



Annotated Bibliography

CIP Climate Change Committee, Issue 06

Title: Pathways to Action: Adaptation

Preamble (to be included in all releases): The Canadian Institute of Planners Climate Change Committee is developing a series of annotated bibliographies as one of our deliverables for this year. Through these bibliographies, we intend to tell a story that explores the dynamic and challenging issues that affect the ability of the planning profession to mitigate greenhouse gas emissions while adapting to the impacts of climate change. This story is the tale of a wicked problem, rooted in social complexity, policy and planning law, technological variability, and the geographic realities that define Canada.

Focus: As the “super-wicked” problem of our time, climate change is characterized by unusual long-term complexity and short implementation periods, which makes taking effective action daunting. Solutions lie in collaborative processes that balance public needs with specific sectoral interests with significant uncertainty and investment risk.

Key Takeaways: Adaptation theory changes rapidly, is technically complex, subject to specialization, while at the same time affects all aspects of urban and rural communities at multiple and inter-related scales. A comprehensive scan of adaptation resources is not possible to present in this format. However, a scan of adaptation resources related to community development suggest:

- Planners need to be mindful of competing interests that influence the development of adaptation policy, including:
 - The narrow scope of adaptation policy when compared to the expectations of the public;
 - The relevant and rationale influence of immediate needs, such as cost management on decisions, when compared to long-term transformational change; and
 - The impact of limited resources on the development of adaptation policy, including the additional effort necessary to consult with diverse community groups, and the resources required to accommodate uncertain and complex climate data.
- Emerging methods that balance the depth of analysis required to formulate adaptive policy with resource availability may offset some of these pressures. Some examples of these emerging approaches (Dynamic Adaptive Planning, Robust Decision Making, and Climate Corridor Analysis) are introduced below. Other approaches such as multivariate analysis and participatory scenario planning are examined in other annotated bibliographies.
- Regardless of emerging tools, trade-offs will and do occur in developing adaptation policy that addresses immediate community needs while attempting to foster transformative change. Evaluating these trade-offs at the outset of adaptation planning can improve the implementation of adaptive policies.



Annotated Bibliography

CIP Climate Change Committee, Issue 06

Annotated Bibliography:

Title	Author(s)	Publication Date	Relevance to Planners	Link
The Right Way to Build Resilience to Climate Change	D. Aldrich	2018	Social infrastructure and incremental approaches provide a more likely path to building resilience than an approach that advocates for the broad physical transformation of communities. An over-reliance on zoning can inhibit the effects of social infrastructure and exacerbate community vulnerability to climate change.	https://works.bepress.com/daniel_aldrich/42/
The Best Laid Plans: Impacts of Politics on Local Climate Change Adaptation	I. Picketts	2018	The effects of shifting political priorities on the implementation of climate change adaptation are evaluated in a Canadian case study. Learnings suggest that initiatives linked to cost savings are more likely to continue after political shifts while those characterized as academic are more likely to stall (abstract only).	https://www.sciencedirect.com/science/article/pii/S1462901118303617
Why Popular Support Tools on Climate Change Adaptation have Difficulties in Reaching Local Policy Makers: Qualitative Insights from the UK and Germany	C. Clar and R. Steurer	2018	Policy support for climate change adaptation has grown rapidly, and support tools are readily available. However, while such tools offer support to developing and implementing adaptation plans, local policy-makers find this irrelevant. Policy-makers instead expect support in coping with imminent climate change impacts via single adaptation measures. Policy support tools, therefore, lack relevance when their well-intended attempt to enlighten target groups is too remote from what the latter expected.	https://onlinelibrary.wiley.com/doi/full/10.1002/eet.1802



Annotated Bibliography

CIP Climate Change Committee, Issue 06

Adaptation Policy and Community Discourse: Risk, Vulnerability, and Just Transformation	D. Schlosberg	2017	The risk orientation of local governments tend to be top-down while the interests of community groups tend to be bottom-up. Citizens are commonly interested in a radical transformation of their community. Local governments focus on addressing specific, narrowly-defined, issues. Discourse and an exchange of ideas are important in balancing these perspectives.	https://www.tandfonline.com/doi/full/10.1080/09644016.2017.1287628
The “Resilience Trap”: Exploring the Practical Utility of Resilience for Climate Change Adaptation in UK City Regions	A. Kythreotis and G. Bristow	2017	A sample of UK city-regions suggests that resilience is assuming greater significance to climate policy than adaptation. The benefits of this include a narrower focus for climate action (i.e. reduced complexity), a more accessible scope for actions, and pragmatic outcomes. However, an over-emphasis on resilience can also lead to the promotion of short-term responses and hinder clear and practical policy leading to long-term change.	https://www.researchgate.net/profile/Andrew_Kythreotis/publication/305692881_The_%27resilience_trap%27_exploring_the_practical_utility_of_resilience_for_climate_change_adaptation_in_UK_cities_regions/links/5af42a100f7e9b026bcd08b3/The-resilience-trap-exploring-the-practical-utility-of-resilience-for-climate-change-adaptation-in-UK-city-regions.pdf
Making Climate Change Tangible for Strategic Adaptation Planning: The Climate Corridor Approach	B. Orłowski, P. Calanca, I. Ali,...K. Schmidt	2017	The climate corridors approach provides an approach to risk assessment that makes modest demands on data and provides a low-cost yet quantitative means for assessing the need for, and performance of, adaptation activities (abstract only).	http://meetingorganizer.copernicus.org/EGU2017/EGU2017-2313.pdf
A Survey of Decision-Making	R. Dittrich, A. Wreford,	2016	While the costs of adaptation might be observable and immediate, the benefits are often uncertain. The limitations of traditional decision-making	http://openaccess.sruc.ac.uk/bitstream/handle/11262/10926/10926.pdf?sequence=2&isAllowed=n



Annotated Bibliography

CIP Climate Change Committee, Issue 06

Approaches for Climate Change Adaptation: Are Robust Methods the Way Forward	and D. Moran		processes in the context of adaptation and recognized and robust approaches are emerging. This research examines several robust approaches to balancing meaningful analysis with simple implementation. Robust decision-making is recommended as one such approach.	
Dynamic Adaptive Approach to Transportation-Infrastructure Planning for Climate Change: San Francisco Bay Area Case Study	T. Wall, V. Marchau, and W. Walker	2015	Dynamic adaptive planning is a general strategic planning method that accounts for deep uncertainties by building flexibility and learning mechanisms into plans and enables continuous adaptation throughout implementation. The authors demonstrate the utility of the approach in the context of redeveloping the San-Francisco-Oakland Bay Bridge.	https://www.researchgate.net/profile/Warren-Walker/publication/277912469_Dynamic_Adaptive_Approach_to_Transportation-Infrastructure_Planning_for_Climate_Change_San-Francisco-Bay-Area_Case_Study/links/5589c6d108ae2affe7152519/Dynamic-Adaptive-Approach-to-Transportation-Infrastructure-Planning-for-Climate-Change-San-Francisco-Bay-Area-Case-Study.pdf
Explaining and Overcoming Barriers to Climate Change Adaptation	K. Eisenack, S. Moser, E. Hoffmann, and C. Termeer.	2014	Barriers hinder the planning and implementation of climate change adaptation. Common barriers include conflicting timescales, institutional uncertainty, lack of resources, and unwillingness to act. The influence of barriers are interdependent and not well understood.	https://www.researchgate.net/profile/Richard-Klein2/publication/266135724_Explaining_and_overcoming_barriers_to_climate_change_adaptation/links/5425ca1d0cf2e4ce9406f671/Explaining-and-overcoming-barriers-to-climate-change-adaptation.pdf
Envisioning Robust Climate Change Adaptation Futures for	T. van der Voorn, J. Quist, C. Pahl-Wostl, and	2014	Three different cases of adaptation planning are evaluated to develop a better understanding of how visioning can support adaptation planning. The study results suggest that visioning is a strong tool for climate change adaptation planning and, while a single vision is not necessarily a required,	https://www.researchgate.net/publication/282575112_Envisioning_robust_climate_change_adaptation_futures_for_coastal_regions_a_comparative_evaluation_of_cases_in_three_continents



Annotated Bibliography

CIP Climate Change Committee, Issue 06

Coastal Regions: A Comparative Evaluation of Cases in Three Continents.	M. Haasnoot		a diversity of viewpoints can be challenging to facilitate. Moreover, multiple interpretations of the future are useful but require novel expertise.	
Local Government Response to the Impacts of Climate Change: An Evaluation of Local Climate Adaptation Plans	Baker, A. Peterson, G. Brown, and C. McAlpine	2012	This survey of adaptation planning in Australia suggests that local governments are not effectively planning for climate impacts because of the complexity of the subject area and their limited capacity.	https://s3.amazonaws.com/academia.edu.documents/44561117/baker_etal.pdf?AWSAccessKeyId=AKIAIWOWYYGZ2Y53UL3A&Expires=1528141193&Signature=B8DGzKy52tXXx0qKzKNd2WolrSA%3D&response-content-disposition=inline%3B%20filename%3DLocal+government+response+to+the+impacts.pdf

Interested in more information related to the tools referenced above? These resources are available in the grey literature and provide details on what the tools are and how they can be used:

- Climate Corridor Analysis: An Introductory Manual (Swiss NGO/DRR Platform/CARITAS): http://www.drrplatform.org/images/DocPub/2017_manual_ClimateCorridors.pdf
- Robust Decision Making (ECONADAPT/Toolbox): <https://econadapt-toolbox.eu/robust-decision-making>
- Participatory Scenario Development and Future Visioning in Adaptation Planning (IISD): <http://www.iisd.org/sites/default/files/publications/participatory-scenario-development-future-visioning-adaptation-lessons-part-i.pdf>

For adaptation resources and climate change information:

- Adaptation Planning (Natural Resources Canada): <https://www.nrcan.gc.ca/environment/resources/publications/impacts-adaptation/tools-guides/11080>.
- The ECONADAPT Toolbox (European Union): <https://econadapt-toolbox.eu/>.



Annotated Bibliography

CIP Climate Change Committee, Issue 06

- Climate Change Planning Tools for First Nations (CIER): <http://www.yourcier.org/climate-change-planning-tools-for-first-nations-guidebooks-2006.html>.
- Canadian Institute of Planners Climate Change Resources (CIP): <https://cip-icu.ca/ClimateChange#>.
- Adaptation Library: Resources for Climate Change Adaptation (Natural Resources Canada): <http://www.adaptationlibrary.ca/#/options/>.

This annotated bibliography is intended to provide an introduction to the subject area and further exploration by the reader. It is not intended to be comprehensive. We have also focused solely on open source resources to ensure the referenced resources can be accessed by a broad audience. That said, we are interested in your feedback! If you have additional resources or themes you would like us to explore, please let us know through the Canadian Institute of Planners.

The Climate Change Committee is a volunteer committee established by the Canadian Institute of Planners provide current, cutting-edge guidance and direction on how to address the impacts of climate change on our communities and within the professional practice of members.