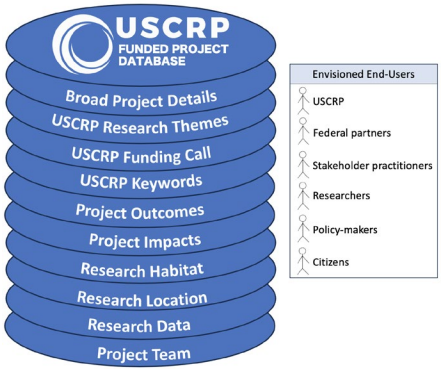
USCRP FUNDED PROJECT DATABASE LEXICON

The USCRP database is a relational database with 10 classes and unique fields across classes:

1. Broad Project Details (27 fields)
2. USCRP Research Themes (2 fields)
3. Funding Call (3 fields)
4. Research Habitat (2 fields)
5. Project Impacts (4 fields)
6. USCRP Keywords (2 fields)
7. Project Outcomes (10 fields)
8. Research Data (16 fields)
9. Research Location (15 fields)
10. Project Team (17 fields)



Each class maintains at least 2 fields where one field is shared across classes to identify between projects as a unique identifier (primary and foreign key) linking associated data. Below are the definitions of the classes and the **fields** (bolded throughout) within them that maintain names that are not self-explanatory. An entity relationship diagram (ERD), showing the database structure (a system of one-to-many relationships) is available on the last page of this document.

1. Broad Project Details – The programmatic information about a funded project regarding the university and lead PI the award was to with supporting details about the overarching research design and approach.

- **UID_pkfk** – project ID, this number is the primary and foreign key across classes. Numbers/Projects are chronological in order of year and then alphabetical by lead_PI last name. *This field is in every class, but only denoted and defined here.*
- **Focus** – defines whether the research conducted is field-, model-, lab-, community poll-based, or some combination of these types.
- **Research** – basic, applied, or both
- **Highlights** - <= 100 characters emphasizing main takeaways/findings of completed projects.

2. USCRP Research Themes – The three main **broad theme** areas of focus that USCRP is focused on as agreed upon by the coastal community during the 2014 Nearshore Workshop.

- *LT* - Long-term coastal evolution due to natural & anthropogenic processes
- *EE* - Extreme events: flooding, erosion, & subsequent recovery
- *HEH* - The physical, biological & chemical processes impacting human & ecosystem health

3. Funding Call – The details surrounding the topics of different funding calls under which projects to date have been awarded.

- **ResearchTopic Type** – topic type addressed based on the funding calls
  - Broader topics (research *themes*) and research *challenge subtypes* (2016 & 2019)

- Specific research *needs* (2019, 2020, 2021).
- **Topic details** - the details of the theme, challenge, or need addressed

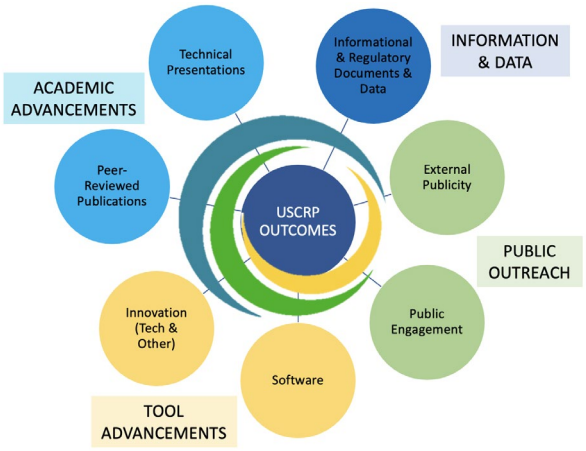
4. Research Habitat – The overarching setting of the researched habitat or subject matter.

- **Study subject -** 21 options for habitat types or vertebrate and non-vertebrate subject types (Offshore, Nearshore, Developed Communities, Beach, Dune, Marsh, Barrier Island Complex, Seagrass, Algae, Estuarine, Coral Reef, Mangrove, Lacustrine, Riverine, Shellfish, Fish, Mammals, Crustaceans, Apex Predator, Sea Turtles, Floodplain)

5. Project Impacts - Detailed information surrounding specific impact types that require more understanding to fully appreciate the contribution. Examples include aspects like models not just being created but being created to improve runtime with specific details for the improvement achieved.

- **Impact type** – defines broader or higher order impact types that are of interest for highlighting programmatic performance (Cost:Benefit, Engagement, Federal guidance, Model accuracy, Model runtime/CPU, New instrumentation/tool, New method/metric, New model/model capability, State of science)

6. USCRP Keywords – 52 keywords surrounding coastal research that encompass USCRP funded projects across coastal disciplines.



7. Project Outcomes – USCRP is defining outcomes as tangible products that can be found and used as resources within four broad categories, each with sub-categories encompassing more specific products. All outcomes can be found and are documented online by entering the product title field into a browser search.

- **Broad product** – 4 categories that encompass broad outcome groupings of product types (Informational & regulatory documents & data, Academic advancements, Tool advancements, Public outreach)
- **Product type** – 7 product subcategories that product subtypes fall under (Peer-reviewed publication, Software, Informational & regulatory documents & data, Public engagement, External publicity, Innovation, Technical presentation)
- **Product subtype** – specific products associated with **product type**
- **Product name** – searching this field in a browser should pull up the product. If this does not work, then try also adding the last name of the **leadPI** and/or the **product source** information. Similarly, the **product notes** field may contain additional information to find the product such as a DOI.
- **Product source** – entity that produced or hosts the product (example – journal).

Peer-reviewed public	Software	Informational & regulatory	Public engagement	External publicity	Innovation (T	Technical presentation
Dissertation	App Development	Regulatory/Guidance	Briefings	News articles	Invention	International Conference
Journal Article	Database	Factsheet	Dedicated Website	Online Article	Metric	Invited Speaker
Thesis	GUI	New Management Protocol	Focus groups	Podcast	Lab created	National Conference
White Paper	Model Code	Pamphlet	Newsletter	Radio Broadcast	New Instrum	Poster
		Publicly Available Data	Training	TV Coverage	New Methodology	
		Report	Workshop		New Theory	
		Technical Report	Research Highlight		Patent	
		federal guidance				

8. Research Data – Information about the type of data collected or applied to conduct research. Information here includes spatial and temporal context, and the method/s employed to attain specific metrics surrounding the focus and subject of the data.

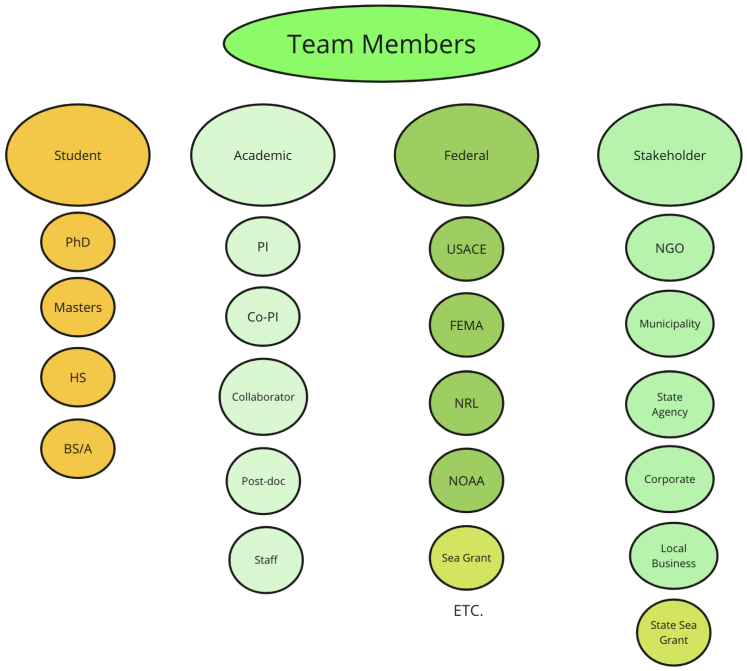
- **Setting –** Where the data came from regarding the research effort. Three category options:
  - Field, modeling, or laboratory
- **Data source** – Where the data came from regarding if researchers collected it themselves or applied it from pre-existing sources. 4 categories:
  - Applied/Pre-existing, Collected, NA, Applied from collection
- **Data scope** – provides spatial context regarding how a dataset was collected or used based in part on different levels of biological complexity with additions for encompassing multiple disciplines. 8 categories:
  - Point, Transect/Profile, Plot, Plant, Habitat, Waterbody, NA, Community
- **Data Scale** – provides spatial context regarding how the dataset might be applied from where it was collected more broadly across the US. 4 categories:
  - Local, regional, NA, National
- **Collections** – defines how the data were collected temporally regarding single vs different types of repeat collections. 4 categories:
  - *Intermittent* - collecting repeat measures at the same location or organism but monitoring is variable
  - *Continuous* - collections monitoring repeat measures at same location or organism
  - *Single* - collection measurements not made on the same organism or location over time (random location or organism)
  - *NA*
- **Type 1** – is the data categorical, numerical, or varied in nature (3 categories)
- **Type 2** – is the data qualitative, quantitative, or both in nature (3 categories)
- **Subject –** academic or disciplinary category of the data (5 categories)
  - Biological, Geological, Sociological, Other, Hydro
  - Hydro encompasses both hydrological and hydrographical
- **Timestep** - typical step/time between repeat collections - inter-collection interval**.** 9 categories:
  - User-defined, Daily, Months, Years, Decades, Centuries, Event-driven, NA, Random
- **Metric & Method**
    - **Metric** is the specific data or application of the data, whereas **method** is the means of obtaining that metric information.

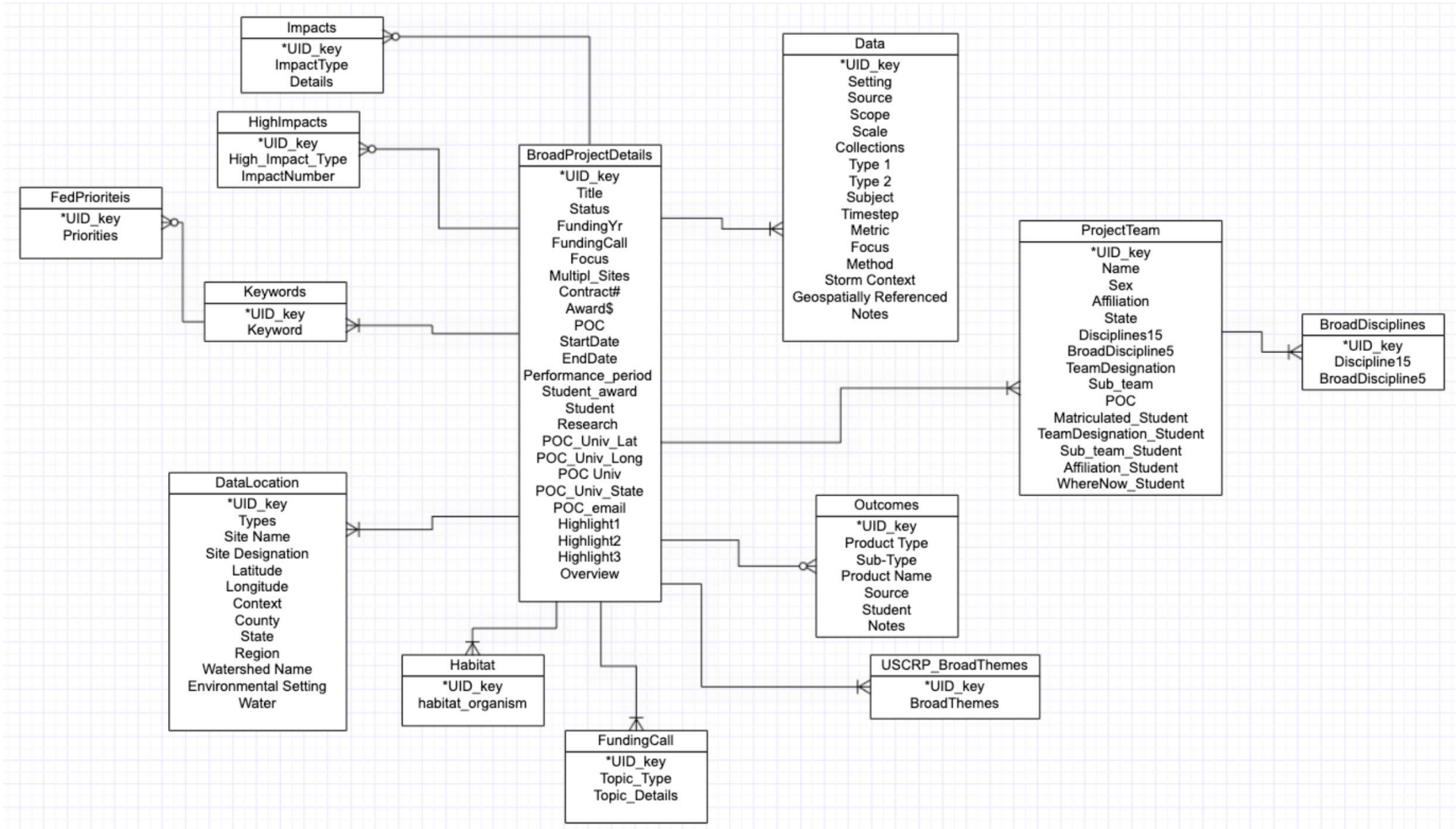
        - Example 1 – cross-shore elevation is the metric where cross-shore profiles is the method
        - Example 2 – Wave hydrodynamics is the metric and acoustic doppler velocimeter is the method
    - **Focus** – pairs with **subject** to give more information on the specific overarching topic or subject-matter - 12 categories, some with specific definitions for clarity:
        - Climatological, Wave Forcing, Socioeconomic risk, Sediment, Bathymetry, Water quality, Topography, Other
        - *Vegetation* – Kingdom Plantae (plants)
        - *Macroorganisms* - Kingdom Animalia (vertebrates & invertebrates)
        - *Microorganisms* - Kingdom Protista (Eubacteria, Archaebacteria, & Fungi)
        - *Water level* – encompasses both flooding & sea level rise
    - **Storm context** – 6 categorical options denoting when data was collected in relation to the most recent storm occurrence
        - *During-storm* - storm occurrence conditions
        - *Recovery* - in between events when conditions are back to typical
        - *Pre-storm* - setup conditions preceding a storm event and as close to the event as possible
        - *Post-storm* - after a storm event and as close to the event as possible, clearly associated with an event
        - *Varied* - multiple storm contexts used (actual storms or simulated/modeled)
        - *NA* - not related to a storm, general coastal research

9. **<u>Research Location</u>** – Defines the place or places where the research was conducted.
    - **Location type** – defines the context of the location regarding what type of research was conducted there. 3 categories:
        - Field collection, Model application, Community survey poll
    - **Site designation** – status of the location as denoted on a map or in the name regarding ownership/state of the land. 9 categories
        - State Park, NEERS, NP, Wildlife Preserve, National Seashore, Private/Community, Unmanaged/Wild, Body of water, Varied
    - **Site context** – defines the management status of the location. 5 categories:
        - Protected/Natural, Developed, Urban, Maintained, Varied
    - **Site region** – regional definitions match those used by the American Shore and Beach Preservation Association (ASBPA)
        - West Coast, Gulf, Southeast, Northeast, Great Lakes, Inland, Hawaii & Pacific Islands, Alaska, Other/International
        - Outlying US territories (Guam and Puerto Rico) are in the Southeast designation
    - **Environmental Setting** – field defines the context of the location in the broader coastal setting regarding the main forces defining the system. Eight categorical options:
        - Bay, Inland, Ocean, Riverine, Lacustrine, Barrier Island, Mainland beach, Navigation channel
    - **Water** – denoted if the water at the location is salt, fresh, or brackish

10. **<u>Project Team</u>** – All members of a project team, as defined by the lead principal investigator (PI), as individuals that have contributed in a meaningful way to the research as funded academic participants, non-funded collaborators, stakeholders, or Federal employees.

- **Discipline15** – defines the expertise or discipline of academic team members acutely where the academic makeup of the team necessarily and largely dictates the disciplinary emphasis of the research. Fifteen disciplines:
  - Geosciences, Oceanography, Engineering, Physical Sciences, Biology, Policy & Planning, Geography, Health, Mathematics, Environmental Studies, Social Science, Architecture, Economics, Chemistry, Other
- **BroadDiscipline5** – more broadly defines the expertise or discipline of academic team members where the academic makeup of the team necessarily largely dictates the disciplinary emphasis of the research. Five disciplines
  - Engineering, Physical Sciences, Biology & Life Sciences, Environmental Studies & Conservation, and Policy, Planning, & Social Science
- **Team designation** – each team member is defined as falling under one of four designations (bigger circles) regarding sector of employment (Academic, Student, Federal, Stakeholder) where under each of these four sectors there are **Subteams** smaller circles)

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