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Impacts of tourism on coastal areas

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Abstract

The socioeconomics of the Anthropocene is exposing coastal regions to multiple pressures, including climate change hazards, resource degradation, urban development and inequality. Tourism is often raised as either a panacea to, or exacerbator of, such threats to ecosystems and sustainable livelihoods. To better understand the impacts of tourism on coastal areas, Scopus and Web of Science databases were searched for the top 100 cited papers on coastal tourism. Web of Science suggested 'highly cited' papers were also included to allow for more recent high-impact papers. Of the papers retrieved, 44 focused on the impacts of tourism. Social/cultural and environmental impacts were viewed as mostly negative, while economic impacts were viewed as mostly positive but only of actual benefit to a few. In addition, when compared with recent whole-of-sector reviews and reports it was evident that coastal tourism is increasingly a global enterprise dominated by large corporations that leverage various interests across local to transnational scales. Through this global enterprise, even the positive economic benefits identified were overshadowed by a broader system of land and property development fuelling local wealth inequity and furthering the interests of offshore beneficiaries. Only two highly cited papers discussed tourism within a broader context of integrated coastal zone management, suggesting that tourism is mostly assessed as a discrete sector within the coastal zone and peripheral to other coastal management considerations or the global tourism sector as a whole. The findings have relevance to the holistic management of coasts, coastal tourism and the achievement of sustainable development goals in a way that considers the increasing threats from coastal hazards, resource extraction and urbanisation, as well as the pervasive impacts of international business systems from local to global scales.

Impact statement

Coastal tourism is often seen as an important part of an economic development strategy. However, most highly cited papers suggest that economic benefits are unequally distributed between tourism investors and resident communities. The highly cited papers also often reflected negative local environmental and social impacts. Furthermore, some global sector reviews describe the tourism enterprise as a guise for property development and investment speculation, without a long-term commitment to local peoples or place. The changing nature of the global tourism enterprise has implications for the way that tourism is examined (historically focused on local impacts from specific tourism operations) and for how tourism is considered within the context of integrated coastal zone management and sustainable development.

Introduction

Many economic development strategies for coastal regions throughout the world include tourism as part of the solution (Becker, 2013; Fahimi et al., 2018; Faber and Gaubert, 2019). These strategies place tourism as a potential panacea to the improvement of national and regional economies, through to sustainable livelihoods at the community scale (Cortés-Jiménez, 2008; Zhao, 2020). However, these strategies are not based on a holistic understanding of the impacts of tourism on social, cultural, economic or environmental domains. Instead, they tend to focus on short-term inputs of capital in the form of land development and projections of tourist expenditure, which may appear in national accounts of GDP but are unlikely to benefit local communities in the long term (Lange, 2015; Martasuganda et al., 2020). In 2012, Buckley identified that the '[tourism] industry is not yet close to sustainability' (p. 528) based on an evaluation of the tourism contributions to sustainable development. As coastal regions continue to be exposed to multiple threats such as climate change, resource degradation and urbanisation (Nunn et al., 2021), the mechanisms for achieving sustainable development and building

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social-ecological resilience are ever more important. Following the work of Buckley (2012) and others, this paper takes a critical view of the role of tourism in achieving these aims and contributes to a better understanding of the impacts of tourism on coastal social-ecological systems.

Methods

To examine the role of tourism in achieving sustainable development and resilience in coastal areas, the impacts of tourism on society, economy and environment were explored through an analysis of highly cited literature. The Web of Science (WoS) and Scopus databases were searched using the search string 'touris*' AND 'coast*' in title, abstract, keywords (Scopus) or TOPIC (WoS), with no date limitation. The results were ordered by number of citations, with top 100 cited journal papers from each database exported for review. The top 100 cited papers from Scopus ranged from 152 to 3,688 citations. The top 100 cited papers from WoS ranged from 163 and 3,607 citations.

In addition, WoS 'highly cited' (WoSHC) journal papers (i.e. papers that perform in the top 1% based on the number of citations when compared to other papers published in the same field in the same year) were included in the review to ensure highly cited papers were not biased by date of publication. The WoSHC papers were published between 2011 and 2021 and cited between 8 and 871 times. The three exports (top 100 Scopus, top 100 from WoS, 60 WoSHC) were combined and duplicates were removed, leaving 164 unique papers for review. Title and abstracts were reviewed, and inclusion and exclusion criteria were applied (Table 1). Seventy-two highly cited papers addressing aspects of tourism in coastal areas remained.

Our analysis focused on understanding whether tourism has a positive or negative impact on coastal social-ecological systems. The literature was therefore screened to distinguish between papers that focused on the impacts *of* tourism on social-ecological systems (e.g. the contribution of tourism to plastic pollution in coastal areas) versus those that addressed socio-ecological impacts *on* tourism (e.g. the impacts of climate change on tourist visitation levels). Forty-four papers focussed on the impacts *of* tourism, 24 on the impacts *on* tourism, with four papers not addressing either (e.g. generating a profile of tourists or developing indicators of sustainable tourism) (Table 2).

Sentiment analysis was manually performed on the 44 papers addressing impacts of tourism on coastal regions to determine the polarity of each paper (positive, negative, mixed or neutral) (refer to supplementary material). Each paper was reviewed and references to the impacts of tourism across the themes of: (1) society; (2) economy and (3) environment, were recorded as either positive, negative, neutral or mixed (i.e. in instances where both positive and negative impacts of tourism were reported for the theme). Manual sentiment analysis was adopted over automative programs to improve accuracy (Boukes *et al.*, 2020; van Atteveldt *et al.*, 2021).

Table 1. Inclusion and exclusion criteria for highly cited paper selection

Inclusion	Exclusion
Peer-reviewed journal article	Book, book chapter, conference paper
Tourism is integral to the focus	Tourism incidental to the focus
The coast is integral to the focus	The coast incidental to the focus

Table 2. Categorisation of the 72 highly cited papers addressing coastal tourism

	Scopus top 100	Additional unique papers from WoS top 100	Additional unique papers from WoSHC 60	Total
Impacts of tourism	35	4	5	44
Impacts on tourism	13	3	8	24
Other	3	–	1	4

In addition, to explore whether highly cited coastal tourism literature considered the impacts *of* tourism within the broader context of integrated coastal zone management (ICZM), the 44 articles were searched for terms relating to integrated management (i.e. ICZM, integrated and management). Finally, the analysis was compared with the findings of whole-of-sector reviews and reports, including grey literature, on the tourism sector (e.g. Honey and Krantz, 2007; Buckley, 2012) identified through Google Scholar to situate the findings within macro trends.

Results and discussion

Sentiment analysis focused on the impacts of tourism on social, economic or environmental conditions. As only three of the 44 papers referred to cultural impacts (Saveriades, 2000; Almeida-García *et al.*, 2016; Cuadrado-Ciuraneta *et al.*, 2017; Grilli *et al.*, 2021) and often combined social and cultural factors in their discussion, these papers were included in the 'social' category for analysis. Negative sentiment was present in 84% of papers, compared to 52% identifying a positive impact of tourism (Table 3). However, negative sentiment was strongest when relating to social and environmental conditions. More specifically, none of the 35 papers that discussed environmental conditions expressed solely positive sentiment, and only 17% showed mixed sentiment. Beyond the review, other papers have also explained that positive environmental impacts may be perceived rather than proven. For example, Diedrich (2007) states that some coral reefs may be perceived to be less impacted by a transition from extractive fishing towards tourism but that these assumptions may not be based on measured improvements. Of the papers that focused on environmental impacts, those impacts were often narrowly defined such as an impact on a specific species. For example, dolphins (e.g. Constantine *et al.*, 2004; Lusseau, 2004), penguins (e.g. Ellenberg *et al.*, 2007) and coral reefs (e.g. Zakai and Chadwick-Furman, 2002; Barker and Roberts, 2004). Moreover, the extensive range of environmental impacts is likely to have prevented their inclusion on the highly cited list (e.g. land cover

Table 3. Sentiment analysis of the 44 highly cited papers that focused on the impacts of tourism on coastal regions

	Negative sentiment	Positive sentiment	Mixed sentiment	Neutral sentiment	Not addressed
Social	8	4	5	1	26
Economic	2	19	3	1	19
Environmental	27	0	6	2	9
	84%	52%	32%	9%	

change, wastewater discharge, land and marine litter, air pollution and water and energy consumption).

The focus on specific impacts also partly explains the limited consideration of integrated management solutions, and that only two of the papers considered tourism within a broader context of ICZM. For example, while the results of the studies such as plastic pollution in coastal waters near tourist sites have management implications, the authors generally do not discuss integrated management. Instead, they seek to understand and recommend specific actions in relation to that specific impact such as variation in levels of marine plastic pollution based on tourism intensity and ways to address it in isolation. However, of the two papers that did consider ICZM, both included recognition of environmental impacts. None of the papers that focused on social or economic issues considered tourism within the context of ICZM.

In contrast to papers focused on environmental and social impacts, positive sentiment was evident in 76% of papers that discussed economic conditions. However, 'economy' was often vaguely defined with little detail on specific economic contributions, and where it was defined, it was largely discussed in terms of short-term inputs of capital, projections of employment opportunities for local residents or estimates of tourism expenditure. Notwithstanding that in specific cases, tourism can account for a substantial proportion of income for some communities, only a marginal proportion of the overall tourism revenue reaches those communities (Campbell, 1999; Sandbrook, 2010), which is particularly true in developing contexts (Lacher and Nepal, 2010).

While several papers indicate significant perceived impacts (positive and negative) on social and/or economic conditions, the quantification of change in condition (e.g. income, employment, access to amenity and congestion) is scarce among the highly cited papers. Liburd et al. (2012) also point out that positive perceptions can differ to actual impacts and found that while tourism 'has the potential to contribute to enhanced quality of life (QOL) through economic benefits ... this can be at the expense of social equity, cultural identity and environmental sustainability'. Overall, there has been wide recognition of the need to ensure tourism is locally beneficial rather than impactful and has resulted in the development of a range of related concepts, from Community Benefit Tourism Initiatives (Simpson, 2008) to Pro Poor Tourism (Ashley and Haysom, 2006). This recognition has been in part spawned by Murphy's (1985) seminal book, which proposed that tourism development should respond to local needs and led to numerous studies in this area in a range of contexts. For example, Ashley and Jones (2001) discuss joint ventures between communities and tourist operators in Namibia. However, many of these studies tend to focus on business arrangements and profit sharing, rather than addressing broader long-term issues for affected communities. For example, Glup (2021), identifies some deeper impacts of tourism on communities such as the commodification of culture and displacement.

Honey and Krantz's (2007) report on 'Global Trends in Coastal Tourism' provide a more far-reaching perspective on the tourism sector, highlighting that economic impacts occur most significantly through land development. Furthermore, Honey and Krantz note that land development under the guise of tourism development is largely a short-term speculative investment that does not result in a sustained commitment to the community, environment or economy on the part of the developer. In addition, once the land development is complete and sold, the longer-term impacts of the development such as environmental degradation

are usually unable to be compensated by the original developer. Honey and Krantz also found that this pattern is repeated throughout the world in both developing and developed world contexts, stating that 'Corruption and cronyism, although difficult to document, is said to play an important role in coastal and cruise tourism decision-making, in both first and third world countries' (p. 13). These findings are reinforced by Buckley (2012), who found that political approaches are used to gain access to public spaces and natural resources. More recently, Clavé and Wilson (2017) note the 'inherently "urbanising" nature of tourism development in the traditional coastal resort context', whereby tourism development initially led to 'path creation', then to 'path dependency', but now has morphed into new models of urban development that differ from the 'traditional coastal resort context'. However, Gormsen (1997) highlights historical cases of coastal tourism that also suggest coastal tourism being a form of property development. These trends exacerbate foreign ownership and wealth inequity within coastal regions and place increasing pressure on natural environments.

The polarised sentiment analysis, showing mostly negative sentiment for social and environment impacts, and mostly positive sentiment for economic impacts, also reflects the divergence within the tourism discipline. Higgins-Desbiolles (2020) highlights a division between tourism academics who focus on the benefits of tourism and support for the current sector business model, and those who recognise the negative impacts of tourism on environment, culture and sustainable livelihoods and call for reforms. This division has become pronounced during COVID-19 and amounts to a 'war over tourism', with one side arguing that critiques of the tourism sector cause harm to tourism operators, workers and tourists, while the other calling for the sector to be more 'ethical, responsible and sustainable' (Higgins-Desbiolles, 2020).

While there have been calls for more comprehensive typologies of tourism for more than 25 years (e.g. Wall, 1996), those that have been developed remain focused on micro-scale activities and interactions. For example, Acott et al. (1998) discuss ecotourism as 'deep' or 'shallow' but not beyond the individual enterprise. And while Wall (1996) suggested that tourism needed to be viewed within a broader context of multiple other influences and impacts on communities, this ignored the more systemic influences and impacts that tourism has on broader social-ecological systems. However, there have been some attempts to raise these macro issues, albeit from a social justice, rather than a more-than-human lens. For example, Higgins-Desbiolles et al. (2019) call for a rethink through 'degrowing tourism', where they argue for more emphasis on issues of equity, and where the rights of local communities should be placed ahead of those of tourists and tourism operators to make profits. More recently, Lamers and Student (2021) highlight that the social and environmental implications of globalisation should be considered within coastal regions, including mobilities and flows including global tourist flows.

As Gössling et al. (2020) suggest, COVID-19 should present an opportunity to re-assess the growth trajectory of the tourism sector, particularly in relation to questioning whether more tourists actually result in greater benefits. However, like many other sectors, the opportunities for reform that presented through COVID-19 and the numerous other shocks before it such as the global financial crisis of 2007/2008, have not been translated into any significant global transformational action towards sustainability (Glavovic et al., 2021).

Conclusions

This paper sought to explore highly cited papers focused on the impacts of tourism on coastal regions and to critique of the dominant view of tourism as a panacea to coastal futures. Sentiment analysis reflected the divide within the tourism discipline, where those papers that focused on the environment and society generally showed negative sentiment towards the impacts of tourism, while those that focused on the economy generally showed positive sentiment. However, most papers remain fixated on the local scale and impacts from specific tourism enterprises, which is reflected in the deficiency of highly cited papers that considered ICZM or other integrated management solutions. Currently, the highest cited papers on the impacts of tourism on coastal areas represent a disparate set of micro impacts, which cumulatively represent significant social-ecological challenges, but with limited interrogation of underpinning macro drivers. Hence the need for studies that focus on coastal tourism as a complex globalised system. In particular, there have been few highly cited studies that focus on the underlying business model of the tourism sector, which some sector reports suggest can more accurately be defined as property development. When viewed through this lens, the tourism sector may be seen as a far-reaching global business that exploits peoples and places for the benefit of wealthy elites. The findings have implications for both the scale of tourism research and also for considering tourism within the context of ICZM and sustainable development.

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Competing interests. The authors declare no competing interests exist.

References

- Acott TG, Trobe HL and Howard SH (1998) An evaluation of deep ecotourism and shallow ecotourism. *Journal of Sustainable Tourism* 6(3), 238–53.
- Almeida-García F, Peláez-Fernández MÁ, Balbuena-Vazquez A and Cortés-Macias R (2016) Residents' perceptions of tourism development in Benalmádena (Spain). *Tourism Management* 54, 259–274.
- Ashley C and Haysom G (2006) From philanthropy to a different way of doing business: Strategies and challenges in integrating pro-poor approaches into tourism business. *Development Southern Africa* 23(2), 265–280.
- Ashley C and Jones B (2001) Joint ventures between communities and tourism investors: Experience in southern Africa. *International Journal of Tourism Research* 3(5), 407–423.
- Barker NH and Roberts CM (2004) Scuba diver behaviour and the management of diving impacts on coral reefs. *Biological Conservation* 120(4), 481–489.
- Becker E (2013) *Overbooked: The Exploding Business of Travel and Tourism*. New York: Simon & Schuster.
- Boukes M, van de Velde B, Araujo T and Vliegthart R (2020) What's the tone? Easy doesn't do it: Analyzing performance and agreement between off-the-shelf sentiment analysis tools. *Communication Methods and Measures* 14(2), 83–104.
- Buckley R (2012) Sustainable tourism: Research and reality. *Annals of Tourism Research* 39(2), 528–546.
- Campbell LM (1999) Ecotourism in rural developing communities. *Annals of Tourism Research* 26(3), 534–553.
- Clavé SA and Wilson J (2017) The evolution of coastal tourism destinations: A path plasticity perspective on tourism urbanisation. *Journal of Sustainable Tourism* 25(1), 96–112.
- Constantine R, Brunton DH and Dennis T (2004) Dolphin-watching tour boats change bottlenose dolphin (*Tursiops truncatus*) behaviour. *Biological Conservation* 117(3), 299–307.
- Cortés-Jiménez I (2008) What type of tourism matters for the regional economic growth? The cases of Spain and Italy. *International Journal of Tourism Research* 10, 127–139.
- Cuadrado-Ciurana S, Durà-Guimerà A and Salvati L (2017) Not only tourism: Unravelling suburbanization, second-home expansion and “rural” sprawl in Catalonia, Spain. *Urban Geography* 38(1), 66–89.
- Diedrich A (2007) The impacts of tourism on coral reef conservation awareness and support in coastal communities in Belize. *Coral Reefs* 26(4), 985–996.
- Ellenberg U, Setiawan AN, Cree A, Houston DM and Seddon PJ (2007) Elevated hormonal stress response and reduced reproductive output in yellow-eyed penguins exposed to unregulated tourism. *General and Comparative Endocrinology* 152(1), 54–63.
- Faber B, Gaubert C (2019) Tourism and economic development: Evidence from Mexico's coastline. *American Economic Review* 109(6), 2245–2293.
- Fahimi A, Saint Akadiri S, Seraj M and Akadiri AC (2018) Testing the role of tourism and human capital development in economic growth. A panel causality study of micro states. *Tourism Management Perspectives* 28, 62–70.
- Glavovic BC, Smith TF and White I (2022) The tragedy of climate change science. *Climate and Development* 14(9), 829–833.
- Gormsen E (1997) The impact of tourism on coastal areas. *GeoJournal* 42, 39–54.
- Gössling S, Scott D and Hall CM (2020) Pandemics, tourism and global change: A rapid assessment of COVID-19. *Journal of Sustainable Tourism* 29(1), 1–20.
- Glup M (2021) Tourism's Impacts on Local Populations. *Nebraska Anthropologist* 29, 51–66.
- Grilli G, Tyllianakis E, Luisetti T, Ferrini S and Turner RK (2021) Prospective tourist preferences for sustainable tourism development in Small Island developing states. *Tourism Management* 82, 104178.
- Higgins-Desbiolles F (2020) The “war over tourism”: Challenges to sustainable tourism in the tourism academy after COVID-19. *Journal of Sustainable Tourism* 29(4), 551–569.
- Higgins-Desbiolles F, Carnicelli S, Krolkowski C, Wijesinghe G and Boluk K (2019) Degrowing tourism: Rethinking tourism. *Journal of Sustainable Tourism* 27(12), 1926–1944.
- Honey M and Krantz D (2007) *Global Trends in Coastal Tourism*. Washington, DC: World Wildlife Fund.
- Lacher RG and Nepal SK (2010) From leakages to linkages: Local-level strategies for capturing tourism revenue in northern Thailand. *Tourism Geographies* 12(1), 77–99.
- Lamers M and Student J (2021) Learning from COVID-19? An environmental mobilities and flows perspective on dynamic vulnerabilities in coastal tourism setting. *Maritime Studies* 20, 475–486.
- Lange GM (2015) Tourism in Zanzibar: Incentives for sustainable management of the coastal environment. *Ecosystem Services* 11, 5–11.

- Liburd JJ, Benckendorff P and Carlsen J** (2012) Tourism and quality-of-life: How does tourism measure up? In Uysal M, Perdue R and Sirgy M (eds), *Handbook of Tourism and Quality-of-Life Research*. Dordrecht: Springer, pp. 105–132.
- Lusseau D** (2004) The hidden cost of tourism: Detecting long-term effects of tourism using behavioral information. *Ecology and Society* **9**(1), 2.
- Martasuganda MK, Tjahjono B, Yulianda F, Purba NP and Faizal I** (2020) Coastal development strategy based on tourism activities in Pangandaran, West Java, Indonesia. *World News of Natural Sciences* **32**, 61–73.
- Murphy PE** (1985) *Tourism: A Community Approach*. London: Routledge.
- Nunn PD, Smith TF and Elrick-Barr C** (2021) Path dependency and future adaptation of coastal cities: Examples from the Asia-Pacific. *Frontiers in Environmental Science* **9**, 642385. doi: [10.3389/fenvs.2021.642385](https://doi.org/10.3389/fenvs.2021.642385)
- Sandbrook CG** (2010) Putting leakage in its place: The significance of retained tourism revenue in the local context in rural Uganda. *Journal of International Development* **22**(1), 124–136.
- Saveriades A** (2000) Establishing the social tourism carrying capacity for the tourist resorts of the east coast of the Republic of Cyprus. *Tourism Management* **21**(2), 147–156.
- Simpson MC** (2008) Community benefit tourism initiatives—A conceptual oxymoron? *Tourism Management* **29**(1), 1–18.
- van Atteveldt W, van der Velden MACG and Boukes M** (2021) The validity of sentiment analysis: Comparing manual annotation, crowd-coding, dictionary approaches, and machine learning algorithms. *Communication Methods and Measures* **15**(2), 121–140.
- Wall G** (1996) Rethinking impacts of tourism. *Progress in Tourism and Hospitality Research* **2**(3–4), 207–215.
- Zakai D and Chadwick-Furman NE** (2002) Impacts of intensive recreational diving on reef corals at Eilat, northern Red Sea. *Biological Conservation* **105** (2), 179–187.
- Zhao X** (2020) Leapfrogging development strategy of coastal tourism in under-developed cities. *Journal of Coastal Research* **115**, 72–74.