

Dust on Snow BINGO Game:

1. Discuss the dust on snow phenomenon from the background resources provided in a PowerPoint in order to give students some basic knowledge on dust on snow.
2. To save class time, it would be helpful to generate a series of boards with randomly placed answers and have them printed and laminated in order to pass out to the class and be able to use them multiple times. You also can hand out dry-erase markers for the students to use.
3. Have the students write the 24 words associated with dust on snow randomly on their boards.
 - a) Southwest
 - b) Restoration
 - c) Aerosols
 - d) USGS
 - e) Albedo
 - f) Sunlight
 - g) Colorado plateau
 - h) 500-600 percent
 - i) snow
 - j) .43-.5
 - k) Senator Beck Basin
 - l) Wind
 - m) Biological crust
 - n) Early runoff
 - o) Absorbs
 - p) one month
 - q) Grazing
 - r) .8-.97
 - s) a dust event
 - t) vegetation
 - u) reservoirs
 - v) Colorado River
 - w) Spring
 - x) 250 gallons
4. Ask these corresponding questions in any order to the students and have them circle the answer that they feel is right. The first to get a “bingo” (check to make sure they answered the question with the correct answer) wins the first round. Play as many rounds as desired to cover all the questions.
 - a) From what direction do winds carrying dust generally travel?
 - b) What can be done to desert soils to reduce the dust on snow effect?
 - c) The name for suspended fine particles.
 - d) The government institution that studies dust, rocks, and deserts and is associated with dust on snow.
 - e) What natural process does dust on snow impact?
 - f) What do the dust particles absorb?
 - g) What region does most of the dust on the San Juan Mountains come from?
 - h) To what percent have dust levels increased since the 1800s?
 - i) What is the most reflective natural surface on earth?

- j) What is the measured albedo of dust covered snow in the San Juan Mountains?
- k) The study and weather site in the San Juan Mountains where the dust on snow phenomenon is frequently studied.
- l) What transports the dust from the desert to the San Juan Mountains?
- m) The layer of soil that is affected by disturbances such as grazing and development and its destruction leading to the erosion of soil.
- n) What outcome does dust on snow have on rivers and in turn on human water supply?]
- o) Dust _____ sunlight
- p) Observations in the San Juan Mountains have shown that dust on snow cover shortened the duration of snow cover by how much?
- q) What economic activity on grasslands is a main source of soil erosion?
- r) What is the albedo of fresh clean snow?
- s) An occurrence of dust is called:
- t) What is an important biological factor for soil stabilization?
- u) Where is water stored during times of early and quick snow runoff?
- v) What nearby river's runoff is highly affected by dust on snow?
- w) During what season is the majority of dust deposited?
- x) About how much water is lost in the Colorado River when early snowmelt occurs?

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		Free Space		