

REFERENCES

- Aires L.M., Pio C.A., Pereira J.S. (2008a) The effect of drought on energy and water vapour exchange above a mediterranean C3/C4 grassland in Southern Portugal. *Agricultural and Forest Meteorology* 148:565-579.
- Aires L.M.I., Pio C.A., Pereira J.S. (2008b) Carbon dioxide exchange above a Mediterranean C3/C4 grassland during two climatologically contrasting years. *Global Change Biology* 14:539-555.
- Allen L.H.J., Boote K.J., Hammond L.C. (1976) Peanut stomatal diffusive resistance affected by soil water and solar radiation. *Proceedings of the Soil and Crop Science Society of Florida* 35:42-46.
- Anthoni P.M., Law B.E., Unsworth H.M.H. (1999) Carbon and water vapor exchange of an open-canopied ponderosa pine ecosystem. *Agricultural and Forest Meteorology* 95:151-168.
- Anthoni P.M., Unsworth M.H., Law B.E., Irvine J., Baldocchi D.D., Tuyl S.V., Moore D. (2002) Seasonal differences in carbon and water vapor exchange in young and old-growth ponderosa pine ecosystems. *Agricultural and Forest Meteorology* 111:203-222.
- Aubinet M., Moureaux C., Bodson B., Dufranne D., Heinesch B., Suleau M., Vancutsem F., Vilret A. (2009) Carbon sequestration by a crop over a 4-year sugar beet/winter wheat/seed potato/winter wheat rotation cycle. *Agricultural and Forest Meteorology* 149:407-418.

- Aubinet M., Grelle A., Ibrom A., Rannik U., Moncrieff J., Foken T., Kowalski A.S., Martin P.H., Berbigier P., Bernhofer C., Clement R., Elbers J., Granier A., Grunwald T., Morgenstern K., Pilegaard K., Rebmann C., Snijders W., Valentini R., Vesala T. (2000) Estimates of the annual net carbon and water exchange of forests: The EUROFLUX methodology. *Advances in Ecological Research*, Vol 30 30:113-175.
- Babu V.R., Rao D.V.M. (1983) Water stress adaptations in the groundnut (*Arachis hypogaea* L.) - foliar characteristics and adaptations to moisture stress. *Plant Physiology and Biochemistry* 10:64-80.
- Baldocchi D.D. (1994a) A comparative study of mass and energy exchange rates over a closed C₃ (wheat) next term and an open C₄ (corn) crop: II. CO₂ exchange and water use efficiency *Agricultural and Forest Meteorology* 64:291-321.
- Baldocchi D.D. (1994b) A comparative study of mass and energy exchange over a closed C₃ (wheat) next term and an open C₄ (corn) canopy: I. The partitioning of available energy into latent and sensible heat exchange *Agricultural and Forest Meteorology* 64:191-200.
- Baldocchi D.D. (1997) Measuring and modelling carbon-dioxide and water vapour exchange over a temperate broad-leaved forest during the 1995 summer drought. *Plant and Soil* 20:1108-1122.
- Baldocchi D.D. (2003) Assessing the eddy covariance technique for evaluating carbon dioxide exchange rates of ecosystems: past, present and future. *Global Change Biology* 9:479-492.

Baldocchi D.D., Verma S.B., Rosenberg N.J. (1981) Mass and energy exchanges of a soybean canopy under various environmental regimes. *Agronomy Journal* 73:706-710.

Baldocchi D.D., Hicks B.B., Meyers T.P. (1988) Measuring biosphere-atmosphere exchange of biologically related gases with micrometeorological methods. *Ecology* 69:1331-1340.

Baldocchi D.D., Tang J.W., Xu L.K. (2006) How switches and lags in biophysical regulators affect spatial-temporal variation of soil respiration in an oak-grass savanna. *Journal of Geophysical Research-Biogeosciences* 111: DOI 10.1029/2005jg000063.

Baldocchi D.D., Verma S.B., Rosenberg N.J., Blad B.L., Garay A., Specht J.E. (1983) Influence of water stress on the diurnal exchange of mass and energy between the atmosphere and a soybean canopy. *Agron Journal* 75:543-548.

Baldocchi D.D., Falge E., Gu L.H., Olson R., Hollinger D., Running S., Anthoni P., Bernhofer C., Davis K., Evans R., Fuentes J., Goldstein A., Katul G., Law B., Lee X.H., Malhi Y., Meyers T., Munger W., Oechel W., U K.T.P., Pilegaard K., Schmid H.P., Valentini R., Verma S., Vesala T., Wilson K., Wofsy S. (2001) FLUXNET: A new tool to study the temporal and spatial variability of ecosystem-scale carbon dioxide, water vapor, and energy flux densities. *Bulletin of the American Meteorological Society* 82:2415-2434.

Bhagsari A.S., Brown R.H., Schepers J.S. (1976) Effect of Moisture Stress on Photosynthesis and Some Related Physiological Characteristics in Peanut. *Crop Science* 16:712-715.

- Billings S.A., Richter D.D., Yarie J. (1998) Soil carbon dioxide fluxes and profile concentration in two boreal forests. *Canadian Journal of Forest Research* 28:1773-1783.
- Birch H.F. (1958) The effect of soil drying on humus decomposition and nitrogen availability. *Plant and Soil* 10:9-31.
- Birch H.F. (1959) Further observations on the humus decomposition and nitrification. *Plant and Soil* 11:262-286.
- Biscoe P.V., Scott R.K., Monteith J.L. (1975) Barley and its environment. III. Carbon budget of the stand. *Journal of Applied Ecology* 12:269-291.
- Black C.R., Tang D.Y., Ong C.K., Solon A., Simmonds L.P. (1985) Effects of soil moisture on water relations and water use of groundnut stands. *New Phytologist* 100:313-328.
- Bolstad P.V., Davis K.J., Martin J., Cook B.D., Wang W. (2004) Component and whole-system respiration fluxes in northern deciduous forests. *Tree Physiology* 24:493-504.
- Boone R.D., Nadelhoffer K.J., Canary J.D. (1998) Roots exert a strong influence on the temperature sensitivity of soil respiration. *Nature* 396:570-572.
- Boote K. J. (1982) Growth stages of peanut (*Arachis hypogaea*. L.). *Peanut Science* 9:40-44.
- Borken W., Xu Y. J., Brumme R., Lamersdorf N. (1999) A climate change scenario for carbon dioxide and dissolved organic carbon fluxes from a temperate forest soil: drought and rewetting effects. *Soil Science Society of America Journal* 63:1848-1855.

- Borken W., Savage K., Davidson E.A., Trumbore S.E. (2006) Effects of experimental drought on soil respiration and radiocarbon efflux from a temperate forest soil. *Global Change Biology* 12: 177-193.
- Borken W., Davidson E.A., Savage K., Gaudinski J., Trumbore S.E. (2003) Drying and wetting effects on carbon dioxide release from organic horizons. *Soil Science Society of America Journal* 67:1888-1896.
- Cable J.M., Huxman T.E. (2004) Precipitation pulse size effects on Sonoran Desert soil microbial crusts. *Oecologia* 141:317-324.
- Cable J.M., Ogle K., Williams D.G., Weltzin J.F., Huxman T.E. (2008) Soil texture drives responses of soil respiration to precipitation pulses in the Sonoran desert: implications for climate change. *Ecosystems* 11:961-979.
- Canadell J.G., Mooney H.A., Baldocchi D.D., Berry J.A., Ehleringer J.R., Field C.B., Gower S.T., Hollinger D.Y., Hunt J.E., Jackson R.B., Running S.W., Shaver G.R., Steffen W., Trumbore S.E., Valentini R., Bond B.Y. (2000) Commentary: carbon metabolism of the terrestrial biosphere: a multitechnique approach for improved understanding. *Ecosystems* 3:115-130.
- Cao M.K., Woodward F.I. (1998a) Net primary and ecosystem production and carbon stocks of terrestrial ecosystems and their responses to climate change. *Global Change Biology* 4:185-198.
- Cao M.K., Woodward F.I. (1998b) Dynamic responses of terrestrial ecosystem carbon cycling to global climate change. *Nature* 393:249-252.
- Carrara A., Kowalski A.S., Neiryneck J., Janssens I.A., Yuste J.C., Ceulemans R. (2003) Net ecosystem CO₂ exchange of mixed forest in Belgium over 5 years. *Agricultural and Forest Meteorology* 119:209-227.

- Chapman S.C., Ludlow M.M., Blamey F.P.C., Fischer K.S. (1993) Effect of drought during early reproductive development on growth of cultivars of groundnut (*Arachis hypogaea* L.) .1. Utilization of radiation and water during drought. *Field Crops Research* 32:193-210.
- Chen D., Molina J.A.E., Clapp C.E., Venterea R.T., Palazzo A.J. (2005) Corn root influence on automated measurement of soil carbon dioxide concentration. *Soil Science* 170:779-787.
- Chen S., Lin G., Huang J., He M. (2008) Responses of soil respiration to simulated precipitation pulses in semiarid steppe under different grazing regimes. *Journal of Plant Ecology* 1:237-246.
- Cleveland C.C., Nemergut D.R., Schmidt S.K., Townsend A.R. (2006) Increases in soil respiration following labile carbon additions linked to rapid shifts in soil microbial community composition. *Biogeochemistry*. DOI: 10.1007/s10533-006-9065-z.
- Clifford S.C., Stronach I.M., Mohamed A.D., Azam-Ali S.N., Crout N.M.J. (1993) The effects of elevated atmospheric carbon dioxide and water stress on light interception, dry matter production and yield in stands of groundnut (*Arachis hypogaea* L.). *Journal of Experimental Botany* 44:1763-1770.
- Collino D.J., Dardanelli J.L., Sereno R., Racca R.W. (2001) Physiological responses of argentine peanut varieties to water stress. Light interception, radiation use efficiency and partitioning of assimilates. *Field Crops Research* 70:177-184.
- Conant R.T., Klopatek J.M., Dalla-Betta P., Klopatek C.C. (2004) Controls on soil respiration in semiarid soils. *Soil Biology and Biochemistry* 36:945-951.

- Cooter E.J., Richman M.B., Lamb P.J., Sampson D.A. (2000) A climate change database for biological assessments in the Southeastern United States: development and case study. *Climatic Change* 44:89-121.
- Cox F.R. (1979) Effect of temperature treatment on peanut vegetative and fruit growth. *Peanut Science* 6:14-17.
- Craine J.W., Wedin D.A., Chapin F.S. (1999) Predominance of ecophysiological controls on soil CO₂ flux in a Minnesota grassland. *Plant and Soil* 207:77–86.
- Craufurad P.Q., Wheeler T.R., Ellis R.H., Summerfield R.J., Prasad P.V.V. (2000) Escape and tolerance to high temperature at flowering in groundnut. *Journal of Agricultural Science* 135:371-378.
- Curiel Yuste J., Janssens I.A., Carrara A., Meiresonne L., Ceulemans R. (2003) Interactive effects of temperature and precipitation on soil respiration in a temperate maritime pine forest. *Tree Physiol* 23:1263-1270.
- Davidson E.A., Trumbore S.E. (1995) Gas diffusivity and production of CO₂ in deep soils of the eastern Amazon. *Tellus Series B-Chemical and Physical Meteorology* 47:550-565.
- Davidson E.A., Belk E., Boone R.D. (1998) Soil water content and temperature as independent or confounded factors controlling soil respiration in a temperate mixed hardwood forest. *Global Change Biology* 4:217-227.
- Davidson E.A., Trumbore S.E., Amundson R. (1999) Soil warming and organic carbon content. *Nature* 408:789-790.
- Davidson E.A., Ishida F.Y., Nepstad D.C. (2004) Effects of an experimental drought on soil emissions of carbon dioxide, methane, nitrous oxide, and nitric oxide in a moist tropical forest. *Global Change Biology* 10:718-730.

- Davidson E.A., Janssens I.A., Luo Y. (2006) On the variability of respiration in terrestrial ecosystems: moving beyond Q_{10} . *Global Change Biology* 12:154-164.
- Davidson E.A., Savage K., Verchot L.V., Navarro R. (2002) Minimizing artifacts and biases in chamber-based measurements of soil respiration. *Agricultural and Forest Meteorology* 113:21-37.
- Davidson E.A., Nepstad D.C., Ishida F.Y., Brando P.M. (2008) Effects of an experimental drought and recovery on soil emissions of carbon dioxide, methane, nitrous oxide, and nitric oxide in a moist tropical forest. *Global Change Biology* 14:2582-2590.
- Davidson E.A., Verchot L.V., Cattanio H.J., Ackerman I.L., Carvalho J.E.M. (2000) Effects of soil water content on soil respiration in forest and cattle pastures of eastern Amazonia. *Biogeochemistry* 48:53-69.
- DeSutter T.M., Sauer T.J., Parkin T.B., J.L. H. (2008) A subsurface, closed-loop system for soil carbon dioxide and its application to the gradient efflux approach. *Soil Science Society of America Journal* 72:126-134.
- Dilustro J.J., Collins B., Duncan L., Crawford C. (2005) Moisture and soil texture effects on soil CO₂ efflux components in southeastern mixed pine forests. *Forest Ecology and management* 204:85-95.
- Drewitt G.B., Black T.A., Nestic Z., Humphreys E.R., Jork E.M., Swanson R., Ethier G.J., Griffis T., Morgenstern K. (2002) Measuring forest-floor CO₂ fluxes in a Douglas-fir forest. *Agricultural and Forest Meteorology* 110:299-317.

Dwivedi S.L., Nigam S.N., Rao R.C.N., Singh U., Rao K.V.S. (1996) Effect of drought on oil, fatty acids and protein content of groundnut seeds. *Field Crops Research* 48:125-133.

Ekblad A., Bostrom B., Holm A., Comstedt D. (2005) Forest soil respiration rate and delta C-13 is regulated by recent above ground weather conditions. *Oecologia* 143:136-142.

Epron D., Farque L., Lucot E., Badot P.M. (1999) Soil CO₂ efflux in a beech forest: dependence on soil temperature and soil water content. *Annals of Forest Science* 56:221-226.

Erickson P.I., JKetring D.L. (1985) Evaluation of genotypes for resistance to water stress *in situ*. *Crop Science* 25:870-876.

Falge E., Baldocchi D., Olson R., Anthoni P., Aubinet M., Bernhofer C., Burba G., Ceulemans R., Clement R., Dolman H., Granier A., Gross P., Grunwald T., Hollinger D., Jensen N.O., Katul G., Keronen P., Kowalski A., Lai C.T., Law B.E., Meyers T., Moncrieff H., Moors E., Munger J.W., Pilegaard K., Rannik U., Rebmann C., Suyker A., Tenhunen J., Tu K., Verma S., Vesala T., Wilson K., Wofsy S. (2001a) Gap filling strategies for defensible annual sums of net ecosystem exchange. *Agricultural and Forest Meteorology* 107:43-69.

Falge E., Baldocchi D., Olson R., Anthoni P., Aubinet M., Bernhofer C., Burba G., Ceulemans G., Clement R., Dolman H., Granier A., Gross P., Grunwald T., Hollinger D., Jensen N.O., Katul G., Keronen P., Kowalski A., Lai C.T., Law B.E., Meyers T., Moncrieff J., Moors E., Munger J.W., Pilegaard K., Rannik U., Rebmann C., Suyker A., Tenhunen J., Tu K., Verma S., Vesala T., Wilson

- K., Wofsy S. (2001b) Gap filling strategies for long term energy flux data sets. *Agricultural and Forest Meteorology* 107:71-77.
- Falk M., Paw U K.T., Wharton S., Schroeder M. (2005) Is soil respiration a major contributor to the carbon budget within a Pacific Northwest old-growth forest? *Agricultural and Forest Meteorology* 135:269-283.
- Fang C., Moncrieff J.B. (1996) An improved dynamic chamber technique for measuring CO₂ efflux from the surface of soil. *Functional Ecology* 10:297-305.
- Fang C., Moncrieff J.B. (1999) A model for soil CO₂ production and transport I: model development. *Agricultural and Forest Meteorology* 95:225-236.
- Fierer N., Schimel J.P. (2003) A proposed mechanism for the pulse in carbon dioxide production commonly observed following the rapid rewetting of a dry soil. *Soil Science Society of America Journal* 67:798-805.
- Foken T., Göckede M., Mauder M., Mahrt L., Amiro B., Munger W. (2004) Post-field data quality control, in: X. Lee, W. Massman, B. Law (Eds.), *Handbook of micrometeorology: a guide for surface flux measurement and analysis*. Kluwer Academic Publishers, Dordrecht, pp. 181-208.
- Foken T.H., Wichura B. (1996) Tools for quality assessment of surface-based flux measurements. *Agricultural and Forest Meteorology* 78:83-105.
- Fu Y.L., Yu G.R., Sun X.M., Li Y.N., Wen X.F., Zhang L.M., Li Z.Q., Zhao L., Hao Y.B. (2006) Depression of net ecosystem CO₂ exchange in semi-arid *Leymus chinensis* steppe and alpine shrub. *Agricultural and Forest Meteorology* 137:234-244.

- Gaumont-Guay D., Black T.A., Griffis T.J., Barr A.G., Jassal R.S., Nesic Z. (2006) Interpreting the dependence of soil respiration on soil temperature and water content in a boreal aspen stand. *Agricultural and Forest Meteorology* 140:220-235.
- Gessler A., Keitel C., Nahm M., Rennenberg H. (2004) Water shortage affects the water and nitrogen balance in Central European beech forests. *Plant Biology* (Stuttgart, Germany) 6:289-98.
- Golombex S.D., Johansen C. (1997) Effect of soil temperature on vegetative and reproductive growth and development in three Spanish genotypes of peanut (*Arachis hypogaea* L.). *Peanut Science* 24:67-72.
- Goulden M.L. (1996) Carbon assimilation and water-use efficiency by neighboring Mediterranean-climate oaks that differ in water access. *Tree Physiol* 16:417-24.
- Goulden M.L., Crill P.M. (1997) Automated measurements of CO₂ exchange at the moss surface of a black spruce forest. *Tree Physiol* 17:537-542.
- Goulden M.L., Munger J.W., Fan S.-M., Daube B.C., Wofsy S.C. (1996) Measurements of carbon sequestration by long-term eddy covariance: method and a critical evaluation of accuracy. *Global Change Biology* 2:169-182.
- Goulden M.L., Daube B.C., Fan S.-M., Sutton D.J., Bazzaz A., Munger J.W., Wofsy S.C. (1997) Physiological responses of a black spruce forest to weather. *Journal of Geophysical Research* 102:28987-28996.
- Graf A., Weihermüller L., Huisman J.A., Herbst M., Bauer J., H. V. (2008) Measurement depth effects on the apparent temperature sensitivity of soil respiration in field studies. *Biogeosciences* 5:1175-1188.

- Granier, A., Reichstein, M., Bréda, N., Janssens, I.A., Falge, E., Ciais, P., Grünwald, T., Aubinet, M., Berbigier, P., Bernhofer, C., Buchmann, N., Facini, O., Grassi, G., Heinesch, B., Ilvesniemi, H., Keronen, P., Knohl, A., Köstner, B., Lagergren, F., Lindroth, A., Longdoz, B., Loustau, D., Mateus, J., Montagnani, L., Nyst, C., Moorsu, E., Papale, D., Peiffer, M., Pilegaard, K., Pita, G., Pumpanen, J., Rambal, S., Rebmann, C., Rodrigues, A., Seufert, G., Tenhunen, J., Vesala, T., Wang, Q. (2007) Evidence for soil water control on carbon and water dynamics in European forests during the extremely dry year: 2003. *Agricultural and Forest Meteorology* 143:123-145.
- Griffis T.J., Black T.A., Gaumont-Guay D., Drewitt G.B., Nesic Z., Barr A.G., Morgenstern K., Kljun N. (2004) Seasonal variation and partitioning of ecosystem respiration in a southern boreal aspen forest. *Agricultural and Forest Meteorology* 125:207–223.
- Hammerle A., Haslwanter A., Schmitt M., Bahn M., Tappeiner U., Cernusca A., Wohlfahrt G. (2007) Eddy covariance measurements of carbon dioxide, latent and sensible energy fluxes above a meadow on a mountain slope. *Boundary-Layer Meteorology* 122:397-416.
- Han G., Zhou G., Xu Z., Yang Y., Liu J., Shi K. (2007) Biotic and abiotic factors controlling the spatial and temporal variation of soil respiration in an agricultural ecosystem. *Soil Biology and Biochemistry* 39:418-425.
- Hanson P.J., Wullschleger S.D., Bohlman S.A., Todd D.E. (1993) Seasonal and topographic patterns of forest floor CO₂ efflux from upland oak forest. *Tree Physiology* 13:1-15.

- Hao Y., Wang Y., Mei X., Huang X., Cui X., Zhou X., Niu H. (2008) CO₂, H₂O and energy exchange of an Inner Mongolia steppe ecosystem during a dry and wet year. *Acta Oecologica* 33:133-143.
- Harper C.W., Blair J.M., Fay P.A., Knapp A.K., Carlisle J.D. (2005) Increased rainfall variability and reduced rainfall amount decreases soil CO₂ flux in a grassland ecosystem. *Global Change Biology* 11:322-334.
- Hastings S.J., Oechel W.C., Muhlira-Melo A. (2005) Diurnal, seasonal and annual variation in the net ecosystem CO₂ exchange of a desert shrub community (Sarcocaulis) in Baja California, Mexico. *Global Change Biology* 11:927-939.
- Hibbard K.A., Law B.E., Reichstein M., Sulzman J. (2005) An analysis of soil respiration across northern hemisphere temperate ecosystems. *Biogeochemistry* 73:29-70.
- Hirano T., Kim H., Tanaka Y. (2003) Long-term half-hourly measurement of soil CO₂ concentration and soil respiration in a temperate deciduous forest. *Journal of Geophysical Research-Atmospheres* 108. DOI: 10.1029/2003JD003766.
- Hirsch A.I., Trumbore S.E., Goulden M.L. (2004) The surface CO₂ gradient and pore-space storage flux in a high-porosity litter layer. *Tellus Series B, Chemical and physical meteorology* 56:312-321.
- Högberg P., Nordgren A., Buchmann N., Taylor A.F.S., Ekblad A., Högberg M.N., Nyberg G., Ottosson-Löfvenius M., Read D.J. (2001) Large-scale forest girdling shows that current photosynthesis drives soil respiration. *Nature* 411:789-792.

- Højstrup J. (1993) A statistical data screening procedure. *Measurement Science and Technology* 4:153-157.
- Hollinger D.Y., Goltz S.M., Davidson E.A., Lee J.T., Tu K., Valentine H.T. (1999) Seasonal patterns and environmental control of carbon dioxide and water vapour exchange in an ecotonal boreal forest. *Global Change Biology* 5:891-902.
- Holst J., Barnard R., Brandes E., Buchmann N., Gessler A., Jaeger L. (2008) Impacts of summer water limitation on the carbon balance of a Scots pine forest in the southern upper Rhine plain. *Agricultural and Forest Meteorology* 148:1815-1826.
- Howard R.A., Howard P.J.A. (1993) Relationships between CO₂ evolution, moisture-content and temperature for a range of soil types. *Soil Biology and Biochemistry* 25:1537-1546.
- Hsiao T.C. (1990) Plant-atmosphere interactions, evaporation, and irrigation scheduling. *Acta Horticulturae* 278:55-66.
- Hui D.F., Wan S.Q., Su B., Katul G., Monson R., Luo Y.Q. (2004) Gap-filling missing data in eddy covariance measurements using multiple imputation (MI) for annual estimations. *Agricultural and Forest Meteorology* 121:93-111.
- Hunt J.E., Kelliher F.M., McSeveny T.M., Byers J.N. (2002) Evaporation and carbon dioxide exchange between the atmosphere and a tussock grassland during a summer drought. *Agricultural and Forest Meteorology* 111:65-82.
- Hutchinson G.L., Livingston G.P. (2002) Soil-atmosphere gas exchange, in: J. H. Dane and G. C. Topp (Eds.), *Methods of soil analysis Part 4-Physical*

Methods, Soil Science Society of America Book Series 5, Soil Science Society of America, Madison, Wisconsin. pp. 1159-1182.

Hutchinson J.J., Campbell C.A., Desjardins R.L. (2007) Some perspectives on carbon sequestration in agriculture. *Agricultural and Forest Meteorology* 142:288-302.

Huxman T.E., Turnipseed A.A., Sparks J.P., Harley P.C., Monson R.K. (2003) Temperature as a control over ecosystem CO₂ fluxes in a high-elevation, subalpine forest. *Oecologia* 134:537-546.

Huxman T.E., Snyder K.A., Tissue D., Leffler A.J., Ogle K., Pockman W.T., Sandquist D.R., Potts D.L., Schwinning S. (2004) Precipitation pulses and carbon fluxes in semiarid and arid ecosystems. *Oecologia* 141:254-268.

IPCC. (2007) *Climate Change 2007: The Physical science basis*. Cambridge University Press, New York.

Iyamada I., Hasegawa S. (2005) Gas diffusion coefficient of undisturbed peat soils. *Soil Science and Plant Nutrition* 51:431-435.

Jacobson M.C., Charlson R.J., Rodhe H., Orians G.H. (2000) *Earth System Science*. Academic Press, California.

Jain L.L., Panda R.K., Sharma C.P. (1997) Water stress response function for groundnut (*Arachis hypogaea* L.). *Agricultural Water Management* 32:197-209.

Janssens I.A., Dore S., Epron D., Lamkreijer H., Buchmann N., Longdoz B., Brossaud J., Montagnani L. (2003) Climatic influences on seasonal and spatial differences in soil CO₂ efflux, in: R. Valentini (Ed.), *Fluxes of Carbon, Water and Energy of European Forests*. Ecological Studies. Springer, Berlin.

- Janssens I.A., Lankreijer H., Matteucci G., Kowalski A.S., Buchmann N., Epron D., Pilegaard K., Kutsch W., Longdoz B., Grunwald T., Montagnani L., Dore S., Rebmann C., Moors E.J., Grelle A., Rannik U., Morgenstern K., Clement R., Oltchev S., Gudmundsson J., Minerbi S., Berbigier P., Ibrom A., Moncrieff J., Aubinet M., Bernhofer C., Jensen N.O., Vesala T., Granier A., Schulze E.-D., Lindroth A., Dolman A.J., Jarvis P.G., Ceulmans R., Valentini R. (2001) Productivity overshadows temperature in determining soil and ecosystem respiration across European forests. *Global Change Biology* 7:269–278.
- Jarvis P., Rey A., Petsikos C., Wingate L., Rayment M., Pereira J., Banza J., David J., Miglietta F., Borghetti M., Manca G., Valentini R. (2007) Drying and wetting of Mediterranean soils stimulates decomposition and carbon dioxide emission: the "Birch effect". *Tree Physiology* 27:929-940.
- Jarvis P.G., Mcnaughton K.G. (1986) Stomatal Control of Transpiration - Scaling up from Leaf to Region. *Advances in Ecological Research* 15:1-49.
- Jassal R.S., Black T.A., Novak M.D., Gaumont-Guay D., Nescic Z. (2008) Effect of soil water stress on soil respiration and its temperature sensitivity in an 18-year-old temperate Douglas-fir stand. *Global Change Biology* 14:1305-1318.
- Jassal R.S., Black T.A., Drewitt G.B., Novak M.D., Gaumont-Guay D., Nescic Z. (2004) A model of the production and transport of CO₂ in soil: predicting soil CO₂ concentrations and CO₂ efflux from a forest floor. *Agricultural and Forest Meteorology* 124:219-236.
- Jassal R.S., Black T.A., Novak M.D., Morgenstern K., Nescic Z., Gaumont-Guay D. (2005) Relationship between soil CO₂ concentrations and forest-floor CO₂ effluxes. *Agricultural and Forest Meteorology* 130:176-192.

- Jaynes D.B., Rogowski A.S. (1983) Applicability of Fick's law to gas diffusion. Soil Science Society of America Journal:425-430.
- Jenkinson D.S., Harkness D.D., Vance E.D., Adams D.E., Harrison A.F. (1992) Calculating net primary production and annual input of organic matter to soil from the amount and radiocarbon content of soil organic matter. Soil Biology and Biochemistry 24:295-308.
- Jia B., Zhou G., Wang Y., Wang F., Wang X. (2006) Effects of temperature and soil water content on soil respiration of grazed and ungrazed *Leymus chinensis* steppes, Inner Mangolia. Journal of Arid Environments 67:60-67.
- Jin Y., Jury W.M. (1996) Characterizing the dependence of gas diffusion coefficient on soil properties. Soil Science Society of America Journal 60:66-71.
- Jones H.G. (1992) Plants and microclimate: a quantitative approach to environmental plant physiology Cambridge University Press, New York.
- Jury W.A., Gardner W.R., Gardner W.H. (1991) Soil Physics Wiley, New York.
- Keith H., Jacobsen K.L., Raison R.J. (1997) Effects of soil phosphorus availability, temperature and moisture on soil respiration in *Eucalyptus pauciflora* forest. Plant and Soil 190:127-141.
- Kennedy A.D. (1995) Antarctic Terrestrial Ecosystem Response to Global Environmental-Change. Annual Review of Ecology and Systematics 26:683-704.
- Kim J., Verma S.B. (1990) Carbon dioxide exchange in a temperate grassland ecosystem. Boundary-Layer Meteorology 52:135-149.

- Kirschbaum M.U.F. (1995) The temperature dependence of soil organic matter decomposition, and the effect of global warming on soil organic C storage. *Soil Biology and Biochemistry* 27:753-760.
- Lai S.H., Tiedje J.M., Erickson A.E. (1976) In situ measurement of gas diffusion coefficient in soils. *Soil Science Society of America Journal* 40:3-6.
- Lal R., Kimble J., Stewart B.A. (1995) World soils as a source or sink for radiatively-active gases. *Advances in Soil Science* 6:1-2.
- Larcher W. (2003) *Physiological Plant Ecology* Springer, Berlin.
- Laubach J., Fritsch H. (2002) Convective boundary layer budgets derived from aircraft data. *Agricultural and Forest Meteorology* 111:237-263.
- Lauriano J.A., Ramalho J.C., Lidon F.C., do Céu Matos M. (2004) Peanut Photosynthesis Under Drought and Re-Watering. *Photosynthetica* 42:37-41.
- Law B.E., Kelliher F.M., Baldocchi D.D., Anthoni P.M., Irvine J., Moore D., Van Tuyl S. (2001a) Spatial and temporal variation in respiration in a young ponderosa pine forests during a summer drought. *Agricultural and Forest Meteorology* 110:27-43.
- Law B.E., Goldstein A.H., Anthoni P.M., Unsworth M.H., Panek J.A., Bauer M.R., Fracheboud J.M., Hultman N. (2001b) Carbon dioxide and water vapor exchange by young and old ponderosa pine ecosystems during a dry summer. *Tree Physiol* 21:299-308.
- Law B.E., Falge E., Gu L., Baldocchi D.D., Bakwin P., Berbigier P., Davis K., Dolman A.J., Falk M., Fuentes J.D., Goldstein A., Granier A., Grelle A., Hollinger D., Janssens I.A., Jarvis P., Jensen N.O., Katul G., Mahli Y., Matteucci G., Meyers T., Monson R., Munger W., Oechel W., Olson R.,

Pilegaard K., Paw K.T., Thorgeirsson H., Valentini R., Verma S., Vesala T., Wilson K., Wofsy S. (2002) Environmental controls over carbon dioxide and water vapor exchange of terrestrial vegetation. *Agricultural and Forest Meteorology* 113:97-120.

Lee M.S., Nakane K., Nakatsubo T., Mo W.H., Koizumi H. (2002) Effects of rainfall events on soil CO₂ flux in a cool temperate deciduous broad-leaved forest. *Ecological Research* 17:401-409.

Lee X. (1998) On micrometeorological observations of surface-air exchange over tall vegetation. *Agricultural and Forest Meteorology* 91:39-49.

Lee X., Black T.A., Hartog G.D., Neumann H.H., Nesic Z., Olejnik J. (1996) Carbon dioxide exchange and nocturnal processes over a mixed deciduous forest. *Agricultural and Forest Meteorology* 81:13-29.

Li S.G., Asanuma J., Eugster W., Kotani A., Liu J.J., Urano T., Oikawa T., Davaa G., Oyunbaatar D., Sugita M. (2005) Net ecosystem carbon dioxide exchange over grazed steppe in central Mongolia. *Global Change Biology* 11:1941-1955. Liang N.S., Nakadai T., Hirano T., Qu L.Y., Koike T., Fujinuma Y., Inoue G. (2004) In situ comparison of four approaches to estimating soil CO₂ efflux in a northern larch (*Larix kaempferi* Sarg.) forest. *Agricultural and Forest Meteorology* 123:97-117.

Lindroth A., Grelle A., Moren A.S. (1998) Long-term measurements of boreal forest carbon balance reveal large temperature sensitivity. *Global Change Biology* 4:443-450.

- Liu X.Z., Wan S.Q., Su B., Hui D.F., Luo Y.Q. (2002) Response of soil CO₂ efflux to water manipulation in a tallgrass prairie ecosystem. *Plant and Soil* 240:213-223.
- Lloyd J., Taylor J.A. (1994) On the Temperature-Dependence of Soil Respiration. *Functional Ecology* 8:315-323.
- Lokupitiya E., Paustian K. (2006) Agricultural soil greenhouse gas emissions: a review of national inventory methods. *Journal of Environmental Quality* 35:1413-1427.
- Loustau D., Berbigier P., Roumagnac P., ArrudaPacheco C., David J.S., Ferreira M.I., Pereira J.S., Tavares R. (1996) Transpiration of a 64-year-old maritime pine stand in Portugal. 1. Seasonal course of water flux through maritime pine. *Oecologia* 107:33-42.
- Lund C.P., Riley W.J., Pierce L.L., Field C.B. (1999) The effects of chamber pressurization for *NEE* measurements under elevated CO₂. *Global Change Biology* 5:269-281.
- Lundegårdh H. (1927) Carbon dioxide evolution of soil and crop growth. *Soil Science* 23:417-453.
- Marshall T.J. (1959) Gas diffusion in porous media. *Science* 130:100-102.
- Michaelis L., Menten M.L. (1913) Die Kinetik der Invertinwirkung. *Biochemisches Zeitschrift* 49:333-369.
- Mielnick P.C., Dugas W.A. (2000) Soil CO₂ flux in a tall-grass prairie. *Soil Biology and Biochemistry* 32:221-228.
- Millington R.J. (1959) Gas diffusion in porous media. *Science* 130:100-102.

- Millington R.J., Quirk J.M. (1960) Transport in porous media, in: F. A. Van Beren (Ed.), Transactions of the Seventh International Congress on Soil Science. Elsevier, Wisconsin, pp. 97-106.
- Millington R.J., Quirk J.P. (1961) Permeability of porous solids. Transactions of the Faraday Society 57:1200-1207.
- Mohandas S., Radhakrishnan R., Panchanadhan R.M., Kandaswamy P. (1989) Diurnal pattern of plant water relations of groundnut under water stress and potassium nutrition. Journal of Agronomy and Crop Science 163:18-20.
- Moldrup P., Kruse C.W., Rolston D.E., Yamaguchi T. (1996) Modeling diffusion and reaction in soils: III. Predicting gas diffusivity from the Campbell soil-water retention model. Soil Science 161:366-375.
- Moldrup P., Olesen T., Rolston D.E., Yamaguchi T. (1997) Modeling diffusion and reaction in soils: VII. Predicting gas and ion diffusivity in undisturbed and sieved soils. Soil Science 162:632-640.
- Moldrup P., Olesen T., Yamaguchi T., Rolston D.E. (1999) Modeling diffusion and reaction in soils: IX. The Buckingham-Burdine-Campbell equation for gas diffusivity in undisturbed soil. Soil Science 164:542-551.
- Moldrup P., Olesen T., Yoshikawa S., Komatsu T., Rolston D.E. (2004) Three-Phase Porosity Model for predicting the gas diffusion coefficient in undisturbed soil. Soil Science Society of America Journal 68:750-759.
- Moldrup P., Olesen T., Gamst J., Schjønning P., Yamaguchi T., D.E. R. (2000) Predicting the gas diffusion coefficient in repacked soil: water-induced linear reduction model. Soil Science Society of America Journal 64:1588-1594.

- Moncrieff J.B., Fang C. (1999) A model for soil CO₂ production and transport. 2. Application to a Florida *Pinus elliottii* plantation. *Agricultural and Forest Meteorology* 95:237-256.
- Monteith J.L., Unsworth M.H. (1990) *Principles of Environmental Physics* Edward Arnold, London.
- Moureaux C., Debacq A., Bodson B., Heinesch B., Aubinet M. (2006) Annual net ecosystem carbon exchange by a sugar beet crop. *Agricultural and Forest Meteorology* 139:25-39.
- Myklebust M.C., Hips L.E., Ryel R.J. (2008) Comparison of eddy covariance, chamber, and gradient methods of measuring soil CO₂ efflux in an annual semi-arid grass, *Bromus tectorum*. *Agricultural and Forest Meteorology* 148:1894-1907.
- Nakano T., Nemoto M., Shinoda M. (2008) Environmental controls on photosynthetic production and ecosystem respiration in semi-arid grasslands of Mongolia. *Agricultural and Forest Meteorology* 148:1456-1466.
- Nautiyal P.C., Ravindra V., Joshi Y.C. (1995) Gas-Exchange and Leaf Water Relations in 2 Peanut Cultivars of Different Drought Tolerance. *Biologia Plantarum* 37:371-374.
- Oguntunde P. (2005) Whole-Plant Water use and Canopy Conductance of Cassava Under limited Available Soil Water and Varying Evaporative Demand. *Plant and Soil* 278:371-383.
- Papale D., Valentini R. (2003) A new assessment of European forests carbon exchanges by eddy fluxes and artificial neural network spatialization. *Global Change Biology* 9:525-535.

- Papale D., Reichstein M., Aubinet M., Canfora E., Bernhofer C., Kutsch W., Longdoz B., Rambal S., Valentini R., Vesala T., Yakir D. (2006) Towards a standardized processing of Net Ecosystem Exchange measured with eddy covariance technique: algorithms and uncertainty estimation. *Biogeosciences* 3:571-583.
- Parkin T.B., Kaspar T.C. (2003) Temperature controls on diurnal carbon dioxide flux: Implications for estimating soil carbon loss. *Soil Science Society of America Journal* 67:1763-1772.
- Parkin T.B., Kaspar T.C., Senwo Z., Prueger J.H., Hatfield J.L. (2005) Relationship of soil respiration to crop and landscape in the walnut creek watershed. *Journal of Hydrometeorology* 6:812-824.
- Patrick L., Cable J., Potts D., Ignace D., Barron-Gafford G., Griffith A., Alpert H., Van Gestel N., Robertson T., Huxman T., Zak J., Loik M., Tissue D. (2007) Effects of an increase in summer precipitation on leaf, soil, and ecosystem fluxes of CO₂ and H₂O in a sotol grassland in Big Bend National Park, Texas. *Oecologia* 151:704-718.
- Pavelka M., Acosta M., Marek M.V., Kutsch W., Janous D. (2007) Dependence of the Q_{10} values on the depth of the soil temperature measuring point. *Plant and Soil* 292:171-179.
- Peng S., Piao S., Wang T., Sun J., Shen Z. (2008) Temperature sensitivity of soil respiration in different ecosystems in China. *Soil Biology and Biochemistry* 41:1008-1014.
- Penman H.L. (1940) Gas and vapour movement in the soil. I. The diffusion of vapours through porous solids. *Journal of Agricultural Science* 30:437-462.

- Prasad P.V.V., Craufurd P.Q., Summerfield R.J. (2000) Effect of high air and soil temperature on dry matter production, pod yield and yield components of groundnut. *Plant and Soil* 222:231-239.
- Pumpanen J., Ilvesniemi H., Kulmala L., Siivola E., Laakso H., Kolari P., Helenelund C., Laakso M., Uusimaa M., Hari P. (2008) Respiration in Boreal forest soil as determined from carbon dioxide concentration profile. *Soil Science Society of America Journal* 72:1187-1196.
- Raich J.W., Schlesinger W.H. (1992) The global carbon dioxide flux in soil respiration and its relationship to vegetation and climate. *Tellus Series B* 44:81-99.
- Raich J.W., Potter C.S. (1995) Global patterns of carbon dioxide emissions from soil. *Global Biogeochemical Cycles* 9:23-36.
- Raich J.W., Potter C.S., Bhagawati D. (2002) Interannual variability in global soil respiration, 1980-94. *Global Change Biology* 8:800-812.
- Rambal S., Debussche G. (1995) Water balance of Mediterranean ecosystems under a changing climate, in: J. M. Moreno and W. C. Oechel (Eds.), *Global Change and Mediterranean-Type Ecosystems*. Springer, New York, pp. 386-407.
- Rannik Ü., Vesala T. (1999) Autoregressive filtering versus linear detrending in estimation of fluxes by the eddy covariance method. *Boundary-Layer Meteorology* 91:259-280.
- Rawson H.M., Turner N.C., Begg J.E. (1978) Agronomic and physiological responses to soy bean and sorghum crop to water deficits IV. *Australian Journal of Plant Physiology* 5:195-209.

- Reddy B.V.S., Reddy P.S., Bidinger F., Blummel M. (2003a) Crop management factors influencing yield and quality of crop residues. *Field Crops Research* 84:57-77.
- Reddy T.Y., Reddy V.R., Anbumozhi V. (2003b) Physiological responses of groundnut (*Arachis hypogaea* L.) to drought stress and its amelioration: a critical review. *Plant Growth Regulation* 41:75-88.
- Reichstein M., Tenhunen J.D., Rouspard O., Ourcival J.-M., Rambal S., Dore S., Valentini R. (2002a) Ecosystem respiration in two Mediterranean evergreen Holm Oak forests: drought effects and decomposition dynamics. *Functional Ecology* 16:27-39.
- Reichstein M., Tenhunen J.D., Rouspard O., Ourcival J.M., Rambal S., Miglietta F., Peressotti A., Pecchiari M., Tirone G., Valentini R. (2002b) Severe drought effects on ecosystem CO₂ and H₂O fluxes at three Mediterranean evergreen sites: revision of current hypotheses? *Global Change Biology* 8:999-1017.
- Reichstein M., Falge E., Baldocchi D., Papale D., Aubinet M., Berbigier P., Bernhofer C., Buchmann N., Gilmanov T., Granier A., Grünwald T., Havránková K., Ilvesniemi H., Janous D., Knohl A., Laurila T., Lohila A., Loustau D., Matteucci G., Meyers T. (2005) On the separation of net ecosystem exchange into assimilation and ecosystem respiration: review and improved algorithm. *Global Change Biology* 11:1424-1439.
- Reynolds O. (1895) On the dynamical theory of incompressible viscous fluids and the determination of the criterion. *Philosophical Transactions of the Royal Society of London* 186:123-164.

- Riveros-Iregui D.A., McGlynn B.L., Epstein H.E., Welsch D.L. (2008) Interpretation and evaluation of combined measurement techniques for soil CO₂ efflux: Discrete surface chambers and continuous soil CO₂ concentration probes. *Journal of Geophysical Research Atmospheres* 113. DOI: 10.1029/2008JG000811.
- Riveros-Iregui D.A., Emanuel R.E., Muth D.J., McGlynn B.L., Epstein H.E., Welsch D.L., Pacific V.J., Wraith J.M. (2007) Diurnal hysteresis between soil CO₂ and soil temperature is controlled by soil water content. *Geophysical Research Letters* 34. DOI: 10.1029/2007gl030938.
- Rodeghiero M., Cescatti A. (2005) Main determinants of forest soil respiration along an elevation/temperature gradient in the Italian Alps. *Global Change Biology* 11:1024-1041.
- Ruimy A., Jarvis P.G., Baldocchi D.D., Saugier B., Begon M., Fitter A.H. (1995) CO₂ Fluxes over Plant Canopies and Solar Radiation: A Review, *Advances in Ecological Research*, Academic Press. pp. 1-68.
- Rustad L.E., Huntington T.G., Boone R.D. (2000) Controls on soil respiration: implications for climate change. *Biogeochemistry* 48:1-6.
- Saito M., Miyata A., Nagai H., Yamada T. (2005) Seasonal variation of carbon dioxide exchange in rice paddy field in Japan. *Agricultural and Forest Meteorology* 135:93-109.
- Sallam A., Jury, W.A. and Lettley, J. (1984) Measurement of gas-diffusion coefficient under relatively low air-filled porosity. *Soil Science Society of America Journal* 48:3-6.

- Savage G.P., Keenan J.I. (1994) The composition and nutritive value of groundnut kernels, in: J. Smart (Ed.), *The Groundnut crop: Scientific basis for improvement*. Chapman and Hall, London, 173-213.
- Savage K.E., Davidson E.A. (2001) Interannual variation of soil respiration in two New England forests. *Global Biogeochemical Cycles* 15:337-351.
- Saxena N.P., Natrajan M., Reddy M.S. (1983) Chickpea, pigeonpea, and groundnut, in: W. H. Smith and S. J. Banta (Eds.), *Potential productivity of field crops under different environments*. IRRI, Los Banos, pp. 281-305.
- Schlesinger W.H., Andrews J.A. (2000) Soil Respiration and the Global Carbon Cycle. *Biogeochemistry* 48:7-20.
- Schmid H.P. (1994) Source areas for scalars and scalar fluxes. *Boundary-Layer Meteorology* 67:293-318.
- Scott-Denton L.E., Sparks K.L., Monson R.K. (2003) Spatial and temporal controls of soil respiration rate in a high-elevation, subalpine forest. *Soil Biology and Biochemistry* 35:525-534.
- Seneviratne R., Wild A. (1985) Effect of mils drying on the mineralization of soil nitrogen. *Plant and Soil* 84:175-179.
- Serrano-Ortiz P., Kowalski A., Domingo F., Rey A., Pegoraro E., Villagarcía L., Alados-Arboledas L. (2007) Variations in daytime net carbon and water exchange in a montane shrubland ecosystem in southeast Spain. *Photosynthetica* 45:30-35.
- Shaver G.R., Canadell J., Chapin F.S., Gurevitch J., Harte J., Henry G., Ineson P., Jonasson S., Melillo J., Pitelka L., Rustad L. (2000) Global warming and

terrestrial ecosystems: A conceptual framework for analysis. *Bioscience* 50:871-882.

Shi Z., Li Y., Wang S., Wang G., Ruan H., He R., Tang Y., Zhang Z. (2009) Accelerated soil CO₂ efflux after conversion from secondary oak forest to pine plantation in southeastern China. *Ecological Research*. DOI: 10.1007/s11284-009-0609-2.

Shimizu Y., Hajima T., Omasa K. (2005) Assessments of climate change impacts on the terrestrial ecosystem in Japan using the Bio-Geographical and GeoChemical (BGGC) Model, in : K. Omasa, I. Nouchi I, and L.J. De Kok (Eds.), *Plant Responses to Air Pollution and Global Change*. Springer-Verlag, Tokyo, pp. 235-240.

Sims P.L., Bradford J.A. (2001) Carbon dioxide fluxes in a southern plains prairie. *Agricultural and Forest Meteorology* 109:117-134.

Simunek J., Sejna M., van Genuchten M.T. (1999) The HYDRUS-2D software package for simulating two-dimensional movement of water, heat, and multiple solutes in variably saturated media IGWC. Golden, Colorado.

Smart D.R., Penuelas J. (2005) Short-term CO₂ emission from planted soil subject to elevated CO₂ and simulated precipitation. *Soil Ecology* 28:247-257.

Steenwerth K.L., Jackson L.E., Calderón F.J., Scow K.M., Rolston D.E. (2005) Response of microbial community composition and activity in agricultural and grassland soils after a simulated rainfall. *Soil Biology and Biochemistry* 37:2249-2262.

- Stolbovoi V. (2003) Soil respiration and its role in Russia's terrestrial C flux balance for the Kyoto baseline year. *Tellus Series B, Chemical and physical meteorology* 55:258-269.
- Stull R.B. (1988) *An Introduction to Boundary Layer Meteorology*. Kluwer Academic Publishers, Dordrecht.
- Subke J.A., Tenhunen J.D. (2004) Direct measurements of CO₂ flux below a spruce forest canopy. *Agricultural and Forest Meteorology* 126:157-168.
- Subramaniam V.B., Maheswari M. (1990) Physiological responses of groundnut to water stress. *Indian Journal of Plant Physiology* 33:130-135.
- Suyker A.E., Verma S.B. (2001) Year-round observations of the net ecosystem exchange of carbon dioxide in a native tallgrass prairie. *Global Change Biology* 7:279-289.
- Suyker A.E., Verma S.B., Burba G.G., Arkebauer T.J., Walters D.T., Hubbard K.G. (2004) Growing season carbon dioxide exchange in irrigated and rainfed maize. *Agricultural and Forest Meteorology* 124:1-13.
- Tang J., Baldocchi D.D., Xu L. (2005a) Tree photosynthesis modulates soil respiration on a diurnal time scale. *Global Change Biology* 11:1298-1304.
- Tang J., Misson L., Gershenson A., Cheng W., Goldstein A. (2005b) Continuous measurements of soil respiration with and without roots in a ponderosa pine plantation in the Sierra Nevada Mountains. *Agricultural and Forest Meteorology* 132:212-227.
- Tang J.W., Baldocchi D.D., Qi Y., Xu L.K. (2003) Assessing soil CO₂ efflux using continuous measurements of CO₂ profiles in soils with small solid-state sensors. *Agricultural and Forest Meteorology* 118:207-220.

- Taylor B.R., Parkinson D., Parsons W.F.J. (1989) Nitrogen and lignin content as predictors of litter decay rates: a microcosm test. *Ecology* 70:97-104.
- Turcu V.E., Jones S.B., Or D. (2005) Continuous soil carbon dioxide and oxygen measurements and estimation of gradient-based gaseous flux. *Vadose Zone Journal* 4:1161-1169.
- Urban O., Janouš D., Acosta M., Czerny R., Marková I., Martin N., Pavelka M., Pokorný R., Šprtová M., Zhang R., Špunda V., Grace J., Marek M.V. (2007) Ecophysiological controls over the net ecosystem exchange of mountain spruce stand. Comparison of the response in direct vs. diffuse solar radiation. *Global Change Biology* 13:157-168.
- USDA. (2004) 2002 Census of Agriculture Volume 1: County Level Data. USDA National Agricultural Statistics Service, Washington D.C.
- Valentini R., Gamon J.A., Field C.B. (1995) Ecosystem Gas Exchange in a California Grassland: Seasonal Patterns and Implications for Scaling. *Ecology* 76:1940-1952.
- van Gestel M., Ladd J.N., Amato M. (1991) Carbon and nitrogen mineralization from two soils of contrasting texture and microaggregate stability: Influence of sequential fumigation, drying and storage. *Soil Biology and Biochemistry* 23:331-322.
- Van Oost K., Quine T.A., Govers G., De Gryze S., Six J., Harden J.W., Ritchie J.C., Mccarty G.W., Heckrath G., Kosmas C., Giraldes J.V., Marques Da Silva J.R., Merckx R. (2007) The impact of agricultural soil erosion on the global carbon cycle. *Science* 318:626-629.

- Vargas R., Allen M.F. (2008a) Dynamics of fine root, fungal rhizomorphs, and soil respiration in a mixed temperate forest: Integrating sensors and observations. *Vadose Zone Journal* 7:1055-1064.
- Vargas R., Allen M.F. (2008b) Diel patterns of soil respiration in a tropical forest after Hurricane Wilma. *Journal of Geophysical Research-Biogeosciences* 113. DOI: 10.1029/2007jg000620.
- Vargas R., Allen M.F. (2008c) Environmental controls and the influence of vegetation type, fine roots and rhizomorphs on diel and seasonal variation in soil respiration. *New Phytologist* 179:460-471.
- Verhoef A., Allen S.J., DeBruin H.A.R., Jacobs C.M.J., Heusinkveld B.G. (1996) Fluxes of carbon dioxide and water vapor from a Sahelian savanna. *Agricultural and Forest Meteorology* 80:231-248.
- Vickers D., Mahrt L. (1997) Quality control and flux sampling problems for tower and aircraft data. *Journal of Atmospheric and Oceanic Technology* 14:512-526.
- Vitale L., Tommasi P.D., Arena C., Fierro A., De Santo A.V., Magliulo V. (2007) Effects of water stress on gas exchange of field grown *Zea mays* L. Southern Italy: an analysis at canopy and leaf level. *Acta Physiologiae Plantarum* 29:317-326.
- Vleeshouwers L.M., Verhagen A. (2002) Carbon emission and sequestration by agricultural land use: a model study for Europe. *Global Change Biology* 8:519-530.
- Vourlitis G.L., de Souza Nogueira J., Filho N.P., Hoeger W., Raiter F., Biudes M.S., Arruda J.C., Capistrano V.B., Brito de Faria J.L., de Almeida Lobo F. (2005)

The Sensitivity of Diel CO₂ and H₂O Vapor Exchange of a Tropical Transitional Forest to Seasonal Variation in Meteorology and Water Availability. *Earth Interactions* 9:1-23.

Wan S., Luo Y. (2003) Substrate regulation of soil respiration in a tall-grass prairie: results of clipping and shading experiment. *Global Change Biology* 17:1054. DOI: 10.1029/2002GB001971.

Wang W.J., Dalal R.C., Moody P.W., Smith C.J. (2003) Relationships of soil respiration to microbial biomass, substrate availability and clay content. *Soil Biology and Biochemistry* 35:273-284.

Wang Y.L., Zhou G.S., Wang Y.H. (2008) Environmental effects on net ecosystem CO₂ exchange at half-hour and month scales over *Stipa krylovii* steppe in northern China. *Agricultural and Forest Meteorology* 148:714-722.

Watson R.T., Zinyowera M.C., Moss R.H. (1995) Impacts, Adaptations and Mitigation of Climate Change: Scientific-Technical Analyses Contribution of Working Group II to the Second Assessment of the Intergovernment Panel on Climate Change. Cambridge University Press, Cambridge.

Webb E.K., Pearman G.I., Leuning R. (1980) Correction of Flux Measurements for Density Effects Due to Heat and Water-Vapor Transfer. *Quarterly Journal of the Royal Meteorological Society* 106:85-100.

Weiss A., Norman J.M. (1985) Partitioning solar radiation into direct and diffuse, visible and near-infrared components. *Agricultural and Forest Meteorology* 34:205-213.

- Welsch D.L., Hornberger G.M. (2004) Spatial and temporal simulation of soil CO₂ concentrations in a small forested catchment in Virginia. *Biogeochemistry* 71:413-434.
- Wen X.F., Yu G.R., Sun X.M., Li Q.K., Liu Y.F., Zhang L.M., Ren C.Y., Fu Y.L., Li Z.Q. (2006) Soil moisture effect on the temperature dependence of ecosystem respiration in a subtropical *Pinus* plantation of southeastern China. *Agricultural and Forest Meteorology* 137:166-175.
- Werner D., Grathwohl P., Höhener P. (2004) Review of field methods for the determination of the tortuosity and the effective gas-phase diffusivity in the vadose zone. *Vadose Zone Journal* 3:1240-1248.
- Wilczak J., Oncley S., Stage S. (2001) Sonic Anemometer Tilt Correction Algorithms. *Boundary-Layer Meteorology* 99:127-150.
- Wofsy S.C., Harriss R.C. (2002) The North American Carbon Program (NACP). Report of the NACP Committee of the U.S. Interagency Carbon Cycle Science Program, Washington D.C., pp. 62.
- Wofsy S.C., Goulden M.L., Munger J.W., Fan S.M., Bakwin P.S., Daube B.C., Bassow S.L., Bazzaz F.A. (1993) Net exchange of CO₂ in a mid- latitude forest. *Science* 260:1314-1317.
- Wohlfahrt G., Anderson-Dunn M., Bahn M., Balzarolo M., Berninger F., Campbell C., Carrara A., Cescatti A., Christensen T., Dore S., Eugster W., Friborg T., Furger M., Gianelle D., Gimeno C., Hargreaves K., Hari P., Haslwanter A., Johansson T., Marcolla B., Milford C., Nagy Z., Nemitz E., Rogiers N., Sanz M., Siegwolf R., Susiluoto S., Sutton M., Tuba Z., Ugolini F., Valentini R., Zorer R., Cernusca A. (2008) Biotic, Abiotic, and Management Controls on

the Net Ecosystem CO₂ Exchange of European Mountain Grassland Ecosystems. *Ecosystems* 11:1338-1351.

Xu L., Baldocchi D.D. (2004) Seasonal variation in carbon dioxide exchange over a Mediterranean annual grassland in California. *Agricultural and Forest Meteorology* 123:79-96.

Xu L.K., Baldocchi D.D., Tang J. (2004) How soil moisture, rain pulses, and growth alter the response of ecosystem respiration to temperature. *Global Biogeochemical Cycles* 18. DOI: 10.1029/2004GB002281.

Xu M., Qi Y. (2001) Soil-surface CO₂ efflux and its spatial and temporal variations in a young ponderosa pine plantation in northern California. *Global Change Biology* 7:667-677.

Zamolodchikov D.G., Karelin D.V., Ivanschenko A.I., Oechel W.C., Hastings S.J. (2003) CO₂ flux measurements in Russian Far East tundra using eddy covariance and closed chamber techniques. *Tellus Series B-Chemical and Physical Meteorology* 55:879-892.

Zeppel M.J.B., Murray B.R., Barton C., Eamus D. (2004) Seasonal responses of xylem sap velocity to VPD and solar radiation during drought in a stand of native trees in temperate Australia. *Functional Plant Biology* 31:461-470.