

PERSONAL INFORMATION **Valentina Bacciu**✉ valentina.bacciu@ibe.cnr.it – valentina.bacciu@cmcc.it

Sex Female | Date of birth 02/10/1980 | Nationality Italian

RESUMEE

Graduated in Natural Science at the University of Sassari (2004), Master of I level in Biotechnological Applications and Controls (University of La Sapienza, Rome, 2006), Valentina Bacciu earned the doctoral degree in Agrometeorology and Ecophysiology of Agricultural and Natural Ecosystems in 2009. The research focused on the development of an integrated approach based on field data collection, fuel classification and mapping, with the main objective to provide a set of fuel models for the main Mediterranean maquis associations to improve fire risk simulation.

In 2008, she served as Research assistant at Fire Sciences Laboratory (USDA Forest Service), Missoula, Montana USA. From 2010 to 2021, she worked at the CMCC (Euro-Mediterranean Center on Climate Change) Foundation as a research scientist focusing in principal on prevention, planning, and management of fire risk and fire emissions, in cooperation with the Department of Science for Nature and Environmental Resources (DipNET) of the University of Sassari. From 2014 to 2021, she also served as Deputy Head of the IAFES Division at CMCC. **From march 2021 she is researcher at the National Council of Research (CNR), Institute of BioEconomy (IBE), and affiliated at CMCC.**

She participates and has participated to several European, Cross-borders, National and Regional Projects on the fire propagation, risk, danger issue with a special focus on fire emissions and the impacts of climate changes (e.g. WUIWATCH, ClimaSouth, ETC-CCA, FUME, Proterina C, Proterina 2, OFIDIA, GEMINA, PRIN Carbotrees, L7/2007 EXTREME, OFIDIA2, MEDSTAR, FirEUrisk)

Valentina Bacciu is member of the American Geophysical Union (AGU), Società Italiana per le Scienze del Clima (SISC), and Società Italiana di Selvicoltura ed Ecologia Forestale (SISEF); she cooperated for the organization of several national and international conferences and workshops serving as member of the scientific and organizing committees (International Conference on Forest Fire Behaviour and Risk (ICFBR) 2011, 2015, 2022, ClimaSouth 2nd and 3rd workshops in 2016, ROME2015 - SCIENCE SYMPOSIUM ON CLIMATE, SISC I and IV Annual Conference 2013 and 2016, Summer School on Fire Risk Prevention and Assessment in Mediterranean areas 2012, Forest Fire Analyst Courses, from 2009 to 2012, 12th National Conference AIAM 2009).

From 2012 to 2014 she contributed to the organization of the II level MASTER PIROS " Wildfire Planning, Prevention and Fighting in Mediterranean Areas". In this framework, she supervised four master thesis.

The research activities mainly cover the following topics:

- Development of new approaches for assessing the vulnerability of ecosystems, human settlements, and assets to extreme weather events (e.g., drought, heat waves), fire risk, and fire danger, through multi-risk and multi-impact assessments;
- Application of tools and methodologies to identify strategies to manage and reduce risks and negative effects of forest fires on ecosystems and assets;
- Integration of fire danger, risk, and fire effects models with climate and seasonal forecast models with the aim to identify and assess climate change, socio-economic and land use impacts on forest fires.

EDUCATION AND TRAINING

01.11.2005 - 22.02.2009 **Doctoral program in "Agrometeorology and Ecophysiology of Agricultural and Natural Ecosystems"**

University of Sassari, Sassari (Italy)

Title: Maquis Fuel Model development to support spatially-explicit fire modeling applications

Supervisor: Prof.ssa Donatella Spano

The doctoral thesis focused on vegetation sampling and mapping with the final aim to develop spatially explicit fuel models for Mediterranean vegetation to be used for improve fire behaviour simulation. During the doctoral three-year period the following research skills were also acquired:

- Analysis of the interactions between weather, climate variability and forest fire risk
- Climate impact analysis on forest and natural ecosystems, with particular attention to adaptation and mitigation approaches

01.01.2005 - 23.02.2006 **ITA Master di II livello, Specialization degree in "Bio-tech applications and controls"**

University La Sapienza, Rome (Italy)

Acquired skills in:

- Development of methodologies and approaches to product and control bio-technological products
- Research and application of new preventive strategies to protect human being and ecosystems
- Agricultural and food bio-technologies to improve food production and nutritional quality

01.10.1999 - 19.07.2004 **ITA Diploma di Laurea Specialistica (+) (DLS), University Degree in Natural Sciences with High Distinction (110 / 110 cum laude)**

University of Sassari - Faculty of Mathematical, Physical and Natural Sciences, Sassari (Italy)

Supervisor: Prof. Marco Curini

Acquired skills in:

- Approach and methodologies to understand ecosystem structures, processes, interactions, and feedbacks
- Research activity on genetic of natural population

14.09.2009 - 18.09.2009 **Summer School on Climate Change and Agriculture**

Department of Economics and Woody Plant Ecosystem, University of Sassari (Italy), Alghero (Italy)

Analysis of climate change impacts on agricultural sector and adaptation and mitigation strategies evaluation. Potential synergies and economic evaluation. Models and tools to evaluate the climate change impacts on agriculture.

Focus on crop simulation models, land evaluation methodologies and downscaling techniques.

03.02.2009 – 06.02.2008 **Winter School on System Analysis and Integrated Modelling in Climate Change Research**

Cà Foscari University, Venice (Italy)

Approaches and methodologies commonly used for the analysis and modeling of several phenomena related to global change, such as land use and land cover changes.

01.03.2005 – 31.06.2005

Apprendiceship

Istituto Zooprofilattico Sperimentale della Sardegna, Sassari (Italy)

Investigation and development of environmental studies for biologic resources protection and improvement.

WORK EXPERIENCE

01.03.2021 - ongoing

Researcher

National Council of Research – CNR, Institute of BioEconomy

21.12.2015 – 28.02.2021

Scientist

CMCC Foundation - Euro-Mediterranean Center on Climate Changes, IAFES (Impacts on Agriculture, Forest, and Ecosystem Services) Division, Sassari (Italy) [Prot. N. 2204/15/CMCC]

Researcher and **Deputy Head** of IAFES Division. The research activity focuses on the application of methods and tools to evaluate the impacts of fire on natural and forest ecosystems, identify management priorities and key strategies to mitigate fire risk and impacts under climate, socio-economy, and land use changes.

01.01.2016 – 01.01.2016

Senior expert – ClimaSouth Project

CMCC - Euro-Mediterranean Center on Climate Changes, IAFES (Impacts on Agriculture, Forest, and Ecosystem Services) Division, Sassari (Italy) [Prot. N. 1179/16/CMCC]

Consultant in the framework of ClimaSouth Project – Support Climate Change Mitigation and Adaptation in the ENPI South Region (2013-2016). Funded by European Commission, EuropeAid.

Role: Senior expert and trainer in climate variability and climate change impacts on fire danger using high resolution/downscaled climate information

01.10.2014 - 20.12.2015

Junior Scientist – GEMINA Project

01.06.2013 - 31.12.2013

CMCC - Euro-Mediterranean Center on Climate Changes, IAFES (Impacts on Agriculture, Forest, and Ecosystem Services) Division, Sassari (Italy) [authorised by CE 16/09/2014]

01.03.2012 - 31.10.2012

Scientific Coordinator and Research contract in the framework of GEMINA Project (MIUR/MATT n. 232/2011)

- Analysis and management of risk connected to fire, drought and climate change;
- Development of modelling approaches for estimating emissions in the Euro-Mediterranean regional scale;
- Supporting of air quality management plans and fire emission mitigation

01.03.2015-31.03.2015

Senior expert – ClimaSouth Project

CMCC - Euro-Mediterranean Center on Climate Changes, IAFES (Impacts on Agriculture, Forest, and Ecosystem Services) Division, Sassari (Italy)

Consultant in the framework of ClimaSouth Project – Support Climate Change Mitigation and Adaptation in the ENPI South Region (2013-2016). Funded by European Commission, EuropeAid.

Role: Senior expert presenting lectures in climate variability and climate change impacts on

fire risk

- 01.10.2014 - 31.12.2014 **Junior Scientist – ORIENTGATE Project**
CMCC - Euro-Mediterranean Center on Climate Changes, IAFES (Impacts on Agriculture, Forest, and Ecosystem Services) Division, Sassari (Italy) [Prot. N. 2520/14/CMCC]
Research contract in the framework of ORIENTGATE - A structured network for integration of climate knowledge into policy and territorial planning (2012-2014). Funded by EU & South East Europe Transnational Cooperation Programme
- 01.09.2013 - 31.12.2014 **Thematic Expert – ETC/CCA**
CMCC - Euro-Mediterranean Center on Climate Changes, IAFENT (Impacts on Agriculture, Forest, and Natural Ecosystems) Division, Sassari (Italy)
Research contract in the framework of ETC-CCA European Topic Centre on Climate Change impacts, vulnerability and Adaptation (ETC/CCA)

Role: finalization of the Indicator Factsheet "Population, residential and commercial and transport network in high risk area of forest fires". In particular, the support consisted in a better delineation of the rational, and in the discussion of the key figures related to the urban vulnerability indicators in in high risk area of forest fires
- 1.03.2014 - 31.10.2014 **Junior Scientist – OFIDIA Project**
CMCC - Euro-Mediterranean Center on Climate Changes, IAFENT (Impacts on Agriculture, Forest, and Natural Ecosystems) Division, Sassari (Italy) [authorised by CE 22/02/2014]
Research Contract within the European Territorial Cooperation Operational Programme "Greece-Italy" (2007 - 2013) OFIDIA – Operational Fire Danger prevention platform.

Role: contribute to the improvement of the operational capability of forecasting, preventing and fighting forest wildfires in the cross-board area
- 01.05.2010 - 31.12.2013 **Junior Scientist and Project Manager – FUME Project**
CMCC - Euro-Mediterranean Center on Climate Changes, IAFENT (Impacts on Agriculture, Forest, and Natural Ecosystems) Division, Sassari (Italy)
Research Contract within FP7 Project FUME (Grant Agreement 24388).

Role: **Project Manager** for CMCC team and scientific research on relationship between weather/climate and fire and fire risk evaluation throughout the identification of major key driver of fire at local and national scale
- 06.2011 – 07.2011 **Research consultant**
Department of Economic and Woody Tree Systems (DESA), University of Sassari, Sassari (Italy)
Role: Analysis of available data on fires in Sardinia during 1970-2010 in order to characterize the fire regime and the spatial and temporal fire patterns
- 05.2010 – 06.2010 **Research consultant – Proterina-C**
Department of Economic and Woody Tree Systems, University of Sassari, Sassari (Italy)
Contract within the Proterina-C Project (Italia/Francia Marittimo)

Role: Sampling campaigns of plant material along the vertical and horizontal axis in relation to selected areas of Proterina-C Project and development of a methodology for the characterization of the parameters involved in the combustion process

15.01.2009–15.01.2010

Technician

CON.VI.SAR, Consorzio Vino e Sardegna

Research activities in carbon flux measurements in a vineyard with micrometeorological methods.

Role: Sampling, storing and statistical analysis of the CO₂ flux data

25.02.2008–25.08.2008

Research assistant

USDA Forest Service, Rocky Mountain Research Station, Fire Science Laboratory, Missoula (USA)

Participation to the experimental campaign to quantify fuelbed characteristics in lodgepole pine at the Tenderfoot Creek Experimental Forest (Montana, USA)

Statistical and geostatistical analysis within the FUELVAR project, a comprehensive effort to describe the spatial variability of the surface and canopy fuel characteristics across major forest ecosystem types in the Northern Rocky Mountains (USA)

TEACHING EXPERIENCE

2022

Organizer and Lecturer – Winter school on “fire behavior, risk and management in the context of climate change”

Fondazione CMCC

Organization of the Winter school on “fire behavior, risk and management in the context of climate change”, held online the 10-11-18/03/2022, 14/04/2022, 16/05/2022. 90 participants each day on average.

Lecturer of the Module “Adapt the territory to climate change” 14/04/2022

2021-2020

Lecturer – School online on “Ecology and Economy”

University of Sassari, Italy

Lecturer of the Module “I Cambiamenti climatici: dalle evidenze scientifiche agli impatti” and “Training on Impact chain approach” held online the 23/11/2021, 10/11/2020

2017-2018

Lecturer – School on “Ecology and Economy”

University of Sassari, Italy

Lecturer of the Module “I Cambiamenti Climatici e il Capitale Naturale: vulnerabilità, rischi, adattamento e mitigazione”, 02/10/2017, Parco Nazionale dell’Asinara – Area Marina Protetta

Lecturer of the Modules “I Cambiamenti climatici: analisi delle cause, evidenze scientifiche, il futuro che ci aspetta” and “Pressioni sul Capitale Naturale: incendi boschivi e cambiamenti climatici”, 02/10/2018, Parco Nazionale dell’Asinara – Area Marina Protetta

11.2012 – 05.2014

Lecturer at the Master PIROS “Wildfire Planning, Prevention and Fighting in Mediterranean Areas”

University of Sassari, Italy

Lecturer in the Modules “Fuel sampling and classification”; “Fire Regime: description, analysis and projections”; “Wildfire impacts: smoke emissions”.

Member of the Organizing Committee

2010-2012

Lecturer – Fire Behaviour Analyst Course

University of Sassari, Italy, and Sardinia Forest Service (C.F.V.A.), Italy

Lecturer of the Module “Wildland Fuel Characteristics and Classification Approaches” at 4 Editions of the “Fire Behaviour Analyst Course”, organized by the University of Sassari and the Sardinia Forest Service.

SERVICES, PROFESSIONAL SOCIETIES, AND AWARDS

Services

2015 – 02/2021, **Deputy Head** of IAFES Division, CMCC Foundation

2013 - 2014, Scientific Coordinator of IAFENT Division (Sassari headquarter)

2016, Participation in the working group “Forests” in the framework of the National Plan for climate change adaptation (PNACC). MATTM

2012-2014, Participation in the working group “Desertification, land degradation and drought” in the frame work of the “Report on the scientific state of the art on impacts, vulnerabilities and adaptation to climate change in Italy (SNAC)”. MATTM, Roma. ISBN 9788887728095.

2012-2014, Participation in the working group “Forests” in the framework of the “Report on the scientific state of the art on impacts, vulnerabilities and adaptation to climate change in Italy (SNAC)”. MATTM, Roma. ISBN 9788887728095.

2016 - present, Member of the Italian Society of Selvicolture and Forest Ecology (SISEF)

2015 - present, Member of the American Geophysical Union (AGU)

2013 - present, Member of the Italian Society for Climate Sciences (SISC)

2013 - present, Activity of peer-reviews for the following international journals

Professional Societies

- International Journal of Wildland Fire (ISSN: 1049-8001)
- Forests (SSN 1999-4907)
- Natural Hazards (ISSN: 0921-030X),
- iForest

Awards

2014, Best paper award at II Conferenza Annuale SISC, pag. 1005-1020. Sept. 2014, Venice (Italy) (title: Fires in the perspective of future changes: the contribute of CMCC to FUME Project, authors Bacciu V., Arca B., Bosello F., Michetti M., Santini M., Salis M., Scoccimarro E., Spano D.)

2013, Best paper award at I Conferenza Annuale SISC, 23-24 Sept. 2013, Lecce (Italy) (title: Historical Trends and Future Predictions of Fire Emission Estimation in Italy, authors Bacciu V., Salis M., Spano D.)

2010, Award for the 2nd best poster presented at the VI International Conference on Forest Fire Research, Coimbra, Portugal (title: Fuel consumption and smoke characterization in Mediterranean ecosystem using FOFEM 5, authors Bacciu V, Salis M, Chergia A, Pellizzaro G, Arca B, Spano D, Duce P)

ACADEMIC EXPERIENCES, ORGANIZATION of COURSES AND CONFERENCES, EDITORIAL ACTIVITY

Academic experiences and
Thesis supervision

2018-2021, Supervisor assistant for the “Agrometeorologia ed ecofisiologia dei sistemi agrari e forestali” PhD thesis at the University of Sassari (Dr. Suzan Zeidan, thesis title: Forest Fire Risk Assessment in Lebanon Land)

2015-2019, Supervisor assistant for the “Agrometeorologia ed ecofisiologia dei sistemi agrari e forestali” PhD thesis at the University of Sassari (Dr. Carla Scarpa, thesis title: Analysis of the uncertainties in modeling and inventoring greenhouse gases and particulates from vegetation burning fire emissions)

2014, Lecturer in the framework of the doctoral course “Anthropogenic Impacts on Ecosystems”, organized by the University of Sassari

2014, Supervisor of 3 theses for the Master PIROS at the University of Sassari

- Andrea Sanna: ANALISI DEGLI EFFETTI DI PRIMO ORDINE DEGLI INCENDI ATTRAVERSO APPLICAZIONI MODELLISTICHE: IL CASO STUDIO DELLA LETTIERA
- Stefania Fancellu: REGIME DEGLI INCENDI, USO DEL SUOLO E FATTORI SOCIO-ECONOMICI: ANALISI DEI CAMBIAMENTI NEL COMUNE DI VILLANOVA MONTELEONE DAL 1970 AL 2012
- Giacomo Pisanu: ANALISI DEI CAMBIAMENTI DEL REGIME DEGLI INCENDI E DEI FATTORI GUIDA IN SARDEGNA (DAL 1971 AL 2010)

2012, Co-supervisor of a thesis on Forestry Science at the University of Sassari (Toni Marteddu: ANALISI DEI GRANDI INCENDI DELLA PROVINCIA DI NUORO)

2010-2012-Supervisor of the following Master Thesis:

- Sebastiano Mastinu (M.Sc.F) Thesis 2012: IL REGIME DEGLI INCENDI IN SARDEGNA E LE CONDIZIONI METEOROLOGICHE LEGATE ALLA LORO INSORGENZA (Fire regime in Sardinia island and Weather conditions related to fire occurrence)
- Loredana Argiolas (M.Sc.F) Thesis 2011: L'APPLICAZIONE DEL MODELLO FOFEM PER LA STIMA DELLE EMISSIONI PRODOTTE DA INCENDI BOSCHIVI (FOFEM Model application in order to estimate fire emissions)
- Maura Aru (M.Sc.F) Thesis 2010: APPROCCIO MODELLISTICO PER LA STIMA DELLE EMISSIONI PRODOTTE DA INCENDI BOSCHIVI (A modelistic approach to estimate wildfire emissions)

Editorial activity

2015 - Editor of the book “Strumenti e modelli a supporto della pianificazione, prevenzione e difesa dagli incendi boschivi”. ISBN: 978-88-99323-05-9

2012 - Co-Editor of the Book "Modelling fire Behaviour and Risk", ISBN 978-88-904409-7-7

Organization of Courses and
Conferences

2022, 03-06 May - Member of the Scientific and Organizing Committee of the III International Conference on Fire Behaviour and Risk (organized by CNR IBIMET and University of Sassari. Alghero, Italy)

2016, 19-20 October - Member of the Scientific and Organizing Committee of the IV Annual Conference of the Italian Society for Climate Sciences (organized by CMCC, University of Sassari and University of Cagliari. Cagliari, Italy)

2016, 25-29 July – Co-organizer and lecturer of 3rd Workshop on “Fire Spread and Behavior Modeling in a context of Climate Change” (in the framework of ClimaSouth Project. Sassari, Italy)

2016, 7-12 March – Co-organizer and lecturer of 2nd Workshop on “Fire Spread and Behavior Modeling in a context of Climate Change” (in the framework of ClimaSouth Project. Sassari, Italy)

2015, 19-20 November - Member of the Scientific Secretariat of the Rome2015 –

Science Symposium on Climate (<http://www.rome2015.it/>) (organised by SISC at FAO Headquarters. Rome, Italy)

2015, 26-29 May - Member of the Scientific and Organizing Committee of the II International Conference on Fire Behaviour and Risk (organized by CNR IBIMET and University of Sassari. Alghero, Italy)

2013, 23-24 September - Member of the Organizing Committee of the First Annual Conference of the Italian Society for Climate Sciences (organized by CMCC. Lecce, Italy)

2012, November - 2014 June, Member of the Organizing Committee of the MASTER II Level PIROS "Wildfire Planning, Prevention and Fighting in Mediterranean Areas" (organised by University of Sassari and founded by Sardinia Autonomous Region. Sassari, Italy)

2012, 26-28 June - Member of the Scientific and Organizing Committee of the International Summer School on Fire Risk Prevention and Assessment in Mediterranean areas (Alghero, Italy)

2011, 4-6 October - Member of the Scientific and Organizing Committee of the International Conference on Forest Fire Behaviour and Risk (organized by CNR IBIMET and University of Sassari. Alghero, Italy)

2009-2012 December - Member of the Scientific Committee of the Fire Behaviour Analyst courses (I-IV edition), organised by the University of Sassari for the Sardinian Forestry Corps (CFVA) (Nuoro, Italy)

2009, 15-17 June - Member of the Organizing Committee of the 12th National Conference AIAM on Climate and Agriculture: adaptation and mitigation strategies (Sassari, Italy)

MAIN RESEARCH PROJECTS (after 2007)

2021-2024	FirEUrisk - DEVELOPING A HOLISTIC, RISK-WISE STRATEGY FOR EUROPEAN WILDFIRE MANAGEMENT (2021-2024) (H2020)
2020-2022	SUSTAINadapt - Tools and approaches to foster the integration between sustainability and adaptation (MATTM 2020-2022)
2019-2022	MEDStar - Strategies and measures for fire risk mitigation in the Mediterranean area (Interreg Italy-France 2018-2020)
2019	Towards a Med For HUB - (EIT Climate KIC)
2018-2020	SUSHI - SUSTainable Historic city districts (EIT Climate KIC)
2017-2021	SOCLIMPACT - Project Downscaling climate impacts and de-carbonisation pathways in EU islands, and enhancing socioeconomic and non-market evaluation of Climate Change for Europe, for 2050 and beyond (EC H2020)
2018-2021	OFIDIA2 - Operational Fire DAnger Prevention PIAtform 2 (Interreg V-A Greece-Italy 2014-2020)
2016-2017	National Plan of Adaptation to Climate Change (PNACC). Funded by MATTM
2016-2018	LIFE MASTER ADAPT - MAInSTreaming Experiences at Regional and local level for adaptation to climate change (Founded by EU Life Program)

- 2015-2016 **WUIWATCH** - Wildland-Urban Interface Forest Fire Risk Observatory and Interest Group in Europe (Founded by European Commission Directorate General of Humanitarian Aid and Civil Protection - ECHO (Agreement N° ECHO/SUB/2014/694556))
- 2015-2016 **ClimaSouth** – Support Climate Change Mitigation and Adaptation in the ENPI South Region (Funded by European Commission, EuropeAid).
- 2013-2015 **Proterina 2** (Funded by the Italia/Francia Marittimo Programme).
- 2013-2015 **OFIDIA** - Operational Fire Danger prevention platform (Funded by the European Territorial Cooperation Operational Programme "Greece-Italy" (2007-2013)).
- 2013-2015 **CARBOTREES** - Climate change mitigation strategies in tree crops and forestry in Italy (MIUR PRIN). [main results of the project: paper n.2, book chapter n.3, abstract n.3]
- 2012-2015 **EXTREME** - Messa a punto di metodologie e sistemi di supporto per la valutazione del rischio di incendio in condizioni meteorologiche estreme (Funded by Sardinia Regional Government (Law 7/2007)).
- 2012-2014 **ETC/CCA** – European Topic Centre on Climate Change impacts, vulnerability and Adaptation (Funded by EEA - European Environment Agency).
- 2012-2014 **ORIENTGATE** – A structured network for integration of climate knowledge into policy and territorial planning (Funded by EU & South East Europe Transnational Cooperation Programme).
- 2010-2015 **GEMINA** (Funded by MIUR MIPAF n. 232/2011)
- 2010-2013 **FUME** - Forest fires under climate, social and economic changes in Europe, the Mediterranean and other fire-affected areas of the world (Funded by EU FP7 Grant agreement no.: 243888).
- 2009-2012 **Proterina C** (Funded by the Italia/Francia Marittimo Programme).
- 2008-2009 **SQF VS - CONVISAR** Per un salto di qualità della filiera viti-vinicola della Sardegna (Founded by Sardinia Region APQ, Accordi Programma Quadro)
- 2007-2010 **Strategic National Program “Centro Euro-Mediterraneo per i Cambiamenti Climatici (CMCC). Linea di Ricerca 4. Valutazione e Diagnostica degli Impatti”** (Founded by MIUR MIPAF)

LIST OF PUBLICATION

Publications peer reviewed with ISSN

1. Vittorio Serra, Antonio Ledda, Maria Grazia Gavina Ruiu, Giovanna Calia, Valentina Mereu, Valentina Bacciu, Serena Marras, Donatella Spano, Andrea De Montis (2022) Adaptation to climate change across local policies: an investigation in six Italian cities. *Sustainability*, *minor revision*
2. Jose Maria Costa-Saura, Valentina Bacciu, Claudio Ribotta, Donatella Spano, Antonella Massaiu, Costantino Sirca (2022) Predicting and mapping potential fire severity for risk analysis at regional level using Google Earth Engine, *minor revision*
3. COSTA-SAURA, J.M., MEREU, V., SANTINI, M., ...SPANO, D., BACCIU, V. (2022) Performances of climatic indicators from seasonal forecasts for ecosystem management: The case of Central Europe and the Mediterranean. *Agricultural and Forest Meteorology*, 319, 108921
4. BACCIU, V., SIRCA, C., SPANO, D. (2022) Towards a systemic approach to fire

risk management. *Environmental Science and Policy*, 129, pp. 37–44

5. BACCIU, V., HATZAKI, M., KARALI, A., ...SPANO, D., BRICHE, E. (2021) Investigating the climate-related risk of forest fires for mediterranean islands' blue economy. *Sustainability (Switzerland)*, 2021, 13(18), 10004
6. ALHAJ-KHALAF, M.W., SHATAEE-JOUBARY, S., JAHDI, R., BACCIU, V. (2021) Improved forest fire spread mapping by developing custom fire fuel models in replanted forests in hyrcanian forests, Iran. *Forest Systems*, 30(2), e008
7. ASCOLI D, VACCHIANO G, SCARPA C, ARCA B, BARBATI A, BATTIPAGLIA G, ELIA M, ESPOSITO A, GARFÌ V, LOVREGLIO R, MAIROTA P, MARCHETTI M, MARCHI E, MEYTRE S, OTTAVIANO M, PELLIZZARO G, RIZZOLO R, SALLUSTIO L, SALIS M, SIRCA C, VALESE E, VENTURA A, BACCIU V (2020). Harmonized dataset of surface fuels under Alpine, temperate and Mediterranean conditions in Italy. A synthesis supporting fire management. *iForest* 13: 513-522. - doi: 10.3832/ifor3587-013
8. SALIS, M., ARCA, B., ALCASENA-URDIROZ, F. et al. Analyzing the recent dynamics of wildland fires in *Quercus suber* L. woodlands in Sardinia (Italy), Corsica (France) and Catalonia (Spain). *Eur J Forest Res* 138, 415–431 (2019). <https://doi.org/10.1007/s10342-019-01179-1>
9. VAGLIO LAURIN G, AVEZZANO R, BACCIU V, FRATE FD, PAPALE D, VIRELLI M (2018). COSMO-SkyMed potential to detect and monitor Mediterranean maquis fires and regrowth: a pilot study in Capo Figari, Sardinia, Italy. *iForest* 11: 389-395. - doi: 10.3832/ifor2623-011
10. SALIS, M., DEL GIUDICE, LILIANA, ARCA, BACHISIO, AGER, ALAN A., ALCASENA-URDIROZ, FERMIN, LOZANO, OLGA, BACCIU, VALENTINA, SPANO, DONATELLA, DUCE, PIERPAOLO (2018). Modeling the effects of different fuel treatment mosaics on wildfire spread and behavior in a Mediterranean agro-pastoral area. *JOURNAL OF ENVIRONMENTAL MANAGEMENT*, vol. 212, p. 490-505, ISSN: 0301-4797, doi: 10.1016/j.jenvman.2018.02.020
11. CAPRA, GIAN FRANCO, TIDU, SIMONA, LOVREGLIO, RAFFAELLA, CERTINI, GIACOMO, SALIS, MICHELE, BACCIU, VALENTINA, GANGA, ANTONIO, FILZMOSER, PETER (2018). The impact of wildland fires on calcareous Mediterranean pedosystems (Sardinia, Italy). "An integrated multiple approach. *SCIENCE OF THE TOTAL ENVIRONMENT*, vol. 624, p. 1152-1162, ISSN: 0048-9697, doi: 10.1016/j.scitotenv.2017.12.099
12. BACCIU V, SALIS M., SIRCA C., CHIRIACÒ M. V., SPANO D. (2017). Vegetazione in fiamme. Quali i fronti del problema? *EQUILIBRI*, vol. 2, p. 352-367, ISSN: 1594-7580, doi: 10.1406/88221
13. SALIS M, ARCA B, ALCASENA F, ARIANOUTSOU M, **BACCIU V**, DUCE P, DUGUY B, KOUTSIAS N, MALLINIS G, MITSOPOULOS I, MORENO JM, PÉREZ JR, RODRIGUEZ I, XYSTRAKIS F, ZAVALA G, SPANO D (2016) Predicting wildfire spread and behavior in Mediterranean landscapes. *International Journal of Wildland Fire* 2016, 25, 1015–1032
14. SIRCA C, CADDEO A, SPANO D, **BACCIU V**, MARRAS S (2016) Woody stocks estimation in Mediterranean maquis systems. *iForest – Biogeoscience and Forestry* 10: 108-114
15. SALIS M., AGER A., ARCA B., FINNEY M., **BACCIU V.**, DUCE P., SPANO D. (2013) Assessing exposure of human and ecological values to wildfire in Sardinia, Italy. *International Journal of Wildland Fire* 22(4): 549-565 (DOI: 10.1071/WF11060)
16. KEANE R.E, GRAY K, **BACCIU V.**, LEIRFALLOM S. (2012) Spatial scaling of wildland fuels for six forest and rangeland ecosystems of the northern Rocky

Mountains, USA. *Landscape Ecology*. 10.1007/s10980-012-9773-9

Book Chapters, conference
papers or extended abstracts with
ISBN

1. MANCINI, M., NASSISI, P., TRABUCCO, A., ...SPANO, D., MEREU, S. (2019) An open source and low-cost internet of things-enabled service for irrigation management. *Conference Proceedings - IEEE International Conference on Systems, Man and Cybernetics, 2019-October*, pp. 1714–1719, 8914230
2. NUDDA G, BOTTI P, TOLA F, CHESSA M, DIANA G, COCCO S, MASNATA C, CONGIU F, DELOGU G, GIANNASI MP, MAVULI S, MUNTONI G, PIRISI AM, SATTANINO A, PULINA G, CASULA A, PATERI G, BIANCO G, FIORI M, CAPECE P, SALIS M, SIRCA C, DEL GIUDICE L, SCARPA C, LOZANO O, DUCE P, ARCA B, PELLIZZARO G, **BACCIU V** (2016) Rapporto sugli incendi boschivi e rurali in Sardegna. Anno 2015. Eds. Regione Autonoma della Sardegna – Assessorato alla Difesa dell’Ambiente, 80 pp. ISBN 978-88-88817-06-4
3. NUDDA G, BOTTI P, TOLA F, CHESSA M, DIANA G, COCCO S, DELOGU G, GIANNASI MP, MAVULI S, CONGIU F, MUNTONI G, PIRISI A, SATTANINO A, PULINA G, CASULA A, PATERI G, BIANCO G, FIORI M, CAPECE P, **BACCIU V**, SALIS M, SIRCA C, DUCE P, ARCA B (2015) Rapporto sugli incendi boschivi e rurali in Sardegna. Anno 2014. Eds. Regione Autonoma della Sardegna – Assessorato alla Difesa dell’Ambiente & Centro Euro-Mediterraneo sui Cambiamenti Climatici, 74 pp. ISBN 978-889-766-606-6
4. **BACCIU, V.**, SPANO, D., SALIS, M. (2015) Emissions from Forest Fires: Methods of Estimation and National Results. In: R. Valentini and F. Miglietta (eds.), *The Greenhouse Gas Balance of Italy*, Environmental Science and Engineering, pp.87-102. DOI 10.1007/978-3-642-32424-6_6
5. **BACCIU V**, PELLIZZARO G, SALIS M, SPANO D (2015) La modellistica degli effetti primari degli incendi. In Bacciu V, Salis M, Spano D (eds), *Strumenti e modelli a supporto della pianificazione, prevenzione e difesa dagli incendi boschivi*, 105-131. ISBN: 978-88-99323-05-9
6. SALIS M, LOZANO O, ARCA B, SANTONI P, DEL GIUDICE L, SCARPA C, **BACCIU V**, SPANO D (2015) La modellistica dell’esposizione e del rischio incendi. In Bacciu V, Salis M, Spano D (eds), *Strumenti e modelli a supporto della pianificazione, prevenzione e difesa dagli incendi boschivi*, 81-104. ISBN: 978-88-99323-05-9
7. Pellizzaro G., Bacciu V, Spano D., Duce P. (2015). I SISTEMI DI CLASSIFICAZIONE DEL COMBUSTIBILE. In: Bacciu V, Salis M., Spano D.. *Strumenti e modelli a supporto della pianificazione, prevenzione e difesa dagli incendi boschivi*. MUROS (SASSARI):Nuova Stampacolor, ISBN: 978-88-99323-05-9
8. MIRTO M, MARIELLO A., NUZZO A, MANCINI M., RAOLIL A., MARRA O., FIORE S., SIRCA C., SALIS M., **BACCIU V.**, SPANO D., ALOISIO G. (2015) The OFIDIA Fire Danger Rating System. 3PGCIC, 2015 10th International Conference on P2P, Parallel, Grid, Cloud and Internet Computing (3PGCIC), pp. 695-700, doi:10.1109/3PGCIC.2015.115

9. AVEZZANO, R.G., LAURIN, G.V., **BACCIU, V.**, COVELLO, F., VIRELLI, M., DEL FRATE, F., SCHIAVON, G., VALENTINI, R. (2014) Use of COSMO-SkyMed constellation for monitoring the post-fire vegetation regrowth: The Capo Figari case study. Proceedings of the International Geoscience and Remote Sensing Symposium (IGARSS), art. no. 6946614, pp. 1073-1076. 10.1109/IGARSS.2014.6946614
10. MAILLÈ E, FERNANDEZ-RAMIRO MM, BOUILLON C, SIRCA C, ALCASENA F, ARCA B, BELLET A, FIERRO B, CASULA F, LONG-FOURNEL M, MORGE D, PELLIZZARO G, PRICE O, PUGNET L, SALIS M, SPANO D, SYPHARD A, VILA B, FERRARA R, PINTUS GV, HENAFF Q, SANTINI M, SCOCCIMARRO E, **BACCIU V**, QUESADA C (2014). Wildfire risk in the rural-urban interface. In Moreno JM (ed.), FUME: Lessons learned and outlook, pag. 14-15. ISBN 978-84-695-9759-0
11. **BACCIU V.**, R. TRIGO, D. SPANO, F. MASALA, B. DUGUY, P. PASTOR, P. SOUSA, A. VENÄLÄINEN, F. MOUILLOT, J.M. MORENO, C. GOUVEIA, A. CAMIA, G. AMATULLI, L. VILAR, J. SAN MIGUEL-AYANZ, T. HAIRECH, F. ASSALI, A. MOKSSIT, K. CHERKI, H. ALAOUI (2014) Fire and weather relationships: present climate. In: FUME lesson learned and outlook. Ed. JM Moreno. 978-84-695-9759-0
12. SPANO D. et al., (2014) Recent trends in forest fires in Mediterranean areas and associated changes in fire regimes. In: FUME lesson learned and outlook. Ed. JM Moreno. 978-84-695-9759-0
13. LOZANO OM, SALIS M, AGER AA, ALCASENA URDIROZ F, ARCA B, FINNEY MA, **BACCIU V**, SPANO D (2014) Variazioni spazio-temporali del regime e dell'esposizione agli incendi in Sardegna, Italia. In Ciancio O. (ed.), Proceedings of the Second International Congress of Silviculture, pag. 975-981. ISBN 978-88-87553-21-5. Florence, November 26th - 29th 2014
14. SALIS M, AGER AA, ARCA B, FINNEY MA, MUNOZ LOZANO O, ALCASENA F, **BACCIU V**, SPANO D (2014) Spatiotemporal changes in wildfire patterns in Sardinia. Proceedings of the II Conferenza Annuale SISC, pag. 1067-1084, Sept. 2014, Venice (Italy). ISBN 978-88-97666-04-2
15. **BACCIU V**, ARCA B, BOSELLO F, MICHETTI M, SANTINI M, SALIS M, SCOCCIMARRO E, SPANO D (2014) Fires in the perspective of future changes: the contribute of CMCC to FUME Project. Proceedings of the II Conferenza Annuale SISC, pag. 1005-1020. Sept. 2014, Venice (Italy). ISBN 978-88-97666-04-2
16. **BACCIU V**, SALIS M, SPANO D (2013) Historical Trends and Future Predictions of Fire Emission Estimation in Italy. I Conferenza Annuale SISC, 23-24 Sept. 2013, Lecce (Italy). ISBN 978-88-97666-08-0.
17. SALIS M, ALCASENA F, AGER AA, CASULA F, ARCA B, **BACCIU V**, SPANO D (2013) Analyzing changes in wildfire likelihood and intensity in Mediterranean areas: a case study from central Sardinia, Italy. I Conferenza Annuale SISC, 23-24 Sept. 2013, Lecce (Italy). ISBN 978-88-97666-08-0.
18. ARCA B, PELLIZZARO G, DUCE P, SALIS M, **BACCIU V**, SPANO D, AGER AA, FINNEY MA, SCOCCIMARRO E (2012) Potential changes in fire probability and severity under climate change scenarios in Mediterranean areas. In Spano D., Bacciu V., Salis M., Sirca C. (eds.), 2012. Modelling Fire Behaviour and Risk, pag. 92-98. ISBN: 978-88-904409-7-7.
19. **BACCIU V**, PELLIZZARO G, SALIS M, ARCA B, DUCE P, SPANO D (2012) Estimating vegetation fire emissions from Sardinian wildland fires (2005-2009). In Spano D., Bacciu V., Salis M., Sirca C. (eds.), 2012. Modelling Fire Behaviour and Risk, pag. 34-40. ISBN: 978-88-904409-7-7.
20. DUCE P, PELLIZZARO G, ARCA B, **BACCIU V**, SALIS M, SPANO D, SANTONI PA, BARBONI T, LEROY V, CANCELLIERI D, LEONI E, FERRAT

- L, PEREZ Y (2012) Fuel types and potential fire behaviour in Sardinia and Corsica islands: a pilot study. In Spano D., Bacciu V., Salis M., Sirca C. (eds.), 2012. Modelling Fire Behaviour and Risk, pag. 2-8. ISBN: 978-88-904409-7-7.
21. MASALA F., **BACCIU V.**, SIRCA C., SPANO D., (2012) Fire–weather relationship in the Italian peninsula. In: D. Spano, V. Bacciu, M. Salis, C. Sirca (ed) Modelling Fire Behaviour and Risk. Nuova Stampa Color: pp 56-62. ISBN: 978-88-904409-7-7.
 22. SALIS M., DIANA G., CASULA F., FARRIS G., FARRIS O., LICHERI F., MUSINA G., OROTELLI S., PELUFFO L., PIRISI A.M., **BACCIU V.**, FOIS C., SIRCA C., SPANO D., (2012) Potential effects of prescribed burning and tactical fires on fire risk mitigation. In: D. Spano, V. Bacciu, M. Salis, C. Sirca (ed) Modelling Fire Behaviour and Risk. Nuova Stampa Color: pp 174-180. ISBN: 978-88-904409-7-7
 23. SPANO D., SALIS M., ARCA B., DUCE P., **BACCIU V.**, SIRCA C., (2012) Evaluation of the Integrated Fire Index (IFI) in Sardinia. In: D. Spano, V. Bacciu, M. Salis, C. Sirca (ed) Modelling Fire Behaviour and Risk. Nuova Stampa Color: pp 187-192. ISBN: 978-88-904409-7-7
 24. BACCIU V., SALIS M., CHERGIA AP, SPANO D, PELLIZZARO G., ARCA B., DUCE P. (2010) Fuel consumption and smoke characterization in Mediterranean ecosystem using FOFEM 5. Proceedings of the VI International Conference on Forest Fire Research, Coimbra, Portugal, 15-18 November 2010 ISBN: 978-989-20-2157-7
 25. PELLIZZARO G., VENTURA A., ARCA B., ARCA A., DUCE P., BACCIU V, SPANO D. (2010). Estimating effects of future climate on duration of fire danger season in Sardinia. In: Proceedings of the VI International Conference of Forest Fire. Coimbra, Portugal. Coimbra, Portugal, 15-18 November 2010, D.X. Viegas (ADAI/CEIF, University Coimbra)
 26. ARCA B., SALIS M., PELLIZZARO G., BACCIU V, SPANO D., DUCE P., AGER A., FINNEY M (2010). Climate change impact on fire probability and severity in Mediterranean areas. In: Proceedings of the VI International Conference on Forest Fire Research (ICFFR). Coimbra, Portugal. Coimbra, Portugal, 15-18 November 2010, D.X. Viegas (ADAI/CEIF, University Coimbra)
 27. ARCA, B., **BACCIU, V.**, PELLIZZARO, G., SALIS, M., VENTURA, A., DUCE, P., BRUNDU, G., SPANO, D. (2009) Fuel model mapping by IKONOS imagery to support spatially explicit fire simulators. 7° International Workshop on “Advances in RS and GIS application in Forest Fire Management”. Matera, Italia, 2 - 5 Sept 2009. ISBN: 978-88-904367-0-3
 28. ARCA B, **BACCIU V**, DUCE P, PELLIZZARO G, SALIS M, SPANO D (2007) Evaluation of FARSITE Simulator in a Mediterranean Area. Proceedings of the 4th International Wildland Fire Conference. Sevilla, Spain, 13-17 May 2007. ISBN: 978-84-8014-690-6.
 29. SIRCA, C., **BACCIU, V.**, MARRAS, S., SALIS, M., SPANO, D. (2007) Valutazione dello stato e delle esigenze idriche del mirto in coltivazione. Atti del Convegno Nazionale “Quarta Giornata di Studio sul Mirto. Sassari, 8 May 2007. ISBN 88-6025-071-4

Technical reports

1. SPANO D., ARMIENTO M., ASLAM M.F., **BACCIU V.**, BIGANO A., BOSELLO F., BREIL M., BUONOCORE M., BUTENSCHÖN M., CADAU M., COGO E., COLELLI F. P., COSTA SAURA J.M., DASGUPTA S., DE CIAN E., DEBOLINI M., DIDEVARASL A., ELLENA M., GALLUCCIO G., HARRIS R., JOHNSON K., LIBERT A., LO CASCIO M., LOVATO T., MARRAS S., MASINA S., MERCOGLIANO P., MEREU V., MYSIK J., NOCE S., PAPA C., PHELAN A.S., PREGAGNOLI C., REDER A., RIBOTTA C., SANO M., SANTINI A., SANTINI M.,

- SARTORI N., SINI E., SIRCA C., THARMANANTHAN R., TORRESAN S., TRABUCCO A., "G20 Climate Risk Atlas. Impacts, policy and economics in the G20", 2021, DOI: 10.25424/cmcc/g20_climaterisk
2. SPANO D., MEREU V., **BACCIU V.**, BARBATO G., BUONOCORE M., CASARTELLI V., ELLENA M., LAMESSO E., LEDDA A., MARRAS S., MERCOGLIANO P., MONTELEONE L., MYSIK J., PADULANO R., RAFFA M., RUIU M.G.G., SERRA V., VILLANI V., 2021. "Analisi del rischio. I cambiamenti climatici in sei città italiane". DOI: 10.25424/cmcc/analisi_del_rischio_2021
 3. SPANO D., MEREU V., **BACCIU V.**, MARRAS S., TRABUCCO A., ADINOLFI M., BARBATO G., BOSELLO F., BREIL M., COPPINI G., ESSENFELDER A., GALLUCCIO G., LOVATO T., MARZI S., MASINA S., MERCOGLIANO P., MYSIK J., NOCE S., PAL J., REDER A., RIANNA G., RIZZO A., SANTINI M., SINI E., STACCIONE A., VILLANI V., ZAVATARELLI M., 2020. "Analisi del rischio. I cambiamenti climatici in Italia". DOI: 10.25424/CMCC/ANALISI_DEL_RISCHIO
 4. F. BOSELLO, **V. BACCIU**, M. BREIL, G. GALLUCCIO, S. MARRAS, P. MERCOGLIANO, V. MEREU, G. RIANNA, S. TORRESAN, A. TRABUCCO, D. SPANO. L'ADATTAMENTO AI CAMBIAMENTI CLIMATICI IN ITALIA Concetti, percorsi ed elementi per una valutazione di costi ed efficacia. In: OSSIGENO PER LA CRESCITA. La decarbonizzazione al centro della strategia economica Post-COVID. Proposte di riforme e azioni per un'economia resiliente. REF-E, 2020. <https://www.ref-e.com/it/focus-light/ossigeno-per-la-crescita>
 5. TONARELLI L., VACCHIANO G., ASCOLI D., BACCIU V., DELOGU G. (2020) Un paese che brucia - Cambiamenti climatici e incendi boschivi in Italia. Edito da Greenpeace, https://www.greenpeace.org/static/planet4-italy-stateless/2020/08/1e5628b6-report_incendicc_finale.pdf
 6. VACCHIANO G., ASCOLI D., BACCIU V (2020) Gli incendi senza precedenti stanno cambiando il Pianeta per sempre. Siamo nell'epoca del Pirocene. LIFEGATE, <https://www.lifegate.it/epoca-del-pirocene-incendi>
 7. TIMMERMAN J, BACCIU V, CONINX I, FONS J, GREGOR M, HAVRANEK M, JACOBS C, LOEHNERTZ M, PELTONE L, SAINZ M, SWART R (2015) Map book urban vulnerability to climate change – Factsheets.
 8. KEANE, R.E., GRAY, K., **BACCIU, V.**, 2012. Spatial variability of wildland fuel characteristics in northern Rocky Mountain ecosystems. Res. Pap. RMRS-RP-98. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station.
 9. DELOGU G., MURRANCA S., LENZU M., DEIANA E., MANCA F., MADAU G.P., CONGIU G.P., MELONI M., SALIS M., **BACCIU V.**, SIRCA C., 2010. "Il Fuoco Prescritto". Corpo Forestale e di Vigilanza Ambientale della Regione Sardegna. 40 pp.
 10. ARCA, B., DUCE, P., PELLIZZARO, G., **BACCIU, V.**, SALIS, M., SPANO, D., 2009. Simulazione della Propagazione degli Incendi su Vegetazione a Macchia Mediterranea. ed. Regione Toscana: "Incendi Boschivi: Prevenzione, Lotta e Controllo con i nuovi Strumenti Tecnologici". Collana Ricerca Trasferimento Innovazione, n° 8: 79 – 84.

PhD Thesis

1. Bacciu, Valentina Maria (2009) Maquis fuel model development to support spatially-explicit fire modeling applications. http://eprints.uniss.it/1090/1/Bacciu_V_Tesi_Dottorato_2009_Maquis.pdf

PERSONAL SKILLS

Mother tongue(s) Italian

Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	B2	B2	B2	B2
Cambridge First Certificate in English, Council of Europe Level B2					
France	B1	B2	B1	B1	B1

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2: Proficient user
[Common European Framework of Reference for Languages](#)

Communication skills I have good communication skills, gained through educational, training or other dissemination actions such as national and international projects, conferences, seminars and other meetings, presenting key aspects of the projects I have worked in.

Organisational / managerial skills

- Responsible of research team in several national and international projects.
- Experience in preparing, proposing, and managing national and international projects
- Good managerial skills

I am also a quick learner and I have the drive to learn new concepts and tasks on very short notice and without extended training, respecting goals and deadlines

Job-related skills Good experience on:

- databases management
- statistical analysis
- remote sensing

Computer skills Very good command of Microsoft Office (Word, Excel, Power Point).
 Good knowledge of GIS softwares (ARCVIEW 3.3, ARCMAP 9.3).
 Good knowledge of fire simulation models (FARSITE, FLAMMAP, FOFEM)
 Knowledge of SPSS, MINITAB, R statistical packages and CDO climate data operator

Sassari, 30/06/2022
 Valentina Bacciu

