Curriculum Vitae
Updated 31.3.2022

Personal data

Name, first name	Temperli, Christian
Title	Dr.
Date / place of birth	21.4.1981, Kreuzlingen TG
Nationality	Swiss
Address (office)	WSL, Zürcherstrasse 111, 8903 Birmensdorf
Email	christian.temperli@wsl.ch
Homepage	https://www.wsl.ch/de/mitarbeitende/temperli.html

Professional and Research Interests

Adaptive forest management and ecosystem services

Climate change impacts on forest development and disturbance regimes

Dynamic forest development modelling

Forest inventory

Education (start with professional training)

2009-2012	Ph.D. Thesis at the Professorship Forest Ecology, Department of Environmental Systems Science, ETH Zurich. Title of thesis: *"Climate change, large-scale disturbances and adaptive forest management".* Supervision: Prof. H. Bugmann (ETH Zurich) and Dr. C. Elkin (ETH Zurich). Date of thesis defense: 7 December 2012.
2002-2007	Studies in Environmental Systems Science at ETH Zurich with focus on terrestrial systems and biology. Diploma thesis (M.Sc.): *"Vegetation dynamics after forest fire in comparison to the pre-fire state".* Supervision: Prof. H. Bugmann and Dr. T. Wohlgemuth (Disturbance Ecology, WSL)

Work Experience (academic and implementation)

Since 2018	Scientific staff member (permanent career position since 9.2020), Scientific Service NFI at WSL, Birmensdorf. Research on forest ecosystem services (50%), NFI-reporting on timber harvesting and management planning (50%)
2016-2018	Scientific staff member, Resource Analysis at WSL, Birmensdorf. Modelling and projecting ecosystem services based on forest inventory data.
2014-2016	Postdoc with the Resource Analysis group at WSL, Birmensdorf. Empirical modelling of forest development under various timber harvesting scenarios. NFP66 project MOBSTRAT
2013-2014	Postdoc at the Department of Geography, University of Colorado at Boulder. Dynamic modeling and field study on of forest disturbances and logging. student mentoring (12 months)
2013	Postdoc at the Professorship Forest Ecology, ETH Zürich. Publication of Ph.D. research (one month)
2009-2012	Scientific assistant at the Professorship Forest Ecology, ETH Zurich funded through the EU FP7 project MOTIVE. Ph.D. research and maintenance of group website

Awards

2012	Swiss National Science Foundation fellowship for prospective researchers (Grant number 145714). Spruce beetle and fire interactions under climate change and adaptive forest management in subalpine forests of northern Colorado, USA. Awarded CHF 44'300 for 12 months

Grants obtained (list of projects) (PI and non-PI)

Amount	Funding Agency	Role/Title/Year
CHF 587'810	WSL EXTREMES program	Co-Investigator. Mountain spruce forests as hotspots for extremes: impacts, resilience and management priorities (MountEX). 2021
CHF 191'748	WSL CCAMM program	Co-applicant. Changing forests and natural hazard risks in Davos (FORISK). 2021
CHF 50'976	WSL internal projects	PI. Climate-smart forestry directions based on national Forest Inventory data (ClimFin). 2020
CHF 649'434	SNSF NRP73 Sustainable Economy	Project partner. SessFor – Sustainable development of ecosystem services in Swiss Forests. 2017
CHF 372'000	Leadership board of Swiss NFI	PI. Development of forest ecosystem services in Switzerland: projections based on NFI data. 2016

Publication record (h-index at least Web of Science [all other indexes optional], number of citations/publications) [Please state max. the 10 most important productions]

H-index: 14, Number of citations: 752, Number of publications: 23 (retrieved from Web of Science 31.3.2022)

Mathys, A. S., A. Bottero, G. Stadelmann, E. Thürig, M. Ferretti and **C. Temperli.** 2021. Presenting a climate-smart forestry evaluation framework based on national forest inventories. Ecological Indicators 133:108459

Blattert, C., R. Lemm, E. Thürig, G. Stadelmann, U.-B. Brändli, and **C. Temperli**. 2020. Long-term impacts of increased timber harvests on ecosystem services and biodiversity: A scenario study based on national forest inventory data. *Ecosystem Services* 45:101150.

Temperli, C., C. Blattert, G. Stadelmann, U.-B. Brändli, and E. Thürig. 2020. Trade-offs between ecosystem service provision and the predisposition to disturbances: a NFI-based scenario analysis. Forest Ecosystems 7:27.

Temperli, C., G. Stadelmann, E. Thürig, and P. Brang. 2017. Silvicultural strategies for increased timber harvesting in a Central European mountain landscape. European Journal of Forest Research 136:493–509. doi: 10.1007/s10342-017-1048-1

Temperli C., S. Hart, T. Veblen, D. Kulakowski and A. Tepley. 2015. Interactions among spruce beetle disturbance, climate change and forest dynamics captured by a forest landscape model. Ecosphere 6:article no. 231. doi: 10.1890/ES15-00394.1

Temperli, C., H. Bugmann, and C. Elkin. 2013. Cross-scale interactions among bark beetles, climate change, and wind disturbances: a landscape modeling approach. Ecological Monographs 83:383–402. doi: 10.1890/12-1503.1

Temperli, C., H. Bugmann, and C. Elkin. 2012. Adaptive management for competing forest goods and services under climate change. Ecological Applications 22: 2065–2077. doi: 10.1890/12-0210.1

Teaching (PhD, Master, Bachelor etc.)

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Supervision of PhD theses and postdoc projects (academic main lead)

Since 2022	Co-supervision of postdoc Dr. Achille Mauri in project FORISK
2020-2021	Supervision of postdoc Dr. Amanda Mathys in project ClimFin
Since 2018	Co-supervision of PhD student Reinhard Mey together with Dr. Jürgen Zell as co-examiner (main examiner: Prof. H. Bugmann, ETHZ) in NFP73 project SessFor. Expected date of defense in August 2022.

Selected professional activities (academic and implementation)

2019	Organisation of COST Action CLIMO CA15226 Working Group 1 and 2 meeting on assessing climate-smart forestry criteria based on repeated forest inventory data. 16-17.10.2019. 16 Participants.
Since 2012	Scientific reviews for: Atmosphere, Canadian Journal of Forest Research, Ecological Applications, Ecological modelling, Ecological Monographs, Ecological Modelling, Ecosphere, Environmental Modelling and Software, Forest Ecology and Management, Forestry, Forests, Frontiers in Forests and Global Change, Global Change Biology, Journal of Environmental Management, Journal of Vegetation Science, Landscape Ecology, Mountain research and development, New Phytologist, PeerJ, Plant and Soil, PlosOne, Restoration ecology, Schweizerische Zeitschrift für Forstwesen, Scientific Reports, Sustainability
Since 2011	Various workshops with practitioners to develop and evaluate forest management scenarios within projects MOTIVE, MOBSTRAT, NFI ecosystem services project, SessFor and MountEX

Selected other activities

Since 10.2021	80% part time work to care for daughter Jeanne born 28.3.2021

Publications

ISI

Mathys, A. S., A. Bottero, G. Stadelmann, E. Thürig, M. Ferretti, **Temperli C.** 2021. Presenting a climate-smart forestry evaluation framework based on national forest inventories. *Ecological Indicators* 133:108459

Santopuoli, G., **C. Temperli**, I. Alberdi, I. Barbeito, M. Bosela, A. Bottero, M. Klopcic, J. Lesinski, P. Panzacchi, and R. Tognetti. 2021. Pan-European Sustainable Forest Management indicators for assessing Climate-Smart Forestry in Europe. *Canadian Journal of Forest Research*. 51:1741-1750

Bowditch, E., G. Santopuoli, F. Binder, M. del Río, N. La Porta, T. Kluvankova, J. Lesinski, R. Motta, M. Pach, P. Panzacchi, H. Pretzsch, **C. Temperli**, G. Tonon, M. Smith, V. Velikova, A. Weatherall, and R. Tognetti. 2020. What is Climate-Smart Forestry? A definition from a multinational collaborative process focused on mountain regions of Europe. *Ecosystem Services* 43:101113.

Blattert, C., R. Lemm, E. Thürig, G. Stadelmann, U.-B. Brändli, and **C. Temperli**. 2020. Long-term impacts of increased timber harvests on ecosystem services and biodiversity: A scenario study based on national forest inventory data. *Ecosystem Services* 45:101150.

Temperli, C., C. Blattert, G. Stadelmann, U.-B. Brändli, and E. Thürig. 2020. Trade-offs between ecosystem service provision and the predisposition to disturbances: a NFI-based scenario analysis. Forest Ecosystems 7:27.

Stadelmann, G., **C. Temperli**, B. Rohner, M. Didion, A. Herold, E. Rösler, E. Thürig. 2019. Presenting MASSIMO: A Management Scenario Simulation Model to Project Growth, Harvests and Carbon Dynamics of Swiss Forests. Forests 10. doi:10.3390/f10020094.

Schelhaas, M.-J., J. Fridman, G. Hengeveld, H. Henttonen, A. Lehtonen, U. Kies, N. Krajnc, B. Lerink, A. Dhubháin, H. Polley, T. Pugh, J. Redmond, B. Rohner, **C. Temperli**, J. Vayreda, G.-J. Nabuurs. 2018. Actual European forest management by region, tree species and owner based on 714,000 re-measured trees in national forest inventories. PLOS ONE 13: e0207151. doi.org/10.1371/journal.pone.0207151.

Yousefpour, R., **C. Temperli**, J. B. Jacobsen, B. J. Thorsen, H. Meilby, M. Lexer, M. Lindner, H. Bugmann, J. Borges, J. Palma, D. Ray, N. Zimmermann, S. Delzon, A. Kremer, K. Kramer, C. Reyer, P. Lasch-Born, J. Garcia-Gonzalo, and M. Hanewinkel. 2017. A framework for modeling adaptive forest management and decision making under climate change. Ecology and Society 22. doi: 10.1007/s10113-014-0717-6

Reyer, C. P. O., S. Bathgate, K. Blennow, J. G. Borges, H. Bugmann, Sylvain Delzon, S. P. Faias, J. Garcia-Gonzalo, B. Gardiner, J. R. Gonzalez-Olabarria, Carlos Gracia, J. G. Hernández, S. Kellomäki, K. Kramer, M. J. Lexer, M. Lindner, E. van der Maaten, M. Maroschek, B. Muys, B. Nicoll, M. Palahi, J. H. Palma, J. A. Paulo, H. Peltola, T. Pukkala, W. Rammer, D. Ray, S. Sabaté, M.-J. Schelhaas, R. Seidl, **C. Temperli**, M. Tomé, R. Yousefpour, N. E. Zimmermann, and M. Hanewinkel. 2017. Are forest disturbances amplifying or canceling out climate change-induced productivity changes in European forests? Environmental Research Letters 12:034027. doi: 10.1088/1748-9326/aa5ef1

Temperli, C., G. Stadelmann, E. Thürig, and P. Brang. 2017. Silvicultural strategies for increased timber harvesting in a Central European mountain landscape. European Journal of Forest Research 136:493–509. doi: 10.1007/s10342-017-1048-1

Temperli, C., G. Stadelmann, E. Thürig, and P. Brang. 2017. Timber mobilization and habitat tree retention in low-elevation mixed forests in Switzerland: an inventory-based scenario analysis of opportunities and constraints. European Journal of Forest Research:1–15.

Schwörer, C., D. M. Fisher, D. G. Gavin, **C. Temperli**, and P. J. Bartlein. 2016. Modeling postglacial vegetation dynamics of temperate forests on the Olympic Peninsula (WA, USA) with special regard to snowpack. Climatic Change:1–16. doi: 10.1007/s10584-016-1696-z

Temperli C., S. Hart, T. Veblen, D. Kulakowski and A. Tepley. 2015. Interactions among spruce beetle disturbance, climate change and forest dynamics captured by a forest landscape model. *Ecosphere* 6:article no. 231. doi: 10.1890/ES15-00394.1

Bouriaud, L., M. Marzano, M. J. Lexer, L. Nichiforel, C. Reyer, **C. Temperli** and 24 more. 2015. Institutional factors and opportunities for adapting European forest management to climate change. *Regional Environmental Change* 15:1595–1609. doi: 10.1007/s10113-015-0852-8

Temperli C., S.J. Hart, T.T. Veblen, D. Kulakowski, J.J. Hicks and R. Andrus. 2014. Are density reduction treatments effective at managing for resistance or resilience to spruce beetle disturbance in the southern Rocky Mountains? *Forest Ecology and Management* 334:53–63. doi: 10.1016/j.foreco.2014.08.028

Bouriaud, L., O. Bouriaud, C. Elkin, **C. Temperli**, C. Reyer, G. Duduman and 4 more. 2014. Age-class disequilibrium as an opportunity for adaptive forest management in the Carpathian Mountains, Romania. *Regional Environmental Change* 15:1557–1568. doi: 10.1007/s10113-014-0717-6

Elkin, C., A. Gutierrez, S. Leuzinger, C. Manusch, **C. Temperli**, L. Rasche and H. Bugmann. 2013. A 2 °C warmer world is not safe for ecosystem services in the European Alps. *Global Change Biology* 19:1827–1840. doi: 10.1111/gcb.12156

Temperli, C., J. Zell, H. Bugmann, and C. Elkin. 2013. Sensitivity of ecosystem goods and services projections of a forest landscape model to initialization data. *Landscape Ecology* 28:1337–1352. doi: 10.1007/s10980-013-9882-0

Temperli, C., H. Bugmann, and C. Elkin. 2013. Cross-scale interactions among bark beetles, climate change, and wind disturbances: a landscape modeling approach. *Ecological Monographs* 83:383–402. doi: 10.1890/12-1503.1

Yousefpour, R., **C. Temperli**, H. Bugmann, C. Elkin, M. Hanewinkel, H. Meilby, J.B. Jacobsen, and B.J. Thorsen. 2013. Updating beliefs and combining evidence in adaptive forest management under climate change: A case study of Norway spruce (*Picea abies* L. Karst) in the Black Forest, Germany. *Journal of Environmental Management* 122:56–64. doi: 10.1016/j.jenvman.2013.03.004

Temperli, C., H. Bugmann, and C. Elkin. 2012. Adaptive management for competing forest goods and services under climate change. *Ecological Applications* 22: 2065–2077. doi: 10.1890/12-0210.1

Moser, B., **C. Temperli**, G. Schneiter, and T. Wohlgemuth. 2010. Potential shift in tree species composition after interaction of fire and drought in the Central Alps. *European Journal of Forest Research* 129:625–633. doi: 10.1007/s10342-010-0363-6

Peer-reviewed non-ISI / Book chapters

Weatherall, A., G.-J. Nabuurs, V. Velikova, G. Santopuoli, B. Neroj, E. Bowditch, **C. Temperli**, F. Binder, L. Ditmarová, G. Jamnická, J. Lesinski, N. L. Porta, M. Pach, P. Panzacchi, M. Sarginci, Y. Serengil, and R. Tognetti. 2022. Defining Climate-Smart Forestry. Pages 35–58 *in* R. Tognetti, M. Smith, and P. Panzacchi, editors. Climate-Smart Forestry in Mountain Regions. Springer International Publishing, Cham

Temperli, C., G. Santopuoli, A. Bottero, I. Barbeito, I. Alberdi, S. Condés, T. Gschwantner, M. Bosela, B. Neroj, C. Fischer, M. Klopčič, J. Lesiński, R. Sroga, and R. Tognetti. 2022. National Forest Inventory Data to Evaluate Climate-Smart Forestry. Pages 107–139 *in* R. Tognetti, M. Smith, and P. Panzacchi, editors. Climate-Smart Forestry in Mountain Regions. Springer International Publishing, Cham.

Bosela, M., K. Merganičová, C. Torresan, P. Cherubini, M. Fabrika, B. Heinze, M. Höhn, M. Kašanin-Grubin, M. Klopčič, I. Mészáros, M. Pach, K. Střelcová, **C. Temperli**, G. Tonon, H. Pretzsch, and R. Tognetti. 2022. Modelling Future Growth of Mountain Forests Under Changing Environments. Pages 223–262 *in* R. Tognetti, M. Smith, and P. Panzacchi, editors. Climate-Smart Forestry in Mountain Regions. Springer International Publishing, Cham.

Bont, L., M. Fraefel, C. Fischer, **C. Temperli**, and F. Frutig. 2021. Beurteilung der Holzerntesysteme und der Walderschliessung in der Schweiz: neue Produkte. *Schweizerische Zeitschrift fur Forstwesen* 172:268–277.

Temperli, C., and C. Blattert. 2021. Waldleistungen und Störungsanfälligkeit: eine modellbasierte Multikriterienanalyse. *Schweizerische Zeitschrift für Forstwesen* 172:300–309.

Temperli, C., and H. Bugmann. 2020. Borkenkäferdynamik im Klimawandel: die Bedeutung der Landschaftsebene. Schweiz Z Forstwes 171:142–150.

Fischer, C., B. Rohner, A. Herold, B. Allgaier Leuch, **C. Temperli**, F. Frutig, L. Bont, E. Thürig, and E. Rösler. 2020. Holzproduktion. Pages 147–187 *in* U. B. Brändli, M. Abegg, and B. Allgaier Leuch, editors. Schweizerisches Landesforstinventar. Ergebnisse der vierten Erhebung 2009-2017. Eidgenössische Forschungsanstalt für Wald, Schnee und Landschaft WSL; Bundesamt für Umwelt BAFU, Birmensdorf, Bern.

Stadelmann, G., **C. Temperli**, B. Rohner, M. Didion, A. Herold, E. Rösler, and E. Thürig. 2019. Forest Development Model MASSIMO. Pages 265–279 in C. Fischer and B. Traub, editors. Swiss National Forest Inventory – Methods and Models of the Fourth Assessment. Springer International Publishing, Cham.

Stadelmann, G., **C. Temperli**, M. Conedera, A. Gómez und P. Brang. 2015. Möglichkeiten zur Holzmobilisierung im Tessiner Kastaniengürtel Möglichkeiten zur Holzmobilisierung im Tessiner Kastaniengürtel. *Schweizerische Zeitschrift für Forstwesen* 166:291–298. doi: 10.3188/szf.2015.0291

Books / Monographs

Temperli, C. 2012. Climate change, large-scale disturbances and adaptive forest management. Dissertation. ETH Zürich. Supervision: Prof. H. Bugmann, Co-supervision: Dr. Ché Elkin.

Other publications (e.g. implementation)

Temperli, C., B. Allgaier Leuch, and F. Frutig. 2021. Effizientere Forstbetriebe in der Schweiz. *Wald und Holz* 21:24–27.

Selected presentations at international conferences

Temperli, C., C. Blattert, G. Stadelmann, R. Lemm, U-B. Brändli and E. Thürig. 2019. Trade-offs and synergies between disturbance predisposition and ecosystem services in Swiss forests. A century of NFI - informing past, present and future decisions, Sundvolden, Norway. Lightning talk

Temperli, C., G. Stadelmann, E. Thürig, P. Brang. 2017. Balancing timber mobilization and habitat tree retention in mixed broadleaf-conifer forests: an inventory-based scenario analysis. IUFRO 125th Anniversary Concress 2017. Freiburg im Breisgau. Talk

Temperli, C., G. Stadelmann, E. Thürig, P. Brang. 2016. Waldbauliche Strategien für eine erhöhte Holznutzung im Gebirge. Forstwissenschaftliche Tagung FOWITA 2016, Freiburg im Breisgau. Talk.

Temperli, C., T. T. Veblen, S. J. Hart, D Kulakowski and A. Tepley. 2014. Interactions among spruce beetle disturbance, climate change and forest dynamics. 14 IUFRO World Congress, Salt Lake City, USA. Talk.

Temperli, C., C. Elkin, and H. Bugmann. 2012. Sensitivity of forest ecosystem projections to data on current forest state. International conference: Tackling climate change: the contribution of forest scientific knowledge, Tours, France. Poster.

Temperli, C., C. Elkin, and H. Bugmann. 2012. Bark beetle disturbance under climate change. Swiss Global Change Day 2012, Bern, Switzerland. Poster.

Temperli, C., C. Elkin, A. Trasobares, and H. Bugmann. 2011. Landscape scale modeling of adaptive forest management for multiple ecosystem goods and services under climate change. 12th EEF Congress, Avila, Spain. Invited talk.

Temperli, C., C. Elkin, and H. Bugmann. 2011. Modeling adaptive forest management under climate change. Swiss Global Change Day 2011, Bern, Switzerland. Poster.

Temperli, C., C. Elkin, A. Trasobares, and H. Bugmann. 2010. Assessing trade-offs in adaptive forest management for multiple ecosystem goods and services under climate change using landscape scale modeling. UIFRO Landscape ecology conference, Braganca, Portugal. Talk.