

Doing Adaptation Differently? Does Neoliberalism Influence Adaptation Planning in Queensland?

Lachlan McClure¹ and Douglas Baker¹
¹School of Civil Engineering and Built Environment
Science and Engineering Faculty
Queensland University of Technology

Abstract: Australian cities are particularly vulnerable to climate change. Adapting to climate change is a critical task for contemporary spatial planning, one that is widely recognised by the planning profession and beginning to receive substantive attention in planning policy. However adaptation takes place within the context of established spatial governance regimes and planning cultures, and examples of effective adaptation are often grounded in progressive contexts markedly different than Australia. In Australia, planning is subject to strong neoliberal reform agendas (Gleeson & Low, 2000a, 2000b) and national adaptation policies align with neoliberal views (Granberg & Glover, 2011). Planning in Queensland has been subject to deregulation (Buxton et al., 2012) and the continued influence of neoliberalism (Wright & Cleary, 2012). The influence of neoliberalism on climate change adaptation has received little consideration in research and literature. This paper reviews a case study of adaptation planning through the lens of the recent and contemporary influences of neoliberalism. It examines spatial/land-use planning for climate change adaptation in Queensland, identifying the underlying rationales, priorities and strategies. A justification for such an investigation is advanced based on the challenges to planning facilitating adaptation and identified links to neoliberalism. A preliminary analysis of interviews with planners is then used to identify and discuss the ideological influences practitioners perceive in current approaches to adaptation in Queensland and the implications of such.

1.0 Introduction and Scope

Adapting to climate change is a critical task for contemporary spatial planning. Planning for climate change adaptation involves navigating and negotiating competing objectives and interests, a contested landscape wherein ideological influences may influence the scope and direction of policy. This paper introduces a study of spatial planning for climate change adaptation in a governance context characterised by neoliberal influences. It will identify influences and look to instances where planning has considered and pursued adaptation despite a limiting framework and context.

Three themes underpin this paper: climate change adaptation, spatial planning and neoliberal governance. Spatial adaptation is any process or measure which seeks to change land use patterns or land use characteristics to accommodate climate change. Planning is expected to provide the instrumental framework or delivery mechanism to implement strategies and measures to reduce the vulnerability and increase resilience (Meyer et al., 2010). It is also involved in exploring and negotiating priorities and options within a contested policy landscape (Biesbroek et al., 2009; Davoudi et al., 2009). The critical geography literature discusses neoliberalisation as the process of market oriented regulatory restructuring which occurs through varied and uneven processes but has a common foundation in contemporary economic liberalism (Brenner & Theodore, 2005; Peck et al., 2009). Neoliberalism has been identified as '*an essential descriptor of the political trends and bureaucratic transformations forming the conditions under which planners work*' (Sager, 2011, p149). Consistent with a rationale of deregulation, neoliberal perspectives have called for planning to be rolled back and reoriented around a market framework of incentives, flexible planning tools and entrepreneurial models of governance (Taşan-Kok & Baeten, 2012). This neoliberalisation of spatial governance may have significant implications to how planning goes about adaptation and the overall capacity of planning to respond to climate change and facilitate adaptation (Fieldman, 2011; Whitehead, 2013).

First a justification is provided for the adoption of neoliberalism as a lens to review spatial planning for climate change adaptation. Second an argument is made for selecting Queensland as a case study of a planning framework in which neoliberal influences are present. Finally a preliminary analysis of pilot interviews is discussed to explore the ideological influences in current approaches to adaptation in Queensland.

2.0 Spatial Adaptation and Neoliberalism

The following section makes an argument for an analysis of planning policy and practice concerned with climate change adaptation through the lens of the influence of neoliberalism. This argument is made on the basis of the identified challenges to the capacity of planning to successfully facilitate adaptation and observations linking adaptation paths with characteristics of neoliberal governance.

2.1 Challenges in Facilitating Adaptation

Planning is said to have many of the necessary characteristics to meet the challenge of adapting to climate change. Susskind (2010) states that adaptation planning needs to be action oriented, adaptive, strategic and broadly supported. Crane and Landis (2010, p398) argue that planning is *'strategic, adaptive, results oriented, involve diverse stakeholders, and incorporate multiple scenarios'* and is experienced in working under conditions of uncertainty, incomplete information and coordinating collective action. Hurlimann and March (2012, p480) also argue planning is suited to facilitate adaptation. However others are more conscious of the challenges to facilitating adaptation including competing objectives, strong economic development agendas and historic ineffectiveness at facilitating sustainability (Bulkeley, 2006; Campbell, 2006; Howard, 2009).

Planning involves multiple complex concerns. Bulkeley (2006, 2009) argues that the adaptation agenda may cause tensions between other legitimate dimensions of planning. This occurs when adaptation objectives such as development of renewable energy infrastructure and limiting development on floodplains are subordinated by other objectives such as visual amenity and housing provision (Bulkeley, 2009). Similarly Measham et al. (2010) observed conditions where other planning objectives competed with adaptation for priority and resources, ultimately constraining adaptation. These situations are attributed by Owens and Cowell (2010) to competing interpretations of sustainability and divergent conceptions of the public good. In these situations adaptation may be supported at the strategic level but not successfully implemented. While the reconciliation of objectives is a function of planning and may legitimately qualify the achievement of some objectives (Owens & Cowell, 2010), this process has conventionally resulted in the prioritisation of economic objectives over socio-environmental interests.

Economic development agendas may also undermine climate change adaptation. Howard (2009, p30) considers that adaptation is *'not a task for which planning is constitutionally well equipped'* based on the continued influence of *'the political and economic forces that powerfully shaped the profession'*. It has been argued of sustainability for example that it has been captured by economic interests and redeployed through notions of sustainable development to support existing development patterns (Gunder, 2006). These forces underpin the dominant development agenda which Grist (2008) identifies as responsible for approaches to adaptation which fail to question the underlying sustainability of development patterns. Brooks et al. (2009) similarly conclude that approaches which do not significantly challenge existing development patterns will be inadequate to facilitate the required adaptation. Planning may on a rhetorical level cite adaptation but falter through a commitment to fundamentally unsustainable economic objectives and development patterns which undermine the capacity for the pervasive change.

The capacity to facilitate adaptation has also been questioned with reference to planning's historic part in contributing to climate change and ineffectiveness at delivering more sustainable development. Responsibility unsustainable spatial development patterns characterised by urban sprawl and automotive dependence cannot be exclusively attributed to market forces, but planning policies such as highway development and density restrictions argues Brooks et al. (2009). This is described by Howard (2009, p30) as *'a century of disastrous planning'* for which planning is attributed *'historic culpability in the emergence of climate change'*. Howard (2009) likewise questions the prospect for planning to facilitate adaptation without significant reorientation. Similarly sustainability has while originally heralded as providing planning new purpose and legitimacy (Davoudi, 2000) has been lacking in implementation (Gunder, 2006). Owens and Cowell (2010) argue that a gap exists between rhetoric and outcome and that only modest reductions the level of environmental damage caused by development has been achieved. Similar problems are faced by adaptation warns Brown (2011); it is open to broad interpretation, difficult to translate into policy and could be used to justify existing development patterns.

These challenges which involve conflicting objectives, strong development agendas and the past ineffectiveness highlight the contested landscape in which adaptation is pursued. Bulkeley (2009,

p294) reflects on this arguing that '*what it means to respond to climate change is defined, contested and made material through processes of negotiation and conflict.*' In this arena of negotiation and conflict ideological influences such as neoliberalism can emerge to shape policy.

2.2 Evidence of Neoliberalism in Adaptation

Links between climate change adaptation and patterns of neoliberal governance are increasingly being considered and observed. Neoliberal rationales have been identified in a broad range of planning policies which favour private sector solutions, employ competitive governance, emphasise property rights and prioritise economic development (Sager, 2011). Likewise concepts of sustainability are argued to have been aligned with neoliberal development agendas in planning (Gunder, 2006). More recently, consideration has been given to the position of smart city policies in an '*era of market triumphalism*' (Gibbs et al., 2013, p1). The parallel existence of discourses of smart growth and embedded conditions of neoliberal urbanism and the tensions of such circumstances were observed. These links to neoliberalism are also being made in the area of adaptation planning.

Adaptation policies and approaches have been observed to correlate with neoliberal concepts of urban governance. Grist (2008) and Brown (2011) for example locate current approaches to adaptation within the context of limited reformist paths to sustainable development which include market environmentalism, ecological modernisation and environmental populism. Neoliberal influences have been identified in adaptation policies which emphasise individual responsibility and capacity to adapt (Felli & Castree, 2012) and are consistent with neoliberal principles of individual responsibility and the role of government (Granberg & Glover, 2011). In Australia the prevailing approach to adaptation planning has been described as ecological modernisation (Byrne et al., 2009). Likewise Granberg and Glover (2011) contend that emerging national climate change adaptation policy reflects concepts of individual responsibility and the role of government consistent with a neoliberal position.

Fieldman (2009, 2011) in particular stresses the implications of neoliberalism on climate change adaptation. Fieldman (2011) links the operation of neoliberal systems of uneven accumulation and diminished social welfare functions to conditions of radical inequality implicit in the production of climate vulnerability. This is supported by observations that patterns of climate change vulnerability correlate with patterns of social vulnerability originating from neoliberal social and economic systems (Leichenko & O'Brien, 2008). Furthermore Fieldman (2011) argues that in limiting the role and resources of government neoliberalism impairs the coordinated collective action through a well functioning state which is critical to effective adaptation (Adger, 2003).

Whitehead (2013) goes further than simply attributing observations to neoliberal influences by directly applying critical theories of neoliberal urban environmentalism to climate change adaptation. The argument is made that '*contemporary adaptation policies are being framed by neoliberal practices of market-oriented governance, enhanced privatisation and urban environmental entrepreneurialism*' (Whitehead, 2013, p1). Neoliberal visions of adaptation including competitive adaptation, automatic/autonomous adaptation and adaptation markets are critiqued. Whitehead (2013) evaluates the neoliberal foundation of Kahn's (2010) image of competitive metropolitan adaptation, Hodson and Marvin's (2009) observation of ecological security working to attract economic development, and the market based financing and public sector delivery options identified in particular adaptation programs. These Whitehead (2013) argues are grounded in neoliberal concepts of competition driven, market oriented, private sector lead adaptation.

A growing number of contributions are linking neoliberalism and adaptation by identifying and attributing observations to neoliberal conditions, theorising the influence of neoliberalism on adaptation capacity and in the emerging application of critical theories of neoliberal urbanism to adaptation policy. The growing awareness of this influence along with a recognition of the particular challenges planning faces in facilitating adaptation demonstrate the need for inquiry in this area.

3.0 Neoliberal Influences on Planning in Queensland

Exploring adaptation within the context of *actually existing* neoliberalism requires a situated investigation. A suitable case would feature both a significant vulnerability to climate change impacts to motivate a consideration of adaptation and have planning contexts which are subject to neoliberalism. Queensland meets these two criteria. Vulnerability assessments show that Queensland will experience advanced impacts from climate change (IPCC, 2007) and Queensland settlements have high vulnerability to extreme heat, rainfall and coastal hazards (Low-Choy et al., 2010).

Furthermore progress has been made on planning for adaptation on a local level (Low-Choy et al., 2010) and a regional level (Matthews, 2013). Australia has been identified as part of the '*neoliberal heartland*', having been subject to greater neoliberal restructuring of broader governance functions (Geddes, 2008). Planning has also had to navigate strong neoliberal influences. Numerous accounts have identified neoliberal discourses in planning and described key elements of planning in Queensland as neoliberal. The overview of these accounts which follows underpins the rationale for adopting this theoretical lens to a case study of adaptation planning in Queensland.

Gleeson and Low (2000a) provide a detailed analysis of the influence of planning reforms in Australia which they identify as grounded in neoliberal critiques. They identify discourses of competition, efficiency and deregulation in planning reforms and stakeholder views concerning the planning system. This they hold has not been the product of the agenda of any one government or political faction but a long-term trend towards reducing the domain of planning and privatising residual functions as part of effort to facilitate development. Contemporary visions of a productive city are argued by Gleeson and Low (2000) to be evidence of the subsumption and redeployment of planning and its democratic and environmental aspirations as a market dynamic. Aspects of neoliberalism have been employed to describe and explain a number of aspects of planning in Australia including metropolitan planning (McGuirk, 2005), airport land development (Freestone, 2011), housing policies (Gilmour, 2006), surplus land management (Goh & Williams, 2011), metropolitan place making (Bosman & Dredge, 2011) and regional policy (Tonts & Haslam-McKenzie, 2005).

In Queensland the statutory planning framework follows a performance based rationale notionally providing for greater flexibility of land use and built form and following an entrepreneurial agenda of attracting capital by facilitating development (Baker et al., 2006; Steele, 2009; Yearbury, 1998). Buxton, Goodman and March (2012, p108) also observed that '*the neoliberal shift has led to a change from regulation and directive spatial plans to an approach based on outputs and performance indicators*' and declaring that '*the Queensland government has most noticeably embraced the deregulation model*'. This shift has recast and refocused planning on facilitating private sector decision making. Similarly Gleeson, Dodson and Spiller (2012) reflect on the '*planning deficit*' in Australian cities characterised by what they see as the underdevelopment of planning mechanisms. Processes of privatisation and conditions of splintered or unbundled infrastructure development in Queensland have been identified as examples of the influence of neoliberalism in planning (Gleeson & Steele, 2009). Within this context of '*neoliberalised governance*' Steele (2009) observes the emergence of new hybrid roles for planners in navigating the space between public and private realms. Commentaries discussing the contemporary directions in planning policy in Queensland predict the ongoing strength and increasing influence of neoliberalism (Wright & Cleary, 2012). At the state level, recent planning reforms have focused on simplifying state planning interests and increasing the timeliness and efficiency of development approval.

The established use of the concept of neoliberalism as an analytical tool to interpret and describe elements of planning in Australia and Queensland and the alignment of many observations with neoliberal models of planning demonstrates the appropriateness of adopting and applying this theoretical lens.

4.0 Investigation of Neoliberal influences on Adaptation in Queensland

The following section documents findings of a preliminary investigation of a case study. This preliminary investigation was undertaken to identify key themes and views and to indicate areas of adaptation policy where neoliberal influences might be encountered. The questions to be answered were: How does adaptation planning show evidence of the influence of neoliberal contexts? How are planners pursuing adaptation within these contexts? What lines of inquiry should be pursued to further explore these circumstances? Analysis of pilot interviews and policy documents was undertaken to this end. This identified themes which warranted investigation and provided a contextual and practice based foundation for further interview investigations.

Interviews involved planners with knowledge and experience of adaptation in Queensland. Under the pilot phase 6 planners were interviewed. A range of public and private sector planners involved in planning at local, regional and state scales and from various regions across the state were sought to engage a broad knowledge base and access a wide spectrum of experiences and opinions. Participants were at a professional level at which their role was to lead and coordinate the development of plans and projects. The majority of participants had a background in local government

planning while some had knowledge and experience from backgrounds in state and regional level planning and private sector planning. While all participants represented metropolitan and coastal planning concerns a balance was achieved between those from South East Queensland and other regions of the state.

The interview process involved in-depth semi-structured interviews conducted on both an individual and group basis. Participants were asked to consider common themes and questions but in line with the inductive nature of the preliminary investigation were permitted a large degree of freedom to determine the content and direction of discussions. Audio recordings and notes were made and transcribed, following which thematic analysis was undertaken. A review of policy documents that provide the context and framework for adaptation planning in the case study area was also conducted.

Lines of inquiry were initially developed based on accounts of the influence of neoliberalism in other areas of planning policy. These suggested that neoliberal influences may be evident in favouring the private sector, employing competitive governance, emphasising property rights and prioritising economic development (Sager, 2011), or in specific strategies of deregulation, privatisation and marketisation (Castree, 2010). Potential neoliberal approaches mechanisms for adaptation identified included property values and insurance costs, individual and private sector adaptation, competitive metropolitan adaptation and climate migration (Whitehead, 2013). An example of the interview questions include: What risks and impacts are individuals and organisations expected to respond to and what risks and impacts are considered the domain of planning? How are conflicts between adaptation objectives and property rights and economic development interests resolved? The content of interviews determined the themes appropriate for the following analysis and discussion, these are responsibility for adaptation, property and development interests, and competitive governance and adaptation.

4.1 Individual and Collective Responsibility

The issue of responsibility for planning for adaptation involves questions of the extent of individual responsibility. High level documents such as the Australian Government position paper *Adapting to Climate Change in Australia* (2010) and the Productivity Commission Report *Barriers to Effective Climate Change Adaptation* (2012) identify that individuals have significant responsibility for independently adapting to climate change. They argue that the role of Government is in '*creating the right framework and in providing appropriate information to allow the private sector to make well-informed decisions*' (p1) and state that '*policy instruments, such as land use planning, codes and standards or environmental or public health legislation, can play an important role where market mechanisms are ineffective*' (p8). Granberg and Glover (2011) argue that this emphasis and reliance on private sector and market based adaptation corresponds to neoliberal views of the role of government. The interviews however demonstrated a distinct deviation from this confident expression of the neoliberal ideal when it came to land use planning. Interview participants identified the role of government in providing information such as flood risk to allow individuals to make informed decisions, however they did not limit its involvement thereto. Participants expressed scepticism as to whether property markets reflect informed assessments of environmental risks, and noted the limited means by which individual property owners can adapt. In some circumstances interviewees identified situations where individual adaptation resulted in maladaptation. In response to the question of individual capacity to adapt, one participant responded: '*the only way a person is going to do this is to put up a sea wall or something like that. [As] soon as you start putting in those sort of hard interfaces with the coastal side of things, all you are doing is pushing the issue from gradually in front of your place to another*'. Another participant identified that many responses to environmental risks and vulnerabilities taken by individuals involved the government in some manner, for example, property owners seeking council buy-back of flood prone property. Overall, the participants were sceptical of the capacity of individuals to independently adapt and were conscious of the limitations of such options in a distinct contrast to a common neoliberal ideal.

4.2 Level of Government Agency

The level of government responsible for a particular function is also of interest in studying neoliberalism and adaptation, with traditionally neoliberal approaches to planning involving the patterned devolution of responsibilities to the lowest level of government (Thornley, 1991). State level planning policy in Queensland has recently been condensed into the State Planning Policies and adaptation is not a major subject of the current framework conforming to a deregulatory rationale.

Participants held that the majority of adaptation efforts occurred at the local level: *'more often than not the community gets lumped with it because local authority is the end of the line'*. Some participants directly identified devolution of responsibilities relating to implementation of disaster resilience similar to other planning concerns. This view was expressed eloquently by one participant as the *'total abdication of responsibility'* suggesting that this was undertaken under the guise of 'empowering local government'. One problem of this approach was that was raised by participants relates to the capacity for local governments, especially smaller ones, to pursue adaptation within fiscal constraints. This has the potential to create regional inequalities. The involvement of higher levels of government was identified specifically in initiating and funding cooperative projects with local governments. The allocation of responsibility to lower levels of government based on the principle of subsidiary but without related financial recourses and partnership based initiatives can be seen to mirror patterns of neoliberal governance.

4.3 Property and Development Interests

The relationship between adaptation, private property and development interests is a poignant confluence where neoliberal influences might (should!) potentially be manifest. On this issue, interview participants commonly discussed what the community accepted as the limits of planning intervention with private property. One defining limit was the negative community and business reaction to decreased development rights through down zoning or increasing the cost of post disaster reconstruction through additional development conditions. Notably however these were discussed as accepted parameters to planning intervention, with which adaptation planning must align. Efforts then are focused on restricting intensification of areas already vulnerable and redirecting development to more appropriate areas. Participants acknowledged the potential for tensions between property and development interests and adaptation, but concluded that these had been avoided by limiting objectionable changes: *'there is tension there in terms of reducing development rights. But overall we haven't experienced huge change in terms of zoning decisions... we are not back zoning property but we are not allowing any intensification'*. The strong private property and development parameters suggest that planning is responding within a context underpinned by neoliberal concepts and values, which might support current development trajectories and fall short of the transformative change required (Brooks et al., 2009) such as urban relocation and retreat.

4.4 Competitive Governance and Adaptation

Competitive governance is a central feature of neoliberal planning policies (Sager, 2011). One particular theme in the literature is that ecological security will emerge as a factor in metropolitan competition to influence the patterns of urban investment and development (Hodson & Marvin, 2009; Kahn, 2010; Whitehead, 2013). This implies an uneven distribution of adaptation capacity, and requires a degree of mobility for interests to select regions with favourable environmental conditions (Felli & Castree, 2012). Several interview participants noted that in response to a question of adaptation capacity there is potential for this uneven distribution of adaptive capacity to develop. They noted that in the context of devolved responsibility local authorities have varying capacities in terms of financial resources, technical ability and baseline information. Many adaptation initiatives focus on securing economic centres which will conceivably reduce the location risk and increase the competitive advantage of that location for business activity. This might be made worse by competitive rather than needs based project funding. A number of participants noted that some smaller local authorities rely to some degree on larger authorities for expertise and resources, particularly following disaster events. While falling short of established conditions of metropolitan competition based on urban ecological security, the potential for neoliberal conditions of uneven investment and protracted geographic inequality based on the relative adaptation resources of different locations can be seen to have potential to develop. Peck et al. (2009, p51) have identified the negative impacts of market oriented reforms as *'uneven economic stagnation, intensifying inequality, destructive interlocality competition, wide ranging problems of regulatory coordination and generalized social insecurity'*. Thus the uneven distribution of greater socio-spatial benefits could occur through the constrained capacity of some areas in regards to adaptation.

4.5 Adaptation Strategies and Approaches

Some definitions of neoliberalism are based on the characteristic processes of deregulation, privatisation and marketisation (Castree, 2010). The interviews did not identify or discuss situations correlating to these strategies and there would appear to be limited opportunity for such strategies in adaptation. Property prices and insurance premiums have been suggested as market signals of the need to adapt such as in the Productivity Commission Report *Barriers to Effective Climate Change*

Adaptation. No direct views on this were recorded, but practical barriers to the effective use of market signals were identified by participants. Examples provided by participants included the view that property markets do not reflect true environmental risk and the influence of direct financial assistance provided to individuals who experience extreme weather events in reducing incentives for individual adaptation.

4.6 Adaptation Despite Neoliberalism

While it has been demonstrated that neoliberalism is in some ways reflected by approaches to adaptation, adaptation has nevertheless been pursued both at the local level (Low-Choy et al., 2010) and regional level (Matthews, 2013). This indicates that practice is involved in finding strategies to advance adaptation within the parameters of this context and suggests that there are instances of opposition and resistance to these parameters. Interviews showed planners held views on the limited potential for purely individual and market based adaptation in the spatial sphere, however questions did not extend in any great detail to identifying the strategies or instances employed to further adaptation in this context. This is a topic for future investigations.

5.0 Conclusions and Future Directions

This initial investigation has identified potential lines of inquiry for further investigating the influence of neoliberalism on adaptation policy. These lines of inquiry relate to concepts of responsibility for adaptation, tensions between property and development rights, and patterns of competitive or uneven adaptation. Interviews have shown that planning as a process is not engaged in promoting a neoliberal agenda, however some neoliberal influences are evident as they shape the context and parameters of adaptation. The planners interviewed did not expect or experience a strong individual response to adaptation as idealised by neoliberalism. On the other hand, tensions between property and development interests and adaptation planning were identified, and were curbed by planning within and not challenging the status quo and established scope of influence. Finally, the unequal capacity of some local authorities to adapt to climate change raises questions of climate inequality and remains a challenge in planning. These observations are consistent with the concept of a varied and contextual landscape of neoliberal urbanism and support the need for a more differentiated language of neoliberalism to explore policies navigating neoliberal contexts. In summary the established context and ideological landscape give rise to many potential challenges and directions for adaptation planning. In some cases neoliberal parameters appear to influence adaptation, in others there is awareness of the limitations of neoliberal visions of adaptation and finally in many cases the tension between these interests remains.

References

- Adger, W. (2003). Social capital, collective action, and adaptation to climate change. *Economic Geography*, 79(4), 387-404.
- Baker, D., Sipe, N., & Gleeson, B. (2006). Performance-based planning: perspectives from the United States, Australia, and New Zealand. *Journal of Planning Education and Research*, 25(4), 396-409.
- Biesbroek, G., Swart, R., & Van der Knaap, W. (2009). The mitigation–adaptation dichotomy and the role of spatial planning. *Habitat International*, 33(3), 230-237.
- Bosman, C., & Dredge, D. (2011). Histories of placemaking in the Gold Coast City: The neoliberal norm, the state story and the community narrative. *Griffith University Urban Research program*.
- Brenner, N., & Theodore, N. (2005). Neoliberalism and the urban condition. *City*, 9(1), 101-107.
- Brooks, N., Grist, N., & Brown, K. (2009). Development futures in the context of climate change: challenging the present and learning from the past. *Development Policy Review*, 27(6), 741-765.
- Brown, K. (2011). Sustainable adaptation: an oxymoron? *Climate and Development*, 3(1), 21-31.
- Bulkeley, H. (2006). A changing climate for spatial planning. *Planning Theory and Practice*, 7(2), 203-214.

- Bulkeley, H. (2009). Planning and governance of climate change. In S. Davoudi, J. Crawford & A. Mehmood (Eds.), *Planning for climate change: strategies for mitigation and adaptation for spatial planners*. London: Earthscan.
- Buxton, M., Goodmain, R., & March, A. (2012). Planning systems, urban form and housing In *Australia's unintended cities*. Melbourne: CSIRO.
- Byrne, J., Gleeson, B., Howes, M., & Steele, W. (2009). Climate change and Australian urban resilience: the limitations of ecological modernisation as an adaptive strategy. In S. Davoudi, J. Crawford & A. Mehmood (Eds.), *Planning for climate change: strategies for mitigation and Adaptation for spatial planners*. London: Earthscan.
- Campbell, H. (2006). Is the issue of climate change too big for spatial planning? *Planning Theory & Practice*, 7(2), 201-230.
- Castree, N. (2010). Neoliberalism and the biophysical environment 1: What 'neoliberalism' is, and what difference nature makes to it. *Geography Compass*, 4(12), 1725-1733.
- Crane, R., & Landis, J. (2010). Introduction to the special issue. *Journal of the American Planning Association*, 76(4), 389-401.
- Davoudi, S. (2000). Sustainability: a new vision for the British planning system. *Planning Perspectives*, 15(2), 123-137.
- Davoudi, S., Crawford, J., & Mehmood, A. (2009). Climate change and spatial planning responses In S. Davoudi, J. Crawford & A. Mehmood (Eds.), *Planning for climate change: strategies for mitigation and adaptation for spatial planners*. London: Earthscan.
- Felli, R., & Castree, N. (2012). Neoliberalising adaptation to environmental change: foresight or foreclosure? *Environment and Planning A*, 44(1), 1-4.
- Fieldman, G. (2009). Inequality and the missing common good: Challenges to climate adaptation in the new (neoliberal) world order. Paper presented at the *IOP Conference Series: Earth and Environmental Science 2009*.
- Fieldman, G. (2011). Neoliberalism, the production of vulnerability and the hobbled state: systemic barriers to climate adaptation. *Climate and Development*, 3(2), 159-174.
- Freestone, R. (2011). Managing neoliberal urban spaces: commercial property development at Australian airports. *Geographical Research*, 49(2), 115-131.
- Geddes, M. (2008). Neoliberalism and local governance - cross-national perspectives and speculations. In *Innovations in urban politics*. London: Routledge.
- Gibbs, D., Krueger, R., & MacLeod, G. (2013). Grappling with smart city politics in an era of market triumphalism. *Urban Studies*, 50(11), 2151-2157.
- Gilmour, T. (2006). Free markets? Reflections on the neoliberal planning of housing in sydney. In *Dialogues in Urban Planning*. University of Sydney.
- Gleeson, B., Dodson, J., & Spiller, M. (2012). Governance, metropolitan planning and city-building: the case for reform. In *Australia's unintended cities*. Melbourne: CSIRO.
- Gleeson, B., & Low, N. (2000a). Revaluing planning: rolling back neo-liberalism in Australia. *Progress in Planning*, 53(2), 83-164.
- Gleeson, B., & Low, N. (2000b). 'Unfinished business': neoliberal planning reform in Australia. *Urban Policy and Research*, 18(1), 7-28.
- Gleeson, B., & Steele, W. (2009). The bellweather zone? Planning infrastructure in South East Queensland. Paper presented at the *State of Australian Cities Conference 2009*.
- Goh, L., & Williams, P. (2011). Neoliberalism and the role of the state in surplus public land management: protecting Sydney Harbour's open space legacy. Paper presented at the *State of Australian Cities National Conference 2011*.
- Granberg, M., & Glover, L. (2011). Adapting Australian cities to climate change: is there a growing risk of maladaptation? Paper presented at the *State of Australian Cities 2011*.
- Grist, N. (2008). Positioning climate change in sustainable development discourse. *Journal of International Development*, 20(6), 783-803.
- Gunder, M. (2006). Sustainability: planning's saving grace or road to perdition? *Journal of Planning Education and Research*, 26(2), 208-221.

- Hodson, M., & Marvin, S. (2009). 'Urban Ecological Security': A New Urban Paradigm? *International Journal of Urban and Regional Research*, 33(1), 193-215.
- Howard, J. (2009). Climate change adaptation in developed nations: a critical perspective on the adaptation turn in urban climate planning. In S. Davoudi, J. Crawford & A. Mehmood (Eds.), *Planning for climate change: strategies for mitigation and adaptation for spatial planners*. London: Earthscan.
- Hurlimann, A., & March, A. (2012). The role of spatial planning in adapting to climate change. *WIREs Climate Change*, 3, 477-488.
- (IPCC) Intergovernmental Panel on Climate Change. (2007). Contribution of working group I to the fourth assessment report of the Intergovernmental Panel on Climate Change 2007. Cambridge and New York: Intergovernmental Panel on Climate Change.
- Kahn, M. (2010). *Climatopolis: How our cities will thrive in a hotter future*. New York: Basic Books.
- Leichenko, R., & O'Brien, K. (2008). *Environmental change and globalization: double exposures* New York: Oxford University Press.
- Low-Choy, D., Baum, S., Serrao-Neumann, S., Crick, F., Sanò, M., Harman, B. (2010). Climate change vulnerability in South East Queensland: A spatial and sectoral assessment. South East Queensland Climate Adaptation Research Initiative.
- Matthews, T. (2013). Institutional perspectives on operationalising climate adaptation through planning. *Planning Theory & Practice*, 14(2), 198-210.
- McGuirk, P. M. (2005). Neoliberalist planning? Re-thinking and re-casting Sydney's metropolitan planning. *Geographical Research*, 43(1), 59-70.
- Measham, T., Preston, B., Brook, C., Smith, T., Morrison, C., Withycombe, G., et al. (2010). Adapting to climate change through local municipal planning: barriers and opportunities: CSIRO.
- Meyer, B., Rannow, S., & Loibl, W. (2010). Climate change and spatial planning. *Landscape and Urban Planning*, 98(3-4), 139-140.
- Owens, S., & Cowell, R. (2010). *Land and limits: interpreting sustainability in the planning process*. Hoboken: Routledge
- Peck, J., Theodore, N., & Brenner, N. (2009). Neoliberal urbanism: models, moments, mutations. *SAIS Review*, 29(1), 49-66.
- Sager, T. (2011). Neo-liberal urban planning policies: a literature survey 1990-2010. *Progress in Planning*, 76(4), 147-199.
- Steele, W. (2009). Australian urban planners: Hybrid roles and professional dilemmas? *Urban Policy and Research*, 27(2), 189-203. Retrieved 2013/08/26
- Susskind, L. (2010). Policy and practice: responding to the risks posed by climate change: cities have no choice but to adapt. *The Town Planning Review*, 81(3), 217-235.
- Taşan-Kok, T., & Baeten, G. (2012). *Contradictions of neoliberal planning: cities, policies and politics*. London: Springer
- Thornley, A. (1991). *Urban planning under Thatcherism*. New York: Routledge.
- Tonts, M., & Haslam-McKenzie, F. (2005). Neoliberalism and changing regional policy in Australia. *International Planning Studies*, 10(3), 183-200.
- Whitehead, M. (2013). Neoliberal urban environmentalism and the Adaptive city: Towards a critical urban theory and climate change. *Urban Studies*, 50(7), 1348-1367.
- Wright, I., & Cleary, S. (2012). Reinvigorating planning and the planning system in Queensland - a neoliberal perspective. Paper presented at the *Planning Institute of Australian Queensland State Conference 2012*.
- Yearbury, K. (1998). The Integrated Planning Act: Planning for the new millenium. *Australian Planner*, 35(4), 197-200.