

Denis Loustau

List of Publications by Year in descending order

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99
papers

18,444
citations

38742

50
h-index

34986

98
g-index

110
all docs

110
docs citations

110
times ranked

15947
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|--|-----|-----------|
| 1 | Environmental control of land-atmosphere CO ₂ fluxes from temperate ecosystems: a statistical approach based on homogenized time series from five land-use types. <i>Tellus, Series B: Chemical and Physical Meteorology</i> , 2022, 72, 1784689. | 1.6 | 4 |
| 2 | The Integrated Carbon Observation System in Europe. <i>Bulletin of the American Meteorological Society</i> , 2022, 103, E855-E872. | 3.3 | 44 |
| 3 | Uncovering the critical soil moisture thresholds of plant water stress for European ecosystems. <i>Global Change Biology</i> , 2022, 28, 2111-2123. | 9.5 | 23 |
| 4 | Quantifying canopy conductance in a pine forest during drought from combined sap flow and canopy surface temperature measurements. <i>Agricultural and Forest Meteorology</i> , 2022, 323, 108997. | 4.8 | 6 |
| 5 | Method comparison of indirect assessments of understory leaf area index (LAI): A case study across the extended network of ICOS forest ecosystem sites in Europe. <i>Ecological Indicators</i> , 2021, 128, 107841. | 6.3 | 12 |
| 6 | Retrieval and validation of forest background reflectivity from daily Moderate Resolution Imaging Spectroradiometer (MODIS) bidirectional reflectance distribution function (BRDF) data across European forests. <i>Biogeosciences</i> , 2021, 18, 621-635. | 3.3 | 12 |
| 7 | DynACof: A process-based model to study growth, yield and ecosystem services of coffee agroforestry systems. <i>Environmental Modelling and Software</i> , 2020, 124, 104609. | 4.5 | 26 |
| 8 | The FLUXNET2015 dataset and the ONEFlux processing pipeline for eddy covariance data. <i>Scientific Data</i> , 2020, 7, 225. | 5.3 | 646 |
| 9 | Altered energy partitioning across terrestrial ecosystems in the European drought year 2018. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2020, 375, 20190524. | 4.0 | 35 |
| 10 | Carbon-nitrogen interactions in European forests and semi-natural vegetation Part 1: Fluxes and budgets of carbon, nitrogen and greenhouse gases from ecosystem monitoring and modelling. <i>Biogeosciences</i> , 2020, 17, 1583-1620. | 3.3 | 21 |
| 11 | Carbon-nitrogen interactions in European forests and semi-natural vegetation Part 2: Untangling climatic, edaphic, management and nitrogen deposition effects on carbon sequestration potentials. <i>Biogeosciences</i> , 2020, 17, 1621-1654. | 3.3 | 18 |
| 12 | The PROFOUND Database for evaluating vegetation models and simulating climate impacts on European forests. <i>Earth System Science Data</i> , 2020, 12, 1295-1320. | 9.9 | 33 |
| 13 | Energy, water and carbon exchanges in managed forest ecosystems: description, sensitivity analysis and evaluation of the INRAE GO+ model, version 3.0. <i>Geoscientific Model Development</i> , 2020, 13, 5973-6009. | 3.6 | 6 |
| 14 | Importance of the vegetation-groundwater-stream continuum to understand transformation of biogenic carbon in aquatic systems A case study based on a pine-maize comparison in a lowland sandy watershed (Landes de Gascogne, SW France). <i>Science of the Total Environment</i> , 2019, 661, 613-629. | 8.0 | 14 |
| 15 | Measuring and modelling energy partitioning in canopies of varying complexity using MAESPA model. <i>Agricultural and Forest Meteorology</i> , 2018, 253-254, 203-217. | 4.8 | 24 |
| 16 | The AQUi Soil Moisture Network for Satellite Microwave Remote Sensing Validation in South-Western France. <i>Remote Sensing</i> , 2018, 10, 1839. | 4.0 | 20 |
| 17 | The Aqui Network: Soil Moisture Sites in the Les Landes Forest and Graves Vineyards (Bordeaux) Tj ETQq1 1 0.784314,rgBT /Over | | |
| 18 | Hydro-ecological controls on dissolved carbon dynamics in groundwater and export to streams in a temperate pine forest. <i>Biogeosciences</i> , 2018, 15, 669-691. | 3.3 | 23 |

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|----|---|------|-----------|
| 19 | Modelling the nutrient cost of biomass harvesting under different silvicultural and climate scenarios in production forests. <i>Forest Ecology and Management</i> , 2018, 429, 642-653. | 3.2 | 12 |
| 20 | ICOS eddy covariance flux-station site setup: a review. <i>International Agrophysics</i> , 2018, 32, 471-494. | 1.7 | 59 |
| 21 | Soil sampling and preparation for monitoring soil carbon. <i>International Agrophysics</i> , 2018, 32, 633-643. | 1.7 | 12 |
| 22 | Ancillary vegetation measurements at ICOS ecosystem stations. <i>International Agrophysics</i> , 2018, 32, 645-664. | 1.7 | 35 |
| 23 | Sampling and collecting foliage elements for the determination of the foliar nutrients in ICOS ecosystem stations. <i>International Agrophysics</i> , 2018, 32, 665-676. | 1.7 | 4 |
| 24 | Stand age and species richness dampen interannual variation of ecosystem-level photosynthetic capacity. <i>Nature Ecology and Evolution</i> , 2017, 1, 48. | 7.8 | 85 |
| 25 | Dimensioning IRGA gas sampling systems: laboratory and field experiments. <i>Atmospheric Measurement Techniques</i> , 2016, 9, 1361-1367. | 3.1 | 15 |
| 26 | Evaluating the performance of land surface model ORCHIDEE-CANv1.0 on water and energy flux estimation with a single- and multi-layer energy budget scheme. <i>Geoscientific Model Development</i> , 2016, 9, 2951-2972. | 3.6 | 43 |
| 27 | Future challenges in coupled C-N-P cycle models for terrestrial ecosystems under global change: a review. <i>Biogeochemistry</i> , 2016, 131, 173-202. | 3.5 | 75 |
| 28 | Tamm Review: Light use efficiency and carbon storage in nutrient and water experiments on major forest plantation species. <i>Forest Ecology and Management</i> , 2016, 376, 333-342. | 3.2 | 25 |
| 29 | Land management and land-cover change have impacts of similar magnitude on surface temperature. <i>Nature Climate Change</i> , 2014, 4, 389-393. | 18.8 | 404 |
| 30 | Modeling nitrous oxide emissions from tile-drained winter wheat fields in Central France. <i>Nutrient Cycling in Agroecosystems</i> , 2014, 98, 27-40. | 2.2 | 9 |
| 31 | Water use of young maritime pine and <i>Eucalyptus</i> stands in response to climatic drying in south-western France. <i>Plant Ecology and Diversity</i> , 2013, 6, 57-71. | 2.4 | 5 |
| 32 | Does canopy mean nitrogen concentration explain variation in canopy light use efficiency across 14 contrasting forest sites?. <i>Tree Physiology</i> , 2012, 32, 200-218. | 3.1 | 23 |
| 33 | Modeling the ecohydrological processes in the Landes de Gascogne, SW France. , 2012, , . | | 1 |
| 34 | Ground-based Network of NDVI measurements for tracking temporal dynamics of canopy structure and vegetation phenology in different biomes. <i>Remote Sensing of Environment</i> , 2012, 123, 234-245. | 11.0 | 161 |
| 35 | Thermal optimality of net ecosystem exchange of carbon dioxide and underlying mechanisms. <i>New Phytologist</i> , 2012, 194, 775-783. | 7.3 | 111 |
| 36 | Spatial and temporal CO ₂ exchanges measured by Eddy Covariance over a temperate intertidal flat and their relationships to net ecosystem production. <i>Biogeosciences</i> , 2012, 9, 249-268. | 3.3 | 39 |

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|----|---|------|-----------|
| 37 | Seasonal variations of belowground carbon transfer assessed by in situ ^{13}C pulse labelling of trees. <i>Biogeosciences</i> , 2011, 8, 1153-1168. | 3.3 | 81 |
| 38 | <i>In situ</i> assessment of the velocity of carbon transfer by tracing ^{13}C in trunk CO_2 efflux after pulse labelling: variations among tree species and seasons. <i>New Phytologist</i> , 2011, 190, 181-192. | 7.3 | 89 |
| 39 | Generalized biomass equations for the main aboveground biomass components of maritime pine across contrasting environments. <i>Annals of Forest Science</i> , 2011, 68, 443. | 2.0 | 52 |
| 40 | Paired comparison of water, energy and carbon exchanges over two young maritime pine stands (<i>Pinus</i>) Tj ETQq0 0 0 rgBT /Overlock 10 31, 903-921. | 3.1 | 43 |
| 41 | Photosynthetic carbon isotope discrimination and its relationship to the carbon isotope signals of stem, soil and ecosystem respiration. <i>New Phytologist</i> , 2010, 188, 576-589. | 7.3 | 119 |
| 42 | The European carbon balance. Part 3: forests. <i>Global Change Biology</i> , 2010, 16, 1429-1450. | 9.5 | 247 |
| 43 | Observing the Forest Canopy with a New Ultra-Violet Compact Airborne Lidar. <i>Sensors</i> , 2010, 10, 7386-7403. | 3.8 | 16 |
| 44 | Simultaneous measurements of CO_2 and water exchanges over three agroecosystems in South-West France. <i>Biogeosciences</i> , 2009, 6, 2957-2971. | 3.3 | 22 |
| 45 | Carbon stable isotope ratio of phloem sugars in mature pine trees throughout the growing season: comparison of two extraction methods. <i>Rapid Communications in Mass Spectrometry</i> , 2009, 23, 2511-2518. | 1.5 | 34 |
| 46 | A single-substrate model to interpret intra-annual stable isotope signals in tree-ring cellulose. <i>Plant, Cell and Environment</i> , 2009, 32, 1071-1090. | 5.7 | 100 |
| 47 | Établissement d'équations prédisant la concentration en nutriments des compartiments de l'arbre en vue d'une amélioration des modalités d'exportation de nutriments par récolte de biomasse. <i>Annals of Forest Science</i> , 2008, 65, 808-808. | 2.0 | 44 |
| 48 | Manipulation de la disponibilité en eau et éléments minéraux dans une plantation de pins maritimes: effet sur la croissance, la production, l'allocation de la biomasse à la fermeture du couvert. <i>Annals of Forest Science</i> , 2008, 65, 814-814. | 2.0 | 43 |
| 49 | Magnani et al. reply. <i>Nature</i> , 2008, 451, E3-E4. | 27.8 | 20 |
| 50 | Developing an empirical model of stand GPP with the LUE approach: analysis of eddy covariance data at five contrasting conifer sites in Europe. <i>Global Change Biology</i> , 2008, 14, 92-108. | 9.5 | 132 |
| 51 | Carbon dioxide and energy flux partitioning between the understorey and the overstorey of a maritime pine forest during a year with reduced soil water availability. <i>Agricultural and Forest Meteorology</i> , 2008, 148, 1508-1523. | 4.8 | 51 |
| 52 | Evidence for soil water control on carbon and water dynamics in European forests during the extremely dry year: 2003. <i>Agricultural and Forest Meteorology</i> , 2007, 143, 123-145. | 4.8 | 509 |
| 53 | Partitioning forest carbon fluxes with overstorey and understorey eddy-covariance measurements: A synthesis based on FLUXNET data. <i>Agricultural and Forest Meteorology</i> , 2007, 144, 14-31. | 4.8 | 138 |
| 54 | The human footprint in the carbon cycle of temperate and boreal forests. <i>Nature</i> , 2007, 447, 849-851. | 27.8 | 868 |

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|----|--|------|-----------|
| 55 | Reduction of ecosystem productivity and respiration during the European summer 2003 climate anomaly: a joint flux tower, remote sensing and modelling analysis. <i>Global Change Biology</i> , 2007, 13, 634-651. | 9.5 | 486 |
| 56 | Photosynthesis drives anomalies in net carbon-exchange of pine forests at different latitudes. <i>Global Change Biology</i> , 2007, 13, 2110-2127. | 9.5 | 69 |
| 57 | CO ₂ balance of boreal, temperate, and tropical forests derived from a global database. <i>Global Change Biology</i> , 2007, 13, 2509-2537. | 9.5 | 863 |
| 58 | The likely impact of elevated [CO ₂], nitrogen deposition, increased temperature and management on carbon sequestration in temperate and boreal forest ecosystems: a literature review. <i>New Phytologist</i> , 2007, 173, 463-480. | 7.3 | 579 |
| 59 | Sensitivity of water and carbon fluxes to climate changes from 1960 to 2100 in European forest ecosystems. <i>Agricultural and Forest Meteorology</i> , 2006, 141, 35-56. | 4.8 | 100 |
| 60 | The CarboEurope Regional Experiment Strategy. <i>Bulletin of the American Meteorological Society</i> , 2006, 87, 1367-1380. | 3.3 | 101 |
| 61 | On the separation of net ecosystem exchange into assimilation and ecosystem respiration: review and improved algorithm. <i>Global Change Biology</i> , 2005, 11, 1424-1439. | 9.5 | 2,778 |
| 62 | Europe-wide reduction in primary productivity caused by the heat and drought in 2003. <i>Nature</i> , 2005, 437, 529-533. | 27.8 | 3,245 |
| 63 | Agrometeorological Research and Applications Needed to Prepare Agriculture and Forestry to 21st Century Climate Change. <i>Climatic Change</i> , 2005, 70, 319-340. | 3.6 | 23 |
| 64 | Interactive effects of phosphorus and light availability on early growth of maritime pine seedlings. <i>Annals of Forest Science</i> , 2005, 62, 575-583. | 2.0 | 16 |
| 65 | Variation of the photosynthetic capacity across a chronosequence of maritime pine correlates with needle phosphorus concentration. <i>Annals of Forest Science</i> , 2005, 62, 537-543. | 2.0 | 24 |
| 66 | Modeling climate change effects on the potential production of French plains forests at the sub-regional level. <i>Tree Physiology</i> , 2005, 25, 813-823. | 3.1 | 103 |
| 67 | Age-related decline in stand water use: sap flow and transpiration in a pine forest chronosequence. <i>Agricultural and Forest Meteorology</i> , 2005, 129, 105-119. | 4.8 | 165 |
| 68 | Carbon balance of coniferous forests growing in contrasting climates: Model-based analysis. <i>Agricultural and Forest Meteorology</i> , 2005, 131, 97-124. | 4.8 | 65 |
| 69 | Radial profiles of sap flow with increasing tree size in maritime pine. <i>Tree Physiology</i> , 2004, 24, 1285-1293. | 3.1 | 123 |
| 70 | Hydraulic responses to height growth in maritime pine trees. <i>Plant, Cell and Environment</i> , 2004, 27, 1077-1087. | 5.7 | 120 |
| 71 | Paired comparisons of carbon exchange between undisturbed and regenerating stands in four managed forests in Europe. <i>Global Change Biology</i> , 2004, 10, 1707-1723. | 9.5 | 135 |
| 72 | Stomatal conductance and root-to-shoot signalling in chestnut saplings exposed to <i>Phytophthora cinnamomi</i> or partial soil drying. <i>Functional Plant Biology</i> , 2004, 31, 41. | 2.1 | 35 |

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|----|--|------|-----------|
| 73 | The annual carbon budget of a French pine forest (<i>Pinus pinaster</i>) following harvest. <i>Global Change Biology</i> , 2003, 9, 1051-1065. | 9.5 | 106 |
| 74 | MuSICA, a CO ₂ , water and energy multilayer, multileaf pine forest model: evaluation from hourly to yearly time scales and sensitivity analysis. <i>Global Change Biology</i> , 2003, 9, 697-717. | 9.5 | 139 |
| 75 | Variability of stem and branch maintenance respiration in a <i>Pinus pinaster</i> tree. <i>Tree Physiology</i> , 2003, 23, 227-236. | 3.1 | 50 |
| 76 | Allometric relationships for branch and tree woody biomass of Maritime pine (<i>Pinus pinaster</i> Ait.). <i>Forest Ecology and Management</i> , 2002, 158, 71-83. | 3.2 | 101 |
| 77 | Osmotic adjustment in <i>Pinus pinaster</i> cuttings in response to a soil drying cycle. <i>Annals of Forest Science</i> , 2002, 59, 795-799. | 2.0 | 18 |
| 78 | Evaluation of six process-based forest growth models using eddy-covariance measurements of CO ₂ and H ₂ O fluxes at six forest sites in Europe. <i>Global Change Biology</i> , 2002, 8, 213-230. | 9.5 | 135 |
| 79 | Temperature response of parameters of a biochemically based model of photosynthesis. I. Seasonal changes in mature maritime pine (<i>Pinus pinaster</i> Ait.). <i>Plant, Cell and Environment</i> , 2002, 25, 1155-1165. | 5.7 | 208 |
| 80 | Temperature response of parameters of a biochemically based model of photosynthesis. II. A review of experimental data. <i>Plant, Cell and Environment</i> , 2002, 25, 1167-1179. | 5.7 | 685 |
| 81 | Effects of variable root damage caused by <i>Phytophthora cinnamomi</i> on water relations of chestnut saplings. <i>Annals of Forest Science</i> , 2001, 58, 639-651. | 2.0 | 31 |
| 82 | Carbon balance gradient in European forests: should we doubt "surprising" results? A reply to Piovesan & Adams. <i>Journal of Vegetation Science</i> , 2001, 12, 145-150. | 2.2 | 24 |
| 83 | Estimating the foliage area of Maritime pine (<i>Pinus pinaster</i> Ait.) branches and crowns with application to modelling the foliage area distribution in the crown. <i>Annals of Forest Science</i> , 2000, 57, 73-86. | 2.0 | 80 |
| 84 | A generic model of forest canopy conductance dependent on climate, soil water availability and leaf area index. <i>Annals of Forest Science</i> , 2000, 57, 755-765. | 2.0 | 248 |
| 85 | Respiration as the main determinant of carbon balance in European forests. <i>Nature</i> , 2000, 404, 861-865. | 27.8 | 1,438 |
| 86 | The importance of phenology for the evaluation of impact of climate change on growth of boreal, temperate and Mediterranean forests ecosystems: an overview. <i>International Journal of Biometeorology</i> , 2000, 44, 67-75. | 3.0 | 330 |
| 87 | Photosynthetic responses to phosphorus nutrition in two-year-old maritime pine seedlings. <i>Tree Physiology</i> , 1999, 19, 707-715. | 3.1 | 81 |
| 88 | Variability of the photosynthetic characteristics of mature needles within the crown of a 25-year-old <i>Pinus pinaster</i> . <i>Tree Physiology</i> , 1998, 18, 223-232. | 3.1 | 79 |
| 89 | Within-ring ¹³ C spatial variability and interannual variations in wood cellulose of two contrasting provenances of <i>Pinus pinaster</i> . <i>Canadian Journal of Forest Research</i> , 1998, 28, 766-773. | 1.7 | 33 |
| 90 | Interpreting the variations in xylem sap flux density within the trunk of maritime pine (<i>Pinus pinaster</i>). <i>Sciences Forestières</i> , 1998, 55, 29-46. | 1.2 | 82 |

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| 91 | Within-ring $\delta^{13}C$ spatial variability and interannual variations in wood cellulose of two contrasting provenances of <i>Pinus pinaster</i> . Canadian Journal of Forest Research, 1998, 28, 766-773. | 1.7 | 29 |
| 92 | Transpiration of a 64-year-old maritime pine stand in Portugal. Oecologia, 1996, 107, 33-42. | 2.0 | 179 |
| 93 | Transpiration of a 64-year old maritime pine stand in Portugal. Oecologia, 1996, 107, 43-52. | 2.0 | 56 |
| 94 | Growth and uptake of mineral elements in response to sodium chloride of three provenances of maritime pine. Journal of Plant Nutrition, 1995, 18, 243-256. | 1.9 | 18 |
| 95 | Measuring and modelling the transpiration of a maritime pine canopy from sap-flow data. Agricultural and Forest Meteorology, 1994, 71, 61-81. | 4.8 | 230 |
| 96 | Interception loss, throughfall and stemflow in a maritime pine stand. I. Variability of throughfall and stemflow beneath the pine canopy. Journal of Hydrology, 1992, 138, 449-467. | 5.4 | 116 |
| 97 | Interception loss, throughfall and stemflow in a maritime pine stand. II. An application of Gash's analytical model of interception. Journal of Hydrology, 1992, 138, 469-485. | 5.4 | 78 |
| 98 | Comparison of two methods for estimating the evaporation of a <i>Pinus pinaster</i> (Ait.) stand: sap flow and energy balance with sensible heat flux measurements by an eddy covariance method. Agricultural and Forest Meteorology, 1991, 54, 49-66. | 4.8 | 75 |
| 99 | Relations entre la microtopographie, les caractéristiques de la couverture morte et la répartition des essences dans une forêt à Bouleau jaune. Canadian Journal of Forest Research, 1988, 18, 1196-1202. | 1.7 | 11 |