Regional collaboration enables climate change adaptation: learning from Adelaide's urban greening initiatives

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> Why and how urban greening to mitigate against extreme heat has proliferated across the Adelaide region.

Investment in urban greening is commonly recognised as a meaningful climate change adaptation action by local governments in Australia. It provides a variety of co-benefits, including urban heat mitigation, flood mitigation, biodiversity enhancement, community health benefits and amenity improvements. Urban greening can take a variety of forms, but commonly includes:

- Increasing or maintaining tree canopy on public and private land
- Increasing green surfaces, such as grassland and green walls
- Improving the quality and accessibility of green spaces
- Improving the resilience and sustainability of urban tree canopy.

Adelaide, with an urban population of approximately 1.47 million people, is expected to see a considerable increase in the number and severity of extreme heat days due to climate change[1]. Heatwaves experienced in recent decades have already demonstrated widespread negative impacts on community health and wellbeing, including an increase in cardiac events and excess deaths[2].

In this case study, the lead author interviewed eight climate adaptation practitioners and policymakers from across the Adelaide region and reviewed relevant documents to learn why and how urban greening to mitigate against extreme heat has had growing momentum in recent decades.

Overview

Urban greening has been a prominent climate change adaptation strategy in Adelaide, particularly since the record-breaking January 2009 heatwave highlighted the impacts of extreme heat events. Local governments have since undertaken significant work to increase their publicly owned tree canopy, promote increased tree cover on privately owned land, educate communities on the value and importance of greening, increase funding and investment in greening and tree maintenance, increase the resilience of Adelaide's tree canopy, and reduce removal of trees. Numerous innovative initiatives were undertaken, including:

- Restoration of vegetation along waterways, for example the Breakout Creek Redevelopment
- Adopt a street tree programs
- Tree planing commitments
- Tree rebate schemes
- Tree giveaway and education programs
- Discounted gutter cleaning services for older residents
- "You can't ARB that" resources
- Informative Tree Tags
- Street redevelopment projects like Windsor Street in Unley
- Community grants for maintaining significant and regulated trees
- Urban tree canopy off-set schemes

Such innovative interventions are the culmination of slow, painstaking investment in institutional and cultural change. Figure 1 (page 3) shows the history of key policy, regulation and legislation changes critical to Adelaide's urban greening programs. These required significant regional collaboration and investment in research, data gathering, education, strategic communication, and internal and external advocacy to gain political support and to build consistent messaging.

Such investment in the policy, legislative and cultural changes necessary to sustain long-term adaptation is often more arduous, but growing evidence here, and elsewhere, suggests it leads to more effective outcomes.

Examples of the policy and institutional changes in Adelaide include the following:

- Green Adelaide, created as a legislated and semi-independent landscape board with a remit for urban greening for metropolitan Adelaide ('cooler, greener and wilder and more resilient' Adelaide).
- Mandatory tree planting for new homes under SA's Planning and Design Code.
- A 30% urban greening target by 2055 through the Greater Adelaide Regional Plan building on the Greening Strategy for Metropolitan Adelaide.
- SA's Biodiversity Act, creating a new overarching framework for biodiversity protection.

"They really committed to shared learning processes, so it was quite, a vibrant and wonderful time."

Enabling urban greening work across Adelaide

We asked interviewees what enabled the institutional changes and investment in urban greening for the Adelaide region? They said this started as early as 1993 when the United Nations Local Agenda 21 was adopted and a corresponding LA21 network was created across SA. This became the beginning of regional networks focused on sustainability and inter-LGA collaboration.

In the late 2000's, momentum for regional collaboration on climate change adaptation was growing. Eyre Peninsula set up the first of the formal Regional Climate Partnership (RCP's) in 2010, with 10 more partnerships established across the entire state soon after. These partnerships focused specifically on adaptation, and by 2016 these RCPs had all expanded with support from the State Government in undertaking regional vulnerability assessments and adaptation planning.

Support from SA Government and the Local Government Association of South Australia (LGA SA) (including a central coordinator), ongoing funding contributions from each partner local council and a dedicated regional coordinator embedded in each partnership has now helped sustain many of the RCPs for more than ten years, including Resilient South, Resilient East, AdaptWest and Resilient Hills & Coasts.

These regional partnerships are built on collaboration between local governments, State Government, Landscape Boards and Regional Development Australia organisations.

"I think the culture shift has been a long but important process. We actually walk with people and talk with people. And you can't time limit that you really need to have the conversations."
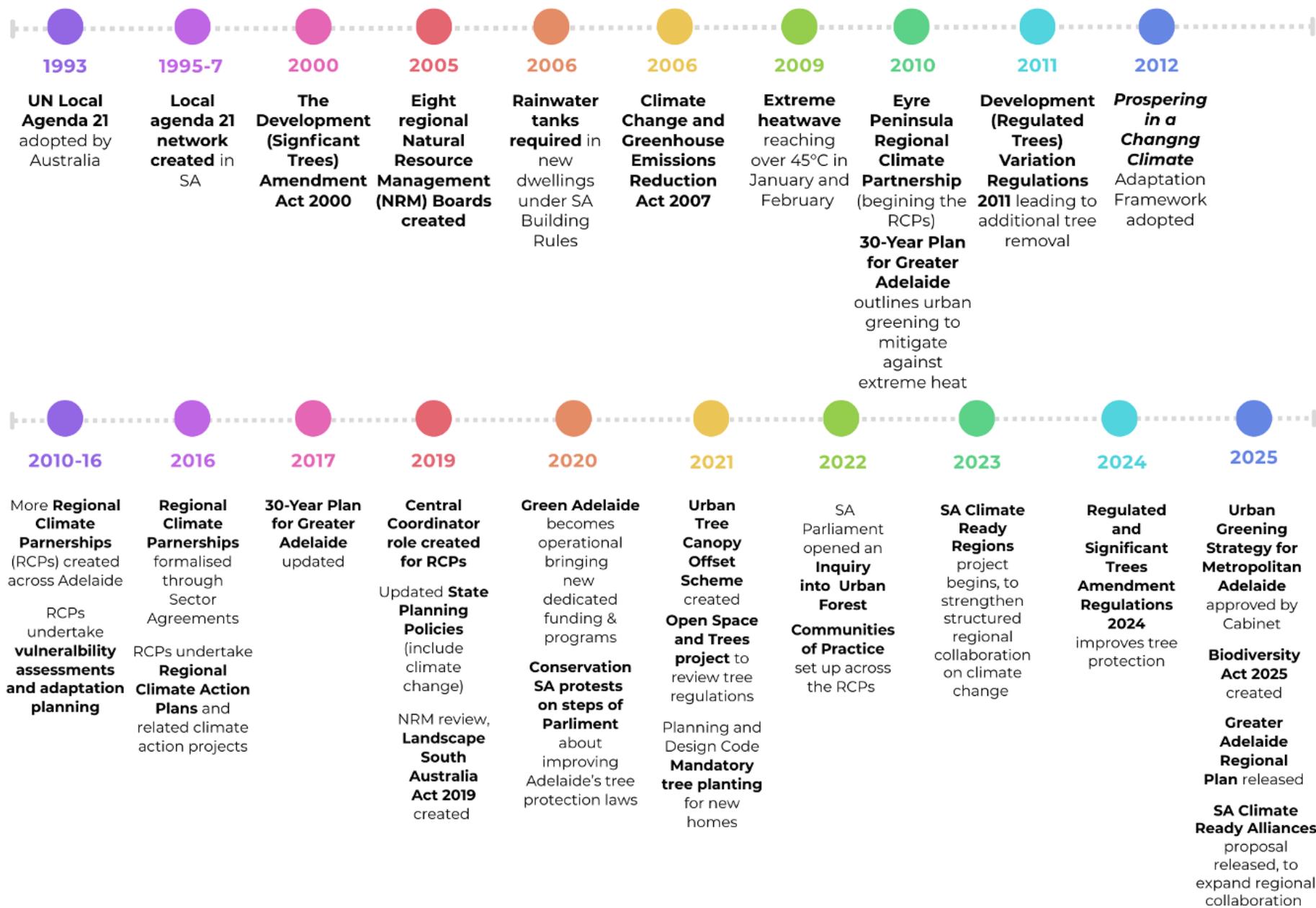

Adelaide in distance. Shutterstock.

1993

UN Local Agenda 21 adopted by Australia

1995-7

Local agenda 21 network created in SA

2000

The Development (Signficant Trees) Amendment Act 2000

2005

Eight regional Natural Resource Management (NRM) Boards created

2006

Rainwater tanks required in new dwellings under SA Building Rules

2006

Climate Change and Greenhouse Emissions Reduction Act 2007

2009

Extreme heatwave reaching over 45°C in January and February

2010

Eyre Peninsula Regional Climate Partnership (begining the RCPs)

30-Year Plan for Greater Adelaide outlines urban greening to mitigate against extreme heat

2011

Development (Regulated Trees) Variation Regulations 2011 leading to additional tree removal

2012

Prospering in a Changng Climate Adaptation Framework adopted

2010-16

More **Regional Climate Parnerships (RCPs) created** across Adelaide

RCPs undertake **vulneralbility assessments and adaptation planning**

2016

Regional Climate Parnerships formalised through Sector Agreements

RCPs undertake **Regional Climate Action Plans** and related climate action projects

2017

30-Year Plan for Greater Adelaide updated

2019

Central Coordinator role created for RCPs

Updated **State Planning Policies** (include climate change)

NRM review, **Landscape South Australia Act 2019** created

2020

Green Adelaide becomes operational bringing new dedicated funding & programs

Conservation SA protests on steps of Parliment about improving Adelaide's tree protection laws

2021

Urban Tree Canopy Offset Scheme created

Open Space and Trees project to review tree regulations

Planning and Design Code **Mandatory tree planting** for new homes

2022

SA Parliament opened an **Inquiry into Urban Forest**

Communities of Practice set up across the RCPs

2023

SA Climate Ready Regions project begins, to strengthen structured regional collaboration on climate change

2024

Regulated and Significant Trees Amendment Regulations 2024 improves tree protection

2025

Urban Greening Strategy for Metropolitan Adelaide approved by Cabinet

Biodiversity Act 2025 created

Greater Adelaide Regional Plan released

SA Climate Ready Alliances proposal released, to expand regional collaboration

Figure 1: *A timeline overview of key developments in Adelaide's urban greening, as discussed during interviews.*

These RCPs play a unique role in driving forward local adaptation actions in Adelaide by helping to:

- Build capacity of local adaptation practitioners and policymakers
- Share learnings across councils
- Share resources and collaborate on mutually beneficial projects
- Establish and communicate shared priorities
- Share education programs
- Develop more consistent policies
- Develop consistent communication on key issues
- Collaborate on advocacy to gain political support.

For example, one mutually beneficial project that has been a key component of the RCPs work is their regional urban canopy mapping and greening prioritisation work. LiDAR can be used for urban tree canopy mapping, urban heat mapping and greening prioritisation, but it is expensive to collect and requires consistent methodologies for its analysis. Pooling resources from multiple LGAs allowed LiDAR data collection that would otherwise be unobtainable for some and ensured consistency in approaches. Initially undertaken by the RCPs, these mappings projects have more recently been taken up and expanded by Green Adelaide.

The most influential impact of these regional collaborations has undoubtedly been their ability to help foster a community of adaptation 'champions' who have been responsible for driving forward urban greening work across Adelaide. These champions are personally committed to urban greening adaptation, and have invested substantially into shared capacity development, resulting in a strong network of expert adaptation practitioners across the region. While many of these champions are based in local government, adaptation 'champions' were also apparent in state government and the private sector.

While interviewees stressed the role of regional collaboration, they also recognised the importance of local knowledge to develop context specific responses. For example, while participants valued the collaboration on canopy mapping and shared advocacy, they were clear that their tree canopy interventions differ substantially depending on how much tree canopy is privately owned, community values, and the local environment and landscape. For this reason, tree canopy projects were most effective when designed based on local context and in collaboration with the local community.
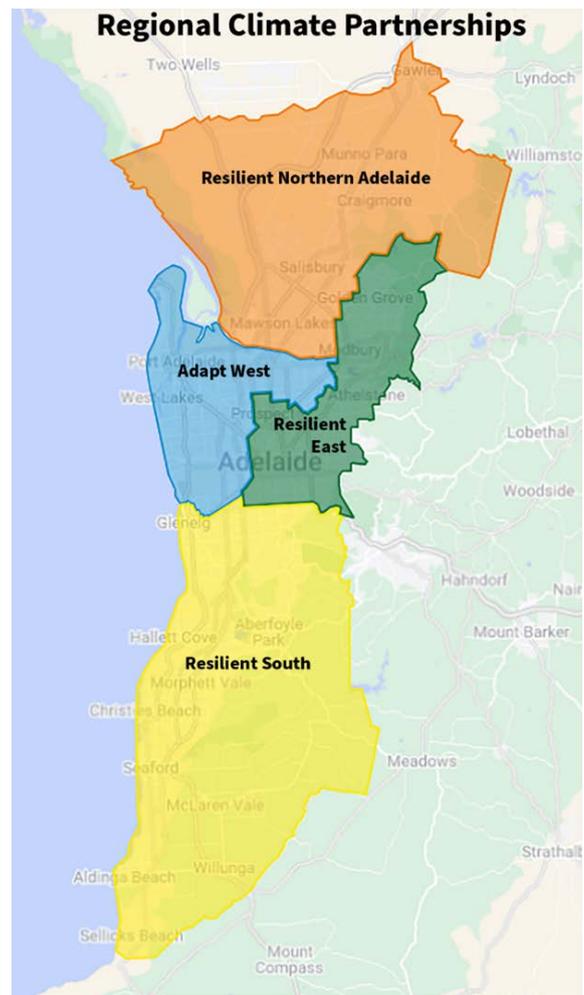

*Figure 2*: *Regional climate partnerships in Adelaide, South Australia. Source: LGA SA, 2026.*

Participants also described "mainstreaming" as a key enabling factor, which in this case was not about diffusing focus but about making the necessary changes across the entire suit of policies, legislation and institutions that need to be on-board to enable effective and sustainable adaptation. For example, interviewees have worked hard to have urban tree canopy targets reflected in other policy and legislation within the state. This demonstrated the kind of substantial work in institutional change that has been undertaken. Similarly, an integrated approach to addressing the shared priorities of greening, water sensitive urban design and biodiversity protection is observed to have been effective. Participants reflected on co-benefits such as these as important for enabling adaptation actions.

Outside of these intentional enabling factors, it is also likely that the momentum for addressing urban heat is driven by the fact that urban heat is a shared priority risk across metropolitan Adelaide and one which can clearly justify collaboration and investment.

Conclusion

This case study shows that meaningful change to affect climate adaptation can take decades. Many of the enabling factors identified in this case study align with insights from other studies in the enablers of adaptation, including resourcing, leadership, data and information, social capital, institutional support, and coordination. In this case, enablers of adaptation included: co-benefits, collegiality, data sharing, innovation, institutional and legislation change including mainstreaming, long term planning, political support, and renewed funding - all of which was driven by regional collaborations.

"I really cannot spruik the benefits of having regional coordination enough from a capacity building, shared advocacy and shared grants perspective"
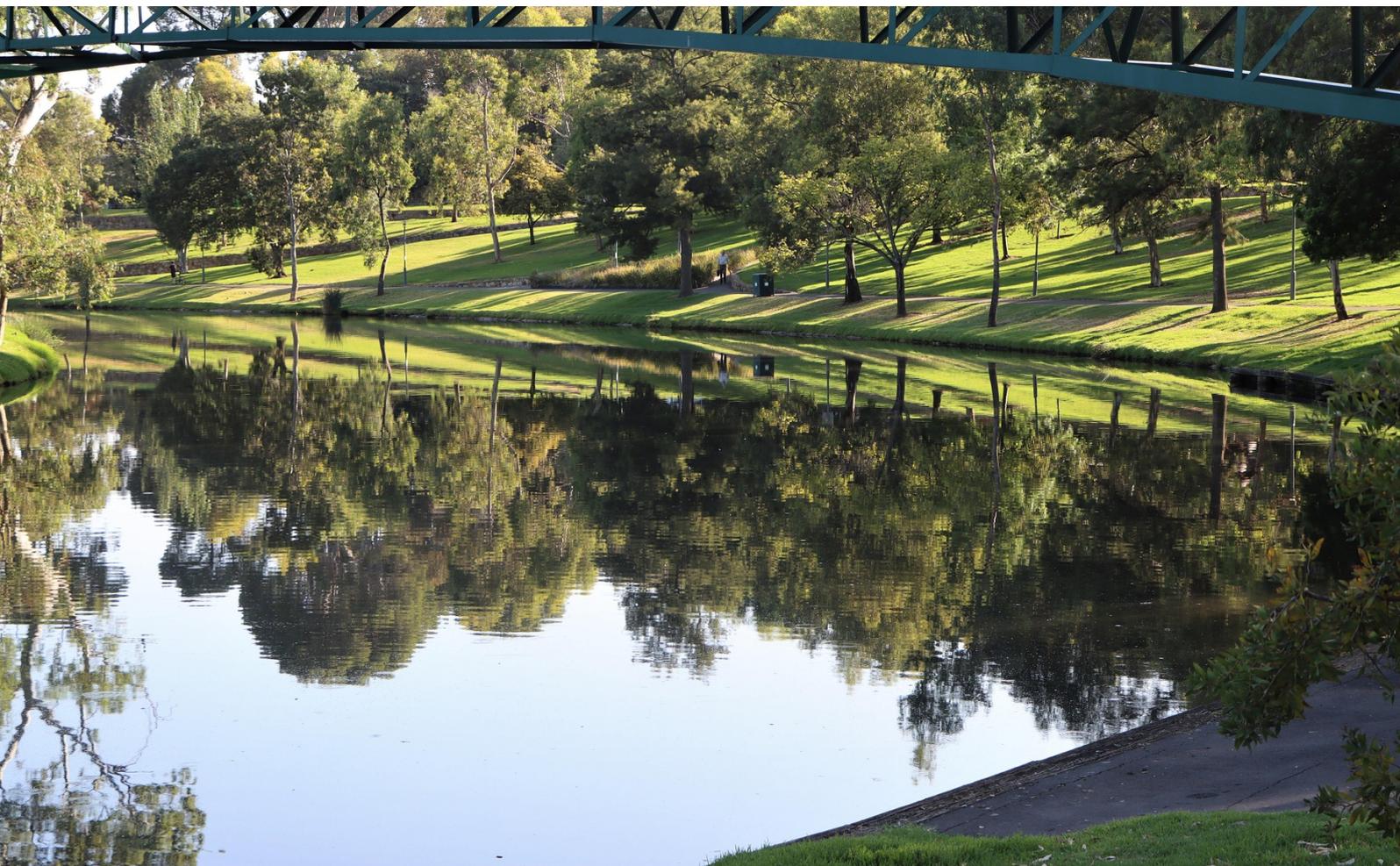
Peaceful Adelaide park. Pixabay.

[1] SA EPA, 2023 https://soe.epa.sa.gov.au/environmental-themes/climate/climate-change-impact/temperature?utm_source=chatgpt.com
[2] SA Health, 2011 https://www.sahealth.sa.gov.au/wps/wcm/connect/a9d1dc0043cbf0f5891ead1013b2c54b/SA+Health+2009+Heat+wave+report.pdf?MOD=AJPERES