

List of publications for Abdelwaheb Hannachi

Peer-Reviewed articles

1. **A. Hannachi**, and A. G. Turner, 2013: Isomap nonlinear dimensionality reduction and bimodality of Asian monsoon convection. *Geoph. Res. Lett.*, Vol 40, doi:10.1002/grl.50351.
2. A. S. El-Hames, **A. Hannachi**, M. Al-Ahmadi, and N. Al-Amri, and, 2013: Groundwater quality zonation assessment using GIS software and EOFs and hierarchical clustering techniques. *Water Resour. Manage.*, Vol 27, 2465-2481.
3. **A. Hannachi**, 2013: Intermittency, autoregression and censoring: A first-order AR model for daily precipitation. *Meteorol Appl.*, DOI: 10.1002/met.1353.
4. **A. Hannachi**, E. A. Barnes, and T. Woollings, 2012: Behaviour of the winter North Atlantic eddy-driven jet stream in the CMIP3 integrations. *Clim. Dyn.*, DIO 10.1007/s00382-012-1560-4.
5. I. I. Zveryaev, and **A. Hannachi**, 2012: Interannual variability of Mediterranean evaporation and its relation to regional climate. *Clim. Dyn.*, 38, 495-512.
6. A. Hannachi, T. Woollings and K. Fraedrich, 2012: The North Atlantic jet stream: a look at preferred positions, paths and transitions. *Q. J. Roy. Meteorol. Soc.* 138, 862-877.
7. S. Unkel, **A. Hannachi**, N. T. Trendafilov, and I. T. Jolliffe, 2011: Independent component analysis for three-way data with an application from atmospheric science. *J. Agric. Biol. Env. Stat.*, 16, 319-338.
8. **A. Hannachi**, A. Awad and K. Ammar, 2011: Climatology and classification of Spring Saharan cyclones. *Clim. Dyn.*, 37, 473-491.
9. **A. Hannachi**, D. Mitchell, L. Gray, and A. Charlton-Perez, 2011: On the use of geometric moments to examine the continuum of sudden stratospheric warmings. *J. Atmos. Sci.*, Vol 68, 657-674:
10. A. G. Turner and **A. Hannachi**, 2010: Is there regime behaviour in monsoon convection in the late 20th century? *Geophys. Res. Lett.*, Vol 37, doi:10.1029/2010GL044159:
11. Woollings and **A. Hannachi**, and B. J. Hoskins, 2010: Variability of the North Atlantic eddy-driven jet stream. *Q. J. Roy. Meteorol Soc.*, Vol 649, 856-868.

12. Woollings T., **A. Hannachi**, B. J. Hoskins, and A. Turner, 2010: A regime view of the North Atlantic Oscillation and its response to anthropogenic forcing. *J. Climate*, Vol 23, 1291-1307.
13. Unkel, S., N.T. Trendafilov, **A. Hannachi**, and I.T. Jolliffe 2010 : Independent exploratory factor analysis with application to atmospheric science data. *J. Appl. Stat.*, Vol 37, 1847-1862.
14. **A. Hannachi**, 2010: On the origin of planetary-scale extratropical winter circulation regimes. *J. Atmos. Sci.*, Vol 67, 1382-1401.
15. **Hannachi, A.**, and D. Dommenges, 2009: Is the Indian Ocean SST variability a homogeneous diffusion process? *Climate Dynamics*, Vol 33, 535-547.
16. **Hannachi, A.**, S. Unkel, N.T. Trendafilov, and I.T. Jolliffe 2009: Independent component analysis of climate data: A new look at EOF rotation. *J. Climate*, Vol 22, 2797-2812.
17. **A. Hannachi**, 2009: Corrigendum. *J. Climate*, Vol 22, 2794.
doi:10.1175/2008JCLI2328.s1.
Supplemental material to “A new set of orthogonal patterns in weather and climate: Optimally interpolated patterns” published in *J. Climate*, Vol 21, 6724-6738.
18. **Hannachi, A.**, 2008: A new set of orthogonal patterns in weather and climate: Optimally interpolated patterns. *J. Climate*, Vol. 21, 6724-6738.
19. Ouali A., Chaabane M., Maalej A., **Hannachi A.**, and Fucello A., 2008: The Tunisian storm of 16-18 September 2003: a diagnostic study of the synoptic situation. *Weather*, Vol. 63, 121-127.
20. **Hannachi A.**, and A. Turner, 2008: Preferred structures in large scale circulation and the effect of doubling greenhouse gas concentration in HadCM3. *Q. J. Roy. Meteorol. Soc.*, Vol. 134, 469-480.
21. **Hannachi, A.**, 2007: Tropospheric planetary wave dynamics and mixture modeling: Two preferred regimes and a regime shift. *J. Atmos. Sci.*, Vol. 64, 147-168.
22. **Hannachi, A.**, 2006: Pattern hunting in climate: A new method for finding trends in gridded climate data. *Int. J. Climatology*, Vo. 27, 1-15.
23. **Hannachi A.**, I. T. Jolliffe, D. B. Stephenson, and N. Trendafilov, 2006: In search of simple structures in climate: Simplifying EOFs? *Int. J. Climatology*, Vol. 26, 7-28.
24. **Hannachi, A.**, 2006: Quantifying changes and their uncertainties in probability distribution of climate variables using robust statistics. *Climate Dynamics*, Vol. 27, 301-317.

25. Ferro, C.A.T, **A. Hannachi**, and D.B. Stephenson, 2005: Simple non-parametric techniques for exploring changing probability distributions of weather. *J. Climate*, Vol. 18, 4344-4354.
26. Panagiotopoulos, F., M. Shahgedanova, **A. Hannachi**, and D. B. Stephenson, 2005: Observed trends and teleconnections of the Siberian high: A recently declining center of action. *J. Climate*, Vol. 18, 1411-1422.
27. Pezzulli, S., D.B. Stephenson, and **A. Hannachi**, 2005: The variability of seasonality. *J. Climate*, Vol. 18, 71-88.
28. **Hannachi, A.**, D.B. Stephenson, and K.R. Sperber, 2004: Corrigendum: Probability-based methods for quantifying nonlinearity in the ENSO. *Climate Dynamics*, Vol. 22, 69-70.
29. Stephenson, D. B., **A. Hannachi**, and A. O'Neill, 2004: On the existence of multiple climate regimes. *Q. J. Roy. Meteorol. Soc.*, Vol. 130, 583-605.
30. **Hannachi, A.**, D.B. Stephenson, and K.R. Sperber, 2003: Probability-based methods for quantifying nonlinearity in the ENSO. *Climate Dynamics*, Vol. 20, 241-256.
31. **Hannachi, A.**, 2001: Towards nonlinear identification of the atmospheric response to ENSO. *J. Climate*, Vol. 14, 2138-2149.
32. **Hannachi A.** and A. O'Neill, 2001: Atmospheric multiple equilibria and non-Gaussian behaviour in model simulations. *Q. J. Roy. Meteorol. Soc.*, Vol. 127, 939-958.
33. **Hannachi, A.** and M.R. Allen, 2001: Identifying signals from intermittent low-frequency behaving systems. *Tellus*, Vol. 53A, 469-480.
34. **Hannachi, A.**, 2000: A probabilistic-based approach to optimal filtering. *Phys. Rev. E*, Vol. 61, 3610-3619.
35. **Hannachi, A.**, 1999: Synchronization in chaotic Hamiltonian systems and a geophysical application. *Phys. Rev. E*, Vol 60, 429-443.
36. **Hannachi, A.** and K. Haines, 1998: Convergence of sequential data assimilation in Hamiltonian and simple dissipative systems. *Tellus*, Vol 50A, 58-75.
37. **Hannachi, A.**, 1997: Low frequency variability in GCM: 3D flow regimes and their dynamics. *J. Climate*, Vol 20, 1357-1379.
38. **Hannachi, A.**, 1997: Weather regimes in the Pacific from a GCM. Part II: Dynamics and stability. *J. Atmos. Sci.*, Vol 54, 1334-1348.
39. Haines, K. and **A. Hannachi**, 1995: Weather regimes in the Pacific from a GCM. *J. Atmos. Sci.*, Vol 52, 2444-2462.

40. **Hannachi, A.** and B. Legras, 1995: Simulated annealing and weather regimes classification. *Tellus*, Vol 47A, 955-973.

Review articles

1. **Hannachi A.**, I. T. Jolliffe, and D. B. Stephenson, 2007: Empirical orthogonal functions and related techniques in atmospheric science: A review. *Int. J. Climatology*, Vol. 27, 1119-1152.

Non-referred articles

- A. Hannachi, J. Kjellsson, M. Tjernstrom and G. Carver, 2013: Teaching with OpenIFS at Stockholm University: Leading the learning experience. *ECMWF Newsletter*, No 134, 12-15.

Book Chapters

1. **A. Hannachi**, T. Woollings, and A. Turner, 2012: Atmospheric low frequency variability: the examples of the North Atlantic and the Indian monsoon. In *Climate Variability – Some Aspects, Challenges and Prospects*. (Ed. A. Hannachi), InTech Publication, pp 1-16.

Scientific reports

1. A. Hannachi, 2004: A Primer for EOF Analysis of Climate Data (ncas-cms.nerc.ac.uk/dmdocuments/eofprimer.pdf): **6**
2. CAT Ferro, A. Hannachi, and D. B. Stephenson, 2002: WP5-Recommended Common Diagnostics for PRUDENCE: Time-Slice Comparison of Temperature, Wind Speed and Precipitation (prudence.dmi.dk/public/publications/common_diagnostics.pdf)

Book Editorship

1. *Climate Variability – Some Aspects, Challenges and Prospects*. InTech Publication, Jan 2012, ISBN 978-953-307-699-7192 pp.
<http://www.intechweb.org/books/show/title/climate-variability-some-aspects-challenges-and-prospects>

Book review

1. *Exploratory Data Analysis with MATLAB*, by Martinez W. L. and Martinez A. R. *J. Roy. Stat. Soc., A*, Vol 169, 390-391, 2006. Chapman and Hall.
2. *Weather Forecasting Techniques Using Soft-computing Paradigm*, by P. Srimanta. Bentham Science Publishers

Publicly available computer programs and other material

1. Monitoring webpage for the Euro-Atlantic sea level pressure:
ncas-cms.nerc.ac.uk/content/view/102/40
2. Managing a MATLAB software scripts:
ncas-cms.nerc.ac.uk/component/option,com_dbquery/Itemid,245