Literature list

Visualizing Climate Change (2019)

#  7.5 ECTS Credits

Single Subject course within the
Master’s programme in
Science for Sustainable Development

MANDATORY LITERATURE

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Week 39

Christa Kelleher, Thorsten Wagener (2011). Ten guidelines for effective data visualization in scientific publications. Environmental Modelling & Software, Volume 26, Issue 6, 2011, Pages 822-827, ISSN 1364-8152,

https://doi.org/10.1016/j.envsoft.2010.12.006.

A periodic table of data visualization:

[http://www.visual-literacy.org/periodic\_table/periodic\_table.html](http://dx.doi.org/10.1016/j.apgeog.2016.07.003)

Choosing Colors for Data Visualization

[www.perceptualedge.com/articles/b-eye/choosing\_colors.pdf](http://dx.doi.org/10.1080/13504622.2013.812720)

ColorBrewer: color advice for cartography

[http://colorbrewer2.org/](http://web.forestry.ubc.ca/calp/CALP-Visioning-Guidance-Manual-V1-1.pdf)

Data Visualization: Rules for Encoding Values in Graph

[www.perceptualedge.com/articles/b-eye/encoding\_values\_in\_graph.pdf](http://www.sciencedirect.com/science/journal/09593780)

Improving Visualization:

[http://www.improving-visualisation.org/case-studies](http://www.sciencedirect.com/science)

Introduction to Geographical Data Visualization: [http://www.perceptualedge.com/articles/visual\_business\_intelligence/geographical\_data\_visualization.pdf](http://www.visual-literacy.org/periodic_table/periodic_table.html)

Corner, A., Roberts, O., Chiari, S., Völler, S., Mayrhuber, E., Mandl, S. & Monson, K. (2015). How do young people engage with climate change? The role of knowledge, values, message framing, and trusted communicators. WIREs Climate Change, 6:523–534. doi: 10.1002/wcc.353

Nerlich, B., Koteyko, N. & Brown, B. (2010). Theory and language of climate

change communication. WIREs Climate Change, 1:97-110.

Wibeck, V.; Neset, T.-S.; Linnér, B.-O. (2013) Communicating Climate Change through ICT-Based Visualization: Towards an Analytical Framework. Sustainability 2013, *5*: 4760-4777.

Wiréhn, L., Opach, T., Neset, T-S. (2016) Assessing agricultural vulnerability to climate

change in the Nordic countries – an interactive geovisualization approach. Environmental Planning and Management. DOI: 10.1080/09640568.2016.1143351.

Rød J.-K., Opach T. , Neset T.-S. (2015). Three core activities toward a relevant integrated vulnerability assessment: validate, visualize, and negotiate. Journal of Risk Research, 18 (7): 877–895.

ESRI e-books:

Dangerman & Artz (2010). Climate Change is a Geographic Problem - The Geographic Approach to Climate Change (*highest priority*)

[http://www.esri.com/library/ebooks/climate-change.pdf](http://www.perceptualedge.com/articles/b-eye/choosing_colors.pdf)

Dangermond & Baker (2010). GIS for Climate Change

[https://www.esri.com/library/bestpractices/climate-change.pdf](http://calp.forestry.ubc.ca/resources/)

General introduction to ArcGIS:

[http://www.lib.umd.edu/binaries/content/assets/public/gov-info-gis/research-and-instruction/introduction-to-gis-workbook.pdf](https://www.google.se/search)

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Week 40

Neset, T.-S., Opach, T, Lilja, A., Lion, P., Johansson, J. (2016). Map-Based Web Tools Supporting Climate Change Adaptation. The Professional Geographer 68 (1), 103-114,

DOI: 10.1080/00330124.2015.1033670.

*Literature to be added*

Presentation on multidimensional data and GIS:

[ce.utexas.edu/prof/maidment/StatWR2009/Visual/NetCDF.ppt](http://www.improving-visualisation.org/case-studies?client=safari&rls=en&q=NetCDF.ppt&ie=UTF-8&oe=UTF-8&gfe_rd=cr&ei=LMjoV8-mMIqBsAHcjIaAAg#q=ce.utexas.edu%2Fprof%2Fmaidment%2FStatWR2009%2FVisual%2FNetCDF.ppt)

Bishop et al (2013). Evaluation of data visualisation options for land-use policy and decision making in response to climate change. Environment and Planning B: Planning and Design 2013, volume 40, pages 213 – 233

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Week 41

Rose, Gillian (2016). Visual methodologies: an introduction to researching with visual materials. 4th edition London: Sage, pp. 24-47, 56-84.

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Week 42

Ertiö, T-P. (2015). Participatory Apps for Urban Planning—Space for Improvement. Planning Practice & Research, 30(3), 303-321. DOI:

10.1080/02697459.2015.1052942

Conrad E., Cassar L.F., Christie M. and Fazey I. 2011. Hearing but not listening? A participatory assessment of public participation in planning. Environment and Planning C: Government and Policy, volume 29, pages 761 - 782.

Reckien, D., & Eisenack, K. 2013. Climate change gaming on board and screen: A review. Simulation & Gaming, 1046878113480867.

Ouariachi, Tania., Olvera-Lobo, María Dolores & Gutiérrez-Pérez, José. 2017. Analyzing Climate Change Communication Through Online Games: Development and Application of Validated Criteria. *Science Communication*, Vol. 39 (1) 10–44

Dodge & Congalton (2013). Meeting Environmental Challenges with Remote Sensing Imagery.

Can be downloaded from:

[http://www.americangeosciences.org/sites/default/files/RemoteSensing.pdf](http://www.perceptualedge.com/articles/visual_business_intelligence/geographical_data_visualization.pdf)

Selected Case studies:

"Remote Sensing identifies Hail Damage to Crops", p.36-37

"Remote Sensing identifies Agricultural Problem Areas", p.48-49

"Remote Sensing Enables Census of Lake Water Quality", p.50-53

"Remote Sensing Monitors Vegetation Changes Over Time", p.58-61

"Remote Sensing Enables Space Shuttle Columbia Recovery", p.80-81

Optional Reading

O’Neill, S. & Nicholson-Cole, S. (2009). ‘Fear won’t do it’: Promoting positive engagement with climate change through visual and iconic representations. *Science Communication*, 30, 355–379.

Victoria Wibeck (2014) Enhancing learning, communication and public engagement about climate change – some lessons from recent literature, Environmental Education Research, 20:3, 387-411, DOI: 10.1080/13504622.2013.812720

[http://dx.doi.org/10.1080/13504622.2013.812720](http://colorbrewer2.org/)

Gammelgaard Jensen, A, Wibeck, V, Neset, T-S. (2016). Images of climate change – a pilot study of young people’s perceptions of ICT-based climate visualization. Climatic Change, 134(1), 73-85. DOI:10.1007/s10584-015-1533-9

Bishop, I. D. (2011). Landscape planning is not a game: Should it be? Landscape and Urban Planning, 100: 390-392.

Hulme, M. (2010). Problems with making and governing global kinds of knowledge. [Global Environmental Change](http://www.lib.umd.edu/binaries/content/assets/public/gov-info-gis/research-and-instruction/introduction-to-gis-workbook.pdf) [Volume 20, Issue 4](http://www.americangeosciences.org/sites/default/files/RemoteSensing.pdf?_ob=PublicationURL&_hubEid=1-s2.0-S0959378010X00048&_cid=271866&_pubType=JL&view=c&_auth=y&_acct=C000228598&_version=1&_urlVersion=0&_userid=10&md5=8ba0ab55579983044d393ef0a6f72b8d), October 2010, Pages 558-564

Johansson, J., Neset, T-S S., Linnér, B.-O. (2010). Evaluating Climate Visualization—An Information Visualization Approach. *Proceedings of the 14th IEEE International Conference on Information Visualisation*

Lewis, J L. and Sheppard, S.R.J. (2006). Culture and communication: Can landscape Visualisation improve forest management consultation with indigenous communities? *Landscape and Urban Planning*, 77: 291-313.

Marková, I., Linell, P., Grossen, M., and Salazar Orvig, A. (2007) *Dialogue in Focus Groups: Exploring Socially Shared Knowledge*. London: Equinox.

Moser, S. & Dilling, L. (2004). Making climate hot: Communicating the urgency and challenge of global climate change. *Environment*, 46, 32–46.

Moser SC (2010). Communicating climate change: history, challenges, process and future directions. *Wiley Interdiscip Rev Clim Change* 1:31–53

Neset, T.-S., Glaas, E., Gammelgaard Ballantyne, A., Linnér, B.-O., Navarra, C., Opach, T., Johansson, J., Bohman, A., Rød, J.K., Goodsite, M.. (2016). Climate Change at your Doorstep – Geographic Visualization to support Nordic homeowners in adapting to climate change. Applied Geography 74: 65–72, [DOI:10.1016/j.apgeog.2016.07.003](http://www.esri.com/library/ebooks/climate-change.pdf)

Nocke, T.; Sterzel, T.; Böttinger, M.; Wrobel, M. (2008). Visualization of Climate and Climate Change Data: An Overview, in Ehlers et al. (Eds.). *Digital Earth Summit on Geoinformatics:*

*Tools for Global Change Research*

Rose, Gillian (2016). Visual methodologies: an introduction to researching with visual materials. 4th edition London: Sage, pp. 1-23

Salter, J.D., Campbell C., Journeay, M., Sheppard, S.R.J. (2009). The digital workshop: Exploring the use of interactive and immersive visualisation tools in participatory planning. *J. of Environmental Management,* 90: 2090-2101.

Shaw, Alison, Stephen Sheppard, Sarah Burch, David Flanders, Arnim Wiek, Jeff Carmichael, John Robinson, and Stewart Cohen. (2009). “Making Local Futures tangible—Synthesizing, Downscaling, and Visualizing Climate Change Scenarios for Participatory Capacity Building.” *Global Environmental Change* 19 (4) (October): 447–463.

Sheppard, S. R. J. (2005). Landscape visualisation and climate change: the potential for influencing perceptions and behavior. *Environmental Science & Policy*, 8(6): 637-654.

Sheppard, S.R.J., Shaw, A., Flanders, D., Burch, S., Wiek, A., Carmichael, J, Robinson, J., Cohen, S. (2011). Future visioning of local climate change: A framework for community engagement and planning with scenarios and visualization. *Futures* 43 (2011)

Sheppard, S.R.J. (2012). *Visualizing Climate Change: A Guide to Visual Communication of Climate Change and Developing Local Solutions*. Routledge, London.

Sheppard, S.R.J (2015). Making climate change visible: A critical role for landscape professionals. Landscape and Urban Planning 142 (2015) 95–105.

Spence, R. (2014). Information Visualization: An Introduction (3rd Edition). ISBN 978-3-319-07341-5 (eBook)

<https://link.springer.com/book/10.1007/978-3-319-07341-5>

Spence, R. (2007). Information Visualization: Design for Interaction (2nd Edition). ISBN-13: 978-0132065504.

Tufte, E.R. (1990). Envisioning Information. ISBN-13: 978-0961392116

Van Beurden, A. U. C. J. and Douven, W. J. A. M. (1999) Aggregation issues of spatial information in environmental research, International Journal of Geographical Information Science, 13:5, 513-527, DOI: 10.1080/136588199241184

Ware, C. (2013). Information Visualization, Third Edition: Perception for Design (Interactive Technologies). ISBN-13: 978-0123814647

Wibeck, V. (2010) *Fokusgrupper: om fokuserade gruppintervjuer som undersökningsmetod* [Focus groups: on focused group interviews as a research method]. Lund, Sweden: Studentlitteratur.

Wrobel, M.; Hinkel, J.; Hofmann, M.; Nocke, T; Vohland, K. (2009). Interactive Access to Climate Change Information. Accepted at *International Symposium on Environmental Software Systems (ISESS'09)*, Venice, 2009.

 CALP (2010). Local Climate Change Visioning and Landscape Visualizations – Guidance Manual. [http://web.forestry.ubc.ca/calp/CALP-Visioning-Guidance-Manual-V1-1.pdf](https://www.esri.com/library/bestpractices/climate-change.pdf)

More on the CALP visioning projects:

[http://calp.forestry.ubc.ca/resources/](http://www.perceptualedge.com/articles/b-eye/encoding_values_in_graph.pdf)