Lorenzo Minola

International Postdoctoral Research Fellow

Climate-change researcher, expert in climate data analysis.
Motivated to use climate science to move society in
a more sustainable direction.

Work experiences

Jan 2022 – Present
International Postdoctoral research fellow,
Department of Earth Sciences, University of Gothenburg, Gothenburg, Sweden &
Interuniversity Department of Regional and Urban Studies and Planning, Politecnico and University of Turin, Turin, Italy &
Centro de Investigaciones sobre Desertificación, Spanish National Research Council, Valencia, Spain

Changes in extreme winds and their impact on coastal areas across mid- and high-European latitudes

Jun 2021 – Dec 2021
Postdoctoral research fellow, *Department of Earth Sciences, University of Gothenburg*, Gothenburg, Sweden

Modelling of the near-surface wind speed climate dynamics across the Tibetan Plateau

Jan 2016 – Dec 2020
Ph.D. candidate, *Department of Earth Sciences, University of Gothenburg*, Gothenburg, Sweden

Major: Natural science specializing in physical geography
Thesis title: Changes in near-surface winds across Sweden over the past decades – Observations and simulation

Mar 2018 – Apr 2018
Visiting Ph.D. student, *Department of Meteorology and Atmospheric Science, Pennsylvania State University*, State College, USA

Evaluation of ECMWF wind gust parametrization under the supervision of Prof. Fuqing Zhang

Oct 2018
Visiting Ph.D. student, *Spanish State Meteorological Agency (AEMET) – Delegation of the Balearic Islands*, Palma de Mallorca, Spain

Training in climate date homogenization by Dr. Jose A. Guijarro

Jul 2015 – Dec 2015
Student assistant, *University of Gothenburg*, Gothenburg, Sweden

Assisting in analyzing climate datasets, writing scientific articles, reviewing scientific literature, and improving personal knowledge on statistical techniques in climate research

Paradisgatan 16, 413 16 Göteborg (Sweden)
☎ *+46 738785958*
✉ *lorenzo.minola@gu.se*

Education

Aug 2016 – Jul 2018 **Graduate Research School ClimBEco (Climate Biodiversity and Ecosystem Services in a changing world)**, *Centre for Environmental and Climate Research, Lund University*, Lund, Sweden

Major: Interdisciplinary research on climate, Earth system and society in a changing world

Sep 2013 – Jun 2015 **Master's Degree in Atmospheric Sciences**, *University of Gothenburg*, Gothenburg, Sweden

Major: Climate change, climatology, meteorology, climate modelling, and climate data analysis

Sep 2009 – Apr 2013 **Bachelor's Degree in Physics**, *University of Turin*, Turin, Italy, 108/110

Major: Physics, mathematics, and applied physics

Sep 2011 – Jun 2012 **ERASMUS exchange**, *Department of Physics*, Umeå University, Umeå, Sweden

Major: Physics, physics and the environment, and applied physics

Sep 2004 – Jun 2009 **High school diploma**, *Scientific High School "Alessandro Antonelli"*, Novara, Italy, 100 cum laude/100

Major: Science, physics, and mathematics

Teaching and supervision experiences

September 2023 – Present **Co-supervisor** of Teresa Animali (master thesis), *Interuniversity Department of Regional and Urban Studies and Planning, Politecnico and University of Turin*, Turin, Italy

September 2023 – Present **Co-supervisor** of Davide Dansero (master thesis), *Interuniversity Department of Regional and Urban Studies and Planning, Politecnico and University of Turin*, Turin, Italy

May 2023 – Present **Co-supervisor** of Eugenio Merlo (master thesis), *Interuniversity Department of Regional and Urban Studies and Planning, Politecnico and University of Turin*, Turin, Italy

Oct 2022 – Present **Co-supervisor** of Sara Ciarlantini (Ph.D. student), *Interuniversity Department of Regional and Urban Studies and Planning, Politecnico and University of Turin*, Turin, Italy

Jan 2021 – Present **Co-supervisor** of Alice Re (Ph.D. student), *Interuniversity Department of Regional and Urban Studies and Planning, Politecnico and University of Turin*, Turin, Italy

Jun 2022 – Oct 2022 **Co-supervisor** of Francesca Angela Maria Tatulli (master thesis), *Interuniversity Department of Regional and Urban Studies and Planning, Politecnico and University of Turin*, Turin, Italy

Thesis title: Climatic wind regime analysis for sailing sport in the 2024 Olympic Games: A case study for the Bay of Marseille, France

May 2022 – July 2022 **Co-supervisor** of Franco Cervera (internship), *Interuniversity Department of Regional and Urban Studies and Planning, Politecnico and University of Turin*, Turin, Italy

Project title: Analysis of meteorological data-base in coastal area for climatic analysis

Sep 2021 – June 2022 **Supervisor** of Jessika Lönn (Master thesis), *Department of Earth Sciences, University of Gothenburg*, Gothenburg, Sweden

Paradisgatan 16, 413 16 Göteborg (Sweden)
☎ *+46 738785958*
✉ *lorenzo.minola@gu.se*

Thesis title: Assessing historical (1926-1996) near-surface wind speed variability across Sweden

Mar 2022 **Course assistant** for the course "Applied climatology" (Master course) at the *Interuniversity Department of Regional and Urban Studies and Planning, Politecnico and University of Turin*, Turin, Italy

In charge of course organization, lectures, and computer exercises

Sep 2016 Nov 2020 **Course assistant** for 5 different courses at the *Department of Earth Sciences, University of Gothenburg*, Gothenburg, Sweden

- Climate change in an Earth system perspective (Master course)
- Large-scale Atmospheric Dynamics (Ph.D. course)
- Climate modelling (Master course)
- Not-Nordic excursion to Italy (Bachelor course)
- Basic climate modelling (Bachelor course)

In charge of course organization, lectures, computer exercises, group projects, group seminar, and exam correction

Jan 2019 **Seminar organizer** for "Writing retreatment for Ph.D. students", *University of Gothenburg*, Gothenburg, Sweden

Sep 2016 Jun 2017 **Co-supervisor** of Nicole Wesselshmidt (Master thesis), *Department of Earth Sciences, University of Gothenburg*, Gothenburg, Sweden

Thesis title: Evaluating global wind speed trends using atmospheric reanalysis

Mar 2016 Jun 2016 **Co-supervisor** of Josefine Axelsson (Bachelor thesis), *Department of Earth Sciences, University of Gothenburg*, Gothenburg, Sweden

Thesis title: Precipitation extremes on Tibetan Plateau: past and future

Awards and grants

Apr 2016 Dec 2018 Awarded of 8 different **grants and scholarships** (for a total of 97.000 SEK) to support field work activities and travel costs for participation to international meetings

Jun 2021 **International Postdoc grant** from the Swedish Research Council (3.450.000 SEK)

Publications

Peer-reviewed scientific articles

Sep 2023 **Minola L.**, Zhang G., Ou T., Kukulies J., Curio J., Guijaoo J. A., Deng K., Azorin-Molina C., Shen C., Pezzoli A., & Chen D. - Climatology of near-surface wind speed from observational, reanalysis and high-resolution regional climar medel data over the Tibetan Plateau. *Climate Dynamics*

Aug 2023 Shen C., Yuan H., Li Z., Yang X., **Minola L.**, Chang Y., & Chen D. - March near-surface wind speed hiatus over China since 2011. *Geophysical Research Letters*

Mar 2023 **Minola L.**, Lönn J., Azorin-Molina C., Zhou C., Engström E., Wern L., Hellström S., Zhang G., Shen C., Pezzoli A., & Chen D. - The contribution of large-scale atmospheric circulation to variations of observed near-surface wind speed across Sweden since 1926. Submitted to *Climatic Change*

Mar 2023 Re A., **Minola L.**, & Pezzoli A. - Climate scenarios for coastal flood vulnerability assessments: A case study for the Ligurian coastal region. *Climate*

Paradisgatan 16, 413 16 Göteborg (Sweden)
☎ *+46 738785958*
✉ *lorenzo.minola@gu.se*

Oct 2022 Shen C., Zha J., Li Z., Azorin-Molina C., Deng K., **Minola L.**, & Chen D. - Evaluation of global terrestrial near-surface wind speed simulated by CMIP6 models and their future projections. *Annals of the New York Academy of Sciences*

Jul 2022 Deng K., Liu W., Azorin-Molina C., Yang S., Li H., Zhang G., **Minola L.**, & Chen D. - Terrestrial stilling projected to continue in the Northern Hemisphere mid-latitudes. *Earth's Future*

May 2022 Zhou C., Azorin-Molina C., Engström E., **Minola L.**, Wern L., Hellström S., Lönn J., & Chen D. - HomogWS-se: A century-long homogenized dataset of near-surface wind speed observations since 1925 rescued in Sweden. *Earth System Science Data*

Mar 2022 Zhang G., Azorin-Molina C., Wang X., Chen D., McVicar T. R., Guijarro J. A., Chappell A., Deng K., **Minola L.**, Kong F., Wang S., & Shi P. - Rapid urbanization induced daily maximum wind speed decline in metropolitan areas: A case study in the Yangtze River Delta (China). *Urban Climate*

Feb 2022 Deng K., Azorin-Molina C., Yang S., Hu C. D., Zhang F., **Minola L.**, Vicente-Serrano S., & Chen D. - Shifting of summertime weather extremes in Western Europe during the last decade. *Advances in Climate Change Research*

Jan 2022 Deng K., Azorin-Molina C., Yang S., Hu C., Zhang G., **Minola L.**, & Chen D. - Changes of Southern Hemisphere westerlies in the future warming climate. *Atmospheric Research*

Jul 2021 **Minola L.**, Reese H., Lai H.-W., Azorin-Molina C., Guijarro J. A., Son S.-W., & Chen D. - Wind stilling-reversal across Sweden: The impact of land-use and large-scale atmospheric circulation changes. *International Journal of Climatology*

May 2021 Zhang G., Azorin-Molina C., Chen D., McVicar T. R., Guijarro J. A., Kong F., **Minola L.**, Deng K., & Shi P. - Uneven warming likely contributed to declining near-surface wind speeds in Northern China between 1961 and 2016. *Journal of Geophysical Research – Atmospheres*

Apr 2021 Azorin-Molina C., McVicar T. R., Guijarro J. A., Trewin B., Frost A. J., Zhang g., **Minola L.**, Son S.-W., & Chen D. - A decline of observed daily peak wind gusts with distinct seasonality on Australia, 1941-2016. *Journal of Climate*

Mar 2021 **Minola L.**, Azorin-Molina C., Guijarro J. A., Zhang G., Son S.-W., & Chen D. - Climatology of near-surface daily peak wind gusts across Scandinavia: observations and model simulations. *Journal of Geophysical Research – Atmospheres*

Mar 2021 Deng K., Azorin-Molina C., **Minola L.**, Zhang G., & Chen D. - Global near-surface wind speed changes over the last decades revealed by reanalyses and CMIP6 model simulations. *Journal of Climate*

Nov 2020 Safaei Pirroz A. A., Flay R. G. J., **Minola L.**, Azorin-Molina C., & Chen D. - Effects of sensor and moving average filter duration on maximum wind gust measurements. *Journal of Wind Engineering & Industrial Aerodynamics*

May 2020 **Minola L.**, Zhang F., Azorin-Molina C., Safaei Pirroz A. A., Flay R. G. J., Hersbach H., & Chen D. - Near-surface mean and gust wind speeds in ERA5 across Sweden: towards an improved gust parametrization. *Climate Dynamics*

Apr 2020 Zhang G., Azorin-Molina C., Chen D., Guijarro J. A., Kong F., **Minola L.**, McVicar T. R., Son S.-W., & Shi P. - Variability of daily maximum wind speed across China, 1975-2016: An examination of likely causes. *Journal of Climate*

May 2018 Azorin-Molina C., Asin J., McVicar T. R., **Minola L.**, Lopez-Moreno J. I., Vicente-Serrano S. M., & Chen D. - Evaluating anemometer drift: A statistical approach to correct biases in wind speed measurements. *Atmospheric Research*

Paradisgatan 16, 413 16 Göteborg (Sweden)
☎ *+46 738785958*
✉ *lorenzo.minola@gu.se*

Jan 2018 Azorin-Molina C., Rehman S., Guijarro J. A., McVicar T. R., **Minola L.**, Chen D., & Vicente-Serrano S. M. - Recent trends in wind speed across Saudi Arabia, 1978-2013: a break in the stilling. *International Journal of Climatology*

Aug 2017 Azorin-Molina C., Menendez M., McVicar T. R., Acevedo A., Vicente-Serrano S. M., Cuevas E., **Minola L.**, & Chen D. - Wind speed variability over the Canary Islands, 1948-2014: focusing on trend differences at the land-ocean interface and below-above the trade-wind inversion layer. *Climate Dynamics*

Oct 2016 **Minola L.**, Azorin-Molina C., & Chen D. - Homogenization and assessment of observed near-surface wind speed trends across Sweden, 1956-2013. *Journal of Climate*

Submitted scientific articles

Feb 2023 Zhang G., Azorin-Molina C., Chen D., McVicar T. R., Guijarro J. A., Deng K., **Minola L.**, Lee J., Son S.W., & Shi P. - Variability of near-surface wind speed over the Tibetan Plateau: the role played by westerly and Asian monsoon. Submitted to *Atmospheric Research*

Jan 2023 Azorin-Molina C., Safaei Pirroz A. A., Bedoya-Valestt S., Utrabo-Carazo E., Andres-Martin M., **Minola L.**, Guijarro . A., Aguilar E., Brunet M., Flay R. G. J., Vicente-Serrano S. M., McVicar T. R., & Chen D. - Biases in wind speed measurements due to anemometer changes: A transition case study. Submitted to *Measurement*

Popular science articles

Dec 2020 Eliasson C. - Varmare klimat har inte ökat marknäara vindar i Sverige. *Göteborgs Universitet*. https://news.cision.com/se/goteborgs-universitet/r/varmare-klimat-har-inte-okat-marknara-vindar-i-sverige,c3254528

Apr 2020 **Minola L.** - Varför skrämmer coronaviruset oss mer än klimatförändringar? *Debatt, Dagens ETC*. https://www.etc.se/debatt/varfor-skrammer-coronaviruset-oss-mer-klimatforandringar

Monographs

Nov 2020 **Minola L.** - Changes in near-surface winds across Sweden over the past decades – Observations and simulations. *Doctoral thesis*. http://hdl.handle.net/2077/66844

Jun 2015 **Minola L.** - Homogenization assessment and attribution of observed near-surface wnd speed trends across Sweden, 1956-2013. *Master thesis*

Conference presentations

Jul 2023 **Oral presentation** at the *RMetS Early Career & Student Conference*, Reading, United Kingdom

May 2023 **Oral presentation** at the *9th International Conference on Meteorology and Climatology of the Mediterranean (MetMed)*, Genoa, Italy

Dec 2022 **Oral presentation** at the workshop *Near-surface wind speed changes: observation, modelling, attribution, and projection*, Gothenburg, Sweden

Oct 2022 **Poster presentation** at the *Sea Level Rise Conference 2022*, Venice, Italy

Sep 2022 **Oral presentation** at *III Encuentro Extremeño de Climatología*, Badajoz, Spain

May 2022 **Oral presentation** at the *Swedish Climate Symposium*, Norrköping, Sweden

May 2020 **Oral presentation** for the *European Geosciences Union General Assembly 2023*, online

Paradisgatan 16, 413 16 Göteborg (Sweden)
☎ *+46 738785958*
✉ *lorenzo.minola@gu.se*

Sep 2019 **Oral presentation** for the *European Meteorological Society Annual Meeting, European Conference for Applied Meteorology and Climatology 2018*, Copenhagen, Denmark

Sep 2018 **Oral presentation** (Young Scientist Travel Awarded) for the *European Meteorological Society Annual Meeting, European Conference for Applied Meteorology and Climatology 2018*, Budapest, Hungary

Services to research community

Sep 2022 – Apr 2023 **Convener** for the *European Geosciences Union General Assembly 2023*, Vienna, Austria

Session title: Climate data homogenization and analysis of climate variability, trends and extremes

Sep 2022 – Present **Collaboration** with La Scarpa and the Department of Applied Science and Technology of Politecnico of Turin for the design of alpine equipment (e.g., mountain boots)

Nov 2018 – Present **Referee for scientific journals** in the field of Meteorology and Atmospheric Sciences: Advances in Meteorology, Advances in Atmospheric Sciences, Atmósfera, Cuadernos de Investigación Geográfica, International Journal of Applied Meteorology and Climatology, International Journal of Climatology, Journal of Climate, Journal of Geophysical Research, Weather and Climate Extremes

Sep 2021 – May 2022 **Convener** for the *European Geosciences Union General Assembly 2022*, Vienna, Austria

Session title: Climate data homogenization and analysis of climate variability, trends and extremes

Language skills

Italian	Mother tongue
English	Level C2
Swedish	Level B1
Spanish	Level A1

Personal and additional information

Birth	Novara (IT), 24th December 1990
Gender	Male
Citizenship	Italian, Swedish

References

Contact details available upon request

Paradisgatan 16, 413 16 Göteborg (Sweden)
☎ *+46 738785958*
✉ *lorenzo.minola@gu.se*