

Interview with Julia Jones, October 27, 1997, 3:30 pm, at her home in Corvallis, Oregon, Interviewed by Max Geier, Transcribed by Keesje Hoekstra.

After eight years as a professor of geography at the University of California-Santa Barbara, Julia Jones moved to OSU in 1989 and began collaborating with Gordon Grant, a colleague from graduate student days at Johns Hopkins University. That initial Oregon research focused on analysis of peak flows records from experimental watersheds at the Andrews Forest and from larger watersheds in the Cascades. Thus, began many years of analysis, publication, and mentoring of grad students working on long-term hydrology, climate, biogeochemistry, and other data. She also led several large, NSF-sponsored programs supporting undergraduate and graduate education, which student and faculty mentor talent to work at Andrews on a wide range of topics, including landscape ecology and applications of math and computer science.

Julia Jones: [first part of opening sentence, unintelligible; spoken as tape recorder being set up] -- their eyes were getting big as I was climbing over these logs. I was glad that Fred was there for some of them, because he has longer legs and can take bigger steps. (Chuckle)

Max Geier: I should get going here. I've fought with it a lot. I had a friend that came up from Texas to visit this summer, and had this little baby boy about a year-and-a-half old, went hiking with him up on Marys Peak, and he was pretty good until I started going down pretty steep inclines. His mom was behind, but he didn't see her. He got to the bottom, I turned around, and she looked at him, and he looked at us with these saucer eyes, kind of like he was in shock.

Jones: Was he in a backpack?

Geier: Yeah. One of those, traveler.....what do you call them? Those are pretty good and secure. He was just a little bit nervous about that. I just turned the tape on. Why don't we get started here? Like I said on the phone. If you could talk a little bit about the background of how you came to be involved at Oregon State University. I believe you started here in '91 or '2?

Jones: '91, actually.

Geier: '91, okay. Maybe you could talk about your personal background up until that time. What are your origins, got you to the Northwest, your interest in the kind of research that you're working at, and Oregon State University in particular?

J: **Jones:** My educational background includes a Bachelor's Degree in Economics, a Master's Degree in International Relations, and the Ph.D. in Geography and Environmental Engineering. One factor I think that contributed to my eventually getting here, was when I was in graduate school, I shared an office with Gordon Grant, and then after I got my Ph.D., I went and taught at the University of California at Santa Barbara, from '83 on. I had a joint appointment in geography and environmental studies, so I was teaching watershed science among other things. The Andrews and its work on watershed experiments came up in the course of that teaching. It

also came up in my Ph.D., which was about deforestation in East Africa. I searched the literature for all kinds, whatever studies were available, about deforestation and its effects on soils and other ecosystem properties, and a lot of the research was from the Andrews at that time. It wasn't all that directly applicable to semi-arid East Africa, but it was evident to me in 1980 and '81 when I was doing a literature search for my Ph.D. research, that the literature on these very general topics like hydrologic responses was quite dominated by particular places where they did a lot of long-term research. Places like Hubbard Brook and the Andrews. So, while I was at Santa Barbara, my research was on watersheds and soils. And I was doing a lot of work in East Africa in Tanzania where I'd worked for my Ph.D., and in Eritrea with my husband, who was doing his Ph.D. there. And you went around them.

Geier: You said you were in a graduate program with Gordon. Where was that?

Jones: Johns Hopkins

Geier: Hopkins, okay.

Jones: I was at Hopkins. And Reds Wolman served on both of our committees, so I think he's the person who should be identified as having a pivotal effect for me, in that I came into the program at Hopkins with a background primarily in social sciences and not much natural science. I wrote this really ambitious Ph.D. proposal for a coming year programming project that was going to optimize soil erosion and runoff and all kinds of things in East Africa. When I gave it to Reds to read, he gently suggested it might be useful to learn a little bit of natural science, which got me started in recognizing that there were a lot of science questions out there. So, I really made the transition during my Ph.D. from somebody who was interested in social sciences to somebody who is interested in natural sciences. Because I made the connection, that for the most part, the social sciences that I was studying were normative, and it was presumed that you could make normative recommendations because you had good data. So, it was really a question of how to apply values, and to make decisions about how to manage natural resources.

But during the course of my Ph.D., I realized, that in East Africa anyway, the basic data weren't there, and so, normative decisions were a little bit, almost irrelevant, because people didn't know the first thing about the place. Reds Wolman was really instrumental in helping me to make that shift. Firstly, by recognizing I was trying to make it, and, secondly, by commenting at various points that I was making this shift and that it's a different direction. Most people who make a shift like that go from a natural sciences background into planning, and I was going the other direction. I was working at that time, while I was doing my Ph.D., for "Resources for the Future," a private non-profit group in Washington D.C. that does policy analysis and economic studies of natural resources. And Reds was not only the chairman of the department that I was in at Hopkins, but he also happened to be the chairman of the advisory board for "Resources for the Future," by coincidence, when I was there. He really helped me to gain a perspective and a sense of direction, and was very encouraging of me.

Geier: I'm kind of curious about your training. You started in economics and international relations, and then moved into this Ph.D. program for environmental economics.

Jones: The Ph.D. program in the department which Reds was the chair of for many years, combined a social science part which was called, "A Program for Public Decision Making," with "Mathematics and Economics for Public Decision Making." That was the part of the program that I went into. But the department also had faculty like Reds, who was a geomorphologist, sanitary engineers, and a wide range of people in water chemistry and aquatic ecology. So, in the course of the Ph.D. I was exposed to people like Gordon, for example, who were doing science, or strict geomorphology, and got more and more interested in that aspect of it.

Geier: Gordon and I talked about this a little bit that, that Ph.D. group around Reds Wolman was pretty interdisciplinary.

Jones: Very much so. Well you know, Reds got his degree at Harvard and in a time period I think when the numbers of people in academia were considerably smaller [than today], and there wasn't so much a focus on specialization. And so, it's remarkable when I look around, I keep encountering people that I knew in that program in a variety of different locations. And they were, they became or they already were, a fairly extraordinary group of people, the thesis students in that program. Not just in our period, but also earlier periods. So, something about the interdisciplinary nature. Not only was a sense of interdisciplinary studies focused and fostered there, but I think people were given the confidence to believe that it was possible for them to do interdisciplinary work well. And Reds really is a master of that himself, because he moves in all different kinds of circles, and he manages to do it without overreaching himself scientifically, somehow. I think that was a really important role.

Geier: So, it sounds like you were attracted there, not by him so much, as the program.

Jones: Well, the interesting thing about how I ended up in that Hopkins graduate program, was because in the beginning of my international relations degree, a two-year program, the first year of it in Bologna, Italy. In the first few weeks of the term, some high-ranking members of the home campus in Baltimore [Johns Hopkins] came over to Bologna, as a boondoggle, I think primarily. But their one requirement was to meet with students while they were there, and I met with three of them. I met with a provost, and I don't know, I can't remember who they were. But in the course of that first year, when I told people about what I was interested in doing, which at that time I described as alternative energy strategies for developing countries, Reds name kept being recommended to me as somebody that I ought to work with. So, I eventually decided to pursue that and called him up. That's how I got into the program.

Geier: The program that you were in?

Jones: It's part of Hopkins, but it's called, "The School for Advanced International Studies."

Geier: Okay.

Jones: It's part of Johns Hopkins University, but the program is housed in Washington D.C. and in Bologna. It gives people a Masters of Arts in International Relations. And most of the people who do that degree go on to work for multinational banks, The World Bank, USAID, or they take diplomatic posts in different places.

Geier: And let's see, where did you do your BA?

Jones: My bachelor's degree was in economic development.

Geier: Which institution?

Jones: At Hampshire College.

Geier: Okay.

Jones: Hampshire is kind of like Evergreen [in Washington state]. Hampshire was established in 1970 as an experimental college. It has no grades and no credits. You work your way through the program by establishing a series of contacts with individual faculty members to do pieces of work. I chose it because I had been able to do well in a graded system, I had a really high class ranking, high SAT scores, and it was clear to me by the time I was applying to college when I was about 17, that I wanted to find an environment where I would be challenged. Where I'd be allowed to try to challenge myself rather than to look for external challenges like a graded and structured system. So, that's why I chose that place, and I did have some fairly good science teachers at Hampshire, although I didn't focus on science. I think they helped me also to gain a sense that science [career-wise] was doable. It wasn't outside of the realm of possibilities.

Geier: And they encouraged you to go on and do graduate work, but not necessarily in science?

Jones: Actually, I was warned away from doing economics in graduate school, and then, I chose international relations. I was trying to choose between being an interpreter or translator, because I had learned a number of different languages and was considering doing that as a career. But fortunately, I didn't get accepted into doing that, because in retrospect I can see it would have not been right. I realized, about the time I was entering graduate school that I didn't want to be the one doing the translating. I wanted to be the person whose work was translated or interpreted.

Geier: So the focus on East Africa came out of -- [last word covered by Jones's response]

Jones: Well, I was interested in energy, alternative energy strategies, for developing countries. And I had a friend who worked for USAID and was posted to Tanzania, which is a place that I had been interested in as a child because of "Lucy" and the archeological discoveries. So, I took advantage of the opportunity to go out and visit him, and then, I chose to do my Ph.D. project there. By that time, I realized that alternative energy for most developing countries just didn't work too well (Chuckle). So, that was what got me into doing deforestation work.

Geier: So then, when you finished your Ph.D., you were drawn to Oregon State University by your connections with Gordon [Grant]?

Jones: First of all, when I was teaching for eight years at Santa Barbara, and then included in that period, I was teaching watershed science as well as soils and some other geography courses and environmental impact assessments. I called up Gordon to request the literature on watershed studies, which he sent to me. It was all done around wood ants, so he sent me that literature and I was then aware how much more there was than I had even uncovered during my Ph.D., that was about the impact of land-use change in monitored watersheds, that had been done in the western Cascades of Oregon. I was early in my career at Santa Barbara.

Geier: Maybe we could talk a little bit about your first impressions working at the Andrews, the first time you came out here. Let's see, did you start working there before you began with the OSU faculty?

Jones: When living in Santa Barbara, my husband and I, and he's British; he did not like Southern California because it was too materialistic, wealth-oriented, TV-oriented, and so forth. We were looking around for another a place to live that was different, and the university was limited because it didn't have forestry. Also, I was in soils and there wasn't a soils department. So, we were looking around for a university that would meet our needs better, and a Tanzanian colleague was on a one-year leave at OSU, so we came up to meet with him in 1987 in March. We both really remember that visit, because we both had drove up from Eugene in the valley [Willamette] in the springtime, and when we went to the bookstore it was full of all these books on environmental subjects that we liked. We thought, "Boy, if we had a chance to come to Oregon, this university seems to have the range of different things that we're both interested in."

In 1989, Scott was working on his Ph.D. and we needed to take a leave of absence to help him finish his research. We planned to spend a year in Eritrea working on his research, and we got to Britain at that time when Eritrea was at war, so the way you got into Eritrea was through Sudan. The Sudanese government for some reason denied Scott's visa, so we were in Scotland for a summer trying to figure out how he would ever finish his dissertation. He applied for research assistant jobs, and got a job as research assistant in a soils department here, so we moved here. We actually moved here to Corvallis in September of 1989, and I was still on the faculty at Santa Barbara at the time. Then we had Megan, but while I was pregnant with Megan, I went back to Santa Barbara to teach for a quarter. But, I was beginning to make connections with people up here because Scott was here, we were living here and I was talking to people on the campus. And I got to know Logan [Norris]. Well, part of the reason we had decided to come, to move here, was that Logan Norris, who you may have you interviewed --

Geier: I've talked to him.

Jones: -- He came to a conference in Edinburgh that summer of '89 when we were in Scotland, and we were debating about whether or not Scott could take this job and should we move to Corvallis. We talked to him about our situation and he was very encouraging about possibilities for both of us. After we moved here, I didn't have a job. But Logan and I talked, and I realized that I could apply for an NSF grant to come here as a visiting faculty member for a year. In 1990 I wrote a proposal to do that, building on soils research, African-type soils research collections, that I would do in the drier part of Eastern Oregon. That got funded, so I got a year's money to be a visiting faculty member in the Forest Science Department [OSU], for the '91-'92 year, and I was housed in the [USFS] Forestry Sciences Lab on the second floor, where I had plenty of opportunities to go to the LTER meetings and talk to people. That's how I got an initial exposure. In the meantime, I'd been sending letters to Gordon about whether or not we might come, and he was circulating them. So, when I showed up in town I got invited to LTER meetings with people like Fred, who were very welcoming and encouraging about the general idea of participating. But it really started to happen because once I got that grant funded. The first year I lived here, I was up for tenure in the UC system. I did get tenure in that system, but when I got this grant funded to come up here for a year as a visiting professor, I was going to ask for another year of leave. My department at that point in Santa Barbara realized I really didn't want to be there, so they asked me to resign. I didn't have to, but I did, and without a job. The Geosciences Department at OSU during that first fall I was here had three positions open, and I applied for one of them. The dean told them they actually only had money for one, after they'd listed applications for all three. So, they had to agree on one candidate for three fields, and by some miracle they chose me. Somewhere in there, before I got the "Visiting Professorship for Women" NSF grant, Gordon hired me as a research assistant to work with him on stream-flow studies. That was when we started work on something which eventually got published last year in 1996. And that was when I first started to really get my hands on actual Andrews' data.

Geier: So it was the comparative watersheds study?

Jones: Right. It's the study of stream-flow, peak-flow responses to harvest. That represented quite a transition for me, because over the years when I'd been doing work like that in Africa, I'd always regarded the work and the researchers here in the Northwest as sort of "rich" researchers. They had so much money. You can't get money to do this kind of research in Africa, and the long-term records aren't there. I had originally experienced some ambivalent feelings about LTERs. It's not that I saw them as being in competition with places where I would have liked to see the money go. But certainly, they were so much better off that I never regarded them as needing anything in the way of a contribution. And I certainly never saw myself as making a contribution in LTER, nor did I ever see it as something that I would have wanted to do. But when, for family reasons, I needed to be paid so that I could be here in Corvallis with Scott and our baby, I started to look at what had been done here. Then, in early 1990, I began to realize that the quality of the work that had been published, the research that had been published using these long-term streamflow records, was not very good. And actually, there hadn't been anything published to speak of for the last twenty years, and so the records were twice as long as they had been when the last time they had been published, and

maybe the story looked a little different. The more I got into it, the more I began to realize that in fact there was a need for somebody to work on a piece of the story here, and I sort of still feel that way about it.

Geier: So you've been aware of the research here in the forest [Andrews], but it sounds like hadn't really had an interest in it because of your focus on other areas.

Jones: Right. I'd read it and used the principles from it, as being instructive and helpful in an abstract sort of way, for what I wished we had been able to do in our African setting. But it had never been an ambition of mine to work in it, in that area, either geographically or conceptually.

Geier: Your understanding of what an experimental forest should be, at that point, sounds like it was a little bit colored by what your hopes were for African research?

Jones: My impression of the Andrews was that it was very highly-regarded, and it had a very, very high density of intelligent, educated minds and dollars per unit area of land. And if you relate it to what I regarded as the sort of global significance of the kinds of problems they were looking at, to me, they didn't compete with the types of environmental problems that we were trying to gain some understanding of in Africa. But then, after I'd been here for that little while, I began to see that it really all hinges around those long-term records. If those long-term records hadn't been here, and if they hadn't been so good, that is, so well-maintained, and the ancillary information so well-documented, then I might have lost patience with the whole thing. But once I started looking at the data, I thought, "If we can understand how hydrologic systems really work in practice, anywhere, it'll be here. Because these are the best records." And to my amazement, it hadn't been done. I had always presumed that records of that type would have long since been analyzed by somebody who had far more background and more training than I had. But it wasn't the case, because they hadn't been looked at. And that's also true, it's still true, of the climate records at the Andrews. David Greenland [Univ. of Oregon] has done a quite a little bit the last five years. But when I came here in 1990, those records [climate] had lain untouched for a long time. And it's a function of the way the LTER is funded, that it's funded to do the monitoring and not the analysis. Which isn't something we can do anything about.

Geier: So, it sounds like your interests changed a little bit after you made that realization about the data availability and the lapses in records.

Jones: There were a number of things that got me interested. A big factor was, I had not been able to do any significant collaboration in eight years at the University of California, probably because I was not yet a mature scientist. I didn't know how to interact with that community of people. Also, partly because I was working on a topic that was of little interest to any of my colleagues. Because it was abroad, they couldn't understand it and they didn't care about it. But partly because the institution, University of California, is strongly-hierarchical and very competitive, and there was no community of scientists there. As soon as I got to Corvallis, I

began to sense what it was like to live and work in a place where there is a community of scientists who share and interact and aren't competing, and don't see themselves as the pinnacle of the pyramid. I think the most attractive feature to me about making the decision to come to OSU, which as an institution was much less prestigious and I took a salary cut and all those kinds of things, was OSU and the Corvallis community of scientists, which for me includes the Forest Service people. That was really the factor that attracted me.

An awful lot of it was attributable to my time early on working in the lab, when I saw human interactions of a consistently much higher quality than anything I had seen at the University of California. And it wasn't just the interactions between the people on the "top of the pole," not just the faculty, it was interactions like the way Fred Swanson would talk to high school students or the undergraduates he'd hired for the summer who were crunching numbers in the lab. There was a sense of openness and respect for people, which for me is very much associated with Fred, [Swanson] because that's the way he operates. But I also had the impression that he set a tone, or he was the person I could see operating according to a tone that may just be a Corvallis thing, or may just be an OSU thing, or it might be the department; I don't where it comes from. But to me it was so much more inspiring to work in an environment characterized by those kinds of interactions than the one I'd been in, that I was just really thrilled to be here.

Geier: Out of all the three different research universities that you were at, Johns Hopkins, OSU and UC-Santa Barbara, you were at different levels when you were at each institution. If you were to compare those three institutions in terms of potentials for interdisciplinary exchange, how would you characterize them?

Jones: That's an interesting question. Looking back, in the department at Hopkins, there were some very powerful antagonisms among faculty members from different disciplines, or, as well, within disciplines. But for some reason, that didn't inhibit the graduate students from crossing disciplines. I know about half a dozen or eight who were there at the time, and they've all turned out to be really strong, interdisciplinary scientists in their own right, now that they're in their early 40's. I keep being reminded as I go to meetings and run into people from that time, that I had never expected to see an environment that we all were given, almost a subconscious training in the value, importance and do-ability of interdisciplinary science. That was very much talked about at Santa Barbara in the geography department, but there was also, my perception was, that there was a very strong, overriding feeling that you could also be wrong, which I think tended to hamper students. The graduate students and the faculty in the department at Santa Barbara have extraordinary individuals, each of whom, working in a particular disciplinary area that may be synthetic, but the department itself, I don't know how effectively it's offering interdisciplinary studies. They do have a graduate training program that combines geography and ecology, very much like ours. But I'm not enough in touch to know whether that helped. At the time, the comments you'd get from graduate students were like, "I'm not sure I should be doing a Ph.D. because I don't want to be like you when I graduate." Because they didn't like the way we lived.

Geier: From what you said, you didn't feel very much drawn into collaborative research while you were there. Correct?

Jones: Right. To a graduate student bringing the final version of a thesis; are you bringing this box in just to impress me? You really only need to bring in the pages I have to sign. (Chuckle)

Unknown voice: I will never let them separate.

Jones: You'll never let them out of your sight? Okay. (Chuckle)

Unknown voice: Actually, they're all upside down.

Jones: Does it have to be black ink, or ought it to be black ink?

Unknown voice: No idea.

Jones: Well, I'll go get a black pen just to be -- [Interview interrupted]

Geier: Let me pick up back up here. Kind of remind us where we left off; how would you characterize the advantages and disadvantages of doing group research for a young faculty member? You said it was something you wanted to do at UC-Santa Barbara, but didn't feel like it was conducive to that, or that the climate was conducive to that. Was that an issue?

Jones: Well I guess that like most things, the advantages are the same as the disadvantages; they just depend on your mood. At Santa Barbara, not being able to collaborate was a disadvantage, and the advantage was that you were independent. Here, working with groups, the advantage is that you get to interact and share ideas, and the disadvantages are that you're interdependent. It seems there's a lot of co-authored manuscripts, so you can't just dash off a manuscript and send it out. You need to make sure it's been worked on by your co-author, and also, edited pretty thoroughly. But on the whole, I would say the advantages far outweigh the disadvantages. That's because it has a lot to do with factors I'm not sure could work very well as a paradigm, because I don't actually know how it is that this climate for research here actually came to be, perhaps as a complicated function of things that are "Oregon-wise." People are nice in Oregon, and they're more open, for example, compared to California. That's maybe because of a lower population density and people having a sense of being less pressured to compete like "people on the street." [Hyper-competitive academic atmosphere.] This group consists of a lot of people who are really nice, and who presumably made a decision about being here that did not involve necessarily seeking out the highest prestige institutions. Not that OSU is low in prestige, it's just that prestige or status may not have been on the top of their criteria list for choosing a place to be, but they chose Corvallis for family, lifestyle, or academic-community reasons. Or they just came here. I mean, a lot of people who you have interviewed came here and stayed.

Geier: Yeah, often unintentionally. Where are you from originally? New England or -- ?

Jones: I grew up in Maryland.

Geier: Yeah.

Jones: Once I moved to the West, I wasn't attracted to the idea of going back to the city or urban environments. But, I never considered myself a Californian after eight years of living there, and yet, within a few months of living in Oregon, I felt like I could be an Oregonian. So, a sense of home, that's something probably that's shared by a lot of the people who work at OSU and who work on the LTER. And I know that sense of this being our home, that we want to take care of it, contributes to a stewardship ethic or ethos among the people who do ecosystem research at the Andrews. And I know that place, the Andrews itself, has an enormous appeal and significance at a whole bunch of levels for the people who work there.

Geier: Have you worked at any other experimental forests?

Jones: Well, I worked in the Los Padres National Forest in Santa Barbara. It's not an experimental forest, but it's a national forest in a chaparral environment, and it didn't have the grandeur of the Andrews. Few places do. And I visited and worked in the bush, cloud forests, and dry forests, in various parts of Africa, some of which were quite pristine. But this combination of having a beautiful ecosystem, parts of which are quite untouched by human hands, something which is evocative of natural history, and a community of people who care about it; I don't know whether you'd find that in very many places, certainly among the other LTER's. The other forest LTERs, they are second-growth forests, they don't have the primary forests the Andrews has since they're places established after farming hit the East Coast. And the other ecosystems have all been quite significantly altered, with the exception, there's the Konza Prairie LTER site, a little teeny tract of relatively undisturbed prairie in the middle of a bunch of farmland. Maybe the people who worked there have a sense of being in contact with the primeval forces that shape our environment in the absence of development and human activity. That may be a factor that brings together people who work on the Antarctic LTER. But, but on almost every count, the Andrews kind of outcompetes other places. It's been around so long, and not only has the vegetation been around, in some cases for 500 years or longer, but the records of people paying attention to it lovingly, are nearly 50 years old now. That's not true of any other LTER. Even Hubbard Brook, I don't think. Coweeta has records, stream-flow records that go back to the 1930's, so maybe there's some similarities. But the Andrews scores high on all possible criteria that you can think of to measure a place by.

Geier: Had you done any work with Hubbard Brook at all?

Jones: No, but I have a pretty strong sense of what it was about because my family has a camp on a lake in New Hampshire. I spent a lot of my summers in a second-growth, deciduous mix, conifer/deciduous mixed forest, up there. My great aunt was a natural historian and wrote children's books about the natural history of that area. So, I had a pretty strong sense about

what the places were like. I've never visited Coweeta, but from growing up in Maryland and thinking about the western Maryland part [Appalachia] of it, you sort of have a sense.

Geier: So, the personal or community commitment to a place is what you're identifying, rather what is unique about the Andrews in conjunction with the primeval conditions?

Jones: Well, there's something like a collective sense of awe about the Andrews, the place, which transcends the people and the buildings, the roads and the weather and everything else. And I think it's reflected in a sense of respect for the place that everybody who does work on it, shares. And it's a nice thing to share. I mean, there are a lot of other things that people are going to do together, but that's what's powerful for me.

Geier: Did that strike you right away or was that something that kind of grew on you?

Jones: Well, it did strike me very early when I went to visit the Andrews, that individuals like Fred [Swanson], whom I admired, had a very powerful emotional connection with the place. And you look at Ted Dyrness, Al Levno, all in their own ways, there is something there beyond a job, beyond having relatively close colleagues. There's something that keeps them going back there. And I think it's the place. I can't think of any other reasonable explanation. That may not be what they tell you. (Chuckle)

Geier: I think Ted has definitely, and Fred in his own way, said the same thing. That's actually a theme that's emerged pretty quickly in this study, is the various ways people have been drawn there, sometimes unsuspecting, that changes the way they view themselves in relation to work. Maybe we could talk a little bit about, where, since your arrival here at the Andrews, what would you identify as your most important study sites?

Jones: Well, I did some work on a place called "The Island," which is actually a butte in Central Oregon on Lake Billy Chinook Reservoir. It's a place that hasn't been grazed by domestic animals, nor burned very much. So it has a nice, dry ecosystem feeling about it, without having cow pies. (Chuckle) I feel very strongly connected still, although I'm not doing any work there, to some of the places we worked on in Africa. Scott's Ph.D. study was conducted on a high plateau in Northern Eritrea where much of the original vegetation is gone, but there are traces of human settlement including rock carvings, that go back to the time of Jerusalem, you know, that's before Christ. That place has a powerful feel, because of the sense of the long-term interweaving of climate, human activity and natural vegetation. Those are some of the places.

Geier: I've gathered from what you said that Scott has been kind of a close working associate over the years. I was going to ask you who, away from the Andrews and OSU, have been your closest working associates?

Jones: Well, Scott has been, and a couple of students. So, let's see, the student who did the study on Central Oregon was part of my visiting grant, was a masters student at OSU in forest

science. And she is a mature woman, older than I am, with whom I've had a very successful working relationship. She's a very hard worker, a very bright woman.

Geier: Who was that?

Jones: She's also English.

Geier: Her name?

Jones: Oh, her name is Christine Roberts.

Geier: Is she still in town here?

Jones: She was in Eugene awhile, and now she's started her Ph.D. in British Columbia in mycology.

Geier: Which university?

Jones: Right, sorry. The University of Victoria.

Geier: Oh, okay.

Jones: Pretty much all of my research energy since I've been here has been absorbed either by the work I'm doing on the Andrews or related long-term records in western Oregon, or with students, whom I'm almost all jointly supervising, either with Fred or Gordon.

Geier: Oh.

Jones: Mike Peters, working on projects either in the western Cascades or in the Coast Range of Oregon, and so, there's these other ties that don't relate necessarily specifically to the Andrews, but involve the same people.

Geier: Let me pick up on that here. Maybe you could talk a little bit about your strategy or philosophy about recruiting research assistants or graduate students, and how this works over the years?

Jones: Most of the students that I've worked with have been walk-ons in the sense that they were people who had already decided to come to OSU for one reason or another, and then, I met them after a couple of years. And they are people who came to me with an interest, usually in spatial pattern analysis of one kind or another. And an interest in processes, like fire or wind or stream flow or something like that and then they'd work together to develop a workable thesis project. An awful lot of that has involved very imaginative and creative suggestions from Fred or Gordon about ideas that they've had for a long time, which now can be looked at rigorously, when you combine the labor-power of a student, the capital equipment

of the laboratory, the GIS long-term records, and somebody like me who's willing to sort of go after some of the details in terms of advising. So, actually, we have got too many students, I think we have. I have a list on my wall in my office of about 30 or 40 students, whose committees I'm serving on or have served on in one capacity or another. Last spring before Gareth [son] was born, I had four Ph.D. students and one masters' student. So, it's been a pretty busy time, and that's indicative of how productive the interactions have been. Primarily with Jeff and also with Gordon on geomorphology.

Geier: So, the instruction of graduate students is actually more of a collaborative process like the research?

Jones: It is, actually, very much so.

Geier: Do you tend to work very much with Forest Service technicians or post-docs?

Jones: Well, I brought two post doctorates to the lab who work there now; Sherri Johnson and David Post. They've both been here for a-year-and-a-half or so. I've worked an awful lot with Barbara Marx. She's been very helpful to me in computer programming applications that I needed worked on. I also have interacted a lot with George Lienkaemper, who's wonderful, as part of the [land use history geography] project. It's nice to interact with George because he has a personal history with Andrews, and also, a disciplinary background in geology. And it's been nice to work with Barbara Marks, who I happen to have known for years because she was at Santa Barbara with Danny Marks in the same department I was at, in the same years I was there.

Geier: So, she moved up here about the same time also?

Jones: I think so, the mid-eighties. (Brief interruption with interview by child.)

Geier: I'll ask you just one more question. This might take you a little while to answer. Maybe you could talk a little bit about your philosophy or understanding of who is your target audience, or who are you researching and writing for?

Jones: Great question. There are some boundaries around that that are defined by my job and the fact that I work for Oregon State University. So, my target audience is the people, primarily, who read professional journals, academic journals. I see those people primarily as being scientists like myself, but also, I know that those journals are referred to by policy-makers, sort of directly or indirectly. Since I've been at OSU, I've gained an increased appreciation for how important that other audience is. Although it's not an audience that's recognized by the people who do promotion and tenure reviews in the university, it's a powerful audience, and one that has had a huge effect on the way the LTER has been managed. But, the way I think about it is that the audience that I'm writing to is an audience of people who have believed a certain number of relatively simplistic principles about how, for example, watersheds behave or soils behave. And are ready to question those, or to quantify them if they're not going to question

them. So, it's not an audience who's looking for textbook kind of messages, simple-minded principles that are un-quantified, but an audience that is looking for a slightly more complicated story.

And the complexity arises from geography. That is to say that, fundamentally, places behave because of the kinds of places that they are. So, when you do research about the Andrews, you use it as a basis for talking about -- [interruption by child]. Research from the Andrews has widely been extrapolated to the whole rest of the Pacific Northwest. Like I said earlier, this was a motivating factor for me because I like the idea that what can be discovered at the Andrews might be useful to people in Africa or elsewhere who don't have the same kinds of long-term records. That's another piece of an audience, scientists or other people working in other ecosystems, who might be able to read what we are learning about the Andrews and translate it to their place. So, a key part of that is learning how it is that what we learn about the Andrews gets modified if you move outside the Andrews, even locally within, for example, western Oregon. You know, with certain things that happen in some watersheds of the Andrews may not have happened exactly that same way or had that big of a response or taken that long to recover, both from the south of here or north of here.

Geier: Your peak-flow study would be an example of that?

Jones: The peak-flow study is an example of that because we started out looking at three small watersheds in the lower elevations of the Andrews, and then I expanded to look at the other small, paired-watershed studies within the Andrews, and found they were responding somewhat differently than the ones we had looked at initially. And then I got the long-term records that were collected by the same people who did design the same experiments up at the Andrews and about a hundred kilometers south and north of here, Coyote Creek and Bull Run. So, now I have a paper that's ready to go out that looks at ten paired-watersheds and tries to extract how their responses over time varied, not only according to treatment, but according to what kind of places they are. Actually, treatment doesn't explain much at all of how the watersheds responded. It's their inherent characteristics that explain how they respond. And that's the really interesting theme, and it's one that quite resonates with geography.

Geier: Sure, yeah.

Jones: And with my desire that the work that should come out of those places, that the wealth at the Andrews should be comprehensible and usable to a much broader audience.

Geier: I should probably let you go here, because I don't want to ride home in the dark. As you were talking it occurred to me, I've asked this question of most the people I've interviewed, and most of them have been scientists, and here you're a social scientist, and may have a different take on it. I wonder if you could briefly comment on your perception of whether there's a difference between basic science and applied science, or, if there is, how would characterize that?

Jones: Well, it's an interesting question because the National Science Foundation has been recently queried by Congress where people in Congress have a limited understanding of the value of basic science as opposed to applied science. So, it's easier to show the relevance of applied science because it's closer to practical, changing questions, usually. But, that's also the weakness of applied science because it may be too narrowly focused on the issues of the day. So, what's really neat about the Andrews is that it's an environment in which you don't have to worry too much about the distinction. I would say in the case of the Andrews, basic science is those long-term data sets. That are, you know, the heart monitor on the streams and the rainfall in the forest. And, trying to understand how they work, what controls this stuff. The applied part comes in when we're asked to interpret how those creeks are, for example, being modified by people, usually, and what we ought to do about it.

End of Side A, Tape 1 (of 1)/ End of Interview