Lecture-Level learning goals for *Storms*

UBC EOSC 114, *The Catastrophic Earth-Natural Disasters*

Day 1

- Be wary of the main storm hazards.
- Describe the different types of lightning, how they form, and what happens when they strike something.
- Recognize thunderstorms, be able to identify Tstorm components, and and explain how they evolve.
- Explain how storms get their energy from the sun.

Day 2

- Explain the main characteristics that make a supercell so much nastier than a normal Tstorm.
- Be able to recognize thunderstorms in radar and satellite images.
- Explain the behavior of downbursts and gust fronts, and identify their associated cloud & dust features.
- Describe why the fact that cold air holds less water vapour is critical in explaining how Tstorms can extract energy from humid air.

Day 3

- Be able to recognize tornadoes and wall clouds.
- Explain why supercell thunderstorms spawn the most dangerous tornadoes.
- Relate the Enhanced Fujita scale to different amounts of damage.
- Describe safety procedures near tornadoes.
- Identify the times and places for high tornado risk.

Day 4

- Recognize mammatus clouds and the flanking line, and describe their relationship to Tstorms.
- Explain how vertical and horizontal winds are created by heat released in storms.
- Explain what the continuity effect is, and how it ties vertical and horizontal motions into circulations.
- Describe rain and hail hazards of Tstorms, and state actions you can take to be safe near Tstorms.

Day 5

- Identify the components of a hurricane.
- Explain how hurricanes get and utilize heat energy, and why hurricanes can exist for weeks.
- List the requirements for hurricane existence, describe how hurricanes evolve, and what causes them to die.
- Describe the risks associated with hurricanes, and appropriate safety procedures.