

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

### **Lecture 16 – Frontal Cyclones**

2. Frontal Cyclone. Image credit: Virginia Coast Reserve LTER. [http://www.vcrlter.virginia.edu/~bph/AW\\_Book/AW\\_Book\\_73.html](http://www.vcrlter.virginia.edu/~bph/AW_Book/AW_Book_73.html) (Accessed Oct. 5, 2011)
3. Stages in the life cycle of a wave cyclone. Image credit: San Francisco State University department of Geosciences. <http://tornado.sfsu.edu/geosciences/classes/m356/Fronts.html> (Accessed Oct. 5, 2011)
4. Fronts. Image credit: Dr. Michael Pidwirny & Scott Jones University of British Columbia Okanagan. <http://www.physicalgeography.net/fundamentals/7s.html> (Accessed Oct. 5, 2011)
5. "Comma clouds" from space. Image credit: SeaWiFS Project, NASA/Goddard Space Flight Center, and Orbimage. <http://earthobservatory.nasa.gov/NaturalHazards/view.php?id=11447> (Accessed Oct. 5, 2011)
8. The Nor'Easter. Image credit: Wikipedia user Tom. [http://en.wikipedia.org/wiki/File:Storm\\_of\\_the\\_century\\_satellite.gif](http://en.wikipedia.org/wiki/File:Storm_of_the_century_satellite.gif) (Accessed Oct. 5, 2011)
9. The Wreck of the Edmund Fitzgerald. Image credit: S.S. Edmund Fitzgerald Online. <http://www.ssefo.com/info/storm.html> (Accessed Oct. 5, 2011)
10. Blizzard of 1978. Image credit: NOAA. <http://quahog.org/factsfolklore/index.php?id=63> (Accessed Oct. 5, 2011)
11. Blizzard of 1978. Image credit: AP. <http://www.totalmortgage.com/blog/mortgage-rates/todays-mortgage-rates-for-sunday-february-6-2011/9264> (Accessed Oct. 5, 2011)
12. The Perfect Storm. Image credit: Christopher Mayne. [http://www.capepondice.com/perfect\\_storm\\_gallery.htm](http://www.capepondice.com/perfect_storm_gallery.htm) (Accessed Oct. 5, 2011)

13. Southern Hemisphere Storms. Image credit: Wikipedia user Johantheghost. <http://en.wikipedia.org/wiki/File:ClipperRoute.png> (Accessed Oct. 5, 2011)

15. NCEP Operational Forecast Skill, Image credit: NCEP Central Operations. [http://celebrating200years.noaa.gov/foundations/numerical\\_wx\\_pred/S1Chart06.html](http://celebrating200years.noaa.gov/foundations/numerical_wx_pred/S1Chart06.html) (Accessed Oct. 5, 2011)