

## Umberto Morra di Cella

### WORK EXPERIENCE

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[ 01/08/2019 – Current ] **Researcher - permanent position in "Wildfire Risk Management and Forest Conservation" (part-time)**

***International Center of Environmental Monitoring - CIMA Research Foundation***

**City:** Savona

**Country:** Italy

**Main activities and responsibilities:**

Vegetation phenology monitoring, vegetation mapping, glacier and snow monitoring (ground and satellite) for modelling activities.

Head of UAV Team.

UAV photogrammetry for risk reduction, risk assessment (fire and hydrometeorological risks).

UAV/topographic survey in high mountains sites and for emergency and civil protection activities.

UAV technical trainer (photogrammetric and GNSS surveys concerning emergency, risk reduction and prevention and disaster monitoring)

[ 01/08/2019 – Current ] **Permanet position in "Climate Change Monitoring" Unit (part-time)**

***Regional Agency of Environmental Protection of Aosta Valley***

**City:** Saint-Christophe

**Country:** Italy

**Main activities and responsibilities:**

Monitoring and analysis of Climate change impacts on glacier, permafrost, snow and alpine vegetation.

P.I. of glacier monitoring (mass balance measurements, glacier retreat, glacier inventory), permafrost long-monitoring (rock wall and slope thermal regime), rock glacier status and dynamics monitoring (temperature, internal structure, surface displacement, hydro-chemistry, inventory), snow water equivalent (regional network measurement, automatic station, modelling).

P.I. of IT19 LTER site and IT-MAV GLORIA site.

Head of UAV Team.

Regional UAV Team coordinator (Civil Protection and Disaster survey)

[ 01/02/2011 – 31/07/2019 ] **Head of "Climate Change" Unit**

*Regional Agency of Environmental Protection of Aosta Valley*

**City:** Saint-Christophe

**Country:** Italy

[ 2001 – 2004 ] **National Tematic Center on Nature and Biodiversity - Technical Secretariat member (SINAnet project)**

*Regional Agency of Environmental Protection of Aosta Valley*

**City:** Saint-Christophe

**Country:** Italy

[ 1999 – 2001 ] **National Tematic Center on Nature Conservation - Technical Secretariat member (SINAnet project)**

*Regional Agency of Environmental Protection of Aosta Valley*

**City:** Saint-Christophe

**Country:** Italy

[ 01/01/1996 – 31/12/2004 ] **Forest Engineer**

*Freelance*

**City:** Aosta

**Country:** Italy

**Main activities and responsibilities:**

Forest management plan, Forest mapping

[ 12/1995 – 10/1996 ] **Second Lieutenant**

*Italian Army - 1st Mountain Artillery Regiment*

**City:** Fossano/Bousson

**Country:** Italy

**Main activities and responsibilities:**

Military mountaineering instructor.

Motor Vehicle Head.

## **EDUCATION AND TRAINING**

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[ 02/03/2022 ] **Specific Operation Risk Assessment UAV Methodology**

*EUROUSC Italia*

**Address:** 00193, Roma, Italy

[ 02/10/2019 ] **L/Mc CRO UAV Pilot Extension Attestation**

*Milano Mongolfiere CA-APR 023*

**Address:** 27019, Villanterio, Italy

[ 19/05/2018 ] **CRO UAV Pilot Extension Attestation**

*Milano Mongolfiere CA.APR 023*

**Address:** 27019, Villanterio, Italy

[ 07/06/2017 ] **UAV Pilot Attestation (cat. VL/Mc and VL/Ap) n. I.APRA.002614**

*Etruria Volo s.r.l. ENAC.CA.APR.030*

**Address:** 52043, Castiglion Fiorentino, Italy

[ 19/03/2015 ] **UAV Pilot Attestation n. 00038**

*Areoclub Serristori - Scuola VDS/VM n. 363*

**Address:** 52043, Castiglion Fiorentino, Italy

[ 09/03/2015 ] **Nivological observer certification n. 2499**

*AINEVA - Interregional Association Snow and Avalanches*

**Address:** 23032, Bormio, Italy

[ 07/2012 ] **Training attestation Swinglet CAM UAV - approuved by SenseFly LLC**

*Easy2map SA & senseFly LLC*

**Address:** 1000, Lausanne, Switzerland

[ 09/2004 ] **Glacier observer Certification**

*Glaciological Service of Lombardia Region*

**Address:** 20100, Milano, Italy

[ 12/1995 ] **Forest Engineer Freelance Qualification**

*Ordine dei Dottori Agronomi e Forestali della Provincia di Torino*

**Address:** 10100, Torino, Italy

[ 09/1989 – 07/1995 ] **Graduation diploma (110/110 cum laude) - experimental thesis on "Multifuncional forestry management: Sestriere (IT) and Renaix (B)"**

*University of Turin - Agronomy Faculty*

**Address:** 10100, Torino, Italy

[ 1984 – 1989 ] **Agriculture High School Diploma**

*Agriculture High School "G. Dalmasso"*

**Address:** 10144, Pianezza, Italy

**Mother tongue(s):** Italian

**Other language(s):**

**French**

**LISTENING** C2 **READING** C2 **WRITING** C1

**SPOKEN PRODUCTION** C2 **SPOKEN INTERACTION** C2

**English**

**LISTENING** C1 **READING** C1 **WRITING** B1

**SPOKEN PRODUCTION** B1 **SPOKEN INTERACTION** B1

## PROJECTS

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[ 2020 – Current ]

### **TROPICCS - TowARds the future Projection and management of the Impact of Climate Change on Bolivian water Supply**

CIMA Foundation: Implementing partner (for Northumbria University - UK and with Universidad Mayor de San Andrés - Bolivia) for hydrological modelling, UAV survey on high altitude glacier, satellite imagery.

[ 13/12/2019 – Current ]

### **TO BE READY - The flood and Big fire foREst, prediction, forecAst and emergencY management**

CIMA Foundation: Implementing partner for Molise Region (IT) for decision support system (platform), automatic weather station network, wildfire risk bulletin, phenology automatic monitoring

[ 25/06/2019 – Current ]

### **MED-Star - Strategie e misure per la mitigazione del rischio di incendio nell'area Mediterranea**

CIMA Foundation: Implementing partner for Liguria Region (IT)

<https://interreg-maritime.eu/web/med-star/progetto>

[ 2017 – Current ]

### **Life + "PASTORALP" - Pastures Vulnerability and Adaptation Strategies to Climate Change Impacts in the Alps**

ARPA VDA: Project partner

<https://www.pastoralp.eu/homepage/>

[ 2017 – 2020 ]

### **Interreg V ALCOTRA "ADAPTMONTBLANC" - Land/Territory planning adaptation to Climate Change Impacts on the Mont-Blanc massif area**

ARPA VDA: Implementing partner

[ 2016 – 2017 ]

**Interreg V ALCOTRA "PrevRiskHauteMontagne" - Risk prevention on high mountain areas**

ARPA VDA: Project partner

[ 2009 – 2012 ]

**Interreg IV ALCOTRA n. 056 "GLARISKALP - Glacier related risks in the western Alps**

ARPA VDA: Project partner

## **PUBLICATIONS**

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[ 2021 ]

**S3M 5.1: a distributed cryospheric model with dry and wet snow, data assimilation, glacier mass balance, and debris-driven melt**

<https://doi.org/10.5194/gmd-2021-92>

[ 2021 ]

**Learning about precipitation lapse rates from snow course data improves water balance modeling**

<https://doi.org/10.5194/hess-25-2109-2021>

[ 2022 ]

**Contrasting responses of forest growth and carbon sequestration to heat and drought in the Alps**

<https://iopscience.iop.org/article/10.1088/1748-9326/ac5b3a>

[ 2018 ]

**Quality Assessment of DSMs Produced from UAV Flights Georeferenced with On-Board RTK Positioning**

<https://doi.org/10.3390/rs10020311>

[ 2019 ]

**Indirect UAV Strip Georeferencing by On-Board GNSS Data under Poor Satellite Coverage**

<https://doi.org/10.3390/rs11151765>

[ 2021 ]

**An integrated approach for tracking climate- driven changes in treeline environments on different time scales in the Valle d'Aosta, Italian Alps**

<https://doi.org/10.1177/095968362110259>

[ 2022 ]

**Kinematics of an Alpine rock glacier from multi-temporal UAV surveys and GNSS data**

<https://doi.org/10.1016/j.geomorph.2022.108116>

[ 2022 ]

**Flow Velocity Variations and Surface Change of the Destabilised Plator Rock Glacier (Central Italian Alps) from Aerial Surveys**

<https://doi.org/10.3390/rs14030635>

[ 2020 ]

**Sensitivity of snow models to the accuracy of meteorological forcings in mountain environments**

<https://doi.org/10.5194/hess-24-4061-2020>

[ 2020 ]

**A rock-glacier – Pond system (NW Italian Alps): Soil and sediment properties, geochemistry, and trace-metal bioavailability**

<https://doi.org/10.1016/j.catena.2020.104700>

[ 2020 ] **UAV Block Georeferencing and Control by on Board GNSS Data**

<https://doi.org/10.5194/isprs-archives-XLIII-B2-2020-9-2020>

**Reference:** The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences

[ 2021 ]

**A common soil temperature threshold for the upper limit of alpine grasslands in European mountains**

<https://doi.org/10.1007/s00035-021-00250-1>

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*I hereby consent to the processing of the data I provided in this CV. I declare my agreement with the data protection regulations in the data privacy statement.*

Umberto Morra di  
Cella