



Expedition Day 1 Questions and Answers

1) What is albedo and why have you chosen to study it?

<sum> Albedo is a measure of reflected light. White has an albedo of 1, while black has an albedo of 0.

2) How long have you been doing research on the arctic coast near Barrow and what makes it a good area to do your research?

<sum> Tom has been doing it close to 30 years, because it is easy to get to and the people are very hospitable.

3) When it is cold and blowing, can your eyes freeze shut?

<sum> Don says „Yes, they can. In fact it has happened to me when my eyes start to water and the water freezes before it drips away.%o

4) What kind of results have you obtained from your work and have you observed any changes during that time?

<sum>

5) How did you become interested in Albedo research?

<sum>

6) What type of education is needed to do the kind of work that you do? Where did you go to school?

<sum> Both did their Phd work at University of Washington.

7) Have you run into any polar bears while doing work there?

<sum> Yes, they do wander through from time to time.

8) We think of the arctic as a frozen land. What evidence do you see of change?

<sum> The mass or the ice as a whole has decreased.

9) What is the sea ice like at your study sites, how thick is it and can you hear it moving when you are out there?

<sum> It is about 7ft thick at this site and sometimes you can hear it groaning.

10) What is the albedo of the ice at your study sites?

<sum> About .85 right now because everything is covered with snow.

11) If the polar sea ice melts and there is more open ocean in the arctic what will happen?

<sum> That is a huge question, that is why a lot of arctic research is done. The ice will decrease and the water will increase, but it remains to be seen what effect it will have on clouds, temperatures, the climate, etc.

12) Could you give some examples of the albedo,s of various things like the ocean, tundra, a rain forest or pavement?

<sum> The darker something is the lower its albedo.

13) What is the hardest thing about doing work there and what is the easiest?

<sum> The hardest things is the weather, the easiest is getting here and doing the work.

14) How thick does the ice get up there?

<sum> Up to 3 meters

15) What are you wearing---are you warm enough?

<sum> Parkas, thermal bibs, fleece and more fleece, long underwear, mukluks, bunny boot and wool clothing.

16) How do you set up an experiment to study albedo and what kind of equipment do you use?

<sum> We use an albedometer.

17) What kinds of classes should I take in high school if I want to learn more understand more about albedo research?

<sum> Math, physics, chemistry, biology.

18) What majors in college would help me get a job in your field or a related field of work?

<sum> Astronomy, phycics, biology, atomospheric sciences.

19) What is the albedo of the earth as a whole and if climate change is occurring do you expect it to go up or down?

<sum> .37

20) What is the most exciting thing that has ever happened to you while working up there?

<sum> Close encounters with polar bears.

21) What is the sea ice like, is it smooth or rough, how much snow is on it?

<sum> It is all of the above and any where from 8-12 inches of snow.

22) How long will you continue your work there?

<sum> For quite a while longer, I don,t see stopping anywhere in the near future.

23) Are there other places that albedo is studied, if so why do they study it there?

<sum> Anarctica.

24) What other animals do you see there besides polar bears?

<sum> Arctic foxes, birds, whales.

25) Would changes in albedo affect any of the animals that live there?

<sum> In indirect ways.

26) Would changes in albedo affect any subsistence hunting activities?

<sum> It could possibly change migration patterns of caribou or whales.

27) How much light is Barrow getting this time of year?

<sum> 14-15 hours.

28) Do you do your research at the same time every year, if so why have you pick that time of year to do it?

<sum> Yes, in the spring, because it is light and things are frozen.

29) Do clouds affect your data?

<sum> Yes

30) Does it matter what time of day you conduct your research?

<sum> (not answered)

31) Have you always worked on this type of research if not what other research have you worked on?

<sum> (not answered)