Kimiwan Complex Ignition Lab

In this lab, we will look at the ignition and initial growth period of the Kimiwan complex fire. Please answer the following questions:

- 1. Use NOAA's land surface analysis tool: (<u>https://www.wpc.ncep.noaa.gov/html/sfc-zoom.php)</u>
  - a. Identify which land surface feature could have contributed to the lighting ignition (2 points).

b. Looking at the Peace River, AB weather station. What were the observed weather conditions at 00Z May 4 2023? (hint: the weather stations aren't labeled. Use geographic features to help you find the station.) (2 points).

- Use GWIS and look at the fire weather products and assess what condition could have also contributed to this extreme fire danger. (<u>https://gwis.jrc.ec.europa.eu/apps/gwis\_current\_situation/index.html</u>)
  - a. What product did you use? (2 points)
  - b. What information does it tell us? (2 points)
- Use the Forecast Tools to analyze the synoptic weather conditions during the ignition (Int: 00Z Wed 03 May 2023). (https://www.eoas.ubc.ca/courses/atsc413/fct/forecast.html)
  - a. What key synoptic feature(s) were occurring? (3 points)

b. How would these conditions affect the forest fuels? (2 points)

- 4. Use the Forecast Tools to analyze the Upper Air Moisture (Int: 00Z Wed 03 May 2023). (https://www.eoas.ubc.ca/courses/atsc413/fct/forecast.html)
  - a. Describe what humidity values you see over the fire. (1 points)

- Use the Forecast Tools to analyze the near-surface mesoscale weather conditions (Int: 00Z Wed 03 May 2023). (https://www.eoas.ubc.ca/courses/atsc413/fct/forecast.html)
  - a. Look at the Convective Available Potential Energy (CAPE) and describe the values of CAPE over the region and what it could mean for the potential for thunderstorms (2 Points).

 b. Describe the diurnal weather cycle for each day in the 48 forecast period. (2 Points)

c. How would this diurnal weather cycle affect the fuels and fire behavior after ignition? (4 Points)