The Dark Skies Awareness Programs for the IYA: Involvement, Outcomes & Sustainability

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9th European Symposium for the Protection of the Night Sky
Armagh, Northern Ireland
The International Year of Astronomy 2009...
A Way for Everyone Everywhere to Discover Their Universe

- IYA2009 has acted as a catalyst to mobilize everyone everywhere to look up at the night sky.

- As one of the global cornerstone projects, Dark Skies Awareness endeavors to get everyone everywhere to look up at a dark night sky.
A Way for Everyone Everywhere to Discover their Dark Universe

(Cinzano, Falchi, & Elvidge 2001)
International Dark Skies Task Group

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Canada  
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Carter Smith  Light pollution research with Sky Quality Meters
Chad Moore  National Park Service
Chuck Bueter  Nightwise.org and LetThereBeNight.org
Dan Duriscoe  National Park Service
Dennis Ward  Windows to the Universe / GWWSC
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Raise awareness of the value of dark skies and the importance of its preservation. This is done through:

- **New Technology** (website, podcasts, social networking, Second Life)
- **Educational Materials** (Great Switch Out, a traveling exhibit, brochures, posters, CDs, DVDs, educational kit)
- **The Arts** (photo contest)
- **Events** (Earth Hour, International Dark Sky Week, World Night in Defense of Starlight, Dark Skies Discovery Sites, Sidewalk Astronomy, Nights in the Parks)
- **Citizen Science Programs** (5 star hunting programs & Quiet Skies)
- **Dark Skies Communities** (Starlight Reserves, International Dark Sky Communities)
**New Technology**

**Podcasts:** 10-minute audio podcast about once a month on dark skies programs, events, & resources for IYA. See 365DaysOfAstronomy.org/.

In **Second Life**, as the scene changes from city to suburban to rural to forest, the avatar sees the “magnitude changes” in Orion. In a holodome above this area, there is an urban street that allows visitors to switch between good and bad lighting to see the impact of their actions.

**MySpace** and **Facebook** web pages introduce new audiences to dark sky issues.
Educational Materials

The Great Switch Out: A Homeowner’s Guide to Quality Outdoor Lighting (IDA)

Downloadable posters, brochures & displays on the effects of light pollution on health, wildlife, energy, astronomy, safety and glare control (IDA)

A planetarium program for small and portable domes to advocate dark skies and to introduce participants to outdoor lighting issues. (LTBN)

A 2 DVD set with videos, activities, songs, powerpoints, images & other ancillary materials
Dark Skies Education Kits: Light Shielding Demonstration
The Arts

• The Earth & Sky photography contest is open to anyone in the world who is not a professional photographer.

• The image should express how important and amazing the starry sky is, how it affects our life, and how bad the problem of light pollution has become.

• Led by The World At Night (www.TWANight.org) and the Institute for Astronomy at the University of Hawaii.
Events

• **Earth Hour** - On March 28, 2009, 1 billion people in over 4100 cities & iconic landmarks in 87 countries turned off non-essential lights, conserving energy while allowing the public to see the dark skies from cities. Hosted by the World Wildlife Fund.

• **World Night in Defence of Starlight** was the 1st night of the International Dark Sky Week (April 20 – 26, 2009)

• **Dark Skies Discovery Sites** are in rural locations (e.g. a backyard observatory or a community park or school) where the public can learn about the importance of dark skies. Led by the Astronomical League and in the U.K. by Dark Skies Scotland.

• **Nights in the National Parks** - Throughout 2009, dark sky observing (with light pollution education) will be highlighted from within 24 U.S. National Parks with near-pristine skies.
Citizen Science Programs

- **Great World Wide Star Count**
  - Oct. 9 - 23, 2009
  - Cygnus and Sagittarius
  - www.starcount.org

- **GLOBE at Night**
  - Next: March 3-16, 2010
  - Orion and Sky Quality Meters
  - www.globe.gov/GaN

- **How Many Stars?**
  - All year-round
  - Little Dipper & 3 belt stars in Orion
  - www.sternhell.at/
Citizen Science Programs

- **The Milky Way Marathon (Brazil)**
  - Between 15 and 23 August 2009
  - Between 12 and 20 Sept. 2009
  - Scorpius

- **The Big Aussie Star Hunt (Australia)**
  - Between 15 and 23 August 2009
  - Scorpius
  - [www.starhunt.net.au/](http://www.starhunt.net.au/)
Star-Hunt Campaigns

- Citizen-scientists record the brightness of the night sky by matching its appearance toward the constellation with star maps of progressively fainter stars.

- Measurements are submitted on-line and resulting maps of all worldwide observations are created.
Citizen Science Programs

- **Quiet Skies** is a program where students learn how Radio Frequency Interference blinds radio telescopes at certain frequencies.
  - A kit loan program to schools and museums
  - Participants measure the RFI levels in their communities, enter their measurements into a database, and later results are graphically displayed.
  - Led by the U.S. National Radio Astronomy Observatory. (See [www.gb.nrao.edu/php/quietskies/](http://www.gb.nrao.edu/php/quietskies/))
Dark Skies Awareness Promotes Dark Skies Communities

- **Starlight Declaration** – UNESCO, IAU and colleagues created a formal declaration to recognize that the ability to view a dark sky has been an inspiration to all throughout time and that necessary measures should be implemented to raise public awareness.

- **Starlight Reserve Concept** – A site where a commitment has been made to defend and preserve the night sky quality.

- **International Dark-Sky Communities, Parks & Reserves** - the International Dark-Sky Association & collaborators have established a certification program to promote the establishment of special protection areas for natural night skies.
Dark Skies Programs Around the World

- **Argentina:** GLOBE at Night (Sky Quality Meter measurements), Earth Hour, ordinances for protection of the night sky @ Pierre Auger Observatory, support of the municipality in Malague, RFI protection there too
- **Australia:** GLOBE at Night, Big Aussie Star Hunt
- **Belgium:** Night of Darkness
- **Canada:** trading cards on light pollution; GLOBE at Night
- **Chile:** Approval of the Education Ministry. 14 school municipalities taking SQM measurements year round. And 900 measurements submitted to GLOBE at Night.
- **Columbia:** GLOBE at Night
- **Czech Republic:** GLOBE at Night
- **Finland:** GLOBE at Night
Dark Skies Programs Around the World


- Germany: “How Many Stars” star-hunting program is ready to mass-produce light-meters. For information and orders, visit: http://lightmeter.astronomy2009.at.

- Germany: due to IYA, more politicians speak about light pollution & a particular democratic party wants to take action.

- Germany: book on light pollution published under an IYA logo.

- Greece: hosting a photo contest.

- Hong Kong: A “lights out” event (3000 buildings)

- Hong Kong: over 2000 digital sky brightness measurements at more than 220 observation sites during 15 months in 2008-09.
Dark Skies Programs Around the World

- **Hungary**: targeting Zselic Landscape Protection Area and Hortobâgy National Park to become dark sky parks. Monthly star-hunting hikes at Zselic (140 people sometimes)
- **Iran**: light pollution workshops
- **Japan**: Candle Night
- **Macedonia**: GLOBE at Night
- **Mexico**: Noche de las Estrellas (26 cities; 40,000 in Mexico City); GLOBE at Night
- **Mexico**: promotion of dark sky law in area near the observatory at San Pedro Mátrr
- **New Zealand**: The RASNZ is lobbying 160 groups previously committed to an Urban Design Protocol to include also the care of the night environment in their design and installations.
Dark Skies Programs Around the World

New Zealand: The RASNZ applied to UNESCO to preserve the night sky of South Island Tekapo Community as a World Heritage Starlight Reserve.

- Northern Ireland: interactive game on light pollution for children
- Northern Ireland: 9th European Symposium for the Protection of the Night Sky
- Poland: street light “exhibition”, pamphlets, Astropercent (financed banners for library exhibit), poetry contest (1000 schools), photo contest (prize: weekend in Swieradów Zdrój)
- Poland: commemorative coin prototype, light pollution conference, exhibits in shopping centers, “Science Picnics”, presentations to schools; GLOBE at Night
- Portugal: participation in star hunting programs via GTTP; Noite das Estrelas in July (14 municipalities, >2000)
- Portugal: leaflets on light pollution & good lighting on-line
Dark Skies Programs Around the World

- **Romania:** GLOBE at Night
- **Russian Federation:** participation in “How Many Stars” program
- **Saudi Arabia:** dark skies education at small town star parties
- **Scotland:** Dark Sky Scotland; Dark Sky Discovery Sites launched March 2009.
- **Slovakia:** maps of light pollution in Europe & Slovania; brochures
- **Slovenia:** work with companies on compliance, municipalities on issues, & government on laws, a seminar for the environmental inspectorate, “hotline”, media, exhibitions, Dark-Sky Parks Symposium
- **South Africa:** GLOBE at Night
- **Spain:** light pollution measurements & activities; GLOBE at Night
- **Turkey:** GLOBE at Night
Dark Skies Programs Around the World

• **UK:** Dark Sky Parks/Reserves are being established for Galloway Forest Park and a couple of other National Parks.

• **UK:** Dark Sky Discovery Sites in 8 out of 12 regions/countries. Plans are being put in place to support them through a 2.5 year, $400k program.

• **United States:** “Let There Be Night” program: 3400 measurements by 14 schools during GLOBE at Night; Chuck Bueter finalist for Linden Prize for Second Life efforts.

• **United States:** 475 Sky Quality Meter measurements & 475 Orion measurements during GLOBE at Night in Norman, Oklahoma → lighting inventory for city

• **United States:** Connecticut schools partner with schools in Wales, Canada, Romania and Ohio on GLOBE at Night

• **Uruguay:** star counting activities at schools
Thank-you for your kind attention!
For more information

- Websites of interest:
  - www.darkskiesawareness.org
  - www.globe.gov/GaN

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