Students And Teachers Evaluating Local Landscapes to Interpret The Earth from Space

DATA COLLECTION MANUAL

December 2 - 13, 2002
January 27 – February 7, 2003

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# TABLE OF CONTENTS

Cloud Data Log ........................................................................................................... 4
Preparation Steps ......................................................................................................... 5
Details about Each Field .............................................................................................. 5

<table>
<thead>
<tr>
<th>Details About Each Field</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
</tr>
<tr>
<td>Start Time</td>
</tr>
<tr>
<td>School's Name</td>
</tr>
</tbody>
</table>

Predominant Cloud Type ................................................................................................ 6
<table>
<thead>
<tr>
<th>Predominant Cloud Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Level of Entire Sky</td>
</tr>
<tr>
<td>Mid Level of Entire Sky</td>
</tr>
<tr>
<td>Low Level of Entire Sky</td>
</tr>
</tbody>
</table>

Percent of Cloud Coverage .......................................................................................... 8
<table>
<thead>
<tr>
<th>Percent of Cloud Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern Quadrants</td>
</tr>
<tr>
<td>High Level Sky</td>
</tr>
<tr>
<td>Mid Level Sky</td>
</tr>
<tr>
<td>Low Level Sky</td>
</tr>
<tr>
<td>Eastern Quadrants</td>
</tr>
<tr>
<td>High Level Sky</td>
</tr>
<tr>
<td>Mid Level Sky</td>
</tr>
<tr>
<td>Low Level Sky</td>
</tr>
<tr>
<td>Southern Quadrants</td>
</tr>
<tr>
<td>High Level Sky</td>
</tr>
<tr>
<td>Mid Level Sky</td>
</tr>
<tr>
<td>Low Level Sky</td>
</tr>
<tr>
<td>Western Quadrants</td>
</tr>
<tr>
<td>High Level Sky</td>
</tr>
<tr>
<td>Mid Level Sky</td>
</tr>
<tr>
<td>Low Level Sky</td>
</tr>
</tbody>
</table>

Total Cloud Cover ...................................................................................................... 14
<table>
<thead>
<tr>
<th>Total Cloud Cover</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern Quadrant</td>
</tr>
<tr>
<td>Eastern Quadrant</td>
</tr>
<tr>
<td>Southern Quadrant</td>
</tr>
<tr>
<td>Western Quadrant</td>
</tr>
<tr>
<td>Average Cloud Cover for Entire Sky</td>
</tr>
</tbody>
</table>

Snow Data Log ............................................................................................................ 15
Preparation Steps ......................................................................................................... 16
Details about Each Field ................................................................. 17
Date ......................................................................................... 17
Start Time .............................................................................. 17
School's Name ........................................................................ 17

Observation Site: Snowboard .................................................. 18

Total Snowfall Measurements .................................................. 18
Preparation Steps ..................................................................... 18
North -or- South Transect ......................................................... 18
5 Meters Away ........................................................................ 18
10 Meters Away ...................................................................... 19
15 Meters Away ...................................................................... 19
20 Meters Away ...................................................................... 19
Average Transect Snowfall ...................................................... 20

East -or- West Transect ............................................................. 20
5 Meters Away ........................................................................ 20
10 Meters Away ...................................................................... 21
15 Meters Away ...................................................................... 21
20 Meters Away ...................................................................... 21
Average Transect Snowfall ...................................................... 22
Average Snowfall for Entire Snowboard Site ............................. 22

24-Hour Snow-Water Equivalent Measurements ....................... 22
Preparation Steps ..................................................................... 22
Snow Depth at Center of Snowboard ........................................ 22
Water Depth from Snowboard Container ................................. 23

Observation Site: #2 ............................................................... 25

Total Snow-Water Equivalent Measurements ............................ 25
Preparation Steps ..................................................................... 25
Snow Depth at Site #2 ............................................................. 25
Water Depth from Site #2 Container ......................................... 25

This Data Collection Manual is written so that anyone could understand it (K-12).

Therefore, it is simple and repetitive.

This manual has also been organized so that teachers could easily separate the sections if they choose to group their students.
## CLOUD DATA LOG

**Date:** __________  **Start Time:** __________

**School’s Name:** __________________________________________________

### HIGH LEVEL of ENTIRE SKY

**Predominant Cloud Type**

(Enter “None”, “Can’t See”, “Cirrus”, “Cirrostratus, or “Cirrocumulus”)

### MID LEVEL of ENTIRE SKY

**Predominant Cloud Type**

(Enter “None”, “Can’t See”, “Altostratus” or “Altocumulus”)

### LOW LEVEL of ENTIRE SKY

**Predominant Cloud Type**

(Enter “Stratus”, “Stratocumulus”, “Cumulus”, “Cumulonimbus”, “Nimbostratus”, “None”, or “Can’t See”)

### % of CLOUD COVERAGE

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>E</th>
<th>S</th>
<th>W</th>
</tr>
</thead>
</table>

(Enter "Can’t See" or a percentage from 0-100% for each quadrant)

### Total Cloud Cover

(Observed Total for Each Quadrant)

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>E</th>
<th>S</th>
<th>W</th>
</tr>
</thead>
</table>

(Sum each quadrant. Each quadrant's total can not be > 100%.)

### Average Cloud Cover for Entire Sky

(Calculated using All Total Quadrants)

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>E</th>
<th>S</th>
<th>W</th>
</tr>
</thead>
</table>

(Sum all total quadrants. Divide by 4. Answer can not be > 100%.)
CLOUD DATA LOG

Preparation Steps:

A) Data MUST be collected EVERY weekday (Monday thru Friday) during the following time periods:
   December 2 – 13, 2002 and January 27 - February 7, 2003

B) The best time to collect the data is between 9:30 am – 11:30 am every day.
   If you cannot collect the data between 9:30am – 11:30 am, then pick a time that you can.
   Remember, you must be consistent !!!
   You MUST collect your data AT THE SAME TIME EVERY day !!!

C) At the end of the project, you should have 20 days of cloud data.
   (Exception: No school due to a “snow-day”, etc.)

D) Please use a compass to determine the 4 directions: North, East, South, West.

Details About Each Field:

A) The **bolded**, CAPITALIZED, and **double underlined** words are the field names from the data log.

B) The *italic and “in quotes”* words are the choices of data that can be entered into a field.

C) Do the best that you can!

D) Thanks so much for all your hard work and dedication! HAVE FUN !!
PREDOMINANT CLOUD TYPE:

In the HIGH LEVEL OF ENTIRE SKY:

LOOK IN ALL DIRECTIONS VERY HIGH IN THE SKY.

1) If you cannot see the high-level sky in any of the quadrants, then record “CAN’T SEE” in this field.

   (NOTE: If this option is chosen, it can mean that there are mid-level and/or low-level clouds covering the entire sky and you cannot see the high-level sky. It can also mean that there is snow falling, and it is obscuring your view of the high-level sky.)

2) If you can see the high-level sky and there are no clouds in any of the quadrants in the high-level sky, then record “NONE” in this field.

3) If you can see clouds anywhere in the high-level sky, then pick the one cloud type that is the most predominant in the high-level sky and record it in this field. Sometimes there may be 2 or more cloud types in the high-level sky, YOU ONLY NEED TO PICK ONE TYPE, the MOST PREDOMINANT TYPE!

Choose one of the following 3 types:
   - “Cirrus”
   - “Cirrostratus”
   - “Cirrocumulus”

In the MID LEVEL OF ENTIRE SKY:

LOOK IN ALL DIRECTIONS IN THE MID-LEVEL RANGE OF THE SKY.

1) If you cannot see the mid-level sky in any of the quadrants, then record “CAN’T SEE” in this field.

   (NOTE: If this option is chosen, it can mean that there are low-level clouds covering the entire sky and you cannot see the mid-level sky. It can also mean that there is snow falling, and it is obscuring your view of the mid-level sky.)

2) If you can see the mid-level sky and there are no clouds in any of the quadrants in the mid-level sky, then record “NONE” in this field.

3) If you can see clouds anywhere in the mid-level sky, then pick the one cloud type that is the most predominant in the mid-level sky and record it in this field. Sometimes there may be 2 or more cloud types in the mid-level sky, YOU ONLY NEED TO PICK ONE TYPE, the MOST PREDOMINANT TYPE!

Choose one of the following 2 types:
   - “Altostratus”
In the LOW LEVEL OF ENTIRE SKY:

LOOK IN ALL DIRECTIONS IN THE LOW-LEVEL RANGE OF THE SKY.

1) If you cannot see the low-level sky in any of the quadrants, then record “CAN’T SEE” in this field.

   (NOTE: If this option is chosen, it can mean that there is snow falling, and it is obscuring your view of the low-level sky.)

2) If you can see the low-level sky and there are no clouds in any of the quadrants in the low-level sky, then record “NONE” in this field.

3) If you can see clouds anywhere in the low-level sky, then pick the one cloud type that is the most predominant in the low-level sky and record it in this field. Sometimes there may be 2 or more cloud types in the low-level sky, YOU ONLY NEED TO PICK ONE TYPE, the MOST PREDOMINANT TYPE!

   Choose one from the following 4 types:
   - “Stratus”
   - “Cumulus”
   - “Stratocumulus”
   - “Cumulonimbus”
   - “Nimbostratus”
% of CLOUD COVERAGE:

Preparation Steps:

- Use a compass to determine the 4 directions: North, East, South, West.
  Then, categorize the sky into 4 respective quadrants.
- Enter increments of 10% when determining the percentage of cloud cover.

**** If you entered “NONE” in Predominant Cloud Type field of any of the sky levels, then put a “0” (zero) in all of the corresponding level N, E, S, and W quadrants of the % of Cloud Coverage fields.
(This means that there are no clouds in all directions at that level of the sky.)

NORTHERN QUADRANTS (N):

LOOK ONLY IN THE NORTHERN QUADRANT OF THE SKY.

In the HIGH LEVEL SKY section:

1) If you cannot see any of the high-level sky, then record “CAN’T SEE” in this field.
   
   (NOTE: If this option is chosen, it can mean that there are mid-level and/or low-level clouds covering this quadrant and you cannot see the high-level sky. It can also mean that there is snow falling, and it is obscuring your view of the high-level sky.)

2) If you can see the high-level sky, then record the “percentage” (increments of 10%) of the northern quadrant covered by high-level clouds of any type.
   
   (Note: This percentage MUST be in increments of 10%.
   This percentage MUST range from 0–100%.)

In the MID LEVEL SKY section:

1) If you cannot see any of the mid-level sky, then record “CAN’T SEE” in this field.
   
   (NOTE: If this option is chosen, it can mean that there are low-level clouds covering this quadrant and you cannot see the mid-level sky. It can also mean that there is snow falling, and it is obscuring your view of the mid-level sky.)

2) If you can see the mid-level sky, then
record the “percentage” (increments of 10%) of the northern quadrant covered by mid-level clouds of any type.

(Note: This percentage MUST be in increments of 10%. This percentage MUST range from 0–100%.)

In the LOW LEVEL SKY section:

1) If you cannot see any of the low-level sky, then record “CAN'T SEE” in this field.

   (NOTE: If this option is chosen, it can mean that there is snow falling, and it is obscuring your view of the low-level sky.)

2) If you can see the low-level sky, then record the “percentage” (increments of 10%) of the northern quadrant covered by low-level clouds of any type.

   (Note: This percentage MUST be in increments of 10%. This percentage MUST range from 0–100%.)

EASTERN QUADRANTS (E):

LOOK ONLY IN THE EASTERN DIRECTION OF THE SKY.

In the HIGH LEVEL SKY section:

1) If you cannot see any of the high-level sky, then record “CAN’T SEE” in this field.

   (NOTE: If this option is chosen, it can mean that there are mid-level and/or low-level clouds covering this quadrant and you cannot see the high-level sky. It can also mean that there is snow falling, and it is obscuring your view of the high-level sky.)

2) If you can see the high-level sky, then record the “percentage” (increments of 10%) of the eastern quadrant covered by high-level clouds of any type.

   (Note: This percentage MUST be in increments of 10%. This percentage MUST range from 0–100%.)

In the MID LEVEL SKY section:
1) If you cannot see any of the mid-level sky, then record “CAN’T SEE” in this field.

   (NOTE: If this option is chosen, it can mean that there are low-level clouds covering this quadrant and you cannot see the mid-level sky. It can also mean that there is snow falling, and it is obscuring your view of the mid-level sky.)

2) If you can see the mid-level sky, then record the “percentage” (increments of 10%) of the eastern quadrant covered by mid-level clouds of any type.

   (Note: This percentage MUST be in increments of 10%.
   This percentage MUST range from 0–100%.)

In the LOW LEVEL SKY section:

1) If you cannot see any of the low-level sky, then record “CAN’T SEE” in this field.

   (NOTE: If this option is chosen, it can mean that there is snow falling, and it is obscuring your view of the low-level sky.)

2) If you can see the low-level sky, then record the “percentage” (increments of 10%) of the eastern quadrant covered by low-level clouds of any type.

   (Note: This percentage MUST be in increments of 10%.
   This percentage MUST range from 0–100%.)

SOUTHERN QUADRANTS (S):

LOOK ONLY IN THE SOUTHERN DIRECTION OF THE SKY.

In the HIGH LEVEL SKY section:

1) If you cannot see any of the high-level sky, then record “CAN’T SEE” in this field.

   (NOTE: If this option is chosen, it can mean that there are mid-level and/or low-level clouds covering this quadrant and you cannot see the high-level sky. It can also mean that there is snow falling, and it is obscuring your view of the high-level sky.)

2) If you can see the high-level sky, then
record the “percentage” (increments of 10%) of the southern quadrant covered by high-level clouds of any type.

(Note: This percentage MUST be in increments of 10%. This percentage MUST range from 0–100%.)

In the MID LEVEL SKY section:

1) If you cannot see any of the mid-level sky, then record “CANT SEE” in this field.

(Note: If this option is chosen, it can mean that there are low-level clouds covering this quadrant and you cannot see the mid-level sky. It can also mean that there is snow falling, and it is obscuring your view of the mid-level sky.)

2) If you can see the mid-level sky, then record the “percentage” (increments of 10%) of the southern quadrant covered by mid-level clouds of any type.

(Note: This percentage MUST be in increments of 10%. This percentage MUST range from 0–100%.)

In the LOW LEVEL SKY section:

1) If you cannot see any of the low-level sky, then record “CANT SEE” in this field.

(Note: If this option is chosen, it can mean that there is snow falling, and it is obscuring your view of the low-level sky.)

2) If you can see the low-level sky, then record the “percentage” (increments of 10%) of the southern quadrant covered by low-level clouds of any type.

(Note: This percentage MUST be in increments of 10%. This percentage MUST range from 0–100%.)
WESTERN QUADRANTS (W):

LOOK ONLY IN THE WESTERN DIRECTION OF THE SKY.

In the HIGH LEVEL SKY section:

1) If you cannot see any of the high-level sky, then record “CAN’T SEE” in this field.

   (NOTE: If this option is chosen, it can mean that there are mid-level and/or low-level clouds covering this quadrant and you cannot see the high-level sky. It can also mean that there is snow falling, and it is obscuring your view of the high-level sky.)

2) If you can see the high-level sky, then record the “percentage” (increments of 10%) of the western quadrant covered by high-level clouds of any type.

   (Note: This percentage MUST be in increments of 10%. This percentage MUST range from 0–100%).

In the MID LEVEL SKY section:

1) If you cannot see any of the mid-level sky, then record “CAN’T SEE” in this field.

   (NOTE: If this option is chosen, it can mean that there are low-level clouds covering this quadrant and you cannot see the mid-level sky. It can also mean that there is snow falling, and it is obscuring your view of the mid-level sky.)

2) If you can see the mid-level sky, then record the “percentage” (increments of 10%) of the western quadrant covered by mid-level clouds of any type.

   (Note: This percentage MUST be in increments of 10%. This percentage MUST range from 0–100%).

In the LOW LEVEL SKY section:

1) If you cannot see any of the low-level sky, then record “CAN’T SEE” in this field.

   (NOTE: If this option is chosen, it can mean that there is snow falling, and it is obscuring your view of the low-level sky.)

2) If you can see the low-level sky, then
record the “percentage” (increments of 10%) of the western quadrant covered by low-level clouds of any type.

(Note: This percentage MUST be in increments of 10%. This percentage MUST range from 0–100%.)
TOTAL CLOUD COVER:

This is the OBSERVED total cloud cover for each quadrant of the sky. This section looks at each quadrant separately, but includes all levels of the sky when calculating this OBSERVED total for each quadrant.

NORTHERN QUADRANT (N):

Add all northern quadrants % of Cloud Coverage.
This total cannot exceed 100%.
(If sum is greater than 100%, then you must redo your data collection for the % of Cloud Coverage for Northern Quadrant for all levels of the sky.)

EASTERN QUADRANT (E):

Add all eastern quadrants % of Cloud Coverage.
This total cannot exceed 100%.
(If sum is greater than 100%, then you must redo your data collection for the % of Cloud Coverage for Eastern Quadrant for all levels of the sky.)

SOUTHERN QUADRANT (S):

Add all southern quadrants % of Cloud Coverage.
This total cannot exceed 100%.
(If sum is greater than 100%, then you must redo your data collection for the % of Cloud Coverage for Southern Quadrant for all levels of the sky.)

WESTERN QUADRANT (W):

Add all western quadrants % of Cloud Coverage.
This total cannot exceed 100%.
(If sum is greater than 100%, then you must redo your data collection for the % of Cloud Coverage for Western Quadrant for all levels of the sky.)

AVERAGE CLOUD COVER for ENTIRE SKY:

This is a CALCULATED number.
Add all of the Total Cloud Cover quadrants, then divide by 4.
SNOW DATA LOG

Date: __________  Start Time: __________

School’s Name: ___________________________________________________

OBSERVATION SITE:  SNOWBOARD

<table>
<thead>
<tr>
<th>TOTAL SNOWFALL MEASUREMENTS (increments of .25 inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 METERS AWAY</td>
</tr>
<tr>
<td>North -or- South Transect</td>
</tr>
<tr>
<td>East -or- West Transect</td>
</tr>
</tbody>
</table>

AVERAGE SNOWFALL for ENTIRE SNOWBOARD SITE: 

24-HOUR SNOW-WATER EQUIVALENT MEASUREMENTS (increments of .25 inches):

- SNOW DEPTH at CENTER of SNOWBOARD
- WATER DEPTH from SNOWBOARD CONTAINER

OBSERVATION SITE: #2

TOTAL SNOW-WATER EQUIVALENT MEASUREMENTS (increments of .25 inches):

- SNOW DEPTH at SITE #2
- WATER DEPTH from SITE #2 CONTAINER

* NOTE: If ANY Snow or Water Measurement > 0 inches, but < .25 inches, then enter “TRACE”.

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*This content is a direct transcription of the given image and does not include any additional analysis or interpretation.*

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*The content includes placeholders for specific measurements, which are not filled in.*
SNOW DATA LOG

Preparation Steps:

A) Data MUST be collected EVERY weekday (Monday thru Friday) during the following time periods:

   December 2 – 13, 2002 and January 27 - February 7, 2003

B) At the end of the project, you should have:

   - 20 days of TOTAL SNOWFALL MEASUREMENTS
   - 20 days of TOTAL SNOW-WATER EQUIVALENT MEASUREMENTS
   - 16 days of 24-HOUR SNOW-WATER EQUIVALENT MEASUREMENTS
   (Exception: No school due to a “snow-day”, etc.)

C) The best time to collect the data is between 9:30 am – 11:30 am every day.
   If you cannot collect the data between 9:30am – 11:30 am, then pick a time that you can. Remember, you must be consistent !!!
   You MUST collect your data AT THE SAME TIME EVERY day !!!

D) Pick a Snowboard Observation Site. It should:
   - have a 60-foot radius around it
   - be on level ground
   - not disturbed by human or animal traffic
   - not prone to drifting snow
   - not near a rooftop or building
   - not near or under a tree canopy

   (NOTE: It would be helpful to mark your snowboard site with a tall stick or flag or something tall/bright. If snowfall is > 2”, you may have difficulty in locating your snowboard.)

E) Pick one (1) other observation site. It should:
   - be on level ground
   - not disturbed by human or animal traffic
   - not prone to drifting snow
   - not near a rooftop or building
   - not near or under a tree canopy

F) You will need 2 cylindrical containers with lids. The lip of the containers must be a solid circle. You can use a 2# coffee can. You can use a Hi-C can. One end must be open or cut out, so it can be used as a container to fill with snow. You CAN NOT use a beaker, because of its spout!

G) Please use a compass to determine the 4 directions: North, East, South, West.
Details About Each Field:

A) The **bolded, CAPITALIZED, and double underlined** words are the field names from the data log.

B) The *italic and “in quotes”* words are the choices of data that can be entered into a field.

C) Do the best that you can!

D) Thanks so much for all your hard work and dedication! HAVE FUN!!

**DATE:** month, day, year (“MM/DD/YY”) that you collect snow data.

**START TIME:** time (“HH:MM”) that you STARTED collecting snow data on that day. You must be consistent! You MUST collect your data AT THE SAME TIME EVERY DAY!

**SCHOOL’S NAME:** “Name of your school”
TOTAL SNOWFALL MEASUREMENTS:

Preparation Steps:

THESE MEASUREMENTS ARE TAKEN FROM THE SNOWBOARD SITE.

- Use a compass to determine the 4 directions: North, East, South, West.
- These measurements or data are documenting accumulative snowfall.
- Use a yardstick/measuring stick to measure the amount of snowfall.
- Enter number of inches when measuring snowfall.

**** IF THERE IS NO SNOWFALL ANYWHERE AT THE SNOWBOARD SITE (60' RADIUS), then RECORD “0” (ZERO) IN ALL OF THE TOTAL SNOWFALL MEASUREMENT FIELDS FOR BOTH TRANSECTS.

NORTH -or- SOUTH TRANSECT:

1) Choose either a Northern or a Southern transect that you will collect total snowfall data for the day.

   (NOTE: You MUST take all the total snowfall measurements (5-20 meters) from the same transect direction that you chose for that day. However, each day you can change the direction.)

2) Locate your snowboard.

   DO NOT DISTURB ANY SNOW ON THE SNOWBOARD, BECAUSE IT IS NEEDED FOR THE 24-HOUR SNOW-WATER EQUIVALENT MEASUREMENTS!!

5 METERS AWAY:

1) Walk 5 meters in a straight line from the snowboard in the direction that you chose for the day.
   (Hint: 1 meter equals 3 feet)

2) Put the measuring stick in the snow. Make sure the measuring stick is vertical and it penetrates all the way to the ground.

3) Record the number of inches of snow at this point.

   (NOTE: AT 5 METERS AWAY FROM THE SNOWBOARD:
   IF THERE IS NO SNOW, THEN
RECORD “0” (ZERO) IN THIS FIELD.
IF TOTAL SNOWFALL MEASUREMENT IS < _”, THEN
RECORD “TRACE” IN THIS FIELD.)

10 METERS AWAY:

1) Continue on your transect walking another 5 meters in a straight line from the
snowboard in the direction that you chose for the day.
(Hint: 1 meter equals 3 feet)

2) Put the measuring stick in the snow. Make sure the measuring stick is
vertical and it penetrates all the way to the ground.

3) Record the number of inches of snow at this point.

(NOTE: AT 10 METERS AWAY FROM THE SNOWBOARD:
IF THERE IS NO SNOW, then RECORD “0” (ZERO) IN THIS FIELD.
IF TOTAL SNOWFALL MEASUREMENT IS < _”, then
RECORD “TRACE” IN THIS FIELD.)

15 METERS AWAY:

1) Continue on your transect walking another 5 meters in a straight line from the
snowboard in the direction that you chose for the day.
(Hint: 1 meter equals 3 feet)

2) Put the measuring stick in the snow. Make sure the measuring stick is
vertical and it penetrates all the way to the ground.

3) Record the number of inches of snow at this point.

(NOTE: AT 15 METERS AWAY FROM THE SNOWBOARD:
IF THERE IS NO SNOW, then RECORD “0” (ZERO) IN THIS FIELD.
IF TOTAL SNOWFALL MEASUREMENT IS < _”, then
RECORD “TRACE” IN THIS FIELD.)

20 METERS AWAY:

1) Continue on your transect walking another 5 meters in a straight line from the
snowboard in the direction that you chose for the day.
(Hint: 1 meter equals 3 feet)

2) Put the measuring stick in the snow. Make sure the measuring stick is
vertical and it penetrates all the way to the ground.
3) Record the number of inches of snow at this point.

(NOTE: AT 20 METERS AWAY FROM THE SNOWBOARD:
  IF THERE IS NO SNOW, then RECORD “0” (ZERO) IN THIS FIELD.
  IF TOTAL SNOWFALL MEASUREMENT IS < ", then
  RECORD “TRACE” IN THIS FIELD.)

**AVERAGE TRANSECT SNOWFALL:**

Every day, this total accumulative average is calculated for each transect.

Add all Total Snowfall Measurements taken from your Northern or Southern Transect (5 – 20 meters), then divide by 4.

**EAST -or- WEST TRANSECT:**

1) Choose either an Eastern or a Western transect that you will collect total snowfall data for the day.

   (NOTE: You MUST take all the total snowfall measurements (5-20 meters) from the same transect direction that you chose for that day. However, each day you can change the direction.)

2) Locate your snowboard.

   DO NOT DISTURB ANY SNOW ON THE SNOWBOARD, BECAUSE IT IS NEEDED FOR THE 24-HOUR SNOW-WATER EQUIVALENT MEASUREMENTS !!

**5 METERS AWAY:**

1) Walk 5 meters in a straight line from the snowboard in the direction that you chose for the day.
   (Hint: 1 meter equals 3 feet)

2) Put the measuring stick in the snow. Make sure the measuring stick is vertical and it penetrates all the way to the ground.

3) Record the number of inches of snow at this point.

   (NOTE: AT 5 METERS AWAY FROM THE SNOWBOARD:
    IF THERE IS NO SNOW, then
RECORD “0” (ZERO) IN THIS FIELD.
IF TOTAL SNOWFALL MEASUREMENT IS < __”, then
RECORD “TRACE” IN THIS FIELD.)

10 METERS AWAY:

1) Continue on your transect walking another 5 meters in a straight line from the
snowboard in the direction that you chose for the day.
(Hint: 1 meter equals 3 feet)

2) Put the measuring stick in the snow. Make sure the measuring stick is
vertical and it penetrates all the way to the ground.

3) Record the number of inches of snow at this point.

(NOTE: AT 10 METERS AWAY FROM THE SNOWBOARD:
IF THERE IS NO SNOW, then RECORD “0” (ZERO) IN THIS FIELD.
IF TOTAL SNOWFALL MEASUREMENT IS < __”, then
RECORD “TRACE” IN THIS FIELD.)

15 METERS AWAY:

1) Continue on your transect walking another 5 meters in a straight line from the
snowboard in the direction that you chose for the day.
(Hint: 1 meter equals 3 feet)

2) Put the measuring stick in the snow. Make sure the measuring stick is
vertical and it penetrates all the way to the ground.

3) Record the number of inches of snow at this point.

(NOTE: AT 15 METERS AWAY FROM THE SNOWBOARD:
IF THERE IS NO SNOW, then RECORD “0” (ZERO) IN THIS FIELD.
IF TOTAL SNOWFALL MEASUREMENT IS < __”, then
RECORD “TRACE” IN THIS FIELD.)

20 METERS AWAY:

1) Continue on your transect walking another 5 meters in a straight line from the
snowboard in the direction that you chose for the day.
(Hint: 1 meter equals 3 feet)

2) Put the measuring stick in the snow. Make sure the measuring stick is
vertical and it penetrates all the way to the ground.
3) Record the number of inches of snow at this point.

(NOTE: AT 20 METERS AWAY FROM THE SNOWBOARD:
IF THERE IS NO SNOW, then RECORD “0” (ZERO) IN THIS FIELD.
IF TOTAL SNOWFALL MEASUREMENT IS < _”, then
RECORD “TRACE” IN THIS FIELD.)

**AVERAGE TRANSECT SNOWFALL**:

Every day, this total accumulative average is calculated for each transect.

Add all Total Snowfall Measurements taken from your Eastern or Western Transect (5 – 20 meters), then divide by 4.

**AVERAGE SNOWFALL for ENTIRE SNOWBOARD SITE**:

This is calculated every day to determine the average total (accumulative) snowfall at the snowboard site.

Add all Total Snowfall Measurements (5 – 20 meters) from both of your transects (North/South and East/West), then divide by 8.

**24–HOUR SNOW-WATER EQUIVALENT MEASUREMENTS**:

**Preparation Steps**:

THESE MEASUREMENTS ARE TAKEN FROM THE SNOWBOARD SITE.

- These measurements or data are documenting the amount of snowfall/water equivalent in a 24-hour period.
- Use a yardstick/measuring stick to measure the snow depth.
- Enter number of inches when measuring snow depth and water depth.

**SNOW DEPTH at CENTER of SNOWBOARD**:

1) Locate your snowboard.
2) Put the measuring stick in the snow in the middle of your snowboard. Make sure the measuring stick is vertical and it penetrates all the way to the snowboard.

3) Record the number of inches of snow at the center of the snowboard.

(Note: If there is no snow at the center of the snowboard, then record “0” (zero) in snow and water depth fields at snowboard site. If snow depth measurement is < __”, then record “TRACE” in snow and water depth fields at snowboard site.)

**WATER DEPTH from SNOWBOARD CONTAINER:**

1) Put your snowboard container upside down in the middle of your snowboard. If there is a lot of snow on the snowboard, push straight down really hard to squish the snow into the container. Leave the container in the middle of your snowboard.

2) Scrape off all other snow on your snowboard.

3) Take the lid of your snowboard container and slide it under your container. This will trap the snow in the container.

4) Tip over the container. Secure the lid on the snowboard container.

5) Now, make sure all of the snow is cleared off of the entire snowboard !!

6) Take the snowboard container, filled with snow, back to your classroom.

7) Let the snow melt in your snowboard container at room temperature.

   *** Do not melt the snow by placing the snowboard container on a heating element.
   *** Do not remove the snow from your snowboard container.
   *** Do not remove the water from your snowboard container.

8) Put a measuring stick in the middle of your snowboard container. Make sure the measuring stick is vertical.

   *** You must measure the amount of water in the snowboard container that the snow was collected in !
   *** Take this measurement soon after the snow has melted. We do not want a lot of evaporation to take place.
9) Record the number of inches of water in your snowboard container.

(NOTE: IF WATER DEPTH MEASUREMENT IS < __”, then
RECORD “TRACE” IN WATER DEPTH from SNOWBOARD CONTAINER
FIELD.)
TOTAL SNOW-WATER EQUIVALENT MEASUREMENTS:

Preparation Steps:

THESE MEASUREMENTS ARE TAKEN FROM SITE #2.

- These measurements or data are documenting accumulative snowfall/water equivalent.
- Use a yardstick/measuring stick to measure the snow depth.
- Enter number of inches when measuring snow depth and water depth.

IF YOUR OBSERVATION SITE #2 HAS BEEN DISTURBED BY TRAFFIC OR HAS DRIFTING SNOW THEN PICK ANOTHER SPOT CLOSE BY TO COLLECT YOUR DATA FOR THAT DAY.

SNOW DEPTH at SITE #2:

1) Pick a spot at Site #2 where snow has not been priorly collected.

2) Put the measuring stick in the snow at this spot.
   Make sure the measuring stick is vertical and it penetrates all the way to the ground.

3) Record the number of inches of snow at this spot.

   (NOTE: IF THERE IS NO SNOW AT THE SPOT THAT YOU CHOSE AT SITE #2, then RECORD “0” (ZERO) IN SNOW DEPTH AND WATER DEPTH FIELDS.
   IF SNOW DEPTH MEASUREMENT IS < __”, then RECORD “TRACE” IN SNOW AND WATER DEPTH FIELDS at SITE #2.)

WATER DEPTH from SITE #2 CONTAINER:

1) Put your Site #2 container upside down on the ground at the spot where you measured the Snow Depth.
   If there is a lot of snow, push straight down really hard to squish the snow into the container. Leave your container on the ground.

2) Scrape away the snow surrounding your container.
3) Take the lid of your Site #2 container and slide it under your container. This will trap the snow in the container.

4) Tip over the container. Secure the lid on the Site #2 container.

5) Take the Site #2 container, filled with snow, back to your classroom.

6) Let the snow melt in your Site #2 container at room temperature.

*** DO NOT MELT THE SNOW BY PLACING THE SITE #2 CONTAINER ON A HEATING ELEMENT.
*** DO NOT REMOVE THE SNOW FROM YOUR SITE #2 CONTAINER.
*** DO NOT REMOVE THE WATER FROM YOUR SITE #2 CONTAINER.

7) Put a measuring stick in the middle of your Site #2 container. Make sure the measuring stick is vertical.

*** YOU MUST MEASURE THE AMOUNT OF WATER IN THE SITE #2 CONTAINER THAT THE SNOW WAS COLLECTED IN!
*** TAKE THIS MEASUREMENT SOON AFTER THE SNOW HAS MELTED. WE DO NOT WANT A LOT OF EVAPORATION TO TAKE PLACE.

8) Record the number of inches of water in your Site #2 container.

(NOTE: IF WATER DEPTH MEASUREMENT IS < 1”, then RECORD “TRACE” IN WATER DEPTH from SITE #2 CONTAINER FIELD.)