Regional projections*
Isaac HELD USA *Regional projections, Regional model uncertainties*
Richard JONES United Kingdom *Downscaling, Regional projections*
Rupa Kumar KOLLI India *Regional projections*
Won-Tae KWON R. Korea *Regional projections*
René LAPRISE Canada *Regional models, Downscaling, Regional projections*
Victor MAGAÑA RUEDA Mexico *Regional projections, Regional model uncertainties*
Linda MEARNS USA *Regional models, Downscaling, Regional projections, Regional model uncertainties*

Claudio Guillermo MENENDEZ Argentina *Regional models, Regional projections*
Jouni RÄISÄNEN Finland *Regional projections, Regional model uncertainties*
Annette RINKE Germany *Regional models, Regional projections*
Abdoulaye SARR Senegal *Regional projections*
Penny WHETTON Australia *Regional models, Regional projections*

Review Editors

Congbin FU China *Regional Climate Projections*
Filippo GIORGI Italy *Working Group I Vice Chair*