CLIMATE CHANGE STUDY
CBC Radio, June 18, 7:30/8:30 a.m.

CBC: Global warming could cause shipping problems on the Mackenzie River in the near future, according to an environmental scientist. Jesse Jasper heads Environment Canada's atmospheric and hydrologic division in the north. He's also one of 60 scientists studying the effect of climate change on the Mackenzie River. The project is part of the Global Energy and Water Cycle Experiment, a world-wide climate change study. Jaspers says it's still unclear how global warming will affect the river's environment, but he says current studies show it may cause longer summers in the Mackenzie Basin.

JASPERS: If you have a longer summer, a longer period when ice isn't on the lake and controlling outflow from Great Slave Lake, there would be a longer period of lake levels to decline, and that would produce lower levels on the Mackenzie and more shipping problems.

CBC: Jaspers says low levels make it difficult for barges to use the river. He says the shipping season may shorten or change. The long term study looking at global warming and the Mackenzie will wrap up around 2011. The scientists will then share what they've learned with government, businesses and the public.

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CBC TV, Northbeat, June 15, 6:30 p.m.

CBC: What impact does climate change have on the Mackenzie Basin? That is the major question occupying scientists' minds studying this area. Prof. Lawrence Martz and other academics are in Yellowknife this weekend. They are planning the second phase of a ten-year project.

MARTZ: We know there are changes taking place in the global climate. We think we know what some of the factors are that influence that, but there are a lot of things that we don't know. And that's a big part of what the Mackenzie GEWEX study is all about, trying to better understand both what's happening within the climate system and what the implications of that might be.

CBC: Martz says once the study is complete, it will help decision makers plan for future development in the north.

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CBC Special Report, June 18, 7:45 a.m.

CBC: For years, we've heard the Arctic is the world's canary in a coal mine when it comes to global warming. Many scientists say the northern part of the world may be the first to experience changes and those changes could be drastic. Now a group of 60 Canadian scientists is narrowing their focus onto the Mackenzie River. They are looking at how the Mackenzie River Basin and the ecosystems surrounding it may be affected by climate change. Ming-ko Woo is a hydrology professor at McMaster University and he is the project leader of the GEWEX study. He joins me on the line from Calgary. Good morning.

WOO: Good morning, Randy.

CBC: Well, Professor, how does this study of the Mackenzie basin work?

WOO: Basically, we have a group of scientists who want to have a good and basic understanding of the relationship between the climate and the water resources in the northern environment. We first want to get the basic understanding of these processes and linkages and then we will try to explore what the implication would be of having a climate change on the northern climate and the water resources. Of course, whatever information we gather, we would like to provide to the community so that people can make informed decisions.

CBC: Why study the Mackenzie basin in relation to climate change and global warming?

WOO: There are several reasons for it. One is the Mackenzie is very representative of the northern environment. This is a vast area consisting of 1.8 million square kilometres which is almost like 20 percent of the entire land surface of Canada. So this is a large area that we don't have much information about, yet people who live in this area are very close to the environment. So that's one of the impetus that we choose the Mackenzie basin on. Secondly, statistics from the climate data has shown us that the Mackenzie basin in the last 50 years has warmed up quite a bit. So this might be an area that might be more sensitive to climate change, one of the areas in Canada anyway, that might be more sensitive to climate change. These are the reasons we choose Mackenzie.

CBC: What will happen to the plants and animals in the Mackenzie River basin if things do warm up because of climate change?

WOO: Well, plants and animals are very much influenced by the weather and by the climate and by the water availability. What we are trying to do is to provide the basic information on the climate and on the water resources, so that the ecologists and other wildlife people and people living on the land can make use of information and adapt to the changes that might come in the future.

CBC: What about the effect on industry like barging and hydroelectric power?

WOO: We have, in fact, the Northwest Territories Power Corporation as one of the partners which indicates the interest of the industry in our study. We have very strong interest in applying our research to the industry such as transportation and so on. So they are very interested in the availability of water and how the water resources would change in the future and we would like to provide the information on that. Right now, we are still halfway through our project and in the next several years, we will have more definitive information available for the industry.

CBC: I understand the project will wrap up in 2011. What are you hoping to achieve from the study?

WOO: What we hope to achieve is first we will have a good understanding of the climate and

water resources, which would allow us to put them into computer models of various types so we can make use of these models to project into the future and find out what the responses and find out what the responses might be on the climate and the water resources, so that if people want to find out what are the responses like the responses of climate and weather to climate change, we might have some idea and allow people to make use of the information.

CBC: So what's the next step?

WOO: Our next step is really right now we have gathered a lot of the fundamental information, fundamental data and understanding and the next step now is to work on these computer models, both within the scientific community and also with partnership from industries and from government.

CBC: And you have been coming up to the Arctic since 1973. What changes have you noticed in your studies?

WOO: My work is mainly in the Arctic Islands and it's got to be put into perspective of the kind of variability which is another feature that is quite important. Superimposed on these long-term changes is the whole deterioration from year to year. So some years could be exceptionally wet and some years could be exceptionally dry. So we have actually seen quite a lot of variations over the years in the Arctic areas and each one of those changes in conditions have led to a lot of changes and responses in the natural environment.

CBC: Professor Woo, thank you very much for joining me this morning.

WOO: Thank you very much. It's my pleasure.

CBC: Ming Ko Woo is the principal investigator in the Mackenzie Basin Global Energy and Water Cycle Experiment Study, otherwise known as GEWEX. The study looks at how climate change might affect the Mackenzie River Basin and the environment that surrounds it.