

## **GG 140 - The Atmosphere, the Ocean and Environmental Change with Professor Ronald B. Smith**

### **Lecture 18 – Seasons and Climate**

1. Shifting ITCZ. Image credit: [http://rajesh26.blogspot.com/2010\\_05\\_01\\_archive.html](http://rajesh26.blogspot.com/2010_05_01_archive.html)

(Accessed Oct. 12, 2011)

2. Seasons in the tropics. Rondonia, Brazil. Image credit: <http://pyramidbeach.com/page/7/> (Accessed Oct. 12, 2011)

Seasons in the tropics. Image credit: <http://en.allmetsat.com/climate/brazil.php?code=82825> (Accessed Oct. 12, 2011)

3. Mumbai Precipitation: Monsoon. Image credit

[http://en.wikipedia.org/wiki/File:India\\_mumbai\\_temperature\\_precipitation\\_averages\\_chart.svg](http://en.wikipedia.org/wiki/File:India_mumbai_temperature_precipitation_averages_chart.svg) (Accessed Oct. 12, 2011)

Mumbai Precipitation: Monsoon. Image credit: I.G. Bhatkali <http://www.sahilonline.org/english/newsDetails.php?cid=3&nid=11951>

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4. Yaounde, Cameroon, Image credit: <http://www.levoyageur.net/weather-city-YAOUNDE.html> (Accessed Oct. 12, 2011)

6. Moving Polar Fronts. Image credit: <http://www4.uwsp.edu/geo/faculty/ritter/images/atmosphere/weather/pfront.gif> (Accessed Oct. 12, 2011)

7. Los Angeles. Image credit: Dr. Michael Pidwirny & Scott Jones. <http://www.physicalgeography.net/fundamentals/7v.html>

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8. Rome, Italy. Image credit: <http://cdnisclimategraphs.blogspot.com/2010/03/rome-italy.html> (Accessed Oct. 12, 2011)

9. Perth, Australia. Image credit: <http://weather.ninemsn.com.au/climate/station.jsp?lt=site&lc=9225> (Accessed Oct. 12, 2011)

10. Rainfall Seasonality. Image credit: Wallace and Hobbs

11. Herodotus. Image credit: <http://en.wikipedia.org/wiki/Herodotus> (Accessed Oct. 12, 2011)
15. Koppen Classes. Image credit: Kottek et al., 2006, Meteorologische Zeitschrift, 15, 259-263
16. Koppen Climate Classes. Image credit: Ahrens Essentials of Meteorology textbook
17. Koppen Climate Classes. Image credit: Ahrens Essentials of Meteorology textbook
18. Koppen Climate Classes. Image credit: Murray C. Peel  
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19. Regional temperature and precipitation: Sacramento. Image credit: US Climate Data.  
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- Regional temperature and precipitation: New York. Image credit: US Climate Data  
<http://www.usclimatedata.com/climate.php?location=USNY0996> (Accessed Oct. 12, 2011)
- Regional temperature and precipitation: Miami. Image credit: US Climate Data  
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- Regional temperature and precipitation: Denver. Image credit: US Climate Data  
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20. Africa regional climate: AF. Image credit: unknown. <http://us-africa.tripod.com/linkR.html> (Accessed Oct. 12, 2011)
- Africa regional climate: BSh. Image credit: Flavio Ceriani. <http://www.panoramio.com/photo/4325608> (Accessed Oct. 12, 2011)
- Africa regional climate: BWh. Image credit: IgoUgo user Kryptics. [http://www.igougo.com/journal-j18618-Erfoud-The\\_Sahara\\_Desert\\_-\\_Morroco.html](http://www.igougo.com/journal-j18618-Erfoud-The_Sahara_Desert_-_Morroco.html) (Accessed Oct. 12, 2011)

Koppen map of Africa. Image credit: Peel, M. C., Finlayson, B. L., and McMahon, T. A.  
[http://en.wikipedia.org/wiki/File:Africa\\_Koppen\\_Map.png](http://en.wikipedia.org/wiki/File:Africa_Koppen_Map.png) (Accessed Oct. 12, 2011)

21. Koppen map of South Asia, Image credit: Peel, M. C., Finlayson, B. L., and McMahon, T. A.  
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22. Koppen map of Europe. Image credit: Peel, M. C., Finlayson, B. L., and McMahon, T. A.  
[http://en.wikipedia.org/wiki/File:Europe\\_Koppen\\_Map.png](http://en.wikipedia.org/wiki/File:Europe_Koppen_Map.png) (Accessed Oct. 12, 2011)

23. Mediterranean Climate: Lisbon. Image credit: unknown. <http://www.wordtravels.com/Cities/Portugal/Lisbon/Climate> (Accessed Oct. 12, 2011)

Mediterranean Climate: Jerusalem. Image credit: unknown. <http://www.iexplore.com/dmap/Israel/Weather+and+Climate> (Accessed Oct. 12, 2011)

Mediterranean Climate: Cairo. Image credit: UK Met Office <http://www.metoffice.gov.uk/education/teachers/arid-climate-averages> (Accessed Oct. 12, 2011)

Mediterranean Climate: Sacramento. Image credit: US Climate Data <http://www.usclimatedata.com/climate.php?location=USCA0967> (Accessed Oct. 12, 2011)

24. Marañon/Ucayali/Amazon March and Sept 2001. Image credit: Landsat EMT+ <http://landsat.gsfc.nasa.gov/> . (Accessed Oct. 12, 2011)