

Rural Training Center – Thailand (RTC-TH) REEEPP

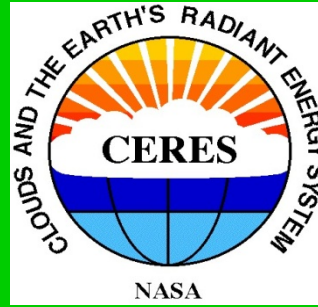
F OCUS

- An innovative, non-traditional community-based environmental education program
- Integrating math, science, geography, English language, and technology lessons for environmental stewardship
- Using interactive experiential learning in outdoor settings at Ban Na Fa Elementary School, Nan Province, Thailand.



Na Fa Elementary School NASA CERES S'COOL Team Training





The RTC-TH developed this lesson as part of the NASA CERES S'COOL Project component of REEEPP





This lesson was originally created when the RTC-TH was a program of ESSI (Earth Systems Science, Inc.), a California educational non-profit organization co-founded by Gregory Lee. In 2006, the RTC-TH was co-founded by Gregory and Saifon Lee as a separate organization.





This is an English Language Training module of **REEEPP**

Rural Environmental Education Enhancement Pilot
Program

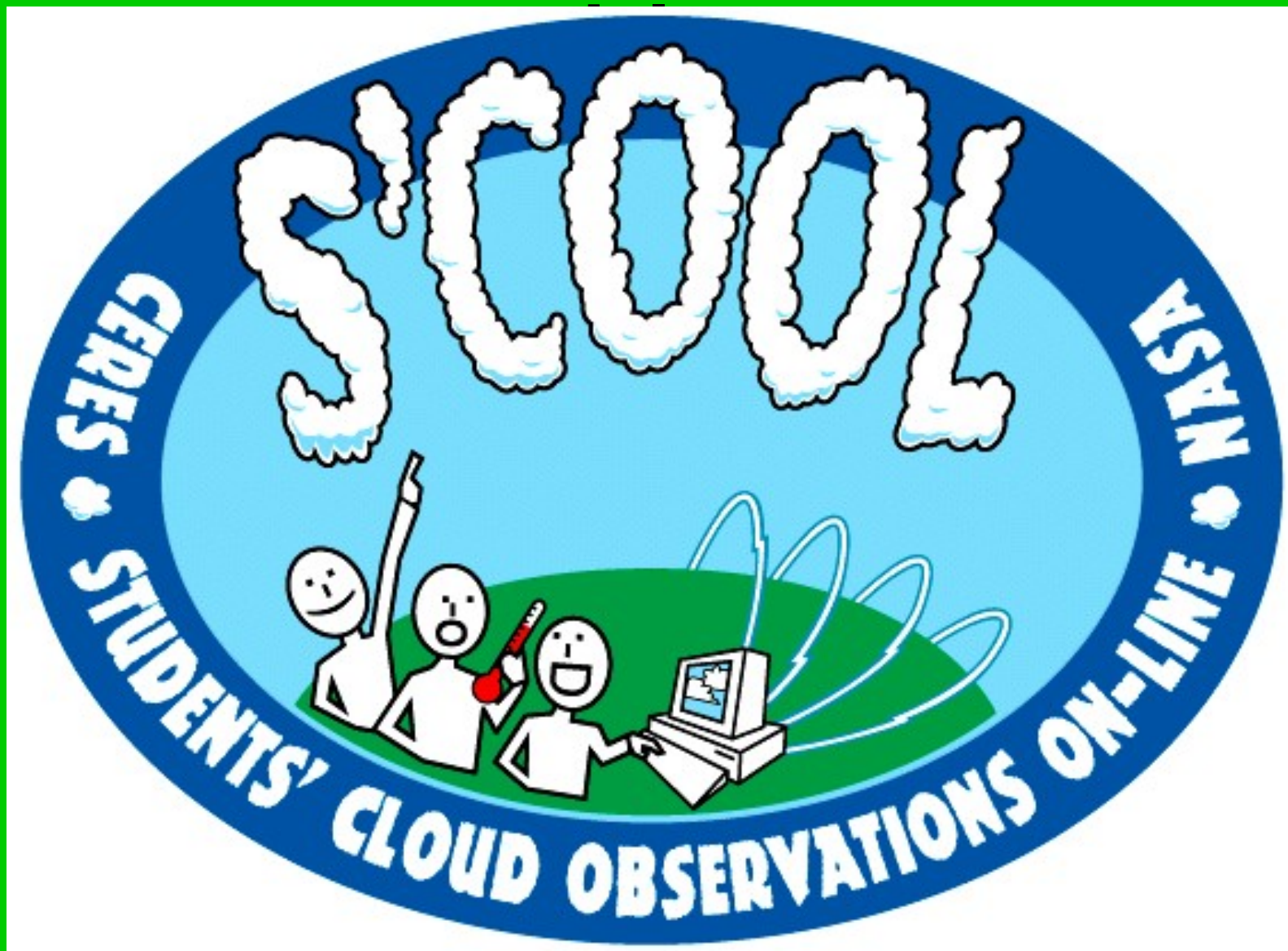
presented by

The Rural Training Center-Thailand

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www.neighborhoodlink.com/org/rtcth



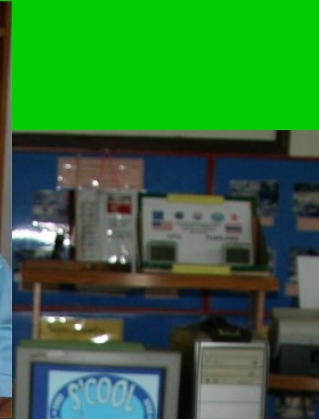


Na Fa Elementary School

is the first school in Nan Province
to participate in S'COOL



The First Training Group



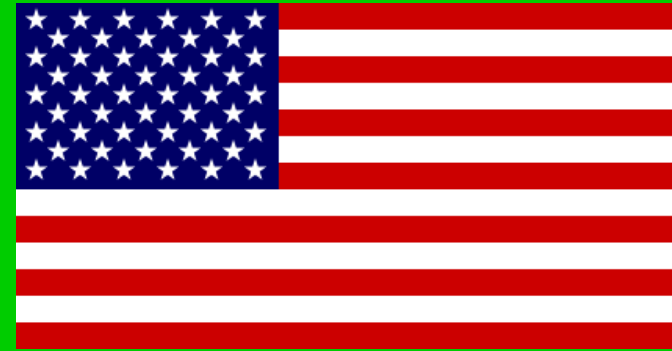
Basic Observations

- Cloud Height & Type
- Visual Opacity
- Cloud Cover
- Surface Cover



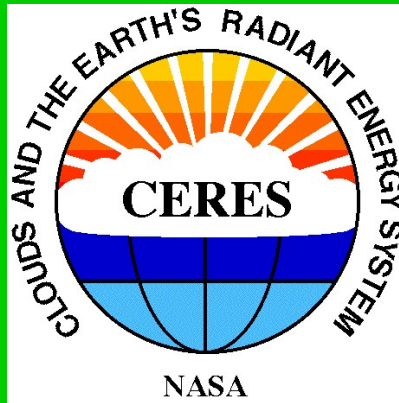


NASA



The National Aeronautics and
Space Administration: the
space agency of the United
States of America





CERES

Clouds and the Earth's
Radiant Energy System: an
international project to study
the effects of clouds on the
Earth's radiation balance.



Teacher Training



All teacher training was done in English.



Training started with studying ESSI PowerPoint Lessons

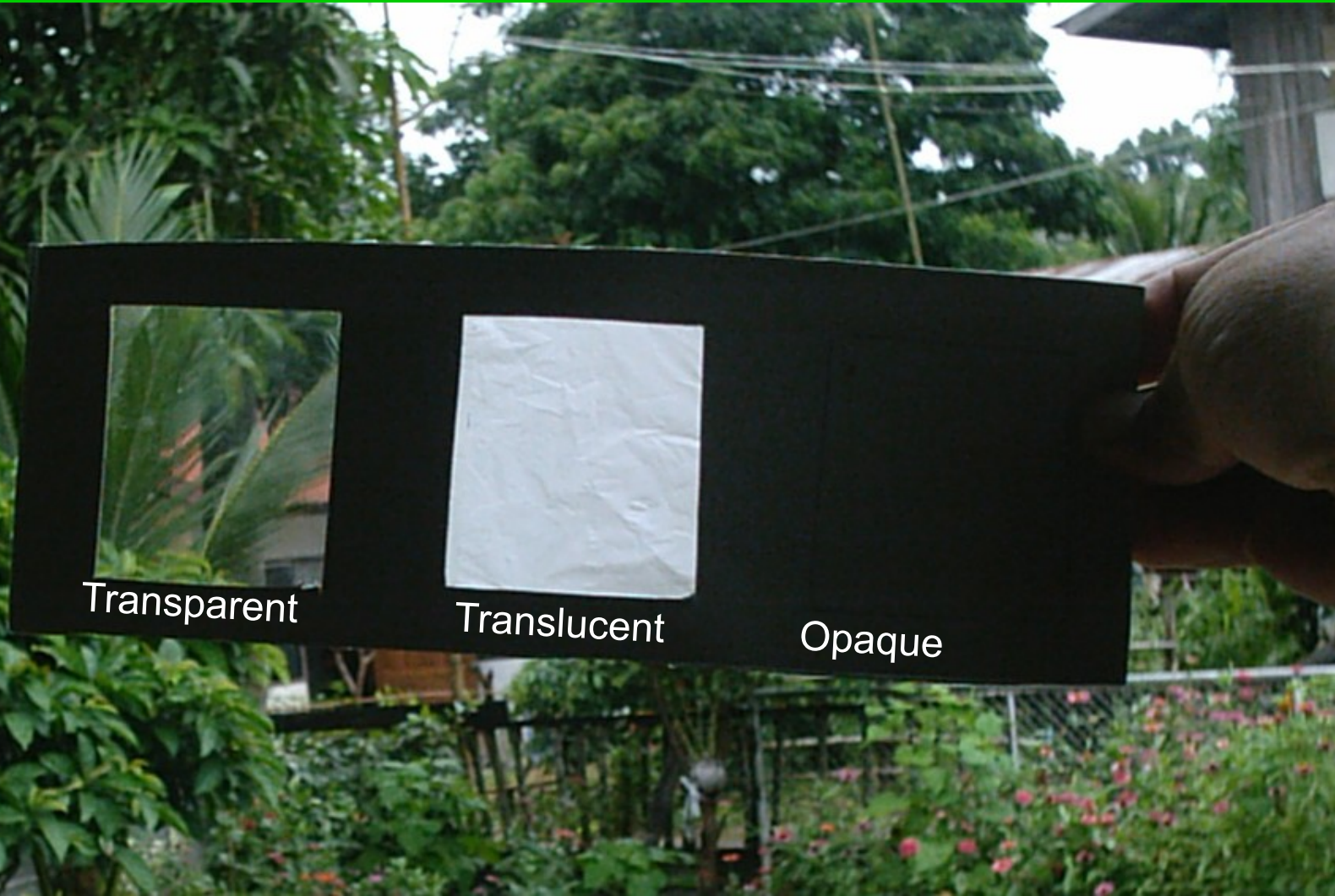
...outdoors, hands-on, interactive



...learning to recognize clouds



...learning to use the ESSI Opacity Guide



Transparent

Translucent

Opaque

...learning to use the Cloud Estimator Dome



N

NE

E

SE

S

SW

W

NW



...learning the Surface Cover types



Reviewing and discussing...



...the
training
notes



...followed by more PowerPoint



...study and reviews

Student Training



The old lab computer was unable to show the orientation PowerPoint



So the training took place in the teaching office



...and continued outdoors for direct observations...



Cloud Heights and Cloud Types



Students used nearby mountains to determine cloud heights...

Middle

High

Low



...then looked at cloud shapes

Stratiform

Cirroform

Cumuloform



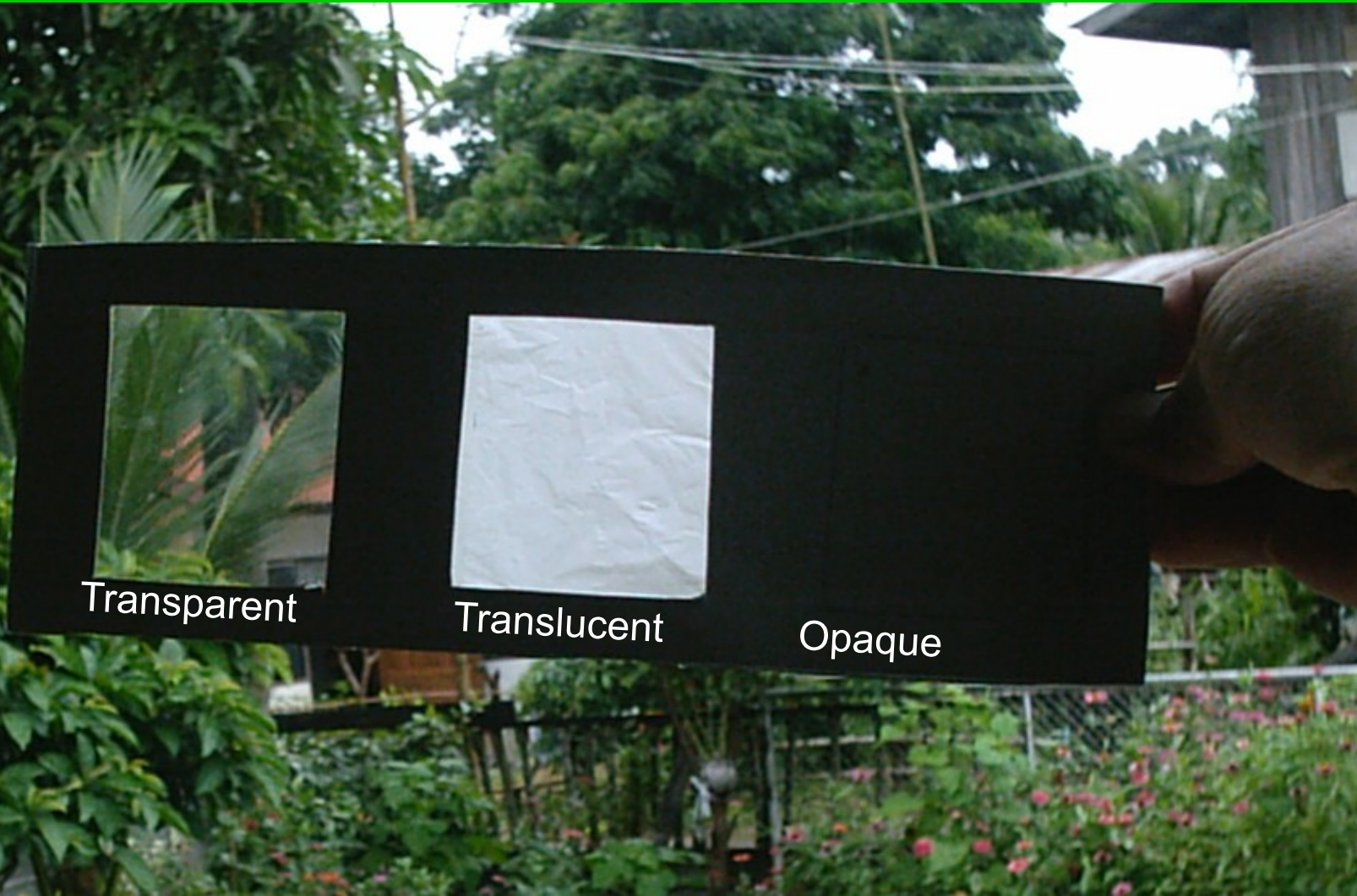
Cloud Visual Opacity



Students learn about Cloud Visual Opacity...



...using the RTC-TH Visual Opacity Guide



Transparent

Translucent

Opaque

Estimating Cloud Cover



Na Fa “Tech” built the Cloud Cover Estimator Dome





N

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The Cloud Estimator Dome



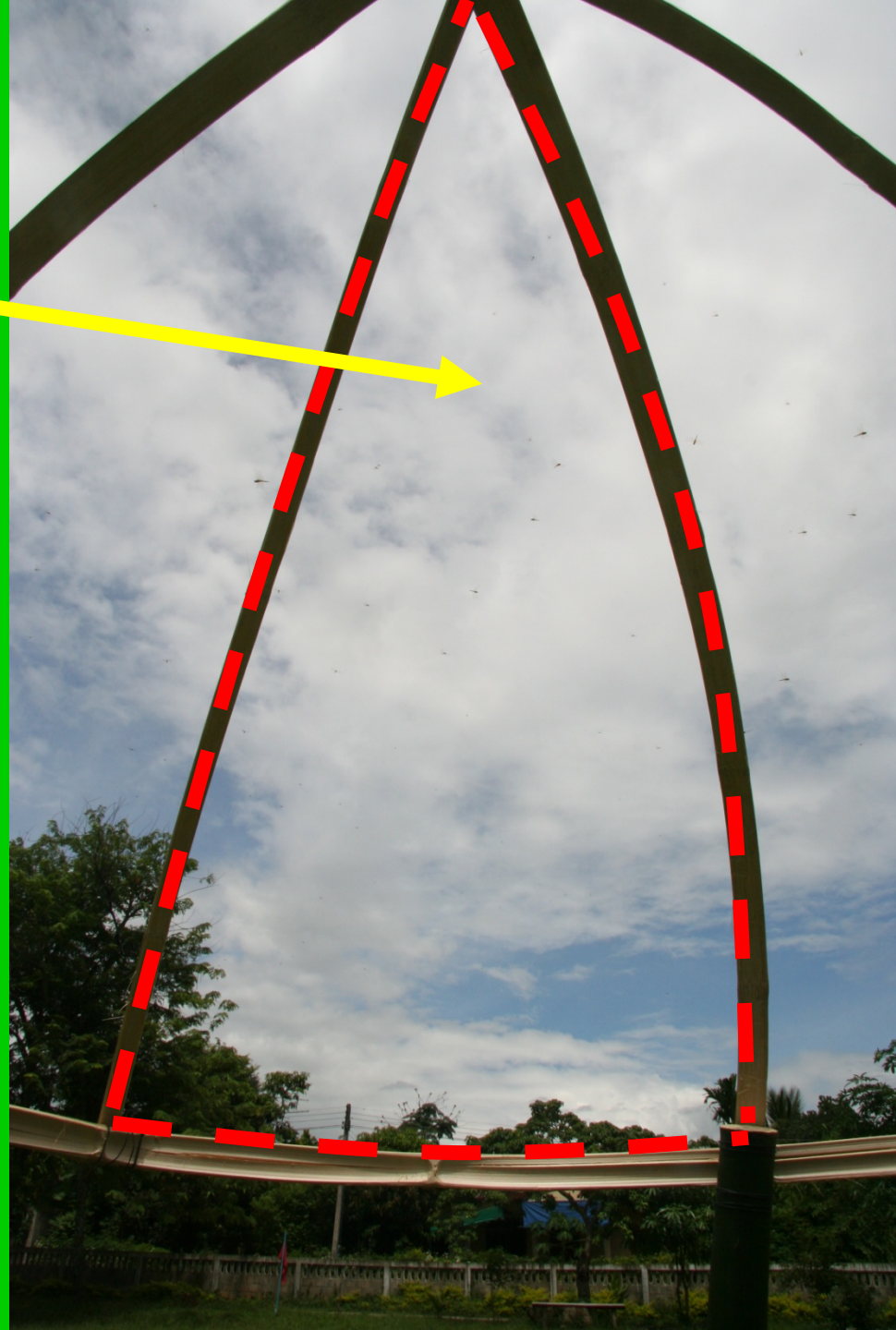
...divides the sky into 8 equal parts making it easier to estimate the % cloud cover.



Observers sit inside the dome viewing all 8 parts of the sky



Since this
frame is
more than
 $\frac{3}{4}$ filled with
clouds, it is
reported as
fully
covered.



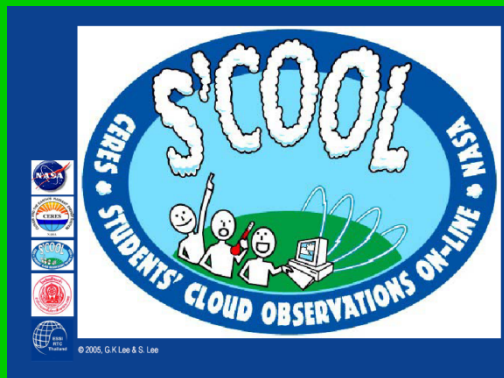
Surface Cover



“Leaves on Trees” is the most common type of surface cover for this area.



ESSI created several training PowerPoint shows for the Na Fa Elementary School NASA CERES S'COOL training.



Cloud Height and Type



Visual Opacity



Cloud Cover



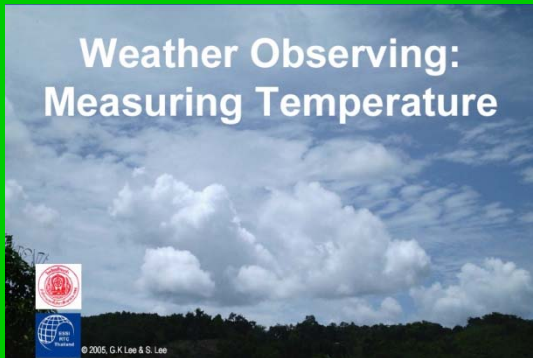
Surface Cover



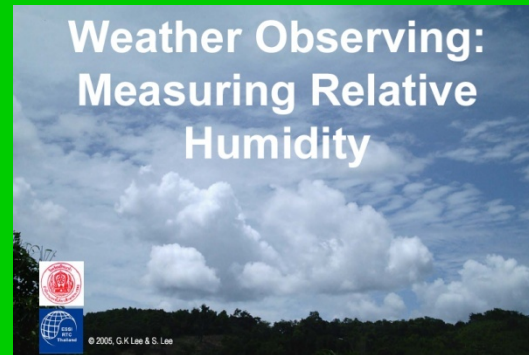
ESSI created several training PowerPoint shows on Weather Observer Training



Weather Observing: Measuring Temperature



Weather Observing: Measuring Relative Humidity



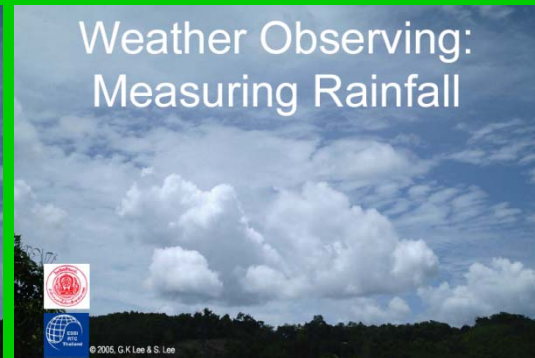
Weather Observing: Measuring Wind Direction



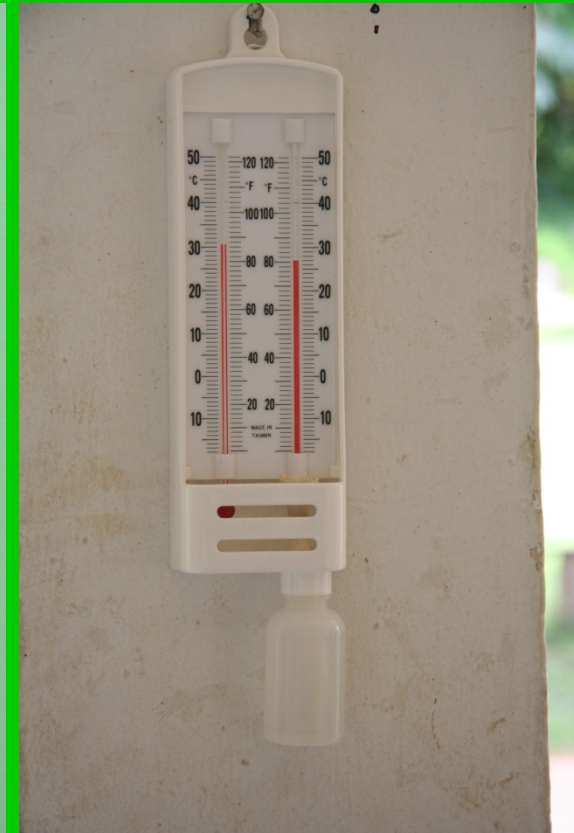
Weather Observing: Measuring Wind Speed



Weather Observing: Measuring Rainfall



ESSI donated the station clocks, a wind speed gauge, and a hygrometer



Mr. Somchai Suyata built ESSI designed equipment.



Wind Direction Indicator, Cloud Cover Estimator Dome, Rain Gauge





Thanks to the Students and Faculty of Na Fa Elementary School for their time, interest, and motivation to learn.



RTC-TH

Rural Training Center-Thailand

is dedicated to providing
community-based
environmental education
for the self-sufficiency
and sustainability of
small rural family farms





The RTC-TH was created to honor the memory of Mr. Tang Suttisan, a father, a farmer, and a man who valued education and used it in starting his family farm



REEEPP

Rural Environmental Education Enhancement Pilot Program

An innovative, non-traditional community-based environmental education program integrating math, science, geography, English language, and technology lessons for environmental stewardship using interactive experiential learning in outdoor settings at Ban Na Fa Elementary School, Nan Province, Thailand..



The End

