**Supplemental material**

**Article**: A Systematic Literature Review on Climate Change Adaptation Planning for Archaeological Site Management and the Prevalence of Stakeholder Engagement

**Appendix I**: Systematic Literature Review Codebook

**Appendix II**: List of Selected Publications

**Appendix I: Systematic Literature Review Codebook**

##

1. **Deductive codes**
2. **Stakeholder prevalence**
	1. **Implicit**: Local and/or Traditional stakeholders are not mentioned by name, but researchers strongly allude to culturally associated groups in method and/or management recommendations.
	2. **Explicit**: Local and/or Traditional stakeholders mentioned by name (or a specific cultural group is identified) and researchers worked directly with them. Researchers will likely include associated groups in adaptation planning and management recommendations.
	3. **Ignored**: Local and Traditional stakeholders are not mentioned, or only briefly acknowledged in the discussion or conclusion.
3. **Site type**
	1. **Archaeological**: The site or sites discussed in the study are focused on archaeological sites (not habitable).
	2. **Heritage landscape**: The site or sites discussed in the study include archaeological sites, but also include other built environment like buildings and structures.
4. **Climate change**
	1. **Not primary**: Climate change impacts are a motivating factor for the study, but not the main driver for action, or is one of several reasons for the study.
	2. **Primary driver**: Climate change impacts are the impetus and/or primary motivator for the study, or the main driver for a need to take action.
5. **Implications and findings**
	1. **Methodological**: Results reveal findings that can offer or improve methods for protecting archaeological or heritage sites.
	2. **Practical**: Results provide examples of that can be implemented in different places, for example the creation of a tool.
	3. **Stakeholders**: Results recommend stakeholder involvement as a part of site management or protection.
	4. **Theoretical**: Results build the body of knowledge, reveal new information, or provide broader concepts in how we approach the question.
6. **Knowledge Systems**
	1. **Devalued**: The study mentions that local knowledge or stakeholder input is considered not relevant or not important to decision making; the authors “de-value” local or other types of knowledge and emphasize technical or Western knowledge.
	2. **Local**: The study mentions or emphasizes knowledge or input from local communities (non-indigenous).
	3. **Traditional**: The study mentions or emphasizes importance of knowledge from traditional groups (Indigenous).

1. **Inductive Codes**
2. **Management**
	1. **3D and virtual displays**: Results recommend using 3D imaging or virtual reality to inform or protect information held within objects or sites.
	2. **Assessments and frameworks**: Results suggest using an assessment or framework for decision making or propose their own assessment of framework that can be used to assess, protect, or prioritize sites.
	3. **Background research**: Results suggest background research is useful for informed decision making.
	4. **Build relationships with stakeholders**: Results suggest building relationships with other stakeholders when planning for site protection.
	5. **Citizen science**: Results suggest incorporating citizen science in protecting or managing sites.
	6. **Collaboration**: Results suggest collaborating or creating partnerships to make decisions about site value and/or protection and adaptation measures.
	7. **Consultation and engagement with stakeholders**: Results suggest consultation and/or engagement with stakeholders when planning for site management.
	8. **Create protected areas**: Results suggest protecting a site by creating a protected area.
	9. **Develop dynamic, continual process**: Results explicitly suggest that planning is a continual process.
	10. **Develop planning tools**: Results suggest creating planning tools or suggests a planning tool for long-term stewardship of sites.
	11. **Geospatial/modeling**: Results suggest using or collecting geospatial data and/or modeling to make decisions about site protect and management.
	12. **Improve communication**: Results suggest developing or improving communication between partners or to the public as a way to improve site protection and management. This includes advocacy work.
	13. **Monitor sites**: Results suggest that regular monitoring of sites should be included in management. This includes remote sensing and monitoring with cameras.
	14. **Multiple approaches**: Results suggests multiple approaches to protecting and treating the site(s).
	15. **Physical barriers or relocation**: Results suggest constructing physical barriers to protect sites or relocating some or all of the site to a geographically safer place.
	16. **Prepare for loss**: Results suggest preparing for the loss or partial loss of archaeological sites as a part of their planning.
	17. **Prioritize sites/determine value**: Results suggest prioritizing sites to protect or invest in, based on their value, or identifying the need to explicitly determine site value in order to plan for their protection.
	18. **Proxy data**: Results suggest using proxy data such as historical data and records to help make decisions, including using proxy data to monitor changes over time.
	19. **Support local management**: Results suggest partial or full management or monitoring from local stakeholders.
	20. **Survey and Inventory**: Results suggest surveying and inventorying sites to make decisions and to create records in case they are lost. This includes an emphasis on the importance of sharing data and making it available to others.
	21. **Training and guidance**: Results suggest training others to monitor or evaluate sites, includes providing guidance to decision makers on how to plan for or manage sites.
3. **Methodology**
	1. **Assessments**: The study uses some type of formal or standardized assessment, including applying existing frameworks.
	2. **Case study**: The study uses one or more case studies.
	3. **Consultation**: The study uses consultation with stakeholders.
	4. **Develop plan**: The study results in the development of a plan.
	5. **Develop scope**: The study results in the development of a scope for decision makers.
	6. **Education and Outreach**: The study uses education and outreach.
	7. **Excavation**: The study uses some level of site excavation.
	8. **Geophysical data collection**: The study uses geophysical data collection, including field work, soil testing, etc.
	9. **GPR**: The study uses ground penetrating radar to collect data for this study.
	10. **Evaluate capacity**: The study evaluates capacity as a way to plan, including identifying barriers.
	11. **Interviews and workshops**: The study uses interviews and workshops to collect data.
	12. **LiDAR**: The study uses LiDAR as a way to collect data.
	13. **Lit Review**: The study uses a literature review to inform the study.
	14. **Local monitoring citizen science**: The study uses local monitoring and/or citizen science to collect information. The information is used to make further decisions, or the process of collecting information is analyzed.
	15. **Mapping and GPS**: This study uses mapping, GPS data and satellite imagery.
	16. **Measuring decay**: This study measures decay of sites.
	17. **Modeling scenarios**: This study includes modelling scenarios and includes projections.
	18. **Monitoring**: This study includes site monitoring and include analysis of changes over time.
	19. **Photogrammetry and TLS**: The study uses photogrammetry and terrestrial laser scanning to collect data on sites or as a way to monitor and evaluate sites.
	20. **Proposed framework and prioritization**: The study uses or pilots a proposed framework for evaluating or ranking sites. This includes mention or a call for prioritization of sites.
	21. **Remote sensing**: The study collects information through remote sensing.
	22. **Secondary data**: The study includes secondary research and archaeological reports/data, comparison/collection of information to find gaps. Ariel photos are included.
	23. **Significance and value**: The study aims to determine site significance and/or value.
	24. **Site access**: The study evaluates site access.
	25. **Survey**: The study conducts typical archaeological survey work or uses some kind of survey as a part of an assessment, scoping or inventory. This is a broad category. Questionnaire surveys should be included in workshops.
	26. **Technical judgment**: The study calls on technical judgment as a tool to assessor evaluate sites.
	27. **Workshop and trainings**: The study uses workshops and/or trainings as a part of collecting data, including analyzing workshop and training results.

## Appendix II: List of Selected Publications

AbdelMaksoud, Kholoud M., Wael M. Al-Metwaly, Dmitry A. Ruban, and Natalia N. Yashalova

2019 Sand Dune Migration as a Factor of Geoheritage Loss: Evidence from the Siwa Oasis (Egypt) and Implications for Geoheritage Management. *Proceedings of the Geologists Association* 130 (5): 599–608. https://doi.org/10.1016/j.pgeola.2019.07.001

Anzidei, Marco, Fawzi Doumaz, Antonio Vecchio, Enrico Serpelloni, Luca Pizzimenti, Riccardo Civico, Michele Greco, Giovanni Martino, and Flavio Enei

2020 Sea Level Rise Scenario for 2100 AD in the Heritage Site of Pyrgi (Santa Severa, Italy). *Journal of Marine Science and Engineering* 8(2). DOI: 10.3390 / jmse8020064

Brabec, Elizabeth, and Elizabeth Chilton.

2015 Toward an Ecology of Cultural Heritage. *Change Over Time* 5 (2): 266–285. https://doi.org/10.1353/cot.2015.0021

Breen, Colin, Crystal El Safadi, Harmen Huigens, Sophie Tews, Kieran Westley, Georgia Andreou, Rodrigo Ortiz Vazquez, Julia Nikolaus, and Lucy Blue

2021 Integrating Cultural and Natural Heritage Approaches to Marine Protected Areas in the MENA region. *Marine Policy* 132. https://doi.org/10.1016/j.marpol.2021.104676.

Bunting, Christine, Nick Branch, Steve Robinson, and Penny Johnes.

2014 Ground Penetrating Radar as a Tool to Improve Heritage Management of Wetlands.” *Proceedings of the 15th International Conference on Ground Penetrating Radar* 54–59. https://doi.org/10.1109/ICGPR.2014.6970384

Carmichael, Bethune, Greg Wilson, Ivan Namarnyilk, Sean Nadji, Sally Brockwell, Bob Webb, Fred Hunter, and Deanne Bird

2018 Local and Indigenous Management of Climate Change Risks to Archaeological Sites. *Mitigation and Adaptation Strategies for Global Change* 23(2): 231–255. https://doi.org/10.1007/s11027-016-9734-8

Carmichael, Bethune, Greg Wilson, Ivan Namarnyilk, Sean Nadji, Jacqueline Cahill, and Deanne Bird

2017 Testing the Scoping Phase of a Bottom-Up Planning Guide Designed to Support Australian Indigenous Rangers Manage the Impacts of Climate Change on Cultural Heritage Sites*. Local Environment* 22 (10): 1197–1216. https://doi.org/10.1080/13549839.2017.1332018

Carmichael, Bethune, Greg Wilson, Ivan Namarnyilk, Sean Nadji, Jaqueline Cahill, Sally Brockwell, Bob Webb, Deanne Bird, and Cathy Daly.

2020 A Methodology for the Assessment of Climate Change Adaptation Options for Cultural Heritage Sites. *Climate* *8*(8). https://doi.org/10.3390/cli8080088

Cassar, JoAnn, Shirley Cefai, Reuben Grima, and Katya Stroud

2018 Sheltering Archaeological Sites in Malta: Lessons Learnt. *Heritage Science* 6 (36). DOI:10.1186/s40494-018-0201-6

Cerrillo-Cuenca Enrique, José Juan de Sanjosé Blasco, Primitiva Bueno-Ramírez, Juan Antonio Pérez-Álvarez, Rodrigo de Balbín Behrmann, and Manuel Sánchez-Fernández

2021 Emergent Heritage: The Digital Conservation of Archaeological Sites in Reservoirs and the Case of the Dolmen de Guadalperal, Spain. *Heritage Science* 9(1). http://dx.doi.org/10.1186/s40494-021-00590-5

Collins, B. D., D.R. Bedford, S.C. Corbett, C. Cronkite‐Ratcliff, and H.C. Fairley.

2016 Relations Between Rainfall-Runoff-Induced Erosion and Aeolian Deposition at Archaeological Sites in a Semi-Arid Dam-Controlled River Corridor*. Earth Surface Processes and Landforms* 41(7): 899–917. https://doi.org/10.1002/esp.3874

Cook, Isabel, Robert Johnston and Katherine Kelby.

2019. Climate Change and Cultural Heritage: A Landscape Vulnerability Framework. *The Journal of Island and Coastal Archaeology* 16 (2-4): 553-571. https://doi.org/10.1080/15564894.2019.1605430

Cuenca-García, Carmen, Ole Risbøl, C. Richard Bates, Arne Anderson Stamnes, Fredrik Skoglund, Øyvind Ødegård, Andreas Viberg, Satu Koivisto, Mikkel Fuglsang, Manuel Gabler, Esben Schlosser Mauritsen, Wesa Perttola, Dag-Øyvind Solem

2020 Sensing Archaeology in the North: The Use of Non-Destructive Geophysical and Remote Sensing Methods in Archaeology in Scandinavian and North Atlantic Territories. *Remote Sensing* 12 (3102), 3102. https://doi.org/10.3390/rs12183102

Daly, Cathy

2014 A Framework for Assessing the Vulnerability of Archaeological Sites to Climate Change: Theory, Development, and Application. *Conservation & Management of Archaeological Sites* 16(3): 268–282. https://doi.org/10.1179/1350503315Z.00000000086

Daly, Cathy

2019. Preliminary Results from a Legacy Indicator Tool for Measuring Climate Change Related Impacts on Built Heritage. *Heritage Science* 7(32). https://doi.org/10.1186/s40494-019-0274-x

Daly, Cathy, Caroline Engek Purcell, Jacqui Donnelly, Clara R. Chan, Michael MacDonagh, and Peter Cox

2020 Climate Change Adaptation Planning for Cultural Heritage, a National Scale Methodology. *Journal of Cultural Heritage Management and Sustainable Development*. DOI: 10.1108/JCHMSD-04-2020-0053

Davis, Carl M.

2018 Effects of Climate Change on Cultural Resources in the Northern Rockies. In *Climate Change and Rocky Mountain Ecosystems*, edited by Jessica E. Halofsky and David L. Peterson 63: 209–219. Springer. https://doi.org/10.1007/978-3-319-56928-4\_11

Dawson, Peter and Richard Levy

2016 From Science to Survival: Using Virtual Exhibits to Communicate the Significance of Polar Heritage Sites in the Canadian Arctic*. Open Archaeology* 2(1): 209–231. https://doi.org/10.1515/opar-2016-0016

Dawson, Tom

2014 A View from Scotland’s Coast. *The Public Historian* 36(3): 31–49. https://doi.org/10.1525/tph.2014.36.3.31

Dawson, Tom, Joanna Hambly, Alice Kelley, William Lees, and Sarah Miller

2020 Coastal Heritage, Global Climate Change, Public Engagement, and Citizen Science. *Proceedings of the National Academy of Sciences* 117(15), 8280–8286. https://doi.org/10.1073/pnas.1912246117

Dawson, T. Joanna Hambly, William Lees, Sarah Miller

2021 Proposed Policy Guidelines for Managing Heritage at Risk Based on Public Engagement and Communicating Climate Change. *Historic Environment Policy & Practice* 12 (3-4): 375-394 DOI10.1080/17567505.2021.1963573

De Angeli, Stefano, Fabiana Battistin, Matteo Serpetti, Alessio Di Iorio, and Federico Valerio Moresi

2020 The RESEARCH project: Soil-related hazards and archaeological heritage in the challenge of climate change. IOP Conference Series. *Materials Science and Engineering*. DOI:10.1088/1757-899X/949/1/012058

Delmonaco, Guiseppe, Marco Brini, and Giorgia Cesaro

2017 Advanced monitoring systems for landslide risk reduction in the Siq of Petra, Jordon. *ISPRS - International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, XLII-2/W5: 163–169. https://doi.org/10.5194/isprs-archives-XLII-2-W5-163-2017

Elliott, P., and H. Williams

2019 Evaluating Sea-Level Rise Hazards on Coastal Archaeological Sites, Trinity Bay, Texas. *The Journal of Island and Coastal Archaeology* 0(0): 1–19. https://doi.org/10.1080/15564894.2019.1701149

Ezcurra, Paula and Isabel C. Rivera-Collazo

2018 An Assessment of the Impacts of Climate Change on Puerto Rico’s Cultural Heritage with a Case Study on Sea-Level Rise. *Journal of Cultural Heritage* 32: 198–209. https://doi.org/10.1016/j.culher.2018.01.016

Fattore Carmen, Nicodemo Abate, Farid Faridani, Nicola Masini, and Rosa Lasaponara

2021 Google Earth Engine as Multi-Sensor Open-Source Tool for Supporting the Preservation of Archaeological Areas: The Case Study of Flood and Fire Mapping in Metaponto, Italy. *Sensors* 21(5): 1791. https://doi.org/10.3390/s21051791

Fatorić, Sandra, and Erin Seekamp

2017 Are Cultural Heritage and Resources Threatened by Climate Change? A Systematic Literature Review. *Climatic Change* 142 (1): 227–254. https://doi.org/10.1007/s10584-017-1929-9

Fatorić, Sandra and Erin Seekamp

2019 Knowledge Co-Production in Climate Adaptation Planning of Archaeological Sites. *Journal of Coastal Conservation* 23(3): 689–698. https://doi.org/10.1007/s11852-019-00698-8

Fenger-Nielsen, Rasmus, Jørgen Hollesen, Henning Matthiesen, Emil Alexander Sherman Andersen, Andreas Westergaard-Nielsen, Hans Harmsen, Anders Michelsen, and Bo Elberling

2019 Footprints from the Past: The Influence of Past Human Activities on Vegetation and Soil across Five Archaeological Sites in Greenland. *Science of the Total Environmen*t 654: 895–905. https://doi.org/10.1016/j.scitotenv.2018.11.018

Fenger‐Nielsen, Rasmus, Bo Elberling, Aart Kroon, Andreas Westergaard‐Nielsen, Henning Matthiesen, Hans Harmsen, Christian K., Madsen, Martin Stendel, and Jørgen Hollesen

2020 Arctic Archaeological Sites Threatened by Climate Change: A Regional Multi-Threat Assessment of Sites in South-West Greenland. *Archaeometry* 62(6): 1280–1297. https://doi.org/10.1111/arcm.12593

Friggens, Megan M., Racel A. Loehman, Connie I. Constan, and Rebekah Kneifel

2021 Predicting Wildfire Impacts on the Prehistoric Archaeological Record of the Jemez Mountains, New Mexico, USA. *Fire Ecology* 17(1): 1-19. doi:10.1186/s42408-021-00103-6

Gearey, Benjamin R., William Fletcher, and Ralph Fyfe

2014 Managing, Valuing, and Protecting Heritage Resources in the Twenty-First Century: Peatland Archaeology, the Ecosystem Services Framework, and the Kyoto Protocol. *Conservation & Management of Archaeological Sites* 16(3): 236–244. https://doi.org/10.1179/1350503315Z.00000000084

Guiney, Rebecca, Elettra Santucci, Samuel Valman, Adam Booth, Andrew Birley, Ian Haynes, Stuart Marsh, and Jon Mills

2021 Integration and Analysis of Multi-Modal Geospatial Secondary Data to Inform Management of At-Risk Archaeological Sites. *ISPRS International Journal of Geo-Information* 10(9), 575. http://dx.doi.org/10.3390/ijgi10090575

Hall, C. Michael, Tim Baird, Michael James, and Yael Ram

2016 Climate Change and Cultural Heritage: Conservation and Heritage Tourism in the Anthropocene. *Journal of Heritage Tourism* 11(1): 10–24. https://doi.org/10.1080/1743873X.2015.1082573

Harmsen, Hans, Jørgen Hollesen, Christian Koch Madsen, Bo Albrechtsen, Mikkel Myrup, and Henning Matthiesen

2018 A Ticking Clock? Preservation and Management of Greenland’s Archaeological Heritage in the Twenty-First Century. *Conservation and Management of Archaeological Sites* 20(4): 175–198. https://doi.org/10.1080/13505033.2018.1513303

Heathcote, Jen, Hannah Fluck, and Meredith Wiggins

2017 Predicting and Adapting to Climate Change: Challenges for the Historic Environment. *The Historic Environment:* *Policy & Practice* 8(2): 89–100. https://doi.org/10.1080/17567505.2017.1317071

Heilen, Michael., Jeffrey H. Altschul, and Friedrich Lüth

2018 Modelling Resource Values and Climate Change Impacts to Set Preservation and Research Priorities. *Conservation & Management of Archaeological Sites* 20(4): 261–284. https://doi.org/10.1080/13505033.2018.1545204

Hil, Greg

2019 Better Management Through Measurement: Integrating Archaeological Site Features into a GIS-Based Erosion and Sea Level Rise Impact Assessment—Blueskin Bay, New Zealand. *The Journal of Island and Coastal Archaeology* 0(0): 1–23. https://doi.org/10.1080/15564894.2018.1531331

Hodgetts, Lisa M., and Edward J.H. Eastaugh

2017 The Role of Magnetometry in Managing Arctic Archaeological Sites in the Face of Climate Change. *Advances in Archaeological Practice* 5(2): 110–124. https://doi.org/10.1017/aap.2017.4

Hofman, Corinne L., Charlotte Eloise Stancioff, Andrea Richards, Irvince Nanichi Auguiste, Augustine Sutherland, Menno L.P Hoogland

2021 Resilient Caribbean Communities: A Long-Term Perspective on Sustainability and Social Adaptability to Natural Hazards in the Lesser Antilles. *Sustainability* 13(17), 9807. https://doi.org/10.3390/su13179807

Holden, Lucas D., David M. Silcock, Colin A. Arrowsmith, and Mohamed Al Hassani

2015 Laser scanning for the documentation and management of heritage sites within the Emirate of Fujairah, United Arab Emirates. *Arabian Archaeology and Epigraphy,* 26(1), 55–67. https://doi.org/10.1111/aae.12050

Hollesen, Jørgen, Martin Callanan, Tom Dawson, Rasmus Fenger-Nielsen, T. Max Friesen, Anne M. Jensen, Adam Markham, Vibeke V. Martens, Vladimir V. Pitulko, and Marcy Rockman.

2018 Climate Change and the Deteriorating Archaeological and Environmental Archives of the Arctic. *Antiquity* 92(363): 573–586. https://doi.org/10.15184/aqy.2018.8

Howard, Andy J., David Knight, Tom Coulthard, Karen Hudson-Edwards, David Kossoff, and Steve Malone

2016 Assessing Riverine Threats to Heritage Assets Posed by Future Climate Change through a Geomorphological Approach and Predictive Modelling in the Derwent Valley Mills WHS, UK. *Journal of Cultural Heritage* 19: 387–394. https://doi.org/10.1016/j.culher.2015.11.007

Howey, Meghan C.L.

2020 Harnessing Remote Sensing Derived Sea Level Rise Models to Assess Cultural Heritage Vulnerability: A Case Study from the Northwest Atlantic Ocean. *Sustainability* 12(22). https://doi.org/10.3390/su12229429

Johnson, Adam, Lisa Marrack, and Sara Dolan

2015 Threats to Coastal Archaeological Sites and the Effects of Future Climate Change: Impacts of the 2011 Tsunami and an Assessment of Future Sea-Level Rise at Hōnaunau, Hawai’i. *The Journal of Island and Coastal Archaeology* 10(2): 232–252. https://doi.org/10.1080/15564894.2014.980472

Jones, Jennifer E., Mary E. Allen, and David K. Loomis

2020 To Sink or Swim: Evaluating Coastal Archaeological Stability through a System of Indices. *Conservation & Management of Archaeological Sites* 2(3-6):181-198. doi:10.1080/13505033.2021.1979768

Kohler, Timothy and Marcy Rockman

2020 The IPCC: A Primer for Archaeologists. *American Antiquity* 85(4): 627-651. DOI: 10.1017 / aaq.2020.68

Lewis, Ian D.

2019 South Australian Geology and the State Heritage Register: An Example of Geoconservation of the Naracoorte Caves Complex and Karst Environment. *Australian Journal of Earth Sciences* 66(6): 785–792. https://doi.org/10.1080/08120099.2019.1608300

Lim, Jonathan S., Sean Gleason, Warren Jones, and Willard Church

2021 Nuna Nalluyuituq (The Land Remembers): Remembering Landscapes and Refining Methodologies through Community-Based Remote Sensing in the Yukon-Kuskokwim Delta, Southwest Alaska. *Archaeological Perspective* 28(3): 339-355. https://doi.org/10.1002/arp.1840

Marchetti, Nicolò, Gabriele Bitelli, Francesa Franci, and Federico Zaina

2020 Archaeology and Dams in Southeastern Turkey: Post-Flooding Damage Assessment and Safeguarding Strategies on Cultural Heritage. *Journal of Mediterranean Archaeology* 3(1): 29-54. DOI: https://doi.org/10.1558/jma.42345

Margottini, Claudio

2015 Engineering Geology in Shaping and Preserving the Historic Urban Landscapes and Cultural Heritage: Achievements in UNESCO World Heritage Sites. In *Engineering Geology for Society and Territory - Volume 8,* edited byGiorgio Lollino, Daniele Giordan, Cristian Marunteanu, Basiles Christaras, Iwasaki Yoshinori, Claudio Margottini. *Springer, Cham.* https://doi.org/10.1007/978-3-319-09408-3\_1

Margottini, Claudio and Daniele Spizzichino

2017 Historical Accesses to UNESCO Cultural Heritages: Engineering Geology for the Sustainable Conservation of Petra Siq. *Innovative Infrastructure Solutions* 2(1), 25. https://doi.org/10.1007/s41062-017-0074-7

Mattei, Gaia, Aangea Rizzo, Giorgio Anfuso, Pietro P.C. Aucelli, and F. Javier Gracia

2019 A Tool for Evaluating the Archaeological Heritage Vulnerability to Coastal Processes: The Case Study of Naples Gulf (southern Italy). *Ocean & Coastal Management* 179, 104876. https://doi.org/10.1016/j.ocecoaman.2019.104876

Matthiesen, Henning, Rasmus Fenger-Nielsen, Hans Harmsen, Christian Koch Madsen, and Jørgen Hollesen

2020 The Impact of Vegetation on Archaeological Sites in the Low Arctic in Light of Climate Change. *Arctic* 73(2): 141-152. DOI: 10.14430/arctic70248

Mazurczyk, Tara J., Nathan Piekielek, Eira Tansey, and Ben Goldman

2018 American Archives and Climate Change: Risks and Adaptation. *Climate Risk Management* 20: 111–125. https://doi.org/10.1016/j.crm.2018.03.005

McCoy, Mark D.

2018 The Race to Document Archaeological Sites Ahead of Rising Sea Levels: Recent Applications of Geospatial Technologies in the Archaeology of Polynesia. *Sustainability* 10(1), 185. https://doi.org/10.3390/su10010185

McGovern, Thomas H.

2018 Burning Libraries: A Community Response. *Conservation and Management of Archaeological Sites*, 20(4): 165–174. https://doi.org/10.1080/13505033.2018.1521205

Miller, Jacquelynn F., Alice R. Kelley, Joseph T. Kelley, Daniel F. Belknap, and Arthur E. Spiess

2018 Ground-Penetrating Radar as a Cultural Resource Management Tool for Assessment of Eroding Shell Middens. *Conservation and Management of Archaeological Sites* 20(4): 199–214. https://doi.org/10.1080/13505033.2018.1516446

Miller, Sarah E., and Emily Jane Murray

2018 Heritage Monitoring Scouts: Engaging the Public to Monitor Sites at Risk Across Florida. *Conservation and Management of Archaeological Sites* 20(4): 234–260. https://doi.org/10.1080/13505033.2018.1516455

Moise Cristian, Iulia Dana Negula, Cristina Elena Mihalache, Andi Mihai Lazar, Andreea Luminita Dedulescu, Gabriel Tiberiu Rustoiu, Ioan Constantin Inel, and Alexandru Badea

2021 Remote Sensing for Cultural Heritage Assessment and Monitoring: The Case Study of Alba Iulia. *Sustainability*13(3), 1406. https://doi.org/10.3390/su13031406

Nakhaei Ashtari, Masoud and Mariana Correia

2021 Assessment of Vulnerability and Site Adaptive Capacity to the Risk of Climate Change: The Case of Tchogha Zanbil World Heritage Earthen Site in Iran. *Journal of Cultural Heritage Management and Sustainable Development* 12(2). https://doi.org/10.1108/JCHMSD-06-2021-0108

Nash, Carole L. and Heather A. Wholey

2018 Prioritising Heritage Resources in a Time of Loss: Sea Level Rise and Archaeological Resources of the Middle Atlantic Region, US. *Conservation and Management of Archaeological Sites* 20(4): 285-295. DOI: 10.1080/13505033.2018.1558392

Nicu, Ionut Cristi

2017 Natural Hazards—A Threat for Immovable Cultural Heritage. A Review. *International Journal of Conservation Science* 8(3): 375–388.

Papadopoulos, Nikos

2021 Shallow Offshore Geophysical Prospection of Archaeological Sites in Eastern Mediterranean. *Remote Sensing* 13(7), 1237. https://doi.org/10.3390/rs13071237

Papadopoulos, Nikos, Dimitrios Oikonomou, Gianluca Cantoro, Kleanthis Simyrdanis, and Julien Beck

2021 Archaeological Prospection in Ultra-Shallow Aquatic Environments: The Case of the Prehistoric Submerged Site of Lambayanna, Greece. *Near Surface Geophysics* 19(6): 677-697. https://doi.org/10.1002/nsg.12174

Pedersen, Nanna Bjerregaard, Henning Matthiesen, Robert A. Blanchette, Gry Alfredsen, Benjamin W. Held, Andreas Westergaard-Nielsen, and Jørgen Hollesen

2020 Fungal Attack on Archaeological Wooden Artefacts in the Arctic—Implications in a Changing Climate. *Scientific Reports* 10(1), 14577. https://doi.org/10.1038/s41598-020-71518-5

Peres, Tanya M., and Aaron Deter-Wolf

2018 Finding the Positive in the Negative Archaeology and Data Collection in the Face of Natural Disasters. *Advances in Archaeological Practice* 6(4): 288–297. https://doi.org/10.1017/aap.2018.29

Pettersson, Claes, and Fredric Jonsson

2017 When an Asset Becomes a Curse: Seventeenth Century Military Planning and Isostatic Uplift, The Unfortunate Combination of Inherited and Present Risks Threatening the Historic City of Jonkoping, Sweden. *Historic Environment: Policy & Practice* 8(2): 143–156. https://doi.org/10.1080/17567505.2017.1325222

Phillips, Helen

2015 The Capacity to Adapt to Climate Change at Heritage Sites—The Development of a Conceptual Framework. *Environmental Science & Policy* 47: 118–125. https://doi.org/10.1016/j.envsci.2014.11.003

Pilø, Lars, Espen Finstad, Elling Utvik Wammer, Julian R. Post-Melbye, Axel Hee Rømer, Øystein Rønning Andersen, and James H. Barrett

2021 On a Mountain High: Finding and Documenting Glacial Archaeological Sites During the Anthropocene. *Journal of Field Archaeology* 47(3): 149-163. https://doi.org/10.1080/00934690.2021.2012330

Pollard-Belsheim, Arie, Marc Storey, Christina Robinson, and Trevor Bell

2014 The CARRA Project: Developing Tools to Help Heritage Managers Identify and Respond to Coastal Hazard Impacts on Archaeological Resources. *2014 Oceans - St. John’s*, 1–5. https://doi.org/10.1109/OCEANS.2014.7003289

Previtali, Mattia, Chiara Stanga, Thomas Molnar, Lore Van Meerbeek, and Luigi Barazzetti

2018 An Integrated Approach for Threat Assessment and Damage Identification on Built Heritage in Climate-Sensitive Territories: The Albenga Case Study (San Clemente Church). *Applied Geomatics* 10(4): 485–499. https://doi.org/10.1007/s12518-018-0217-3

Ravankhah, Mohammad., Michael Schmidt, and Thomas Will

2021 An Indicator-Based Risk Assessment Framework for World Heritage Sites in Seismic Zones: The Case of ‘Bam and its Cultural Landscape’ in Iran. *International Journal of Disaster Risk Reduction* 63, https://doi.org/10.1016/j.ijdrr.2021.102405

Reeder-Myers, Leslie A.

2015 Cultural Heritage at Risk in the Twenty-First Century: A Vulnerability Assessment of Coastal Archaeological Sites in the United States. *The Journal of Island and Coastal Archaeology* 10(3), 436–445. https://doi.org/10.1080/15564894.2015.1008074

Reeder-Myers, Leslie A., and Torben C. Rick

2019 Kayak Surveys in Estuarine Environments: Addressing Sea-Level Rise and Climate Change. *Antiquity* 93(370): 1040–1051. https://doi.org/10.15184/aqy.2019.91

Reimann, Lena, Athanasios T. Vafeidis, Sally Brown, Jochen Hinkel, and Richard S.J. Tol

2018 Mediterranean UNESCO World Heritage at Risk from Coastal Flooding and Erosion Due to Sea-Level Rise. *Nature Communications* 9, 4161. https://doi.org/10.1038/s41467-018-06645-9

Revez, Maria João, Paola Coghi, José Delgado Rodrigues, and Inês Vaz Pinto.

2019 Analysing the Cost-Effectiveness of Heritage Conservation Interventions: A Methodological Proposal within Project STORM. *International Journal of Architectural Heritage.* https://doi.org/10.1080/15583058.2019.1665141

Ricca, Michela, George Alexandrakis, Alessandra Bonazza, Fabio Bruno, Barbara Davidde Petriaggi, Dolores Elkin, Antonio Lagudi, et al.

2020 A Sustainable Approach for the Management and Valorization of Underwater Cultural Heritage: New Perspectives from the TECTONIC Project. *Sustainability* 12(12): 5000. https://doi.org/10.3390/su12125000

Rivera-Collazo, Isabel C.

2020 Severe Weather and the Reliability of Desk-Based Vulnerability Assessments: The Impact of Hurricane Maria to Puerto Rico’s Coastal Archaeology.” *The Journal of Island and Coastal Archaeology*, 15(2), 244–263. https://doi.org/10.1080/15564894.2019.1570987

Rockman, Marcy, and Carrie Hritz

2020 Expanding Use of Archaeology in Climate Change Response by Changing its Social Environment. *Proceedings of the National Academy of Sciences* 117(15): 8295–8302. https://doi.org/10.1073/pnas.1914213117

Rosa, Angela, Angela Santangelo, and Simona Tondelli

2021 Investigating the Integration of Cultural Heritage Disaster Risk Management into Urban Planning Tools. The Ravenna Case Study. *Sustainability* 13(2), 872. https://doi.org/10.3390/su13020872

Rose, J. Craig, Mary E.F. Bennett, Brian D. Bates, and Walter R.T. Witschey

2018 The Library is on Fire, Now What? Assessing the Damage and How to Approach It: A Case Study from the Chesapeake Bay. *Conservation and Management of Archaeological Sites* 20(4): 215–233. https://doi.org/10.1080/13505033.2018.1521184

Saha, Asish, Subodh Chandra Pal, M. Santosh, Saeid Janizadeh, Indrajit Chowdhuri, Akbar Norouzi, Paramita Roy, and Roy Chakrabortty

2021 Modelling Multi-Hazard Threats to Cultural Heritage Sites and Environmental Sustainability: The Present and Future Scenarios. *Journal of Cleaner Production* 320. https://doi.org/10.1016/j.jclepro.2021.128713

Sardella Alessandro, Sonia Canevarolo, Elena Marrocchino, Francesca Tittarelli, and Alessandra Bonazza

2021 Investigation of Building Materials Belonging to the Ruins of the Tsogt Palace in Mongolia. *Heritage* 4(3): 2494-2514. https://doi.org/10.3390/heritage4030141

Sesana, Elena, Alexandre S. Gagnon, Alessandra Bonazza, and John J. Hughes

2020 An Integrated Approach for Assessing the Vulnerability of World Heritage Sites to Climate Change Impacts. *Journal of Cultural Heritage* 41: 211–224. https://doi.org/10.1016/j.culher.2019.06.013

Sesana, Elena, Alexandre S. Gagnon, Chiara Ciantelli, JoAnn Cassar, and John J. Hughes

2021 Climate Change Impacts on Cultural Heritage: A Literature Review. *Wiley Interdisciplinary Reviews-Climate Change* 12(4), 710. DOI10.1002/wcc.710

Stanga, Chiara, R. Valente, and Mattia Previtali

2017 An Integrated Approach based on Traditional Archaeological Surveys, Digital Recording Techniques, and Historical Documentation for the Assessment of Threats Related to the Climate-Sensitive Territorial Context. International Archives Photogrammetry, Remote Sensing and Spatial Information Sciences. *Spatial Information Sciences* XLII-5/W1, 195–201. https://doi.org/10.5194/isprs-archives-XLII-5-W1-195-2017

St. Amand, Frankie, S. Terry Childs, Elizabeth J. Reitz, Sky Heller, Bonnie Newsom, Torben C. Rick, Daniel H. Sandweiss, and Ryan Wheeler

2020 Leveraging Legacy Archaeological Collections as Proxies for Climate and Environmental Research. *Proceedings of the National Academy of Sciences* 117(15): 8287–8294. https://doi.org/10.1073/pnas.1914154117

St. Amand, Frankie, Daniel H. Sandweiss, and Alice R. Kelley

2020 Climate-Driven Migration: Prioritizing Cultural Resources Threatened by Secondary Impacts of Climate Change. *Natural Hazards* 103(2): 1761–1781. https://doi.org/10.1007/s11069-020-04053-1

Stein, Samantha, Steve Malone, David J. Knight, Andy J. Howard, and Chris Carey

2017 New Approaches to Mapping and Managing Palaeochannel Resources in the Light of Future Environmental Change: A Case Study from the Trent Valley, UK. *The Historic Environment: Policy & Practice* 8(2): 113–124. https://doi.org/10.1080/17567505.2017.1317086

Trakadas, Athena

2020 Natural and Anthropogenic Factors Impacting Northern Morocco’s Coastal Archaeological Heritage: A Preliminary Assessment. *The Journal of Island and Coastal Archaeology* 1-32. https://doi-org.prox.lib.ncsu.edu/10.1080/15564894.2020.1837304

Vandrup Martens, Vibeke, Ove Bergersen, Michel Vorenhout, Paula Utigard Sandvik, and Jørgen Hollesen

2016 Research and Monitoring on Conservation State and Preservation Conditions in Unsaturated Archaeological Deposits of a Medieval Farm Mound in Troms and a Late Stone Age Midden in Finnmark, Northern Norway. *Conservation & Management of Archaeological Sites* 18(1–3): 8–29. https://doi.org/10.1080/13505033.2016.1181930

Venture, Tanya, Caitlin DeSilvey, Bryony Onciul, and Hannah Fluck

2021 Articulating Loss: A Thematic Framework for Understanding Coastal Heritage Transformations. *The Historic Environment: Policy & Practice 12(3-4).* https://doi.org/10.1080/17567505.2021.1944567

Walls, Mathew, Madisen Hvidberg, Mari Kleist, Pauline Knudsen, Pivinnguaq Mørch, Pia Egede, Gillian Taylor, Niki Phillips, Shintaro Yamasaki, and Tatsuya Watanabe

2020 Hydrological Instability and Archaeological Impact in Northwest Greenland: Sudden Mass Movement Events Signal New Concerns for Circumpolar Archaeology. *Quaternary Science Reviews* 248, 106600. https://doi.org/10.1016/j.quascirev.2020.106600

Walter, Richard K., and Richard J. Hamilton

2014 A Cultural Landscape Approach to Community-Based Conservation in Solomon Islands. *Ecology and Society* 19(4), 41. https://doi.org/10.5751/ES-06646-190441

Westley, Kieran and Rory McNeary

2014 Assessing the Impact of Coastal Erosion on Archaeological Sites: A Case Study from Northern Ireland. *Conservation and Management of Archaeological Sites* 16 (3): 185–211. DOI 10.1179/1350503315Z.00000000082

Westley, Kieran

2019 Refining Broad-Scale Vulnerability Assessment of Coastal Archaeological Resources, Lough Foyle, Northern Ireland*.* *Journal of Island & Coastal Archaeology* 14(2): 226–246. https://doi.org/10.1080/15564894.2018.1435592

Westley, Kieran, Georgia Andreou, Crystal El Safadi, Harmen O. Huigens, Julia Nikolaus, Rodrigo Ortiz-Vazquez, Nick Ray, Ash Smith, Sophie Tews, Lucy Blue, and Colin Breen

2021 Climate Change and Coastal Archaeology in the Middle East and North Africa: Assessing Past Impacts and Future Threats. *The Journal of Island and Coastal Archaeology,* https://doi.org/10.1080/15564894.2021.1955778

Wright, Aaron M.

2018 Assessing the Stability and Sustainability of Rock Art Sites: Insight from Southwestern Arizona. *Journal of Archaeological Method and Theory*, 25(3), 911–952. https://doi.org/10.1007/s10816-017-9363-x

Wright, Jeneva

2016 Maritime Archaeology and Climate Change: An Invitation*. Journal of Maritime Archaeology* 11(3): 255–270. https://doi.org/10.1007/s11457-016-9164-5