The resources in this list pertain to the presentation given on December 7, 2017, titled, "NASA's Search for Water in the Universe".

NASA's Universe of Learning is a program which will integrate NASA's Astrophysics Science Mission Directorate programs, and will advance STEM learning and literacy by creating and delivering a unified suite of education products, programs, and professional development that spans the full spectrum of NASA Astrophysics.

NASA's Universe of Learning is partnering with the Museum Alliance to provide professional development briefings for the informal science education community. These briefings provide current NASA Astrophysics themes, content, and resources to the informal community. These curated lists present the resources described during the briefings. To find the briefings, you can go here: http://universe-of-learning.org/science_briefing

**Video | Herschel: Water | Herschel Space Observatory**

*Notes*: During almost four years of observing the cosmos, the Herschel Space Observatory traced out the presence of water. With its unprecedented sensitivity and spectral resolution at key wavelengths, Herschel revealed this crucial molecule in star-forming molecular clouds, detected it for the first time in the seeds of future stars and planets, and identified the delivery of water from interplanetary debris to planets in our Solar System.

*External Resource URL*: https://www.herschel.caltech.edu/video_item/nhsc2017-003v1

**Chandra: Abell 2597: Weather Forecast Predicts Rain Around Black Holes**

*Notes*: You may have heard of precipitation. It is the fancy name we give to water falling from clouds in the sky, mostly as rain but sometimes as snow, hail or sleet. But would you believe that precipitation is also found in space?


**Chandra Photo Album: Abell 2597**

*Notes*: Abell 2597: NASA's Chandra Observatory Finds Cosmic Showers Halt Galaxy Growth

*External Resource URL*: http://chandra.si.edu/photo/2015/a2597/
NASA's Universe of Learning Science Briefing: December 2017

### NASA Ocean Worlds Website

**Notes:** The story of oceans is the story of life. Oceans define our home planet, covering the majority of Earth’s surface and driving the water cycle that dominates our land and atmosphere. But more profound still, the story of our oceans envelops our home in a far larger context that reaches deep into the universe and places us in a rich family of ocean worlds that span our solar system and beyond.

**External Resource URL:** [https://www.nasa.gov/specials/ocean-worlds/](https://www.nasa.gov/specials/ocean-worlds/)

### Ocean Worlds Infographic

**Notes:** Infographic of bodies in the solar system that are the best known candidates in our search for life.

**External Resource URL:** [https://www.nasa.gov/sites/default/files/thumbnails/image/oceanworlds_infographic_full.jpg](https://www.nasa.gov/sites/default/files/thumbnails/image/oceanworlds_infographic_full.jpg)

### NASA Scientific Visualization Studio

**Notes:** Located at the NASA Goddard Space Flight Center, SVS works closely with scientists to create data visualization products that promote a greater understanding of NASA Earth and space science. Thousands of visualizations are available – with new ones added frequently – and include images, animations and short movies on topics as wide-ranging as NASA science. Browse the collection by theme, as well as search by keyword, mission, instrument, etc. Visualizations can be downloaded in a variety of formats and resolutions.

**External Resource URL:** [https://svs.gsfc.nasa.gov](https://svs.gsfc.nasa.gov)

### Invisible Mars

**Notes:** Invisible Mars is a Science on a Sphere (SOS) and planetarium program that examines the story of water on Mars. NASA’s MAVEN mission (Mars Atmosphere and Volatile Evolution Mission) is providing new information about the atmosphere of Mars and its probable role in the disappearance of Martian water. The module also provides information on past, present, and future Mars missions, In addition to the downloadable script and materials to run the program, the site also provides background information, docent/facilitator tips, and image sets comparing water features on Earth and Mars.

**More info:** [http://nasawavelength.org/resource/nw-000-000-003-946](http://nasawavelength.org/resource/nw-000-000-003-946)

**Resource URL:** [http://lasp.colorado.edu/home/maven/education-outreach/afterschoolsummer-program/invisible-mars/](http://lasp.colorado.edu/home/maven/education-outreach/afterschoolsummer-program/invisible-mars/)

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*These external resources were not reviewed for the NASA Wavelength collection.*