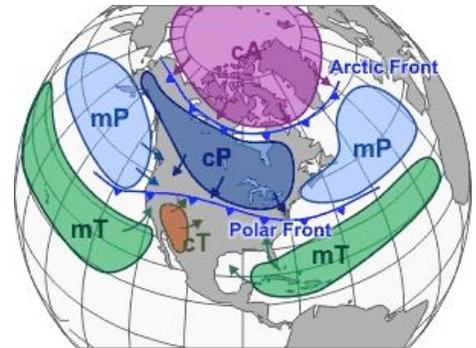


Air Masses Demonstration

To accompany: <http://serc.carleton.edu/dev/eslabs/weather/3b.html>

Gather the following materials:

- A large globe or beach ball globe
- Sheets of colored paper 5 different colors
- 2 pipe cleaners, or sturdy floral wire
- 20, 1" blue triangles, made with colored paper or blue masking tape
- Blue masking tape (painters tape)
- Scissors and Pencils

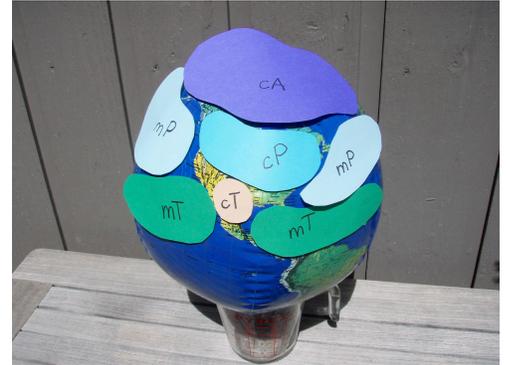


Source: NWS JetStream

1. Read the information about air masses and fronts, below. As you read, relate the information on the card to the steps in your demonstration.
2. Assemble and practice your demonstration of Air Masses.
 - a. Using the graphic pictured right to guide you, choose colors to represent the different air masses. Note: air masses are not absolute; they change shape and location.
 - b. Cut the shapes to fit on your globe as pictured in the diagram and sample below.
 - c. Tape the shapes lightly to the globe with the painter's tape (Hint: make loops of the tape and attach it to the back of the paper, so that it won't show)
 - d. Bend 2 pipe cleaners, and attach blue triangles. Attach the assembled wires to the globe to show the location of the Arctic and Polar fronts
 - e. Review the descriptions of air masses and their source locations.
 - f. Remove the paper shapes and pipe cleaner from the globe.
3. Read the information about air masses and fronts a second time; practice explaining the information using the demonstration. Draw the air mass most commonly found over your state on your U.S. climate map.
4. Prepare to share your demonstration with the class. Determine the order in which you will share your information about each air mass, its source region, and its characteristics. Be sure everyone in your group has a role in the demonstration.

Air masses

In the image to the right, you can see the major air masses that affect North America. Air masses form over large geographic regions that are stable, such as the ocean, continents, and polar regions. They are characterized by their temperature and humidity, which is a result of their place of origin or **source region**. Air masses are one of the primary forces that control a region's weather. For example, an Arctic air mass is very cold and typically dry. In contrast, an air mass whose source region is more tropical, is warm. An air mass would be moist if it originated over the ocean and dry if its source region was over a continent.



Air masses are slow moving and relatively stable; they influence weather on a time scale of several days to a few weeks. As they move to a new region, they gradually are transformed by the characteristics of the new region. For example, an air mass that moves from the polar regions southward will gradually warm and lose its "punch."

Air Mass Type	Weather Map Symbol	Source Region	Characteristics	
			Winter	Summer
Arctic	A	Siberia, Arctic Basin	bitter cold, dry	cold, dry
Continental polar	cP	interiors of Canada and Alaska	very cold, dry	cool, dry
Continental tropical	cT	southwest United States, Mexico	warm, dry	hot, dry
Maritime polar	mP	North Pacific Ocean	mild, humid	mild, humid
		North Atlantic Ocean	cold, humid	cool, humid
Maritime tropical	mT	Gulf of Mexico, Caribbean Sea, tropical and subtropical Atlantic Ocean and Pacific Ocean	warm, humid	hot, humid

source:

http://glencoe.com/sec/science/earthscience/2007/concept_motion/intr_tables/tables/egeu_ch12_t12_1.swf