

DredGIS+

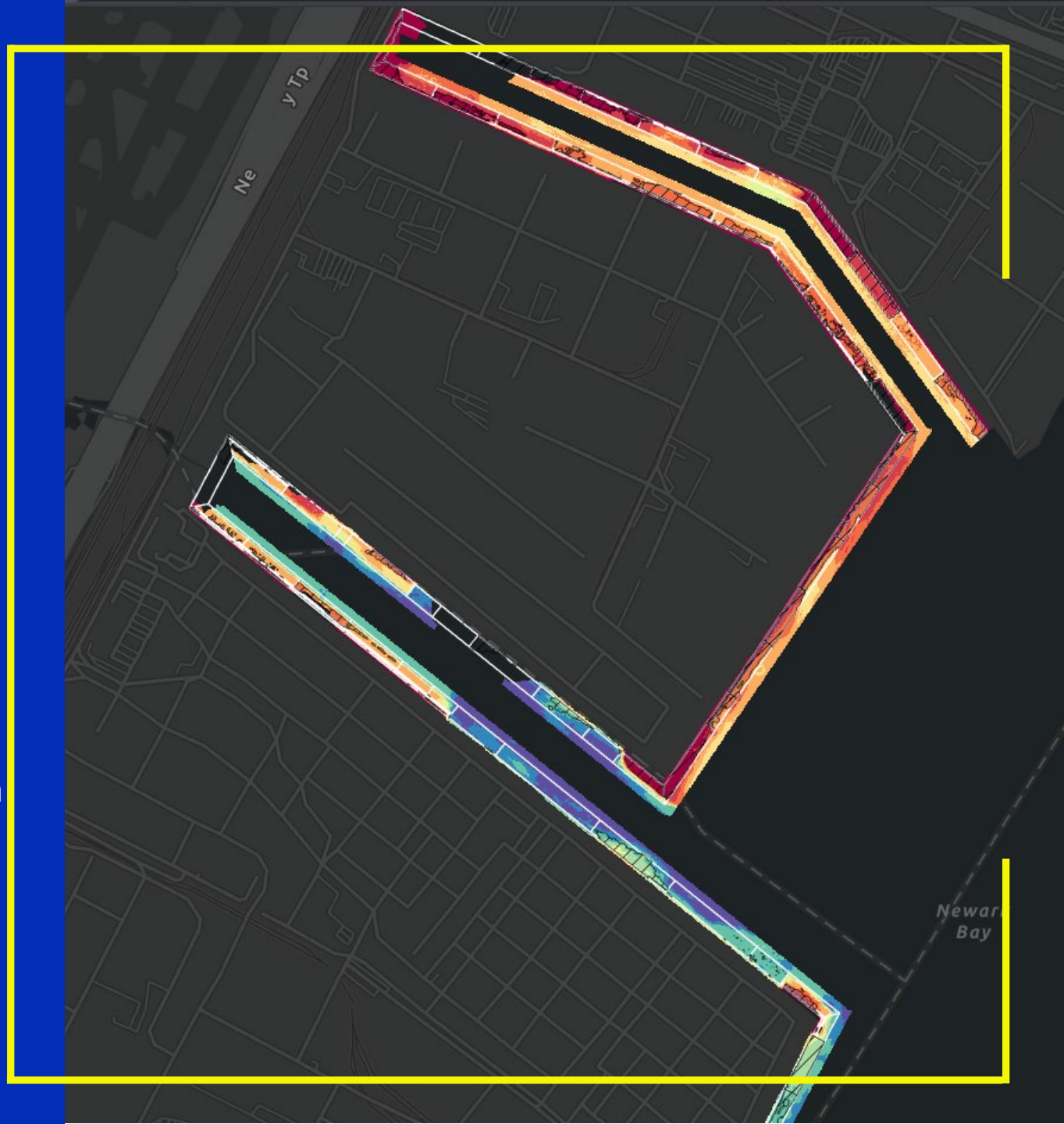
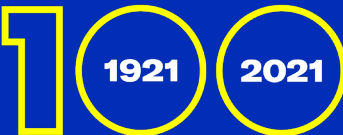
Data-Driven Dredging Planning for the Port of New York and New Jersey

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**PORT
AUTHORITY
NY NJ**
AIR LAND RAIL SEA



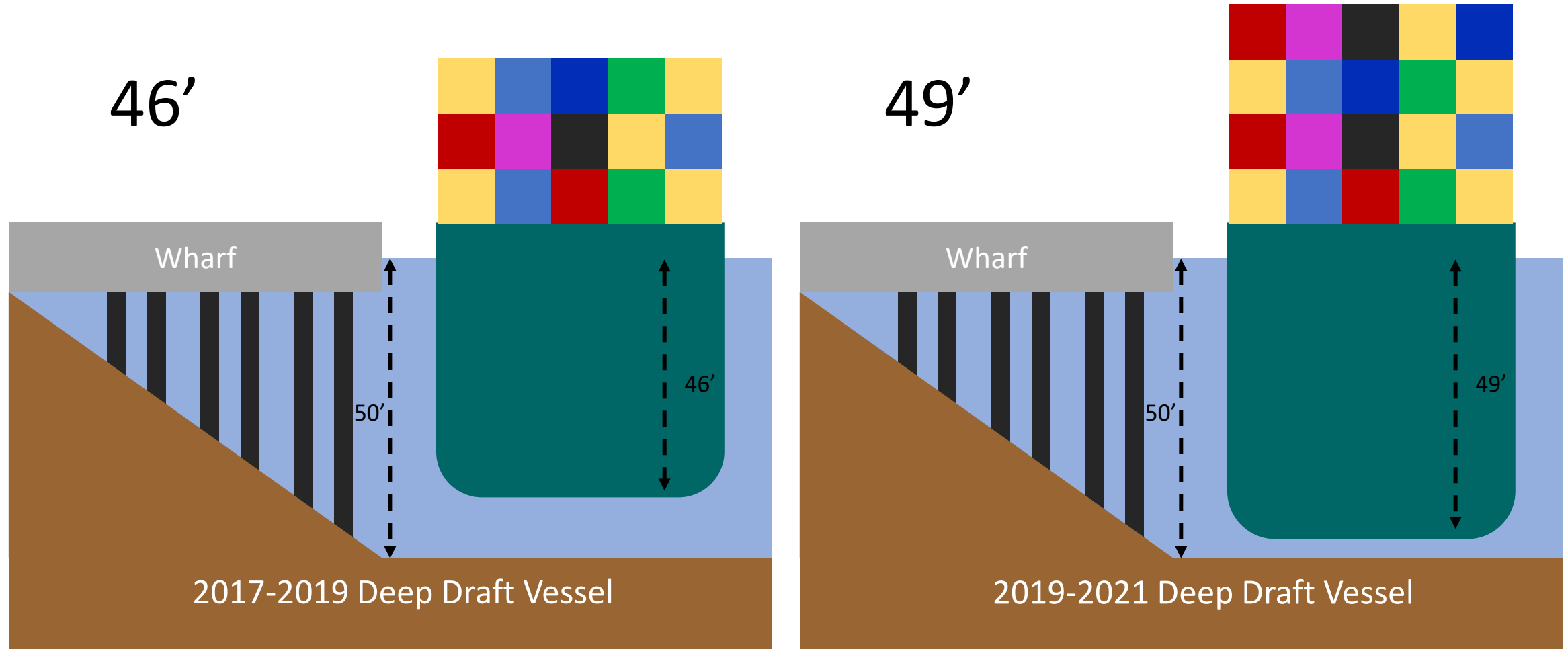
Maintenance Dredging Challenges

Maintaining adequate berth depth is impacted by six trends:

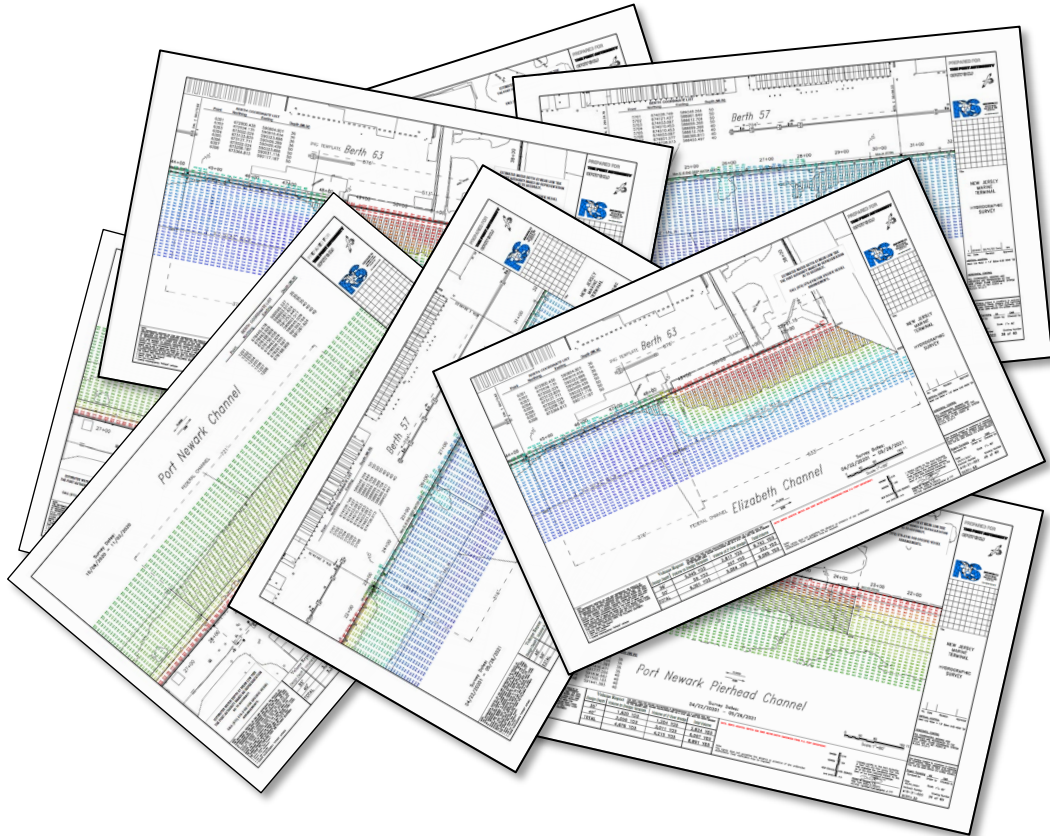
1. Vessel drafts increased since Bayonne Bridge completed, especially since 2019
2. Rapid sedimentation, especially in key berths
3. Berth utilization increasing
4. Dredging and disposal costs increasing
5. Fewer local disposal options
6. Restrictions (i.e. “fish windows”) for when annual dredging can take place.



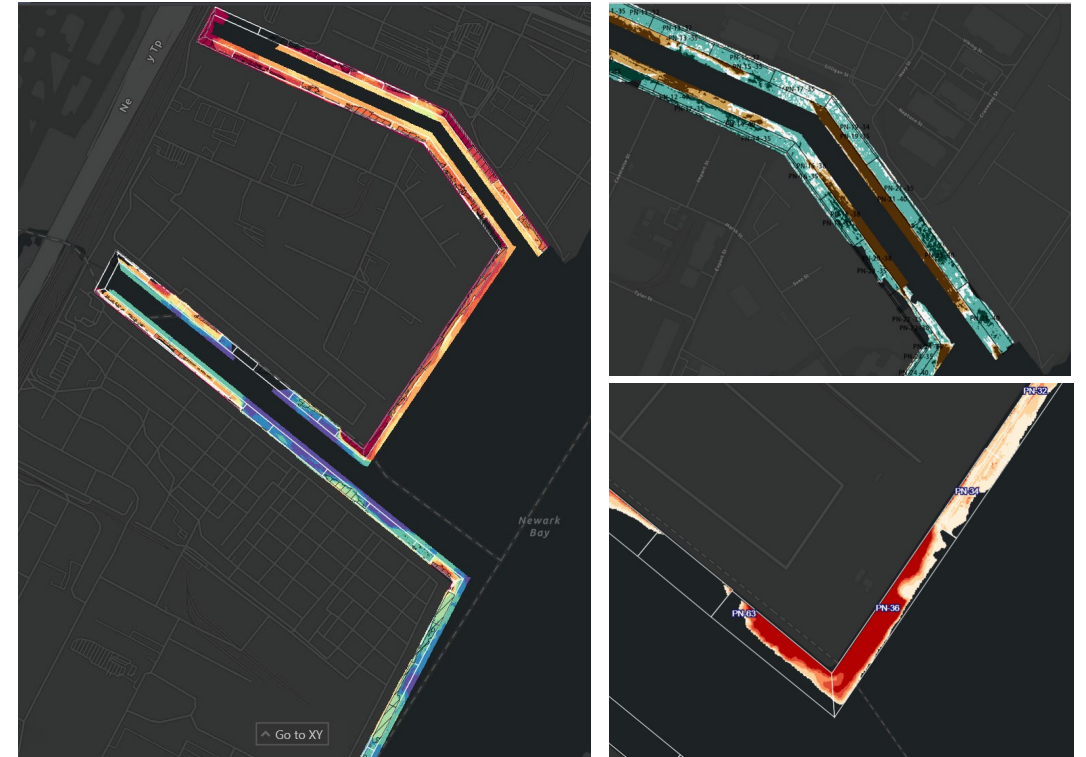
Dredging: No Wiggle Room



Holistic Hydrographic Surveys

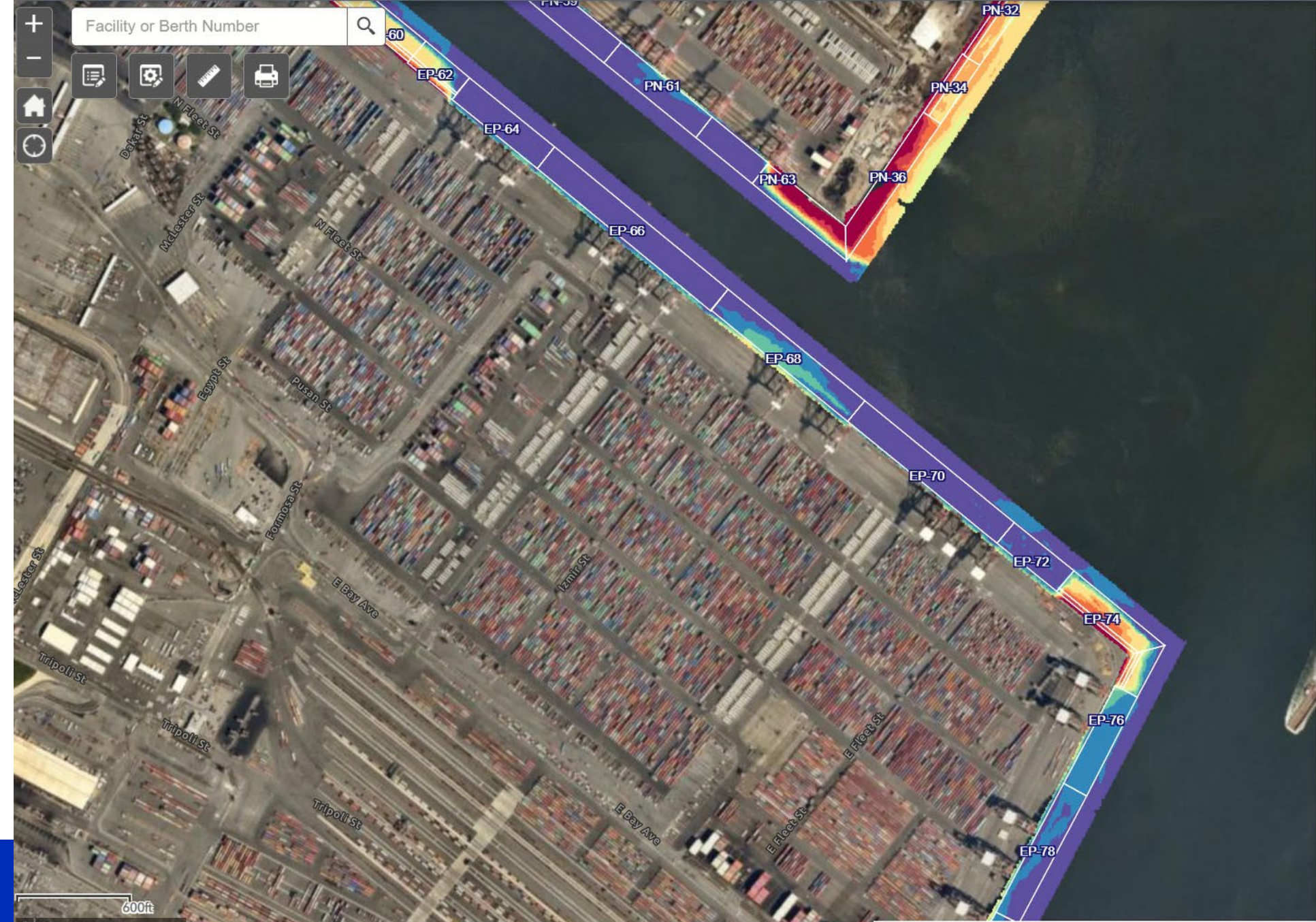


100+ pages of hydrographic survey drawings...



...are aggregated into a holistic view of the port's berths

Visualizing detailed berth depths across the full Port reveals new insights that support project planning and operational decisions.



Layer List

Layers

☐ Dredge Sampling Points 2020

☒ Dredge Template Volume Database

☐ Maher Stationing

☐ PA Stationing PNEP

☐ Spring 2021 Out of Compliance

☐ Spring 2021 Change Analysis

☐ Spring 2021 Hydro Base

☐ Fall 2020 Out of Compliance

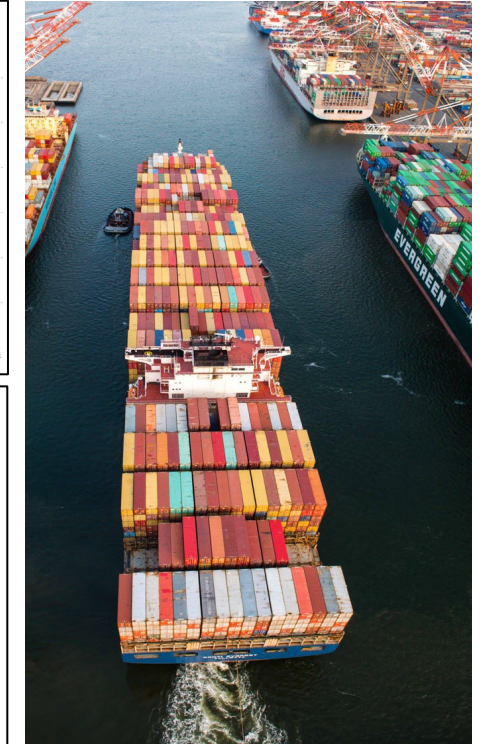
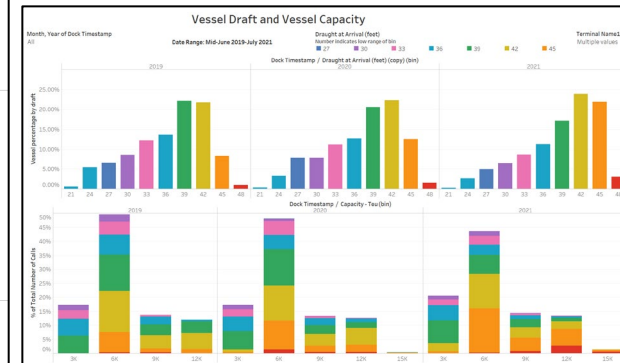
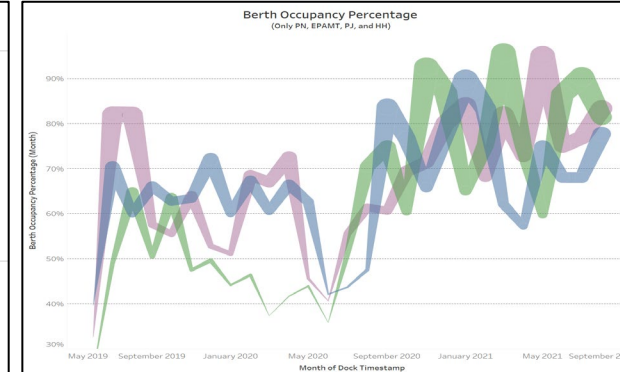
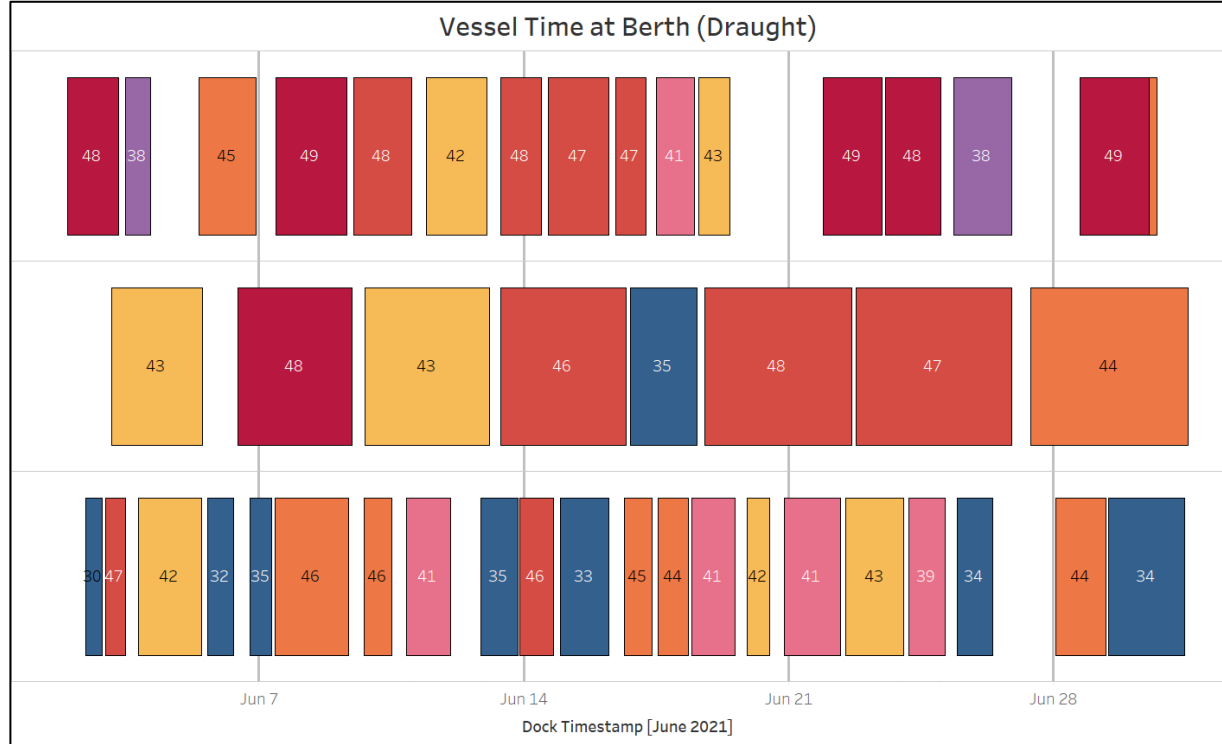
☐ Fall 2020 Hydro Base

☐ Fall 2020 Change Analysis

☒ Spring 2020 Hydro Base

☒ Nearmap Imagery

The “+” in DredGIS+



Key data insights visualized in Tableau show vessel and berth trends to help plan and prioritize which berths to dredge and when to dredge them.

DredGIS+ Benefits



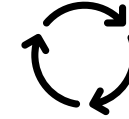
Budget Forecasting

- Big picture insight into overall dredging need across all Port facilities
- Predict when and how much we will need to dredge certain berths based on change analysis over time



Customer Experience

- Analyzing MarineTraffic data to:
 - Determine criticality of dredging
 - Establish best time to dredge based on berth utilization
 - Minimize impacts on vessel traffic

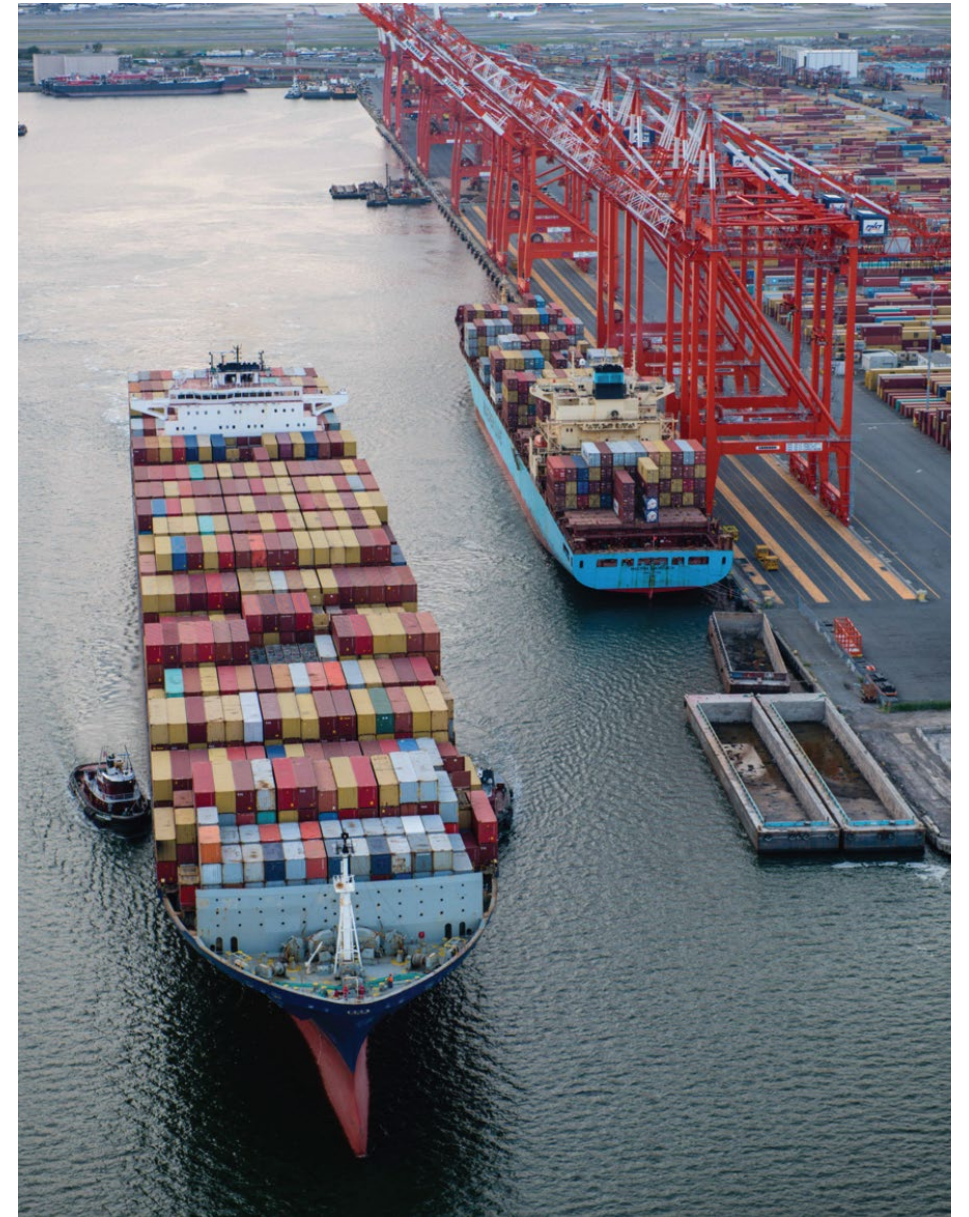


Operational Excellence

- Improve project scheduling and resource planning
- Drive continuous improvement through ongoing cycle of inspection, analysis and action
- Enable better cross functional collaboration

The Future

- We are looking to continue developing DredGIS+, with a focus on being able to forecast future conditions based on prior sedimentation rate.
- We are also investigating sedimentation prevention solutions to help mitigate the need to dredge some of our key berths as frequently.



Thank You!



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