

# Where the Wild Things Are: How Rainfall Drives Food Web Interactions

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KBS GK-12 Fall Workshop 2013



<http://youtu.be/JMJXvsCLu6s>



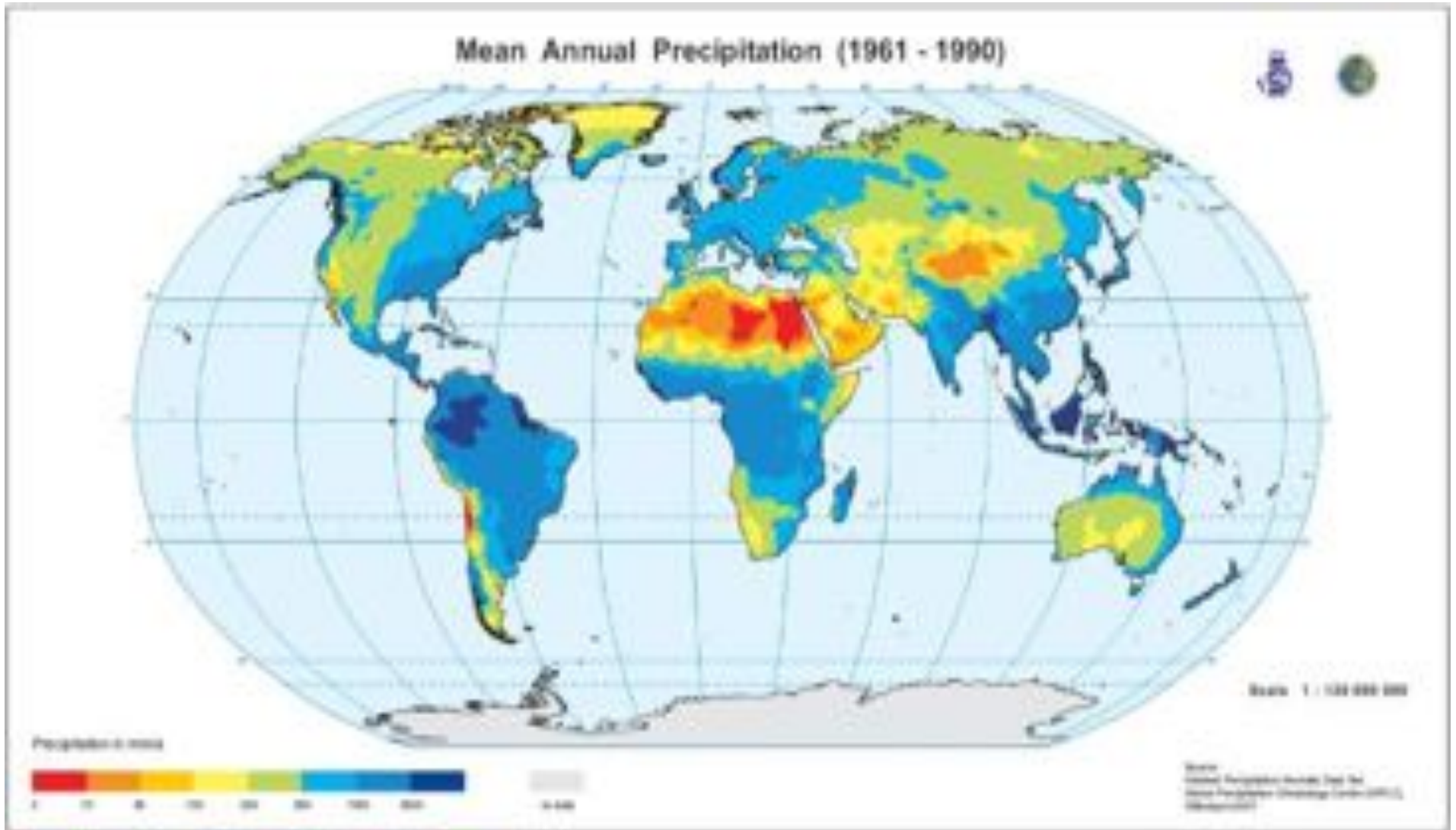
Why would hundreds of thousands of wildebeest risk crossing rivers teeming with crocodiles every year?



The reason has  
to do with  
variation in  
rainfall in space  
and time!



[http://www-tc.pbs.org/wnet/nature/files/2009/05/286\\_deathvalley\\_racetrack.jpg](http://www-tc.pbs.org/wnet/nature/files/2009/05/286_deathvalley_racetrack.jpg), <http://www.resolutiontweet.com/wp-content/uploads/2012/05/South-America-Amazon.jpg>,  
<http://images.fineartamerica.com/images-medium-large/masai-mara-landscape-marion-mccristall.jpg>, [http://farm4.static.flickr.com/3258/2301230228\\_826be6b7a3.jpg](http://farm4.static.flickr.com/3258/2301230228_826be6b7a3.jpg), <http://media.away.com//away/images/hiawatha.jpg>





[http://upload.wikimedia.org/wikipedia/en/thumb/2/21/Africa\\_satellite\\_orthographic.jpg/534px-Africa\\_satellite\\_orthographic.jpg](http://upload.wikimedia.org/wikipedia/en/thumb/2/21/Africa_satellite_orthographic.jpg/534px-Africa_satellite_orthographic.jpg)



Serengeti

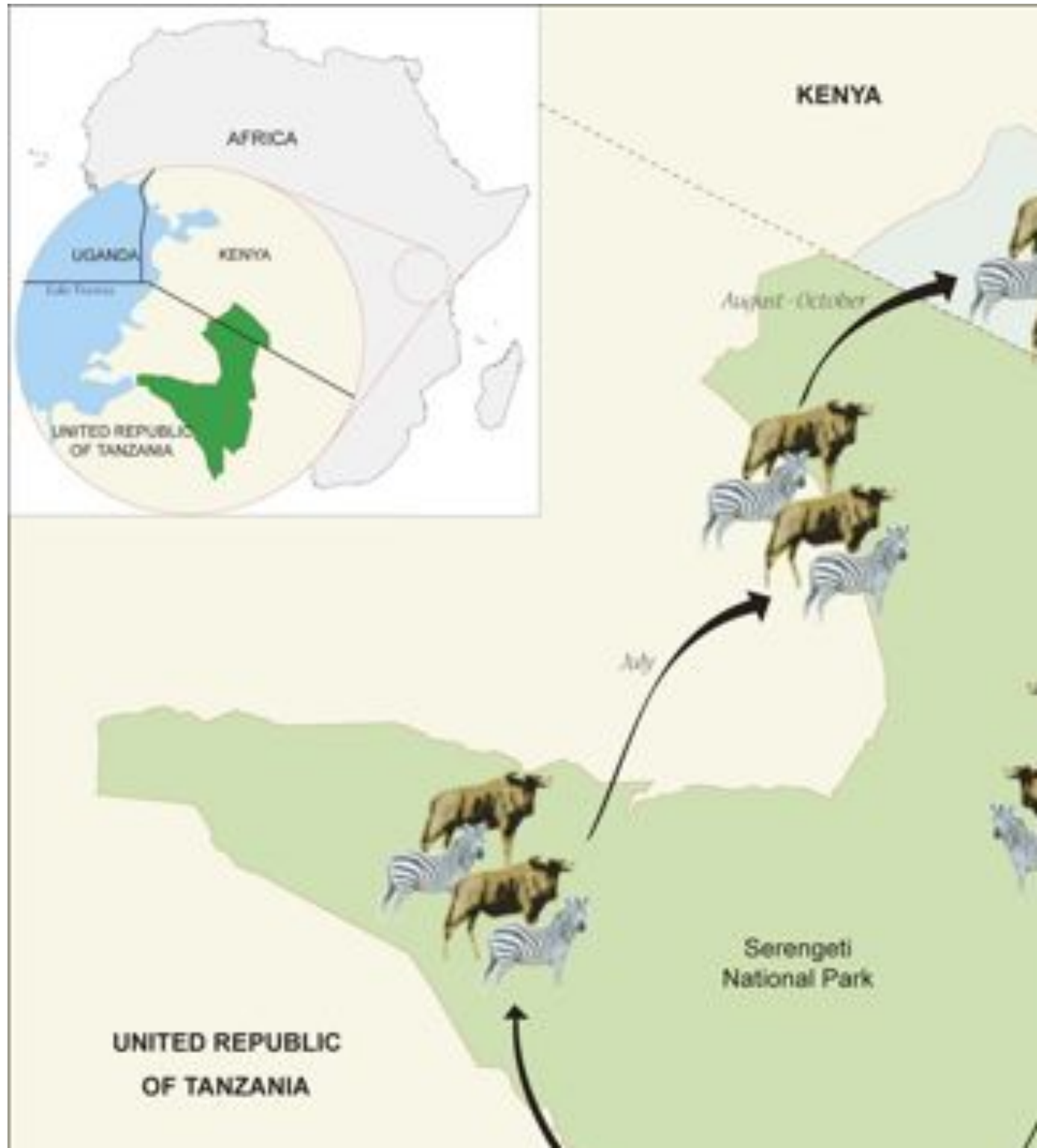






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# Wildebeest Migration



# Serengeti Plains: Dry and wet season



So, why would the wildebeest ever bother leaving the Mara?



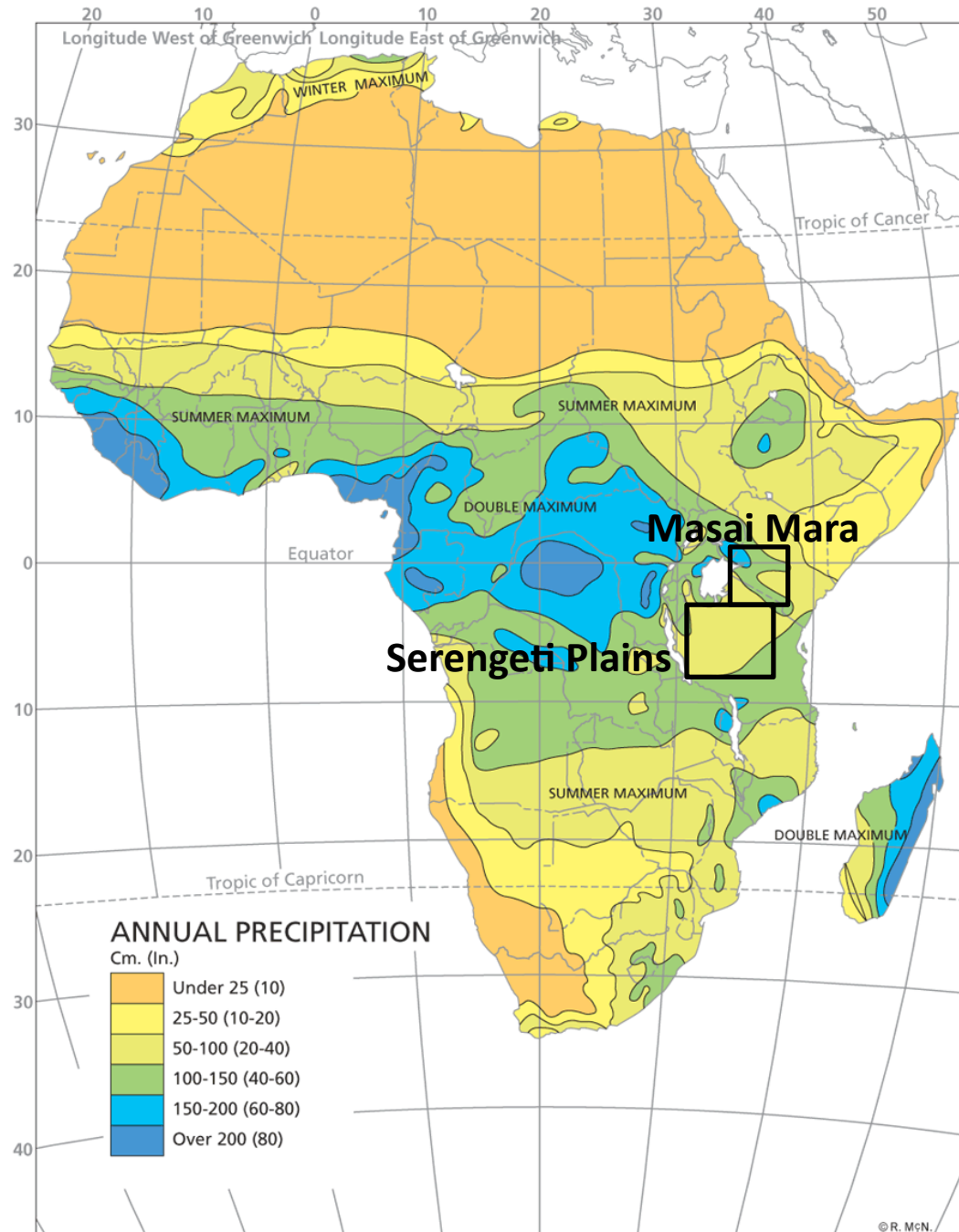


<http://youtu.be/kSNbLYHRrU8>

... the rains  
down in Africa

**Brainstorm:**

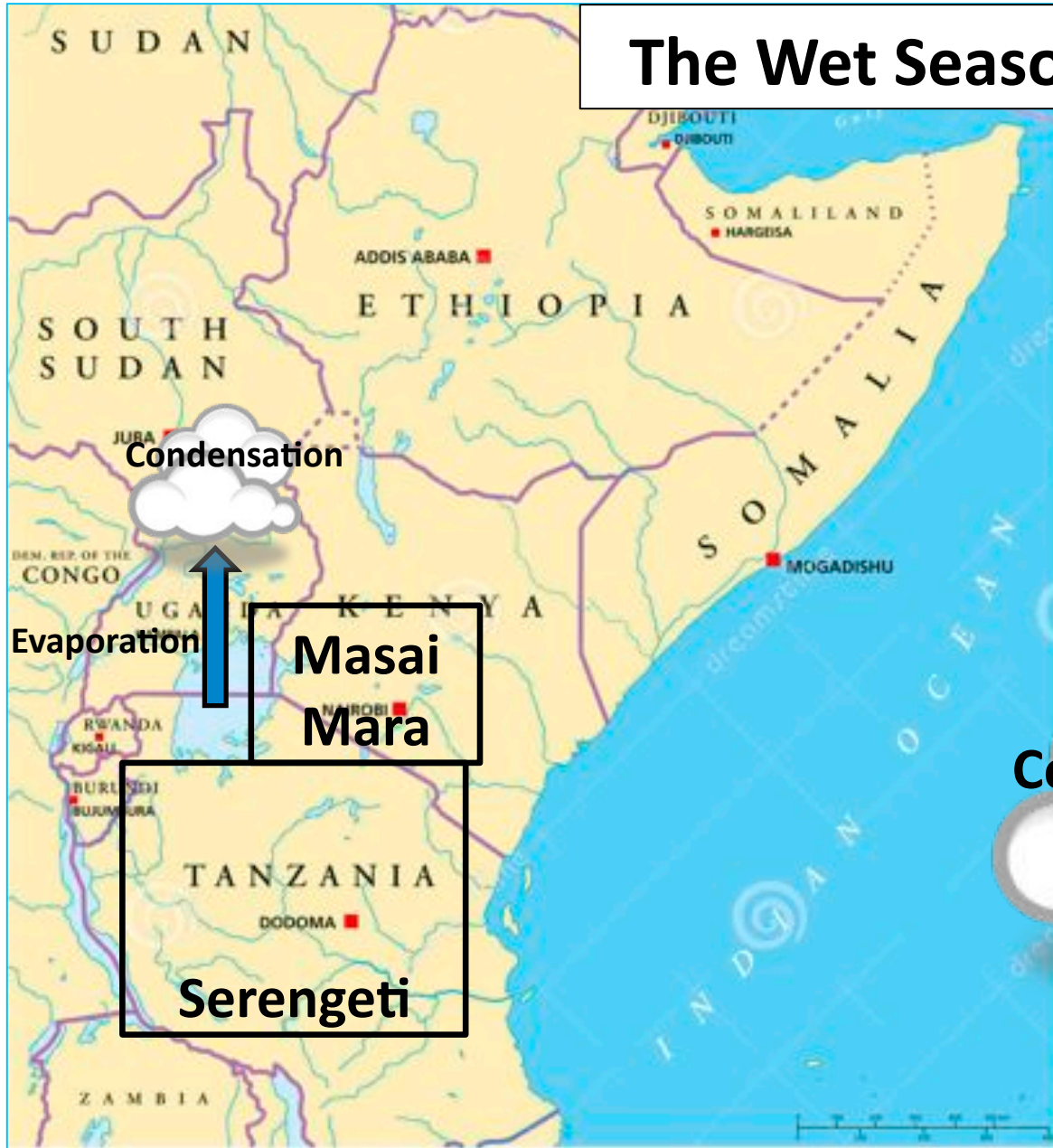
Why does it rain more  
in some places in  
Africa than others?



# The Wet Season



Indian Ocean



Condensation

Evaporation

Masai  
Mara

Serengeti

Condensation

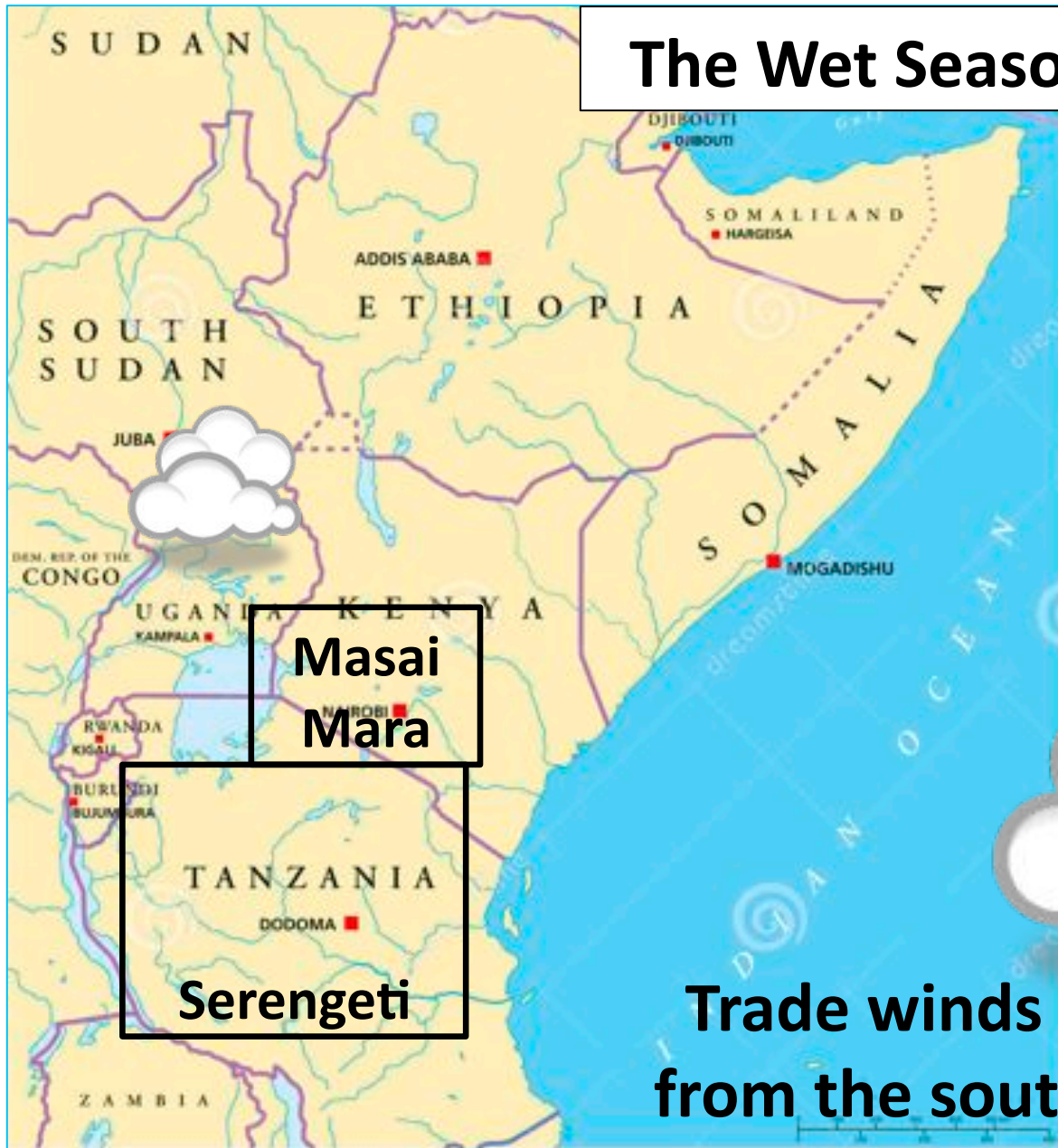
Indian Ocean  
Evaporation



# The Wet Season



Indian Ocean



Masai  
Mara

Serengeti



Trade winds blow  
from the south east

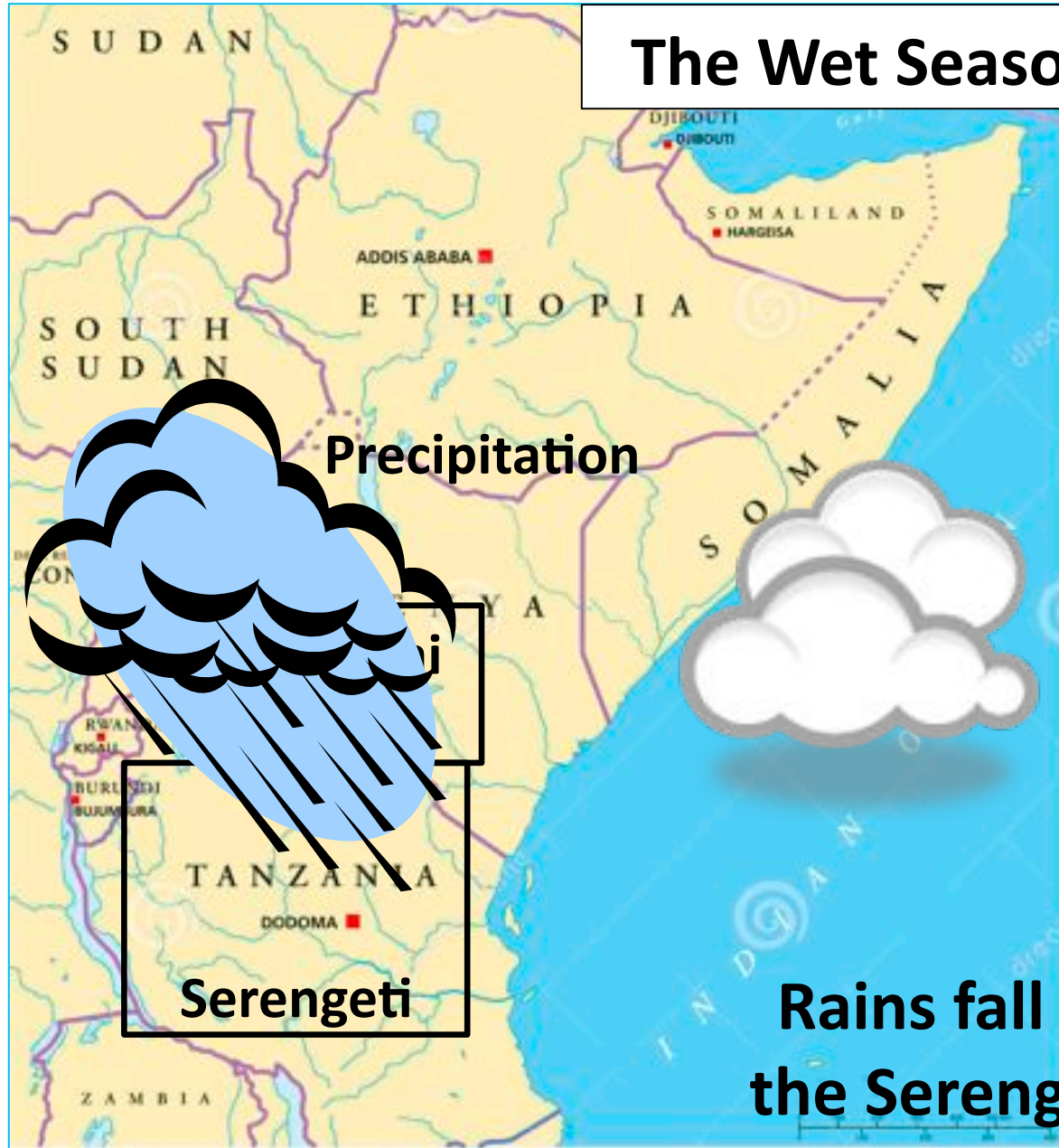


Indian Ocean

# The Wet Season



Indian Ocean



Precipitation

Serengeti

Rains fall in  
the Serengeti

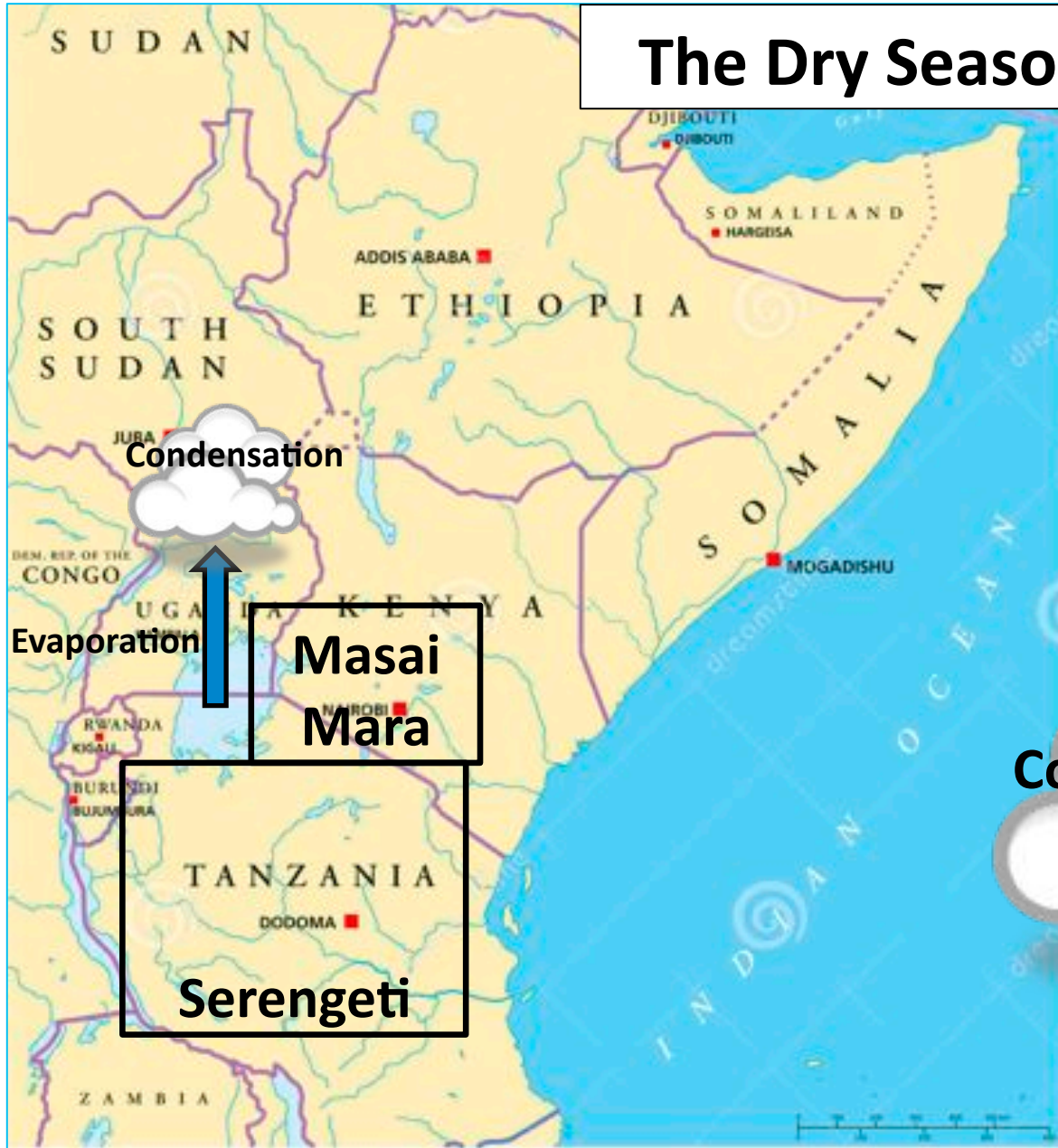
Indian Ocean



# The Dry Season



Indian Ocean



Condensation

Evaporation

Masai  
Mara

Serengeti

Condensation

Indian Ocean  
Evaporation

# The Dry Season

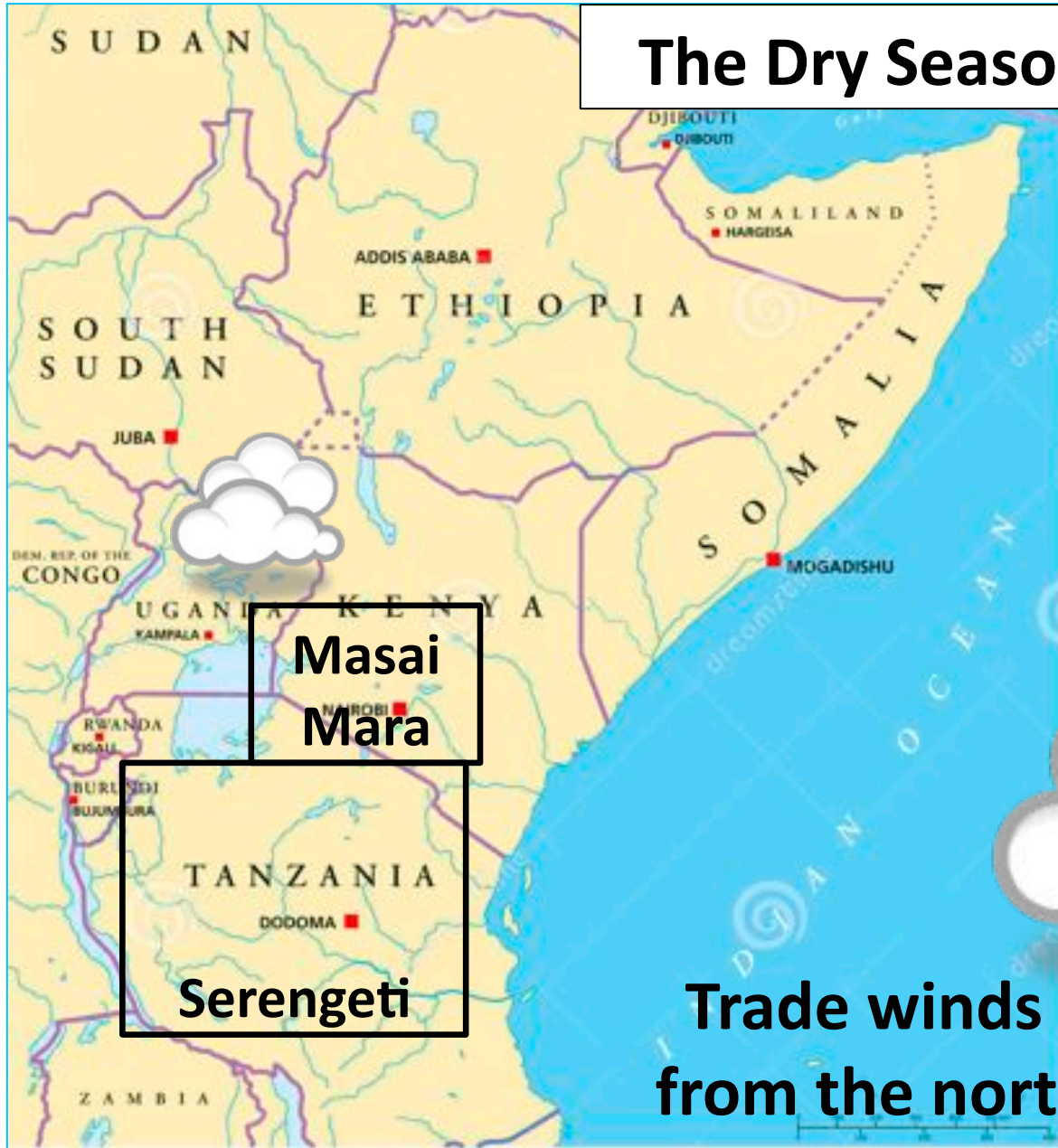


Indian Ocean



Indian Ocean

**Trade winds blow  
from the north east**



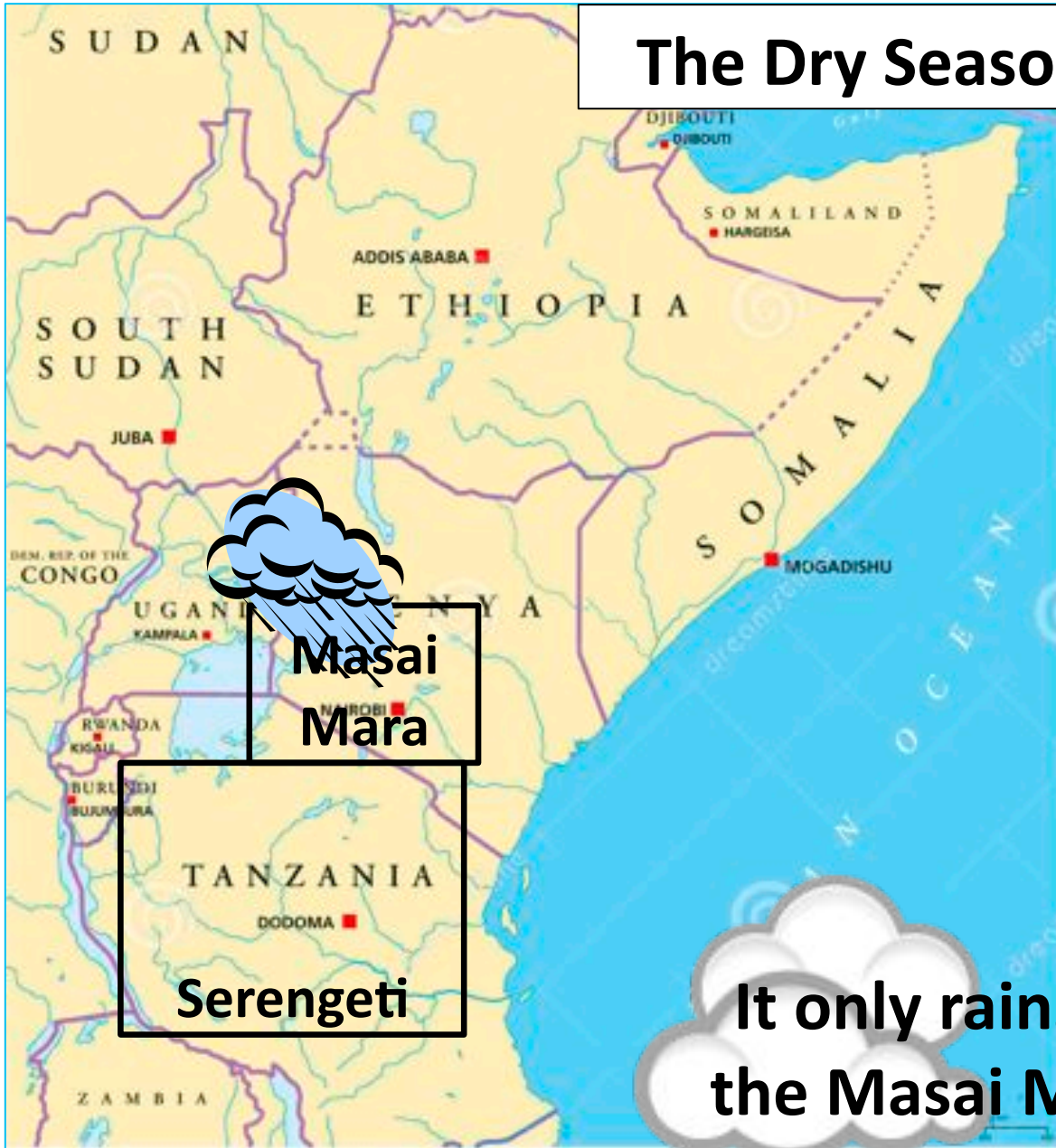
**Masai  
Mara**

**Serengeti**

# The Dry Season



Indian Ocean



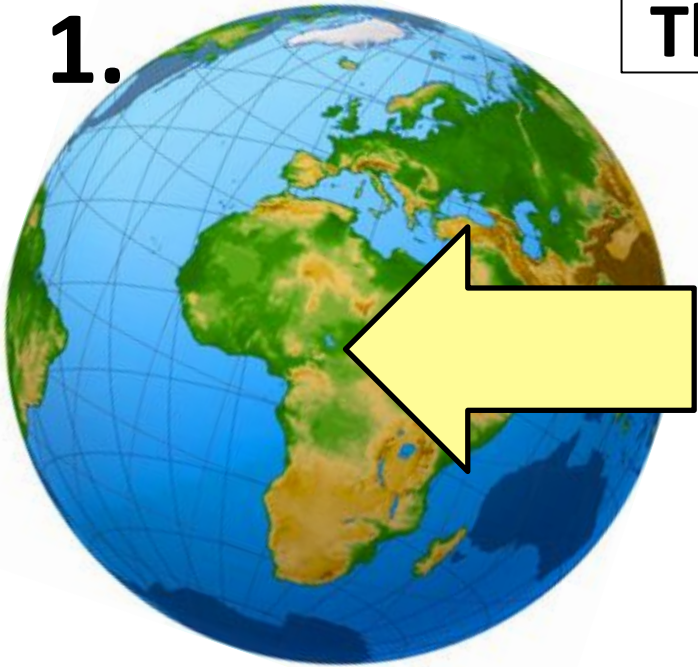
Masai  
Mara

Serengeti

It only rains in Indian Ocean  
the Masai Mara

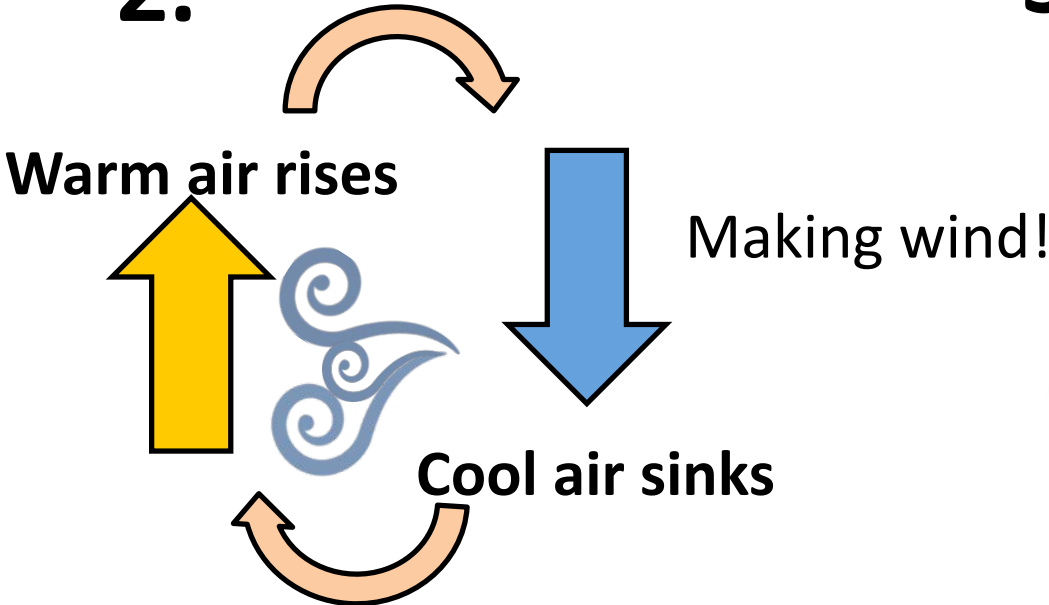
# The Wet Season

1.



Northern Hemisphere is tilted toward the sun

2.



3.



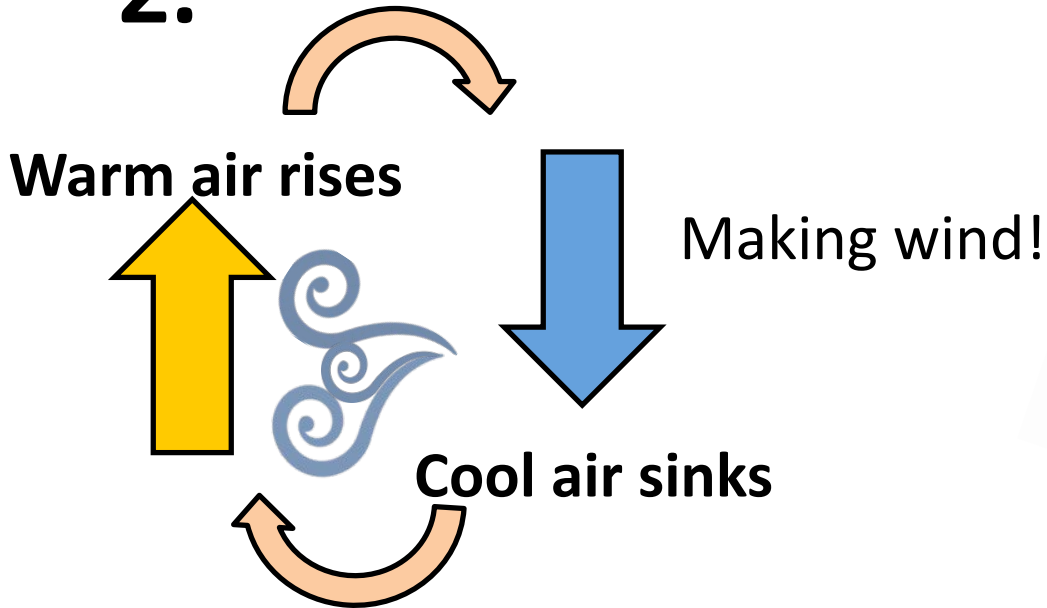
1.



# The Dry Season

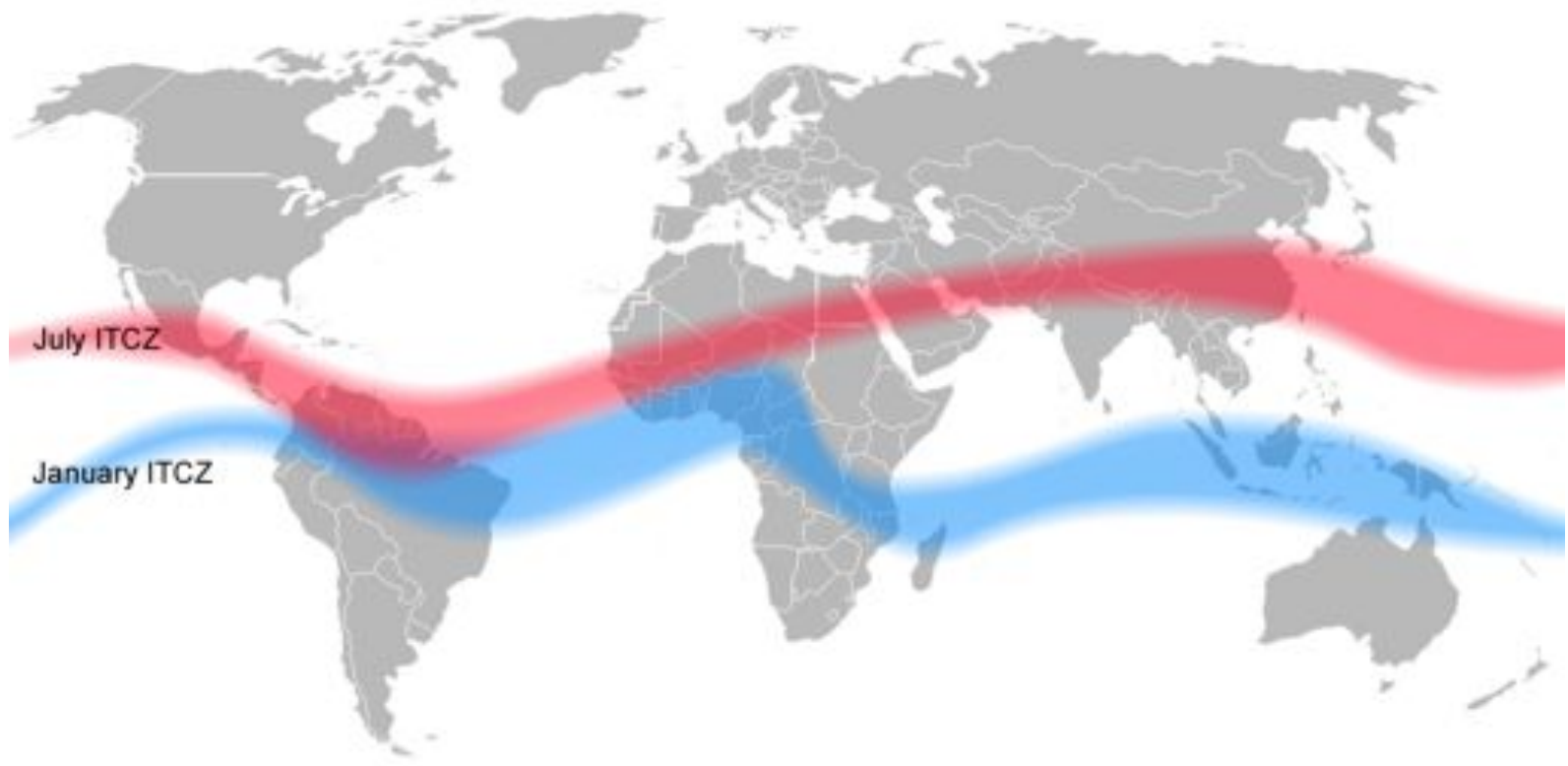
Southern Hemisphere is tilted toward the sun

2.

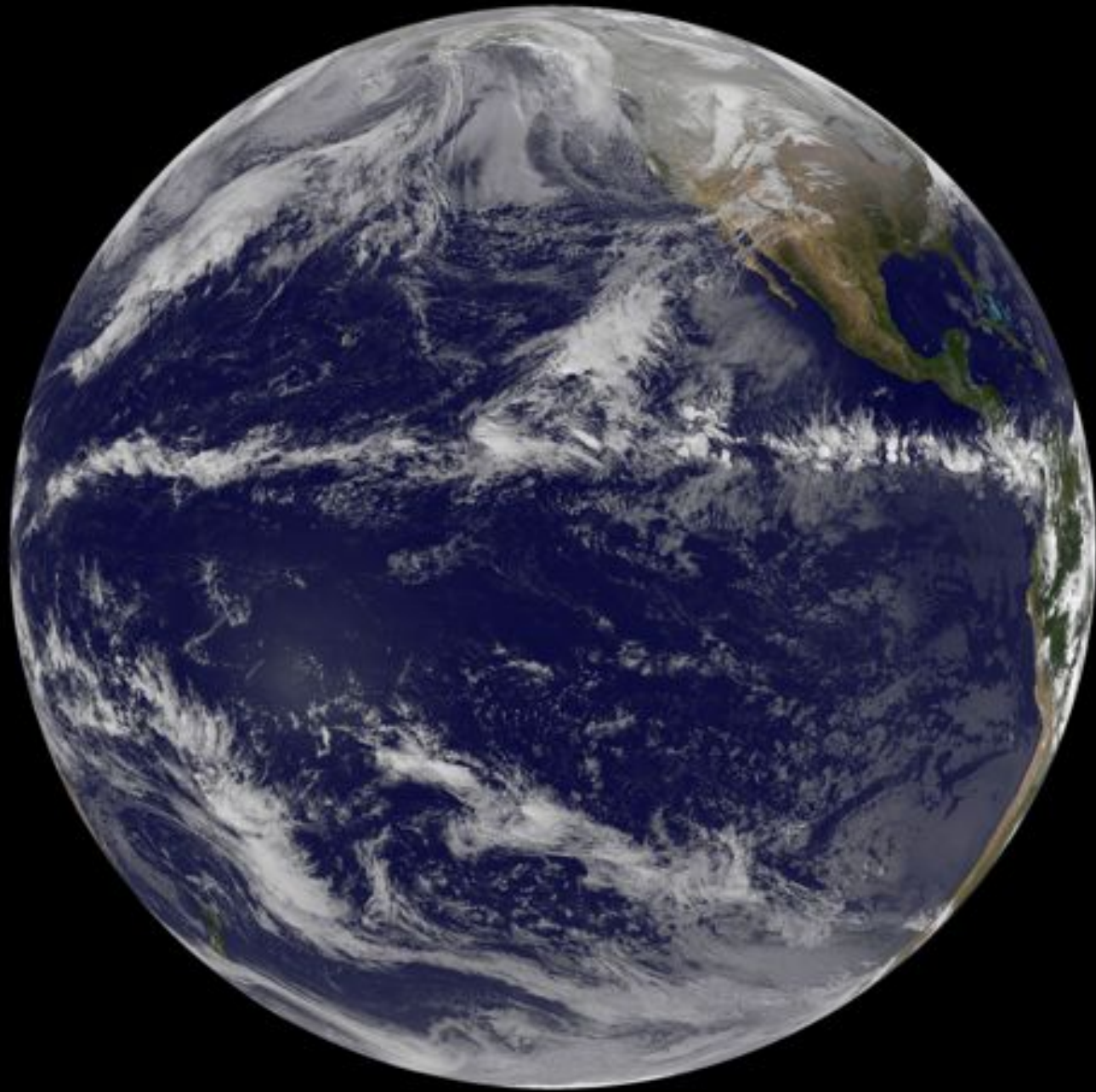


3.

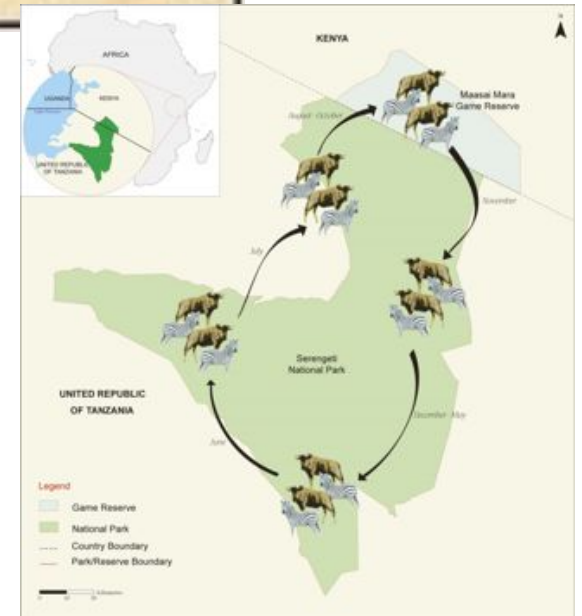
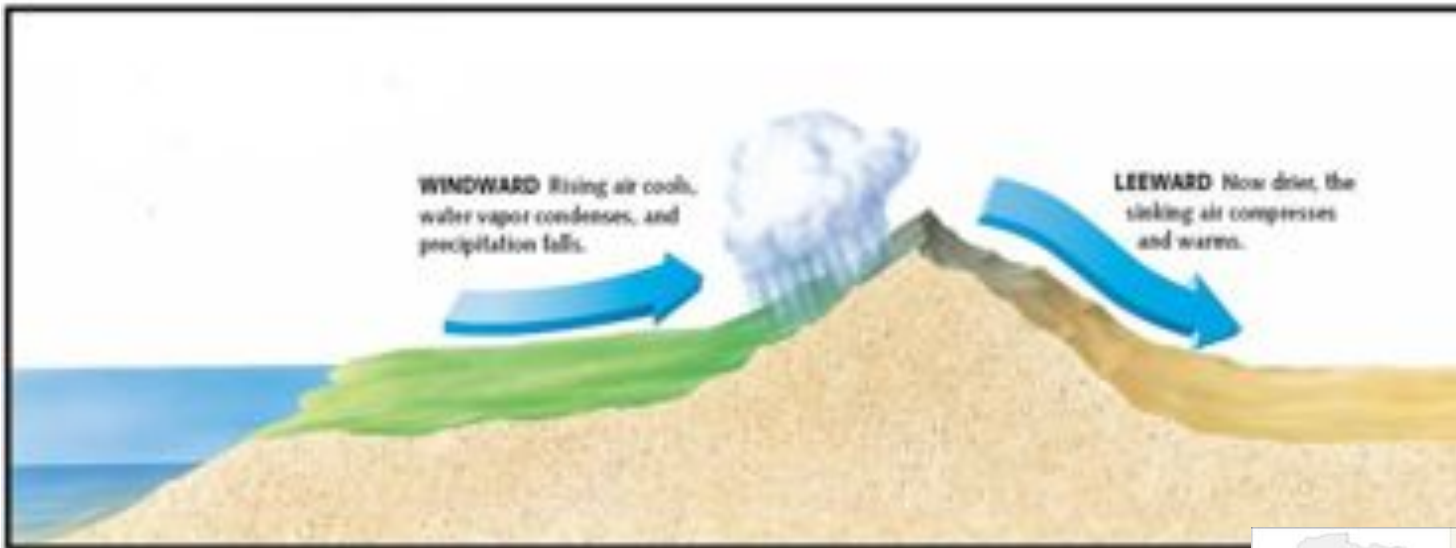


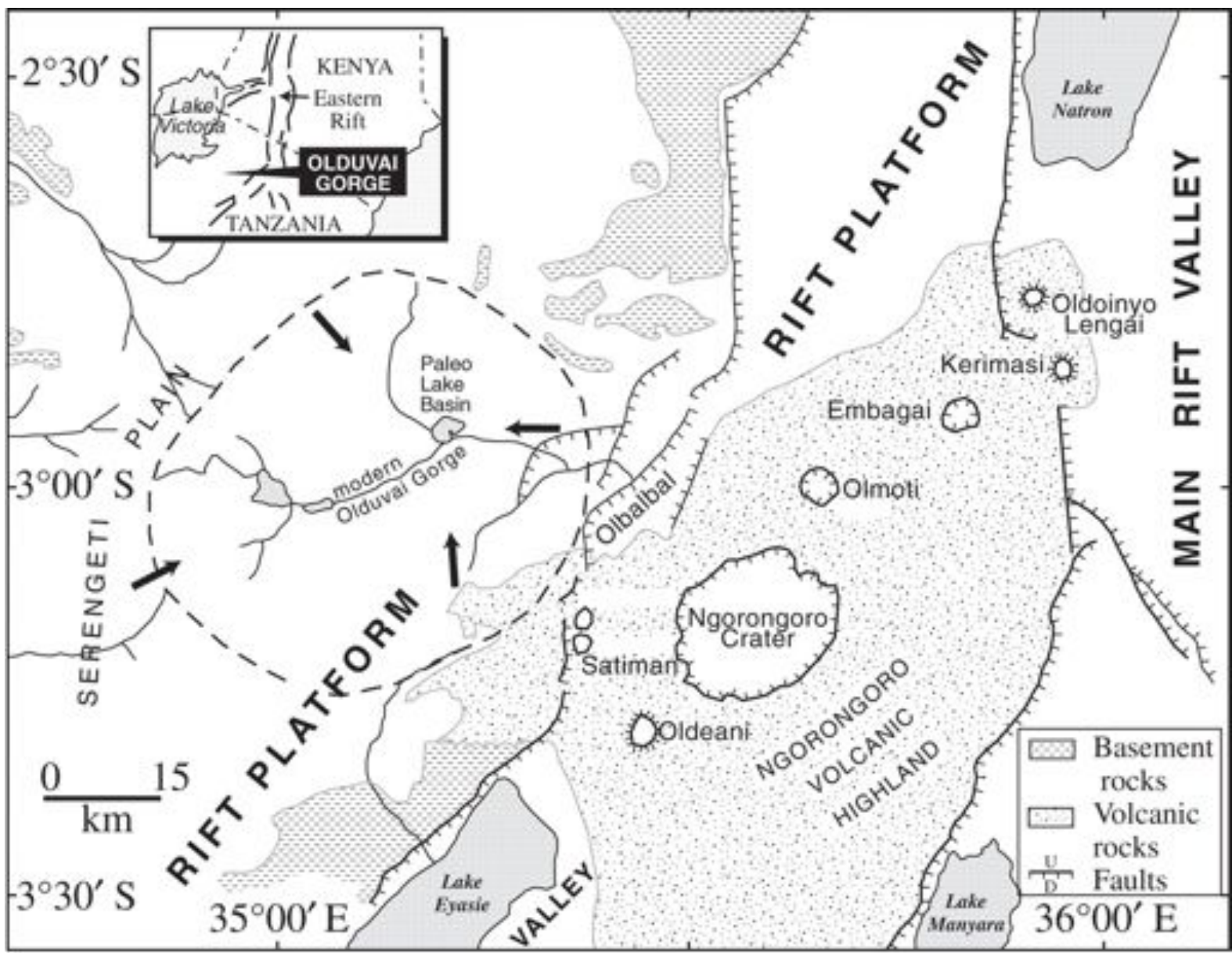






# Why are the plains dry?

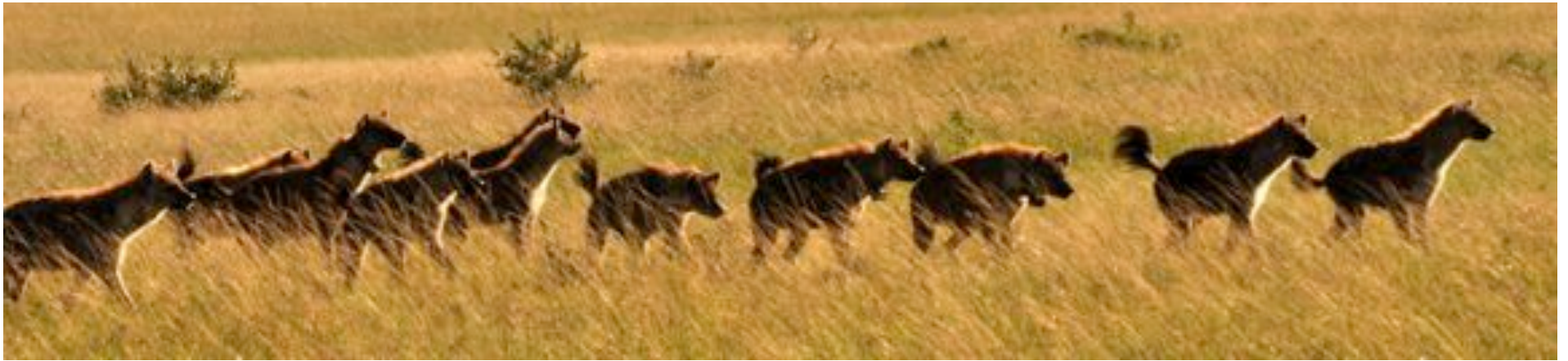






Game!

# Large Carnivore: Spotted Hyena



# Large Carnivore: Spotted Hyena



# Large Carnivore: Lion





# Medium Carnivore: Cheetah



# Small Omnivore: Honey Badger



# Scavenger: Vulture



# Large Herbivore: Wildebeest



# Large Herbivore: Plains Zebra



# Medium Herbivore: Impala



# Small Herbivore: African Savannah Hare



# Producer: Grass!

