



**CURRICULUM VITAE (CVA)**

**IMPORTANT – The Curriculum Vitae cannot exceed 4 pages. Instructions to fill this document are available in the website.**

**Part A. PERSONAL INFORMATION**

**CV date** 05/12/2021

<b>First name</b>	Juan Antonio		
<b>Family name</b>	Ballesteros Cánovas		
<b>Gender (*)</b>	Male	<b>Birth date (dd/mm/yyyy)</b>	22/05/1980
<b>Passport,</b>	--		
<b>e-mail</b>	Juan.ballesteros@unige.ch	URL Web: Google scholar: Qp6aD6kAAAAJ&hl=ca	
<b>Open Researcher and Contributor ID (ORCID) (*)</b>	0000-0003-4439-397X		

(\*) Mandatory

**A.1. Current position**

<b>Position</b>	<b>Senior researcher</b>		
Initial date	16/02/2022		
Institution	Spanish National Research Council		
Department/Center	National Museum of Natural Sciences		
Country	Spain	Teleph. number	--
Key words	Geomorphology, paleofloods, natural hazards, tree-rings, climate		

**A.2. Previous positions (research activity interruptions, art. 14.2.b))**

Period	Position/Institution/Country/Interruption cause
2022-	Senior researcher (CSIC-MNCN/Spain)
2018-2021	Researcher (University of Geneva/Switzerland)
2015-2018	Assistant professor (University of Geneva/Switzerland)
2013-2013	Interruption (birth of a child)
2013-2015	Post doc contract (University of Bern/Switzerland)
2011-2013	Post doc contract (IGME/ Spain)
2011-2011	Interruption (birth of a child)
2007-2011	PhD student (IGME/Spain)
2006-2007	Assistant researcher (UPM/Spain)

**A.3. Education**

PhD, Licensed, Graduate	University/Country	Year
PhD in Advanced Forest Research	Polytechnic University of Madrid	2011
Advanced Studies Degree (“DEA”) in Environmental Geology	University of Leon	2008
BSc and MSc in Forest Engineering	Polytechnic University of Madrid	2006
PhD in Advanced Forest Research	Polytechnic University of Madrid	2011

**Part B. CV SUMMARY**

My background is forest engineering (Polytechnique University of Madrid, UPM). I finished my higher education in 2006 (formed *Ingeniero Superior de Montes* and currently, Master in



Forestry Engineering). Motivated by the field in natural hazard, I carried out a Diploma of Advanced Studies (Environmental geology) in the University of Leon (2007-2008). Then, I completed my PhD (funded by the Spanish Geological Service, IGME) in 2011 at the Forest Engineering School (UPM) on the use of botanical evidence to improve flood hazard and risk assessments (awarded as best PhD of that year by the UPM). I got a postdoc contract (IGME, 2011-2013) and moved to Switzerland to finalize my postdoc stage (University of Bern, 2013-2015). In 2015, I was appointed as Maître de Recherche (University of Geneva, 2015-2018). From 2018 to 2021, I was working as Adjoint Scientific position in the UNIGE, being responsible for the DendroLab installation. In 2021, I earned the Ramon y Cajal fellowship (2nd position in environmental science) and the *Atracción Talento Madrid (Mod 1)* in The National Museum of Natural Sciences (Spanish National Research Council) (starting day 16.02.2022). I published 93 SCI articles (94% in Q1; 8 currently in review), several of them in high-impact journals, such as *Nature Geoscience*, *Nature Climate Change*, *Nature Communications*, *Nature Ecology and Evolution* or *Proceedings of the National Academy of Sciences*. I published 4 books, 10 book chapters, 3 encyclopedia chapters and contributed with 68 communications in different conferences. I divulgated my research with 6 broad-audience journal articles, radio and TV interviews. My metrics are: Scopus (28, 2216), Google Scholar (33, 3400) (date: 05/2022). The scientific and social attention of two of my articles are among the top 5% of all research outputs ever scored by Altmetric; and one more is above the 10%. I was involved in 17 international and national projects from competitive calls, H2020, Spanish, Swiss and US Science Foundations. I received more than 1.1 Mio-euros as PI or co-PI from competitive calls and have a large experience on leading / conducting field expeditions in remote mountain region (ca. 20 expeditions during last years). My research has been transferred into international guidelines for Disaster Risk Management Assessment of the UN, (2019), and guidelines for the Colombian, as well as the India government through Swiss Cooperation Programs. Being part of the scientific committee of the Tree-Ring Society (2013-2015) and leading the International Flood Working Group of PAGES (2017-now), has given me international recognition. I act on the Editorial board of 4 scientific journals and actively contributed as reviewer. I organized 8 scientific meetings. Furthermore, I have (i) taught Bachelor and Master courses (250 h), (ii) organized International Summer School (Spain-USA universities, 120h); (iii) given 6 invited lectures; and (iv) supervised 2 PhD (one more starting in 01/2021), 8 Master and 3 graduate projects. Overall, my CV shows a strong background of high-impact publications and a large experience in externally founded projects, as well as teaching in environmental courses. Besides, my CV clearly revealed a leadership position in the scientific community in the use of tree-rings to understand the occurrence of hydrogeomorphic events in mountain ecosystems. My research has clear implication for climate change science and disaster risk managements and contribute to achieve the millennium goal by addressing different Sustainable Development Goals, such SDGs 1, 6, 11, 13 and 15.

## Part C. RELEVANT MERITS

### C.1. Publications

This selection represents my research evolution, where I contributed from local to global studies, and from specific to intra-disciplinary studies. Other relevant contributions (here not shown) include: *Nature Climate Change* (IF=25.29), *Nature Communication* (IF=12.1), *Nature Geoscience* (IF= 13.5), *Nature Ecology and Evolution* (IF= 12.5), *Science Bulletin* (IF= 9.5), or *Earth Science Review* (IF=9.7) among others. A full list can be consulted in my Author/Researcher ID.

1. **Ballesteros-Cánovas, J. A.**, Koul, T., Bashir, A., del Pozo, J. M. B., Allen, S., Guillet, S., & Alam, A. (2020). Recent flood hazards in Kashmir put into context with millennium-long historical and tree-ring records. *Science of The Total Environment*, 722, 137875. Impact Factor: 6.5. Total cites: 10 (5 cites/Year). Q1: Environmental Science/Environmental Engineering, Rank: **#10/132**.
2. Wilhelm, B., **Ballesteros-Cánovas, J. A.**, Macdonald, N., Toonen, W. H., Baker, V., Barriendos, M., ... & Glaser, R. (2019). Interpreting historical, botanical, and geological evidence to aid preparations for future floods. *Wiley Interdisciplinary Reviews:*



- Water*, 6(1), e1318. Impact factor: 4.4. Total cites: 61 (20 cites/Year). Q1: Environmental Science.
3. Tichavský, R., **Ballesteros-Cánovas, J. A.**, Šilhán, K., Tolasz, R., & Stoffel, M. (2019). Dry Spells and extreme precipitation are the Main trigger of Landslides in central Europe. *Scientific reports*, 9(1), 1-10. Impact Factor: 3.9. Total cites: 19 (2 cites/Year). Q1: Multidisciplinary, Rank: #8/111.
  4. **Ballesteros-Cánovas, J. A.**, Stoffel, M., Benito, G., Rohrer, M., Barriopedro, D., García-Herrera, R., Beniston, M & Brönnimann, S. (2019). On the extraordinary winter flood episode over the North Atlantic Basin in 1936. *Ann. NY Acad. Sci*, 1436, 206-216. Impact Factor: 4.7. Total cites: 14 (6 cites/Year). Invited paper. Q1: Philosophy of Science, Rank: #1/149.
  5. **Ballesteros-Cánovas, J. A.**, Trappmann, D., Madrigal-González, J., Eckert, N., & Stoffel, M. (2018). Climate warming enhances snow avalanche risk in the Western Himalayas. *Proceedings of the National Academy of Sciences*, 115(13), 3410-3415. Impact Factor: 9.4. Total Cites: 83 (25 cites/Year). Q1: Multidisciplinary, Rank: #4/111.
  6. Madrigal-González, J., **Ballesteros-Cánovas, J. A.**, Herrero, A., Ruiz-Benito, P., Stoffel, M., Lucas-Borja, M. E., ... & Zavala, M. A. (2017). Forest productivity in southwestern Europe is controlled by coupled North Atlantic and Atlantic Multidecadal Oscillations. *Nature communications*, 8(1), 1-8. Impact factor: 12.1. Total Cites: 28 (6 cites/Year). Q1: Multidisciplinary.
  7. **Ballesteros-Cánovas, J. A.**, Stoffel, M., Martín-Duque, J. F., Corona, C., Lucía, A., Bodoque, J. M., & Montgomery, D. R. (2017). Gully evolution and geomorphic adjustments of badlands to reforestation. *Scientific reports*, 7, 45027. Impact Factor: 3.9. Total cites: 24 (5 cites/Year). Q1 in Multidisciplinary, Rank: #8/111.
  8. **Ballesteros-Cánovas, J. A.**, Czajka, B., Janecka, K., Lempa, M., Kaczka, R. J., & Stoffel, M. (2015). Flash floods in the Tatra Mountain streams: Frequency and triggers. *Science of the Total Environment*, 511, 639-648. Impact Factor: 6.5. Total cites: 67 (12 cites/Year). Q1: Environmental Science/Environmental Engineering, Rank: #10/132.
  9. **Ballesteros-Cánovas, J. A.**, Stoffel, M., St George, S., & Hirschboeck, K. (2015). A review of flood records from tree rings. *Progress in Physical Geography*, 39(6), 794-816. Impact Factor: 3.4. Total cites: 90 (16 cites/Year). Q1 in General Earth and Planetary Science, Rank: #19/187.
  10. **Ballesteros Canovas, J. A.**, Eguibar, M., Bodoque, J. M., Díez-Herrero, A., Stoffel, M., & Gutiérrez-Pérez, I. (2011). Estimating flash flood discharge in an ungauged mountain catchment with 2D hydraulic models and dendrogeomorphic palaeostage indicators. *Hydrological Processes*, 25(6), 970-979. Impact Factor: 3.2. Total cites: 105 (10 cites/Year). Q1 in Water Science and Technology, Rank: #16/217.

## C.2. Congress

I have largely contributed to both organizing and presenting studies at national and international congresses:

1. 68 contribution to congresses. (25 as presenter, 18 talks, 7 posters, 43 as co-author)
2. Invited talks in congress and universities worldwide: 7
3. Young Geoscientific National Congress (Spanish Geological Service, Madrid) (2009, 2010, 2011). **Role: main organizer and program committee**
4. International Workshop Flood Working Group (PAGES, Grenoble) (2017). **Role: co-organizer and program committee**
5. Organizer and program committee of the 2<sup>st</sup> Flood Working Group (PAGES, Geneva) (2019). **Role: main organizer and program committee**
6. Program committee of the Special session on Past Flood Events in EGU 2018, EGU 2020 (EGU, Vienna) (2018, 2020). **Role: co-chairman**
7. Program committee of the Special session in OSM International PAGES (Zaragoza, 2017). **Role: co-chairman**
8. Program committee of the Special session in OSM International PAGES (Agadir, 2022). **Role: co-chairman**



### C.3. Research projects

1. Understanding extreme events driven by climate and cryosphere change in the Caucasus, State Secretariat for Education, Research and Innovation (SERI), Switzerland-India, 2018-2020, 12000 CHF. **Role: PI.**
2. Enhancing resilience against future extreme floods in Kashmir, SERI, Switzerland-India, 2018-2019, 24000 CHF. **Role: PI**
3. Enhancing emergency management and response to extreme Weather and climate Events (ANYWHERE): Switzerland study case, EU-H2020, Switzerland, 2016-2019, 970.500 €. **Role: co-PI.**
4. Extreme flash-flood events in Jammu & Kashmir, Indian Himalayas, Swiss Development Cooperation, Switzerland-India, 2015-2016, 99.000 CHF. **Role: co-PI**
5. Future Debris Flows and lake outburst floods in Tian Shan: possible impacts of projected Climate Change. Swiss National Science Foundation. 2014-2017, Kirgizstan 237200 CHF. **Role: Manager and researcher.**
6. Integrated climate risk and vulnerability assessment in India. GIZ Germany, India, 2018 – 2019. 195000 €. **Role: partner.**
7. Science for Humanitarian Emergencies and Resilience: Citizen science for landslide risk reduction and disaster resilience building in mountain regions. UK-NERC, DFID (SHEAR), Nepal, 2015 – 2019. 300.000 €. **Role: researcher.**
8. (IHCAP) Indian Himalayas Climate Adaptation Program. Swiss Development Cooperation. Switzerland-India, 2012-2015. 2x10<sup>6</sup> CHF. **Role: postdoc researcher.**
9. MAS Dendro Avenidas. Proyectos I+D+i del Plan Nacional. Spanish Science Foundation, Spain. 2011 – 2013. 150.000 €. **Role: postdoc researcher.**
10. Dendro Avenidas. Proyectos I+D+i del Plan Nacional. Spanish Science Foundation. 2007 – 2011. 200.000 €. **Role: Phd.**

### C.4. Contracts, technological or transfer merits

1. Workshop: Flood in a warmer world. PAGES, Switzerland, 2019. 12000 €, **Role: PI**
2. Land degradation neutrality in Georgia. UNEP. Switzerland. 2018-2018. 145.000 €, **Role: partner**
3. Nature-based Solutions for Water (NbSW): Mapping, assessment and design of a new initiative of SDC's GPW. UNEP. Switzerland. 2018-2018. 11.000 €, **Role: partner**
4. Prediction of future natural disasters using past climate analogues. Valais Canton, Switzerland, 2017-2019, 205.000 €, **Role: partner.**
5. Evaluación monetaria del valor protector de las obras históricas de defensa en el monte de Los Arañones en el término municipal de Canfranc, Spain, Gobierno de Aragón. 2020-2021, 10000€, **Role: partner**
6. Trabajos de investigación y asistencia técnica para las acciones a llevar a cabo durante 2020-2022 en los sitios piloto de Santa Elena y Artouste. Proyecto PHUSICOS. EXPEDIENTE 07/2020. Cofinanciado en el marco del programa H2020. Agrupación Europea de Cooperación Territorial (AECT) Espacio Portalet, 2020, 24000€, **Role: partner**
7. Contributor to the General Assessment Report (2019), Disaster Risk Management.
8. Contributor of the DRM for the Colombian government (2020)
9. Implementation of the Swiss Development Cooperation policy in the mandate "DRM Planning and Implementation Support in the Indian Himalayan Region"
10. Implementation of Civil Protection Plans against floods (Navaluenga, Avila)
11. International Summer School (Tree Rings, Climate, Natural Resources, and Human Interaction, Spain-USA universities, 120h). **Role: main organizer and teacher.**
12. Member at large of the Tree Ring Society (2013-15).

### C.5. Editorial contributions.

**Editorial Board member:** Water, Frontiers in Ecology and Evolution, Agriculture and Forestry. **Guest editor:** Anthropocene, Sustainability, Environment International.

**Active Referee** for >20 peer-reviewed ISI journal, including Nature's group