NASA Applied Remote Sensing Training Program

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MERRA-2 Applications Workshop, June 19, 2017
Applied Remote Sensing Training Program (ARSET)

http://arset.gsfc.nasa.gov

- Part of NASA’s Applied Sciences Program (NASA HQ), established in 2008.
- Team located at four NASA centers (ARC, GSFC, JPL, MSFC).
- Mission: To empower the global community through remote sensing training
- Target audience: policy makers and other environmental professionals in the public and private sector

Disasters | Ecoforecasting | Health & Air Quality | Water Resources | Wildfires
Applied Remote SEnsing Training (ARSET)

http://arset.gsfc.nasa.gov

Training for environmental professionals to increase use of NASA observational and model data for decision support.

**Online Webinars**
- 1 hr a week, 4-6 weeks
- Live & recorded
- Include demos on data access
- *Advanced webinars*

**In-person Workshops**
- Held in a computer lab for 2 - 4 days
- Focus on data access
- Locally relevant case studies

**Train the Trainers**
- Courses & training manuals for those interested in doing their own remote sensing trainings
Gradual Learning Approach: Training Levels

**Fundamentals**

*Level 0*

- Online only
- Assumes no prior knowledge of remote sensing
- Example:
  - Satellites, Sensors, Data, and Tools for Land Management & Wildfire Applications

**Basic**

*Level 1*

- Online and in-person
- Requires level 0 training or equivalent knowledge
- Specific applications
- Example:
  - Remote Sensing of Forest Cover & Change Assessment for Carbon Monitoring

**Advanced**

*Level 2*

- Online and in-person
- Requires level 1 training or equivalent knowledge
- More in-depth
- Example:
  - Land Cover Classification with Satellite Data
ARSET Participation

9,000+ participants
160+ countries
2,600+ organizations

Participants by Country (2009-2016)

Sectors (2009-2016)

Federal/Central Government, 30.6%
State/Provincial Government, 10.1%
Academia, 37.4%
Non-Profit/NGOs, 8.5%
Private Business, 8.1%
Multinational Organization, 2.5%
Regional/Multi-State Agencies, 0.9%
Tribal, 0.3%
Other, 0.8%
Municipal Government, 0.9%

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ARSET Website: View Webinars

http://arset.gsfc.nasa.gov/webinars
MERRA Applications Training

Focus: MERRA data products for water resources and disaster applications

<table>
<thead>
<tr>
<th>Application</th>
<th>MERRA Product</th>
<th>Time Scale</th>
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</thead>
<tbody>
<tr>
<td>Monitoring Climate Variability</td>
<td>Sea Surface and Land Surface Temperatures, Snow Cover</td>
<td>Monthly, Seasonal</td>
</tr>
<tr>
<td>Monitoring Storms and Extreme Precipitation</td>
<td>Sea Level Pressure, Winds, Rain and Snow rates</td>
<td>Diurnal to Daily (NRT preferred)</td>
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<tr>
<td>Hydrological Model Inputs (e.g. Variable Infiltration Capacity - VIC)</td>
<td>Weather Parameters: Temperature, Humidity, Winds, Surface Net Radiation Flux</td>
<td>Diurnal to Daily</td>
</tr>
</tbody>
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MERTA: Regional Climate Variability

Water Cycle In-person Training, Cartagena, Colombia, November 2011