Interviewee: **Dewar, William**
Interviewer: **Robin Sellers**
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Sellers: Okay, Bill, if you'll start out please by telling us a little bit about where you were born and where you grew up.

Dewar: Oh, well, 1955, that's when I was born, in Ohio, a small agricultural town in northwest Ohio, by the name of Kenton. And I grew up in Ohio, went to Ohio State University, so didn't leave the state until I was twenty-two.

Sellers: Ohio is fairly landlocked.

Dewar: It is, indeed.

Sellers: How did you end up studying oceanography?

Dewar: I think, as a lot of people, I got introduced to oceanography at that time because of the Jacques Cousteau – famous Jacques Cousteau – series that came out. We used to watch those on television. So I got interested in marine biology. When I was in high school, fifteen-sixteen years old, my family went on a vacation, I had the opportunity to scuba dive on a vacation and that was a lot of fun. So I decided I wanted to try to do that as a career. When I went to college, I found out pretty quickly that I wasn't enjoying biology very much, that I was seemingly better at math and physics, and so I kind of moved into math and physics as my major. And when I was graduating, I realized I had to find something to do pretty quickly, as I was graduating, and I was leafing through graduate school bulletins and saw something called physical oceanography, which seemed to have as prerequisites all of the courses I'd taken as an undergraduate. So I applied to graduate school in physical oceanography and got accepted.

Sellers: Where?

Dewar: Well, it's at MIT. They have a joint program with Woods Hole, so that's where I did my Ph.D. degree.

Sellers: Who did you work with there?

Dewar: Glenn Flierl was my Ph.D. advisor; I finished off in 1983.

Sellers: What did you have in mind to do with that degree once you had it?

Dewar: I was interested in moving into a research field and so I got a post-doc at that point at University of North Carolina with John Bane. I spent three years at Chapel Hill; that was very nice. At the end of that, that's when I got the job here and came here at the end of 1985.

Sellers: How did you get the job here? Were you recruited or did you see that they needed somebody, or were you just inquiring? Did you know someone?

Dewar: Well, it's been such a long time, I'm trying to remember.

Sellers: Twenty years is all. [chuckling]

Dewar: Yeah, I know, but I can't remember anything anymore. I think that I was — well, FSU had a pretty well know Oceanography Department and I was aware that they had an opening, but also, as I recall, I got a phone call from a couple of people here asking me if I'd be interested in applying. So it was one of those things where I was very happy to accept the invitation to apply, and had that not come I was going to apply anyway.

Sellers: Do you remember who those people were?

Dewar: I think Doron Nof, Tony Sturges, Benoit Cushman-Roison was here at the time, and I believe that he and I also talked about it. There was a conference here that was being held and run largely run by Jim O'Brien and Benoit Cushman-Roison; it was on Ocean vortices, something I had done some work on, and so I had gotten an invitation to come down and give a seminar for that. When I was down here, I think that's when I was talking to Benwa about the position, and Tony and Doron and a few of the other folks.

Sellers: So you applied the Spring of '65 and came in the fall?

Dewar: '85.

Sellers: '85. Sorry! Making you twenty years older than you really are.

Dewar: I feel like it. Yeah, I probably put in the application in the springtime of '85.

Sellers: Had you ever been to Tallahassee before?

Dewar: Yeah, as a matter fact, I interviewed here for a post-doc position, and that was the first time I came through. So about the end of 1982.

Sellers: So you had an idea of what kind of climate and area you were getting into, coming here.

Dewar: Yeah, mm-hmm. I interviewed here. When I came down to give my formal seminar, it was in August.

Sellers: Oh, you really got an idea.

Dewar: Well, from North Carolina, you know, it's pretty hot in Chapel Hill in the summertime, too, so it wasn't all that different.

Sellers: You're blood had thinned enough with the three years at UNC. Who was in the department and what was your arrival in Tallahassee like?

Dewar: Well, let's see. I came down to find an apartment in November of 1985, two days after Hurricane Kate. So that was memorable because of the number of trees that were down, and the sound that was everywhere in Tallahassee at the time of chainsaws. It was like you were living in a beehive, this constant chainsaw noise everywhere in town. They were cutting trees away from, you know, wherever. You know, I was fortunate in the sense that by the time I got back, power had largely been restored in the places I needed to go to – which isn't to say that all of Tallahassee had power restored by then, because it hadn't. But the places that I needed to get to or that I ended up getting to, you know, it was okay. I ended up finding an apartment — that was sort of interesting, just because, you know, thinking about a place to live, et cetera, and then sort of driving into town in the midst of this kind of chaotic situation. It leaves an impression on you. I still have this recollection of going to one apartment building that was on Ocala and something like four pine trees had fallen on one building. It was like the trees hated that building. It was just boom, boom, boom, you know, from all directions. They were willing to rent me an apartment in that building —

Sellers: I'll bet they were. [chuckling]

Dewar: — for a pretty good price, basically. But I decided to try some place else.

Sellers: So then you got here and your teaching started in January of '86?

Dewar: The sort of standard is that your first semester you get a relief from teaching, because they want you to get settled in. In our particular case this department is a research intensive department, so you're expected to beginning to make inroads in establishing your research program, which implies following up on any proposals that you have, finishing off any papers, getting other papers started, getting contact with students you might want to bring in as a graduate student. And that's what I did my first semester and summer, and then started off with regular teaching in the fall.

Sellers: How difficult was it to establish yourself right away with getting graduate students in and things like that? Were you able to pull on the reputation of the department?

Dewar: It was not that hard, because at that time there were a reasonable number of graduate students that were applying – from China, in fact. China had kind of opened up at that point, so there were a large number of students from mainland China who were applying to go to graduate school abroad. And I got a student, my first Ph.D. student from mainland China that time, Lianggui Chen, who had spent some time in Hong Kong and so I was able to make that connection pretty quickly. Because my post-doc at North Carolina (post-doc situations being what they are, it was a 100% appointment on research), I had an opportunity to establish a research program in addition to what was supporting my post-doc. So actually, I had, when I showed up here, a funded proposal from NSF and was going in as a co-PI on another proposal that was being submitted by some colleagues elsewhere. And so my research program was beginning to move, from the point of view of funding anyway. So that time was useful in kind of moving that along. And I think that experience on my part is not unusual, that if we're hiring somebody at an entry level, usually it's as a result of their post-doctoral experience. That's a major consideration. As a result of the post-doctoral they'll have experience in both writing papers, getting them published, and getting research grants at least submitted, if not funded. That record is essential and a major component in our deciding whether or not to hire somebody. And the first semester off allows people to follow up on that.

Sellers: Do you have any teaching requirements in the department?

Dewar: Yeah, our teaching load is one and one, which is fairly standard for the discipline across the country. Usually that gets — well, oftentimes people pick up a little bit extra in terms of running seminars or something like that, but that's it.

Sellers: And that allows you then, obviously, one semester off to do research and then two semesters that you're teaching one and one, so you're fairly free?

Dewar: The summer time — if by the addition of a third semester, you mean summertime — usually everybody has grant funding to pay their salary in the summer, so at that point they're contractually obligated to do research. And then it's the teaching plus a research assignment, or a fraction of time spent on research as according to assignment of responsibilities, and, you know, the two semesters and committee duty and advising graduate students and working with Ph.D. students.

Sellers: What are some of the grants that you have worked on and what's been your major focus?

Dewar: Mostly, well, almost singularly, I've been a theoretician since I showed up here. I had some observationally oriented projects as a result of my post-doctoral work. So initially, I was able to get some additional funding from the Navy to finish off a few of those projects and actually conduct one further project on my own, which is primarily observationally oriented, but since that it's basically been doing theoretical work and also numerical modeling. When I first showed up here in '85, the Navy was a primary funding source in oceanography, and that was

one of the two agencies that funded me for the first – I forget how many years – eight or nine years or so. Then when the Cold War ended, the Navy switched gears and largely — well, I wasn't the only person to run into this problem – they basically stopped funding open water oceanography, which is what I had been doing opposed to coastal.

Sellers: Why?

Dewar: Well, the primary interest that the Navy had in oceanography was locating the Soviet submarine corps, and they were an open ocean fleet. And so the Navy was primarily interested in funding research into relevant aspects of deep water oceanography. When that threat became less of an issue, they switched over to becoming focused on the littoral zone, the very near shore zone, and that was not something that I had traditionally done and funding agencies are typically pretty conservatives in the sense that if you don't have a track record in a given area, it's hard for you to become funded. You have to establish yourself in an area in order to earn funding. So, along with a lot of people in the field, the Navy cut off funding. I had also been funded by NSF, so then I had to compliment NSF funding with NASA. So I switched over to NASA and had NASA funding for several years.

Sellers: What is NASA's connection to oceanography?

Dewar: NASA flies satellites which are used for sea surface observations, and so what NASA was interested in was any kind of work that would exploit use of satellites. They're very good at telling you what the sea surface temperature of the water is and how it changes as a function of time. They're also very good at observing fluctuations in the surface elevation of the water and changes in time associated with that. So if what you're doing pertains to the analysis of satellite observations of those types, then you're doing something that NASA is interested in, and that's what I was doing, so NASA was willing to fund my work.

Sellers: How has that contributed to what the Oceanography Department at FSU has done?

Dewar: Well, let me see. I'm not sure how to answer that. We're sort of all independent contractors in a way, so what I have done, which has been communal with other folks both in this department and in the Department of Meteorology, was got involved in the Climate Institute, which was the effort — well, the cornerstone program was the one that the Office of Research opened up in the latter '90s, where they would ask faculty subgroups to submit proposals for centers of excellence and the proposals could be for up to $1 million to be spent over two years. So along with some colleagues, most notably T. N. Krishnamurti and Jim O'Brien – Krishnamurti is a meteorology faculty member, O'Brien holds primary faculty appointment in meteorology and secondary appointment in oceanography – the other person who was involved was Yousef Hussaini, who was a mathematics professor who is active primarily in the Supercomputer Computations Research Institute, as it was known at that time. The four of us put in a proposal to do large scale coupled ocean-atmosphere modeling, and that got funded. My

connection to that was again a large scale ocean modeling; primarily what I've done has been large scale open ocean general circulation modeling, and so I was involved in that aspect of it. So in terms of having a more departmental impact, that's the thing I've done, which has probably been more departmentally relevant.

Sellers: Who have you worked with most over the years?

Dewar: Well, I'm trying to think. I have written papers with Phil Hsueh, and George Weatherly and I have collaborated on some things. I've written papers with Doron Nof. Mostly, the number of collaborators that I have outside the university is probably larger than the numbers I have in the inside, but then again there are a lot more oceanographers outside of the university than inside. That stands to reason.

Sellers: In the years that you've been here, from say January of '86 when you first came here and maybe in a ten year and then another ten year segment, what have you seen happening with the department which you've approved of or not approved of?

Dewar: Well, departmentally, I've been pretty satisfied with the way things have been run, actually. The chairs have been – let's see, who have I seen as chair? Tony Sturges, Phil Hsueh, Dave Thistle, Bill Burnett, Nancy Marcus. I think all of them did a very good job. I have no complaints with what any of them have done. I think on the whole we've been treated pretty fairly by the administration. So I have found FSU to be a pretty comfortable place to work.

Sellers: Well, you've stayed.

Dewar: Yeah, yeah, yeah, yeah. Twenty-something years. And of course, we all need to be paid more, at least twice as much. But aside from that, no, I would say on the whole it's been a pretty good place to be.

Sellers: So your relationships personally and individually with various chairs have been satisfactory?

Dewar: Yeah, I think we've had very good chairs in this department. And the department is very collegial, which is nice; makes it easy to come work, you don't have any problems with your colleagues. It's a good supportive group.

Sellers: I know, personally, that you've made some trips to do research. Talk a little bit about those and what you found from them.

Dewar: Well, our field tends to be a pretty mobile one, I think, so I've been to several places. One of the interesting trips I had was to Moscow, just when Russia was opening up, basically. In fact, as I recall, Boris Yeltsin was still in charge, and I visited Moscow just before

– well, in May of the year when there was the August attempt at a coup. I believe it was 1991– I could be wrong on that. But that was very interesting to see Moscow as it was at that time, which was kind of it's sort of "pre-Westernization." So that was pretty interesting to see just culturally. Also, they had quite a remarkable set of, well, some very talented oceanographers in the Shirshov Institute, where I was visiting. Getting to know that group was really quite special, and that's, in fact, resulted in collaborations that continue to this day. I'm currently funded with George Sutyrin who is from the Shirshov Institution, now has a position at the University of Rhode Island, and he was the person who, in fact, issued me the invitation to come visit the Shirshov. That kind of opportunity to see the science of another country up close has been pretty useful, because it does broaden your thinking. They have very different interests and different expertise relative to us and our training. So seeing that, you're exposed to things that you wouldn't otherwise be exposed to, and that has proven useful.

Sellers: Where else have you been?

Dewar: China. I visited in China, Quang Cho, Hang Tzu, and Shanghai. Again, visiting the second institute of oceanography, Shiwan [??] University in Shanghai. I was just there for a short visit, so I didn't really go to any universities there. I was delivering a set of lectures there to some graduates students in China. That was quite useful, making contacts there.

Sellers: So your visits to Moscow and to China were more on an academic level than on an investigative level, as far as doing research?

Dewar: Oh, I was doing – okay, the visit to China was delivering lectures, and so that was more of an educational sort of trip. George Sutyrin and I were in the midst of writing a paper when he had mentioned the invitation to visit in Moscow, and so that was kind of more of a research-type visit. And also, I gave a couple of seminars. I got an opportunity to meet several people, some of which have resulted in subsequent collaborations, with Reznick, for example, comes to mind.

Sellers: You spent some time in Australia, did you not?

Dewar: Yes, sabbatical in Australia, at Hobart, and I was visiting Trevor McDougall there. Again, that was research based visit. He and I have enjoyed a long collaboration and it continues to this day. Spent some time in Grenoble, France. They have an institute of mechanics there. I have a colleague, Bernard Barnier; he and I have done a couple - three things together. Those collaborations continue. I got an opportunity to spend an extended visit in England – well, in fact, I sabbaticalled in Southhampton. And I also spent a month visiting Oxford. That was nice. Peter Killworth, again a long time collaborator. A very enjoyable sabbatical visit to Los Angeles.

Sellers: Los Angeles? Another country? [laughter]

Dewar: Well, not another country, but a different part of this country, and most interesting. I visited the Department of Atmospheric Sciences at UCLA, a very productive visit there visiting Jim McWilliams and his collaborators. Yes, those are probably the primary places that I've been.

Sellers: What courses do you teach (I know that sounds like a jump, but it'll come around) when you do your one-and-one?

Dewar: Ocean Dynamics. I have a course in the main ocean thermocline which I also give, and I also teach the undergraduate survey course in dynamic – well, it's actually called Elementary Oceanography, which the interesting thing about that is it attempts to cover all phases of oceanography, if not in great depth. So as opposed to teaching only physical oceanography, which is what I do at the graduate level, I'm tasked with trying to talk about biological oceanography, chemical and geological oceanography, which I have, as a result, developed some familiarity with. If not becoming a researcher in those fields, I've nonetheless gotten to the point where I'm able to lecture in them. And it's been pretty interesting, actually. I enjoy that.

Sellers: All of the trips that you make, then you bring new ideas and concepts and insights back. Are you ever able to incorporate them into the lecturing that you do?

Dewar: Oh yeah. The graduate courses that I teach, that I have taught – Dynamic Oceanography and Thermocline Theory, those are two different sorts of courses. Dynamic Oceanography is a basic graduate level course, so it's a second semester course in physical oceanography, and as a result it has a body of information which is reasonably classical. So that course is not subject to enormous variations from year to year, although having said that, I still update the materials, probably 10% – it varies about ten percent on an annual basis, or every time I give it, so that the observational stuff that I use to motivate the work is as up to date as it can be, and if any sort of ideas have become foundational, then they have to be incorporated in. Thermocline Theory is a research-based course in the sense that that's kind of a specialty of mine, from a theoretical perspective. So that course is probably subject to as much as 30% to 40% variation on an every time basis because it does need to be current. That's a research topic which is ongoing, and so in order to make it as relevant as possible, it has to be changed and modernized as we go along. So that's something constantly updated.

Sellers: How many graduate students do you have working with you right now, and are they masters and Ph.D.?

Dewar: Yeah. At the moment, I'm a primary advisor for two master's students, one of whom I am encouraging to continue on for Ph.D. That may happen. And I'm advising several others, co-advising another student in addition to that. So there's two people who are acting as primary advisors and I'm one of them.

Sellers: You don't have any Ph.D. students right now?

Dewar: Not anybody at the moment. I graduated two Ph.D.s last summer.

Sellers: Tell me a little bit about some of the Ph.D.s that you've had. Are there any experiences that you think are worthy of being recorded?

Dewar: Well, they've all been pretty good. I've been very pleased with them. One of the ones that I'm particularly pleased with is Sergey Kravtsov. This is as a result of the visit that I made to Moscow, some of the connections I made there. I ended up getting a graduate student, Sergey Kravtsov, who did a very nice Ph.D. dissertation on a couple to ocean atmosphere ice model, and showed some interesting — the question that's on people's minds is what causes low frequency variability in the climate system, and one of the thoughts is that you can get a series of feedbacks between ocean circulation and ice formation which can cause the system to naturally oscillate, and in the process of doing that you get climate fluctuations and so, you know, things like exceptionally cold winters, exceptionally warm winters. And so he did a very nice Ph.D. dissertation on a couple to ocean ice, primarily, and has gone on. He was at UCLA, so when I was visiting there, in fact, he was there at time on the research faculty, having just gotten there, having been elevated to that from being a post-doc for a couple of years. And he's since gone on to a faculty position at the University of Wisconsin, Milwaukee. He's doing very well, funded through Department of Energy, through NSF, some very nice publications, very nice contributions. He's one that it is very easy to be particularly proud of. The two guys that I graduated last summer, I have great hopes for. I think that they're going to do very well. They're still very young, but they managed to get some very nice positions. Dimitri Leonov got a very nice post-doc position at University of Washington, which is a very central place to go do oceanography. It's one of the premier institutions in the country. And Sebastian Bigorre got a post-doc at Woods Hole, and that's probably the finest oceanographic institution in the world. So those, I think, are very nice appointments, and I'm going to have a lot of fun of kind of keeping track of those guys as they continue. I wish they would get they're manuscripts to me so we could get their dissertations published.

Sellers: It always helps once they've graduated to get the real thing back to you. What do you see as the highlights of your particular career here at FSU?

Dewar: Well, I can tell you some of things I've done which I thought were the most fun. As to whether or not they're going to ever amount to anything in anybody's opinion, that's not for me to say. The field will decide that. One of the things that I got interested in was – how would one explain this? Well, essentially, the interaction of the large scale circulation, which is a fairly stable, steady state - creature - and large scale fluctuations. Those two things interact. And so the wave mechanics you might think about associated with the adjustment of the ocean to variable forcing does not happen in the absence of large scale circulation, but in fact those two things are coupled together. So one of the very first problems that I did was to look at that interaction. And I remember that being a particularly fun problem that I was able to make some

progress on and that was enjoyable. It was also partly enjoyable because it was one of my first pieces of research I had done here which was on my own, so I was kind of needing to establish something here on my own and that was it. So that was fun. And that actually, I believe, has turned out to have some interesting applications.

Sellers: Such as?

Dewar: Well, one of the things that has been noticed is that the variability that — I was talking about NASA and our ability to observe the ocean surface as they see particular structures in the ocean surface, and those structures are associated with wave-like characteristics of the ocean adjustment, and they had peculiar properties. It was noticed that they didn't behave as the most straightforward theory would expect them to behave, so there was something else going on. What was that something else? Well, that combined the propagation characteristics are influenced by the general circulation, and that study turned out to be relevant to the explanation of those observations. So that was kind of a nice application to that piece of work.

There's a few other things that I've done, but mostly, you know, these things are kind of just – if you feel you learned something from them, then they're personally rewarding. And I guess that's my – that would be a concise way of saying that when I've done something which I think I've actually, genuinely learned something from, then I found that to be rewarding.

Sellers: What about something that you really worked at that it turned out to be a disappointment?

Dewar: Well, there's a whole bunch of those [laughter]. Well, sometimes, you know, you put forward an idea, you develop a hypothesis about something, and it would appear at the surface to have possibilities for being rather rich, and it doesn't always turn out that way. Usually you get something out of it, but it ends up being rather confined, or not particularly broad.

Sellers: If nothing else, you get that you don't want to try it again?

Dewar: Well, or it's just the not the thing you were hoping it would be; it's just kind of dry. That's sort of a disappointment.

Sellers: Can you be more specific?

Dewar: Well, I thought I had an idea about an interesting problem associated with a propagation of what amounts to storms in the ocean, movements of storms through the ocean.

Sellers: Like hurricanes?

Dewar: Yea, the oceanic equivalent. They aren't anywhere as dramatic as hurricanes. You know, they don't have 100 mile-an-hour winds or anything, but they are still coherent

storms, which are in the ocean as opposed to being in the atmosphere, so they're less immediately, you know, have a lot of intuitive field for them. We're all very familiar with storms in the atmosphere, but there are comparable things in the ocean, and you'd like to understand them from the theoretical perspectives. I thought I had an idea about how it is that one could explain their unusual movements. Well, it kind of ended up giving me back a sensible answer, but it just was not particularly interesting. It was a rather dry answer.

Sellers: It wasn't as exciting as you had hoped it would be? [chuckles]

Dewar: No. No.

Sellers: What are you working on currently?

Dewar: Well, since I've become the chair, I've been trying to run the department, which has taken time, because I'm still new at it and so there's all kind of stuff you've got to figure out how to do. My colleagues have been good about helping, and former chairs have been available to advise me.

Sellers: Is that good?

Dewar: Yeah, very good, because oftentimes you just don't know what you're supposed to do, so you go ask and then they're very helpful in terms of trying to point me in useful directions. But, you know, just getting used to doing things and getting set up and having a procedure that — I've learned that you need to be able to recreate what you did, because people will come and ask you, "Why did you do that?" So you have to be able to review the record and remember why it is you made certain decisions, and this could be from a few months ago.

Sellers: You need a real paper trail.

Dewar: Yeah. And so establishing procedures so that you leave enough clues about what you've done that you can backtrack it, it's taken a lot of time and I don't know that I completely know how to do it well yet, but, you know, it becomes more cumbersome to do things. I'm learning how to do that. Aside from that, from the research perspective, I've gotten interested in a few other questions about the large scale ocean energy budget, which is sort of interesting, with a few twists and turns in the here and there.

Sellers: The large scale budget?

Dewar: Ocean energy budget, yeah. The question is: how does –

Sellers: We're not talking money, right?

Dewar: No, no, no. The ocean receives a certain amount of energy because of its

interactions with the wind and the sun and the rest of it, and how is that energy parceled out into the ocean in various kinetic ways and potential energy ways? And associated with those are issues about mixing in the ocean so that, you know, you've got hot waters at the surface and colder waters at depth and those tend to mix with each other, and how does that mixing take place; and there are various questions associated with that which are of climatic relevance and so I've been trying to work on those. And it's an issue these days, because numerical experiments would tell us one set of things and some laboratory experiments would tell us other things, and so there are uncertainties about how you resolve the seeming discrepancy between those two approaches. I'm getting different answers, and why is that? And you put all these things in a common framework, which helps us to understand them all, and then you want to translate that information back to what it has to tell us about the way the ocean operates. So that's what I've been working on lately.

Sellers: How did you get to be chair? Is it a rotation thing? You don't seem to sound like you campaigned for it.

Dewar: [chuckling] Well, our department writes a newsletter and the one that came out after I was named chair, I think, did the best job of explain how I got to be chair, and it was from the guy who was the chairman of the selection committee. He said, "It's kind of like what happens when a bear attacks a camp. All the bear has to do is be faster than the slowest runner, and Dewar was the slowest runner."

Sellers: The chairmanship of Oceanography is not a goal that each one of you has (she said, facetiously)?

Dewar: No, I would say not. It's important and it has to be done well. We have to interface effectively with the university. Our junior colleagues have to be mentored, and we have to promote them and foster their careers. We have to, as a department, serve the interest of the community and the university. So all these things have to be done, so this is an important job – and I don't mean to make light of it, I take it very seriously. But all of those things are distinct from the primary reason that one would do a job like this, become an oceanographer, and that is to be a researcher. And so if your interests are in that, then this is an encroachment on those interests. So in that sense, it's not something that one would come to a university, to a department of oceanography with the idea of being eventually the chair of the department. You come to a place like this because you think that it gives you opportunity to do the research you want to do, educate the students that you have an opportunity to work with, get your grants funded, those sorts of things, and FSU's certainly done that. But it would not necessarily be a goal. It isn't testament to your stature in the field. It isn't that, well, this obviously means that you're the best oceanographer of your department to be the chairman. You know, it means you're the slowest runner.

Sellers: How long is your term?

Dewar: Three years, and I'm just about to be at the end of my first year.

Sellers: It seems longer, doesn't it?

Dewar: Yeah, well, the reason I say it is because we had a sort of an unusual transition last time because the chair was Nancy Marcus, and after two years she was promoted to Dean of Graduate Studies. So she vacated this position a year early, and so it happened at a funny time and we didn't have the opportunity to go through the normal search procedure that we would do. So usually you have a year's heads-up, right? You know in a year the chair's going to be changing and so you form a committee to find the new chair. We didn't have time to follow our normal procedures.

[End of Side A]

Sellers: Was there any thought of putting in, perhaps, a temporary chair?

Dewar: Yeah, yeah. The procedure that they went through was they went around and sort of asked everybody who they wanted to have as chair, and I'm told that I had more votes.

Sellers: Where you maybe out of the room at the time? Is that what happened?

Dewar: Well, no, they went around to ask everybody individually, and so kind of polled everybody. So in that sort of ranking, I was the favored candidate, and it no doubt strikes you strange it would be that way.

Sellers: The process strikes me as a little unusual, but each department is very different.

Dewar: So at that time, I was thinking, well, you know — because it was an appointment that was coming up – well, the semester had already begun and I was doing an undergraduate course, which is our 500 + student course, and so in terms of my teaching plans and time needed for that, it was pretty extreme. So I was thinking, well, it's going to be hard to be a chair and start off as new chair and be teaching this course, the whole bit, at the same time. So I thought for a little bit about maybe trying to work out some kind of deal where I would come in later and have somebody be a temporary chair, but it ended up just sort of being difficult to do, logistically, and so I just said, "Ah, I might as well just bite the bullet and do it." And so I just, you know, kind of hopped in and struggled my way through the first semester. Taught the course, tried to do what needed to do as chair, that kind of stuff.

Sellers: And your research got kind of got hung out to dry?

Dewar: Pretty much, yeah. I didn't have any time for that.

Sellers: You have a course with 500 students in a lecture?

Dewar: It's two sections of 250 + students, basically.

Sellers: Is it part of liberal studies?

Dewar: It ends up being a science course that people can take who are not primarily in science but need to fulfill their science electives.

Sellers: Is that the only undergraduate course that Oceanography offers?

Dewar: There are several that are offered. By several, I mean, seven - half a dozen - seven, something like that. The 1000-level course is the only one like that. There's also a 1001 honors, but it's still the 1001 course, just offered as an honors. They also give a version of it over at Bryan Hall for the Bryan Hall group. The others are at the 4000-level, and so those are actually meant for people who are chemists or biologists or physicists or mathematicians, and they can take a senior level course in oceanography. And that's essentially the extent. Oh, there's a few at the 2000-level which have been given as global change courses, and those are oftentimes, again, honors courses.

Sellers: Oceanography on the FSU campus hasn't always had a permanent home. When you came here, was it a cluster of faculty members from other departments, more or less?

Dewar: It's always been like this.

Sellers: It's always been a unified — I mean, I know it's always been oceanography, but were you actually attached to Oceanography all those years, or where you a biologist who was part of the oceanography program?

Dewar: No, it has always been a Department of Oceanography since I've been here. Now, I came in on sort of on a funny line. When I first came here, there was something going on at the time called – and I just realized that I actually used the wrong term before – but there was something going on at that time called Supercomputer's Computation Research Institute, SCRI. That was associated with Joe Lannutti. There was the big computer facility and faculty lines associated with that. The faculty lines were to be in departments even though they were hired as SCRI faculty, and that's how I got hired here initially. So I was a faculty member in Oceanography but I was paid as on a SCRI line. And what I said incorrectly before was I identified Yusef Hussaini as a SCRI faculty, and in fact at that time it was CSIT. SCRI changed into CSIT, Computer Science and Information Technology. And it has since changed names once or twice. It was he School of the Computational Science and Information Technologies, now it's the School for Computational Science. So when I first came in, I was in that category, but I was still considered a primary faculty appointment in Oceanography. And now, my designation has changed. When that went to a school, the School of Computational Science, we were asked to decide if we wanted to maintain our split appointment or to become "regular" paid faculty member in Oceanography, and I opted to do that.

Sellers: I think that's maybe what I was referring to, and wasn't saying it correctly, it just seemed like an awful lot of people, early on, in Oceanography had split appointments, rather than being a full line with Oceanography, and maybe I've just talked to too many of the old guys who worked in that setup. What do you see as your immediate future, assuming you survive the chairmanship?

Dewar: Yeah, well, that pretty much would be my immediate future [chuckles]. Th one thing about being the chair is you can do a few things if you have a mind to, and I've been trying to get us involved as a department in a couple of things which we have not traditionally been involved in. Mostly we have been funded by the federal government as individual faculty members, and I'm trying to get us involved in more state initiatives. And the reason why is because I think there's a future for it in terms of long term health for the department. It would be a good idea for us to become integrally involved in state initiatives, and it's a good thing for the state of Florida. One example, to show you what I'm talking about, is red tide. This is an issue with regards to the west coast of Florida in particular, and we've had a number of them and there are people who are concerned that there is more and more of it as times goes on.

Sellers: It does seem like it's a lot more frequent.

Dewar: So why is that? Well, that's an open question, and it would be good for the state of Florida if we could make some inroads on that. So I'm trying to get us as a department involved in statewide projects which are associated with maintaining the health of the coastal region of the state of Florida. So if we could do that, I think that would be good. It's an important problem. We're here at a state university in Florida, doing something benefitting the state; that seems to me to be well within our purview. So I'm trying to get us involved in that. Traditionally we haven't done a lot of that sort of stuff, except as individual faculty members who have had specific research interests that might lead them down that type of path, but I'm trying to get us involved in that departmentally. There are interests in trying to work on the hurricane problem, again of significance to this region, and there are sort of a combination of local and national level efforts associated with that; I'm trying to get us involved in that. And there are some hopeful signs in all of these things. So in as much as you can appear a chairman, you're allowed to leave your imprint on the department. That might be what I'm hoping to be able to do.

I also think that a lot of the future in oceanography is a little bit broader than it has been historically. Historically, you could make your way professionally if you were a physicist who worked in the ocean, a chemist who worked in the ocean, but basically you stayed with your discipline and applied that discipline to an ocean application. I think that an awful lot of the future for oceanography will lie in combinations of those various disciplines. And the reason why I think that, or at least part of the reason why I think that, is, for example, the climate problem. In the climate problem, one would like to understand how the climate system works, you are drawn strongly to consider the interactions between atmospheric aerosols, for example, and the ocean. And so immediately you're working at this interface between chemical oceanography, atmospheric chemistry, and physical oceanography. Another area that I think is

important is in the combined biological physical modeling aspects of oceanography. If we're going to maintain the health, for example, of the fisheries in the Gulf of Mexico, then it's going to be important for physicists and biologists to work together to understand things like dispersion of larvae. That will be an interesting combined physical biological problem in the sense that the biology reacts to cues, many of which are physical in nature, and the physical environment itself is responsible for the dispersal properties. And so in a way it's — I think what we're ultimately going to be looking at is when larvae end up waiting around for the proper physical system to arrive and they inject themselves into and get dispersed. You need to understand those kind of mechanisms if you would like to institute management policies which are going to maintain the health and integrity of the coast, which I think is an essential thing for us to do. Then, there's this interesting possibility that the biological systems themselves may interact and feedback on the physical systems, and that would be very interesting if we could find those sorts of things. And so those sort of growth areas, I think, in oceanography are at the boundaries between the disciplines. So I'm trying to promote thinking in those kind of combined ways, trying to get physicists to join with biologists in teaching joint courses, for example, in modeling.

Sellers: Is it working?

Dewar: Well, I'm just getting started.

Sellers: I mean, what's been the response? Has it been favorable?

Dewar: Yeah, there's a lot of interest in that. One of the physicists we have and one of the mammalian biologists that we have jointly teach a course on ocean acoustics, for example. The physicist is interested in acoustics for purposes of monitoring the environment, and the mammalian biologist is because this is what whales and dolphins do. They sense the environment this way. And one of the big issues these days is what do you do with sonar? If you're out there in the Navy and you're trying to ping your environment, then one of the concerns is you're interacting with the whales, the sea life, in a negative fashion. So he's very interested in the acoustics from the perspective both of the physical problem and the biological problem. And so they're jointly teaching this course on fundamentals of ocean acoustics, and some of these students have ended up putting things in their dissertation as a result of that quantitative approach of the physicist. Biology graduate students have include quantitative parts in their thesis which they otherwise wouldn't have done. So I think that's a graphic example. Now, statistics are still small and only the one course that's showing us that, but that is the kind of thing which I think is healthy, and I hope we'd be able to do more.

Sellers: If it comes about once you're no longer chair, will you be able to work in those fields?

Dewar: Oh, I hope so. I've got all kinds of crazy ideas. I'm upstairs bothering my biology colleagues all the time with ideas, and I'm hoping that they aren't going to throw me out of their office when I'm no longer chair. But so far, they seem to tolerate me.

Sellers: I think you pretty well know what will happen down the road.

Dewar: I don't know. We'll see.

Sellers: There's a lot of interdisciplinary action and reaction and things with oceanography. What about among other state universities? Do you have any interaction and cooperation with, say, University of Miami? Or Tampa?

Dewar: Oh yeah. The hurricane initiative – just yesterday we had a meeting of something that's called the Florida COOS Caucus, and what that is is a confederation of fourteen universities. In fact, there's a brochure here. You see all of the marine entities there. All of those are involved in this thing called the Florida COOS Caucus, and we're all joining together for the purpose of putting together a coastal ocean observing system. And again, the motivation for me is that it is a technique by which we can start instituting a series of operational observations which will help us do things like predict red tide, like assess water quality, observe and developing anoxic zones, for example, that might form in the area. So it serves this idea of helping to maintain the marine resource, the coastal zone of Florida. It's cooperative with all state universities. Basically, all of them are involved in that, including some of the private universities, and things like Harbor Branch, which is a private entity. It's not really a university, but it's a marine research interest in the state. I'm trying to work with DEP (Department of Environmental Protection), and Fish and Wildlife, and also involve ourselves with federal efforts that are trying to institute coastal observing systems throughout the country. And that, itself, is the US expression of international effort, global ocean observing systems. And so we're trying to integrate ourselves within the national and international framework. It's important for Florida to do that because we abut all the Caribbean nations, and so, in fact, we have more of an international presence in terms of countries than any other state in the Union. So we need to be seamlessly integrated in the international effort, the national effort, and then make sure that what ever it ends up getting in the state of Florida coastal waters is responsive to the specific questions that Florida needs to have addressed. There are national questions that we need to have addressed and we would like to make sure that those are taken care of, but we want to make sure that we also have a place what we need to understand nutrient flux on the shelf, maintain the grouper fishery, for example, in this area, the oysters, that kind of stuff. Beach, prevent beach erosion. We would like to have routine observations that will aid in the predictions of hurricanes as part of the coastal ocean observing system. So you want to make sure — I mean, that isn't going to be important for Maine, but it will be important for Florida. So that's an example of how we want to tune our system to our specific problem. And then the University of Miami has some observational expertise in open ocean observations pertinent to the open ocean development of hurricanes. We have a lot of computational expertise, in terms of computing developing hurricanes, and so we're trying to marry those two interests so as to produce enhanced prediction of hurricanes on the short timescale, by that I mean the five- to seven-day timescale. So ones out there, it's going to come in. You want to know where it comes in, and when it comes in you want to know how strong it will be and what the distributions of winds will be and what the distribution of rain will be. Those are various research questions, and the reason

the Oceanography Department is involved in them is because the development of a hurricane is centrally involved with what happens at the earth-sea interface. And there are some very specific questions about how that interface evolves under a hurricane that we don't know the answers to and we would like to get answers to from an observational perspective, and then to understand how we would take those kind of answers and put them into a model so as to help address these various questions and to improve short term hurricane prediction problem. We would also like to know the long term prediction problem. What's going to happen in a year from now? That's of enormous economic benefit.

Sellers: To insurers in particular [chuckles].

Dewar: Actually, to everybody. FEMA, for example; they would start distributing things like emergency operations resources if they had a year's lead time, as opposed to four or five days lead time.

Sellers: You may be giving FEMA more credit than they're due.

Dewar: Well, I think they've got a hard problem. You know, when these things happen and everybody looks at them and if they make any mistakes, then of course it's a disaster.

Sellers: "Why didn't you know and why weren't you there ahead of time?"

Dewar: Yeah, but you know, with that kind of information you have — suppose you knew that next year there were going be eight hurricanes and they were all going to be like this year, they're going to stay out to sea. Well, hey, that's huge in terms of what you choose to do with next year.

Sellers: Is it actually possible to be able to figure out something like that?

Dewar: It's a research question, and as all research question, you don't really know what you can do. There will be limits to predictability. We'll never be able to say exactly what it's going to be. We may feel like you'll be able to say, "Yeah, next year, on average, we're going to have a rich hurricane season." At the moment, this guy Bill Gray issues these predictions and so he gives you a number and an estimate of where they're going to be, either east coast or Gulf of Mexico, hurricanes, that kind of thing. His approach is strictly statistical. The approach that we're trying to capitalize on is dynamical, so we think we know the equations of motion and we're trying to pose better interaction rules between the ocean and the atmosphere, and with that kind of information then what we would use is a dynamical model to make a statement. And, in theory, you should be able to outdo statistical models, especially if we are in a regime of global climate change, because statistics are trained against the past, and at some point if global climate change is occurring, then you'll be out of the regime for which your statistics are applied. Under those circumstances, you would think if you had dynamics done, that you might in fact be able to move through global change predicting dynamically. So that's the hope. Within certain

aerobars and tolerance limits, you'll probably be able to make progress. Exactly how far, good question. I don't know.

Sellers: You look like you're about to loose your voice.

Dewar: Yeah, for some reason, I don't know what my problem is.

Sellers: Can you think of anything I haven't asked you or that you would like have put on the tape, as far as your history with FSU?

Dewar: I just hope that the place is not sad that they have me.

Sellers: I don't think that's the case.

Dewar: That I contributed in some positive fashion. I would like it if that were true.

Sellers: Well, they kept you, so apparently nothing better has come along. [chuckling]

Dewar: Well, that's kind of the way that I look at it, you know.

End