## News Release

# New Tool Allows Users to Explore Islands Worldwide

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A new tool that gives users the most detailed view yet of the world's islands is now available from the USGS and Esri. And it's as close as your computer or cellphone.

The Global Islands Explorer (GIE) is an online app that can help a variety of users, from researchers to policy-makers to the interested public, to locate and access basic information on hundreds of thousands of islands across the globe. The GIE is a web-based tool that allows the user to search for islands by name or by zooming in on a map of global islands. The island coastlines can be displayed on top of a number of different backdrop images like topographic basemaps, satellite imagery, or an uncluttered light grey canvas. When the user clicks on an island, its name, size, size category, coastline length, and underlying continental plate are provided. The GIE tool is a window into a new public domain global islands dataset produced by the USGS in collaboration with Esri. Although global islands are depicted and named in viewers like Google Earth, the underlying islands data have not previously been publicly available for use.

**An example display from the Global Island Explorer tool showing the coastline (lime green) of Isla Saona (Dominican Republic) on top of a satellite image basemap.**

"This product allows anyone with access to the Internet to explore where islands are, how big they are, and what continental plate they are attached to", said USGS ecosystems geographer Dr. Roger Sayre, who led the project. The Global Islands Explorer tool contains information on 340,691 islands, including the five continental mainlands, 21,818 islands

greater than 1 $km^2$ (called Big Islands), and 318,868 islands smaller than 1$km^2$ (called Small Islands). “This is the most detailed data on the locations and sizes of the islands of the world available for free to anyone” said Sayre.

Islands are home to diverse ecosystems and wildlife and are valued for their esthetic beauty and recreational offerings. But despite their importance, surprisingly few attempts have been made to map global islands in detail.

The USGS developed the Global Island Explorer in partnership with Esri. They developed the new global islands data by interpreting hundreds of Landsat satellite images from the year 2014. They used machine learning and cloud computing to extract a detailed global shoreline and associated global islands database. The global shorelines work is a first step towards the development of a new global coastal ecosystems map, which has been commissioned by the Group on Earth Observations a consortium of nations seeking to advance the use of earth observations to solve problems faced by society. The new shoreline data will be available for testing and application in a number of GEO activities, including GEO’s Earth Observations for Ecosystem Accounting (EO4EA) initiative.

Full details on how the global islands data were developed and the plans to use the data to map global coastal ecosystems are available in the following peer-reviewed journal article:

Sayre, R., S. Noble, S. Hamann, R. Smith, D. Wright, S. Breyer, K. Butler, K. Van Graafeiland, C. Frye, D. Karagulle, D. Hopkins, D. Stephens, K. Kelly, Z, Basher, D. Burton, J. Cress, K. Atkins, D. van Sistine, B. Friesen, B. Allee, T. Allen, P. Aniello, I Asaad, M. Costello, K. Goodin, P. Harris, M. Kavanaugh, H. Lillis, E. Manca, F. Muller-Karger, B. Nyberg, R. Parsons, J. Saarinen, J. Steiner, and A. Reed. 2018. A new 30 meter resolution global shoreline vector and associated global islands database for the development of standardized global ecological coastal units. *Journal of Operational Oceanography – A Special Blue Planet Edition*: https://doi.org/10.1080/1755876X.2018.1529714

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