

ACTIVITY: Track of Hurricane Jeanne

- Teacher Instructions

CGC1D Curriculum expectations

B1.5 analyse the risks that various physical processes and natural events, including disasters, present to Canadian communities, and assess ways of responding to these risks.

B2.1 analyse interrelationships between physical processes, phenomena, and events in Canada and their interaction with global physical systems.

1. Organize students into random groups of three (you can use pickerwheel.com to randomize or a deck of cards (with extra cards removed)).
2. Each group requires:
 - Activity pages 2-4 (below)(includes data chart and map)
 - ONE of the following role handout with questions (pages 4 and 5, can cut page in half to handout) (There will be multiple groups with the same role)
 - Vertical white boards + dry erase marker OR chart paper + marker.
 - One pencil
3. All the instructions that students require are on the handouts.
4. OPTION - After each group discusses/records the answers to questions have a quick class verbal check-in to see the different viewpoints.
5. At the end of the Activity, have students write an individual reflection in their notes about the activity. Suggested prompts they could be given include:
 - a. How did the storm progress?
 - b. Did all roles agree with what action should be taken? why/why not
 - c. What factors were not taken into account?
 - d. How would a storm like this impact Canada?
 - e. What can individuals, families and communities in coastal areas do to meet the hurricane threat?

Note: this is adapted from the American Meteorological Society lesson plan posted here:

<https://www.ametsoc.org/ams/index.cfm/education-careers/education-program/k-12-teachers/project-atmosphere/training-opportunities/project-atmosphere-peer-led-training/project-atmosphere-peer-training-resources/hazwx-hurricane-activity/>

ACTIVITY: Track of Hurricane Jeanne (student handout)

CGC1D Curriculum expectations

After completing this exercise, you should be able to:

B1.5 analyse the risks that various physical processes and natural events, including disasters, present to communities, and assess ways of responding to these risks. Including:

- describe how a hurricane can be tracked.
- observe the unpredictable path of a hurricane.
- use the track of a hurricane to plan a disaster relief program.

B2.1 analyse interrelationships between physical processes, phenomena, and events in Canada and their interaction with global physical systems.

Instructions:

The map provided shows an area of the Atlantic Ocean and Caribbean Sea off the East Coast of North America. Use the map to track the path of Hurricane Jeanne from the positions given in the accompanying table. Each position shows the center of the storm for the time indicated in the table. These positions are given as latitude and longitude. Longitude advances toward the left (west) and latitude advances upward (north).

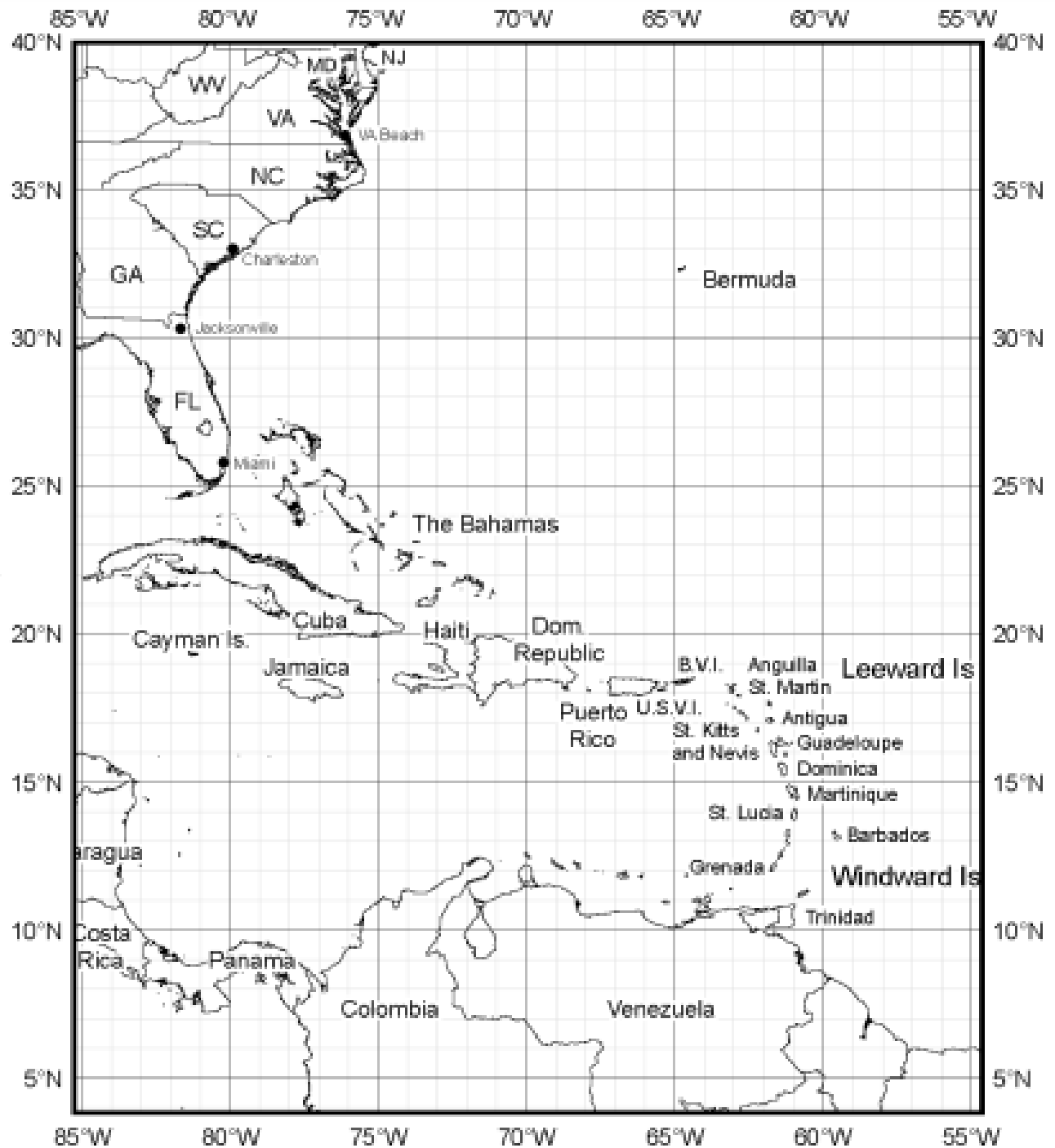
- A. Begin by plotting the positions number 1 to 5 from the table. Connect these points with line segments.

Hurricane Jeanne, 13 – 28 September 2004

Date	Time (UTC)	Position #	N. Latitude	W. Longitude	Wind Speed (kt)	Stage
9/13	1800	1	15.9	60.0	25	TD
9/14	1200	2	16.7	63.5	50	TS
9/15	1800	3	18.1	66.2	60	TS
9/17	0600	4	19.4	69.9	55	TS
9/18	0600	5	20.4	72.5	45	TS
9/18	1200	6	21.2	72.8	45	TS
9/19	1800	7	24.2	72.3	45	TS
9/20	1800	8	27.2	71.4	75	H
9/22	0000	9	27.2	68.9	80	H
9/23	0000	10	25.7	69.0	85	H
9/24	0000	11	26.0	70.4	70	H
9/24	1200	12	26.2	72.2	80	H
9/26	0000	13	27.1	79.4	105	H
9/26	0600	14	27.3	80.6	95	H

UTC is Universal Time Coordinated, 4 hours ahead of local Atlantic Standard Time.

(Legend:TD=Tropical Depression, TS= Tropical Storm, H= Hurricane)



(Adapted from the Atlantic Basin Hurricane Tracking Chart, NHC,
http://www.nhc.noaa.gov/tracking_charts.shtml)

- B. Next, continue to plot point 6 and connect to the path. Consider the questions again, are any changes needed?
- C. Plot 7, 8 and consider the questions.

- D. Then plot 9 and consider the questions.
- E. Follow with point 10, then point 11, finally point 12 considering if the answers you have given to the questions need to be reconsidered.
- F. Lastly, plot points 13 and 14. How did your track and time projections work out?

Jeanne formed from a tropical wave off Africa on 7 September. The wave slowly strengthened to a tropical depression and then storm by 14 September. As Jeanne moved over Haiti, the heavy rains caused mudslides that claimed the lives of 3,000 people and washed away 200,000 homes. In the U.S. 4 deaths were directly caused by Jeanne along with property losses of 6.9 billion dollars. That year, Jeanne was one of three hurricanes to cross central Florida within one month.

ACTIVITY: Track of Hurricane Jeanne

This activity involves a role playing scenario. The role that your group has been assigned to is:

❖ The weather forecasting office (meteorologist)

**Consider what interests your assigned role would support.*

Instructions:

At each of the pauses, as shown with the dotted lines in the plotting table, answer the following questions. Record your thoughts on vertical white boards or chart paper.

1. What would you tell/advise people living in the immediate area?
2. What would you tell/advise people living in Florida?
3. What is the anticipated landfall point for the US Mainland? When will that happen?

ACTIVITY: Track of Hurricane Jeanne

This activity involves a role playing scenario. The role that your group has been assigned to is:

❖ Government Emergency response personnel

**Consider what interests your assigned role would support.*

Instructions:

At each of the pauses, as shown with the dotted lines in the plotting table, answer the following questions. Record your thoughts on vertical white boards or chart paper.

1. What would you tell/advise people living in the immediate area?
2. What would you tell/advise people living in Florida?
3. What is the anticipated landfall point for the US Mainland? When will that happen?
4. If you were in charge of emergency management for the area to the west of the storm's position, what action would you take, if any? Explain.
 - ★ Consider that it will take several hours to alert people in you exposed areas and allow them to evacuate, if needed. (The more people at risk, the more time it will take to move them and the time of day should be considered.

ACTIVITY: Track of Hurricane Jeanne

This activity involves a role playing scenario. The role that your group has been assigned to is:

❖ School officials

*Consider what interests your assigned role would support.

Instructions:

At each of the pauses, as shown with the dotted lines in the plotting table, answer the following questions. Record your thoughts on vertical white boards or chart paper.

1. What would you tell/advise people living in the immediate area of your school board?
2. What would you expect that people living in Florida are being told?
3. What do you predict is the anticipated landfall point for the US Mainland? When do you predict that will happen?
4. Thoughts need to be given to evacuation assembly locations and supplies, as well as emergency medical equipment and aid. Would you take any action at this point? If so, what would you do?

ACTIVITY: Track of Hurricane Jeanne

This activity involves a role playing scenario. The role that your group has been assigned to is:

❖ Civic representatives (eg: town council, business owners)

*Consider what interests your assigned role would support.

Instructions:

At each of the pauses, as shown with the dotted lines in the plotting table, answer the following questions. Record your thoughts on vertical white boards or chart paper.

1. What would you tell/advise people living in the immediate area of your town/business?
2. What would you expect that people living in Florida are being told?
3. What do you predict is the anticipated landfall point for the US Mainland? When do you predict that will happen?
4. Thoughts need to be given to evacuation assembly locations and supplies, as well as emergency medical equipment and aid. Would you take any action at this point? If so, what would you do?
5. Who will be included if the hurricane conditions overwhelm the local abilities to cope? Who else could help?