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**No. 60 - Winter 2003**

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## New Spanish Language Astronomy Resources

**Editors Note:** Readers may have noticed that the ASP depends on volunteers to translate this newsletter into a variety of languages. This issue is about a focused effort by two astronomy education providers, the ASP and NASA, to make their most popular resources available in both English and Spanish.

**Part 1: NASA Resouces in Spanish**

**Part 2: ASP Resources in Spanish**

### NASA Resources in Spanish

by Teresa J. Kennedy, Ph.D., NASA OSS Idaho Broker Facilitator, Space Science Network Northwest (S2N2)

Many resources translated in the Spanish language can be found online, at NASA Space Centers and at NASA Educator Resource Centers scattered across the United States. These resources, many of which have been aligned with national standards, appropriate state frameworks and inquiry guidelines, are available online or at NASA Education Resource Centers found nationally.

**Ciencia@nasa**, the Spanish-language companion to NASA's award-winning science@NASA site, features stories from all fields of science, aeronautics and aerospace (<http://ciencia.nasa.gov>). This site contains information regarding space sciences, astronomy, living in space, earth science, as well as physical and biological sciences. It also contains a site called *Thursdays Classroom* <http://www.thursdaysclassroom.com>. Educators can subscribe to a mailing list and receive regular lessons, also posted online in Spanish at <http://ciencia.nasa.gov/>.

Many NASA Centers have provided Spanish-language translations of their educational products. Below is a listing of available resources by Center.

### AMES Research Center (Moffett Field, California)

- **Amesnews**, [http://amesnews.arc.nasa.gov/index\\_span.html](http://amesnews.arc.nasa.gov/index_span.html) disseminates news releases, document and image archives, fact sheets, point-of-contact information and related items to provide access to news releases to Spanish-speaking reporters, the public and educators.
- **NASA Ames Engineering and Science: A curriculum for K-12 in Spanish** <http://ldaps.arc.nasa.gov/Spanish>
- **The Genesis Mission** website is organized into sets about the Genesis mission, the Genesis spacecraft, and about different disciplines in science. <http://www.genesismission.org/educate/kitchen/resource/factsheets/index.html>
- **Lego Design and Programming System** ♦ Engineering and Science: A curriculum for K-12 <http://ldaps.arc.nasa.gov/Spanish/>
- The **Center of Excellence Science Information and Technology** [http://www.arc.nasa.gov/spanish/s\\_computing.html](http://www.arc.nasa.gov/spanish/s_computing.html)
- **Bilingual Women of NASA** The Women of NASA project has assembled an outstanding website containing historical information, women of NASA profiles, chat opportunities and ESL materials. <http://quest.arc.nasa.gov/women/espanol/intro.html>
- **Robin Whirlybird** is an online, interactive book about one girl's visit with her mother to the rotorcraft research center where her mother works written in English, Spanish and Chinese. <http://quest.arc.nasa.gov/test/rotorcraft>

### Goddard Space Flight Center (Greenbelt, Maryland)

- **The Sun Earth Day Kit** <http://sunearthday.nasa.gov> contains materials that provide a basic understanding of the dynamics of the Sun, of the aurora, and of the turbulent space around Earth.
- **Mission to Geospace** <http://www-istp.gsfc.nasa.gov/istp/outreach/conexion.html> This site contains links to several

individual sites dealing with Geospace.

- **Star Gazers** Solar Terrestrial Probes/Living With a Star Education & Public Outreach <http://stargazers.gsfc.nasa.gov/> (choose Spanish version and enter site).
- **Solar storms** poster can be found at <http://www-istp.gsfc.nasa.gov/istp/outreach/cmeposter/spindex.html>
- **Star child** <http://starchild.gsfc.nasa.gov/docs/StarChild/translations.html>
- **Star Gazers** from Goddard <http://www-spf.gsfc.nasa.gov/stargaze/Meclipt.htm> <http://www-istp.gsfc.nasa.gov/stargaze/Mintro.htm>
- **The Exploration of the Earth's Magnetosphere** found at <http://www-istp.gsfc.nasa.gov/Education/MIntro.html> contains an overview of space research on the Earth's environment in space. The description, provided in both English and Spanish, is non-mathematical but quite detailed.
- **From Stargazers to Starships** <http://www-istp.gsfc.nasa.gov/stargaze/Mintro.htm>
- **The Great Magnet The Earth** <http://www-istp.gsfc.nasa.gov/earthmag/Mdmagint.htm>
- The **El Niño Primer** contains a Power Point in Spanish available in audio format that explains the ENSO event. <http://nsipp.gsfc.nasa.gov/enso/primer/spanishwelcome.html>
- Constellation of SAC-C, EO1, Terra & Landsat 7 <http://orbis.conae.gov.ar/sac-c>

### Jet Propulsion Laboratory (Pasadena, California)

- The New Millennium Program [http://nmp.jpl.nasa.gov/index\\_flash.html](http://nmp.jpl.nasa.gov/index_flash.html)
- **Deep Space** <http://nmp.jpl.nasa.gov/espanol.html>
- **NASA Kids Space Place** <http://spaceplace.jpl.nasa.gov/espanol> which contain information and materials from all NASA missions and enterprises.
- **Toll-free Question Phone** line (866) 575-6178 Contains prerecorded answers to many frequently asked questions about space or space exploration, adding a new question each month. The recorded message is available in both English and Spanish.
- **Greetings to the Universe** can be accessed in 55 Different Languages <http://vraptor.jpl.nasa.gov/voyager/lang.html>.
- **Cassini Mission to Saturn Fact Sheet** [http://eis.jpl.nasa.gov/cassini\\_epo/gallery/products/pdfs/cassini\\_msn\\_espanol.pdf](http://eis.jpl.nasa.gov/cassini_epo/gallery/products/pdfs/cassini_msn_espanol.pdf)
- **Search for Origins Project** created the **Genesis Facts Sheets** in Spanish found at <http://www.genesismission.org/educate/kitchen/resource/factsheets/index.html>
- **Infrared Processing and Analysis Center** <http://www.ipac.caltech.edu/Outreach/Edu>. The website provides images and information about infrared astronomy projects that have been and currently are being supported by IPAC. The site is translated into Spanish at <http://ipac.jpl.nasa.gov/SIRTFspanish/index.html>.

### Johnson Space Center (Houston, Texas) has some collaborative projects in Texas.

- **Topex Poseidon Coloring and Activity Book** on-line in Spanish **by the Texas Space Grant Consortium** <http://www.tsgc.utexas.edu/topex/spanish/coloring>
- **StarDate Universo Guide** in Spanish was created by the McDonald Observatory at the University of Texas at Austin. <http://www.radiouniverso.org>

### Kennedy Space Center (Cocoa Beach, Florida)

- **NASA Kennedy Space Center News en Español:** Links to biographies of Spanish Astronauts, bilingual women at NASA, employment at NASA, interplanetary exploration, the search for extraterrestrial intelligence, and much more! This site contains many links to translated information in Spanish. <http://www-pao.ksc.nasa.gov/kscpao/spanish/spanish.htm>

### Langley Research Center (Hampton, Virginia)

- **Functions and Statistics: Dressed for Space** is a NASA Connect Lesson Guide that corresponds to the 2002-2003 NASA Connect Series. <http://connect.larc.nasa.gov/lessonguides.html>
- The Solar Website is available in pages in Spanish, French, Italian, Portuguese or German, you can easily do so by installing the "Babel Fish" on your browser. <http://www-sage3.larc.nasa.gov/solar/siteinfo.html>

### Marshall Space Flight Center (Huntsville, Alabama)

- NASA Kids, a product of Science @ NASA is located at <http://kids.msfc.nasa.gov/> and contains selected items translated in Spanish on a link Nueva Ciencia La NASA Kids Historias <http://kids.msfc.nasa.gov/sp/News/> including stories about Mossy Spirals, Earthgazing, In Search of Moon Trees, A Close Look at Launch, Skeletons in NASA's Closet!, The First Day of Autumn, The Real Lord of the Rings ♦ Saturn, Mixed up in Space and more.

- **A Little Rock on Mars** is a story dedicated to the Mars Pathfinder Team is translated into Spanish, German, Japanese, Portuguese, Czech, Catalan, French, and Italian. <http://kids.msfc.nasa.gov/Sites/ExternSite.asp?url=http%3A%2F%2Fes%2Ejpl%2Enasa%2Egov%2F%7Eskientz%2Flittle%5Frock%2F>

## Stennis Space Center (South Mississippi)

- **Stennis es**, <http://www.ssc.nasa.gov/about/stennis/stennis-es.html> is an online introduction to NASA's Stennis Space Center, which conducts propulsion testing and remote-sensing research on the Mississippi Gulf Coast.

**NASA Core** manages the distribution of many educational materials that can be purchased <http://core.nasa.gov/index.html> and a complete catalog can be viewed at

<http://catalog.core.nasa.gov/core.nsf/f402529750e8ecca8625670b007b1dce/5e69d814409bbec786256bea006da480?OpenDocument> Titles translated in Spanish include:

- **Winning: Aerospace ♦ The Next Decade** is a 20 minute video targeted at students introduces students in grades 7-12 to the unique career opportunities in America's aerospace industry.
- **Nuestra Propia Estrella el Sol** - This is the Spanish version of the easy-to-read book Our Very Own Star: the Sun that can also be used in a basic bilingual or Spanish classroom. Item number: 300.1-14P, 2002. Cost: \$ 3.00
- **Our Solar System** is a 29 minute video that teaches the names, orbital positions, and characteristics of each planet using the phrase "my very educated mother just served us nine pizza pies♦", for grades K-4. Each tape contains four versions of the program: English, Spanish, sign language, and open captioned for the Hearing Impaired
- **Star Gaze: Hubble's View of the Universe.** Star Gaze is a DVD that contains over an hour of images of the universe from the Hubble Space Telescope in 2000, plus Dolby Digital and DTS surround sound music from 2002 and provides in depth facts and details about the telescope and what it has found so far.
- **NASA Destination Tomorrow™ 2000-2001 5-PART SERIES** is a 30-minute educational program in Spanish, designed for educators, parents, and lifelong learners by NASA's Center for Distance Learning.

## NASA also has many International Programs that provide educational materials in many languages:

- **The CERES S'COOL Project** <http://asd-www.larc.nasa.gov/SCOOL/>  
CERES - Clouds and the Earth's Radiant Energy System - is a high priority scientific satellite instrument which is now orbiting the Earth as part of NASA's Earth Science Enterprise (formerly known as Mission to Planet Earth). Scientists are using it to study the ways in which clouds may affect the Earth's climate.
- **The International GLOBE Program** <http://www.globe.gov/>  
The GLOBE Program is a hands-on environmental science and education program designed for use in Kindergarten through Grade 12. It is a world-wide network of students, teachers and scientists from over 15,000 schools in 101 different countries and focuses on activities that complement studies in science, mathematics, technology, social studies, and literacy in many languages.

## Summary

Visit NASA's ERCN website at <http://spacelink.nasa.gov/ercn> to find a complete listing of all Educator Resource Centers by state as well as those located on or near NASA Field Centers or at planetariums, museums, colleges, universities, and other non-profit organizations around the United States where you can obtain free NASA educational materials for your classroom as well as information regarding educational training workshops. As additional NASA sites go online, they'll be added to a comprehensive list of Spanish-language Websites being managed on the agency's primary homepage at: <http://www.nasa.gov/hqpao/espanol.html>

Also visit the **Idaho NASA Educators Resource Center** website at [http://www.uidaho.edu/ed/imtc/nasa\\_rerc](http://www.uidaho.edu/ed/imtc/nasa_rerc) for a listing of NASA materials, including materials that have been translated into many languages. Many of the lessons currently being translated are from NASA Explores <http://www.nasaexplores.com> where free weekly K-12 educational articles and lesson plans on current NASA projects can be easily accessed through an internal search engine. Printable and downloadable, these supplemental curriculum resources meet national educational standards in science (NSTA), mathematics (NCTM), technology (ISTE, ITEA), and geography (NGS).

## Author's Footnote:

Dr. Teresa Kennedy, NASA OSS Idaho Broker Facilitator for S2N2 (Space Science Network Northwest) has been assembling a collection of NASA materials translated into Spanish from the various NASA centers since 1996 and is currently translating selected NASA educational materials into the Spanish language with her translation team, representing Spain, México, Ecuador, Colombia and Perú. Many of the lessons currently being translated and enhanced are from NASA Explores <http://www.nasaexplores.com> that provides free weekly K-12 educational articles and lesson plans on current NASA projects that can be easily accessed through an internal search engine. Printable and downloadable, these supplemental curriculum resources meet national educational standards in science (NSTA), mathematics (NCTM), technology (ISTE, ITEA), and geography (NGS). For links to selected translated materials visit the Idaho website at [http://www.uidaho.edu/ed/nasa\\_rerc](http://www.uidaho.edu/ed/nasa_rerc) Contact Dr. Kennedy at [tkennedy@uidaho.edu](mailto:tkennedy@uidaho.edu)

