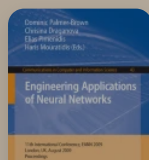


[Home](#) > [Engineering Applications of Neural Networks](#) > Conference paper

Modeling and Forecasting CAT and HDD Indices for Weather Derivative Pricing

| Conference paper

| pp 210–222 | [Cite this conference paper](#)



[Engineering Applications of Neural Networks](#)

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 93 [partners](#), also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our [privacy policy](#) for more information on the use of your personal data. Your consent choices apply to nature.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

- > **Store and/or access information on a device**
- > **Personalised advertising and content, advertising and content measurement, audience research and services development**

[Accept all cookies](#)

[Reject optional cookies](#)

[Manage preferences](#)

cities all traded in Chicago Mercantile Exchange. Our results suggest that the proposed method outperforms alternative pricing methods proposed in prior studies in most cases. Our findings suggest that wavelet networks can model the temperature process very well and consequently they constitute a very accurate and efficient tool for weather derivatives pricing. Finally, we provide the pricing equations for temperature futures on Heating Degree Day index.



This is a preview of subscription content, [log in via an institution](#) to check access.

Access this chapter

Log in via an institution →

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 93 **partners**, also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our **privacy policy** for more information on the use of your personal data. Your consent choices apply to nature.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

- Store and/or access information on a device
- Personalised advertising and content, advertising and content measurement, audience research and services development

Accept all cookies

Reject optional cookies

Manage preferences

- Compact, lightweight edition
- Dispatched in 3 to 5 business days
- Free shipping worldwide - [see info](#)

Buy Softcover Book →

Tax calculation will be finalised at checkout

Purchases are for personal use only

[Institutional subscriptions](#) →

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 93 **partners**, also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our **privacy policy** for more information on the use of your personal data. Your consent choices apply to nature.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

Accept all cookies

Reject optional cookies

Manage preferences

2. Hanley, M.: Hedging the Force of Nature. Risk Professional 1, 21–25 (1999)

[Google Scholar](#)

3. Cenicerros, R.: Weather derivatives running hot. Business Insurance 40 (2006)

[Google Scholar](#)

4. Jewson, S., Brix, A., Ziehmann, C.: Weather Derivative Valuation: The Meteorological, Statistical, Financial and Mathematical Foundations. Cambridge University Press, Cambridge (2005)

[Book](#) [Google Scholar](#)

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 93 **partners**, also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our **privacy policy** for more information on the use of your personal data. Your consent choices apply to nature.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

[Accept all cookies](#)

[Reject optional cookies](#)

[Manage preferences](#)

9. Benth, F.E., Saltyte-Benth, J.: The volatility of temperature and pricing of weather derivatives. *Quantitative Finance* 7, 553–561 (2007)

[Article](#) [MathSciNet](#) [MATH](#) [Google Scholar](#)

10. Daubechies, I.: *Ten Lectures on Wavelets*. SIAM, Philadelphia (1992)

[Book](#) [MATH](#) [Google Scholar](#)

11. Mallat, S.G.: *A Wavelet Tour of Signal Processing*. Academic Press, San Diego (1999)

[MATH](#) [Google Scholar](#)

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 93 **partners**, also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our **privacy policy** for more information on the use of your personal data. Your consent choices apply to nature.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

[Accept all cookies](#)

[Reject optional cookies](#)

[Manage preferences](#)

16. Davis, M.: Pricing weather derivatives by marginal value. Quantitative Finance 1, 1–4 (2001)

[MathSciNet](#) [Google Scholar](#)

17. Dornier, F., Queruel, M.: Caution to the wind. Weather risk special report. In: Energy Power Risk Management, pp. 30–32 (2000)

[Google Scholar](#)

18. Moreno, M.: Riding the temp. Weather Derivatives. FOW Special Support (2000)

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 93 **partners**, also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our **privacy policy** for more information on the use of your personal data. Your consent choices apply to nature.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

[Accept all cookies](#)

[Reject optional cookies](#)

[Manage preferences](#)

for Nonlinear Dynamic Input Output Modelling. Neurocomputing 20, 173-188 (1998)

[Article](#) [MATH](#) [Google Scholar](#)

23. Zhang, Q.: Using Wavelet Network in Nonparametric Estimation. IEEE Trans. Neural Networks 8, 227-236 (1997)

[Article](#) [Google Scholar](#)

24. Postalcioglu, S., Becerikli, Y.: Wavelet Networks for Nonlinear System Modelling. Neural Computing & Applications 16, 434-441 (2007)

[Article](#) [MATH](#) [Google Scholar](#)

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 93 **partners**, also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our **privacy policy** for more information on the use of your personal data. Your consent choices apply to nature.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

[Accept all cookies](#)

[Reject optional cookies](#)

[Manage preferences](#)

Author information

Authors and Affiliations

Department of Accounting and Finance, University of Macedonia of Economics and Social Studies, 156 Egnatia St., P.O. 54006, Thessaloniki, Greece

Achilleas Zapranis & Antonis Alexandridis

Editor information

Editors and Affiliations

Faculty of Computing, London Metropolitan University, 166-220 Holloway Road, N7 8DB, London, UK

Dominic Palmer Brown

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 93 **[partners](#)**, also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our **[privacy policy](#)** for more information on the use of your personal data. Your consent choices apply to nature.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

[Accept all cookies](#)

[Reject optional cookies](#)

[Manage preferences](#)

Zapranis, A., Alexandridis, A. (2009). Modeling and Forecasting CAT and HDD Indices for Weather Derivative Pricing. In: Palmer-Brown, D., Draganova, C., Pimenidis, E., Mouratidis, H. (eds) Engineering Applications of Neural Networks. EANN 2009. Communications in Computer and Information Science, vol 43. Springer, Berlin, Heidelberg. https://doi.org/10.1007/978-3-642-03969-0_20

[.RIS↓](#) [.ENW↓](#) [.BIB↓](#)

DOI	Publisher Name	Print ISBN
https://doi.org/10.1007/978-3-642-03969-0_20	Springer, Berlin, Heidelberg	978-3-642-03968-3

Online ISBN	eBook Packages
978-3-642-03969-0	Computer Science
	Computer Science (R0)

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 93 **partners**, also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our **privacy policy** for more information on the use of your personal data. Your consent choices apply to nature.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

[Accept all cookies](#)

[Reject optional cookies](#)

[Manage preferences](#)

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 93 [partners](#), also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our [privacy policy](#) for more information on the use of your personal data. Your consent choices apply to nature.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

[Accept all cookies](#)

[Reject optional cookies](#)

[Manage preferences](#)