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The durability of the 'Antarctic Model' and Southern Ocean governance

Ruth A. Davis

University of Wollongong, rdavis@uow.edu.au

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The durability of the 'Antarctic Model' and Southern Ocean governance

Abstract

It is now well over 50 years since the conclusion of the Antarctic Treaty , the foundation of the Antarctic Treaty System ('ATS'). At the 1959 Washington Conference, 12 nations gathered to draft the agreement that formally recognised "that it is in the interests of all mankind that Antarctica shall continue forever to be used exclusively for peaceful purposes and shall not become the scene or object of international discord", and "[a]cknowledging the substantial contributions to scientific knowledge resulting from international cooperation in scientific investigation in Antarctica". These twin goals, of preserving peace on the Antarctic continent and promoting polar science, remain as important as ever in the face of global climate change.

Keywords

durability, governance, ocean, southern, antarctic, model

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The Durability of the “Antarctic Model” and Southern Ocean Governance

Ruth Davis

du·ra·ble

adj.

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1. Capable of withstanding wear and tear or decay: *a durable fabric*.
2. Able to perform or compete over a long period, as by avoiding or overcoming injuries: *a durable fullback*.
3. Lasting; stable: *a durable friendship*.
4. *Economics* Not depleted or consumed by use: *durable goods*.¹

1. Introduction

It is now well over 50 years since the conclusion of the Antarctic Treaty², the foundation of the Antarctic Treaty System (‘ATS’).³ At the 1959 Washington Conference, 12 nations gathered to draft the agreement that formally recognised “that it is in the interests of all mankind that Antarctica shall continue forever to be used exclusively for peaceful purposes and shall not become the scene or object of international discord”, and “[a]cknowledging the substantial contributions to scientific knowledge resulting from international cooperation in scientific investigation in Antarctica”.⁴ These twin goals, of preserving peace on the Antarctic continent and promoting polar science, remain as important as ever in the face of global climate change.

The success of the ATS as a cooperative model for regulating human activity and environmental impact over a large and physically challenging environment is widely acknowledged.⁵ In 2009, as the 50th anniversary of the Antarctic Treaty was celebrated, Baker reflected on its achievements:

We can ... be grateful that so far the treaty and its additions and the institutional apparatus that provides advice have, without major disagreements for 50 years, functioned effectively, particularly in the protection of the environment ... The treaty has come to be viewed as a good example of what can be achieved by a mixture of politicians and scientists.⁶

The Treaty is particularly notable for having allowed political differences (over sovereignty claims) to be set aside so as not to stand in the way of important scientific endeavours. This Chapter assesses the durability of the Antarctic Treaty System in an era of pronounced environmental change not envisaged at the time the Antarctic Treaty was concluded.

¹ <http://www.thefreedictionary.com/>

² Antarctic Treaty 1959, 402 *UNTS* 71.

³ The ATS comprises the Antarctic Treaty, Convention for the Conservation of Antarctic Seals 1972, 1080 *UNTS* 175 (‘CCAS’), Convention for the Conservation of Antarctic Marine Living Resources 1980, 1329 *UNTS* 48 (‘CCAMLR’), the Protocol on Environmental Protection to the Antarctic Treaty 1991, 30 *ILM* 1455 (‘Madrid Protocol’), and various recommendations and measures that have been agreed to under the main instruments.

⁴ Antarctic Treaty, preamble.

⁵ SL Chown et al, “Challenges to the Future Conservation of the Antarctic” (2012) 337 *SCIENCE* 158, 158.

⁶ FWG Baker, “Some Reflections on the Antarctic Treaty” (2010) 46 *Polar Record* 2, 2-3.

Climate change presents both challenges and opportunities within the Antarctic and Southern Ocean context. There is clear evidence of the effects of climate change in Antarctica.⁷ There seems little doubt that many living organisms, having evolved to withstand the extreme cold, will be particularly vulnerable to increased air and water temperatures. The effects of global warming on polar regions have far-reaching implications, with melting sea-ice and disintegrating ice-sheets likely to cause substantial sea-level rises around the world. It is therefore important that the effects of global warming in Antarctica are clearly understood. However scientific research undertaken in Antarctica also has a great deal to contribute to our understanding of the global climate system and the progress of global warming more generally.

How well can the ATS deal with these changing circumstances? Is it capable of responding to the various changes the region must undergo not only as a direct result of global warming, but also ocean acidification, an expected increase in invasive species, and human pressures such as increased vessel traffic and tourism? While dealing with these emerging challenges, the ATS must continue its historically delicate balancing act of preserving the sovereign rights of claimant states while at the same time promoting effective cooperation among all Antarctic stakeholders.

The pressure that climate change and its flow-on effects may place on the ATS has been recognised by commentators. Chown et al, in a recent *SCIENCE* 'Policy Forum', acknowledges the ATS's reputation as "a successful model of cooperative regulation of one of the globe's largest commons".⁸ However, in pointing out the future conservation challenges posed by climate change and the demand for resources, the authors express concern that the ATS may find itself "outpaced".⁹ Hemmings shares this concern, based upon his observations of the growing importance of global forces in Antarctica and a shift from scientific cooperation to commercial pressures as the dominant policy driver in the region. He expresses the view that "[t]he Antarctic system will not collapse tomorrow but it does appear to be in relative decline, and power is shifting from states to non-state entities, and particularly to commercial interests."¹⁰

These comments hint at a distinction that is taken up by Chaturvedi,¹¹ who states that securing the Antarctic continent and its surrounding ocean against the physical impacts of climate change is just one part of the challenge for the continued viability of the ATS. Perhaps more significantly, at least insofar as the Antarctic Treaty parties ('ATPs') are concerned, climate change will also present challenges for securing the Antarctic legal regime and the core values of that regime.¹²

2. The Effects of Climate Change on the Antarctic and Southern Ocean

⁷ The Scientific Committee on Antarctic Research ('SCAR'), *Antarctic Climate Change and the Environment: A Contribution to the International Polar Year 2007-2008* ('SCAR Report').

⁸ SL Chown et al, above n 5, citing PA Berkman, MA Long and DWH Walton (Eds), *Science Diplomacy: Antarctica, Science and the Governance of International Spaces* (2011).

⁹ Ibid, 159.

¹⁰ Alan D Hemmings, "Globalisation's Cold Genius and the Ending of Antarctic Isolation", in Lorne K Kriwoken, Julia Jabour and Alan D Hemmings (Eds), *Looking South: Australia's Antarctic Agenda* (2007) 196, 189. See also Klaus Dodds, "Governing Antarctica: Contemporary Challenges and the Enduring Legacy of the 1959 Antarctic Treaty" (2010) 1 *Global Policy* 108.

¹¹ Sanjay Chaturvedi, "The Antarctic 'Climate Security' dilemma and the future of Antarctic governance", in Alan D Hemmings, Donald R Rothwell and Karen N Scott, *Antarctic Security in the Twenty-First Century: Legal and Policy Perspectives* (2012) 257.

¹² Ibid, 283.

The effects of climate change on Antarctica and the Southern Ocean can be divided into physical changes affecting the environment and its inhabitants, and pressures on the legal and political regime that threaten the ATS itself. The ATS will have to respond to both types of pressures in order to prove its durability.

The value of Antarctica as a place for conducting climate research has long been recognised; the scientific value of the region for meteorological research and long-range Australian weather forecasting was one of three grounds cited for the establishment of the Australian Antarctic Territory in 1933.¹³ Recently, considerable attention has been given to scientific investigations into the effect of climate change on the Antarctic environment and more generally:

We will not be able to fully understand how the Earth system works without comprehensive knowledge of the physical, biological, chemical and geological processes taking place within and above Antarctica and its surrounding Southern Ocean ... Currents and waves in the global ocean and the atmosphere ensure that Antarctica is affected by what happens elsewhere on the planet. Equally, ocean and atmospheric processes ensure that what happens in Antarctica may affect the rest of the world. It is the world's freezer.¹⁴

The extreme conditions place inevitable limits upon what can be achieved through scientific investigations and the region remains relatively under-sampled.¹⁵ Further, investigations suggest that the difficulties of operating in Antarctic conditions are expected to worsen, rather than improve, over time. In a paper presented to the 35th Antarctic Treaty Consultative Meeting ('ATCM') in 2012, The Council of Managers of National Antarctic Programs ('COMNAP') reported on the proceedings of a workshop held to discuss management implications of a changing Antarctica. Parties at that workshop determined that climatic and other changes would make it more difficult to operate in Antarctica within a ten year timeframe, and that parties would find it necessary to change their operational procedures, even possibly to the extent of changing the location of stations.¹⁶

The 2009 Scientific Committee on Antarctic Research ('SCAR') report on *Antarctic Climate Change and the Environment* ('SCAR Report')¹⁷ states that, in general, over the next 100 years, temperatures across Antarctica will rise by several degrees.¹⁸ The report predicts significant surface warming over Antarctica, averaging 0.34 C° per decade over land and grounded ice sheets, although in most areas the surface temperature will remain well below freezing.¹⁹ Higher temperatures will lead to a reduction in permafrost area, most likely in the northern part of the Antarctic Peninsula, certain sub-Antarctic islands and coastal parts of East Antarctica. In turn, the thawing of permafrost will lead to ground surface subsidence, with consequent risks to infrastructure in those regions.²⁰

¹³ John Latham, Minister for External Affairs, House of Representatives (Australia), *Parliamentary Debates (Hansard)*, 26 May 1933, 1949-56.

¹⁴ SCAR Report, above n 7, *Preface*, ix.

¹⁵ *Ibid.*

¹⁶ COMNAP Workshop, *Management Implications of a Changing Antarctica*, ATCM35 IP 4, 24 April 2012.

¹⁷ Above, note 7.

¹⁸ *Ibid*, *Executive Summary*, xiii.

¹⁹ *Ibid*, xxi.

²⁰ *Ibid*, xxiv.

The most significant warming is predicted to occur during winter over the sea-ice zone because of the retreat of that sea-ice. The report concedes that ice sheet modelling is particularly difficult²¹ and there are broad variations in the range of predicted outcomes. However models suggest that the average annual sea-ice area will decrease by approximately one-third over the next 100 years.²² Regional differences in temperature predictions also vary significantly. In total, precipitation in Antarctica is predicted to increase, particularly in coastal areas, although the balance between snow and rainfall is expected to change.²³ There also appears to be general agreement that the Southern Ocean storm-track will continue to shift southward.²⁴

The consequences of these changes for biology are complex. The SCAR Report noted that “[i]ncreased temperatures may promote growth and reproduction, but also cause drought and associated effects.”²⁵ It further noted that “[c]hanges to water availability have a greater effect than temperature on vegetation and faunal dynamics.” However “[f]uture regional patterns of water availability are unclear”.²⁶ The effects of climate-related change on marine biology are also unclear.

One particular problem identified by the SCAR Report is the increased risk posed by invasive (non-native) species:

Given the slow rates of growth and high degree of endemism in Antarctic species, continued ocean warming and expanded tourism and scientific activity may lead to the wider establishment of non-indigenous species by 2100, and consequent reduction or extinction of some locally endemic species.²⁷

These observations on non-native species also highlight the fact that global warming is not occurring in isolation. The impacts of global warming need to be managed alongside established threats posed by increasing levels of human activity in Antarctica, both scientific and through tourism. Increased levels of human activity lead to numerous interrelated problems, from increased levels of wildlife disturbance through to increased levels of pollution, and in particular the increased risk of pollution from vessel emergencies.²⁸

3. The durability of the Antarctic Model

In assessing the durability of the Antarctic Model in the face of global climate change, it is essential to consider the features of that regime that have enabled it to endure through other major challenges of the last 50+ years, and to consider how those features might apply in the future. While there are many reasons for the Antarctic Treaty Regime's success, and many perspectives from which these strengths might be considered, the following four factors identify the key elements of the successful 'Antarctic model':

Responsiveness – the ability of the model to respond in a timely fashion to new issues as they arise;

²¹ Ibid, xxiii.

²² Ibid, xxiv.

²³ Ibid, xxii.

²⁴ Ibid, xxi.

²⁵ Ibid, xxii.

²⁶ Ibid.

²⁷ Ibid, xxv.

²⁸ SL Chown et al, above n 5, notes that there have been at least 12 such incidents over past 5 years (at 158).

Distinctiveness – the ability of the model to portray Antarctic issues as distinctive or exceptional, apart from global issues, and then to present itself as a complete solution to those issues;

Cohesiveness – the provision of a united front based upon cooperation and consensus decision-making, thereby maintaining the ability of the ATPs to control Antarctic issue; and

Authoritativeness – a strong moral foundation based on the concept of trusteeship and the primacy of science and peace.

Each of these factors will now be considered in turn.

4. Responsiveness

On repeated occasions the ATS has demonstrated its ability to respond to emerging environmental challenges in a timely manner. The Antarctic Treaty focussed on neutralising concerns over sovereignty and reserving the continent for peaceful purposes so that scientific work could proceed without impediment.²⁹ Over time, the original treaty has expanded into the Antarctic Treaty System, with a shift in focus to promote environmental protection while still supporting freedom of scientific research.

This responsiveness has its foundation in Article IX of the Antarctic Treaty, which establishes a system of regular meetings of the Treaty Parties ('Antarctic Treaty Consultative Meetings', or ATCMs). At these meetings, parties may devise "measures in furtherance of the principles and objectives of the Treaty", in particular regarding the "preservation and conservation of living resources in Antarctica".³⁰ The ATPs have enthusiastically taken up this opportunity to continually update and grow the ATS, allowing it to respond to change and to develop into a comprehensive management regime for the Antarctic continent and the surrounding ocean.

A concern with conservation featured at the very first ATCM in Canberra, 1961. At that meeting, the Representatives passed a recommendation to their Governments that, inter alia,

they recognize the urgent need for measures to conserve the living resources of the treaty area and to protect them from uncontrolled destruction or interference by man ...³¹

In accordance with this early agenda, the Agreed Measures for the Conservation of Antarctic Fauna and Flora were issued as Recommendation III-VIII at the third Antarctic Treaty Consultative Meeting held in Brussels in 1964.³²

When seen as more appropriate, the ATPs have responded to perceived challenges by negotiating additional treaties, thus expanding the ATS. The Convention for the Conservation of Antarctic Seals ('CCAS')³³ was developed in response to the threatened resumption of commercial sealing. The Convention was seen as farsighted: in opening the 1972 negotiation conference, Sir Anthony

²⁹ Antarctic Treaty, Preamble.

³⁰ Antarctic Treaty, Article IX(1)(f).

³¹ Recommendation I-VIII, *Conservation of Antarctic Fauna and Flora*, available at www.ats.aq/documents/ATCM1/fr/ATCM1_fr001_e.pdf.

³² Recommendation III-VII, *Agreed measures for the Conservation of Antarctic Fauna and Flora*, available at http://www.ats.aq/documents/ATCM3/fr/ATCM3_fr001_e.pdf.

³³ Above, n3.

Kershaw reportedly remarked that it "must be unique for an international agreement to be negotiated to conserve a resource which is not yet being exploited."³⁴

The Convention for the Conservation of Antarctic Marine Living Resources ('CCAMLR')³⁵ was negotiated in response to the threatened overexploitation of krill. However, CCAMLR has a much broader focus than this single resource. It is a management regime for *all* marine living resources – it seeks to manage commercial and other uses based on scientific data and through the setting of catch limits and other conservation measures. It seeks to conserve not just the particular harvested species (including krill and Patagonian tooth fish), but the marine ecosystem in general.³⁶

The most recent addition to the ATS is the Protocol on Environmental Protection to the Antarctic Treaty ('Madrid Protocol'),³⁷ which came into force on 14 January 1998. The protocol arose in controversial circumstances, replacing the abandoned Convention on the Regulation of Antarctic Mineral Resource Activities ('CRAMRA').³⁸ CRAMRA was negotiated through the 1980s as a pre-emptive response to the possibility of minerals exploitation on the Antarctic continent. CRAMRA imposed strict environmental controls on potential mining activities. However, by the time negotiations were finalised, some parties found themselves unable to ratify an agreement which seemed to regard Antarctic mining as a *fait accompli*.³⁹ In its wake, the Madrid Protocol was negotiated rapidly in 1989-91, designating Antarctica as a 'natural reserve devoted to peace and science'.⁴⁰ The body of the Protocol acts as a framework for the environmental protection regime, with detail on specific issues being provided through annexes. Currently there are six such annexes, dealing with environmental impact assessment, conservation of flora and fauna, waste management, marine pollution, specially protected areas and liability arising from environmental emergencies.⁴¹

This past experience suggests that, in terms of its ability to respond to the realities of climate change, the ATS should be better placed than most regulatory regimes. It has provided a model for a cooperative approach to environmental regulation and a track record of developing regulations to meet emerging needs. However, a history of successfully responding to environmental challenges is no guarantee of future success. It is now quite some time since the ATS responded to a major environmental challenge. Hemmings⁴² points out that there have been no major instruments negotiated since the Madrid Protocol in 1991, despite this period coinciding with a rapid expansion in human activity. He comments of the ATS, "It has been innovative, but not recently".⁴³ Arguably, the ATPs have become slower to respond to emerging issues. For example, the Madrid Protocol was

³⁴ Tim Edgar MP, Speech of Welcome, Report of the 1988 Meeting to Review the Operation of the Convention for the Conservation of Antarctic Seals, London 12-16 September 1988, available at http://www.ats.aq/documents/DCCAS_REV/fr/DCCAS_REV_fr001_e.pdf, 30.

³⁵ Above, n 3.

³⁶ CCAMLR, Article II.

³⁷ Above, n3.

³⁸ (1988) 27 *ILM* 868.

³⁹ See Anthony Bergin, 'The Politics of Antarctic Minerals' (1991) 26 *Australian Journal of Political Science* 216.

⁴⁰ Madrid Protocol, Article 2.

⁴¹ The Annexes are available on the website of the Secretariat of the Antarctic Treaty, <http://www.ats.aq/e/ep.htm>

⁴² Alan D Hemmings, 'Globalisation's Cold Genius and the Ending of Antarctic Isolation', in Lorne K Kriwoken, Julia Jabour and Alan D Hemmings (Eds), *Looking South: Australia's Antarctic Agenda* (2007) 176, 187.

⁴³ *Ibid*.

concluded expeditiously over the period 1989-1991 (coming into force in 1998), however the most recent annex, on liability, was not concluded until 2005 and is still not in force.

The ability of the ATS to deal with certain pressing issues has come under question. Illegal, unreported and unregulated ('IUU') fishing is not unique to the Southern Ocean; however it is a problem that continues to affect Antarctic fisheries, particularly toothfish. Recently, Chown et al and Haward, Press and Jabour have debated the ability of the CCAMLR Commission to carry out its role effectively, the latter defending CCAMLR against assertions that the Commission is "struggling to manage the Antarctic toothfish fishery."⁴⁴ Despite CCAMLR's efforts to devise innovative measures, including a vessel monitoring scheme, catch documentation scheme and blacklisting of IUU vessels, the continued operation of IUU vessels within the Convention area has led to allegations that CCAMLR's enforcement powers are limited and weak. Brown concludes that problems in controlling IUU fishing have "undermined the credibility of the Commission and its ability to achieve its objectives."⁴⁵

There are some issues that the ATPs have refused to deal with, principally Antarctic whaling.⁴⁶ Whaling was exempted from consideration early in the history of the ATS when cetaceans were excluded from the definition of 'mammals' that were to be protected by the Agreed Measures for the Conservation of Flora and Fauna.⁴⁷ This exclusion is maintained under Annex II of the Madrid Protocol, which despite requiring permits for any activity involving "taking or harmful interference" in relation to native animals and birds (including all mammals that are native to, or migrate through the Treaty Area), goes on to specify that "[n]othing in this Annex shall derogate from the rights and obligations of Parties under the International Convention for the Regulation of Whaling".⁴⁸ This deference to a global regime which, although predating the Antarctic Treaty, has such a poor record of resource management, does no favours to the ATS's environmental credentials.⁴⁹ In addition, the increasingly violent clashes between Japanese vessels engaged in scientific whaling and anti-whaling protesters in the Southern Ocean⁵⁰ should be of central concern to the ATPs. Apart from issues of crew safety, should vessels collide the potential for an environmentally disastrous oil spill is also significant.

In relation to climate change itself, the ATS has been slow to respond, demonstrating an "overall reluctance, bordering on resistance, to placing climate change on the agenda of the ATCMs up until

⁴⁴ SL Chown, "Letters: ATS Past Not Predictive" (2013) 339 *Science* 141; Marcus Haward, Julia Jabour and AJ Press, 'Letters: Antarctic Treaty System Ready for a Challenge' (2012) 338 *Science* 603.

⁴⁵ Alan Brown, "Some Current Issues Facing the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR)", in Gillian Triggs and Anna Riddell (eds), *Antarctica: Legal and Environmental Challenges for the Future* (2007) 85, 85.

⁴⁶ Julia Jabour, Mike Iliff and Erik Jaap Molenaar, "The Great Whale Debate: Australia's Agenda on Whaling" in Kriwoken, above n10, 133.

⁴⁷ Recommendation III-VII Agreed measures for Conservation of Antarctic Fauna and Flora, supra note XX.

⁴⁸ Madrid Protocol Annex II Article 7.

⁴⁹ See eg Independent Panel of Legal and Policy Experts: Report of the Canberra Panel, *Japan's 'Scientific' Whaling Program and the Antarctic Treaty System* (12 January 2009), available at <http://cbialdia.mardecetaceos.net/archivos/download/ReporteCanberrazc1527.pdf>.

⁵⁰ See eg Andrew Darby, "Ships collide in Antarctic whaling protest", February 20 2013, *Sydney Morning Herald*, at <http://www.smh.com.au/environment/whale-watch/ships-collide-in-antarctic-whaling-protest-20130220-2eqyg.html>

the mid 2000s.”⁵¹ Chaturvedi has tracked the progress of efforts to engage the ATS with climate change, starting with the Committee for Environmental Protection in 2004-05 and the establishment of the Intersessional Contact Group (ICG) on Environmental Monitoring. By the time of the XXX ATCM in Delhi, 2007, a majority of the papers and discussion under CEP Agenda item 9, Environmental Monitoring and Reporting, related to climate change.⁵²

By the end of that decade, climate change had finally been accepted as an ‘Antarctic issue’. In 2009, as part of the 50th Anniversary celebrations, the ATPs issued a statement in which they:

*Confirm[ed] their intention to work together to better understand changes to the Earth’s climate and to actively seek ways to address the effects of climate and environmental change on the Antarctic environment and dependent and associated ecosystems.*⁵³

Later that same year, SCAR produced an important report on the issue: *Antarctic Climate Change and the Environment*.⁵⁴ The following year at the XXXII ATCM in Kiev, the ATPs decided to convene the Antarctic Treaty Meeting of Experts (ATME) on Impacts of Climate Change for Antarctic Management and Governance. The ATME met in Norway in April 2010, attended by representatives of 15 of the ATPs, as well as representatives of SCAR, ASOC, IAATO and CCAMLR.⁵⁵ A total of 30 recommendations were presented to the XXIII ATCM in May, most focussing on actions that could be taken by treaty parties in relation to their Antarctic operations.⁵⁶ Progress in meeting these recommendations is the subject of regular review.⁵⁷

Overall, on the question of responsiveness, the evidence is mixed. The strong performance of the ATS in the past must be balanced against its limited recent experience, although at least on the topic of climate change the ATS appears to have overcome its initial reluctance to engage.

5. Distinctiveness

The success of the ATPs in responding to various problems in the past has in part depended upon their ability to characterise Antarctic issues as distinctive and to strive to present a complete solution within the Antarctic system.⁵⁸ Such a view has been assisted by the region's geographical

⁵¹ Chaturvedi, above n 11, 267.

⁵² Ibid, 269. It would not be until the XXXIV ATCM in Buenos Aires in 2011 that climate change would earn a separate ATCM agenda item.

⁵³ Antarctic Treaty Consultative Meeting XXXII, *Washington Ministerial Declaration on the Fiftieth Anniversary of the Antarctic Treaty*, 6 April 2009, par 10.

⁵⁴ Scar Report, above n 7.

⁵⁵ Professor David Clary & Professor Jan-Gunnar Winther, *Co-Chairs’ Report* from the Antarctic Treaty Meeting of Experts on Implications of Climate Change for Antarctic Management and Governance (‘ATME Report’), Norway, 9 April. 2010.

⁵⁶ ATCM, *Final Report of the Thirty-Third Antarctic Treaty Consultative Meeting*, Punta del Este, Uruguay 3–14 May 2010, available at http://www.ats.aq/documents/ATCM33/fr/ATCM33_fr001_e.pdf, par 41.

⁵⁷ See, for example, Antarctic Treaty Secretariat, *Actions Taken by the CEP and the ATCM on the ATME Recommendations on Climate Change*, ATCM XXXV/SP8, 21 March 2012.

⁵⁸ The ‘ethics of exceptionalism’ is discussed by Chaturvedi, above n 11, 276, referencing the work of Hemmings, French and Scott: Alan D Hemmings, ‘Does Bioprospecting Risk Moral Hazard for Science in the Antarctic Treaty System?’ (2010) 105 *Ethics in Science and Environmental Politics* 5; D French and K Scott, ‘Implications of Climate Change for the Polar Regions: Too Much, Too Little, Too Late?’ (2009) 10 *Melbourne Journal of International Law* 631.

remoteness and extreme conditions. These have naturally limited both the level and extent of human contact.⁵⁹

These influence of these views have been waning as the natural barriers to Antarctica are overcome, lessening its isolation. Hemmings attributes this largely to the arrival of certain global commercial interests and activities, principally fishing, minerals resources, tourism, bio-prospecting, Antarctic services and education.⁶⁰ Whereas once Antarctica was only accessible to a few individuals, largely scientific or governmental personnel, it is now directly within the reach of large numbers of tourists.⁶¹ In addition, mass media and popular culture have made the continent accessible to even more people who, although they may never visit it, are nevertheless able to develop a strong connection with, and concern for, the region.⁶²

If the ATS finds it increasingly difficult to justify the treating of Antarctic issues as 'other', then its ability to effectively manage future challenges such as climate change may be limited. The relationship between the changing physical boundary and legal boundaries will first be explored, followed by a consideration of the impact of 'global' issues on Antarctic management.

Uncertainty over how to characterise the boundary of Antarctica and Antarctic waters has always been an issue for parties to the ATS. Practical difficulties abound in defining the limits of the Antarctic continent, with ice-covered coastlines and extensive ice-shelves projecting from the land mass; while defining a formal boundary for Antarctic waters for regulatory purposes has always been a somewhat artificial exercise. The Antarctic treaty settled on the 60 degrees South line of latitude⁶³ which, despite its ecosystem focus, the Madrid Protocol follows.⁶⁴ CCAMLR uses a series of co-ordinates to plot its northernmost limits, in an attempt to approximate the location of the Antarctic Convergence, a natural boundary where colder Antarctic and warmer subantarctic waters meet.⁶⁵ As well as defining two separate hydrological areas, the convergence is a zone of high marine productivity separating two distinctive marine ecosystems.

Climate change is having a direct impact on these important physical boundaries. Evidence suggests a southwards shift (of approximately 50km over the last 15 years) in the Antarctic Convergence as temperatures rise.⁶⁶ Should the ATPs be looking to redefine the area of application of the Antarctic Treaty and CCAMLR, perhaps to be consistent with one another and more in line with the shifting natural boundary? As the natural boundary shifts southward, the artificial borders that the ATPs have drawn about themselves will become less relevant.

The issue has important marine resource management implications as warmer waters encourage species such as southern Bluefin tuna to move southwards into the CCAMLR convention area.

⁵⁹ Hemmings, above n 41, 177.

⁶⁰ Ibid, 179.

⁶¹ Dodds, above note 10, 108.

⁶² Consider the popularity of the BBC's *Life in the Freezer* (1993) documentary, the *March of the Penguins* (2005) and the Oscar-winning animated movie *Happy Feet* (2006) and its sequel *Happy Feet Two* (2011).

⁶³ Antarctic Treaty Art VI.

⁶⁴ Madrid Protocol Art 1.

⁶⁵ CCAMLR Art 1.

⁶⁶ Chaturvedi, above n 11, 277, citing S Solokov and SR Rintal, 'Circumpolar Structure and Distribution of Antarctic Circumpolar Current Fronts:2, Variability and Relationship to Sea Surface Height' (2009) *Journal of Geophysical Research – Oceans*, Vol 114 No 11.

Effective fisheries management will require CCAMLR to engage with RFMOs who are already managing these stocks.⁶⁷ Some commentators view this as a particular challenge for CCAMLR, for example Brown comments that:

The parties to the Antarctic Treaty have not always welcomed cooperation with other international organizations and have tended to regard the management of developments in the Antarctic region as being their sole responsibility. However, if there was a big move in the future to access the marine resources of the region it is unlikely that the Antarctic Treaty Parties could achieve the necessary level of management to protect the ecosystem without increased cooperation with non-Parties and with a range of international organizations.⁶⁸

Examination of ATS meeting documents will confirm, however, that the ATPs are already working with a range of external bodies. For example, part of CCAMLR's strategy for combatting IUU fishing involves the cooperation of CITES to control international trade in Patagonian toothfish.⁶⁹ In the case of shipping, the ATPs have been working with the IMO on the development of a mandatory Polar Code that sets safety and pollution control standards appropriate for polar conditions.⁷⁰

Climate change presents important opportunities for cooperation with external bodies. In its 2012 working paper, Australia noted that it

has identified several options for the Antarctic Treaty Parties to collectively pursue enhanced engagement in international discussions on climate change, in furtherance of their shared objectives under the Antarctic Treaty and its Environmental Protocol ... Pursuing closer engagement with the UNFCCC would be consistent with the provisions of the Antarctic Treaty, and with the practice of establishing effective working relationships with other international organisations where necessary to advance the protection and management of the Antarctic Region.⁷¹

However, even in making connections with global organisations, the distinctive position of the ATPs is maintained. For example, ATME Recommendations 1-3 relate to the value of the SCAR Report as a resource for Antarctic Treaty decision making "and as an input to the wider global climate negotiations".⁷² It highlights the need to communicate SCAR's findings to other decision makers, to the public, and to provide information on Antarctic climate change to global negotiating fora.⁷³

Chaturvedi points out that the recommendations emphasise the unique advantages of the Antarctic environment for studying climate change and the value of their input to global bodies such as the IPCC and UNFCCC. He comments that "through such recommendations the ATME is reinforcing the mandate of the Antarctic Treaty parties to articulate and represent 'Antarctic climate change' to

⁶⁷ Chaturvedi, above n 11, 277-8.

⁶⁸ Alan Brown, above n 44, 107.

⁶⁹ Ibid. See for example CITES Resolution Conf 12.4, 'Cooperation between CITES and the Commission for the Conservation of Antarctic Marine Living Resources regarding trade in Toothfish', November 2002, available at <http://www.cites.org/eng/res/12/12-04.php>.

⁷⁰ ATCM 35 Resolution 7 (2012) 'Vessel safety in the Antarctic Treaty Area'.

⁷¹ ATCM 35 WP32 (Australia), 'ATCM interests in international climate change discussions – options for enhanced engagement', 3.

⁷² ATME Report, above n 52, Recommendation 1.

⁷³ ATME Report, above n 52.

those negotiating 'global climate change' and thereby, consciously or unconsciously, discursively maintaining a distinction between the 'Antarctic' and the 'global' climate change."⁷⁴ Even while the text is urging cooperation with global organisations, the sub-text maintains the separateness of the Antarctic regime. Whether this 'exceptional' position can be maintained, or the regional approach should be abandoned in favour of a global one, remains to be seen.

⁷⁴ Chaturvedi, above n 11, 272, citing ATME Report, *ibid*, 6.

6.Cohesiveness

Alongside the ability to promote Antarctica as distinctive, part of the ATS's past success comes from the parties' ability to project a cohesive front, thereby cementing the view that they are best placed to deal with Antarctic issues. Preventing outside interference in Antarctic affairs was easier when the Antarctic community itself was limited to those with the financial and technical resources to support an Antarctic program. Now that interest in Antarctica is much broader, two particular challenges to the cohesiveness of the ATS can be identified – the threat posed by contentious issues over which consensus cannot be achieved,⁷⁵ and the growing influence of external bodies on Antarctic governance issues.⁷⁶ What are the prospects for maintaining primary control, and how might that affect the ability of the ATS to deal effectively with the challenges of climate change?

The closed nature of the ATS has drawn criticism in the past, "in particular that the signatories... form a kind of exclusive club, from which the United Nations Organisation has to a large extent been excluded."⁷⁷ The notion of the ATS as a closed 'club' is challenged by recent increases to its membership. The most recent accessions, Malaysia and Pakistan, bring the number of parties to the Antarctic Treaty to 50; Pakistan's accession to both the Madrid Protocol and CCAMLR brings their membership to 35 parties.

The effect of broadening ATS membership should be to increase the legitimacy of the management regime by confirming its broad representation. However, the increase in overall numbers masks the fact that true decision-making power rests with only a sub-set of these members, the Antarctic Treaty Consultative Parties ('ATCPs').⁷⁸ These ATCPs comprise the original 12 signatories, alongside another 16 parties who have *demonstrated* their interest in Antarctica "by conducting substantial scientific research there, such as the establishment of a scientific station or the despatch of a scientific expedition."⁷⁹

Nevertheless, the requirement for consensus decision-making for new measures under Art IX(4) of the Antarctic Treaty becomes increasingly onerous as the number of consultative parties expands and their interests diverge. Baker speculates about the destabilising effect of the changing composition of Antarctic Treaty membership:

Although the number of original members remains constant as the number of signatories and consultative parties increases might their combined efforts affect the way the treaty evolves because eventually the voting against the original 12 might cause the system to collapse.⁸⁰

Although there have always been issues with the ability of the International Whaling Commission ('IWC') to effectively manage its resource, the example it provides in terms of displaying an

⁷⁵ See eg Chaturvedi, above n 11, 276.

⁷⁶ See eg Dodds, above n10, 110.

⁷⁷ Baker, above n 6, 2.

⁷⁸ Antarctic Treaty, article IX(1).

⁷⁹ Antarctic Treaty, article IX(2).

⁸⁰ Ibid, 3.

increasing level of acrimony as the number of member states has increased and the breadth of their interests diverged is hard to ignore in this context.

Alongside the growth in ATS members, the region has increasingly come under the influence of external, particularly non-state, bodies. The attempts in the 1980s to create an Antarctic minerals regime demonstrated the inability of the ATPs to continue to exclude outsiders from Antarctic affairs. Dodds comments that the breakdown in the CRAMRA negotiation process "revealed the growing influence of environmental non-governmental organisations such as Greenpeace and the Antarctic and Southern Ocean Coalition (ASOC) and the international media to challenge the legitimacy of the ATPs",⁸¹ and those NGOs and non-ATP nations accused the treaty parties of seeking to "carve up" Antarctic mineral resources amongst themselves.⁸² More recently, the challenge to existing governance arrangements appears to be coming from commercial entities, regional manifestations of global industries, with an interest in Antarctic fishing, tourism, bioprospecting and mineral resources.⁸³

While the ATPs were eventually able to survive the minerals debate of the 1980s with their commitment to consensus decision-making intact, should the issue arise again, perhaps in relation to seabed resources, the prospects for success would seem more remote.⁸⁴ In relation to Antarctic whaling, the parties have opted to avoid discussions altogether.⁸⁵ Although the IWC provides the main forum in which whaling should be discussed, scientific whaling by one of the ATPs within the Antarctic Treaty area is clearly also an Antarctic issue and should be addressed as such. The refusal of the ATPs to engage in the (admittedly acrimonious) scientific whaling debate has led to the curious circumstance whereby two of the Antarctic Treaty parties are challenging another over the legality of scientific whaling offshore Antarctica, not within ATS fora, but before the International Court of Justice.⁸⁶ It might be argued that such a dualist approach is inherent to the ATS, with the 'agreement to disagree' over Antarctic sovereignty embedded within the Antarctic Treaty itself.⁸⁷ However the refusal to deal with such contentious issues, and the apparent valuing of consensus for its own sake, gives little confidence in the ability of the ATS to deal effectively with other contentious issues including mineral resource development, bio prospecting and broader issues associated with climate change.

⁸¹ Dodds, above n10, 111.

⁸² Ibid.

⁸³ Hemmings, above n10.

⁸⁴ See the discussion in Hemmings, *ibid*, 133ff.

⁸⁵ Chaturvedi, above n11, 267; Jabour et al, above n46, 134.

⁸⁶ *Whaling in the Antarctic* (Australia v. Japan: New Zealand intervening)

⁸⁷ Antarctic Treaty, article IV.

7. Authoritativeness

Since its inception, the ATPs have presented a strong moral foundation for their exclusive control over Antarctic matters, based on a concept of stewardship and the supremacy of science. The Antarctic Treaty states that the parties are acting 'in the interests of science and the progress of all mankind' by providing a 'firm foundation' for continued international scientific cooperation and 'the continuance of international harmony in Antarctica'.⁸⁸ This stewardship role is an important consideration in assessing the durability of the Antarctic model in the face of climate change.

Early in the history of the ATS, the ATPs acknowledged that conservation was a fundamental aspect of their special responsibilities in Antarctica. One of the first achievements of the ATPs was the drafting of the Agreed Measures which in 1964 declared the Antarctic Treaty area to be a Special Conservation Area.⁸⁹ In 1980, CCAMLR took the idea much further. The CCAMLR Convention recognises "the prime responsibilities of the Antarctic Treaty Consultative Parties for the protection and preservation of the Antarctic environment".⁹⁰ Further, parties to CCAMLR who are not also parties to the Antarctic Treaty are required to "acknowledge the special obligations and responsibilities of the Antarctic Treaty Consultative Parties for the protection and preservation of the environment of the Antarctic Treaty area."⁹¹

In laying down a minerals regime, CRAMRA acknowledged "the special legal and political status of Antarctica and the special responsibility of the Antarctic Treaty Consultative Parties to ensure that all activities in Antarctica are consistent with the purposes and principles of the Antarctic Treaty."⁹² Again, the Parties acknowledged "the special responsibilities of the Antarctic Treaty Consultative Parties for the protection of the environment ...".⁹³

Most recently, the Madrid Protocol recalls "the designation of Antarctica as a Special Conservation Area" and notes "the special responsibility of the Antarctic Treaty Consultative Parties to ensure that all activities in Antarctica area consistent with the purposes and principles of the Antarctic Treaty".⁹⁴ The substantive provisions take the matter further: Article 2 is a commitment "to the comprehensive protection of the Antarctic environment and dependent and associated ecosystems" and designates Antarctica "as a natural reserve, devoted to peace and science."

In a future dominated by global climate change, however, the question arises as to whether this position can be maintained, or will the ATS be forced to change its priorities? Climate change presents certain challenges, or perhaps opportunities, for the parties to demonstrate their continued commitment to their stewardship role.

⁸⁸ Antarctic Treaty, Preamble.

⁸⁹ Agreed Measures, above n31, Preamble.

⁹⁰ CCAMLR, Preamble.

⁹¹ CCAMLR, Article V(1).

⁹² CRAMRA, above n 37, Preamble.

⁹³ CRAMRA, *ibid*, Art 2(3).

⁹⁴ Madrid Protocol, Preamble.

The first challenge for ATPs will be in maintaining the primacy of scientific research in Antarctica, particularly in the face of economic challenges. Sandford comments:

“There is a risk that international cooperation and the peaceful pursuit of science may become less of a cornerstone of the ATS than has been the case in the past. The impacts of global warming on, and growing resource disparities among, nations, will become more apparent during this century. This will increase the risk of conflicts over resources. In such a scenario, environmental protection and conservation ... are likely to become of secondary importance to national resource security.”⁹⁵

The second challenge for the ATPs is to recognise and promote the particular value of Antarctic science for a global understanding of climate change.⁹⁶ This topic has already been the subject of discussion in recent ATCMs.⁹⁷ The third challenge for the ATPs in maintaining their strong moral foundation is to ensure the advancement of polar interests in the global community. French and Scott comment that “[a]s trustees (in effect) for the polar regions, Arctic states and parties to the Antarctic Treaty have a special responsibility to support and advocate polar interests within international fora.”⁹⁸ A fourth challenge for the ATPs is to set a good example – be good global citizens – in their own Antarctic activities. Again, this has been the subject of recent discussions and recommendations in the ATME Report.⁹⁹ So far there has been significant attention given to efforts by individual nations to reduce the carbon footprint of their Antarctic operations and to share their experiences in this regard.¹⁰⁰ There have also been efforts to link climate related scientific research in Antarctica with agencies having a broader focus, such as the WMO, World Climate Research Programme, Global Climate Observing System and the Global Ocean Observing System.¹⁰¹

9. Conclusion

Examination of the ATS suggests that it is a durable model that is in a strong position to tackle the challenges of global climate change. Nevertheless, certain aspects of the Antarctic model deserve attention to ensure its continued relevance. It has proven flexible and responsive to environmental challenges in the past. However, more recent experience in this regard has been less convincing. The process of making decisions within the ATS could be examined with a view to improving its speed and responsiveness. The ATPs have presented a strong, cohesive front and have successfully defended their position as trustees on behalf of the global community. An important feature of their approach has been to promote the distinctive or exceptional nature of Antarctica, thus supporting arguments for a regional approach to deal with Antarctic issues to the exclusion of more general international law regimes. This approach has become increasingly difficult to maintain. Recognition of the growing importance of global issues and global organisations for Antarctic law

⁹⁵ Rosemary A Sandford, ‘Antarctic Science in a Changing Climate: Challenges and Future Directions for Australia’s Antarctic Science and Policy’, in Lorne Kriwoken, above n 10, 71, 83.

⁹⁶ Ibid.

⁹⁷ See for example ATCM 35 WP32 (Australia), “ATCM Interests in International Climate Change Discussions – Options for Enhanced Engagement”.

⁹⁸ French and Scott, above n 55, 653.

⁹⁹ ATME Report, above n 52, Recommendations 4-5.

¹⁰⁰ See for example the ATCM 34 IP049 (Australia), “Renewable Energy and Energy Efficiency Initiatives at Australia’s Antarctic Stations”.

¹⁰¹ ATCM 35 SP8 (ATS), “Actions Taken by the CEP and the ATCM on the ATME Recommendations on Climate Change”.

and governance does not mean that a regional approach should be abandoned, however. Instead, The ATS should seek opportunities to engage further with external bodies and processes that are concerned with issues of climate change, resource management and conservation. Finally, it must be questioned how long the ATPs can maintain their approach of ignoring certain highly contentious issues within Antarctic fora. While questions of Antarctic whaling are set to be resolved elsewhere, global warming is likely to bring further issues of resource access and conservation to the fore. An approach to dealing with such divisive issues will need to be developed at some point, otherwise the ATS risks becoming irrelevant in the eyes of the broader international community. These considerations aside, however, the ATS appears well-placed to face the challenges of global climate change. While its track record of successfully responding to environmental issues in the past is certainly no guarantee of its ability to do so in the future, that experience, and the continued commitment of the ATPs to their stewardship role, provide a strong and durable foundation.