

VU Research Portal

A contribution to the study of the economic causes and consequences of climate change:

Estrada Porrua, F.

2015

document version

Publisher's PDF, also known as Version of record

[Link to publication in VU Research Portal](#)

citation for published version (APA)

Estrada Porrua, F. (2015). *A contribution to the study of the economic causes and consequences of climate change: An interdisciplinary approach.*

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal ?

Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

E-mail address:

vuresearchportal.ub@vu.nl

References

- Acemoglu D, Johnson S, Robinson JA (2001) The Colonial Origins of Comparative Development: An Empirical Investigation. *Am Econ Rev* 91(4), 1369-1401
- Ackerman F (2008) Critique of Cost-Benefit Analysis, and Alternative Approaches to Decision-Making. A Report to Friends of the Earth, England, Wales and Northern Ireland [available at http://www.ase.tufts.edu/gdae/Pubs/rp/Ack_UK_CBAcritique.pdf]
- Ackerman F, DeCanio SJ, Howarth RB, Sheeran K (2009) Limitations of integrated assessment models of climate change. *Clim Change* 95(3-4), 297-315
- Adger NW (2000) Social and ecological resilience: are they related? *Prog Hum Geogr* 24, 347
- Ahmad QK, Warrick RA (eds.), (2001) Methods and tools. In *Climate Change 2001: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Third Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge: Cambridge University Press
- Allen MR (2003) Climate forecasting: possible or probable? *Nature*, 425, 242.
- Alley RB, Marotzke J, Nordhaus WD, et al. (2003). Abrupt climate change. *Science*, 299(5615), 2005-2010
- Anderson TW, Darling DA (1952) Asymptotic theory of certain "goodness-of-fit" criteria based on stochastic processes. *Ann Math Stat*, 23, 193-212
- Andreou A, Spanos A (2003) Statistical Adequacy and the Testing of Trend Versus Difference Stationary. *Econometric Rev*, 22, 217-237
- Andres RJ, Fielding DJ, Marland G, Boden TA, Kumar, N (1999) Carbon dioxide emissions from fossil-fuel use, 1751-1950. *Tellus* 51B, 759-65
- Andrews DWK (1991) Heteroskedasticity and autocorrelation consistent covariance matrix estimation. *Econometrica* 59, 817-858
- Andrews DWK, Ploberger W (1994) Optimal tests when a nuisance parameter is present only under the alternative. *Econometrica*, 62(6), 1383-1414
- Anthoff, D, RSJ Tol (2014) The income elasticity of the impact of climate change, in Tiezzi S, Martini C (eds.) *Is the Environment a Luxury? An inquiry into the relationship between environment and income*, Routledge, pp. 34-47
- Baillie RT (1996) Long memory processes and fractional integration in

econometrics. *J Econom* 73, 5-59

Banerjee A, Dolado JJ, Galbraith JW, Hendry DH (1993) Co-integration, error correction, and the econometric analysis of non-stationary data. Oxford: Oxford University Press

Banerjee A, Dolado JJ, Hendry DF, Smith GW (1986) Exploring equilibrium relationships in econometrics through static models: some Monte Carlo evidence. *OBES* 48, 253-277

Banerjee A, Dolado JJ, Mestre R (1998) Error-correction mechanism tests for cointegration in a single-equation framework. *J Time Ser Anal* 19, 267-283

Barnston AG, Livezey RE (1987) Classification, seasonality and persistence of low-frequency atmospheric circulation patterns. *Mon. Wea. Rev.*, 115, 1083-1126.

Barredo JI (2009) Normalised flood losses in Europe: 1970–2006. *Nat Hazards Earth Syst Sci* 9, 97–104. doi: 10.5194/nhess-9-97-2009

Barredo JI (2010) No upward trend in normalised windstorm losses in Europe: 1970–2008. *Nat Hazards Earth Syst Sci* 10, 97–104. doi: 10.5194/nhess-10-97-2010

Barrios S, Bertinelli L, Strobl E (2010) Trends in rainfall and economic growth in Africa: A neglected cause of the African growth tragedy. *Rev Econom Stat* 92, (2), 350-366

Barro RJ, Sala-i-Martin XI (2003) *Economic Growth*, 2nd ed. The MIT Press

Barthel F, Neumayer E (2012) A trend analysis of normalized insured damage from natural disasters. *Clim Change* 113, 215–237. doi: 10.1007/s10584-011-0331-2

Becker R, Enders W, Lee J (2006) A stationarity test in the presence of an unknown number of smooth breaks. *J Time Ser Anal* 27, 381-409

Beenstock M, Reingewertz Y, Paldor N (2012) Polynomial cointegration tests of anthropogenic impact on global warming. *Earth Syst Dynam Discuss* 3, 561-596

Benestad RE, Hanssen-Bauer I, Chen D (2008) *Empirical-Statistical Downscaling*. World Scientific Publishing Company

Bierens HJ (2000) Nonparametric nonlinear cotrending analysis, with an application to interest and inflation in the United States. *JBES* 18, 323-337

Bloomfield P (1992) Trend in global temperature. *Clim Change* 21, 1-16

Boswijk HP (1994) Testing for an unstable root in conditional and structural error correction models. *J Econom* 63, 37-60

Botzen WJW (2013) *Managing extreme climate change risks through insurance | Natural resource and environmental economics | Cambridge University Press*

Bouwer LM (2011) Have Disaster Losses Increased Due to Anthropogenic Climate Change? *Bull Am Meteorol Soc* 92, 39–46. doi: 10.1175/2010BAMS3092.1

Box GEP, Tiao GC (1975) Intervention analysis with applications to economic and environmental problems. *J Amer Statistical Assoc* 70, 70-79

Bravo JL, Gay C, Conde C Estrada F (2006) Probabilistic description of rains and ENSO phenomenon in a coffee farm area in Veracruz, México. *Atmósfera*, 19, 49-74

Breusch TS (1979) Testing for autocorrelation in dynamic linear models. *Aust. Econ. Paper*, 17:334-355

Broccoli AJ, Dixon KW, Delworth TL, Knutson TR (2003) Twentieth-century temperature and precipitation trends in ensemble climate simulations including natural and anthropogenic forcing. *J Geophys Res* 108, 4798

Brock W, Dechert D, Sheinkman J, LeBaron B (1996) A Test for Independence Based on the Correlation Dimension. *Economet Rev*, 15(3), 197-235

Brohan P, Kennedy JJ, Harris I, Tett SFB, Jones PD (2006). Uncertainty estimates in regional and global observed temperature changes: A new data set from 1850. *J. Geophys. Res. Atmospheres* 111, D12106

Brown C, Meeks R, Hunu K, Yu W (2011). Hydroclimate risk to economic growth in sub-Saharan Africa. *Clim Change*, 106(4), 621-647

Bruin KC de, Dellink RB, Tol RSJ (2009) AD-DICE: an implementation of adaptation in the DICE model. *Clim Change* 95, 63–81. doi: 10.1007/s10584-008-9535-5

Burby RJ (2001) Flood insurance and floodplain management: the US experience. *Environ Hazards* 3, 111–122. doi: 10.3763/ehaz.2001.0310

Cai Y, Judd KL, Lontzek TS (2012). Open science is necessary. *Nature Climate Change*, 2(5), 299.

Campbell J, Perron P (1991) Pitfalls and opportunities: what macroeconomists should know about unit roots. In: Blanchard, O., Fischer, S. (Eds.), *NBER Macroeconomics Annual*. MIT Press, Cambridge, MA

Campbell YJ, Mankiw GN (1987) Permanent and transitory components in macroeconomic fluctuations, *Am Econ Rev* 77(2), 111-117

Carrion-i-Silvestre JL, Kim D, Perron P (2009) GLS-based unit root tests with multiple structural breaks both under the null and the alternative hypotheses. *Econom Theory* 25, 1754-1792

- Chang Y, Park JY (2002) On the asymptotics of ADF tests for unit roots. *Economet Rev* 21, 431-447
- Choi O, Fisher A (2003) The Impacts of Socioeconomic Development and Climate Change on Severe Weather Catastrophe Losses: Mid-Atlantic Region (MAR) and the U.S. *Clim Change* 58, 149–170. doi: 10.1023/A:1023459216609
- Christensen JH, Carter TR, Rummukainen M, Amanatidis G (2007b) Evaluating the performance of regional climate models: the PRUDENCE project. *Clim Change* 81(1), 1-6
- Christensen JH, Hewitson B, Busuioc A, Chen A, et al. (2007a) Regional Climate Projections. In: Solomon S, Qin D, Manning M, Chen Z, Marquis M, Averyt KB, Tignor M, Miller HL (eds) *Climate change 2007: the physical science basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press, Cambridge, p 849–940
- Clark TE (2006) Disaggregate evidence on the persistence of consumer price inflation. *J Appl Econ* 21, 563–587
- CONABIO & SEMARNAT (2009) Fourth National Report to the Convention on Biological Diversity (Cuarto Informe Nacional de México al Convenio sobre Diversidad Biológica (CDB)). Secretaría de Medio Ambiente y Recursos Naturales. Mexico City
- CONAPO (2002) Implicaciones demográficas y territoriales de la construcción de un nuevo aeropuerto en la ZMVM. Serie Documentos Técnicos, Consejo Nacional de Población. México
- Conde C, Estrada F, Martínez B, Sánchez O, Gay C (2011) Regional Climate Change Scenarios for Mexico. *Atmosfera*, 24(1), 125-140
- Conde C, Vinocur M, Gay C, Seiler R, Estrada F (2007) Climatic Threat Spaces in Mexico and Argentina. In Neil Leary, Cecilia Conde, Jyoti Kulkarni, Anthony Nyong and Juan Pulhin (eds). *Climate Change and Vulnerability*. Earthscan, TWAS, START. 279-306
- Consejo Mexicano del Café–Secretaría de Agricultura, Ganadería y Desarrollo Rural (1996) *México Cafetalero Estadísticas Básicas*. México
- Consejo Mexicano del Café–Secretaría de Agricultura, Ganadería y Desarrollo Rural (2001) *Perspectivas de la caficultura en México*. Available at www.cmcafe.org.mx, México

- Crompton RP, McAneney KJ, Chen K, et al. (2010) Influence of Location, Population, and Climate on Building Damage and Fatalities due to Australian Bushfire: 1925–2009. *Weather Clim Soc* 2, 300–310. doi: 10.1175/2010WCAS1063.1
- Curry JA, (2014) Statement to the Committee on Environment and Public Works of the United States Senate. Hearing on “Review of the President’s Climate Action Plan”. Available at http://www.epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=07472bb4-3eeb-42da-a49d-964165860275
- Dalton MG (1997) The Welfare Bias from Omitting Climatic Variability in Economic Studies of Global Warming. *JEEM*, 33, 221-239.
- De Bruin K, Dellink R, Agrawala S (2009) Economic Aspects of Adaptation to Climate Change. Organisation for Economic Co-operation and Development, Paris
- Dell M, Jones BF, Olken BA (2009) Temperature and income: Reconciling new cross-sectional and panel estimates. *Am Econ Rev*, 99(2), 198-204
- Dell M, Jones BF, Olken BA (2012) Temperature shocks and economic growth: Evidence from the last half century. *AEJ Macro* 4(3), 66-95
- Dell M, Jones BF, Olken BA (2014) What Do We Learn from the Weather? The New Climate-Economy Literature. *JEL*, forthcoming
- Delworth TL, Knutson TR (2000) Simulation of early 20th century global warming. *Science* 287, 2246
- Dickey DA, Fuller WA (1979) Distribution of the estimators for autoregressive time series with a unit root. *J Am Statist Assoc* 74, 427-431.
- Diebold FX (2007) *Elements of Forecasting*. Thomson South-Western, Mason, OH, USA.
- Diebold FX, Mariano R (1995) Comparing Predictive Accuracy. *JBES* 13, 253-265
- Dolado JJ, Jenkinson T, Sosvilla-Rivero S (1990) Cointegration and unit roots. *J Econ Surv* 4(3), 249-273
- Downing TE, Ringius L, Hulme M, Waughray D (1997) Adapting to climate change in Africa. *Mitig Adapt Strateg Glob Change* 2, 19–44. doi: 10.1007/BF02437055
- Downton M, Miller J, Pielke R (2005) Reanalysis of U.S. National Weather Service Flood Loss Database. *Nat Hazards Rev*. doi: 10.1061/(ASCE)1527-6988(2005)6, 1(13)

- Eakin H (2003) Workshop Report. Integrated Assessment of Social Vulnerability and Adaptation to Climate Variability and Change Among Farmers in Mexico and Argentina. Project supported by UNDP-GEF, 2002–2004.
- Eakin H, Tucker CM, Castellanos (2005) Market Shocks and Climate Variability: The Coffee Crisis in Mexico, Guatemala, and Honduras. *Mt Res Dev* 25(4), 304-309
- ECLAC (2009) La Economía del Cambio Climático en Chile: Síntesis 2010. [available at: <http://www.eclac.cl/cgi-bin/getProd.asp?xml=/publicaciones/xml/8/37858/P37858.xml&xsl=/dmaah/tpl/p9f.xsl&base=/erecc/tpl/top-bottom.xsl>]
- ECLAC (2010a) The Economics of Climate Change in Central America: Summary 2010. [available at: <http://www.eclac.org/cgi-bin/getProd.asp?xml=%20/publicaciones/xml/9/41809/P41809.xml&xsl=/mexico/tpl-i/p9f.xsl%20&base=/tpl-i/top-bottom.xslt>].
- ECLAC (2010b) La economía del cambio climático en América Latina y el Caribe Síntesis 2010. [available at: http://www.eclac.cl/publicaciones/xml/8/41908/2010-913_Sintesis-Economia_cambio_climatico-COMPLETO_WEB.pdf].
- ECLAC (2010c) Uruguay - Estudio Nacional de Economía del Cambio Climático. Informe Final. [available at: http://www.ccee.edu.uy/ensenian/catsemecnal/material/Uruguay-Informe_final_version_borrador_no_publicada.pdf].
- Eden JM, Widmann M, Grawe D, Rast S (2012) Skill, correction, and downscaling of GCM-simulated precipitation. *J Clim* 25, 3970–3984
- Elliott G (1998) On the robustness of cointegration methods when regressors almost have unit roots. *Econometrica* 66, 149-158
- Elliott G, Rothenberg TJ, Stock JH (1996) Efficient tests for an autoregressive unit root. *Econometrica* 64, 813--836
- Ellsberg D, (1961) Risk, Ambiguity, and the Savage Axioms. *Q J Econ* 75(4), 643-669
- Elsner JB, Bossak BH, Niu X-F (2001) Secular changes to the ENSO-U.S. hurricane relationship. *Geophys Res Lett* 28, 4123–4126. doi: 10.1029/2001GL013669
- Emanuel K (2005) Increasing destructiveness of tropical cyclones over the past 30 years. *Nature* 436, 686–688. doi: 10.1038/nature03906

- Emanuel K (2011) Global Warming Effects on U.S. Hurricane Damage. *Weather Clim Soc* 3, 261–268. doi: 10.1175/WCAS-D-11-00007.1
- Enders W (2003) *Applied Econometric Time Series*. New York, USA: Wiley. 544 p.
- Enfield DB, Mestas-Nuñez AM, Trimble PJ (2001) The Atlantic Multidecadal Oscillation and its relation to rainfall and river flows in the continental U.S. *Geophys. Res. Lett.* 28, 2077–2080
- Engle RF (1982) Autoregressive Conditional Heteroskedasticity with Estimates of the Variance of U.K. Inflation. *Econometrica*, 50, 987-1008
- Engle RF, Granger CWJ (1987) Co-integration and error correction: Representation, estimation and testing. *Econometrica* 55, 251-276
- Engle RF, Kozicki S (1993) Testing for common features. *JBES* 11, 369-395
- Ericsson NR, MacKinnon JG (2002) Distribution of error correction tests for cointegration. *Economet J* 5, 285-318
- Estrada F, Conde C, Gay C (2008) Escenarios climáticos para México. Project report: La Economía del Cambio Climático en México. 41 pp.
- Estrada F, Gay C, Conde C (2012b) A methodology for the risk assessment of climate variability and change under uncertainty. A case study: coffee production in Veracruz, Mexico. *Clim Change* 113(2), 455-479,. DOI: 10.1007/s10584-011-0353-9
- Estrada F, Gay C, Sánchez A (2010) Reply to 'Does temperature contain a stochastic trend? Evaluating conflicting results by Kaufmann et al. *Clim Change* 101, 407-414
- Estrada F, Guerrero VM, Gay-García C, Martínez-López B (2013d) A cautionary note on automated downscaling methods for climate change. *Clim Change* 120I, 263-276. <http://dx.doi.org/10.1007/s10584-013-0791-7>.
- Estrada F, Livezey RE, Martínez-López B, Gay-García C (2013c) Revisiting a flawed downscaling methodology: Comment on Magaña et al. (2012). *Clim Res* 56, 81-90
- Estrada F, Martínez-Arroyo A, Fernández-Eguiarte A, Luyando E, Gay C (2009) Defining Climate Zones in Mexico City Using Multivariate Analysis. *Atmósfera* 22, 2
- Estrada F, Martínez-López B, Conde C, Gay-García C (2012a) The new National Climate Change Documents of Mexico: what do the regional climate change

- scenarios represent? *Clim Change* 110, 1029-1046. DOI: 10.1007/s10584-011-0100-2
- Estrada F, Papyrakis E, Tol RSJ, Gay-García C (2013e) The economics of climate change in Mexico: implications for national/regional policy. *Climate Policy* 13(6), 738-750
- Estrada F, Perron P (2012) Breaks, trends and the attribution of climate change: a time-series analysis. Working paper, Department of Economics, Boston University. Available at <http://people.bu.edu/perron/workingpapers.html>.
- Estrada F, Perron P (2014) Detection and attribution of climate change through econometric methods. *Bol Soc Mat Mex* 20(1), 107-136
- Estrada F, Perron P, Gay-García C, Martínez-López B (2013a) A time-series analysis of the 20th century climate simulations produced for the IPCCs Fourth Assessment Report. *PLoS ONE* 8(3), e60017
- Estrada F, Perron P, Martínez-López B (2013b) Statistically derived contributions of diverse human influences to twentieth-century temperature changes. *Nat Geosci* 6, 1050–1055
- Fankhauser S, Tol RSJ (2005) On climate change and economic growth. *Resour Energy Econ* 27(1), 1-17
- Fleming JR (2005) *Historical Perspectives on Climate Change*. Oxford University Press, 208pp
- Folland CK et al. (1992) Observed climate variability and change. in *Climate Change 1992: The Supplementary Report to the IPCC Scientific Assessment*. (Houghton JT, Callander BA, Varney SK eds). Cambridge, UK: Cambridge University Press
- Foster G, Rahmstorf S (2011) Global temperature evolution 1979-2010. *Environ. Res. Lett.* 6, 044022
- Fowler HJ, Blenkinsop S, Tebaldi C (2007) Linking climate change modelling to impacts studies: recent advances in downscaling techniques for hydrological modelling. *Int J Climatol*, 27, 1547–1578
- Frias M., Zorita E, Fernandez J, Rodríguez-Puebla C (2006) Testing statistical downscaling methods in simulated climates. *GRL* 33, L19807
- Füssel HM (2010) Modeling impacts and adaptation in global IAMs. *Wiley Interdiscip Rev Clim Change* 1, 288–303. doi: 10.1002/wcc.40
- Galbraith J, Green C (1992) Inference about trends in global temperature data. *Clim*

Change 22, 209--221

Gay C (2000) México: Una Visión hacia el siglo XXI. El Cambio Climático en México. Resultados de los Estudios de Vulnerabilidad del País Coordinados por el INE con el Apoyo del U.S. Country Studies Program, SEMARNAP, UNAM, USCSP [available at http://www.atmosfera.unam.mx/editorial/libros/cambio_climatico/index.html].

Gay C, Estrada F, Conde C (2007) Some implications of time series analysis for describing climatologic conditions and for forecasting. An illustrative case: Veracruz, Mexico. *Atmosfera* 20(2), 147-170

Gay C, Estrada F, Conde C, Bravo JL (2006c) Uso de Métodos de Monte Carlo para la Evaluación de la Vulnerabilidad y Riesgo ante Condiciones Actuales Bajo y Bajo Cambio Climático. V. Congreso de la Asociación Española de Climatología. Zaragoza, España, pp 18–21 de septiembre, 2006, pp 762–770

Gay C, Estrada F, Sanchez A (2009) Global and hemispheric temperature revisited. *Clim Change* 94, 333–349

Gay C. (PI), R. Seiler, C. Conde, H. Eakin, M. Vinocur, et al. (2006b) Final report: “Integrated Assessment of Social Vulnerability and Adaptation to Climate Variability and Change Among Farmers in Mexico and Argentina”. 239 pp [available at http://aiaccproject.org/Final%20Reports/Final%20Reports/FinalRept_AIACC_LA29.pdf]

Gay C. and Estrada F., 2010. Objective probabilities about future climate are a matter of opinion. *Clim Change* 99(1-2), 27-46, DOI: 10.1007/s10584-009-9681-4

Gay C., Estrada F, Conde C, Eakin H, Villers L (2006a) Potential impacts of climate change on agriculture: A case of study of coffee production in Veracruz, México. *Climatic Change*. 79(3-4), 259-288

Gil-Alana LA (2008a) Time trend estimation with breaks in temperature time series. *Clim Change* 89, 325--337

Gil-Alana LA (2008b) Warming break trends and fractional integration in the northern, southern, and global temperature anomaly series. *J Atmos Oceanic Technol* 25, 570-578

Giorgi F, Hewitson B, Christensen J, Hulme M, et al. (2001) Regional Climate Information- Evaluation and Projections, in: *Climate Change 2001: The Scientific Basis*, Contribution of Working Group I to the Third Assessment Report of the

- Intergovernmental Panel on Climate Change, edited by: Houghton, J. T., Cambridge University Press, Cambridge, UK, 583–638, 2001
- Glahn HR, Lowry DA (1972) The use of model output statistics (MOS) in objective weather forecasting. *J Appl Meteor* 11, 1203-1211
- Glantz M (2001a) *Once Burned, Twice Shy? Lessons Learned from the 1997-98 El Niño*. New York: United Nations University Press
- Glantz M (2001b) *Currents of Change*. Cambridge, UK: Cambridge University Press
- Gleick PH, et al. (2010) Climate Change and the Integrity of Science. *Science*, 328, 689-690
- Gobierno de la República de Argentina (2008) 2da Comunicación Nacional de la República Argentina a la Convención Marco de las Naciones Unidas sobre Cambio Climático. Available at: <http://unfccc.int/resource/docs/natc/argnc2s.pdf>
- Godfrey LG (1978) Testing Against General Autoregressive and Moving Average Error Models when the Regressors Include Lagged Dependent Variables. *Econometrica*, 46, 1293–1302
- Gómez V, Maravall A (1996) Programs TRAMO and SEATS; Instructions for the user (with some updates), Working Paper 9628, Research Department, Banco de España
- González A, Teräsvirta T (2008) Modelling autoregressive processes with a shifting mean. *SNDE* 12(1), 1-25
- Gonzalo J, Lee TH (1998) Pitfalls in testing for long run relationships. *J Econom* 86, 129-154
- Goodess CM (2005) *STATistical and Regional dynamical Downscaling of EXtremes for European regions (STARDEX)*. http://www.cru.uea.ac.uk/projects/stardex/reports/STARDEX_MR7_2005_section_6.pdf
- Government of Japan (2006) *Japan's Fourth National Communication Under the United Nations Framework Convention on Climate Change*. Available at: <http://unfccc.int/resource/docs/natc/japnc4.pdf>
- Government of the Federal Republic of Germany (2006) *Fourth National Report by the Government of the Federal Republic of Germany*. Available at: <http://unfccc.int/resource/docs/natc/gernc4.pdf>
- Granger CWJ, Joyeux R (1980) An introduction to long-memory models and

fractional differencing. *J Time Ser Anal* 1, 15-29

Granger CWJ, Lee TH (1990) Multicointegration. In: Rhodes GF, Fomby TB (eds). *Advances in Econometrics: Cointegration, spurious regressions and unit roots*. JAI press, New York. 17-84

Granger CWJ, Newbold P (1974) Spurious regression in econometrics. *J. Econometrics*, 2, 111-120

Greene WH (2002) *Econometric Analysis*. 5th ed. Prentice Hall.

Greene WH (2011) *Econometric Analysis*, 7th ed. Prentice Hall

Gregory JM (2000) Vertical heat transports in the ocean and their effect on time-dependent climate change. *Clim. Dyn.* 16, 501–515

Gregory JM, Forster PM (2008) Transient climate response estimated from radiative forcing and observed temperature change. *J. Geophys. Res.* 113, D23105

Grübler A, Nakicenovic N (2001) Identifying dangers in an uncertain climate. *Nature* 412, 15

Grübler A, O'Neill B, Riahi K et al. (2007) Regional, national, and spatially explicit scenarios of demographic and economic change based on SRES. *Technol Forecast Soc* 74(7), 980-1029

Guerrero VM (2007) Pronósticos restringidos con modelos de series de tiempo múltiples y su aplicación para evaluar metas de política macroeconómica en México. *Estudios Económicos* 22(2), 241-311

Guerrero VM, Pena B, Senra E, Alegría A (2008) Restricted Forecasting with a VEC Model: Validating the Feasibility of Economic Targets. *Estadística* 60 (174-175), 83-101

Guerrero VM, Silva E, Gómez N (2013) Building Scenarios of Multiple Time Series that Take into Account the Effects of an Expected Intervention. *J Forecast* published online first (DOI: 10.1002/for.2271). November, 2013.

Hallegatte S (2005) The Long Time Scales of the Climate-Economy Feedback and the Climatic Cost of Growth, *Environ Model Assess* 10, 227-289

Hallegatte S (2007) Do current assessments underestimate future damages from climate change? *World Econ* 8, 131–146

Hallegatte S, Dumas P (2008) Can natural disasters have positive consequences? Investigating the role of embodied technical change. *EE* 68(3), 777-786

- Hallegatte S, Hourcade JC, Dumas P (2007) Why economic dynamics matter in assessing climate change damages: illustration on extreme events. *EE* 62(2), 330-340
- Handmer J, Honda Y, Kundzewicz Z, et al. (2012) Changes in impacts of climate extremes: Human systems and ecosystems. *Manag. Risks Extreme Events Disasters Adv. Clim. Change Adapt. Spec. Rep. Work. Groups II Intergov. Panel Clim. Change IPCC*. Cambridge University Press, Cambridge UK, pp 231–290
- Hansen BE (1992a) Efficient estimation and testing of cointegrating vectors in the presence of deterministic trends. *J Econom* 53, 87-121
- Hansen BE (1992b) Testing for parameter instability in linear models. *J Policy Model* 14, 517–533. doi: 10.1016/0161-8938(92)90019-9
- Hansen J, Lebedeff S (1987) Global trends of measured surface air temperature. *J Geophys Res* 92(13), 345–13 372
- Hansen J, Ruedy R, Sato M (2012) Global Temperature in 2011, Trends, and Prospects. <http://data.giss.nasa.gov/gistemp/2011/> 18 January 2012.
- Hansen J, Ruedy R, Sato M, Lo K (2010) Global surface temperature change. *Rev Geophys* 48, RG4004
- Hansen J, Sato M (2001) Trends of measured climate forcing agents. *Proc Natl Acad Sci* 98, 14778-14783
- Hansen J, Sato M (2004) Greenhouse gas growth rates. *Proc Natl Acad Sci*. 101, 16109-16114
- Hansen J, Sato M, Kharecha P, von Schuckmann K (2011) Earth's energy imbalance and implications. *Atmos Chem Phys* 11, 13421-13449
- Hansen J, Sato M, Lacis A, Ruedy R, Tegen I, Matthews E (1998) Perspective: Climate forcings in the industrial era. *Proc Natl Acad Sci* 95, 12753-12758
- Hansen J, Sato M, Ruedy R, Lo K, Lea DW, Medina-Elizade M, (2006) Global temperature change. *Proc Natl Acad Sci* 103, 14288-14293, doi:10.1073/pnas.0606291103
- Harvey DI, Mills TC (2001) Modelling global temperature trends using cointegration and smooth transitions. *SMIJ* 1:143-159
- Harvey DI, Mills TC (2002) Unit roots and double smooth transitions. *J Appl Stat* 29, 675-683
- Hasselmann K (1993). Optimal Fingerprints for the Detection of Time-dependent Climate Change. *J. Clim.* 6, 1957–1971

Hasselmann K (1997) Multi-pattern fingerprint method for detection and attribution of climate change. *Clim. Dyn.* 13, 601– 611

Hatanaka M (1996) *Time-Series-Based Econometrics. Unit Roots and Cointegration.* Oxford, UK: Oxford University Press, 308 pp

Haywood JM, Boucher O (2000) Estimates of the direct and indirect radiative forcing due to tropospheric aerosols: A review. *Rev Geophys* 38, 513-543

Hegerl G, Hoegh-Guldberg O, Casassa G, Hoerling MP, Kovats RS, Parmesan C, Pierce DW, Stott PA (2010) Good Practice Guidance Paper on Detection and Attribution Related to Anthropogenic Climate Change. In: Meeting Report of the Intergovernmental Panel on Climate Change Expert Meeting on Detection and Attribution of Anthropogenic Climate Change [Stocker, T.F., C.B. Field, D. Qin, V. Barros, G.-K. Plattner, M. Tignor, P.M. Midgley, and K.L. Ebi (eds.)]. IPCC Working Group I Technical Support Unit, University of Bern, Bern, Switzerland

Hegerl G, Meehl G, Covey C, Latif M, McAveney B, et al. (2003) 20C3M: CMIP collecting data from 20th century coupled model simulations. *Clivar Exchanges* 26, S3–S5

Held IM, Winton M, Takahashi K, Delworth T, Zeng F, Vallis GK (2010) Probing the fast and slow components of global warming by returning abruptly to preindustrial forcing. *J Clim* 23, 2418–2427

Hitz S, Smith JB (2004) Estimating Global Impacts from Climate Change. *GEC* 14(3), 201-218

Holland GJ, Webster PJ (2007) Heightened tropical cyclone activity in the North Atlantic: natural variability or climate trend? *Philos Trans R Soc Math Phys Eng Sci* 365, 2695–2716. doi: 10.1098/rsta.2007.2083

Holt MT, Teräsvirta T (2012) Global hemispheric temperature trends and co-shifting: A shifting mean vector autoregressive analysis. *CREATES Research Paper* 2012-54

Hope C (2006) The Marginal Impact of CO₂ from PAGE2002: An Integrated Assessment Model Incorporating the IPCC's Five Reasons for Concern. *IAJ* 6(1), 19–56

Hope C, Anderson J, Wenman P (1993) Policy analysis of the greenhouse effect: an application of the PAGE model. *Energy Policy* 21(3), 327-338

Hope, C. (2011a) The PAGE09 Integrated Assessment Model: A Technical Description. Cambridge Judge Business School Working Papers 4/2011

Hope, C. (2011b) The Social Cost of CO₂ from the PAGE09 Model. Economics Discussion Papers 2011-39

Horowitz J (2009) The Income-Temperature Relationship in a Cross-Section of Countries and its Implications for Predicting the Effects of Global Warming. *Environ Resour Econ* 44(4), 475-493

Hulme M, Wigley TML, Brown EM, Raper SCB, Centella A, Smith S, Chipanshi AC (2000) Using climate scenario generator for vulnerability and adaptation assessment: MAGICC and SCENGEN. Version 2.4 Workbook, Climate Research Unit, Norwich, UK, 52 pp

Hurrell JW (1995). Decadal Trends in the North Atlantic Oscillation: Regional Temperatures and Precipitation. *Science* 269, 676–679

IMAGE Team (2001) The IMAGE 2.2 Implementation of the SRES Scenarios: A Comprehensive Analysis of Emissions, Climate Change, and Impacts in the 21st Century, RIVM CD-ROM Publication 481508018 ,National Institute for Public Health and the Environment, Bilthoven

INE-SEMARNAT (2007) Mexico's Third National Communication to the United Nations Framework. Convention on Climate Change, Secretaría de Medio Ambiente y Recursos Naturales. México D.F.

INE-SEMARNAT (2009) Fourth National Communication to the United Nations Framework Convention on Climate Change (Cuarta Comunicación Nacional ante la Convención Marco de las Naciones Unidas sobre el Cambio Climático). Instituto Nacional de Ecología and Secretaría de Medio Ambiente y Recursos Naturales, Mexico City

IPCC (2001) Climate Change 2001: The Scientific Basis. Contribution of Working Group I to the Third Assessment Report of the Intergovernmental Panel on Climate Change [Houghton, J.T., Y. Ding, D.J. Griggs, M. Noguer, P.J. van der Linden, X. Dai, K. Maskell, and C.A. Johnson (eds.)]. Cambridge, UK: University Press, 881pp

IPCC (2012) Summary for Policymakers. In: Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation [Field, C.B., V. Barros, T.F. Stocker, D. Qin, D.J. Dokken, K.L. Ebi, M.D. Mastrandrea, K.J. Mach, G.-K. Plattner, S.K. Allen, M. Tignor, and P.M. Midgley (eds.)]. A Special Report of Working Groups I and II of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, UK, and New York, NY, USA, pp. 1-19

IPCC (2013a) Climate Change 2013: The Physical Science Basis. Contribution of

Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, 1535 pp.

IPCC (2013b) Summary for Policymakers. In: Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA

IPCC (2014) Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Field, C.B., V.R. Barros, D.J. Dokken, K.J. Mach, M.D. Mastrandrea, T.E. Bilir, M. Chatterjee, K.L. Ebi, Y.O. Estrada, R.C. Genova, B. Girma, E.S. Kissel, A.N. Levy, S. MacCracken, P.R. Mastrandrea, and L.L. White (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA

IPCC-TGICA (2007) General Guidelines on the Use of Scenario Data for Climate Impact and Adaptation Assessment. Version 2. Prepared by T.R. Carter on behalf of the Intergovernmental Panel on Climate Change, Task Group on Data and Scenario Support for Impact and Climate Assessment, 66 pp

IPCC-TGICIA (1999) Guidelines on the use of Scenario data for climate impact and adaptation assessment. Version 1. Prepared by T.R. Carter, M. Hulme and M. Lal, Intergovernmental Panel on Climate Change, Task Group on Scenarios for Climate Impact Assessment, 69 pp

IPCC-WGI (2007) Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Solomon S, Qin D, Manning M, Chen Z, Marquis M, Averyt KB, Tignor M, Miller HL, editors. Cambridge, UK: Cambridge University Press. 1009 pp

IPCC-WGII (2007) Climate Change 2007: Impact, Adaptation and Vulnerability. Contribution of the Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [M.L. Parry, O.F. Canziani, J.P.

Palutikof, P.J. van der Linden and C.E. Hanson, eds.], Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA

IPCC-WGIII (2007) Climate Change 2007: Mitigation of Climate Change. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Metz B, Davidson OR, Bosch PR, Dave R, Meyer LA, editors. Cambridge, UK: Cambridge University Press. 862 pp
Ishi A, Iwamoto S, Katayama T, Hayashi T, Shiotzuki Y, Kitayama H, Tsutsumi J, Nishida M (1991) A comparison of field surveys on the thermal environment in areas surrounding a large pond: when filled and when drained. *Energy Buildings* 15-16, 965-971

Ivanov MA, Evtimov SN (2010) 1963: The break point of the Northern Hemisphere temperature trend during the twentieth century. *Int J Climatol* 30(11), 1738-1746

Jacob D, Christensen OB, Doblus-Reyes FJ, Goodess C, Tank AK, Lorenz P, Roeckner E (2008) Information on observations, global and regional modeling data availability and statistical downscaling. ENSEMBLES Technical Report No. 4

Jarque CM, Bera AK (1980) Efficient tests for normality, homoscedasticity and serial independence of regression residuals. *Econ Lett* 6(3), 255–259

Jáuregui E (1991) Effects of revegetation and new artificial water body on the climate of northeast México City. *Energy Buildings* 15-16, 447-455

Jáuregui E (2000) El clima de la ciudad de México. Instituto de Geografía, UNAM-Plaza y Valdés. México, 131 pp

Jaynes ET (1957) Information Theory and Statistical Mechanics. *Phys Rev* 106(4), 620-630

Jaynes ET (1962) Information Theory and Statistical Mechanics. Brandeis University Summer Institute Lectures in Theoretical Physics. K. W. Ford (ed.) 3, 181-218

Jin MJ, Shepherd M, Zheng W (2010) Urban Surface Temperature Reduction via the Urban Aerosol Direct Effect: A Remote Sensing and WRF Model Sensitivity Study. *Advances in Meteorology* ID681587 doi:10.1155/2010/681587

Johansen S (1988) Statistical analysis of cointegration vectors. *J Econ Dyn Control* 12, 231-254

Johansen S, Juselius K (1990) Maximum likelihood estimation and inference on cointegration with applications to the demand for money. *OBES* 52, 169-210

Jones PD, Groisman PY, Coughlan M, Plummer N, Wang WC, Karl TR (1990) Assessment of urbanization effects in time series of surface air temperature over land. *Nature* 347, 169-172

Jones PD, Raper SCB, Bradley RS, Diaz HF, Kelly PM, Wigley TML (1986a) Northern Hemisphere surface air temperature variations: 1851-1984. *J Clim App Meteorol* 25, 161-179

Jones PD, Raper, SCB, Wigley TML (1986b) Southern Hemisphere surface air temperature variations: 1851-1984. *J Clim App Meteorol* 25, 1213-1230

Jones PD, Wigley TML, Wright PB (1986c) Global temperature variations between 1861 and 1984. *Nature* 322, 430-434

Jones RN (2001) An Environmental Risk Assessment/Management Framework for Climate Change Impact Assessments. *Natural Hazards* 23, 197–230

Jones, RN (2000) Managing uncertainty in climate change projections—issues for impact assessment. *Clim Change* 45, 403-419

Kai FU, Tyler SC, Randerson JT, Blake DR (2011) Reduced methane growth rate explained by decreased Northern Hemisphere microbial sources. *Nature* 476, 194–197

Kärner O (1996) Global temperature deviations as a random walk. *J Clim* 9:656-658

Katz RW (2002) Stochastic Modeling of Hurricane Damage. *J Appl Meteorol* 41, 754–762. doi: 10.1175/1520-0450(2002)041<0754:SMOHD>2.0.CO;2

Kaufmann RK, Kauppi H, Mann ML, Stock JH (2011) Reconciling anthropogenic climate change with observed temperature 1998–2008. *Proc Natl Acad. Sci* 108, 11790-11793

Kaufmann RK, Kauppi H, Stock JH (2006a) Emissions, concentrations, & temperature: A time series analysis. *Clim Change* 101, 395-405

Kaufmann RK, Kauppi H, Stock JH (2006b) The relationship between radiative forcing and temperature: What do statistical analyses of the instrumental temperature record measure? *Clim Change* 77, 279-289

Kaufmann RK, Kauppi H, Stock JH (2010) Does temperature contain a stochastic trend? Evaluating conflicting statistical results. *Clim Change* 101, 395-405

Kaufmann RK, Stern DI (1997) Evidence for human influence on climate from hemispheric temperature relations. *Nature* 388, 39-44

- Kejriwal M, Perron P (2010) A sequential procedure to determine the number of breaks in trend with an integrated or stationary noise component. *J Time Ser Anal* 31, 305–328
- Kelsey D, Eichberger J (2009) Ambiguity. Survey paper in *Handbook of Rational and Social Choice*. Anand Pattanaik and Puppe (eds.), OUP
- Kerr RA (2007) Another global warming icon comes under attack. *Science* 317, 28–29
- Kiehl JT (2007) Twentieth century climate model response and climate sensitivity. *Geophys Res Lett* 34, L22710
- Kim D, Perron P (2009) Unit root tests allowing for a break in the trend function under both the null and the alternative hypotheses. *J Econometrics* 148, 1–13
- Kinzig A, Starrett D, Arrow K, et al. (2003) Coping with uncertainty: A call for a new science-policy forum. *Ambio*, 32(5), 330–335
- Klein WH, Lewis BM, Enger I (1959) Objective prediction of five-day mean temperature during winter. *J Meteor*, 16, 672–682
- Klotzbach PJ (2006) Trends in global tropical cyclone activity over the past twenty years (1986–2005). *Geophys Res Lett* 33, L10805. doi: 10.1029/2006GL025881
- Klotzbach PJ (2011) The Influence of El Niño–Southern Oscillation and the Atlantic Multidecadal Oscillation on Caribbean Tropical Cyclone Activity. *J Clim* 24, 721–731. doi: 10.1175/2010JCLI3705.1
- Klotzbach PJ, Gray WM (2008) Multidecadal Variability in North Atlantic Tropical Cyclone Activity. *J Clim* 21, 3929–3935. doi: 10.1175/2008JCLI2162.1
- Knight JR, Allan RJ, Folland CK, Vellinga M (2005) A signature of persistent natural thermohaline circulation cycles in observed climate. *Geophys Res Lett* 32, L20708
- Knudsen MF, Seidenkrantz MS, Jacobsen BH, Kuijpers A (2011) Tracking the Atlantic Multidecadal Oscillation through the last 8,000 years. *Nat Comm* 2, 178
- Kravtsov S, Spannagle C (2008) Multidecadal Climate Variability in Observed and Modeled Surface Temperatures. *J Clim* 21, 1104–1121
- Kremers JJ, Ericsson NR, Dolado JJ (1992) The power of cointegration tests. *OBES* 54, 325–348
- Kwiatkowski D, Phillips PCB, Schmidt P, Shin Y (1992) Testing the null hypothesis of stationarity against the alternative of a unit root. *J Econom* 54, 159–178

- Lee K, Pesaran MH, Smith R (1997) Growth and Convergence in a Multi-Country Empirical Stochastic Solow Model. *J App Econom* 12(4), 357-392
- Lee, (2006a) ECHOG_A45_20C3M_RUN4: 4th member of 20C3M simulations for IPCC AR4. World Data Center for Climate. CERA-DB "ECHOG_A45_20C3M_RUN4" http://cera-www.dkrz.de/WDCC/ui/Compact.jsp?acronym=ECHOG_A45_20C3M_RUN4
- Lee, 2006b: ECHOG_A46_20C3M_RUN5: 5th member of 20C3M simulations for IPCC AR4. World Data Center for Climate. CERA-DB "ECHOG_A46_20C3M_RUN5" http://cera-www.dkrz.de/WDCC/ui/Compact.jsp?acronym=ECHOG_A46_20C3M_RUN5
- Legutke S, Voss R (1999) The Hamburg Atmosphere-Ocean Coupled Circulation Model ECHO-G. Technical report, No. 18, German Climate Computer Centre (DKRZ), Hamburg, 62 pp
- Leybourne SJ, Newbold P (2003) Spurious rejections by cointegration tests induced by structural breaks. *Appl Econom* 35, 1117-1121
- Lindsey R (2009) Climate and Earth's Energy Budget: Feature Articles, Earth Observatory, part of the EOS Project Science Office, located at NASA Goddard Space Flight Center. Available at <http://earthobservatory.nasa.gov/Features/EnergyBalance/printall.php>
- Livezey RE, Smith TM (1999) Covariability of aspects of North American climate with global sea surface temperatures on interannual to interdecadal timescales. *J Clim* 12, 289
- Livezey RE, Vinnikov KY, Timofeyeva MM, Tinker R, HM van den Dool (2007) Estimation and Extrapolation of Climate Normals and Climate Trends. *J Appl Meteor Clim* 46, 1759-1776
- Ljung GM, Box GEP (1978) On a measure of lack of fit in time series models, *Biometrika*, 65, 297-303
- Lontzek TS Narita D (2011) Risk-averse mitigation decisions in an unpredictable climate system. *Scan J Econ* 113(4), 937-958
- Lui H, Rodriguez G (2005) Human activities and global warming: a cointegration analysis. *Environ Modell Softw* 20, 761-773
- Lütkepohl, H. 2005. *New Introduction to Multiple Time Series Analysis*. Springer-Verlag, 764 pp
- Maddala GS, Kim IM (1998) Unit roots, cointegration and structural change.

- Cambridge, UK: Cambridge University Press. 524 pp
- Maddison A (2001), *The World Economy: A Millennial Perspective* OECD Publications, Paris, France
- Magaña V (2010) *Guía para generar y aplicar escenarios probabilísticos regionales de cambio climático en la toma de decisiones*. Instituto Nacional de Ecología, Secretaría de Medio Ambiente y Recursos Naturales, Mexico City. Available at <http://zimbra.ine.gob.mx/escenarios/>
- Magaña V (Ed.) (2004) *Los impactos del niño en México*. Centro de Ciencias de la Atmósfera, Universidad Nacional Autónoma de México, Secretaría de Gobernación. México, 229 pp
- Magaña V, Caetano E (2007) *Pronóstico climático estacional regionalizado para la República Mexicana como elemento para la reducción de riesgo, para la identificación de opciones de adaptación al cambio climático y para la alimentación del sistema: cambio climático por estado y por sector*. Tech Rep, Instituto Nacional de Ecología, Secretaría de Medio Ambiente y Recursos Naturales, Mexico City. Available at <http://www.ine.gob.mx/descargas/cclimatico/e2007o.pdf>
- Magaña V, Gómez L (2008) *Cambio climático y biodiversidad: avances y retos en México*, En: Manson, R. y Jardel, *Perturbaciones y desastres naturales: impactos sobre las ecorregiones, la biodiversidad y el bienestar socioeconómico en México*. En R. Dirzo, R. Gonzalez y I. March (eds.), *Capital natural de México, Vol. II: Estado de conservación y tendencias de cambio*. Comisión Nacional para el Conocimiento y Uso de la Biodiversidad, México
- Magaña V, Zermeño D, Neri C (2012) *Climate change scenarios and potential impacts on water availability in northern Mexico*. *Clim Res* 51, 171-184
- Mann ME (2011) *On long range dependence in global surface temperature series*. *Clim Change* 107, 267-276
- Maraun, D., et al. (2010) *Precipitation downscaling under climate change: Recent developments to bridge the gap between dynamical models and the end user*. *Rev Geophys* 48, RG3003, doi:10.1029/2009RG000314
- Martínez Alier, J, Roca J (2001) *Economía ecológica y política ambiental*. Fondo de Cultura Económica, México D.F.
- Martínez B, Conde C, Sánchez O, Estrada F, Fernandez A, Zavala J, Gay C (2008) *Escenarios de Cambio Climático (2030 y 2050) para México y Centro América. Temperatura y Precipitación*. [Documento en línea]. Disponible desde internet en

<http://www.atmosfera.unam.mx/gcclimatico/index.php?option=com_content&view=article&id=61&Itemid=74>

McLeod AI, Li WK (1983) Diagnostic checking ARMA time series models using squared residual autocorrelations. *J Time Ser Anal*, 4, 269–273

Meehl GA, Covey C, Delworth T, Latif M, McAvaney B, Mitchell JFB, Stouffer RJ, Taylor KE (2007a) The WCRP CMIP3 multimodel dataset: A new era in climatic change research. *BAMS*, 88(9), 1383-1394

Meehl GA, Stocker TF, Collins WD, et al. (2007b) Global Climate Projections. In: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

Meehl GA, Washington WM, Wigley TML, Arblaster JM, Dai A (2003) Solar and greenhouse gas forcing and climate response in the 20th century. *J Clim* 16, 426-444

Meinshausen M, Smith SJ, Calvin KV, et al. (2011) The RCP greenhouse gas concentrations and their extension from 1765 to 2300. *Clim Change* 109, 213-241

Mendelsohn R, Nordhaus W, Shaw D (1994) Measuring the Impact of Global Warming on Agriculture. *Am Econ Rev* 84(4), 753–771

Mills TC (2010a) 'Skinning a cat': alternative models of representing temperature trends. An editorial comment. *Clim Change* 101, 415-426

Mills TC (2010b) Is global warming real? Analysis of structural time series models of global and hemispheric temperatures. *J Cosmol* 8, 1947-1954

Min, 2006a: ECHOG_A42_20C3M_RUN1: 1st member of 20C3M simulations for IPCC AR4. World Data Center for Climate. CERA-DB "ECHOG_A42_20C3M_RUN1" http://cera-www.dkrz.de/WDCC/ui/Compact.jsp?acronym=ECHOG_A42_20C3M_RUN1

Min, 2006b: ECHOG_A43_20C3M_RUN2: 2nd member of 20C3M simulations for IPCC AR4. World Data Center for Climate. CERA-DB "ECHOG_A43_20C3M_RUN2" http://cera-www.dkrz.de/WDCC/ui/Compact.jsp?acronym=ECHOG_A43_20C3M_RUN2

Min, 2006c: ECHOG_A44_20C3M_RUN3: 3rd member of 20C3M simulations for IPCC AR4. World Data Center for Climate. CERA-DB

"ECHOG_A44_20C3M_RUN3" http://cera-www.dkrz.de/WDCC/ui/Compact.jsp?acronym=ECHOG_A44_20C3M_RUN3

Mitchell TD, Carter TR, Jones PD, Hulme M, New M (2004) A comprehensive set of high-resolution grids of monthly climate for Europe and the globe: the observed record (1901–2000) and 16 scenarios (2001–2100). Tyndall Working Paper 55, Tyndall Centre, University of East Anglia, Norwich. Available at: <http://www.tyndall.ac.uk/>

Mitchell TD, Jones PD (2005) An improved method of constructing a database of monthly climate observations and associated high-resolution grids. *Int J Climatol* 25, 693–712. Doi: 10.1002/joc.1181

Mohleji S, Pielke R (2014) Reconciliation of Trends in Global and Regional Economic Losses from Weather Events: 1980–2008. *Nat Hazards Rev.* doi: 10.1061/(ASCE)NH.1527-6996.0000141

Morice CP, Kennedy JJ, Rayner NA, Jones PD (2012) Quantifying uncertainties in global and regional temperature change using an ensemble of observational estimates: The HadCRUT4 data set, *J. Geophys. Res.*, 117, D08101

Moss RH, Schneider SH (2000) Uncertainties in the IPCC TAR: Recommendations to lead authors for more consistent assessment and reporting. In: *Guidance Papers on the Cross Cutting Issues of the Third Assessment Report of the IPCC* [eds. R. Pachauri, T. Taniguchi and K. Tanaka], World Meteorological Organization, Geneva, pp. 33-51.]

Mukerji S (2000) A survey of some applications of the idea of ambiguity aversion in economics. *Int J Approx Reason* 24, 221-234.

Muller R, et al. (2013) Decadal variations in the global atmospheric land temperatures. *J Geophys Res Atmospheres* 118, 5280–5286

Munich Re (2013) *Topics Geo – Natural Catastrophes 2012: Analyses, Assessments, Positions.* Munich Re Group, Munich

Nakicenovic N, Alcamo J, Davis G, de Vries B, et al. (2000) *Special Report on Emissions Scenarios: A Special Report of Working Group III of the Intergovernmental Panel on Climate Change.* Cambridge University Press. Cambridge. 599 pp

Nawaz NR, Adedoye AJ (2006) Monte Carlo assessment of sampling uncertainty of climate change impacts on water resources yield in Yorkshire, England. *Clim Change* 78(2–4), 257–292

Nelson CR, Plosser CI (1982) Trends and Random Walks in Macroeconomic Time Series: Some Evidence and Implications. *J Monet Econ* 10, 139-162

Neumayer E, Barthel F (2011) Normalizing economic loss from natural disasters: A global analysis. *Glob Environ Change* 21, 13–24. doi: 10.1016/j.gloenvcha.2010.10.004

New M, Hulme M (2000) Representing uncertainty in climate change scenarios: a Monte Carlo approach. *Integrated Assessment* 1, 203-213

Newbold P (1994) *Statistics for Business and Economics*, 4th Edition, Prentice Hall

Newey WK, West KD (1994) Automatic Lag Selection in Covariance Estimation. *Rev Econ Stud* 61, 631-654

Ng S, Perron P (1995) Unit root tests in ARMA models with data dependent methods for the selection of the truncation lag. *JASA* 90, 268-281

Ng S, Perron P (2001) Lag length selection and the construction of unit root tests with good size and power. *Econometrica* 69, 1519-1554

Nordhaus WD (1991) To Slow or Not to Slow: The Economics of the Greenhouse Effect. *Economic Journal*, 101, 920-937

Nordhaus WD (1992a) An Optimal Transition Path for Controlling Greenhouse Gases. *Science*, 258, 1315-1319

Nordhaus WD (1992b) The "Dice" Model: Background and Structure of a Dynamic Integrated Climate-Economy Model of the Economics of Global Warming. Cowles Foundation discussion paper no. 1009. Cowles Foundation for Research in Economics, Yale University

Nordhaus WD (2008) *A Question of Balance: Weighing the Options on Global Warming Policies*. Yale University Press

Nordhaus WD (2010) The economics of hurricanes and implications of global warming. *Clim Change Econ* 01, 1–20. doi: 10.1142/S2010007810000054

Nordhaus WD (2011). *Integrated Economic and Climate Modeling*. Cowles Foundation Discussion Paper No. 1839

Nordhaus WD, Boyer J (2000) *Warming the World: Economic Models of Global Warming*. MIT Press

North DC, Thomas RP (1973) *The Rise of the Western World: A New Economic History*. Cambridge, UK: Cambridge University Press

North GR, Bell TL, Cahalan RF, Moeng FJ (1982) Sampling errors in the estimation of empirical orthogonal functions. *Mon Wea Rev* 110, 699–706

- O'Lenic E, Livezey RE (1988) Practical considerations in the use of rotated principal components analysis (RPCA) in diagnostic studies of upper-air height fields. *MonWea Rev* 116, 1682–1689
- Oka T, Perron P (2011) Testing for Common Breaks in a Multiple Equations System. Unpublished Manuscript, Department of Economics, Boston University
- Olson M (2000) *Power and Prosperity: Outgrowing Communist and Capitalist Dictatorships*. New York, NY: Basic Books
- Parry M, Rosenzweig C, Iglesias A, Fischer F, Livermore M (1999) Climate change and world food security: a new assessment. *GEC* 9, S51–S67
- Parson EA, Fisher-Vanden K (1997) Integrated Assessment Models of Global Climate Change. *Ann Rev Energ Env* 22, 589–628
- Patt AG, Vuuren DP van, Berkhout F, et al. (2010) Adaptation in integrated assessment modeling: where do we stand? *Clim Change* 99, 383–402. doi: 10.1007/s10584-009-9687-y
- Peixoto JP, Oort AH (1992) *Physics of climate*. New York, USA: American Institute of Physics. 520 pp
- Peña D, Tiao GC, Tsay RS (2001) *A Course in Time Series Analysis*. John Wiley, New York, 2001, 460 pp
- Perron P (1988) Trends and random walks in macroeconomic time series: Further evidence from a new approach. *J Econ Dyn Control* 12, 297-332
- Perron P (1989) The great crash, the oil price shock, and the unit root hypothesis. *Econometrica* 57, 1361-1401
- Perron P (1990) Testing for a unit root in a time series regression with a changing mean. *JBES* 8, 153-162
- Perron P (1997) Further evidence on breaking trend functions in macroeconomic variables. *J Econom* 80, 355-385
- Perron P (2006) Dealing with structural breaks. In: Mills TC, Patterson K (eds). *Palgrave Handbook of Econometrics*, Vol. 1. New York: Palgrave Macmillan. 278-352
- Perron P, Qu Z (2007) A simple modification to improve the finite sample properties of Ng and Perron's unit root tests. *Econ Lett* 94,12-19
- Perron P, Vogelsang T (1993) Erratum: The great crash, the oil price shock and the unit root hypothesis. *Econometrica* 61,248-249
- Perron P, Wada T (2009) Let's take a break: Trends and cycles in US real GDP. *J*

- Monet Econ 56, 749-765
- Perron P, Yabu T (2009a) Testing for shifts in trend with an integrated or stationary noise component. *JBES* 27, 369-396
- Perron P, Yabu T (2009b) Estimating deterministic trends with an integrated of stationary noise component. *J Econom* 151, 56-69
- Perron P, Zhu X (2005) Structural breaks with deterministic and stochastic trends. *J Econom* 129, 65-119
- Phillips PCB, Ouliaris S (1990) Asymptotic properties of residual based tests for cointegration. *Econometrica* 58, 165-193
- Phillips PCB, Perron P (1988) Testing for unit roots in time series regression. *Biometrika* 75, 335-346
- Pielke R (2007) Future economic damage from tropical cyclones: sensitivities to societal and climate changes. *Philos Trans R Soc Math Phys Eng Sci* 365, 2717–2729. doi: 10.1098/rsta.2007.2086
- Pielke R, Gratz J, Landsea C, et al. (2008) Normalized Hurricane Damage in the United States: 1900–2005. *Nat Hazards Rev* 9, 29–42. doi: 10.1061/(ASCE)1527-6988(2008)9:1(29)
- Pielke R, Landsea CN (1999) La Niña, El Niño and Atlantic Hurricane Damages in the United States. *Bull Am Meteorol Soc* 80, 2027–2033. doi: 10.1175/1520-0477(1999)080<2027:LNAENO>2.0.CO;2
- Pielke R, Landsea CW (1998) Normalized Hurricane Damages in the United States: 1925–95. *Weather Forecast* 13, 621–631. doi: 10.1175/1520-0434(1998)013<0621:NHDITU>2.0.CO;2
- Pindyck RS (2013) Climate Change Policy: What Do the Models Tell Us? *JEL*, 51(3), 860-72
- Pindyck RS, Rubinfeld DL (1998) *Econometric Models and Economic Forecasts*, 4th edition, New York: McGraw-Hill
- Pittock AB, Jones RN, Mitchell CD (2001) Probabilities will help us plan for climate change. *Nature* 413, 249
- Preston BL (2006) Risk-based reanalysis of the effects of climate change on U.S. cold-water habitat. *Clim Change* 76(1–2), 91–119
- Qu Z (2011) A test against spurious long memory. *JBES* 29, 423-438
- Ramsey JB (1969) Tests for specification errors in classical linear least squares regression analysis. *J Roy Stat Soc B*, 31, 350-371

- Ramsey JB, Alexander A (1984) The econometric approach to business-cycle analysis reconsidered. *J Macroecon* 6, 347–355. doi: 10.1016/0164-0704(84)90090-9
- Raupach MR, Canadell JG (2010) Carbon and the Anthropocene. *Curr Opin Environ Sustainability* 2(4), 210-218
- Rea W, Reale M, Brown J (2011) Long memory in temperature reconstruction. *Clim Change* 107, 247-265.
- Richards GR (1993) Change in global temperature: a statistical analysis. *J Clim* 6, 546-559.
- Rosen C (2010) Mexican climate reports under fire. *Nature news*. 2 December 2010 doi:10.1038/news.2010.640
- Roy A, Fuller WA (2001) Estimation for autoregressive processes with a root near one. *JBES* 19, 482-493
- Ruggieri E (2012) A Bayesian approach to detecting change points in climatic records. *Int J Climatol* In press.
- SAGARPA (2010) Programa de apoyos directos al campo. Resultados principales del tercer trimestre [available at http://www.aserca.gob.mx/artman/uploads/Informe_PROCAMPO_TercerTrimestre_2010.pdf].
- Said E, Dickey DA (1984) Testing for unit roots in autoregressive moving average models of unknown order. *Biometrika* 71, 599-607
- Schmidt S, Kemfert C, Höpfe P (2009) Tropical cyclone losses in the USA and the impact of climate change — A trend analysis based on data from a new approach to adjusting storm losses. *Environ Impact Assess Rev* 29, 359–369. doi: 10.1016/j.eiar.2009.03.003
- Schmidth T, Johansen S, Thejll P (2012) Statistical analysis of global surface temperature and sea level using cointegration methods. *J Clim* 25, 7822-7833
- Schneider SH (1997) Integrated Assessment Modeling of Global Climate Change: Transparent Rational Tool for Policy Making or Opaque Screen Hiding Value-Laden Assumptions. *Environ Model Assess* 2, 229–249
- Schneider SH (2001) What is 'dangerous' climate change?, *Nature*, 411, 17-19
- Schneider SH (2002) Can we estimate the likelihood of climatic changes at 2100?: An editorial comment: Why this editorial? *Clim Change* 52(4), 441-451

- Schneider SH (2003) Imaginable Surprise, in Potter, T.D. (ed.), Handbook of Weather, Climate, and Water, John Wiley and Sons
- Schwartz SE (2004) Uncertainty requirements in radiative forcing of climate change. *J Air Waste Manage Assoc* 54, 1351–1359
- Schwartz SE (2012) Determination of Earth's Transient and Equilibrium Climate Sensitivities from Observations Over the Twentieth Century: Strong Dependence on Assumed Forcing *Surv Geophys* 33, 745–777
- Secretaría de Medio Ambiente y Recursos Naturales/Instituto Nacional de Ecología (2006) México Tercera Comunicación Nacional ante la Convención Marco de las Naciones Unidas sobre el Cambio Climático. Available at: <http://unfccc.int/resource/docs/natc/mexnc3.pdf>
- Seidel DJ, Lanzante JR (2004) An assessment of three alternatives to linear trends for characterizing global atmospheric temperature changes. *J Geophys Res-Atmos* 109, L02207
- SEMARNAT, SHCP (2009) The Economics of Climate Change in Mexico Synopsis, Secretaría de Medio Ambiente y Recursos Naturales y Secretaría de Hacienda y Crédito Público. México D.F.
- SEMARNAT, SHCP (2010) The Economics of Climate Change in Mexico (La Economía del Cambio Climático en México), Secretaría de Medio Ambiente y Recursos Naturales y Secretaría de Hacienda y Crédito Público. México D.F. [available at <http://www.cop16.mx/assets/001/5075.pdf>]
- Sims CA (1980) Macroeconomics and Reality. *Econometrica* 48(1), 1-48.
- Skidmore M, Toya H (2002) Do natural disasters promote long-run growth? *Econ Inq* 40, 664–687
- Skinner L (2012) A long view on climate sensitivity. *Science* 337(6097), 917-919
- Spak S, Holloway T, Lynn B, Goldberg R (2007) A comparison of statistical and dynamical downscaling for surface temperature in North America. *J. Geophys Res* 112, D08101
- Spanos A (1986) *Statistical Foundations of Econometric Modelling*, Cambridge University Press, Cambridge
- Spanos A (1995) On normality and the linear regression model. *Economet Rev*, 4(2), 195-203
- Spanos A (1999) *Probability Theory and Statistical Inference: Econometric Modeling with Observational Data*. Cambridge University Press

Spanos A (2006) Revisiting the omitted variables argument: substantive vs. statistical adequacy. *J Econ Meth* 13, 179-218

Spanos A (2010) Statistical Adequacy and the Trustworthiness of Empirical Evidence: Statistical vs. Substantive Information. *Econ Model* 27, 1436-1452

Spanos A, Mcguirk A (2002) Where do Statistical Models Come From? The Problem of Specification Uncertainty in Empirical Modeling. Virginia Tech. Available at <http://www.econ.ucy.ac.cy/seminars/Spanos.pdf>

Stein A, Segal U (2006) Ambiguity Aversion and the Criminal Process. *Notre Dame Law Review* 81. Available at: http://works.bepress.com/alex_stein/6

Stephens GL, Li JL, Wild M, Clayson CA, Loeb N, Kato S, L'Ecuyer T, Stackhouse PW, Andrews T, (2012b) An update on Earth's energy balance in light of the latest global observations. *Nat Geosci* 5, 691-696, doi:10.1038/ngeo1580

Stern DI, Kaufmann RK (1997a) Time series properties of global climate variables: Detection and attribution of climate change. Working Papers in Ecological Economics 9702, Centre for Resource and Environmental Studies, Australian National University, Canberra, ACT 0200, Australia (URL: <http://cres.anu.edu.au/anzsee/9702.html>)

Stern DI, Kaufmann RK (1997b) Is there a global warming signal in hemispheric temperature series? Working Papers in Ecological Economics, The Australian National University, Center for Resource and Environmental Studies Ecological Economics Programme (available at <http://www.bu.edu/cees/research/workingp/pdfs/9903.pdf>)

Stern N (2006) *The Economics of Climate Change: The Stern Review*, Cambridge University Press, Cambridge, UK

Stern N (2008). The economics of climate change. *Am Econ Rev* 1-37

Stern N (2013). The structure of economic modeling of the potential impacts of climate change: grafting gross underestimation of risk onto already narrow science models. *JEL*, 51(3), 838-859

Stock JH (1999) A class of tests for integration and cointegration. In: Engle R, White H Cointegration, Causality and Forecasting: A Festschrift for Clive W.J. Granger. Oxford: Oxford University Press

Stock JH, Watson MW (1988) Variable trends in economic time series. *J Econ Perspect* 2(3), 147-174

Stock JH, Watson MW (1993) A simple estimator of cointegrating vectors in higher

order integrated systems. *Econometrica* 61, 783-820

Stocker T (2011) *Introduction to climate modelling; Advances in geophysical and environmental mechanics and mathematics*: Berlin, Springer-Verlag, 179 pp

Stott PA, Tett SFB, Jones GS, Allen MR, Mitchell JFB, et al. (2000) External control of 20th century temperature by natural and anthropogenic forcings. *Science* 290, 2133

Swanson KL, Sugihara G, Tsonis A (2009) Long-term natural variability and the 20th century climate change. *Proc Natl Acad Sci* 106, 16120-16123

Swart R, Mitchell J, Morita T, Raper S (2002) Stabilization scenarios for climate impact assessment. *GEC* 12, 155-165

Tang KK, Petrie D, Rao DS (2009) The income-climate trap of health development: a comparative analysis of African and Non-African countries. *Social Science and Medicine* 69, 1099–1106

Tebaldi C, Lobell DB (2008) Towards probabilistic projections of climate change impacts on global crop yields. *GRL* 35, L08705, doi:10.1029/2008GL033423

TechnoServe (2003) *Developing solutions to challenges in the coffee industry*, <http://www.technoserve.org/McKinseyAnalysis.pdf>

Thompson DWJ, Kennedy JJ, Wallace JM, Jones PD (2008) A large discontinuity in the mid-twentieth century in observed global mean surface temperature. *Nature* 453, 646–649

Titus JG, Narayanan V (1996) The Risk of Sea Level Rise, *Clim Change* 33, 151–212

Tol RSJ (1994) Greenhouse statistics - time series analysis: part II. *Theor Appl Climatol* 49, 91-102

Tol RSJ (1996) The damage costs of climate change towards a dynamic representation. *Ecol Econ* 19:67–90. doi: 10.1016/0921-8009(96)00041-9

Tol RSJ (2002a) Estimates of the Damage Costs of Climate Change. Part 1: Benchmark Estimates. *Environ Resour Econ* 21, 47–73

Tol RSJ (2002b) Estimates of the Damage Costs of Climate Change, Part II. Dynamic Estimates. *Environ Resour Econ* 21, 135–160

Tol RSJ (2008) Climate, development and malaria: an application of FUND. *Clim Change*, 88(1), 21-34

Tol RSJ (2009) The Economic Effects of Climate Change. *J Econ Perspect* 23(2), 29–51

- Tol RSJ (2011) Poverty traps and climate change. Papers WP413, Economic and Social Research Institute (ESRI). Available at: <http://ideas.repec.org/p/esr/wpaper/wp413.html>
- Tol RSJ (2012) On the Uncertainty about the Total Economic Impact of Climate Change. *Environ Resour Econ* 53(1), 97-116
- Tol RSJ (2013) The economic impact of climate change in the 20th and 21st centuries. *Clim Change* 117, 795–808
- Tol RSJ (2014) Correction and Update: The Economic Effects of Climate Change. *J. Econ. Perspect.* 28(2), 221-26
- Tol RSJ, de Vos AF (1993) Greenhouse statistics - time series analysis. *Theor Appl Climatol* 48, 63-74.
- Tol RSJ, Fankhauser S (1998) On the representation of impact in integrated assessment models of climate change. *Environ Model Assess* 3, 63–74. doi: 10.1023/A:1019050503531
- Tol RSJ, Fankhauser S, Smith JB (1998) The scope for adaptation to climate change: what can we learn from the impact literature? *GEC* 8, 109–123. doi: 10.1016/S0959-3780(98)00004-1
- Tol RSJ, Verheyen R (2004) State responsibility and compensation for climate change damages—a legal and economic assessment. *Energy Policy* 32(9), 1109-1130
- Tol RSJ, Vos AFD (1998) A Bayesian Statistical Analysis of the Enhanced Greenhouse Effect. *Clim Change* 38, 87–112
- Tollefson J (2014) Climate change: The case of the missing heat. *Nature* 505:276–278. doi: 10.1038/505276a
- Toth FL, Bruckner T, Fussel HM, Leimbach M, Petschel-Held G (2003a) Integrated assessment of long-term climate policies. Part 1. Model presentation. *Clim Change*, 56, 37-56
- Toth FL, Bruckner T, Fussel HM, Leimbach M, Petschel-Held G (2003b) Integrated assessment of long-term climate policies. Part 2. Model results and uncertainty analysis. *Climatic Change*, 56, 57-72
- Trejo I, Martínez-Meyer E, Calixto-Pérez E, Sánchez-Colón S, Vázquez de la Torre R, Villers-Ruiz L (2011) Analysis of the effects of climate change on plant communities and mammals in México. *Atmósfera* 24(1), 1-14
- Trenberth KE (1984) Signal Versus Noise in the Southern Oscillation. *Mon Weather*

Rev 112, 326–332

Tung KK, Zhou J (2013) Using data to attribute episodes of warming and cooling in instrumental records. *Proc Natl Acad Sci* 110, 2058-2063

UNFCCC (2008a) Compendium on methods and tools to evaluate impacts of, and vulnerability to, climate change. 228 pp

UNFCCC (2008b) Handbook on Vulnerability and Adaptation Assessment. http://unfccc.int/resource/userman_nc.pdf (1/10/2008)

Van den Bergh JCJM, Botzen WJW (2014) A lower bound to the social cost of CO₂ emissions. *Nat Clim Change* 4:253–258. doi: 10.1038/nclimate2135

Van Vuuren DP, Edmonds J, Kainuma M, Riahi K, Thomson A, Hibbard K, Hurtt GC, Kram T, Krey V, Lamarque JF, Masui T, Meinshausen M, Nakicenovic N, Smith SJ, Rose SK (2011) The representative concentration pathways: An overview. *Clim Change* 109(1), 5–31

Velders GJM, et al. (2007) The importance of the Montreal Protocol in protecting climate. *Proc Natl Acad Sci* 104, 4814-19

Villarini G, Vecchi GA (2012) North Atlantic Power Dissipation Index (PDI) and Accumulated Cyclone Energy (ACE): Statistical Modeling and Sensitivity to Sea Surface Temperature Changes. *J Clim* 25, 625–637. doi: 10.1175/JCLI-D-11-00146.1

Villarini G, Vecchi GA, Smith JA (2010) Modeling the Dependence of Tropical Storm Counts in the North Atlantic Basin on Climate Indices. *Mon Weather Rev* 138, 2681–2705. doi: 10.1175/2010MWR3315.1

Villarini G, Vecchi GA, Smith JA (2012) U.S. Landfalling and North Atlantic Hurricanes: Statistical Modeling of Their Frequencies and Ratios. *Mon Weather Rev* 140, 44–65. doi: 10.1175/MWR-D-11-00063.1

Vogelsang TJ, Perron P (1998) Additional tests for a unit root allowing the possibility of breaks in the trend function. *Int Econ Rev* 39, 1073-1100.

von Storch H, Hewitson B, Mearns L (2000) Review of empirical downscaling techniques. In: Iversen T, Høiskar BAK (eds) *Regional climate development under global warming*. General Technical Report 4. <http://regclim.met.no/rapport4/presentation02/presentation02.htm>

von Storch H, Zorita E, Cubasch U (1993) Downscaling of global climate change estimates to regional scales: An application to Iberian rainfall in wintertime. *J Clim* 6, 1161-1171

- von Storch, H., A. Barkhordarian, K. Hasselmann and E. Zorita, 2013. Can climate models explain the recent stagnation in global warming? Available at: http://www.academia.edu/4210419/Can_climate_models_explain_the_recent_stagnation_in_global_warming
- Vose RS, Applequist S, Menne MJ, Williams CN, Thorne P (2012) An intercomparison of temperature trends in the U.S. Historical Climatology Network and recent atmospheric reanalyses, *Geophys Res Lett* 39, L10703
- Vrac M, Stein ML, Hayhoe K, Liang X-Z (2007) A general method for validating statistical downscaling methods under future climate change. *Geophys Res Lett* 34, L18701
- Wakker P (2001) Testing and Characterizing Properties of Nonadditive Measures Through Violations of the Sure Thing Principle. *Econometrica* 69, 1039–1060
- Wallace JM, Gutzler DS (1981) Teleconnections in the geopotential height field during the Northern Hemisphere winter. *Mon Wea Rev* 109, 784-812
- Wang C, Liu H, Lee S-K, Atlas R (2011b) Impact of the Atlantic warm pool on United States landfalling hurricanes. *Geophys Res Lett* 38, L19702. doi: 10.1029/2011GL049265
- Wang X, Brown PM, Zhang Y, Song L (2011a) Imprint of the Atlantic Multidecadal Oscillation on Tree-Ring Widths in Northeastern Asia since 1568. *PLoS ONE* 6(7), e22740
- Warren R, Hope C, Mastrandrea M, et al. (2006) Spotlighting the impacts functions in integrated assessments. Research Report Prepared for the Stern Review on the Economics of Climate Change. Available at: <http://www.tyndall.ac.uk/content/spotlighting-impacts-functions-integrated-assessments-research-report-prepared-stern-review>
- Webster PJ, Holland GJ, Curry JA, Chang H-R (2005) Changes in Tropical Cyclone Number, Duration, and Intensity in a Warming Environment. *Science* 309, 1844–1846. doi: 10.1126/science.1116448
- Wei WWS (1990) *Time Series Analysis*. Addison-Wesley Publishing Company Inc
- Weitzman ML (2009). On modeling and interpreting the economics of catastrophic climate change. *Rev Econom Stat* 91(1), 1-19
- Weitzman ML (2010) Risk-Adjusted Gamma Discounting. *JEEM* 60, 1-13

- Weitzman ML (2012) GHG Targets as Insurance Against Catastrophic Climate Damages. *J Public Econ Theory* 14, 221–244. doi: 10.1111/j.1467-9779.2011.01539.x
- Weyant J, Davidson O, Dowlatabadi H, et al. (1996). Integrated assessment of climate change: An overview and comparison of approaches and results, in: *Climate Change 1995: Economic and Social Dimensions – Contribution of Working Group III to the Second Assessment Report of the Intergovernmental Panel on Climate Change*, eds. J.P. Bruce, H. Lee and E.F. Haites (Cambridge University Press, Cambridge)
- White H (1980) A Heteroskedasticity-Consistent Covariance Matrix Estimator and a Direct Test for Heteroskedasticity. *Econometrica* 48, 817–838. doi: 10.2307/1912934
- Wigley T (2003) *MAGICC/SCENGEN 4.1: Technical Manual* 14 pp., and *MAGICC/SCENGEN 4.1: User Manual*. Boulder, CO, USA. 24 pp
- Wigley TML (1994) *MAGICC (Model for the Assessment of Greenhouse-gas Induced Climate Change): User's Guide and Scientific Reference Manual*. National Centre for Atmospheric Research, Boulder, CO
- Wigley TML (2008) *MAGICC version 5.3 (Model for the Assessment of Greenhouse-gas Induced Climate Change): User's Guide and Scientific Reference Manual*. National Centre for Atmospheric Research, Boulder, CO
- Wilby RL, Charles SP, Zorita E, Timbal B, Whetton P, Mearns LO (2004) Guidelines for use of climate scenarios development from statistical downscaling methods. Available at <http://www.narccap.ucar.edu/doc/tgica-guidance-2004.pdf>
- Wilby RL, Dawson CW, Barrow EM (2002) SDSM - a decision support tool for the assessment of regional climate change impacts. *Environ Modell Softw*, 17(2), 145-157
- Wilby RL, Harris I (2006) A framework for assessing uncertainties in climate change impacts: low-flow scenarios for the River Thames, UK, *Water Resour Res* 42, W02419. doi:10.1029/2005WR004065.
- Wilby RL, Wigley TML (1997) Downscaling general circulation model output: A review of methods and limitations. *Prog Phys Geogr* 21, 530-548
- Wilby RL, Wigley TML (2000) Downscaling general circulation model output: A reappraisal of methods and limitations. In *Climate Prediction and Agriculture*, M.V.K. Sivakumar (ed.). Proceedings of the START/WMO International

- Workshop, 27-29 September 1999, Geneva. International START Secretariat, Washington, DC, pp. 39-68
- Willows R, Connell R (2003) *Climate Adaptation: Risk, Uncertainty, and Decision making*. UK Climate Impacts Programme, Oxford
- WMO (1983) *Guide to Climatological Practices, Second Edition*. Secretariat of the World Meteorological Organization. Geneva Switzerland. (<http://www.wmo.ch/web/wcp/ccl/GuideHome/html/wmo100.html>)
- Wolter K, Timlin MS (1998) Measuring the strength of ENSO events - how does 1997/98 rank? *Weather* 53, 315-324
- Woodward WA, Gray HL (1993) Global warming and the problem of testing for trend in time series data. *J Clim* 6, 953-962
- Woodward WA, Gray HL (1995) Selecting a model for detecting the presence of a trend. *J Clim* 8, 1929-937
- Wooldridge JM (2005) *Introductory Econometrics: A Modern Approach*, 3rd ed. Cengage Learning
- Wu Z, Huang NE, Wallace JM, Smoliak BV, Chen X (2011) On the time varying trend in global-mean surface temperature. *Clim Dyn* 37, 759-773
- Yohe G, Schlesinger ME (1998) Sea-Level Change: The Expected Economic Cost of Protection or Abandonment in the United States. *Clim Change*, 38, 337-342
- Yohe G, Tol RSJ (2002) Indicators for social and economic coping capacity—moving toward a working definition of adaptive capacity. *GEC* 12, 25–40. doi: 10.1016/S0959-3780(01)00026-7
- Yule GU (1926) Why do we sometimes get nonsense-correlations between time-series?-A study in sampling and the nature of time-series. *J Roy Stat Soc*, 89, 1-63
- Zermeño D (2008) *Análisis probabilístico de escenarios escalados de precipitación y temperatura bajo cambio climático en México*. MS thesis, Universidad Nacional Autónoma de México, Mexico City
- Zhang R, Delworth TL, Held IM (2007) Can the Atlantic Ocean drive the observed multidecadal variability in Northern Hemisphere mean temperature? *Geophys Res Lett* 34, L02709
- Zhang Y, Wallace JM, Battisti DS (1997) ENSO-like Interdecadal Variability: 1900–93. *J Clim* 10, 1004–1020. doi: 10.1175/1520-0442(1997)010<1004:ELIV>2.0.CO;2
- Zheng X, Basher RE (1999) Structural time series models and trend detection in

- global and regional temperature series. *J Clim* 12, 2347-2358
- Zhou J, Tung KK (2013) Deducing multidecadal anthropogenic global warming trends using multiple regression analysis. *J Atmos Sci* 70, 3-8
- Zivot E, Andrews D (1992) Further evidence on the great crash, the oil price shock, and the unit root hypothesis. *JBES* 10, 251–270
- Zivot E, Wang J (2005) *Modeling Financial Time Series with S-PLUS*, Second Edition. Springer, 2nd edition
- Zwiers, FW, Weaver AJ (2000) The causes of 20th century warming. *Science* 290, 5499