



Promoting Cooperative Solutions for Space Sustainability

Side Event on Legal and Policy Frameworks for: Geospatial Information Management

“availability and accessibility of geospatial information”

Opportunities and Obstacles for Enabling the Use of Geospatial Applications

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Secure World Foundation

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Promoting Cooperative Solutions for Space Sustainability

Secure World Foundation

Secure World Foundation is a **private operating foundation** that promotes cooperative solutions for space sustainability

- Why **space sustainability**? Increasing reliance on space assets coupled with potentially destabilizing trends
- **Our mission:** To work with governments, industry, international organizations, and civil society to develop and promote ideas and actions to achieve the secure, sustainable, and peaceful uses of outer space benefiting Earth and all its peoples

- The Foundation acts as a **research body, convener and facilitator** to examine key space policy topics
 - To promote **international cooperative governance** for increased space sustainability
 - To increase **human and environmental security** by promoting improved governance of the delivery of information gathered from space systems in ways that promote its utility
 - To assist in the **development of effective national and international space policies and laws** both in established and emerging space nations
- Offices located in Broomfield, CO & Washington, DC with 10 staff members

Activities and Partners



UNITED NATIONS
Office for Outer Space Affairs



INTERNATIONAL
ASTRONAUTICAL
FEDERATION

GEO GROUP ON
EARTH OBSERVATIONS



SPACE GENERATION
ADVISORY COUNCIL

Primary “industry” focused on assisting the developing world

- What is it?
 - Long-term solutions to problems by working to improve economic, political and social systems in sustainable way
- How is it carried out?
 - Project lifecycle: planning, implementation, monitoring & evaluation
- Who are the stakeholders?
 - Governmental organizations, intergovernmental/multi-lateral/regional organizations, private donor entities, non-governmental organizations, contracting companies, developing country governments, space agencies, manufacturers and operators

Who are the decision makers?

- No SDG contains goals that weren't already being worked on by professionals around the world
- Need to define and think broadly from citizens to organizations to governments
- Most potential end users are unaware of the possibilities



How are we delivering it?

- What happens when a potential end user googles their specific topic?
- Who isn't represented in this room?
- Are resources being developed that can be understood and acted upon by non-geospatial professionals?



Involving All Stakeholders

- Governmental organizations
- Donor entities
- Intergovernmental/multilateral/regional organizations
- Non-governmental organizations (NGOs)
- Space agencies
- Development contracting companies
- Space manufacturers and operators
- Data analysis businesses
- Non-space related companies
- Academia

BILL & MELINDA
GATES foundation



World Food
Programme



EARTH OBSERVATIONS FOR THE
SUSTAINABLE DEVELOPMENT GOALS

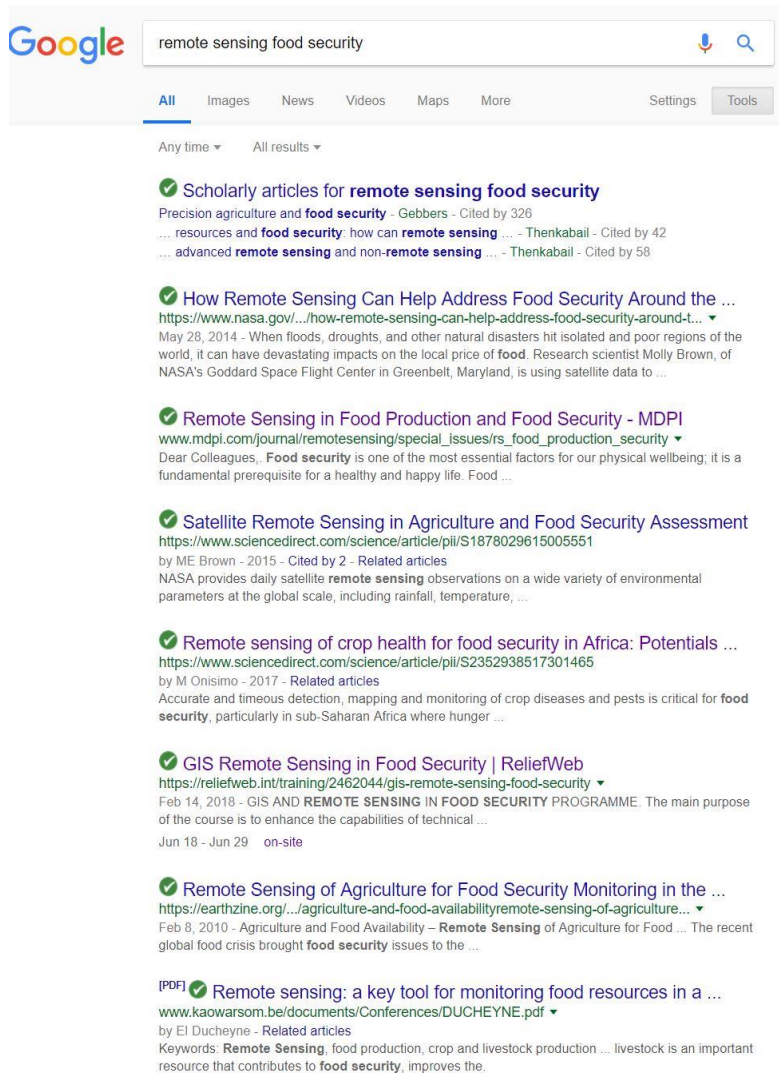


Awareness and use geospatial information is increasing but wide-spread adoption is still slow

- Lack of technical knowledge or training
- Focus on traditional areas of application
- “Inertia”
- Donor skepticism
- Government skepticism
- Time and money
- Data set integration concerns including privacy
- Open data “vs.” Commercial data
- Too much data, not the right data
- Licensing

What happens when you Google it?

Food Security



Google search results for "remote sensing food security".

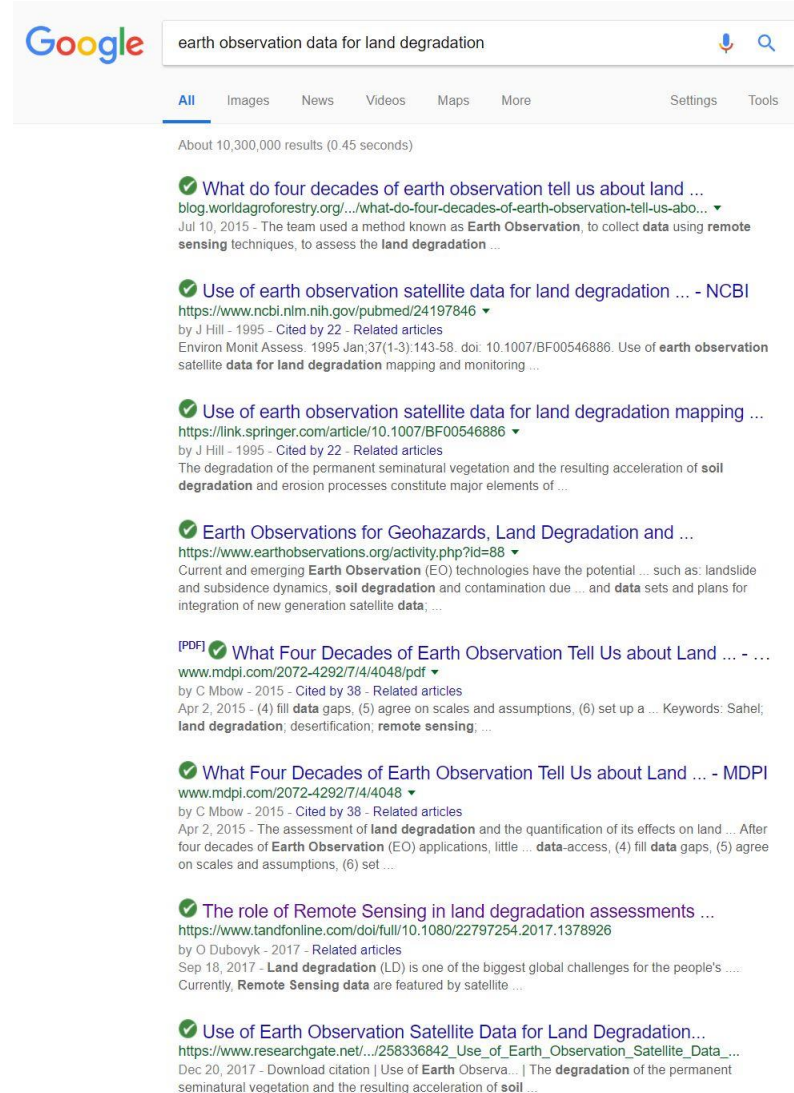
Search query: remote sensing food security

Filters: All, Images, News, Videos, Maps, More. Settings, Tools.

Any time ▾ All results ▾

- Scholarly articles for remote sensing food security**
Precision agriculture and **food security** - Gebbers - Cited by 326
... resources and **food security** how can **remote sensing** ... - Thenkabail - Cited by 42
... advanced **remote sensing** and non-**remote sensing** ... - Thenkabail - Cited by 58
- How Remote Sensing Can Help Address Food Security Around the ...**
<https://www.nasa.gov/.../how-remote-sensing-can-help-address-food-security-around-...>
May 28, 2014 - When floods, droughts, and other natural disasters hit isolated and poor regions of the world, it can have devastating impacts on the local price of **food**. Research scientist Molly Brown, of NASA's Goddard Space Flight Center in Greenbelt, Maryland, is using satellite data to ...
- Remote Sensing in Food Production and Food Security - MDPI**
www.mdpi.com/journal/remotesensing/special_issues/rs_food_production_security
Dear Colleagues, **Food security** is one of the most essential factors for our physical wellbeing; it is a fundamental prerequisite for a healthy and happy life. Food ...
- Satellite Remote Sensing in Agriculture and Food Security Assessment**
<https://www.sciencedirect.com/science/article/pii/S1878029615005551>
by ME Brown - 2015 - Cited by 2 - Related articles
NASA provides daily satellite **remote sensing** observations on a wide variety of environmental parameters at the global scale, including rainfall, temperature, ...
- Remote sensing of crop health for food security in Africa: Potentials ...**
<https://www.sciencedirect.com/science/article/pii/S2352938517301465>
by M Onisimo - 2017 - Related articles
Accurate and timeous detection, mapping and monitoring of crop diseases and pests is critical for **food security**, particularly in sub-Saharan Africa where hunger ...
- GIS Remote Sensing in Food Security | ReliefWeb**
<https://reliefweb.int/training/2462044/gis-remote-sensing-food-security>
Feb 14, 2018 - GIS AND **REMOTE SENSING** IN **FOOD SECURITY** PROGRAMME. The main purpose of the course is to enhance the capabilities of technical ...
Jun 18 - Jun 29 on-site
- Remote Sensing of Agriculture for Food Security Monitoring in the ...**
<https://earthzine.org/.../agriculture-and-food-availabilityremote-sensing-of-agriculture...>
Feb 8, 2010 - Agriculture and Food Availability – **Remote Sensing** of Agriculture for Food ... The recent global food crisis brought **food security** issues to the ...
- Remote sensing: a key tool for monitoring food resources in a ...**
www.kaowarsom.be/documents/Conferences/DUCHEYNE.pdf
by El Ducheyne - Related articles
Keywords: **Remote Sensing**, food production, crop and livestock production ... livestock is an important resource that contributes to **food security**, improves the.

Land Degradation



Google search results for "earth observation data for land degradation".

Search query: earth observation data for land degradation

Filters: All, Images, News, Videos, Maps, More. Settings, Tools.

About 10,300,000 results (0.45 seconds)

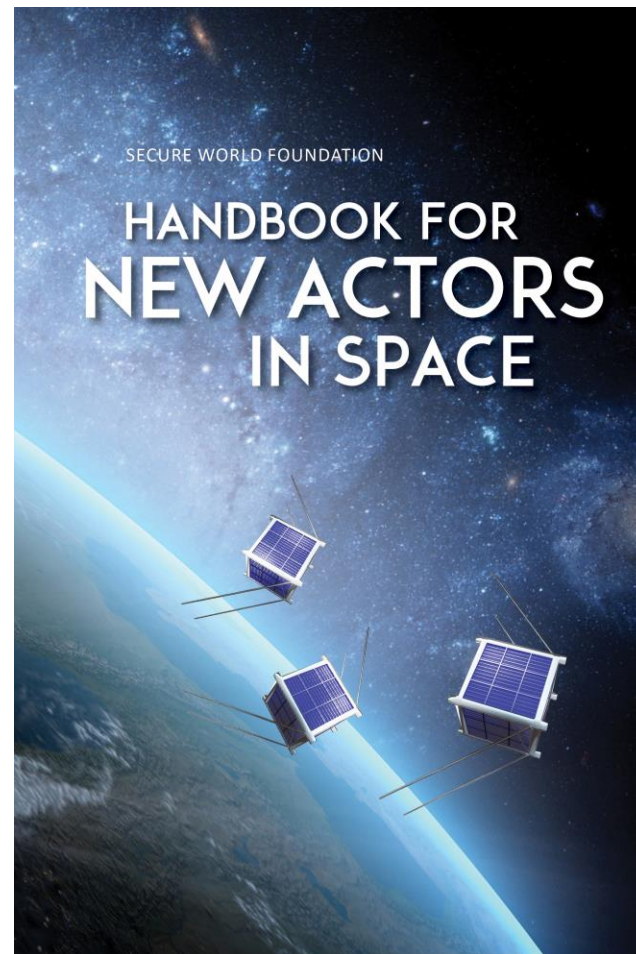
- What do four decades of earth observation tell us about land ...**
blog.worldagroforestry.org/.../what-do-four-decades-of-earth-observation-tell-us-abo...
Jul 10, 2015 - The team used a method known as **Earth Observation**, to collect **data** using **remote sensing** techniques, to assess the **land degradation** ...
- Use of earth observation satellite data for land degradation ... - NCBI**
<https://www.ncbi.nlm.nih.gov/pubmed/24197846>
by J Hill - 1995 - Cited by 22 - Related articles
Environ Monit Assess. 1995 Jan;37(1-3):143-58. doi: 10.1007/BF00546886. Use of **earth observation** satellite **data for land degradation** mapping and monitoring ...
- Use of earth observation satellite data for land degradation mapping ...**
<https://link.springer.com/article/10.1007/BF00546886>
by J Hill - 1995 - Cited by 22 - Related articles
The degradation of the permanent seminatural vegetation and the resulting acceleration of **soil degradation** and erosion processes constitute major elements of ...
- Earth Observations for Geohazards, Land Degradation and ...**
<https://www.earthobservations.org/activity.php?id=88>
Current and emerging **Earth Observation** (EO) technologies have the potential ... such as: landslide and subsidence dynamics, **soil degradation** and contamination due ... and **data** sets and plans for integration of new generation satellite **data**, ...
- What Four Decades of Earth Observation Tell Us about Land ... - ...**
www.mdpi.com/2072-4292/7/4/4048/pdf
by C Mbow - 2015 - Cited by 38 - Related articles
Apr 2, 2015 - (4) fill **data** gaps, (5) agree on scales and assumptions, (6) set up a ... Keywords: Sahel; **land degradation**; desertification; **remote sensing**, ...
- What Four Decades of Earth Observation Tell Us about Land ... - MDPI**
www.mdpi.com/2072-4292/7/4/4048
by C Mbow - 2015 - Cited by 38 - Related articles
Apr 2, 2015 - The assessment of **land degradation** and the quantification of its effects on land ... After four decades of **Earth Observation** (EO) applications, little ... **data**-access, (4) fill **data** gaps, (5) agree on scales and assumptions, (6) set ...
- The role of Remote Sensing in land degradation assessments ...**
<https://www.tandfonline.com/doi/full/10.1080/22797254.2017.1378926>
by O Dubovyk - 2017 - Related articles
Sep 18, 2017 - **Land degradation** (LD) is one of the biggest global challenges for the people's ... Currently, **Remote Sensing data** are featured by satellite ...
- Use of Earth Observation Satellite Data for Land Degradation...**
https://www.researchgate.net/.../258336842_Use_of_Earth_Observation_Satellite_Data...
Dec 20, 2017 - Download citation | Use of **Earth** Observa... | The **degradation** of the permanent seminatural vegetation and the resulting acceleration of **soil** ...

Reaching More End Users

- UN-GGIM as a clearinghouse, a formal mechanism for convening and disseminating access information, new ideas, lessons learned, and best practices
- Continually look to expand participation and cross-collaboration across a variety of including local, national, regional, and international non-governmental organizations, non-geospatial industries, academia, and donors

SWF Handbook for New Actors in Space

- **Goal:** Create a publication that provides an overview fundamental principles, laws, norms, and best practices for safe, predictable, and responsible activities in space
- **Primary audiences:**
 - Countries developing space programs and/or having to oversee and regulate their first satellites
 - Universities and start-up companies that are developing/operating satellites
- **Electronic copies** are available through the SWF website, free of charge:
www.swfound.org/handbook





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Thank you. Questions?

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