

OECD-PLACARD Workshop

Adapting to a changing climate in the management of wildfires

AGENDA

16-17 January 2020

Room CC2, OECD Conference Centre



■ Date, time and venue

16-17 January 2020, Room CC2, OECD Conference Centre, 2 Rue André Pascal, 75016 Paris

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■ Background information

Wildfires threaten communities and cause significant economic disruption. Over the past 10 years, wildfires have caused over USD 100 billion in damages across OECD countries, and many lives were lost in their wake. In 2018 the Attica Fires in Greece caused an estimated 126 fatalities and in Portugal around 80. In the same year, the California wildfires killed 88 people and caused an unprecedented USD 16.5 billion in damages. Similarly, the 2009 Black Saturday bushfires in Australia killed 173 people and destroyed several towns. Apart from fatality risk, wildfires cause health problems through air pollution and environmental problems, destroying biodiversity and global carbon sinks, as with the recent fires in Australia, Brazil or Indonesia. Their main economic costs result from timber losses, property and other economic asset destruction, business and key operator service disruptions as well as revenue losses in affected sectors, such as tourism.

Wildfires have both natural and man-made origins. While weather can both enable and trigger wildfires, human activities, such as nature tourism, land clearance for agriculture or energy distribution, are often the contributing factors. Environmental factors, such as temperatures, wind and slope inclinations as well as the amount and moisture content of dead fuel, are all factors that can make wildfires become worse. So are poor practices in land and soil management. The spread of wildfires is also affected by forest and land management practices as well as fire suppression measures.

Climate change is expected to exacerbate the future risk of wildfires. As global temperatures are set to increase and precipitation in some regions to decrease, while in others to increase, the risk of climate-related extreme weather events is expected to rise. Heat waves and droughts, in combination with strong winds, are expected to expose many forests more frequently and more severely to fires, likely extending the duration of the fire season and increasing the area at risk of large fires. At the same time greater variability in precipitation cycles – including years with above and below average precipitation levels – have increased the volume of fuel available to be burned in low precipitation years. Finally, invasive species that thrive in warmer conditions also increase the amount of deadwood, which in turn drives wildfire risks.

Increasing the resilience of forests against present and future risks requires the adaptation of current wildfire management policies and practices to climate change. To effectively adapt to the impacts of a changing climate in wildfire management, measures across different policy areas need to be well aligned and implementation on the ground reinforced by the different actors involved in the prevention of and response to wildfires. For example, land use management should take into account the likelihood and patterns of wildfires arising from changing climatic conditions. To increase the resilience of forests against wildfires, natural resource management can make use of a range of measures, including the diversification and more natural growth of forests as well as silvicultural practices that improve the structure, composition and functionality of forests, which includes reducing the amount of deadwood. In some high-risk regions these types of adaptation measures will be essential to ensuring the continued availability of insurance coverage for damages and losses from wildfires.

Rationale

Recent wildfire events have made apparent a number of gaps in countries' management of wildfires and their understanding and incorporation of the underlying climatic changes that are driving their occurrence. Some ways to address these gaps are, for example:

- Furthering the understanding of the impacts of climate change on wildfire risks and identifying existing knowledge and information gaps;
- Ensuring that critical infrastructure operators, private businesses, and citizens are aware of their wildfire exposure and the measures they can take to reduce their own risks and the risks that their activities could generate for others (e.g. power providers);
- Adopting latest technologies and innovation (e.g. satellite imagery to assess and monitor wildfire risks) to more effectively reduce the risks of wildfires;
- Using wildfire risk information to inform public policy making as well as private stakeholders' adaption decisions and to align policies, such as land-use management, agriculture, urban development, forest management, to effectively adapt to the changing nature of wildfires.

Workshop Objectives

This workshop will provide an opportunity for participants to discuss current science and policy gaps that need to be addressed to accelerate actions for resilience against wildfires. It will also provide an opportunity for participants to share good practices different country experience.

The purpose of the workshop is:

- To bring together national and subnational government representatives, leading academics, private actors (e.g. (re)insurance providers) and experts from international organisations to discuss the needs for - and to share good practices in - adapting wildfire management approaches to a changing climate;
- To identify issues that need to be addressed to create a conducive environment for aligning wildfire actions, by public as well as private actors, and to design an effective funding architecture to boost wildfire adaptation actions, including ensuring the continued availability of financial protection against wildfire risk
- To identify the added-value of international and intergovernmental cooperation on this issue.

Expected Outcomes and Next Steps

This workshop should contribute to:

- Setting an agenda for research, policy and practice to improve forest management considering the impacts of climate change on wildfires, with a view to deriving recommendations for central governments and their partners;
- Prioritising areas where the OECD could contribute to addressing existing gaps in its work going forward.

DAY 1, Thursday, 16 January 2020

09:30-09:45 **Opening Remarks**

Speakers **Rodolfo Lacy**, Director, Environment Directorate, OECD
Mario Pulquerio, Placard Coordinator, University of Lisbon

09:45-11:15 **Session 1: What is – or will be- the new normal in wildfires?**

Objectives This session will set the scene revisiting the major trends and consequences in wildfire occurrence. It will provide an overview of the scientific knowledge to date, giving specific consideration to the expected impacts of climate change. The session should highlight gaps that science needs to address going forward.

Speakers **Colin Prentice**, Professor Biosphere and Climate Impacts, Imperial College London
Richard Thornton, Chief Executive Officer, Bushfire and Natural Hazards Cooperative Research Centres, Australia
Joaquín Bedia Jiménez, Professor, Santander Meteorology Group, University of Cantabria
Cristina Santin, Senior Lecturer, Biosciences, University of Swansea

Moderator **Simon Buckle**, Head of Division, Climate, Biodiversity & Water, OECD Environment Directorate

11:15 –
11:45 *Coffee break*

11:45-13:00 **Session 2: Understanding the socio-economic costs of wildfires**

Objectives While the scientific parameters of wildfire risks (geology, physics, biology, etc) are relatively well researched, much less efforts have been invested in evaluating the socio-economic costs of wildfires. Understanding the socio-economic costs of wildfires is essential to mobilising resources for the prevention and management of wildfires. This session will provide an overview and discussion of our knowledge and understanding to date, including underlying methods. It will identify knowledge gaps and research needs that need to be addressed going forward.

Speakers **John Handmer**, Risk Program, IIASA, Vienna & School of Science, RMIT University, Australia
Volker Radeloff, Professor, Forest and Wildlife Ecology, University of Wisconsin - Madison
Shawn McCoy, Assistant Professor, Department of Economics, University of Nevada
Robert Muir-Wood, Chief Research Officer, Risk Management Solutions

Moderator **Catherine Gamper**, Climate Change Adaptation, OECD Environment Directorate

13:00-14:15 **Buffet Lunch (Atrium)**

14:15-15:45 **Session 3: Aligning public policy to effectively manage wildfires**

Objectives This session will discuss approaches to managing wildfire risks in an integrated way, so as to align public policy to effectively manage wildfires (such as in land-use planning, infrastructure development, forest management, agriculture or tourism). It will look at how policies have been aligned to address emerging trends and challenges in wildfire occurrence. The session seeks to highlight good practices and identify the prevailing gaps that need to be addressed.

Speakers **Tiago Oliveira**, Director, Agency for the Integrated Management of Rural Fires (AGIF), Portugal
Gavriil Xanthopoulos, Institute of Mediterranean & Forest Ecosystems, and Member of the Independent Committee on Perspectives of Landscape Fire Management in Greece
Michael Norton, Director General, Northern Forestry Centre, Natural Resources Canada
Nicolas Faivre, DG Research, European Commission
Kilian Heil, Ministry of Environment, Infrastructure and Innovation, Austria

Moderator **Xavier Leflaive**, Head of Resilience, Adaptation & Water, OECD Environment Directorate

15:45 –
16:15 *Coffee break*

16:15-17:45 **Session 4: The role of innovation and technology in wildfire management**

Objectives This session will identify the use of emerging innovations and technologies for assessing and monitoring wildfire risk (such as seasonal climate predictions linking with climate-fire models) and for better communicating about wildfires to inform the right behavioural responses in the event of a fire. It will also discuss innovative practices in sharing wildfire risk information among governmental and non-governmental stakeholders.

Speakers **Akli Benali**, University of Lisbon, Portugal
Daniele Sempere-Torres, Director of Center of Applied Research in Hydrometeorology, Universitat Politècnica de Catalunya - Barcelonatech
Jesus San-Miguel, Joint Research Centre, European Commission
Johann Georg Goldammer, Director, Global Fire Monitoring Center & Professor, Max Planck Institute for Chemistry, Germany

Moderator **João Pedro Nunes**, Placard & University of Lisbon

18:00-19:00 **Cocktail Reception (Expresso – Red chairs)**

DAY 2, Friday, 17 January 2020

09:00-09:30 **Keynote: California's experience in responding to wildfire risk**

Objectives The state of California has faced an increasing number of wildfires in recent years, with devastating impacts on households and businesses and huge financial implications. Commissioner Lara will share his experience in helping local communities access the funding needed to rebuild in the aftermath of these catastrophes and in responding to challenges that have emerged in the availability and affordability of insurance against wildfire risk.

Introduction **Greg Medcraft**, Director, Directorate for Financial Affairs, OECD

Speaker **Ricardo Lara**, Insurance Commissioner, California

09:30-11:00 **Session 5: Effective risk transfer mechanisms for wildfire management**

Objectives This session will discuss the implications that changing wildfire risk could have on the need to finance wildfire management measures and the availability of financial protection/insurance, including how governments can use insurance to manage the increasing cost of responding to wildfires. The session aims at identifying needs for action for governmental stakeholders to enable effective financing and risk transfer mechanisms.

Speakers **Matthew Eagle**, Head of Global Model Solutions and Advisory, Guy Carpenter
Gerry Lemcke, Head of Product Management, Public Sector Solutions, Swiss Re
Tara Laidman, Associate Vice President, National Product Portfolio, The Co-operators

Moderator **Mamiko Yokoi-Arai**, Head of Insurance, OECD Directorate for Financial and Enterprise Affairs

11:00 –
11:30 *Coffee break*

11:30-12:45 **Session 6: Roundtable discussion on science and policy gaps and options for further work**

Objectives This session will bring together identified challenges as well as science and policy gaps that affect countries' wildfire management capacity. It will also identify the possible areas where international cooperation can add value and more specifically, where the OECD can contribute to enhancing countries' policies and practices.

Moderators **Markus Leitner**, Placard & Environment Agency, Austria & **Catherine Gamper**, OECD

12:45-13:00 **Closing session**

Objective This session will provide closing remarks.

Biographies



Rodolfo Lacy

Director, Environment Directorate, OECD

Rodolfo Lacy is the Director of the Environment Directorate of the Organisation for Economic Co-operation and Development (OECD). Prior to joining the OECD in August 2018, Lacy was Vice Minister of Environmental Policy and Planning at the Ministry of Environment and Natural Resources of Mexico (2012-2018); Chief negotiator of Climate Change (COP19-COP23); Co-chair of the Global Methane Initiative; Member of the High-Level Group of the Global Environmental Outlook (GEO6); and Board Member of the Climate Action Reserve in California, USA. He holds a Doctorate Degree in Environmental Science and Engineering from the Universidad Autónoma Metropolitana (Mexico), a Master's Degree in Urban Studies and Planning from the Massachusetts Institute of Technology (MIT), and a Bachelor's Degree in Environmental Engineering from the Universidad Autónoma Metropolitana (Mexico).



Mário Pulquerio

Placard & University of Lisbon

Mário Pulquério is a researcher working at the Faculty of Sciences, University of Lisbon. He has participated in a range of national and European projects on climate change adaptation for the biodiversity and water sector and on the development of regional climate change scenarios. He is currently the coordinator of the Horizon 2020 project PLACARD, and has chaired and organised the 2019's edition of the European Climate Change Adaptation conference.



Colin Prentice

Professor Biosphere and Climate Impacts, Imperial College London

Professor Iain Colin Prentice FRS is Director of the Leverhulme Centre for Wildfires, Environment and Society. He holds a Chair in Biosphere and Climate Impacts in the Department of Life Sciences, Imperial College London; an Honorary Chair in Ecology and Evolution at Macquarie University, Sydney; and a High-End Expert position in Earth System Science at Tsinghua University, Beijing. He led the research programme Quantifying and Understanding the Earth System for the UK Natural Environment Research Council. He has played multiple roles in the international coordination of global change science, including co-chairmanship of the International Geosphere-Biosphere Programme's project on Analysis, Integration and Modelling of the Earth System.



Richard Thornton

Chief Executive Officer, Bushfire and Natural Hazards Cooperative Research Centres, Australia

Richard Thornton is the Chief Executive Officer of the Australian Bushfire and Natural Hazards Cooperative Research Centre (CRC) (bnhrcrc.com.au), a position he has held since the start of the CRC in 2013. Prior to that Richard was Deputy CEO and Research Director of the Bushfire CRC, a role he held since 2004 where his responsibilities included leadership and oversight of the research program. He has previously worked with the Bushfire CRC and Australia's Telecommunications company Telstra. Until January 2016, Richard was a member of the Board of the International Association of Wildland Fire and the Chair of the Editorial Advisory Committee of the International Journal of Wildland Fire. Richard remains a member of the Editorial Board.

Joaquín Bedia Jiménez

Professor, Santander Meteorology Group, University of Cantabria



Joaquín Bedia is an Assistant Professor in the Department of Applied Mathematics and Computer Science of the University of Cantabria (Spain) and a post-doc researcher at the Santander Meteorology Group (www.meteo.unican.es). He obtained his PhD in 2015, addressing the generation of fire danger scenarios at different spatial scales and their relationships with observed fire activity. During the period 2016-2018, he also worked in the private sector in Predictia Intelligent Data Solutions, a technological spin-off of the Santander Meteorology Group founded in 2008, as R&D manager of two C3S contracts dealing with the assessment of technical and scientific quality of climate services and products.

Cristina Santín

Senior Lecturer, Biosciences, University of Swansea



Cristina Santín is Senior Lecturer in the Biosciences Department at Swansea University (Wales, UK). She did an undergraduate degree in Biology (2003) at the University of Oviedo (Spain) where she also received her PhD in 2009. In 2011, she moved to Swansea to start her work on wildfires. Her current research focuses on the effects of fire, both wildfires and prescribed burns, on carbon dynamics. She has been doing fieldwork all around the world covering different ecosystems such as Atlantic heathlands (UK and Spain), tropical savannah (South Africa), the boreal forest (Canada) or the dry sclerophyllous forest (Australia). She is associate editor of *Journal of Geophysical Research-Biogeosciences*.

Simon Buckle

Head of Division, Climate, Biodiversity & Water, OECD Environment Directorate



Simon Buckle is the Head of the Climate, Biodiversity and Water Division within the Environment Directorate at the OECD. Prior to joining the OECD in 2014, Simon was the founding Climate Policy Director at the Grantham Institute at Imperial College London (2007-14) and a member of the Imperial College Management Board (2011-13). Simon played a leading role in the creation of the European Institute for Innovation and Technology's Climate Knowledge and Innovation Community and was a member of its Governing Board (2011-14). Previously, Simon was a senior British diplomat and served in a variety of roles both in London and overseas. He also worked at the Bank of England (1998-2002), the UK Ministry of Defence (1988-1991) and as a postdoctoral researcher at Imperial (1985-86). Simon has a doctorate in theoretical physics, an MSc in Financial Economics and a BSc Joint Hons (First Class) in Physics and Philosophy.

John Handmer

Risk Program, IIASA, Vienna & School of Science, RMIT University, Australia



John Handmer is Senior Science Adviser in Risk at IIASA, an Emeritus Professor with the RMIT School of Science, an Honorary Professorial Fellow with Geography, University of Melbourne, and a Fellow of the Australian Social Science Academy. He works closely with the Bushfire & Natural Hazards CRC (Cooperative Research Centre). He has also held positions at the Australian National University and at the Flood Hazard Research Centre, Middlesex University (London). He chairs the Scientific Committee of the Integrated Research on Disaster Risk (IRDR) Program of ISC (International Council of Science and the UNDRR). His research group has won a number of Australian industry and national awards over the last few years, and co-led the human dimensions research following the Australian fires of 2009.

Volker Radeloff

Professor, Forest and Wildlife Ecology, University of Wisconsin – Madison



Volker Radeloff is a professor in the Department of Forest and Wildlife Ecology at the University of Wisconsin-Madison. He has lead assessments of the Wildland-Urban Interface and wildfire risk to houses in the United States in close collaboration with the US Forest Service. The resulting WUI maps are widely used by land management agencies, the media, and for scientific investigations.

**Shawn McCoy**

Assistant Professor, Department of Economics, University of Nevada

Shawn J. McCoy is an Assistant Professor of Economics at the University of Nevada, Las Vegas and holds a Ph.D. in economics. He specializes in urban and environmental economics, and researches the socio-economic effects of natural disasters, factors and policies that influence disaster risk awareness and the underlying links between disaster risk perceptions and residential housing markets. His research on natural disasters has been published in the Journal of Environmental Economics and Management, the Journal of the Association of Environmental and Resource Economists and featured in local and national media outlets including The Washington Post, U.S. News & World Report and Reuters.

**Robert Muir-Wood**

Chief Research Officer, Risk Management Solutions

After a first degree in Natural Sciences and a PhD in Earth Sciences from the University of Cambridge, since 1992 Robert Muir-Wood has worked on the development of methodologies for catastrophe loss modelling. He has been head of research at RMS since 2004 and has been technical lead on a number of Catastrophe risk securitizations, as well as Lead Author on Insurance, Finance and Climate Change for the 2007 4th IPCC Assessment Report and for the 2011 IPCC 'Special Report on Extremes'. He is Chair of the OECD High Level Advisory Board of the International Network on Financial Management of Large Catastrophes, and has been a Visiting Professor at the Institute for Risk and Disaster Reduction at University College London.

**Catherine Gamper**

Climate Change Adaptation, OECD Environment Directorate

Catherine Gamper works on Climate Change Adaptation in the OECD's Environment Directorate. She leads the OECD Task Force on Climate Change Adaptation as well as thematic work and country studies on climate change adaptation. She previously led the governance directorate's work on disaster risk prevention & resilience, with a focus on the economics and public finance aspects of disaster risks. Prior to joining the OECD she worked at the World Bank, contributing to its research and operational work on disaster risk reduction and localising development. Ms. Gamper used to be an Assistant Professor of public finance at the University of Innsbruck, where she obtained her PhD, and taught classes in political and environmental economics.

**Tiago Oliveira**

Director, Agency for the Integrated Management of Rural Fires (AGIF), Portugal

Tiago M. Oliveira is an expert in forest fire risk management and governance. Since January 2019, he is the Chairman of the Board of the Integrated Fire Management Agency (Portugal). Previously, upon nomination by the Portuguese Prime-Minister, he led the Installation of the Integrated Rural Fire Management System, in the aftermath of 2017 wildfires. Former Head of the Department of Innovation and Forestry Development (2016-2017) and Forest Protection (2008-2016) at The Navigator Company, where he covered fire prevention and suppression operational programs and R&D projects in the scope of MIT-Portugal programme. Assistant Lecturer at MedFor Master (2013-2017) and Executive Coordinator of the Technical proposal of the National Fire Plan (2005) and advisor for the XV and XVII Portuguese Governments.

**Gavriil Xanthopoulos**

Institute of Mediterranean & Forest Ecosystems, and Member of the Independent Committee on Perspectives of Landscape Fire Management in Greece

Gavriil Xanthopoulos is a forester who holds a B.Sc. degree in Forestry from the Aristotelian University of Thessaloniki, Greece, and M.Sc. and Ph.D. degrees in Forestry with specialization in Forest Fire Science from the University of Montana, U.S.A. He is an associate researcher in forest fires and is the head of the Forest Fire Laboratory at the Institute of Mediterranean Forest Ecosystems of the Hellenic Agricultural Organization "Demeter". He has been advisor to the General Secretary of Forests and Natural Environment, to the Minister of Public Order and to the General Secretary of Civil Protection in Greece. He is a member of the Board of Directors of the International Association of Wildland Fire and a member of the United Nations International Strategy for Disaster Risk Reduction Wildland Fire Advisory Group.

**Michael Norton**

Director General, Northern Forestry Centre, Natural Resources Canada

Michael Norton is Director General of Natural Resources Canada's Northern Forestry Centre (NFC), located in Edmonton, Alberta. He plays a national leadership role on wildland fire as executive lead of the Canadian Forest Service's Wildland Fire program, and as co-chair of the Canadian Council of Forest Ministers' Wildland Fire Management Working Group. He is a member of the Board of Directors of the Canadian Interagency Forest Fire Center, and served as Chairperson in 2018. Prior to joining NRCan Canada in 2014, Mike has been Regional Director, Environmental Services and Contaminated Sites with Public Works and Government Services Canada (2013-2014), and Associate Regional Director General with Environment Canada (2011-2013), both for the prairie and northern regions. Mike has a BSc from the University of Guelph and a Master of Science from the University of Alberta.

**Nicolas Faivre**

DG Research, European Commission

Nicolas Faivre contributes to define, promote and implement the EU Research and Innovation agendas for Climate Change Adaptation and Disaster Risk Reduction with a view to support EU and International policymaking processes linked to Climate Action (EU Green Deal, EU Action Plan for the Sendai Framework for DRR, EU Adaptation Strategy, EU Forest Strategy, etc.). He draws in his work on his academic background in environmental sciences and on his research experience in the sustainable management of natural resources and natural hazards. Nicolas has particular expertise in the field of wildfire risk management and reduction (PhD degree, 2011) acquired in several fire-prone countries and regions (Australia, California, Eastern Canada, and Southern Europe).

**Xavier Leflaive**

Team Leader on Resilience, Adaptation & Water, OECD Environment Directorate

Xavier Leflaive leads the team that works on Resilience, Adaptation to climate change and Water in the OECD Environment Directorate. Xavier joined the OECD 15 years ago, and spearheaded work on environmental finance, environment-related innovation and water. He coordinated the Recommendation of the OECD Council on water, which captures OECD policy guidance on the management of water resources, water supply and sanitation services, and water-related risks. He has facilitated policy reforms in Brazil, Ireland, Korea, the Netherlands, the Caucasus and Central Asia. Xavier studied business administration and social theory in France, Canada and the UK. He holds a PhD in Social and Political Sciences from the University of Cambridge, UK.

**Akli Benali**

University of Lisbon, Portugal

Akli Benali is a Researcher at the Forest Research Center of the University of Lisbon (Portugal). His work aims at providing relevant knowledge and scientific-based tools to support better decision-making regarding wildfires, in an effort of bridging research and practice more effectively. Recently he has developed work combining fire spread modelling and satellite data to improve fire suppression strategies, in close collaboration with the relevant authorities. He was also recently involved in a multi-stakeholder project with the aim of developing proposals to reduce the vulnerability of a recently burned landscape to large wildfires.

**Daniele Sempere-Torres**

Director, Center of Applied Research in Hydrometeorology, Universitat Politècnica de Catalunya - Barcelonatech

Daniele Sempere-Torres is a professor of environmental engineering at the Civil and Environmental Engineering School of the Universitat Politècnica de Catalunya – Barcelonatech (UPC), and Director of de Centre of Technological Innovation in Hydrometeorology (CRAHI). He has 30 years of experience in applied research and innovation projects in environmental modeling and early warning systems. He is the coordinator of the Horizon 2020 Innovation Action ANYWHERE on the development of operational decision support tools for the management and reduction of impacts of the climate-induced emergencies.



Jesus San-Miguel

Joint Research Centre, European Commission

Leader on the development of the European Forest Fire Information System (EFFIS) and the Global Wildfire Information System (GWIS), Jesús San Miguel-Ayanz, is a Senior researcher at the European Commission Joint Research Centre. Until 2017, he led the development of other EU information systems such as the Forest Information System for Europe (FISE) and the European Forest Data Center (EFDAC), supporting EU Regulations on forest information and monitoring. He has a background on forestry research and remote sensing, including aspects of forest dynamics, inventory and disturbances, specifically on forest fires, and a wide experience in data handling and in the development of information systems.



Johann Georg Goldammer

Director, Global Fire Monitoring Center & Professor, Max Planck Institute for Chemistry, Germany

Johann Georg Goldammer is a professional forester and forest scientist, specialized in fire ecology and fire management at the Max Planck Institute for Chemistry and professor for fire ecology at Freiburg University, Germany. In 1998, he established the Global Fire Monitoring Center (GFMC) and is serving as its Director since then. The GFMC is a member of the Science and Technology Partnership of the United Nations International Strategy for Disaster Reduction (UNISDR), coordinator the UNISDR Wildland Fire Advisory Group (WFAG) and provider of a Voluntary Commitment for the implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030 of the Organization for Security and Cooperation in Europe (OSCE).



João Pedro Nunes

Placard & University of Lisbon

João Pedro Nunes is a Researcher at the University of Lisbon (Portugal), and has previously worked at the Universities of Aveiro (Portugal) and Wageningen (Netherlands). His work aims at understanding wildfire regimes and how they affect the ecosystem services provided by forests, land degradation in burnt areas, and downstream water resources. His current research focus is the impacts of fires on the contamination of water for domestic consumption, and he is leading a project joining researchers and Portuguese water managers in creating tools to assess and map contamination risk after specific wildfire events. He is also the Portuguese representative to the European Cooperation in Science and Technology network on "Fire in the Earth System: Science & Society".



Greg Medcraft

Director, Directorate for Financial Affairs, OECD

Greg Medcraft is the OECD's Director for Financial and Enterprise Affairs. From 2009 until his appointment to the OECD in November 2017, he was Commissioner and then Chairman of the Australian Securities and Investments Commission (ASIC), Australia's corporate, markets, financial services and credit regulator. Prior to this, Greg had a 30-year career in banking at Société Générale, finishing as Managing Director and Global Head of Securitisation. From 2009 to 2017, Mr. Medcraft was also Chair of the IOSCO Board and a member of the Financial Stability Board from 2013 to 2016.



Ricardo Lara

Insurance Commissioner, California

Ricardo Lara is California's 8th Insurance Commissioner and leader of the state's largest consumer protection agency. In 2019, Commissioner Lara and the United Nations Environment Program announced the nation's first sustainable insurance roadmap to reduce the risk of climate change. Commissioner Lara also created a Climate and Sustainability Branch at the Department of Insurance with the country's first deputy-level position focused on addressing risks exacerbated by climate change. He served as a legislative member of the California Air Resources Board and was part of the legislative delegation at the U.N. COP21 Paris (2015) and COP23 Bonn (2017) Climate Conferences.

**Matthew Eagle**

Head of Global Model Solutions and Advisory, Guy Carpenter

Matthew Eagle is Managing Director and Head of Global Model Solutions and Advisory at Guy Carpenter. In this role, he is responsible for providing thought and resource leadership for natural and man-made catastrophe risk. Matthew leads cat advisory and model development teams developing solutions and insights to help clients formulate their view of risk for use across all aspects of their business. He has over 26 years of experience in the reinsurance sector with a focus on catastrophe analytics and previously worked in statistical software and consulting. He has a MSc in Statistics from the University of Minnesota and is a fellow of the Royal Statistical Society.

**Gerry Lemcke**

Head of Product Management, Public Sector Solutions, Swiss Re

Gerry Lemcke is Head of Product Management at Swiss Re, Public Sector Solutions (PSS). Mr. Lemcke oversees consultancy, specialized insurance structuring and pricing as well as business and product development. Between 2012 and 2016, he held the position of Key Transaction Manager. Previous roles, since 1998, include Head of Catastrophe Perils Americas; Head of Re-insurance Cycle Analysis; and Head of Product Strategy. He served as the company's climate change spokesperson for the Americas and is currently member to the Private Sector Advisory Group of the Green Climate Fund (UNFCCC). Mr. Lemcke received his Master in Geology from the University of Göttingen (Germany) in 1993, and his PhD in Environmental Physics from the ETH (Switzerland) in 1996.

**Tara Laidman**

Associate Vice President, National Product Portfolio, The Co-operators

As Associate Vice President, National Product Portfolio at The Co-operators, Tara Laidman oversees the Home Product functions across the group of companies (CGIC, COSECO, CUMIS), and is accountable for their underwriting performance. Tara has 15 years of experience with The Co-operators, where she has worked in a variety of leadership roles. Prior to moving into the AVP role, Tara was the Program Director for the Flood Initiative and Telematics Initiative, where she led these two strategic programs, accomplishing major milestones. Tara received her Honours Bachelor of Arts degree from the University of Guelph majoring in Psychology and has obtained her Chartered Insurance Professional designation from the Insurance Institute of Canada.

**Mamiko Yokoi-Arai**

*Head of Insurance, OECD Directorate for Financial and Enterprise Affairs
Mamiko*

Yokoi-Arai is Principal Administrator at the Organisation of Economic Co-operation and Development (OECD) where she leads the insurance work as well as works on key financial market issues. She is responsible for the coordination and organisation of the OECD's Insurance and Private Pensions Committee which has been working on projects including policy guidance on cyber risk insurance, disaster risk financing, long-term and health care insurance, ESG investment, market access, technology and innovation, and policyholder protection. She previously worked at the Bank of Japan and the Japanese Financial Services Agency. Mamiko has a PhD in Law from the University of London, and a MA and BA from the University of Tsukuba.

**Markus Leitner**

Leader of Climate Change Adaptation Team, Environment Agency Austria

Markus Leitner is a specialist on climate change adaptation since 2005 and is leading the climate change adaptation team of the Environment Agency Austria since 2019. He is a specialist within the European Topic Centre on Climate Change Adaptation (ETC/CCA) since 2011, supported DG CLIMA in different projects, and is a Member of the EU Adaptation Working Group. Currently he contributes with his adaptation expertise to diverse project on the European level, such as the EU Horizon 2020 Project PLACARD (2015-2020) as a WP-Leader, leads the ETC/CCA MRE Task, and contributes to different tasks (e.g. CCIV Assessments, MRE, Adaptation Indicators and Health, Country updates). Markus has a MSc in Landscape Planning from the BOKU University of Natural Resources and Life Sciences, Vienna. Since 2012, he is lecturer at BOKU in Vienna.

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