Tools and Techniques for Stormwater System Mapping

CITY OF MANCHESTER

NEW ENGLAND GEOSYSTEMS

CITY OF STAMFORD

ME (UCONN CLEAR)

CT DOT

Reminder of MS4 System Mapping Requirements

- Outfalls and receiving waters

  Town wide by July 2019 (2020 for new MS4s)

In Priority Areas *by July 2020 (2022 for new MS4s)*

- Catch basins
- Manholes
- Pipes and open channel conveyances
- Interconnections with other MS4s and storm water systems
- Municipally-owned stormwater treatment structures
- Catchment delineations (DEEP basins)
- Impaired waterbodies (completed for you)
- Municipal sanitary sewer system & municipal combined sewer system (where applicable)

Tools, Tips & Tricks for Stormwater System Mapping

- City of Manchester Stormwater Infrastructure Mapping

  Rich Gallacher & Liz DaRos, City of Manchester

- Mapping Stormwater Infrastructure with Collector and iForms

  Kristen LaBrie, New England Geosystems

LUNCH BREAK

- City of Stamford Stormwater Infrastructure Mapping

  Tyler Theder, Regulatory Compliance and Administrative Officer for City of Stamford

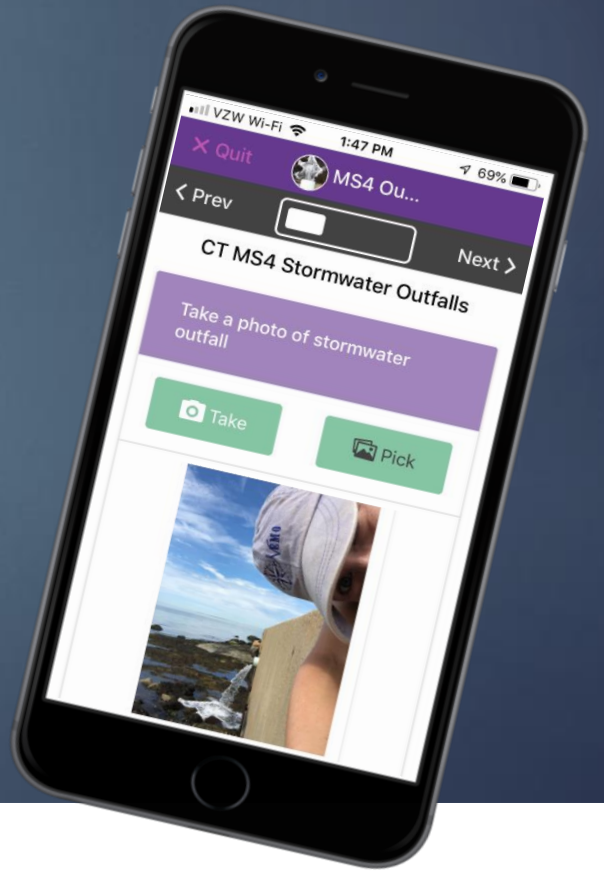
- DIY Stormwater System Mapping on the Cheap

  Cary Chadwick, UConn CLEAR

- Mapping CT DOT's Stormwater System & Interconnections

  Jeremy Willcox and Kevin Carifa, CT DOT

DIY System Mapping on the Cheap
(the "Good Enough" method)



CARY CHADWICK, UCONN CLEAR

CLEAR NEMO

MS4 System Mapping Requirements

- Outfalls and receiving waters (town wide)
- Catch basins
- Manholes
- Pipes and open channel conveyances (in priority areas)
- Interconnections with other MS4s and storm water systems
- Municipally-owned stormwater treatment structures

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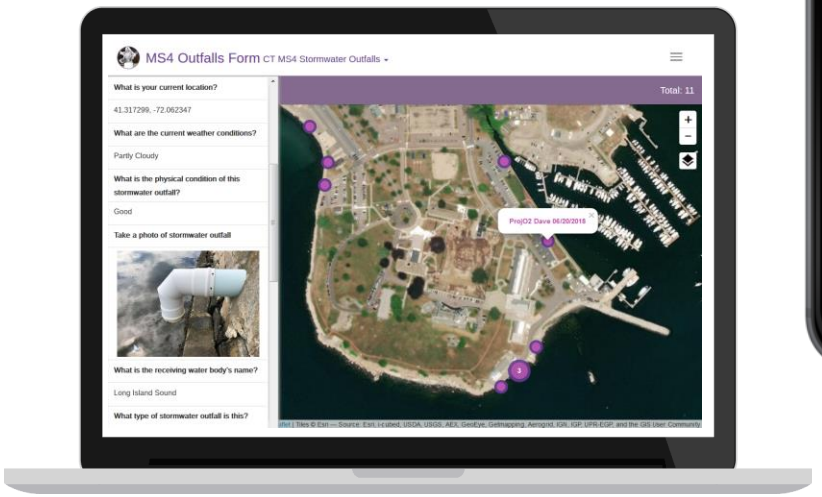
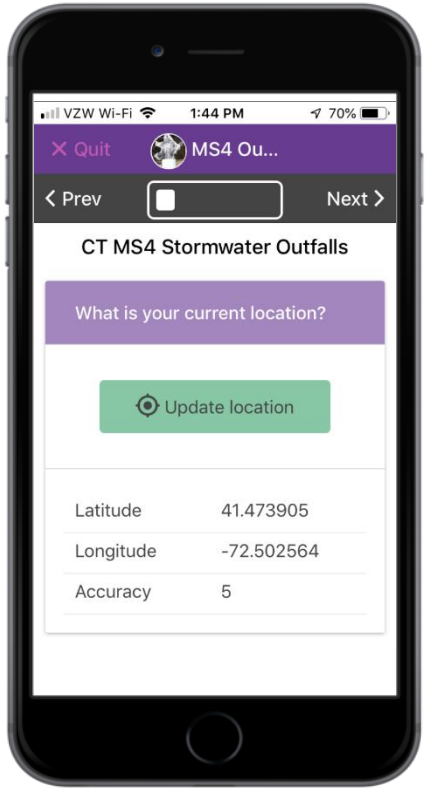
- Municipally-owned stormwater treatment structures
- Water quality monitoring requirements

For the Low-Budget Adventurous Types

EpiCollect5

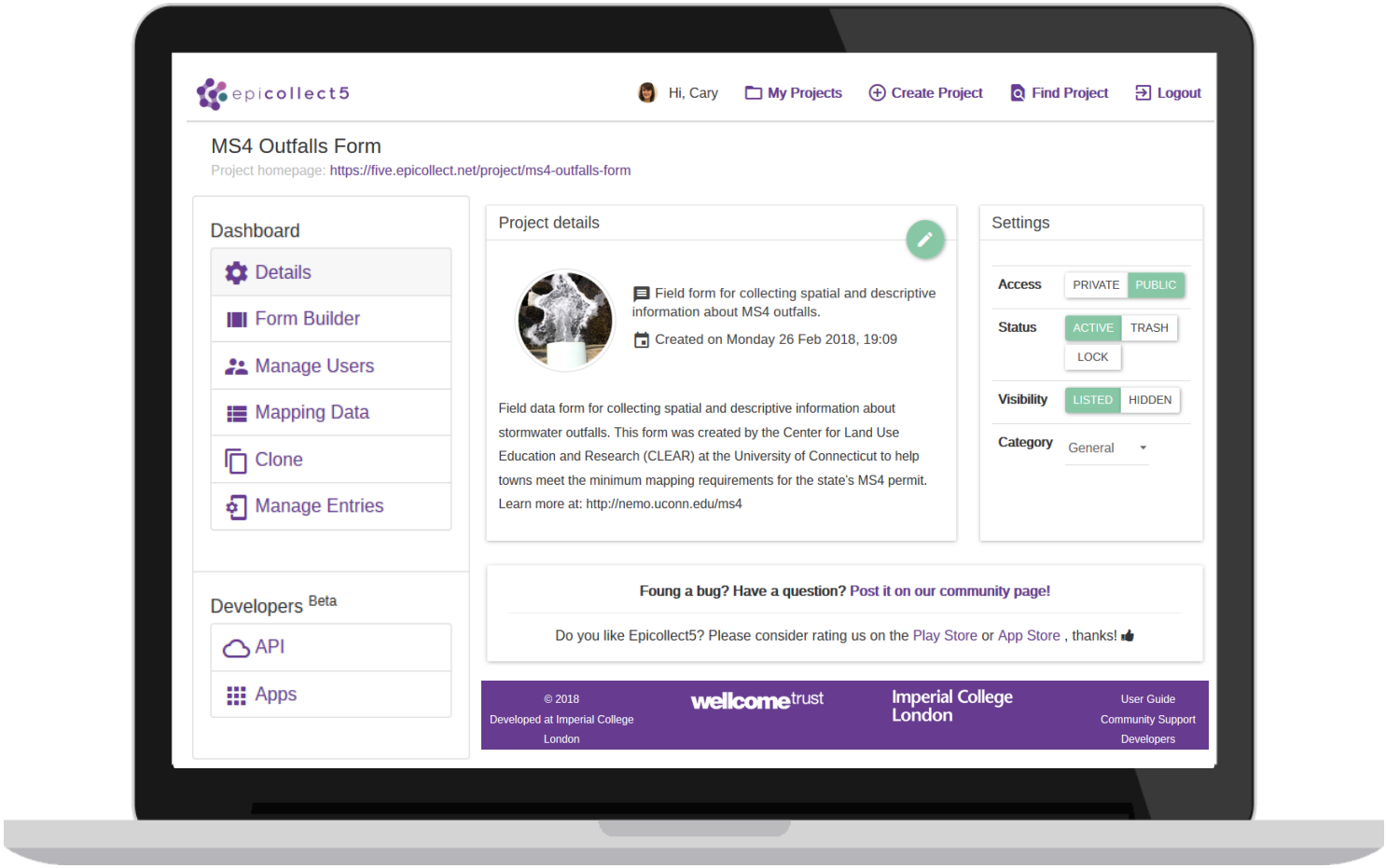
- Free mobile app (iOS and Android)
- Intuitive web-based form builder
- Spatially referenced form responses (points only)
- Cellular not required
- Unlimited online storage
- Export to spatial formats
- Sharing is caring
- Easy-peasy.





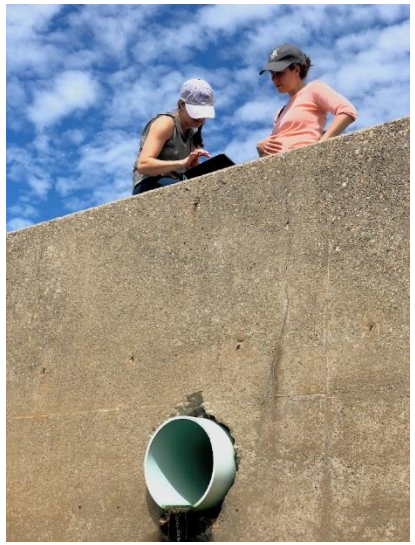
Giving You a Head Start

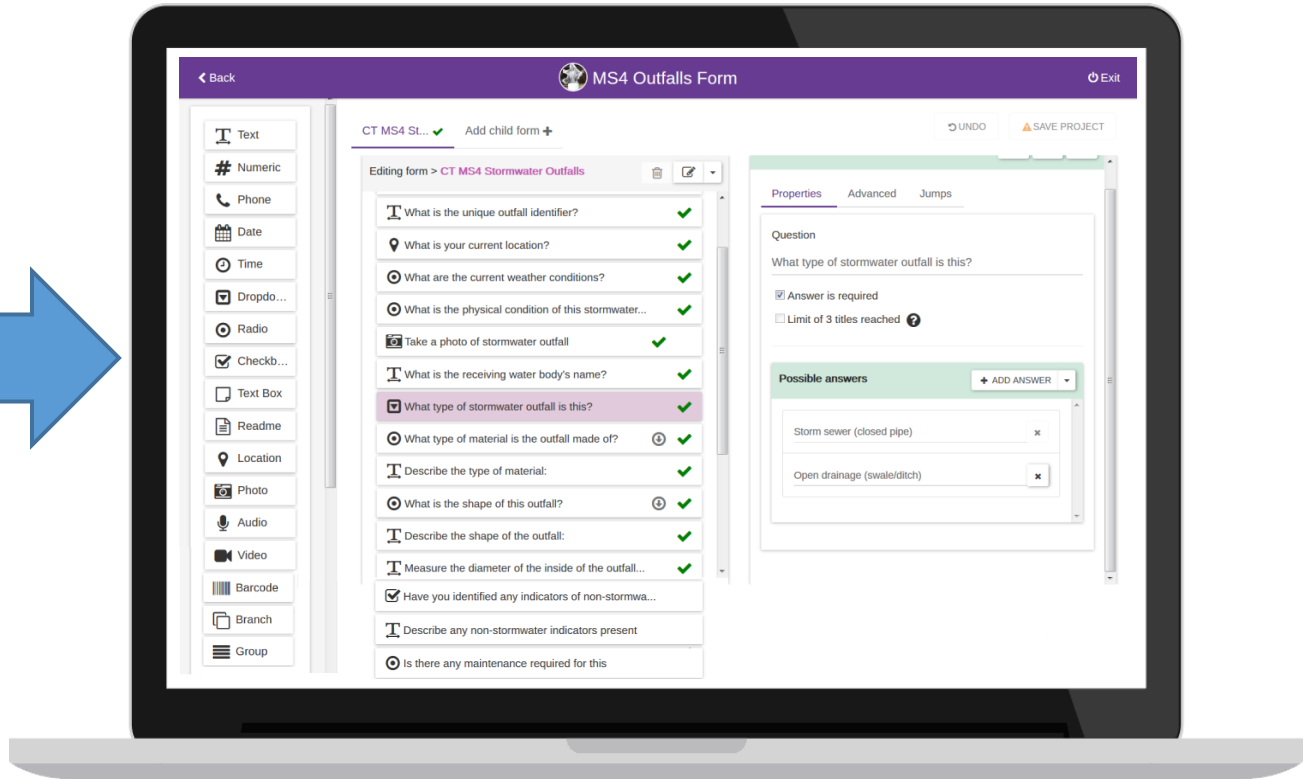
- UConn CLEAR published forms for:
  - Outfalls
  - Catch Basins
- Duplicate, replicate, edit
- Public or private
- Multi-user roles
- Free and Forever Online storage
- Visualization tools
- Export .csv or json
- API for developers



EpiCollect5 Field Forms

https://five.epicollect.net

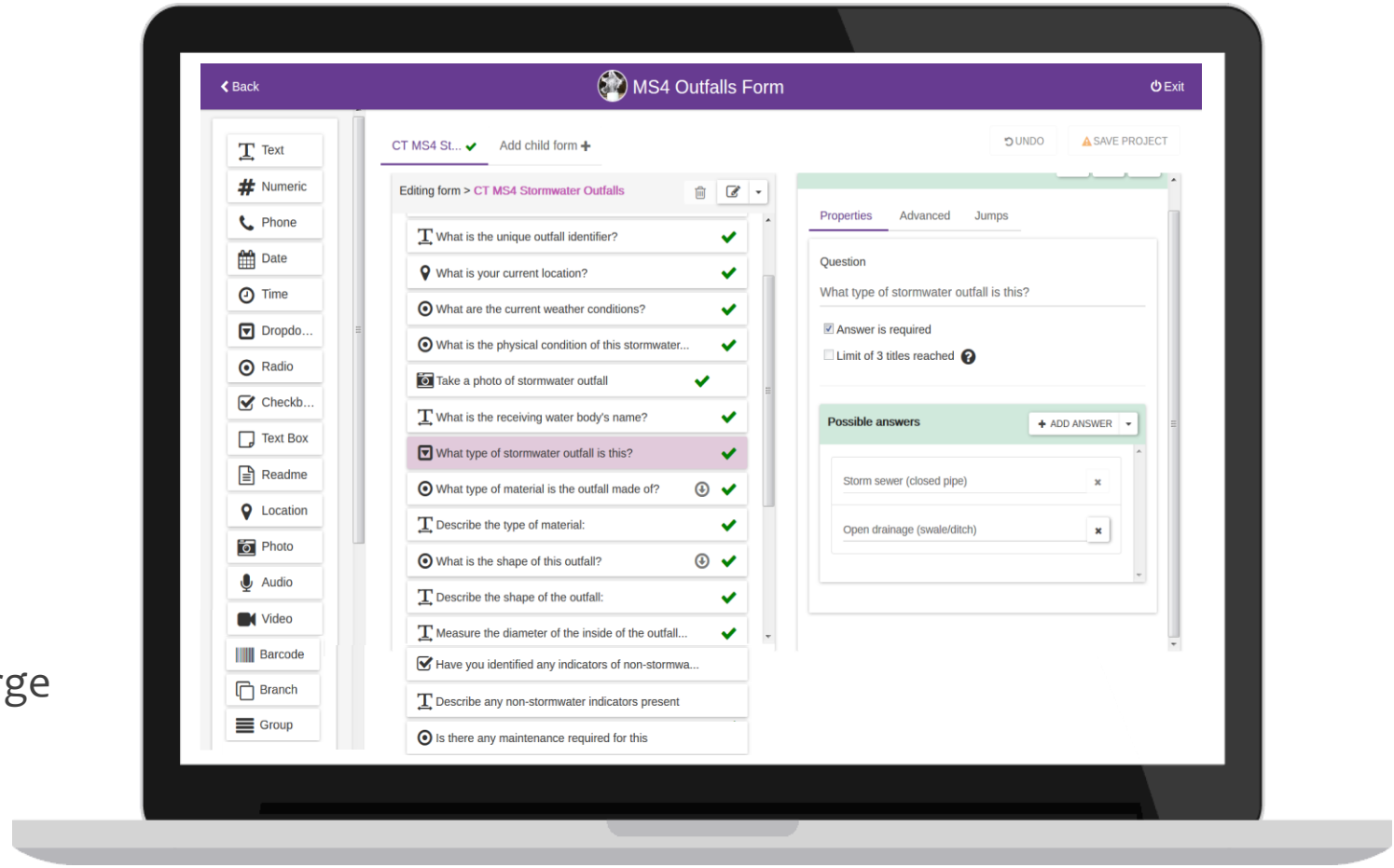




EpiCollect FormBuilder – MS4 Outfalls Form

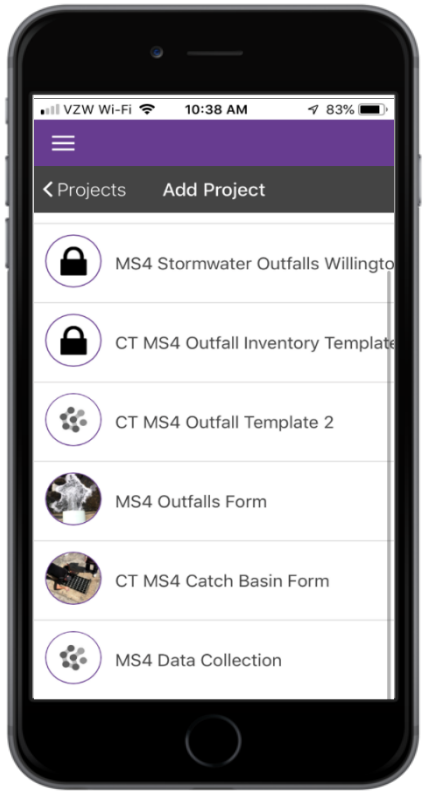
Outfall Attributes

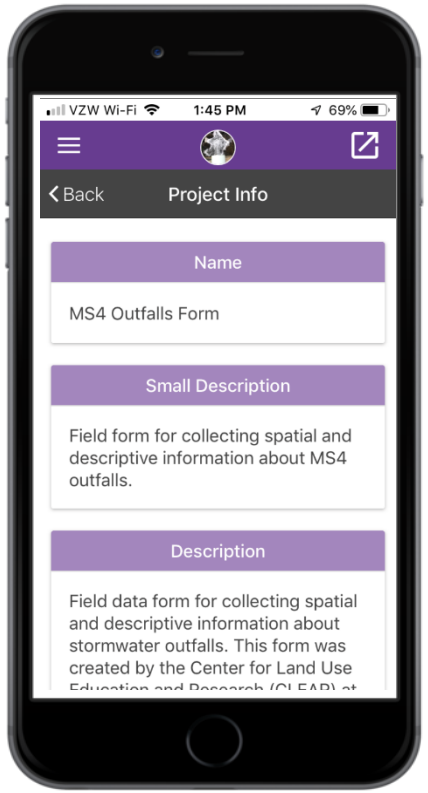
- Unique Identifier
- Receiving water body
- Type
- Material
- Size
- Location
- Condition
- Indicators of non-stormwater discharge
- Maintenance requirements

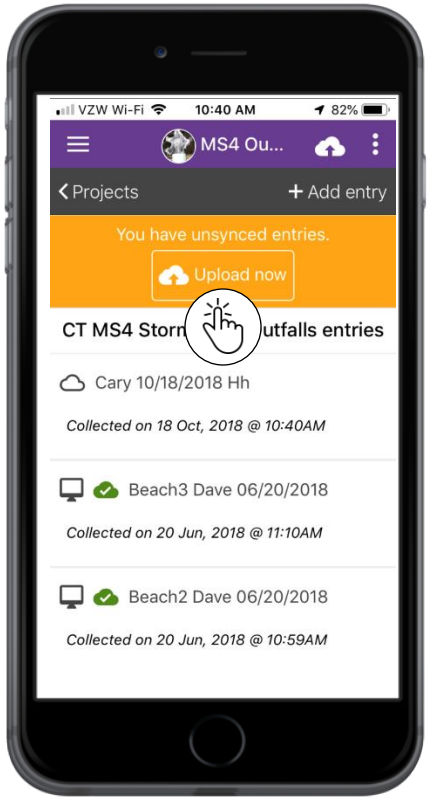


What Then? The EpiCollect5 Mobile App

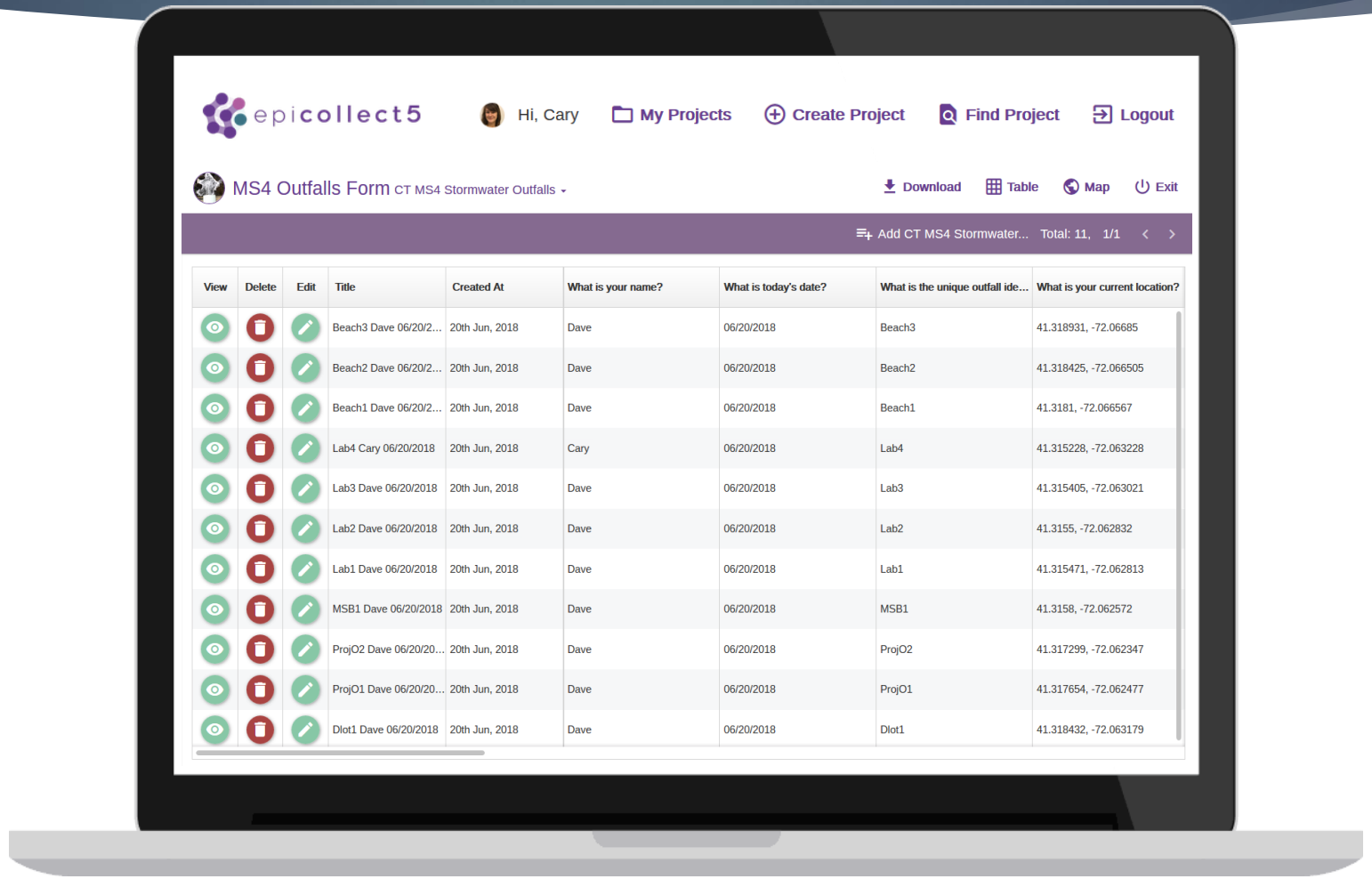
- Search & Add Projects
- Option to download responses
- Stored on device
- Form-based entry
- Built in AGPS or external receiver
- Offline data entry
- Freaking easy.







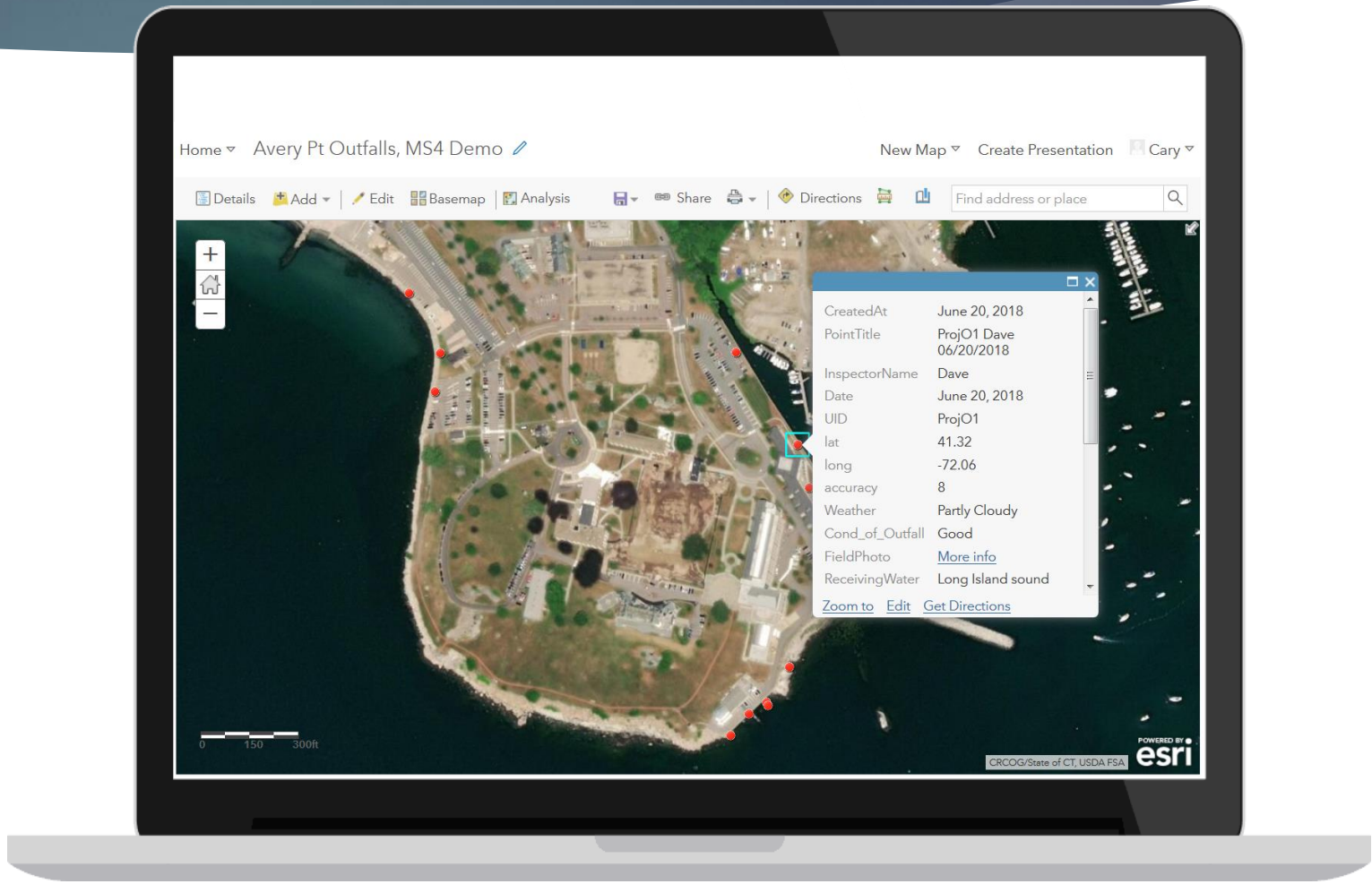
Viewing Field Data on the EpiCollect Website



View	Delete	Edit	Title	Created At	What is your name?	What is today's date?	What is the unique outfall ide...	What is your current location?
			Beach3 Dave 06/20/2...	20th Jun, 2018	Dave	06/20/2018	Beach3	41.318931, -72.06685
			Beach2 Dave 06/20/2...	20th Jun, 2018	Dave	06/20/2018	Beach2	41.318425, -72.066505
			Beach1 Dave 06/20/2...	20th Jun, 2018	Dave	06/20/2018	Beach1	41.3181, -72.066567
			Lab4 Cary 06/20/2018	20th Jun, 2018	Cary	06/20/2018	Lab4	41.315228, -72.063228
			Lab3 Dave 06/20/2018	20th Jun, 2018	Dave	06/20/2018	Lab3	41.315405, -72.063021
			Lab2 Dave 06/20/2018	20th Jun, 2018	Dave	06/20/2018	Lab2	41.3155, -72.062832
			Lab1 Dave 06/20/2018	20th Jun, 2018	Dave	06/20/2018	Lab1	41.315471, -72.062813
			MSB1 Dave 06/20/2018	20th Jun, 2018	Dave	06/20/2018	MSB1	41.3158, -72.062572
			ProjO2 Dave 06/20/20...	20th Jun, 2018	Dave	06/20/2018	ProjO2	41.317299, -72.062347
			ProjO1 Dave 06/20/20...	20th Jun, 2018	Dave	06/20/2018	ProjO1	41.317654, -72.062477
			Dlot1 Dave 06/20/2018	20th Jun, 2018	Dave	06/20/2018	Dlot1	41.318432, -72.063179

Export to GIS

- Download .csv or json file
- Easy import to GIS



Easy-Peasy.

EpiCollect5

- https://five.epicollect.net, search for MS4
- For iOS and Android
- FREE!
- Excellent user guide & community forum
- http://nemo.uconn.edu/ms4, Tasks > Mapping
- Call Dave with questions.
  - cary.chadwick@uconn.edu
  - david.dickson@uconn.edu

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