PRIMRE

NREL NATIONAL RENEWABLE ENERGY LABORATORY

Pacific Northwest NATIONAL LABORATORY

Sandia National Laboratories

PRIMRE Workshop Breakout Group

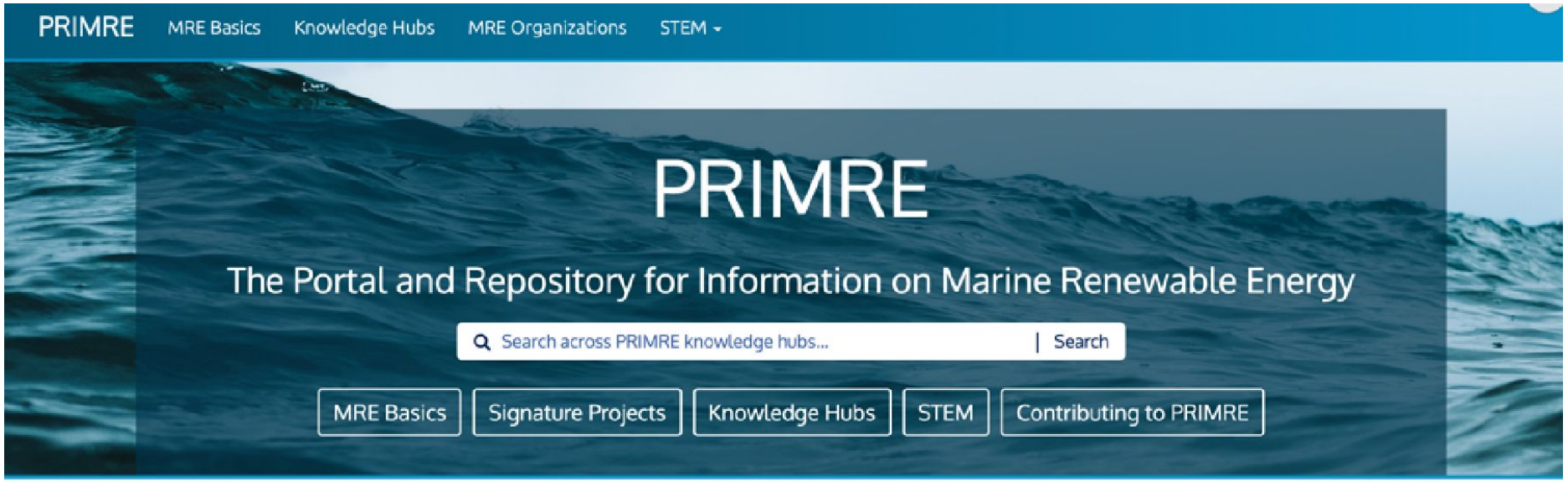
Introducing MRE Software

Hosted by Kelley Ruehl, Mat Topper, and Cesar Castillo
(Sandia National Laboratories and Data Only Greater)

Ocean Renewable Energy Conference
September 24, 2021

U.S. DEPARTMENT OF ENERGY

PRIMRE (Portal and Repository for Information on Marine Renewable Energy)



PRIMRE seeks to provide broad access to engineering, resource characterization, and environmental effects information on marine renewable energy projects to facilitate the commercial development of the MRE industry.

https://openei.org/wiki/PRIMRE

PRIMRE Knowledge Hubs

1. Tethys
2. Tethys Engineering
3. Marine Energy Projects Database
4. **MRE Software**
5. Telesto
6. Marine Energy Atlas
7. MHK Data Repository

https://openei.org/wiki/PRIMRE/Knowledge_Hubs

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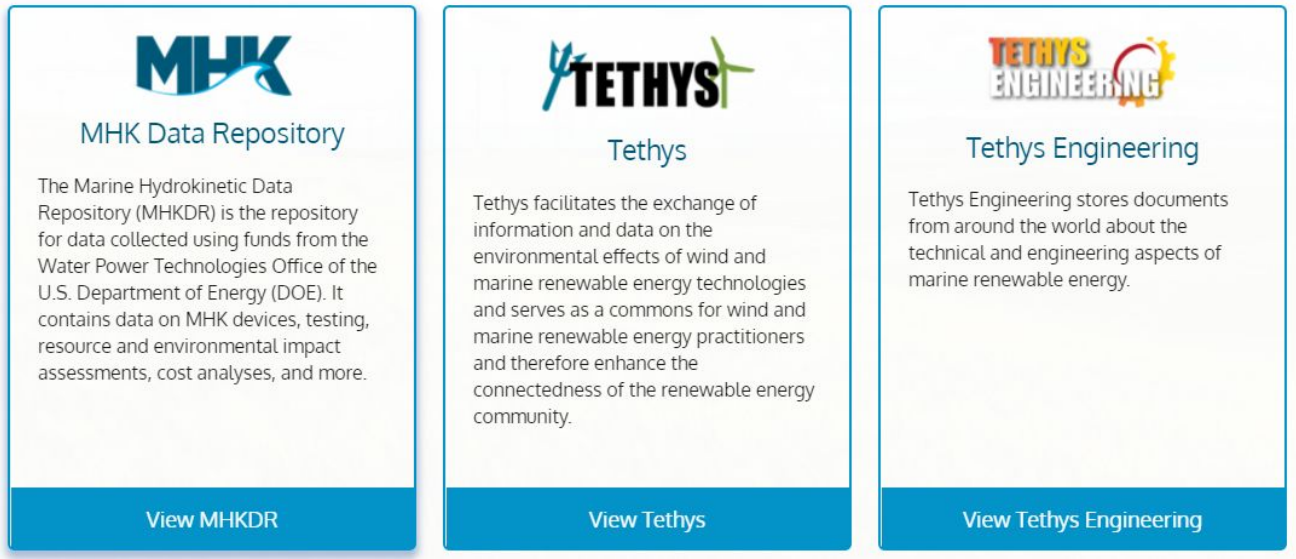
PRIMRE Knowledge Hubs

- ***Marine and Hydrokinetic Data Repository (MHKDR)*** hosts data collected by WPTO funded R&D, including device testing data, resource characterization data, etc.

- ***Tethys*** hosts over 6,700 documents on the environmental effects of wind and MRE development and supports Ocean Energy Systems' Environmental initiative.

- ***Tethys Engineering*** hosts over 4,800 documents on the engineering and technical aspects of MRE development, as well as a library of MRE photos for third-party use (2019)

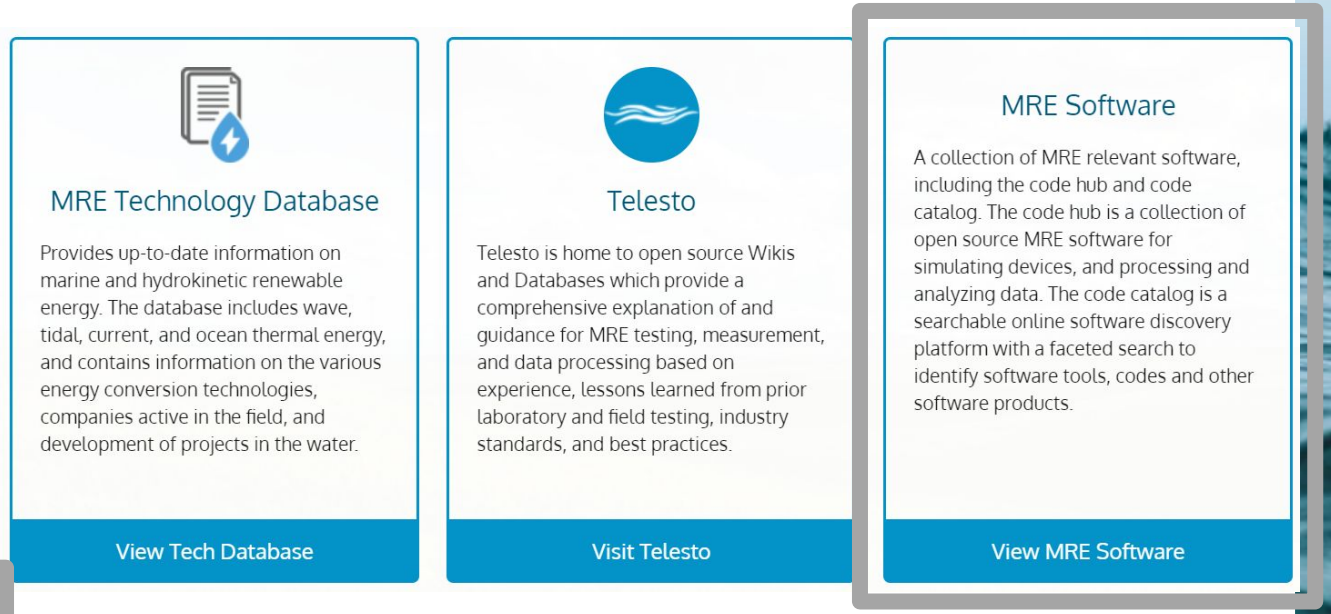


PRIMRE Knowledge Hubs

- ***MRE Technology Database*** contains information on MRE devices, points to companies active in the MRE field, and traces the development of projects around the world (2020)

- ***Telesto*** is a collection of information and guidance for testing, measurement, and data analysis for MRE research, development, and demonstration (2020)

- ***MRE Software*** **is a collection of software relevant to MRE development, including the *MRE Code Hub* and *PRIMRE Code Catalog* (2020)**



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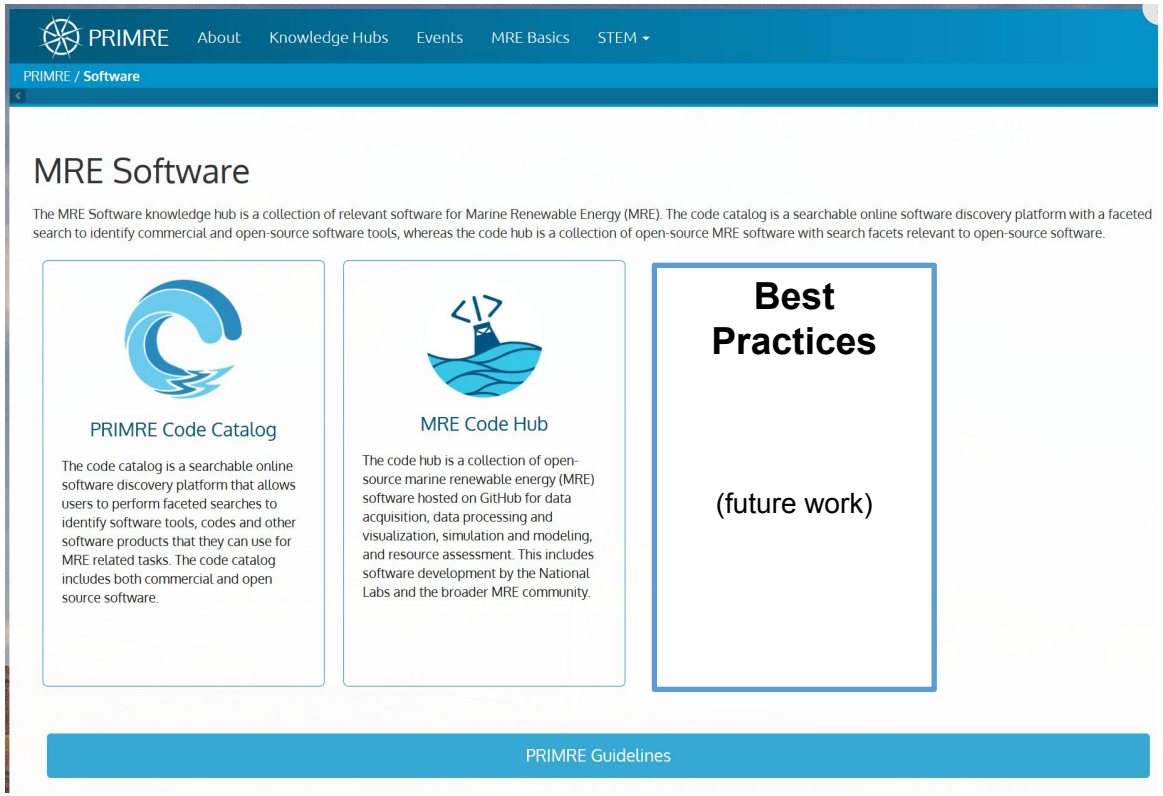
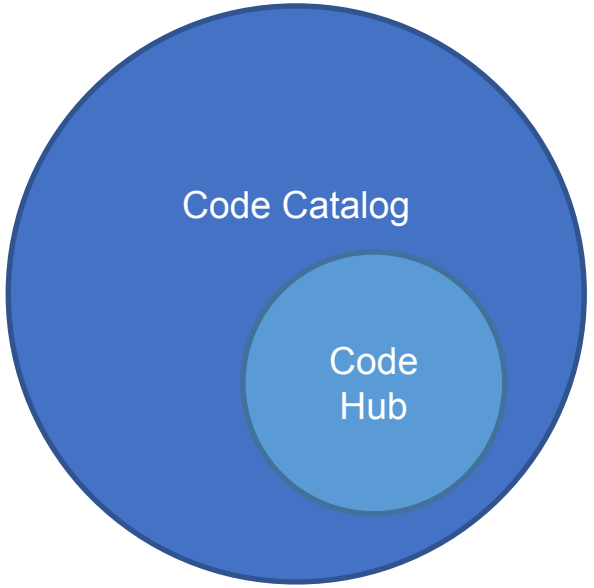
MRE Software Knowledge Hub



All MRE software, commercial and open-source

Open-Source MRE software (on GitHub)

Software development best practices

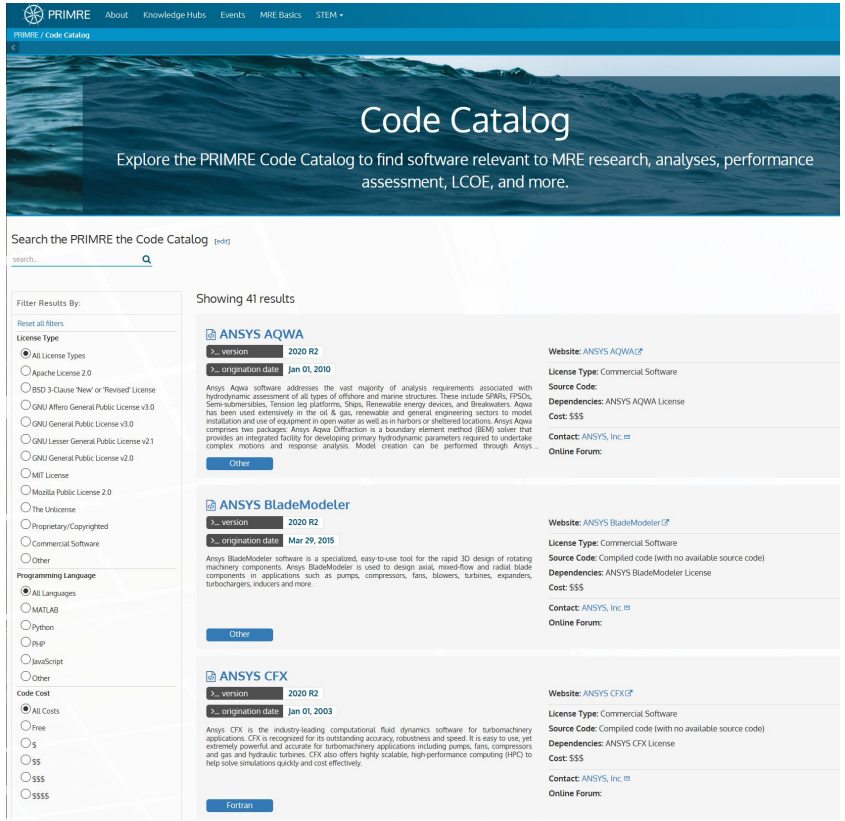


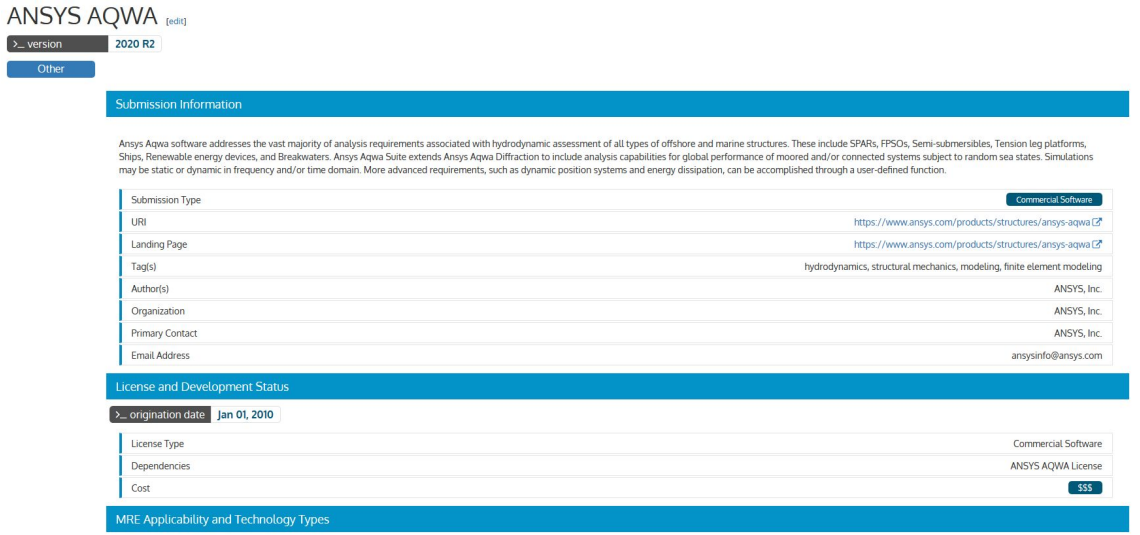
https://openei.org/wiki/PRIMRE/Software

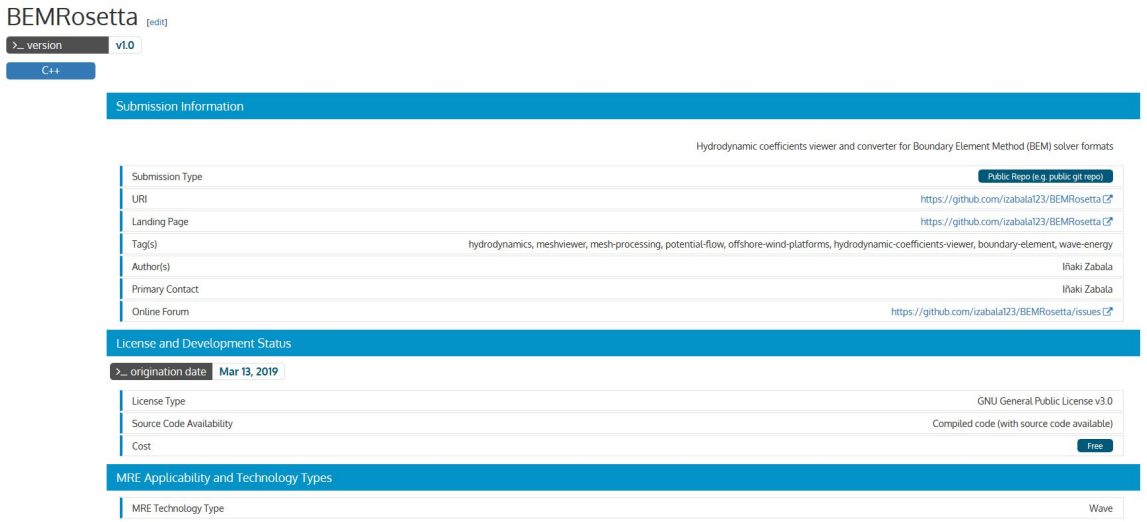
PRIMRE Code Catalog

https://openei.org/wiki/PRIMRE/Code_Catalog

Searchable online software discovery platform with search facets for all MRE relevant software







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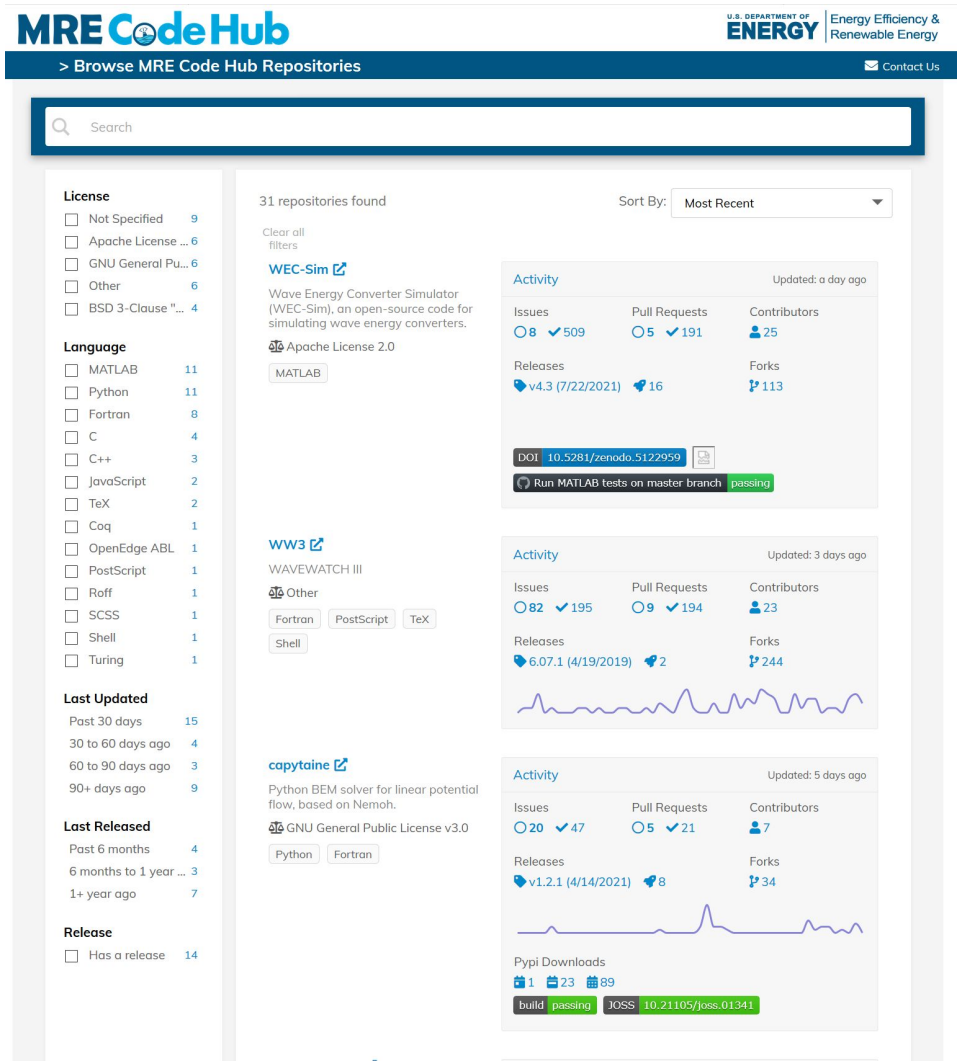
MRE Code Hub https://mrecodehub.org/

GitHub repository for open-source MRE software, includes a landing page with search functionality



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MRE Software

What MRE software do you/your organization use or develop?

Is there any specific MRE software or supporting tools that are not available as either commercial or open-source products? If so, which would be the most important to produce?

Q&A on the Jamboard

Code Catalog

https://openei.org/wiki/PRIMRE/Code_Catalog

What information would you like to find when searching for MRE software packages to use?

When searching for software for your use-case, which categories would you like to filter by?

Which search terms might you use to find a software package?

Which features of the code catalog are superior to searching using a general engine (like Google) and which are worse?

Q&A on the Jamboard

Code Hub https://mrecodehub.org/

As a software developer, what information would help you choose open-source software packages?

When searching for software to develop, which categories would you like to filter by?

Which search terms might you use to find a software package?

How would you like to sort the results of your searches?

Would it be useful to extend the functionality to software stored on other open-source repositories (e.g. GitLab, sourceforge)?

Q&A on the Jamboard

Thank you!

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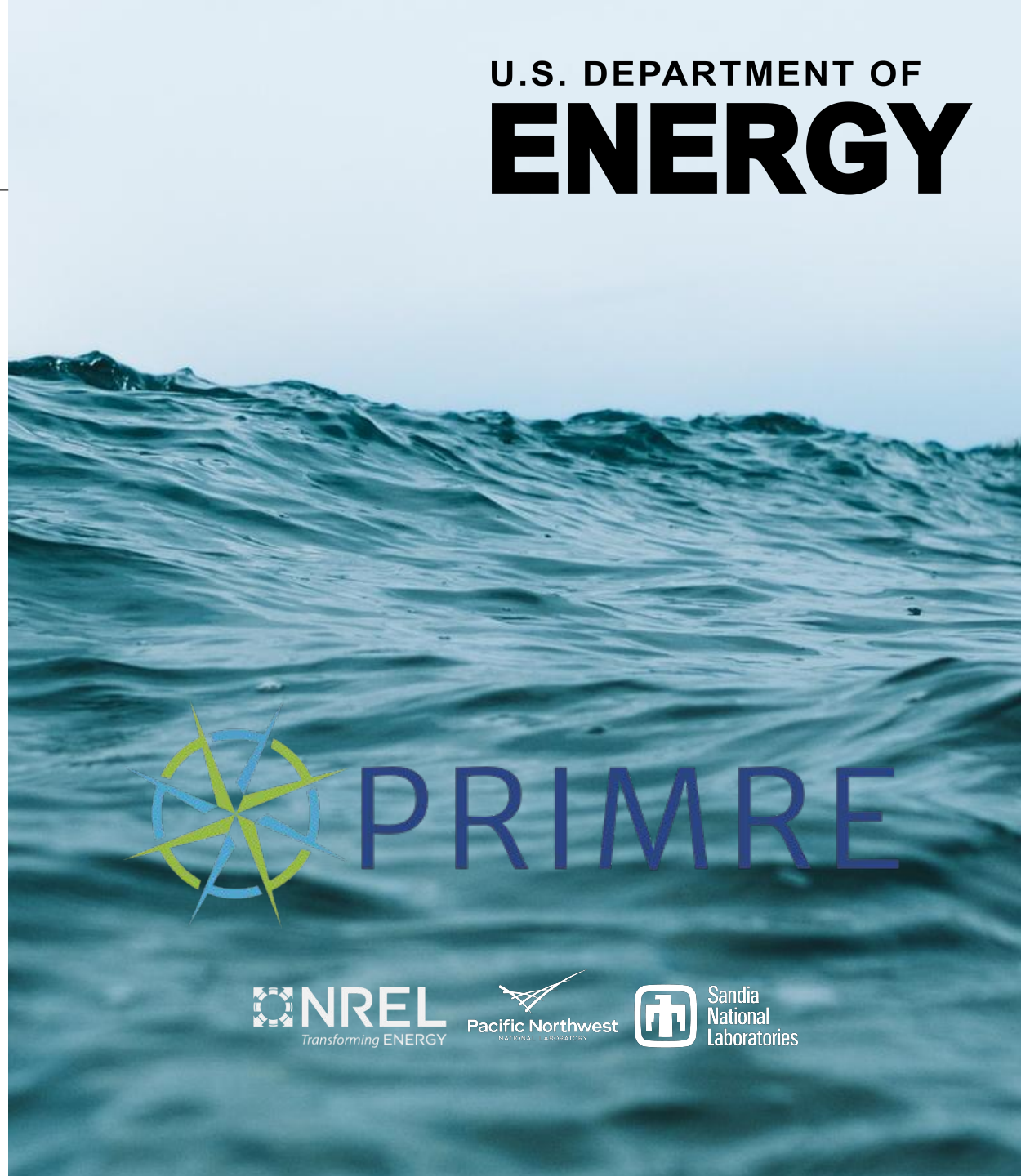

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