

Creative Earthlings

Learning in the S.T.R.E.A.M.



What Do You See?



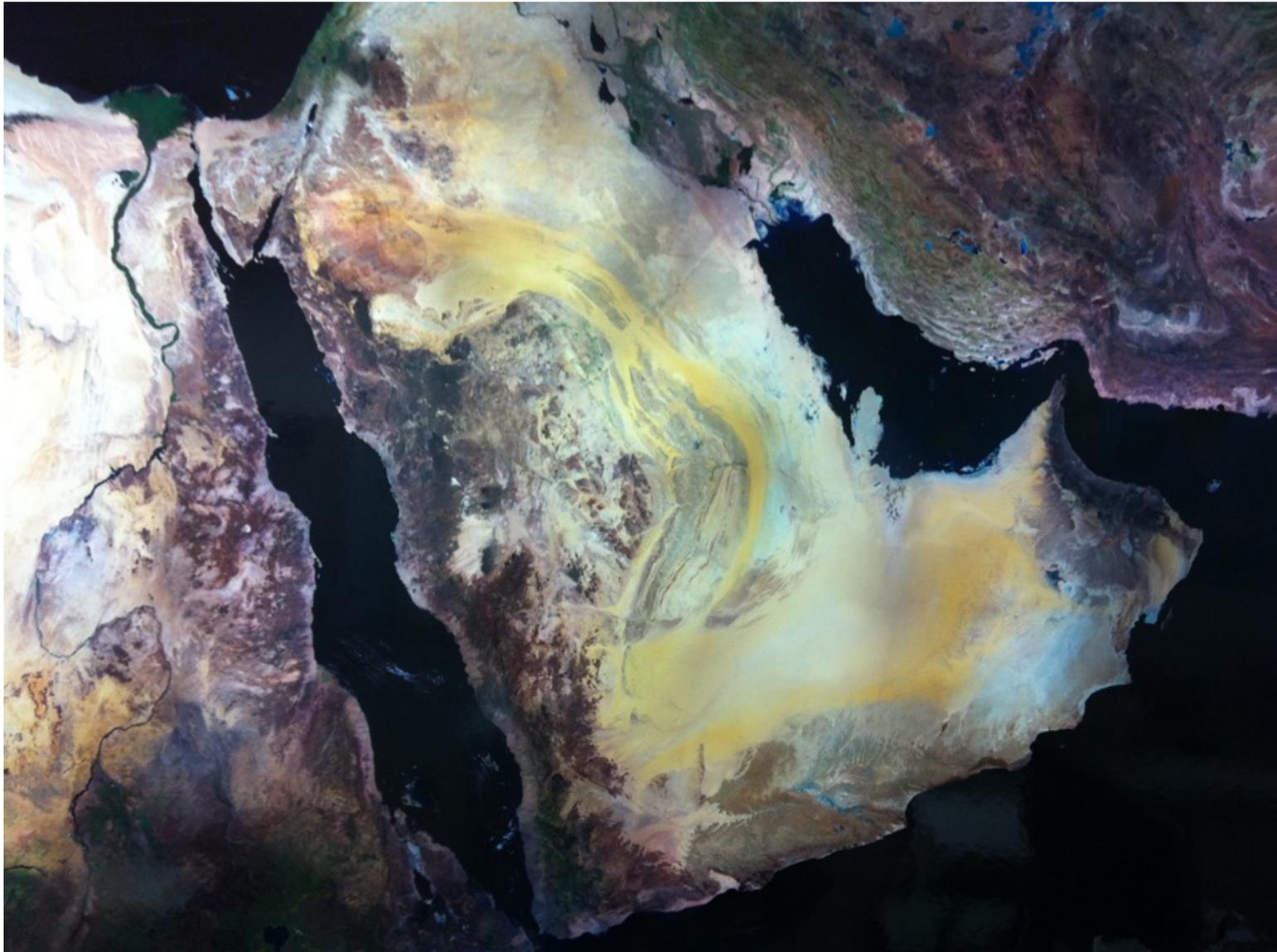
MODIS Image,
courtesy NASA

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Let's Zoom In.



Composite Image courtesy NASA

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We need both!



MODIS Image,
courtesy NASA

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Let's Talk Clouds!

Cloud Formation, Cloud Cover and Cloud Type

Presented by:

Earth Lady,
Izolda Trakhtenberg

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Let's Talk Clouds!

Clouds

Why do we study them?

What purpose do they serve?





Let's Talk Clouds!

Clouds and Climate

- The source of precipitation
- Affect the amount of energy from the sun that reaches Earth's surface
- Insulate Earth's surface and lower atmosphere.



Let's Talk Clouds!

Clouds

How do clouds form?



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How Do Clouds Form?

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To form, clouds need:

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To form, clouds need:

Water (vapor)



Let's Talk Clouds!

To form, clouds need:

Water (vapor)

A condensation nucleus (pollutant or other particulate around which the water will condense)



Let's Talk Clouds!

To form, clouds need:

Water (vapor)

A condensation nucleus (pollutant or other particulate around which the water will condense)

A change in temperature



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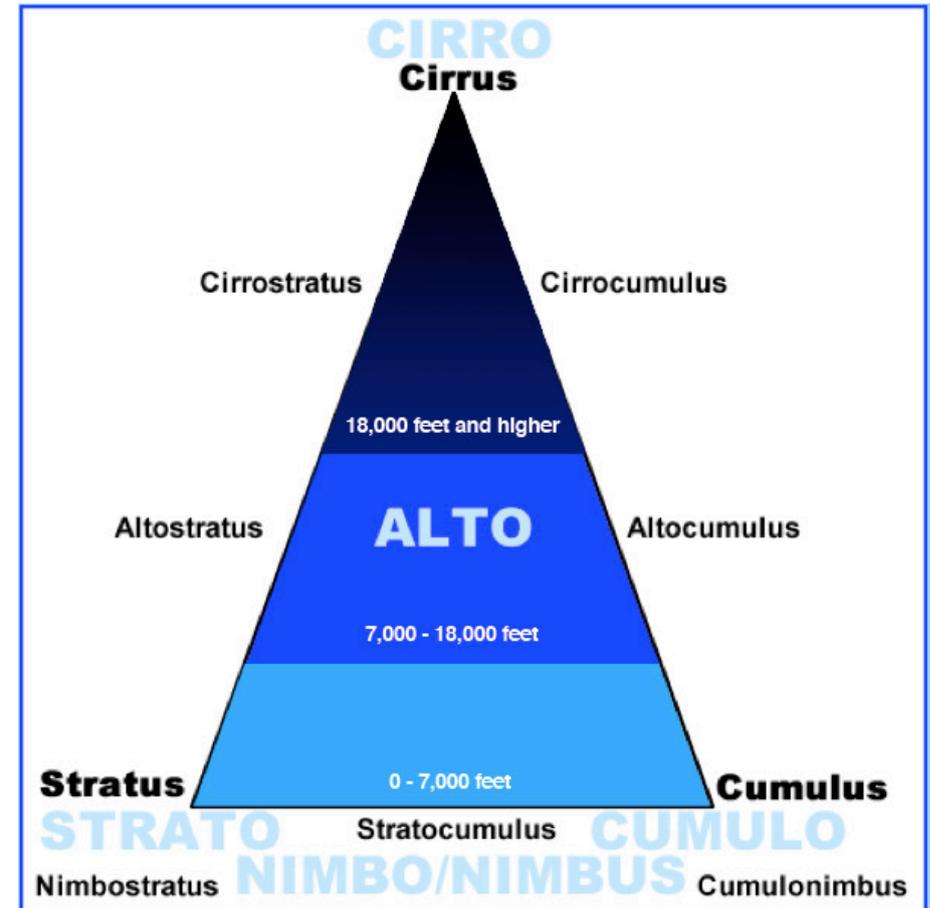
The Cloud Triangle

Clouds can be defined by:

Their shape & form

The cloud base altitude

If they are precipitating





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Cloud Type

The 3 main cloud shapes are:



Cumulus
(Puffy)



Stratus
(Layered)



Cirrus
(Wispy)





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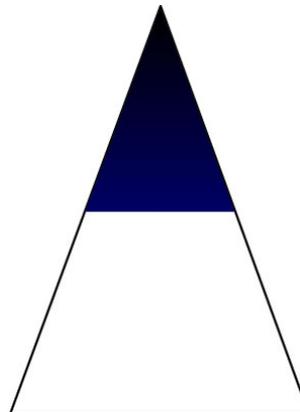
High Clouds



Cirrus



Cirrostratus



High-level clouds



Cirrocumulus

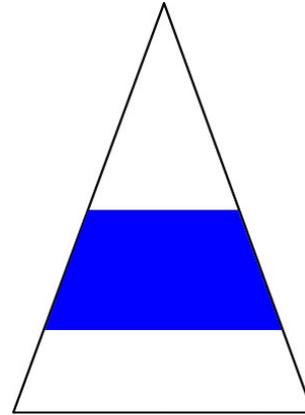


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Middle Clouds



Altostratus



Mid-level clouds



Altocumulus

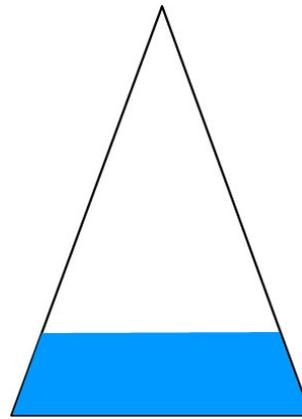


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Low Clouds



Stratus



Low-level clouds



Cumulus



Stratocumulus

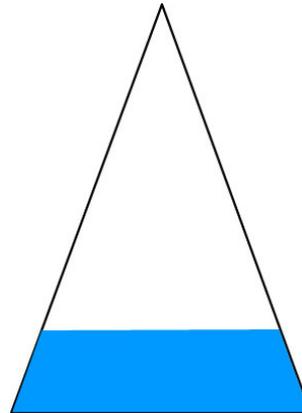


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Low Clouds With Precipitation



Nimbostratus



Low-level clouds



Cumulonimbus

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Let's Play The Cloud Game!

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Let's Play The Cloud Game!

What kind of cloud is this one?





Let's Play The Cloud Game!

What kind of cloud is this one?



Cumulus

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Let's Play The Cloud Game!

How about this one?



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How about this one?



Cirrus

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Or this one?



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Let's Play The Cloud Game!

Or this one?



Stratus

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Let's Play The Cloud Game!

And this one?



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Let's Play The Cloud Game!

And this one?



Altocumulus

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Let's Play The Cloud Game!

And this one?



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Let's Play The Cloud Game!

And this one?



Alto cumulus and Strato cumulus

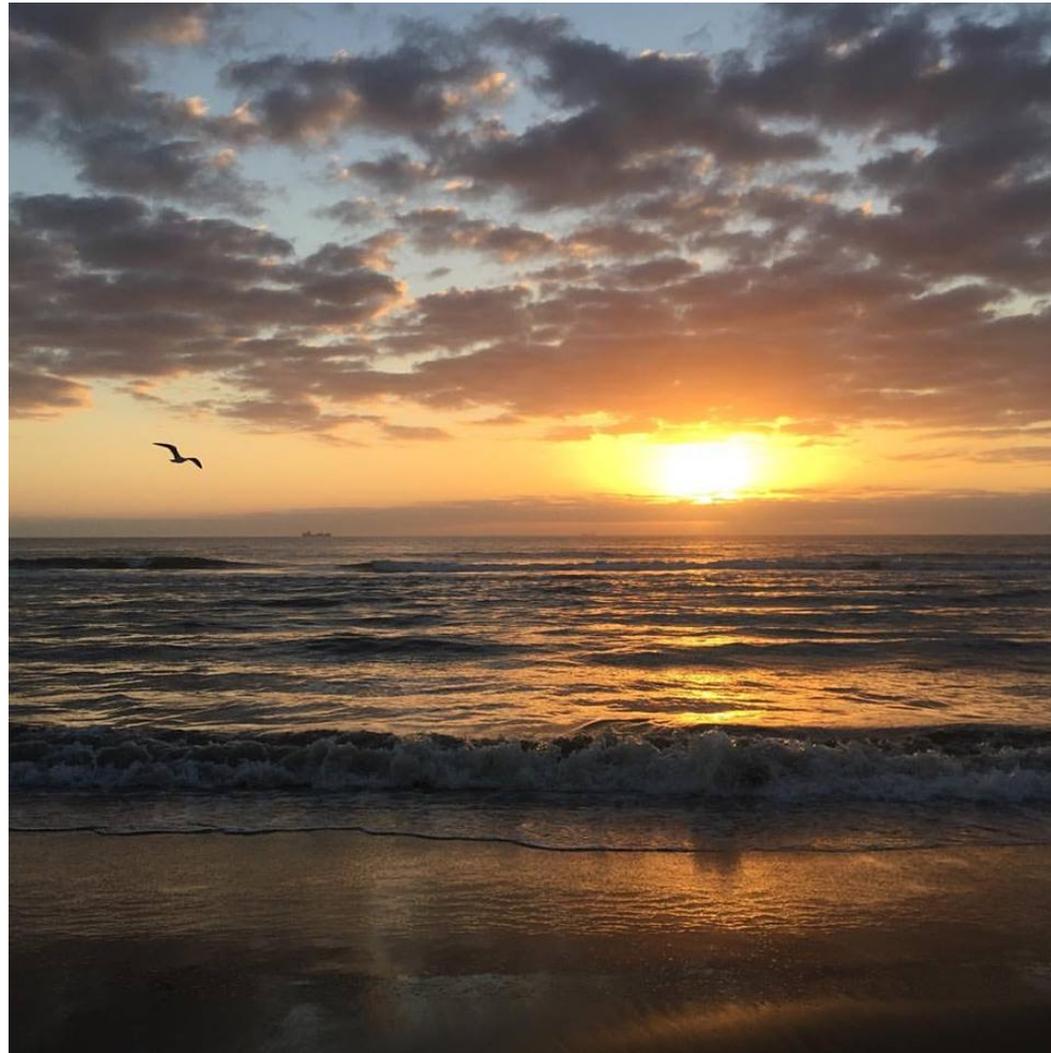
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Let's Play The Cloud Game!

And this one?



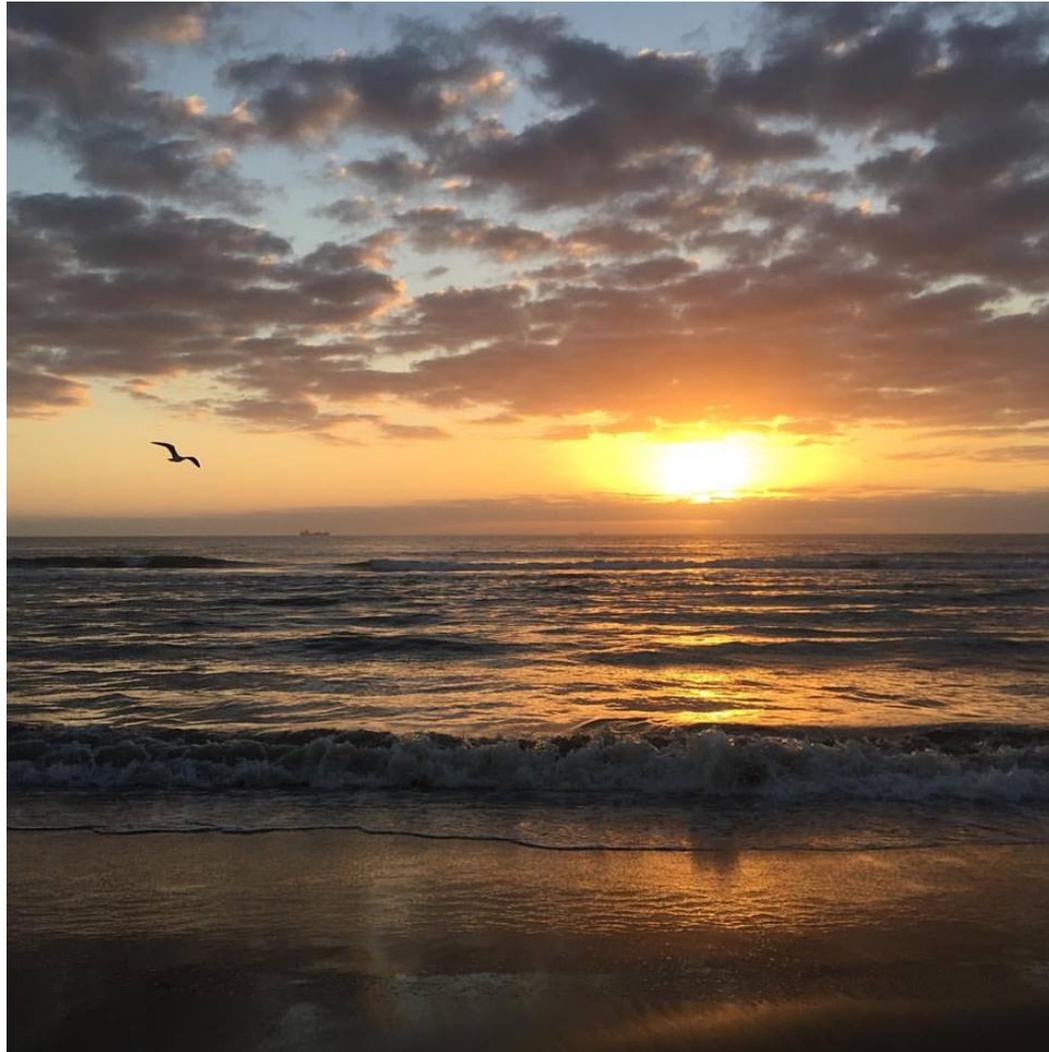
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Let's Play The Cloud Game!

And this one?



Cumulus

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Let's Play The Cloud Game!

And this one?



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Let's Play The Cloud Game!

And this one?



Stratus

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Let's Play The Cloud Game!

And this one?



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Learning in the S.T.R.E.A.M.



Let's Play The Cloud Game!

And this one?



Cirrocumulus

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Let's Play The Cloud Game!

And this one?



Creative Earthlings

Learning in the S.T.R.E.A.M.



Let's Play The Cloud Game!

And this one?



Cirrus and Cirrostratus

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Cloud Cover

What does it mean?



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Let's Talk Clouds! Cloud Cover

In which picture is there more cloud cover? This one?



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Cloud Cover

Or this one?





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Cloud Cover

Estimating Percentages



No Clouds
0%

Clear
1 - 10%

Isolated
11 - 25%

Scattered
26 - 50%

Broken
51 - 90%

Overcast
>90%

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Let's Talk Clouds!

Field Work!

Like all scientists, we must take observations.

Let's take our new knowledge and make observations about our local environment.