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Introduction to Remote Sensing: Online Resources

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Several quite useful online resources have been developed throughout the world. Below are links to some of these online Remote Sensing resources.

General Resources

[Landsat 7 Gateway](#) is an official website of the U.S. satellite Landsat 7 launched to acquire remotely sensed images of the Earth's land surface and surrounding coastal regions. This site is maintained by NASA Goddard Space Flight Center in Greenbelt, MD. It features Landsat 7 data characteristics, science and education applications, technical documentation, program policy, and history.

[NASA](#) (National Aeronautics and Space Administration) and its affiliated agencies and research institutions developed a series of research satellites that have enabled scientists to gather remote sensing data.

- [NASA's Ames Research Center](#) is a center for research in intelligent systems, and for applying this research to aerospace problems.
- [NASA Goddard Space Flight Center](#) has a huge resource related to remote sensing including Landsat satellite images and Remote Sensing Tutorials.
- [NASA Planetary Data System](#) archives and distributes scientific data from NASA planetary missions, astronomical observations, and laboratory measurements.

[NOAA](#) -The National Oceanic and Atmospheric Administration conducts research and gathers data about the global oceans, atmosphere, space, and sun, and applies this knowledge to science and service. Its websites provides oceanic and atmospheric information for the public.

[The Land Processes Distributed Active Archive Center](#) (LP DAAC) was established as part of NASA's Earth Observing System (EOS) Data and Information System (EOSDIS) initiative to process, archive, and distribute land-related data collected by EOS sensors, thereby promoting the inter-disciplinary study and understanding of the integrated Earth system. The role of the Land Processes DAAC includes the processing and distribution of ETM+ data acquired by Landsat 7, higher-level processing and distribution of ASTER data, and the distribution of MODIS land products derived from data acquired by the Terra and Aqua satellites.

[The Satellite Encyclopedia](#) is developed by Tag's Broadcasting Services in English and French. The Encyclopedia provides the description of around 2000 satellites searchable by purpose, country of origin and launchers. It also provides a glossary of remote sensing terms.

[The Remote Sensing Platforms and Sensors database](#) is maintained at the website of University of Manchester. The database provides Sensor/Platform details, Sensor Applications, Data Availability, and Images and points to other relevant sites.

[The Analytical Imaging and Geophysics site](#) is maintained by Analytical Imaging and Geophysics Limited Liability Company (AIG), Colorado, which conducts remote sensing and geophysics research, applications, and teaching. This site provides an extended reference to other remote sensing websites including NASA, NOAA, EROS, and ESRI.

Tutorials and Educational Resources

[Remote Sensing Tutorials](#) is an easily accessible and instructive tutorial developed by Dr. Nicholas Short, a former employee at the NASA Goddard Space Flight Center. Dr. Short is the author of numerous books on the subject of remote sensing. This tutorial provides an understanding of the utility of remote sensing data in light of the fundamental principles of electromagnetic energy, especially as they relate to sensor design and function.

[Earth Observatory](#) is a NASA Internet publication on new satellite imagery and scientific information about our home planet. It focuses on Earth's climate and environmental change providing satellite images of the atmosphere, oceans, land, energy, and life.

[The Virtual Geography Department](#) is a project to interlink the curricula of geography departments both nationally and internationally using the Internet and World Wide Web. This project links existing materials already available on the Internet and, has commissioned new materials to address topics not now represented on the Internet.

[GIS Development](#) portal website is a reference point for the GIS community providing industry news, a company directory and reference materials. It also provides tutorials on remote sensing, geographical information systems, global positioning systems, image processing systems, and projection systems.

International Organizations and Institutions

[International Society for Photogrammetry and Remote Sensing](#). This website provides information on international events and symposiums, publications and documentations and links to the member societies and to related educational resources.

[Geoscience Australia](#) is the Australian national agency for geoscience research and geospatial information. This site focuses on geoscience for Australia's offshore and onshore exploration and spatial information.

[Canadian Remote Sensing Society](#) (CRSS) is a non-profit, constituent society of the Canadian Aeronautics and Space Institute (CASI). This site provides resources for technical remote sensing. The publications of the Canadian Journal of Remote Sensing (CJRS) include a newsletter, a Scientific Publications Database, and International Scientific References. Also this site provides "RESORS"- (REmote Sensing Online Retrieval System)- an archived database of over 97,000 international remote sensing references to papers published between 1950 and 1995.

[AmericaView](#) is a consortium to expand remote sensing education through a network of state consortia. The Consortium is assisted by the United States Geological Survey in working with universities that require near-real-time delivery of natural science data over high-speed networks.

[European Space Agency/ESRIN](#) began work in 1975 to combine the aims of the former European Launcher Development Organisation and the European Space Research Organisation. At present ESA has 15 Member States in Europe, plus Canada as a Cooperating State.

[German Remote Sensing Data Center](#) (DFD) provides [Earth Observation Information Services](#) to a broad range of users via the web.

[Japan's Earth Observation Center](#) was opened in 1978 to develop satellite remote-sensing technology to allow observation of the earth and particularly to study the environment and its effects globally. EOC data is received daily from several earth observation satellites, processed by computers and recorded to various media such as CD-ROM and 8mm tape. EOC provides the processed data to data users and researchers both inside and outside of Japan.

Remote Sensing Software and Data Providers

[PCI Geomatica](#) has been providing remote sensing software solutions for over two decades. The company provides an integrated environment for Remote Sensing Image Processing, GIS/Spatial Analysis, Cartography, and Desktop Photogrammetry.

[DigitalGlobe](#) launched the QuickBird satellite in 2001 to provide high resolution satellite imagery and geo-spatial information products to the commercial market.

[Geo Eye](#) is a commercial supplier of information about the Earth derived from space imagery and aerial photography. Its high resolution (one meter) IKONOS satellite was launched in 1999. In addition, the company draws upon the imagery collected by other international platforms. Imagery, radar, vector, as well as

software products on earth environment, and resources are available from the company website.

[Spot Image](#) provides earth observation products for agriculture, cartography, cadastral mapping, environmental studies, urban planning, telecommunications, surveillance, forestry, land use/land cover mapping, natural hazard assessments, flood risk management, oil and gas exploration, geology and civil engineering applications.

[Research Systems](#) provides software, training and consulting for the global remote sensing community. Its ENVI software combines a image processing package for geometric correction, terrain analysis, radar analysis, raster and vector GIS capabilities.