

The New Blue Economy and You

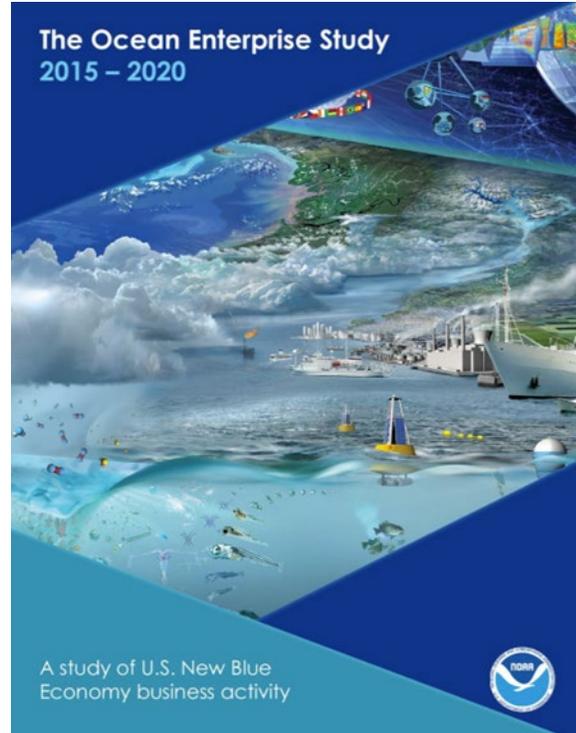
Liesl Hotaling, Eidos Education

New Blue Economy

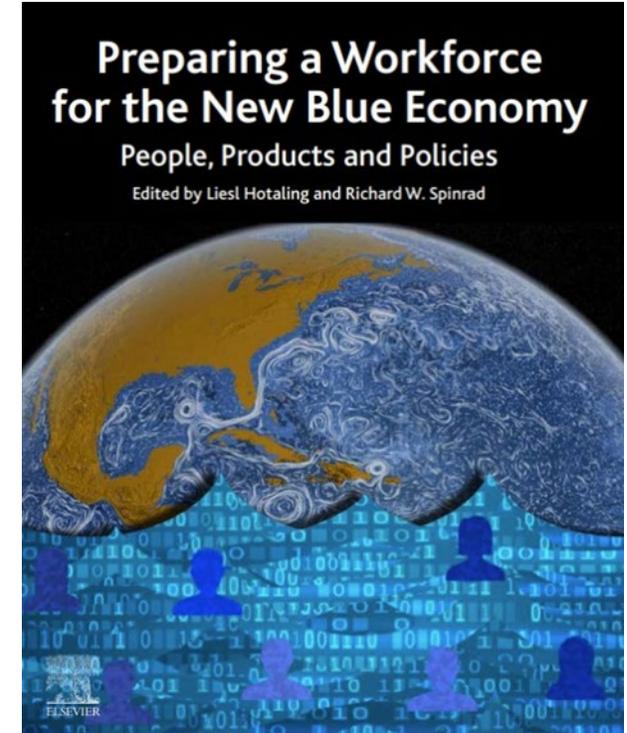
A New Blue Economy is a knowledge-based economy, looking to the sea not just for extraction of material goods, but also for data and information to address societal challenges and inspire their solutions (Spinrad, 2016).

New Blue Economy Resources

The Ocean Enterprise Study 2015 -2020



Preparing the Workforce for the New Blue Economy



New Blue Economy Needs

Prepare more technicians than PhDs to fulfill the projected jobs.

Many of these jobs will not require advanced degrees in engineering or science but rather skills and competencies focused credentials.

Specific understanding and capabilities supporting technical competencies common to the industries they serve.

Open the aperture – the NBE requires interdisciplinarity

New Blue Economy Case Study

To offer some specificity, let's focus on one component of the Blue Economy – Shipping – and how Shipping could be enhanced through the lens of the New Blue Economy.

In 2017 the Columbia River saw over 1500 ship visits which must pass under five bridges in a 42 foot deep (a little less than 13 meters) shipping channel to reach port, with consideration factors such under-hull clearance, air gap (under bridges).

A reliable predictive model of all the environmental factors (tides, currents, winds, waves, salinity, etc.), coupled with a vessel-specific load-out model would be of enormous value to the shipping community.

And of course supply chain and decarbonization solutions!

New Blue Economy

Job	Role/Skills
Scientists Ocean Atmosphere Climate Agriculture	Scientists and engineers work together to develop the observation networks, analyze resulting data, work to produce forecasts and other applications of the data sets. These scientists and engineers are primarily hold Ph.Ds., therefore years of training and honed technical skills and abilities.
Engineers	
Data modeler, Data visualization, Data Management	These jobs range in technology skills and range in education requirements (A.S. – M.S), however the ability to work in transdisciplinary teams is essential.
Data translator, Data Communicator	Translating and communicating data sets to non-expert users is the lynchpin for utilizing data sources. These jobs require skills in technology, science, engineering, education and psychology, however usually degrees (B.S – Ph.D. focused in one or more fields).
User experience (UX) designer	These jobs range in skill specificity from coding to customer facing skills and range in education requirements, however technology skills and ability to work in transdisciplinary teams are essential.
Sensor developer	These jobs range in technology skills, science and engineering background, but tend to be transdisciplinary individuals. Education requirements range (A.S. – M.S), however the ability to work in transdisciplinary teams is essential.
Technicians <ul style="list-style-type: none"> • Sensor • Platform • Communications 	These jobs range in technology skills and science background, but tend to be transdisciplinary individuals. Education requirements range (A.S. – M.S), however the ability to work in transdisciplinary teams is essential.
Farmer	Data literacy and data management skills to access and apply climate and weather data, respond to field sensor data, optimize growing season and yield through data applications.
Transportation Logistics <ul style="list-style-type: none"> • Ocean • Rail • Road • Port operations 	Port workers and supply chain management (H.S. diploma – Master’s) involve a great deal of data management. Data provided by IOOS and observing systems around the world provide the underpinning data for port logistics for port operations, which is coupled the rail, road and weather conditions to move goods.
Ship Captain	Navigating a ship from open ocean to the dock depends on having the necessary real-time and forecast environmental information in varying situations. Not only do they need to understand these data, but be prepared to respond quickly to changing situations. Education requirements range (H.S. diploma – Master’s), however require years of on the job experience and training.
Harbor Pilot	
Coast Guard	Data literacy skills to apply real time ocean and weather data for search and rescue and other emergency situations.
Harbor Police	Data literacy skills to apply real time ocean and weather data for search and rescue and other emergency situations.

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Data is the driver

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You are the solution

You are the New Blue Economy

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