

Project details	
ESCC Project No. & Title(s)	2.11 and 5.9: National Centre for Coasts and Climate (NCCC). Theme 1: Blue Carbon
Project Leader(s)	Benedikt Fest, Stephen Swearer, Stefan Arndt
Deliverable(s)	<p>Project 2.11:</p> <ul style="list-style-type: none"> • Report on fine scale variability in carbon stock of blue carbon ecosystems • Report on impacts of management on carbon storage and emissions • Report on refinement of sampling methods and study design for blue carbon ecosystem carbon stock analysis • Set-up sites to demonstrate restoration impact on blue carbon stock <p>Project 5.9:</p> <ul style="list-style-type: none"> • Data set on carbon accumulation of hybrid mangroves completed • Data set of Pyrograms and NMIR spectra to build a statistical tool to analyse NMIR spectra for SOM composition
Data/software Manager	Benedikt Fest

Research output data collection, tool or software URLs if applicable
Data located at National Centre for Coasts and Climate (https://nccc.edu.au/)

Blue Carbon Dataset BC1

Description (complete for data, tools and software)	
Title	Blue Carbon Ecosystem Sediment Core Dataset Spatial variation
Description	Dataset of 81 mangrove sediment cores collected in a 9x9 grid with 5-meter resolution
Temporal & spatial extent	2019, Jack Beach Reserve Westernport Bay, Victoria, Australia
Lineage	Independently derived
Credit	Authors: Hu, Y., Fest, B.J., Swearer, S.E., Stefan, S.K
Keywords	Sediment, cores, organic carbon profiles, root distribution profiles
ABS Fields of Research Category / Subcategory*	37 Earth Sciences 3702 Climate change Sciences 41 Environmental Sciences 4101 Climate change impacts and adaption 4104 Environmental Management 4106 Soil Sciences

*These are listed in <https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/1297.02020?OpenDocument>

Attribution/IP (complete for data, tools and software)	
Owning organisation	NCCC
Collaborating organisations	N/A
Primary contact for this data	Benedikt Fest bfest@unimelb.edu.au
Lead researcher	Benedikt Fest
Contributors	Hu, Y., Fest, B.J., Swearer, S.E., Stefan, S.K
Access	This dataset is a research product and is not for public release. For enquiries refer to primary contact.
<input type="checkbox"/> Licencing	restricted

Required field

Related materials: publications, tools, websites, related input data. Please provide full citations for publications, data and software.	
Details	URL
Hu, Y., Fest, B.J., Swearer, S.E., Stefan, S.K. Fine-scale spatial variability in aboveground and fine root biomass, necromass and sediment organic carbon in a temperate mangrove ecosystem: implications for estimating carbon stocks in blue carbon ecosystems. Science of the Total Environment (in review)	

Technical details	
For data: Total size of this data collection	400 KB
For data: Total number of files	2
Current location of files (data or software)	NCCC
Format(s)	xlsx, CSV
Associated tool(s)/ dependencies	N/A
Proposed publication host	N/A

Blue Carbon Dataset BC2

Description (complete for data, tools and software)	
Title	Meta-analysis of management impacts on carbon storage and emissions in blue carbon ecosystems
Description	Data extracted from literature on management impacts on carbon storage and greenhouse gas emissions in blue carbon ecosystems
Temporal & spatial extent	Literature until 2018, global
Lineage	Independently derived
Credit	Authors: O'Connor, JJ, Fest, BJ, Sievers, M, Swearer, SE
Keywords	Management, blue carbon, saltmarsh, mangrove, seagrass, methane, nitrous oxide, carbon dioxide
ABS Fields of Research Category / Subcategory*	37 Earth Sciences 3702 Climate change Sciences 41 Environmental Sciences 4101 Climate change impacts and adaption 4104 Environmental Management 4106 Soil Sciences

*These are listed in <https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/1297.02020?OpenDocument>

Attribution/IP (complete for data, tools and software)	
Owning organisation	NCCC
Collaborating organisations	N/A
Primary contact for this data	Benedikt Fest bfest@unimelb.edu.au
Lead researcher	Benedikt Fest
Contributors	O'Connor, JJ, Fest, BJ, Sievers, M, Swearer, SE
Access	This dataset is a research product and is not for public release. For enquiries refer to primary contact.
<input type="checkbox"/> Licencing	restricted

Required field

Related materials: publications, tools, websites, related input data. Please provide full citations for publications, data and software.	
Details	URL
O'Connor, JJ, Fest, BJ, Sievers, M, Swearer, SE. Impacts of land management practices on blue carbon stocks and greenhouse gas fluxes in coastal ecosystems—A meta-analysis. Glob Change Biol. 2020; 00: 1– 13. https://doi.org/10.1111/gcb.14946	

Technical details	
For data: Total size of this data collection	1 MB
For data: Total number of files	1
Current location of files (data or software)	NCCC
Format(s)	xlsx
Associated tool(s)/dependencies	N/A
Proposed publication host	N/A

Blue Carbon Dataset BC3

Description (complete for data, tools and software)	
Title	Meta-analysis of sampling methods and study design used blue carbon ecosystem carbon stock analysis
Description	Data extracted from literature on carbon stocks in mangrove ecosystems
Temporal & spatial extent	Literature until 2019, global
Lineage	Independently derived
Credit	Fest, BJ, Arndt SK, Swearer, SE
Keywords	Blue carbon; carbon stock; homogenization; mangrove; saltmarsh; seagrass; sediment; spatial variability
ABS Fields of Research Category / Subcategory*	37 Earth Sciences 3702 Climate change Sciences 41 Environmental Sciences 4101 Climate change impacts and adaption 4104 Environmental Management 4106 Soil Sciences

*These are listed in <https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/1297.02020?OpenDocument>

Attribution/IP (complete for data, tools and software)	
Owning organisation	NCCC
Collaborating organisations	N/A
Primary contact for this data	Benedikt Fest bfest@unimelb.edu.au
Lead researcher	Benedikt Fest
Contributors	Fest, BJ, Arndt SK, Swearer, SE
Access	This dataset is a research product and is not for public release. For enquiries refer to primary contact.
<input type="checkbox"/> Licencing	restricted

Required field

Related materials: publications, tools, websites, related input data. Please provide full citations for publications, data and software.	
Details	URL
Fest, BJ, Arndt SK, Swearer, SE. A review of sediment carbon sampling methods and their impacts on stock estimates for blue carbon ecosystems. Critical Reviews in Environmental Science and Technology (under revision)	

Technical details	
For data: Total size of this data collection	1.5 MB
For data: Total number of files	1
Current location of files (data or software)	NCCC
Format(s)	xlsx
Associated tool(s)/dependencies	N/A
Proposed publication host	N/A

Blue Carbon Dataset BC4

Description (complete for data, tools and software)	
Title	Blue carbon accumulation of hybrid mangroves
Description	Data sediment carbon of mangrove sediments in rock fillets (sediment cores) drone surveys for digital elevation models, rSETs, bank profile at rock fillets 1-20 years of age in four estuaries. And Data on mangrove survival, biomass, sediment cores, drone surveys, rSETs, (Altona, Lang Lang, Grantville) in Port Phillip and Western Port Bays. Data collection Jan-Dec 2020
Temporal & spatial extent	Newcastle to Ballina, NSW. 2 weeks data collection. Port Phillip and Western Port Bays, 1 year of data
Lineage	Independently derived.
Credit	Authors: R. Morris, B. Fest
Keywords	hybrid ecological engineering; blue carbon, ecosystem management, chrono sequence, restoration; rock-fillets; sediment cores, coastal defences, coastal vegetation, coastal protection, living shorelines
ABS Fields of Research Category / Subcategory*	37 Earth Sciences 3702 Climate change Sciences 41 Environmental Sciences 4101 Climate change impacts and adaption 4104 Environmental Management 4106 Soil Sciences

*These are listed in <https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/1297.02020?OpenDocument>

Attribution/IP (complete for data, tools and software)	
Owning organisation	National Centre for Coasts and Climate
Collaborating organisations	N/A
Primary contact for this data	Rebecca Morris, rebecca.morris@unimelb.edu.au
Lead researcher	Rebecca Morris, Benedikt Fest
Contributors	Taylor Rubenstein, Stephen Swearer
Access	Email primary contact
<input type="checkbox"/> Licencing	Restricted

Required field

Related materials: publications, tools, websites, related input data. Please provide full citations for publications, data and software.	
Details	URL

Technical details	
For data:	
Total size of this data collection	
For data:	Multiple
Total number of files	
Current location of files (data or software)	NCCC
Format(s)	xlsx, CSV, jpg, tif, las, obj, mtl
Associated tool(s)/ dependencies	N/A
Proposed publication host	N/A

Blue Carbon Dataset BC5

Description (complete for data, tools and software)	
Title	Pyrograms and NMIR spectra of blue carbon ecosystem sediments
Description	NMIR spectra and Pyrograms of sediment from blue carbon ecosystems across Australia
Temporal & spatial extent	Cores from Blue carbon researchers all over Australia
Lineage	Independently derived.
Credit	Authors: B. Fest
Keywords	Carbon composition, carbon fingerprinting
ABS Fields of Research Category / Subcategory*	37 Earth Sciences 3702 Climate change Sciences 41 Environmental Sciences 4101 Climate change impacts and adaption 4104 Environmental Management 4106 Soil Sciences

*These are listed in <https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/1297.02020?OpenDocument>

Attribution/IP (complete for data, tools and software)	
Owning organisation	National Centre for Coasts and Climate
Collaborating organisations	N/A
Primary contact for this data	Benedikt Fest, bfest@unimelb.edu.au
Lead researcher	Benedikt Fest
Contributors	Stephen Swearer
Access	Email primary contact
<input type="checkbox"/> Licencing	Restricted

Required field

Related materials: publications, tools, websites, related input data.
Please provide full citations for publications, data and software.

Details	URL

Technical details	
For data:	
Total size of this data collection	
For data:	Multiple
Total number of files	
Current location of files (data or software)	NCCC
Format(s)	Instrument dependent
Associated tool(s)/ dependencies	N/A
Proposed publication host	N/A

Project details	
ESCC Project No. & Title(s)	2.11 and 5.9: National Centre for Coasts and Climate (NCCC). Theme 3: Coastal Erosion.
Project Leader(s)	Teresa Konlechner and David Kennedy
Deliverable(s)	<p>Project 2.11:</p> <ul style="list-style-type: none"> • Report on drivers of historic coastal erosion • Report on linkages between models of coastal erosion and hazards Combined dataset and manuscript on erosion hotspot identification <p>Project 5.9:</p> <ul style="list-style-type: none"> • Report on past erosion rates • Report on historic dune mobility and identify potential erosion sites • Data set of storm cut and fill and historical erosion
Data/software Manager	Teresa Konlechner

Research output data collection, tool or software URLs if applicable

Coastal Erosion Dataset CE1

Description (complete for data, tools and software)	
Title	Foredune species and shoreline change, Coastal Victoria
Description	Dataset of foredune species and shoreline change.
Temporal & spatial extent	Field survey of species (2012); aerial photo derived shoreline change (2000 – 2012), 71 sites on open coast of Victoria
Lineage	Independently derived.
Credit	Authors: T Konlechner, D Kennedy, R Cousens, J Woods
Keywords	Coastal erosion, shoreline change, coastal hazards, sand dune vegetation
ABS Fields of Research Category / Subcategory*	37 Earth Sciences 41 Environmental Sciences 4101 Climate change impacts and adaptation

*These are listed in <https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/1297.02020?OpenDocument>

Attribution/IP (complete for data, tools and software)	
Owning organisation	National Centre for Coasts and Climate
Collaborating organisations	N/A
Primary contact for this data	Teresa Konlechner, t.konlechner@unimelb.edu.au
Lead researcher	Teresa Konlechner
Contributors	David Kennedy, Rodger Cousens, Josephine Woods
Access	Email primary contact
<input type="checkbox"/> Licencing	Restricted

Required field

Related materials: publications, tools, websites, related input data. Please provide full citations for publications, data and software.	
Details	URL
Konlechner, TM, Kennedy, DM, Cousens, RD, & Woods, JL (2019). Patterns of early-colonising species on eroding to prograding coasts; implications for foredune plant communities on retreating coastlines. <i>Geomorphology</i> , 327, 404-416.	

Technical details	
For data: Total size of this data collection	500kb
For data: Total number of files	multiple
Current location of files (data or software)	NCCC
Format(s)	CSV, ARCGIS Shapefiles
Associated tool(s)/ dependencies	N/A
Proposed publication host	N/A

Coastal Erosion Dataset CE2

Description (complete for data, tools and software)	
Title	Dataset CE2: Shoreline change, Anderson Inlet
Description	Dataset of shoreline change, vertical saltmarsh development and carbon storage
Temporal & spatial extent	Venus Bay, 50 years of shoreline change
Lineage	Independently derived.
Credit	Authors: David M. Kennedy, Teresa Konlechner, Eliza Zavadil, Michela Mariani, Vanessa Wong, Daniel Ierodionou and Peter Macreadie
Keywords	Shoreline change, Spartina, salt marsh, sea level rise, invasive species
ABS Fields of Research Category / Subcategory*	37 Earth Sciences 41 Environmental Sciences 4101 Climate change impacts and adaptation

*These are listed in <https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/1297.02020?OpenDocument>

Attribution/IP (complete for data, tools and software)	
Owning organisation	University of Melbourne
Collaborating organisations	NCCC, Monash, Deakin
Primary contact for this data	David Kennedy, dm.kennedy@unimelb.edu.au
Lead researcher	David Kennedy
Contributors	Teresa Konlechner, Eliza Zavadil, Michela Mariani, Vanessa Wong, Daniel Ierodionou. Peter Macreadie
Access	Email primary contact
<input type="checkbox"/> Licencing	Restricted

Required field

Related materials: publications, tools, websites, related input data. Please provide full citations for publications, data and software.	
Details	URL
Kennedy et al. (2018). Invasive cordgrass (<i>Spartina</i> spp.) in south-eastern Australia induces island formation, salt marsh development, and carbon storage. <i>Geographical Research</i> , 56(1), 80-91	

Technical details	
For data: Total size of this data collection	500 KB
For data: Total number of files	multiple
Current location of files (data or software)	DM Kennedy, NCCC
Format(s)	CSV, ArcGIS shapefiles
Associated tool(s)/ dependencies	N/A
Proposed publication host	N/A

Coastal Erosion Dataset CE3

Description (complete for data, tools and software)	
Title	Foredune development, Ninety-mile beach
Description	Dataset of GPR and OSL dates chronicling development of the ninety-mile beach barrier system
Temporal & spatial extent	Ninety-Mile beach, Victoria. Pleistocene – holocene barrier development.
Lineage	Independently derived.
Credit	Authors: Oliver et al.
Keywords	Last Interglacial, MIS5e, Parabolic dune, Foredune ridges, Last Glacial Maximum, Past sea level
ABS Fields of Research Category / Subcategory*	37 Earth Sciences 41 Environmental Sciences

*These are listed in <https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/1297.02020?OpenDocument>

Attribution/IP (complete for data, tools and software)	
Owning organisation	University of Melbourne
Collaborating organisations	NCCC, University of Wollongong, University of NSW, University of Auckland, Geological survey of Japan
Primary contact for this data	David Kennedy, dm.kennedy@unimelb.edu.au
Lead researcher	Tom Oliver
Contributors	Oliver et al (see list of authors in publications below)
Access	Email primary contact
<input type="checkbox"/> Licencing	Restricted

Required field

Related materials: publications, tools, websites, related input data.
Please provide full citations for publications, data and software.

Details	URL
Oliver et al. (2018). Interglacial-glacial climatic signatures preserved in a regressive coastal barrier, southeastern Australia. <i>Palaeogeography, Palaeoclimatology, Palaeoecology</i> , 501, 124-135.	

Technical details	
For data: Total size of this data collection	
For data: Total number of files	multiple
Current location of files (data or software)	DM Kennedy, University of Melbourne
Format(s)	CSV
Associated tool(s)/ dependencies	N/A
Proposed publication host	N/A

Coastal Erosion Dataset CE4

Description (complete for data, tools and software)	
Title	Storm cut and foredune recovery, Summerlands Bay
Description	Dataset of UAV derived storm cut and foredune recovery
Temporal & spatial extent	Summerland Bay, 3 year dataset
Lineage	Independently derived.
Credit	Authors: T. Konlechner
Keywords	Shoreline erosion, storm impact, beach dynamics
ABS Fields of Research Category / Subcategory*	37 Earth Sciences 41 Environmental Sciences 4101 Climate change impacts and adaptation

*These are listed in <https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/1297.02020?OpenDocument>

Attribution/IP (complete for data, tools and software)	
Owning organisation	National Centre for Coasts and Climate
Collaborating organisations	N/A
Primary contact for this data	Teresa Konlechner, t.konlechner@unimelb.edu.au
Lead researcher	Teresa Konlechner
Contributors	
Access	Email primary contact
<input type="checkbox"/> Licencing	Restricted

Required field

Related materials: publications, tools, websites, related input data.
Please provide full citations for publications, data and software.

Details	URL
Konlechner T.M., Kennedy D., and Chiaradia A. What constrains incipient foredune development post-scarping? 10th International Conference on Aeolian Research, Bordeaux, France. 2018.	

Technical details	
For data: Total size of this data collection	5Gb
For data: Total number of files	multiple
Current location of files (data or software)	NCCC
Format(s)	CSV, tiff, ArcGIS shapefiles
Associated tool(s)/ dependencies	N/A
Proposed publication host	N/A

Coastal Erosion Dataset CE5

Description (complete for data, tools and software)	
Title	Foredune morphology, 90mile Beach
Description	Field derived dataset of foredune morphology and vegetation cover
Temporal & spatial extent	14 sites, Ninety-mile Beach, 2 week data collection
Lineage	Independently derived.
Credit	Authors: Tom Solomon, T. Konlechner, D. Kennedy
Keywords	Shoreline erosion, storm impact, beach dynamics
ABS Fields of Research Category / Subcategory*	37 Earth Sciences 41 Environmental Sciences 4101 Climate change impacts and adaptation

*These are listed in <https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/1297.02020?OpenDocument>

Attribution/IP (complete for data, tools and software)	
Owning organisation	National Centre for Coasts and Climate
Collaborating organisations	N/A
Primary contact for this data	T Konlechner, t.konlechner@unimelb.edu.au
Lead researcher	Tom Solomon
Contributors	T Konlechner, D Kennedy
Access	Email primary contact
<input type="checkbox"/> Licencing	Restricted

Required field

Related materials: publications, tools, websites, related input data.
Please provide full citations for publications, data and software.

Details	URL
Solomon J. 2017 Foredune Geomorphology along Ninety Mile Beach. Hons Thesis, University of Melbourne	

Technical details	
For data: Total size of this data collection	500 mb
For data: Total number of files	multiple
Current location of files (data or software)	
Format(s)	CSV
Associated tool(s)/ dependencies	N/A
Proposed publication host	N/A

Coastal Erosion Dataset CE6

Description (complete for data, tools and software)	
Title	Erosion hotspots and environmental indices of erosion
Description	Dataset of satellite derived shoreline change and environmental drivers of change, open coast of Victoria
Temporal & spatial extent	30 year annual shoreline dataset, 50m alongshore resolution, open coast of Victoria
Lineage	Satellite shorelines derived by Deltares/Delft; data on shoreline change independently derived.
Credit	Authors: T. Konlechner et al.
Keywords	Coastal erosion, Google earth engine, Shoreline dynamics, Shoreline detection, Satellite derived shorelines
ABS Fields of Research Category / Subcategory*	37 Earth Sciences 41 Environmental Sciences 4101 Climate change impacts and adaptation

*These are listed in <https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/1297.02020?OpenDocument>

Attribution/IP (complete for data, tools and software)	
Owning organisation	Deakin
Collaborating organisations	NCCC, University of Melbourne, Delft, CSIRO
Primary contact for this data	T Konlechner, t.konlechner@unimelb.edu.au
Lead researcher	Teresa Konlechner
Contributors	Teresa M. Konlechner, David M. Kennedy Julian J. O'Grady, Chloe Leach, Roshanka Ranasing, Rafael C. Carvalho, Arjen P. Lujendijk, Kathleen L. McInnes, Daniel Ierodiaconou
Access	Email primary contact
<input type="checkbox"/> Licencing	Restricted

Required field

Related materials: publications, tools, websites, related input data. Please provide full citations for publications, data and software.	
Details	URL
Konlechner, Teresa M., David M. Kennedy, Julian J. O'Grady, Chloe Leach, Roshanka Ranasinghe, Rafael C. Carvalho, Arjen P. Lujendijk, Kathleen L. McInnes, and Daniel Ierodiaconou. "Mapping spatial variability in shoreline change hotspots from satellite data; a case study in southeast Australia." <i>Estuarine, Coastal and Shelf Science</i> 246 (2020): 107018	

Technical details	
For data: Total size of this data collection	800 mb
For data: Total number of files	Multiple
Current location of files (data or software)	NCCC
Format(s)	CSV, ArcGIS shapefiles
Associated tool(s)/ dependencies	N/A
Proposed publication host	N/A

Coastal Erosion Dataset CE7

Description (complete for data, tools and software)	
Title	Historic shoreline change, coastal Victoria
Description	Dataset of historic coastal erosion derived from aerial photos for key sites on the Victorian Coast
Temporal & spatial extent	Apollo Bay, Warrnambool, Port Fairy, Seaspray, Inverloch, Ocean Grove, Mounts Bay, Cowes, Anglesea; 60 years of shoreline change
Lineage	Independently derived.
Credit	Authors: T Konlechner.
Keywords	Shoreline erosion, shoreline change, coastal hazards
ABS Fields of Research Category / Subcategory*	37 Earth Sciences 41 Environmental Sciences 4101 Climate change impacts and adaptation

*These are listed in <https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/1297.02020?OpenDocument>

Attribution/IP (complete for data, tools and software)	
Owning organisation	National Centre for Coasts and Climate
Collaborating organisations	N/A
Primary contact for this data	T Konlechner, t.konlechner@unimelb.edu.au
Lead researcher	T Konlechner
Contributors	VCMP (Daniel Ierodionou)
Access	Email primary contact
<input type="checkbox"/> Licencing	Restricted

Required field

Related materials: publications, tools, websites, related input data. Please provide full citations for publications, data and software.	
Details	URL
Understanding shoreline change on the Victorian coast (2020) 9 Factsheets. Earth Systems and Climate Change Hub, Australia.	

Technical details	
For data: Total size of this data collection	64 Gb
For data: Total number of files	Multiple
Current location of files (data or software)	NCCC
Format(s)	CSV, tiff, arcgis shapefiles
Associated tool(s)/ dependencies	N/A
Proposed publication host	N/A

Coastal Erosion Dataset CE8

Description (complete for data, tools and software)	
Title	Maps of storm cut and shoreline erosion, Tiwi Islands
Description	Data on historic erosion derived from UAV and aerial photos; interviews of Islanders perceptions of change
Temporal & spatial extent	Tiwi Islands, ~60 years
Lineage	Independently derived.
Credit	Authors: T.Konlechner, J. Barnett, L. Head, S. de la Torre, E. Waters
Keywords	Coastal erosion, environmental change, traditional knowledge
ABS Fields of Research Category / Subcategory*	37 Earth Sciences 41 Environmental Sciences 4101 Climate change impacts and adaptation

*These are listed in <https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/1297.02020?OpenDocument>

Attribution/IP (complete for data, tools and software)	
Owning organisation	National Centre for Coasts and Climate; University of Melbourne
Collaborating organisations	N/A
Primary contact for this data	Teresa Konlechner t.konlechner@unimelb.edu.au Jon Barnett jbarn@unimelb.edu.au (interview dataset)
Lead researcher	J Barnett
Contributors	T.Konlechner, L. Head, S. de la Torre, E. Waters
Access	Email primary contact
<input type="checkbox"/> Licencing	Restricted

Required field

Related materials: publications, tools, websites, related input data.
Please provide full citations for publications, data and software.

Details	URL

Technical details	
For data: Total size of this data collection	500 mb
For data: Total number of files	multiple
Current location of files (data or software)	NCCC
Format(s)	CSV, arcGis shapefiles
Associated tool(s)/ dependencies	N/A
Proposed publication host	N/A

Project details	
ESCC Project No. & Title(s)	2.11 and 5.9: National Centre for Coasts and Climate (NCCC). Theme 3: Ecological engineering.
Project Leader(s)	Rebecca Morris and Stephen Swearer
Deliverable(s)	2.11 <ul style="list-style-type: none"> • Report on cost-benefit of soft and hard engineering solutions for coastal protection. • Report on kelp restoration. • Set-up eco-engineering demonstration sites. 5.9 <ul style="list-style-type: none"> • Data set of survey responses on public perceptions of nature-based coastal defence. • Data set on the efficacy of hybrid mangroves for coastal defence. • Report on how to develop national guidelines for coastal habitat restoration and eco-engineering for climate mitigation and adaptation.
Data/software Manager	Rebecca Morris

Research output data collection, tool or software URLs if applicable

Ecological Engineering Dataset EE1

Description (complete for data, tools and software)	
Title	Meta-analysis of nature-based methods for hazard risk reduction
Description	Data extracted from literature on the sediment stabilisation and wave attenuation capacity of coastal habitats.
Temporal & spatial extent	Literature until January 2017, global
Lineage	Independently derived.
Credit	Authors: R. Morris, T. Konlechner, M. Ghisalberti and S. Swearer
Keywords	artificial structures, climate adaptation, coastal protection, experimental management, living shorelines, restoration, soft engineering, urbanization
ABS Fields of Research Category / Subcategory*	37 Earth Sciences 41 Environmental Sciences 4101 Climate change impacts and adaptation

*These are listed in <https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/1297.02020?OpenDocument>

Attribution/IP (complete for data, tools and software)	
Owning organisation	National Centre for Coasts and Climate
Collaborating organisations	N/A
Primary contact for this data	Rebecca Morris, rebecca.morris@unimelb.edu.au
Lead researcher	Rebecca Morris
Contributors	Teresa Konlechner, Marco Ghisalberti, Stephen Swearer
Access	Email primary contact
<input type="checkbox"/> Licencing	Restricted

Required field

Related materials: publications, tools, websites, related input data. Please provide full citations for publications, data and software.	
Details	URL
Morris, R.L., Konlechner, T.M., Ghisalberti, M. and Swearer, S.E. (2018) From grey to green: efficacy of eco-engineering solutions for nature-based coastal defence. <i>Global Change Biology</i> 24, 1827-1842.	

Technical details	
For data: Total size of this data collection	20 KB
For data: Total number of files	1
Current location of files (data or software)	NCCC
Format(s)	CSV
Associated tool(s)/ dependencies	N/A
Proposed publication host	N/A

Ecological Engineering Dataset EE2

Description (complete for data, tools and software)	
Title	Wave attenuation of kelp
Description	Wave transmission at kelp beds and urchin barrens at four sites in Port Phillip Bay with kelp density
Temporal & spatial extent	Four sites, Port Phillip Bay, 5 months of data collection
Lineage	Independently derived.
Credit	Authors: R. Morris, T. Graham, J. Kelvin, M. Ghisalberti, S. Swearer
Keywords	coastal management, <i>Ecklonia radiata</i> , erosion, flooding, living shorelines, macroalgae, nature based coastal defence, wave damping
ABS Fields of Research Category / Subcategory*	37 Earth Sciences 41 Environmental Sciences 4101 Climate change impacts and adaptation

*These are listed in <https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/1297.02020?OpenDocument>

Attribution/IP (complete for data, tools and software)	
Owning organisation	National Centre for Coasts and Climate
Collaborating organisations	N/A
Primary contact for this data	Rebecca Morris, rebecca.morris@unimelb.edu.au
Lead researcher	Rebecca Morris
Contributors	Tristan Graham, Jaya Kelvin, Marco Ghisalberti, Stephen Swearer
Access	Email primary contact
<input type="checkbox"/> Licencing	Restricted

Required field

Related materials: publications, tools, websites, related input data.
Please provide full citations for publications, data and software.

Details	URL
Morris, R.L., Graham, T.D.J, Kelvin, J., Ghisalberti, M. and Swearer, S.E. 2020. Kelp beds as coastal protection: wave attenuation of <i>Ecklonia radiata</i> in a shallow coastal bay. <i>Annals of Botany</i> 125, 235-246.	

Technical details	
For data: Total size of this data collection	400 KB
For data: Total number of files	4
Current location of files (data or software)	NCCC
Format(s)	CSV
Associated tool(s)/dependencies	N/A
Proposed publication host	N/A

Ecological Engineering Dataset EE3

Description (complete for data, tools and software)	
Title	Wave attenuation of oyster reef living shorelines
Description	Wave transmission at restored oyster reef and control sites without reefs
Temporal & spatial extent	Fifteen sites, New Jersey to Louisiana, United States, 5 weeks of data collection
Lineage	Independently derived.
Credit	Authors: R. Morris et al.
Keywords	climate adaptation, coastal defences, coastal management, coastal protection, ecoengineering, living shorelines, oyster, urbanization
ABS Fields of Research Category / Subcategory*	37 Earth Sciences 41 Environmental Sciences 4101 Climate change impacts and adaptation

*These are listed in <https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/1297.02020?OpenDocument>

Attribution/IP (complete for data, tools and software)	
Owning organisation	National Centre for Coasts and Climate
Collaborating organisations	N/A
Primary contact for this data	Rebecca Morris, rebecca.morris@unimelb.edu.au
Lead researcher	Rebecca Morris
Contributors	Rebecca Morris et al (see list of authors in publications below)
Access	Email primary contact
<input type="checkbox"/> Licencing	Restricted

Required field

Related materials: publications, tools, websites, related input data. Please provide full citations for publications, data and software.	
Details	URL
Morris, R.L., Bilkovic, D.M., Boswell, M.K., Bushek, D., Cebrian, J., Goff, J., Kibler, K.M., La Peyre, M.K., McClenachan, G., Moody, J., Sacks, P., Shinn, J.P., Sparks, E.L., Temple, N.A., Walter, L.J., Webb, B.M. and Swearer, S.E. (2019) The application of oyster reefs in shoreline protection: are we over-engineering for an ecosystem engineer? <i>Journal of Applied Ecology</i> 56, 1703-1711.	
Morris, R.L., La Peyre, M.K., Webb, B.M., Marshall, D.A., Bilkovic, D.M., Cebrian, J., McClenachan, G., Kibler, K.M., Walters, L.J., Bushek, D., Sparks, E.L., Temple, N.A., Moody, J., Angstadt, K., Goff, J., Boswell, M., Sacks, P. and Swearer, S.E. Evaluation of wave attenuation and shoreline stabilization by US Atlantic and Gulf coast oyster reef living shorelines. <i>Ecological Applications</i> . (in revision)	

Technical details	
For data: Total size of this data collection	255 KB
For data: Total number of files	1
Current location of files (data or software)	NCCC
Format(s)	CSV
Associated tool(s)/dependencies	N/A
Proposed publication host	N/A

Ecological Engineering Dataset EE4

Description (complete for data, tools and software)	
Title	Wave attenuation of coastal vegetation
Description	Wave transmission at saltmarshes, mangroves and seagrasses
Temporal & spatial extent	Six sites, Port Phillip and Western Port Bays, Victoria, 4 months of data collection
Lineage	Independently derived.
Credit	Authors: R. Morris, J. Kelvin, P. Carnell, R. Reef, S. Swearer, P. Macreadie, E. Nicholson, D. Ierodiamonou, E. Strain.
Keywords	climate adaptation, coastal defences, coastal vegetation, coastal protection, ecoengineering, living shorelines
ABS Fields of Research Category / Subcategory*	37 Earth Sciences 41 Environmental Sciences 4101 Climate change impacts and adaptation

*These are listed in <https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/1297.02020?OpenDocument>

Attribution/IP (complete for data, tools and software)	
Owning organisation	National Centre for Coasts and Climate
Collaborating organisations	N/A
Primary contact for this data	Rebecca Morris, rebecca.morris@unimelb.edu.au
Lead researcher	Rebecca Morris, Elisabeth Strain
Contributors	Jaya Kelvin, Paul Carnell, Ruth Reef, Stephen Swearer, Peter Macreadie, Emily Nicholson, Daniel Ierodiamonou
Access	Email primary contact
<input type="checkbox"/> Licencing	Restricted

Required field

Related materials: publications, tools, websites, related input data. Please provide full citations for publications, data and software.	
Details	URL

Technical details	
For data: Total size of this data collection	1169 KB
For data: Total number of files	1
Current location of files (data or software)	NCCC
Format(s)	CSV
Associated tool(s)/ dependencies	N/A
Proposed publication host	N/A

Ecological Engineering Dataset EE5

Description (complete for data, tools and software)	
Title	Social perspective of ecological engineering
Description	Questionnaires and participatory mapping of coastal managers/marine scientists and general public about the support for ecological engineering and where it should occur
Temporal & spatial extent	Port Phillip Bay, 6 months of data collection
Lineage	Independently derived.
Credit	Authors: E. Strain, R. Morris, S. Swearer
Keywords	Marine urban development, Eco-engineering, Spatial planning, Artificial structures, Coastal and marine habitats
ABS Fields of Research Category / Subcategory*	37 Earth Sciences 41 Environmental Sciences 4101 Climate change impacts and adaptation

*These are listed in <https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/1297.02020?OpenDocument>

Attribution/IP (complete for data, tools and software)	
Owning organisation	National Centre for Coasts and Climate
Collaborating organisations	N/A
Primary contact for this data	Elisabeth Strain, elisabeth.strain@utas.edu.au
Lead researcher	Elisabeth Strain
Contributors	Rebecca Morris, Stephen Swearer
Access	Email primary contact
<input type="checkbox"/> Licencing	Restricted

Required field

Related materials: publications, tools, websites, related input data.
Please provide full citations for publications, data and software.

Details	URL
Strain, E.M.A., Morris, R.L., Bishop, M.J., Tanner, E., Steinberg, P.D., Swearer, S.E., MacLeod, C. and Alexander, K.A. (2019) Building blue infrastructure: Assessing the key environmental issues and priority areas for ecological engineering initiatives in Australia's metropolitan embayments. Journal of Environmental Management 230, 488-496.	

Technical details	
For data: Total size of this data collection	50 KB
For data: Total number of files	1
Current location of files (data or software)	SIMS
Format(s)	CSV
Associated tool(s)/ dependencies	N/A
Proposed publication host	N/A

Ecological Engineering Dataset EE6

Description (complete for data, tools and software)	
Title	Rock fillets and mangroves
Description	Data on mangrove structure, sediment cores, drone surveys, rSETs, bank profile at rock fillets 1-20 years of age in four estuaries. Fish stable isotopes in three estuaries at rock fillets and natural mangroves.
Temporal & spatial extent	Newcastle to Ballina, NSW. 2 weeks data collection.
Lineage	Independently derived.
Credit	Authors: R. Morris, B. Fest, J. Tachas, E. Strain, V. Raoult, T. Gaston, S. Swearer.
Keywords	hybrid ecological engineering; living shorelines; restoration; rock-fillets; shoreline protection; stable isotope analysis
ABS Fields of Research Category / Subcategory*	37 Earth Sciences 41 Environmental Sciences 4101 Climate change impacts and adaptation

*These are listed in <https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/1297.02020?OpenDocument>

Attribution/IP (complete for data, tools and software)	
Owning organisation	National Centre for Coasts and Climate
Collaborating organisations	N/A
Primary contact for this data	Rebecca Morris, rebecca.morris@unimelb.edu.au Johanna Tachas (stable isotope data), jtachas@student.unimelb.edu.au
Lead researcher	Rebecca Morris, Benedikt Fest
Contributors	Johanna Tachas, Elisabeth Strain, Vincent Raoult, Troy Gaston, Stephen Swearer
Access	Email primary contact
<input type="checkbox"/> Licencing	Restricted

Required field

Related materials: publications, tools, websites, related input data. Please provide full citations for publications, data and software.	
Details	URL
Tachas, J.N., Raoult, V, Morris, R. L., Swearer, S. E., Gaston, T. F., Strain, E. M. A. Eco-engineered mangroves provide complex but functionally divergent niches for estuarine species compared to nature mangroves. Ecological Engineering (in review)	

Technical details	
For data:	
Total size of this data collection	
For data:	Multiple
Total number of files	
Current location of files (data or software)	NCCC
Format(s)	CSV
Associated tool(s)/dependencies	N/A
Proposed publication host	N/A

Ecological Engineering Dataset EE7

Description (complete for data, tools and software)	
Title	Hybrid mangroves
Description	Data on mangrove survival, sediment cores, drone surveys, rSETs, wave height, social perspective at three sites (Altona, Lang Lang, Grantville) in Port Phillip and Western Port Bays. Data collection Jan-Dec 2020.
Temporal & spatial extent	Port Phillip and Western Port Bays, 1 year of data
Lineage	Independently derived.
Credit	Authors: R. Morris, B. Fest, S. Swearer.
Keywords	climate adaptation, coastal defences, coastal vegetation, coastal protection, ecoengineering, living shorelines
ABS Fields of Research Category / Subcategory*	37 Earth Sciences 41 Environmental Sciences 4101 Climate change impacts and adaptation

*These are listed in <https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/1297.02020?OpenDocument>

Attribution/IP (complete for data, tools and software)	
Owning organisation	National Centre for Coasts and Climate
Collaborating organisations	N/A
Primary contact for this data	Rebecca Morris, rebecca.morris@unimelb.edu.au
Lead researcher	Rebecca Morris, Benedikt Fest
Contributors	Taylor Rubenstein, Stephen Swearer
Access	Email primary contact
<input type="checkbox"/> Licencing	Restricted

Required field

Related materials: publications, tools, websites, related input data.
Please provide full citations for publications, data and software.

Details	URL

Technical details	
For data:	
Total size of this data collection	
For data:	Multiple
Total number of files	
Current location of files (data or software)	NCCC
Format(s)	CSV
Associated tool(s)/ dependencies	N/A
Proposed publication host	N/A

Ecological Engineering Dataset EE8

Description (complete for data, tools and software)	
Title	Wyndham Harbour: eco-engineering with bivalves
Description	Data on mussel survival and assemblage using three eco-engineering techniques in Wyndham Harbour, Port Phillip Bay, VIC.
Temporal & spatial extent	Port Phillip Bays, 6 months of data
Lineage	Independently derived.
Credit	Authors: L. Adams, R. Morris, R. Hull, T. Dempster, E. Strain
Keywords	artificial structure; bivalve; biodiversity; breakwater; piling; pontoon
ABS Fields of Research Category / Subcategory*	37 Earth Sciences 41 Environmental Sciences 4101 Climate change impacts and adaptation

*These are listed in <https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/1297.02020?OpenDocument>

Attribution/IP (complete for data, tools and software)	
Owning organisation	National Centre for Coasts and Climate
Collaborating organisations	N/A
Primary contact for this data	Elisabeth Strain, elisabeth.strain@utas.edu.au
Lead researcher	Luke Adams
Contributors	Rebecca Morris, Rebecca Hull, Tim Dempster, Elisabeth Strain
Access	Email primary contact
<input type="checkbox"/> Licencing	Restricted

Required field

Related materials: publications, tools, websites, related input data. Please provide full citations for publications, data and software.	
Details	URL
Adams, L. W., Morris, R. L., Hull, R., Dempster, T., and Strain, E. M. A. Making marinas bivalve friendly for enhanced biodiversity outcomes. Marine Pollution Bulletin (in review)	

Technical details	
For data: Total size of this data collection	20 KB
For data: Total number of files	1
Current location of files (data or software)	NCCC
Format(s)	CSV
Associated tool(s)/ dependencies	N/A
Proposed publication host	N/A

Ecological Engineering Dataset EE9

Description (complete for data, tools and software)	
Title	Shellfish reef for risk reduction and habitat creation
Description	Data on wave attenuation, sediment accumulation via drone surveys and transects at a local and compartment scale, historical aerial shoreline change, seagrass surveys, mussel survival and assemblage, dune planting growth.
Temporal & spatial extent	Ramblers Road, Bellarine Peninsula, VIC, 3 years of data
Lineage	Independently derived.
Credit	Authors: R. Roob, R. Morris, T. Konlechner, D. Kennedy, S. Swearer
Keywords	climate adaptation, coastal defences, coastal protection, ecoengineering, living shorelines
ABS Fields of Research Category / Subcategory*	37 Earth Sciences 41 Environmental Sciences 4101 Climate change impacts and adaptation

*These are listed in <https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/1297.02020?OpenDocument>

Attribution/IP (complete for data, tools and software)	
Owning organisation	National Centre for Coasts and Climate
Collaborating organisations	N/A
Primary contact for this data	Ralph Roob, RRoob@geelongcity.vic.gov.au
Lead researcher	Ralph Roob
Contributors	Rebecca Morris, Teresa Konlechner, David Kennedy, Stephen Swearer
Access	Email primary contact
<input type="checkbox"/> Licencing	Restricted

Required field

Related materials: publications, tools, websites, related input data. Please provide full citations for publications, data and software.	
Details	URL

Technical details	
For data:	
Total size of this data collection	
For data:	Multiple
Total number of files	
Current location of files (data or software)	NCCC
Format(s)	CSV
Associated tool(s)/ dependencies	N/A
Proposed publication host	N/A

Ecological Engineering Dataset EE10

Description (complete for data, tools and software)	
Title	Kelp restoration
Description	Data on kelp transplantation survival and recruitment, urchin exclusion via fencing, spore extraction in the laboratory, urchin distribution, eDNA for urchin control
Temporal & spatial extent	Port Phillip Bay, multiple experiments over 3 years
Lineage	Independently derived.
Credit	Authors: T. Graham, S. Suebsanguan, R. Sharma, R. Morris, E. Strain, S. Swearer
Keywords	restoration, kelp, transplant, culturing, urchin, exclusion, recruitment
ABS Fields of Research Category / Subcategory*	37 Earth Sciences 41 Environmental Sciences 4101 Climate change impacts and adaptation

*These are listed in <https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/1297.02020?OpenDocument>

Attribution/IP (complete for data, tools and software)	
Owning organisation	National Centre for Coasts and Climate
Collaborating organisations	N/A
Primary contact for this data	Tristan Graham, tristan.graham@unimelb.edu.au Rituraj Sharma, riturajs@student.unimelb.edu.au (urchin exclusion) Sarucha Suebsanguan, suebsas@outlook.com (kelp aquaculture) Alex Coutts, acoutts@student.unimelb.edu.au (eDNA)
Lead researcher	Tristan Graham, Rituraj Sharma, Sarucha Suebsanguan, Alex Coutts
Contributors	Rebecca Morris, Elisabeth Strain, Stephen Swearer, Allyson O'Brien, Andrew Weeks
Access	Email primary contact
<input type="checkbox"/> Licencing	Restricted

Required field

Related materials: publications, tools, websites, related input data.

Please provide full citations for publications, data and software.

Details	URL
Coutts, A. 2020. Development and testing of two environmental DNA assays for informing marine ecosystem restoration. MSc Thesis: The University of Melbourne.	
Sharma, R. 2019. Testing the efficacy of sea urchin exclusion methods for kelp restoration. MSc Thesis: University of Melbourne.	
Suebsanguan, S. 2019. Optimising the initial cultivation stages of kelp <i>Ecklonia radiata</i> for restoration. MSc Thesis: University of Melbourne.	

Technical details

For data: Total size of this data collection	
For data: Total number of files	Multiple
Current location of files (data or software)	NCCC
Format(s)	CSV
Associated tool(s)/ dependencies	N/A
Proposed publication host	N/A

Ecological Engineering Dataset EE11

Description (complete for data, tools and software)	
Title	National guidelines for nature-based coastal defence
Description	Interviews with 12 policy makers at a state and federal government level about the policy landscape for nature-based defences
Temporal & spatial extent	State and Federal level, data collected over 2 months
Lineage	Independently derived.
Credit	Authors: V. Simpson, E. Waters, A. Boxshall, S. Swearer and R. Morris
Keywords	climate adaptation, coastal defences, coastal protection, ecoengineering, living shorelines
ABS Fields of Research Category / Subcategory*	37 Earth Sciences 41 Environmental Sciences 4101 Climate change impacts and adaptation

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Attribution/IP (complete for data, tools and software)	
Owning organisation	National Centre for Coasts and Climate
Collaborating organisations	N/A
Primary contact for this data	Rebecca Morris, rebecca.morris@unimelb.edu.au
Lead researcher	Rebecca Morris
Contributors	Viveka Simpson, Elissa Waters, Anthony Boxshall, Stephen Swearer
Access	Email primary contact
<input type="checkbox"/> Licencing	Restricted

Required field

Related materials: publications, tools, websites, related input data. Please provide full citations for publications, data and software.	
Details	URL

Technical details	
For data:	
Total size of this data collection	
For data:	1
Total number of files	
Current location of files (data or software)	NCCC
Format(s)	Interview transcripts, unidentified
Associated tool(s)/ dependencies	N/A
Proposed publication host	N/A