

Janet Thompson

**Edited transcript of an interview with Janet Thompson, conducted by Chris Eldon-Lee, on 27th October 2011.**

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Transcribers use of Symbols in text:

'-' denotes short pause

'...' denotes speech trailing off.

[00.00.00] Chris: This is Janet Thompson, recorded by Chris Eldon Lee, on the 27th October 2011. Janet Thompson.

Janet: My name is Janet Thompson and I was born on the 6th December 1942, in Sedgely Staffordshire.

[00.00.18] Chris: So you are now .....?

Janet: Coming up to sixty nine.

[00.00.24] Chris: Ok, what sort of schooling did you have Janet ?

Janet: Fairly mixed actually. I went to a private school where my mother was a teacher until I was nine, that was in the west midlands, and then we had to move to Berkshire. As a sort of interim measure we stayed with my Grandfather in a little wooden chalet and we thought were going to be moving on somewhere else so I didn't go to school for two terms. My sister was eventually sent to the local grammar school so I had a term without anybody at home and then I went, my mother got a job as a teacher at another private school and I had two years there and that's where I took my 11-plus.

[00.01.23] Chris: Did you pass ?

Janet: Yes - and went on to the Grammar School, eleven miles away and that was a co-educational school and then Berkshire County Council in its wisdom decided to go from co-educational to single sex schooling so at the end of my fourth year the girls were all shunted off to a horrible modern school five miles further away so in the end I travelled sixteen miles to school, and I was there for three years and that's where I took my O-levels and A-levels.

[00.01.56] Chris: And then university followed, I presume ?

Janet: Yes.

[00.02.00] Chris: What did you read ?

Janet: Geology.

[00.02.02] Chris: Where ?

Janet: At Bedford College in London. In those days one had to sit an entrance examination and a school friend and I sat, she was going to read physics I think and I wanted to read geology. Since I hadn't done geology at school I had to sit geography and physics papers and when I went up for interview having passed the exam, they shunted me off to the geography department thinking because I had taken a geography exam I wanted a geography degree, and they suddenly realised their error and so I was moved along to the geology department which was much smaller and much friendlier than the geography.

[00.02.45] Chris: What was so exciting about geology, here you are, you had never done it yet you're going to do a degree in it. What was the attraction ?

Janet: Well I had taken a geography A-level, or was studying for it at the time and I liked the physical geology side which was all about landforms why rocks had such an impact on the landforms, and I also wanted to do something - that took me outside, I was an outdoors person, and I couldn't think of much to do with geography other than teach, and since my family were teachers, I didn't want to become a teacher, I wanted to be different and geology seemed to be the best thing.

[00.03.34] Chris: What was your first knowledge of or brush with this place called the Antarctic, how did you become aware of its existence ?

Janet: Well in my third year at university I was the secretary of the Geological Club, and organised the speakers for the club, and Dr Adie came to give a talk about Antarctic geology and as part of the committee we all went out to the pub afterwards and gave him dinner, and when he sent his letter afterwards with expenses he happened to say that he needed an assistant. I wrote back and said I would be interested in doing that - when I sent in his cheque, and he called me for an interview the Christmas before I took my finals and I went up to Birmingham because that's where the Geology division at the time at the University, and didn't hear anything until just as I was revising about to take my finals and he said 'We have finally selected - you to come and join us', well in fact there was only one other applicant and we both got jobs [laughs].

[00.04.57] Chris: Oh right - I know you talked about gender issues with the British library, we're not going to cover the same ground again, but just out of interest, you must have been one of the first women to work for BAS mustn't you ?

Janet: Yes, as a scientist - he asked if I would come as soon as I had graduated, well I had already agreed to go around Scotland with my mother and uncle on a tour. I said I wouldn't be free until the middle of August and I went up and yes I was the only female in the department because there were no female students in the university at the time reading geology so there were two, three secretarial staff and me were the only females.

[00.05.42] Chris: So stop me if I have got this wrong, did you become the first female scientist at BAS simply because nobody else applied ?

Janet: No they didn't look for female scientists and the only reason Dr Adie had wanted to have a female assistant, was because he'd had several male assistants and they had all got so

interested they'd applied to go south, so he kept losing his assistants and because at the time women were not allowed to go south he thought he was on to a dead cert, you know, he'd keep the assistant for bit longer than a year.

[00.06.20] Chris: So rather perversely it was the attitude, the negative attitude towards women that got you the job [laughs] ?

Janet: In a way yes, I never thought about it like that. And then the other lady joined about a month later from Edinburgh, she was working on research for a book whereas I was a sort of general assistant to Dr Adie.

[00.06.44] Chris: Now I have specifically been asked to talk about mapping and Magic and we may have time later to talk about other things in your career, but I want to ask you first of all - some of these notes have come from Joe Ray, a very obvious question really, why is mapping important to geological research, why do you need to bother with drawing up maps?

Janet: Well when you go into the field and you travel around the different rock exposures you need to be able to make a map of the different types of rock at different exposures so you can make notes of course but to actually get a planimetric view of where you've been and how the rocks change over a geographical area is actually very important so when the geologist went into the field, to begin with when I first joined, they always had a surveyor. It would be two men working together, with their own sledges and husky teams and the surveyor was taking coordinates of major peaks and producing sketch maps then the geologist was working and it was only after they got back to the UK that any maps could be prepared and then the geology plotted out. So it was not the most ideal at that time, and it improved when we got more advanced with mapping.

[00.08.18] Chris: You became in charge of mapping in '84 is that correct ?

Janet: No, Magic didn't, it wasn't created until '89 but I was working on geological maps, making them from '65 onwards actually, they were fairly crude, the '65 version, and then in '78, BAS started to compile some better topographic base maps for a geological map series.

[00.08.56] Chris: Tell me a bit more about those early maps, the maps you were faced with in the '60 when you first joined, what sort of condition were they in ?

Janet: Well, when you think that the Antarctic peninsula is about the same length as the UK, and there were four 1:250,000 maps of the northern end of the peninsula, there was I think just one 25,000 scale map and the rest were 1:200,000 sketch maps with perhaps a few contours on them they would be big sheets of paper and not much else. In fact there was one at I don't know, 71, 72 degrees south which was a huge sheet of paper and it just had a single spot height in the middle with a little dotted line round as a contour, and that was all they knew at the time. So it had a geographical grid and not much else on it, and there were a lot of maps like that so you had the basic outcrop pattern on these maps and contours but they were all sketchy and based on the surveyors doing over-snow traverses and, in the northern part of the peninsula they were based on aerial photography as well but there was none further south to speak of.

[00.10.15] Chris: So was it the poor quality of those maps, that actually kind of captured your interest in mapping in the Antarctic ?

Janet: Yes it was a bit like doing a crossword puzzle really [laughs], trying to get something sensible out of all these and there was another aspect to it that a lot of the geologists who came didn't complete their research, they published a few papers but there was no comprehensive pulling together of all that they had found, and in 1978 we decided that we really should pull all these fifty odd geologists together, their work together, so there was quite a nice feeling of getting it all out into the public domain, all the research that had gone on before. We had by then satellite imagery to help us make a sensible stab at showing the real area of rock outcrop in the Antarctic peninsula, and then we could plot the different colours of the geology to make a geological map from those.

[00.11.33] Chris: When the satellite images started to come in were you a bit shocked at how inaccurate the pen and ink maps had been ?

Janet: Indeed, yes, we were plotting at 1:250,000 which is a reasonable medium scale, and the four sheets that had been made at that scale at the northern end of the Antarctic peninsula had been based on aerial photography so they weren't too bad, everything else was a vast improvement. Coastline was shown to be in rather different position sometimes. Y'know - it had been under cloud when they took the aerial photography so there would be a dotted line where the coastline was [laughs] - dragons be here sort of thing!

[00.12.25] Chris: Can you expand a bit upon the process then, those early maps you were facing in the 1960's, can you give me a more detailed account of how they would have been drawn up and who would have done it ?

Janet: They were drawn by the director of Overseas Surveys based in Kingston, so the surveying and mapping side was all under the control of the Director of Overseas Surveys. Barbara McHugo who sort of organised all the surveyors going south and she had a number of assistants over the years who liaise with BAS, Dr Adie mainly, I mean I didn't meet any of them until 1978 when I went back to BAS but the geologists were always crying for more accurate maps and the problem was that, there wasn't sufficient control to make a map to the standard that the Directorate of Overseas Surveys were used to in other parts of the world. So they didn't like to produce maps when they didn't have the accuracy that they were used to. They preferred to just not publish anything, whereas the geologists said, 'Any map is better than no map at all', and...

[00.13.47] Chris: So it was a matter of principal was it really - they didn't want their name, their initials to something that might be proven to be wrong later ?

Janet: Yes, I think so, and Barbara was a little bit scathing about these sketch maps that we produced for the geological map ...

[00.14.05] Chris: Rightly so ?

Janet: Well no, because they were not meant to be topographic maps, they were geological maps and we published them at half that scale anyway so they weren't meant to be regarded in the same light as topographic maps and we always made that clear that these were sketch maps, but if it was a map it needed to be precise according to Barbara [laughs], so there we are, it was a bit of a battle really getting them through.

[00.14.39] Chris: So what were the early fids using, theodolite, sextants, pigeons ?

Janet: Yes, I guess so, I mean I wasn't involved with that side of it at all so it would have been that sort of work yes.

[00.14.56] Chris: And roll forward fifty years, what are the maps like now ?

Janet: I think they are brilliant. When we set up Magic was when people were just going over to digital mapping and so it was a big learning curve, we had young people coming in who had been used to working with maps but it was still we were getting software up to speed for map-making and we had aerial photography and the satellite imagery and it was still in paper form at that time, it was only when we had digital satellite imagery and the proper cartographic software that we were able to produce maps ourselves and overlay different layers of information, so they can now be produced, focussed on a particular area, if the scientist is going into the field they can be generated to meet their immediate demands.

[00.16.13] Chris: By the time you left BAS were they perfect or were mistakes still emerging ?

Janet: You will always get mistakes on maps however carefully you look at them, just minor editorial things, y'know that stare you in the face once they have been printed [laughs]. But when I first started with editing the geological maps, the first draft coming back from outside cartographers there would be about three hundred errors. It was quite a nightmare and there would probably be two or three versions before we would publish, and then I'd see a mistake that I had made [laughs].

[00.16.52] Chris: Lets follow that process through then from the primitive maps in the sixties through to the beginning of the twenty first century when you retired. Can you pinpoint the kind of major developments, the major decisions that were taken that meant mapping got better and better ?

Janet: I think one of the main changes from BAS's point of view was when it took over organising the mapping because before we had always got the Directorate of Overseas Surveys and I think that stemmed from when BAS was a crown agency and so it was an Overseas protectorate sort of thing, and so DOS had always done the work but then DOS evolved into Overseas Surveys Directorate as part of the Ordnance Survey and moved to Southampton.

The team really got considerably reduced in numbers and so they were happy to then devolve the work to BAS. That was probably in the mid eighties, and that was about the time when David Drewry became Director and he was a geologist/ glaciologist/ geo-physicist, a scientist shall I say, and so he was interested in getting the mapping with a bit more profile and that was the start of really thinking about getting a mapping unit up and running at BAS.

[00.18.34] Chris: Did he ring them, or did they ring him. Who initiated the transfer. ?

Janet: I don't actually know. I think it was one of those circumstances where they were really becoming a little bit defunct. From the Antarctic point of view, they didn't have surveyors that went out anymore. I think the last surveyor that went to the Antarctic was 1975, something like that, so they had nobody who had real interest in the subject. Barbara McHugo retired in 1984 so again there as another link that went then.

It was about that time that they were thinking that they wanted to shed the work and then we got a director who was interested in taking it on. So I couldn't really answer that question.

[00.19.32] Chris: But you were very relieved I would think to take responsibility weren't you ?

Janet: Yes, yes indeed, because the geologists were still wanting to have decent maps and all we had were these 1:250,000 sketch maps based on satellite imagery which at that time was still, the resolution was poor, they were the early Landsat images 1, 2 and 3, and I guess we got to about 30 metre resolution but that was still quite poor for the work that was needed to be done in detail in the field.

[00.20.09] Chris: So when those first satellite images started coming back, were they more useful to you than say the work done by Fidasi, in aerial photography ?

Janet: Yes because they provided a much greater overview of the Antarctic peninsula and the Fidasi only went down to Marguerite Bay so we had nothing farther south of Palmer Land or Alexander Island apart from some American photography. That wasn't as well constrained as the Fidasi stuff so it didn't cover and we didn't have access to it in the same way as we had for the Fidasi stuff.

[00.20.53] Chris: So the establishment of the Mapping and Geographic Information Centre in '89, that was a kind of a turning point, a bit of a revolution was it ?

Janet: It was, I think by that time in '88, David Drewry had said, had agreed that yes we did need a mapping unit and because it was the geologists who were crying out for the mapping, they had to give up some of their posts to make space for a mapping group and it was a bit unfortunate because Mike - my husband, was head of the geology division at that time and he got a lot of flak from his staff because they were losing posts to mappers [laughs].

[00.21.50] Chris: Worse still, his wife's mappers !!. You were getting stick were you ... [laughs] ?

Janet: Yes; I wasn't but he was, I mean because they all had great plans of areas that they wanted to map geologically in great detail, they wanted to employ more staff themselves and to have to give up five posts in fact, we needed six but we had to compromise and had five so we could only employ two half term people in to cover the depth of work, the range of work that we wanted to do.

[00.22.29] Chris: Who was the arbitrator in that process was that David Drewry's decision ?

Janet: Yes, David said that if geologists wanted they have to give up the posts that they already have. So Mike couldn't do anything about it, he just had to accept that yes they did need a mapping group. So at that time we were embedded as part of the geology division, because they were the main users of geographic information and it was quite a struggle really to get the other science divisions to accept that they needed maps, but eventually they did.

[00.23.05] Chris: Really, so they were perfectly happy not to have them ?

Janet: Well the biologists work mostly out of Signy Island and that was one of the rare places where there was a 1:10,000 scale map so they were alright you know, they had got a reasonable map to work from for their surveys that they did. It was only when they started widening their research into Marguerite Bay area I think that they began to appreciate the lack of maps that had been available at the time.

[00.23.39] Chris: Who thought up the name Magic ?

Janet: It was Mike and me together. I had thought of Magic but I couldn't quite think how we could get the 'c', because there was mapping and geographic information systems, so magis didn't seem to have the same ring to it and I said to Mike how do we get a 'c' and he immediately said 'Centre' so that's what it became.

[00.24.05] Chris: So 80% of it is yours. Did everybody immediately like the idea, or was there a bit of em... ?

Janet: Well they thought, some of them - I think away from the geology division they thought it was a bit silly, but I thought it was quite good because you know, out of thin air we could produce a map eventually. So it was a bit of wizardry going on especially as we were going into the digital era.

[00.24.35] Chris: So when you sat behind your desk for that first year in charge of Magic, what were your priorities ?

Janet: Well I wasn't actually in charge of Magic the first year because we - it combined mapping and database work and we had a geology database, one of the geologists had taken on the responsibility of doing the geology database, Phil Marsh, and that was based on work that I had done when I was compiling the geological maps, I thought it was useful to have an overlay of where all those geological stations were and who had collected the data so that we had some sort of feel for who had worked where and how many stations there were for coming up with geological compilation that I had produced and Phil thought this was useful to have digitised so we had a number of casual labour come in to digitise that and then he added information from the geological registers as to what was actually at that station. So he was gradually building up this side of geographic information really for a geological database and he had the computing skills and I didn't have any at the time so together we put our heads together with Mike to come up with what would be useful for a mapping geographic information group.

So the six posts that we wanted to have were geological database and GIS manager, a topographic map compiler, a geological map compiler, a surveyor, and a map curator and then me in charge of the mapping production. Soon after we had got everybody in post, Phil decided that he didn't want to stay in BAS.

So he left and we then advertised for a GIS manager to incorporate the geological database work and we got Paul Cooper so he and I were sort of running the thing for the first couple of years I guess and it was only later that I think in '92 when David Drewry said he thought that it was better to have one person in charge of a small group and he asked me to become the head of it. So it was one of those sort of evolutions really.

[00.27.38] Chris: Where does Petra Searle fit into this chronology ?

Janet: Well she was one of the assistants to Barbara McHugo at the Directorate of Overseas Surveys. Her maiden name was Lea and she married one of the Surveyors who had been in the Antarctic, and then she left to have a family and there were two other lasses who came in over the years to Phil in that post. The first one was a Caroline and I don't know what her maiden name was but she came back eventually before Petra, her name was Caroline Clark, and in the middle there was Liz Fleming.

Then Liz Fleming left in 1981 to get married, Caroline Clark came back for three years but she didn't want to move to Cambridge, because we were in Cambridge by then, and I was doubling up doing the work that Liz Fleming had done on mapping as well as well as doing geological compilation, and Charles Swithinbank decided that we really needed to have somebody in post at BAS, he invited Petra Searle to come back for four years before she retired 1988.

So she dealt with all of the enquiries about topographic mapping and aerial photography and liaised with the Admiralty about charts and aerial photography. She worked for three days a week and eh ...

[00.29.28] Chris: OK so you've got Magic on the road so to speak, you mentioned a while ago that there hadn't been any surveying done for a very long time, so there was some catching up to do I presume, did you have to start re-surveying areas?

Janet: Yes in a way, but not, it was using GPS Global Positioning System Technology which was on the up and up at that that time. There had been a problem with the over-snow traversing that had been done up to 1975 because they had, they were covering a large area and they were setting up local datums and nobody had really put all of the network into one overall network, and somebody had tried to do this, readjusted all of the original control points but there was a discrepancy of about thirteen metres I think, and they didn't like this, the Ordnance Survey, and so they wouldn't accept what he'd found but it still was the best control that we had but when Magic came in we tried to get a Surveyor as part of the team who would be able to go back in and re-occupy some of the major control points around the areas that we were working in.

We had somebody who was seconded from the Ordnance Survey, Andrew Perkins, and he not only helped get all of the control into digital form from the existing survey but then he went every other year to the Antarctic with an air-camera as well to take further ....

[00.31.35] Chris: So he was doing theodolite work on the surface of the ... ?

Janet: No he was using a global positioning system on the ground and also going up in the aircraft, the twin-otters, to get aerial photography of the area that he'd been on the ground doing.

[00.31.56] Chris: Was that relatively easily achieved or was it difficult to get airspace, aircraft time ?

Janet: It was quite difficult, that's why we went every other year because there was always a lot of requirements for the aircraft to deal with and we didn't have an air camera ourselves so we had to borrow one from the Admiralty. They always put in requests for us to photograph parts of the coastline for their charting purposes, so they got the benefit of having an air camera in the Antarctic. We had to squeeze our own work in as well as theirs and within the remit of what air time we had available.

[00.32.48] Chris: And there were other technological developments as well, mapping software and 3D visualisation which you had to come to terms with ?

Janet: Yes I never really got to do the mapping software, I did try and get up to speed with it but it was all - I never had time to sit at it as much as I would have liked, and I was glad that I had Paul Cooper and Adrian Fox who were both keen to learn all these new techniques. Paul was already very good at computer software, and Adrian was keen to make maps so he took on the software problem as well.

[00.33.42] Chris: Were all these computer technology advancements all perfectly beneficial or were there handicaps and drawbacks ?

Janet: I think in a way we had been led into one computer package that didn't really fill the bill. We were - it was partly a UK based software product for cartographic work and being setup in Cambridge so it was local, but the international one at the time was Arc-Info which was better for collaboration with international colleagues so that in the end we had to transfer so that meant it was a sort of double learning curve.

[00.34.37] Chris: Can you remember why the wrong computer was chosen ?

Janet: [pause] Not really, I think it was because it was UK based and local that we thought that it would be better if we could just go down the road and ask people if things didn't work out right. But it was at a time when everything was developing and you never really knew which was going to be the best one to follow, and so a local product was probably the preferential one.

[00.35.10] Chris: So it was so new that the front runner had yet to emerge ?

Janet: Exactly, yes. Well a low cost one, we had limited finances and there were some very sophisticated cartographic software which was completely out of our remit, price-wise.

[00.35.27] Chris: But when it was working, what were the advantages ?

Janet: What, of that particular software ?

[00.35.34] Chris: The mapping software and 3D visualisation processes you had at your fingertips - or somebody else's fingertips perhaps ?

Janet: That's a bit of a leap forward actually because at the time that Magic was setup, we didn't have any digital maps so just getting anything into the digital format was an advantage. I think we spent the first two years just trying to do that. We were also being asked to contribute to an international project The Antarctic Digital Database where we were getting all countries to provide their topographic data for us to either digitise or be in digital form and until we had that in position, that was published in 1993, there was no way that we could really do any visualisation in 3-D at all and, I suppose we'd really been going for three or four years before we got to that stage so it was, ... everything was trying to happen at once.

[00.36.54] Chris: This is the Antarctic Digital Database that we are talking about now is it ?

Janet: Yes, yes ...

[00.36.58] Chris: We will come back to visualisation later on, I'm sorry if I got my chronology slightly wrong there.

You are pulling together maps produced by several nations which sounds like a bit of a patchwork quilt type job to me ?

Janet: It is, very much so. There had been in the late 80's, attempts at getting world digital databases up and running, and it was so variable because a lot of countries had detailed mapping and others had hardly any. Then somebody focussed on the Antarctic and thought this would be a good idea to get the first digital map of the Antarctic and they couldn't get enough support for it and Scott Polar Research Institute got involved in that and it fell over.

Then another project came up which evolved into the Antarctic Digital Database and this was a consortium of the World Conservation Monitoring Centre, Scott Polar Research Centre and BAS, so there were three UK based organisations with an interest in the Antarctic and the development of a topographic database. The World Conservation Monitoring Centre managed to get funding from BP to help with this and that's where I think Phil Marsh was still around when we were being asked about this and we thought this was a good thing for Magic to become involved with and I felt that if we were going to get anywhere we had to get the mapmakers from around the world to contribute their data otherwise it wouldn't have the same accuracy or usage.

By then I had become the UK member for the SCAR working group on geodesy and geographic information. The first meeting I went to I tabled the fact that the UK had got this group together and they wanted to make a digital topographic database and to my amazement they agreed - yes they would certainly contribute data they thought it was a good idea and after that it was a question of coordinating all of the Antarctic input so that was my real effort, into - the World Conservation Monitoring Centre were managing the project but I was managing the input of the data ...

[00.40.00] Chris: So you were receiving maps from all over the world, drawn by different countries - maps of the Antarctic drawn by different people ?

Janet: Yes, yes, but some of them were just paper maps so we had to digitise them in the UK and there were two people at the World Conservation Monitoring Centre who did all the digitising, but I did all the proof reading and if their lines were out they had to redo them, [laughs] I was not very popular.

[00.40.28] Chris: It sounds like a bit of a nightmare with maps coming in from all over the place - the background to which you may not be fully aware of, were you getting stuff that was a bit shaky ?

Janet: Not - shaky but it was all at different scales and we had to produce something that was the first seamless map, so that you could go from a part of map of the continent mapped by the Australians to a part mapped by the Norwegian and the Chinese and they were all done at different scales and we unified them and that's where the computer came in. It was able to do this.

[00.41.13] Chris: There must have been gaps weren't there ?

Janet: Oh there were gaps and that's where we used satellite imagery to put in coastline and generate formlines rather than contours to show the topographic detail and the relief.

Charles Swithinbank was involved in that in that he had a series of satellite images of the whole of the Antarctic continent so he had got a coastline so we digitised his coastline and to improve quality of data.

[00.41.51] Chris: Were some of the maps - did you ever have occasion to reject a map, it just wasn't good enough ?

Janet: No I don't think we did that. We did have a diagram to show the source of the data, and that showed the scale. So we had maps varying from 1: 3million, 1: 5million actually, down to 1: 25,000 so there was a complete range but most of the continent detail came from 1: 250,000 scale maps and the old geological sketch maps that I had helped prepare came in for the Antarctic peninsula.

[00.42.35] Chris: When you published it in I think 1993, were you 100% confident about it or were ?

Janet: No, no, there was a lot of work still to be done but it only had a life of two years so we had already overrun into '93 it should have been finished by '92, and we had different layers of information that we wanted to get in including place names and that led on to another SCAR project but I think it was; People wanted to have different subsets so that they could pull in detail if they wanted to and we did generalisations to various scales and I think there was 1: 1million was the most comprehensive generalisation we could do, and then 1: 3million and 1: 10million going smaller. Then Paul created some of these three dimensional views of the whole continent which were just fun to do really they didn't have much scientific value at that scale but you know it was a start.

[00.43.58] Chris: I'm intrigued that BP should sponsor you, this is my suspicious mind at work here but was there a subtext to that sponsorship - were they ...?

Janet: They maintained there was not.

[00.44.07] Chris: They weren't rather hoping you might suddenly find a huge oil reserve ?

Janet: They always said no this was completely for the environment.

[00.44.13] Chris: And what was your view ?

Janet: Well I think at that time it would have been impossible to do anything in the way of exploration for oil anyway so I did take them at face value. One had to.

[00.44.28] Chris: And were they good to work with as sponsors - they left you alone ?

Janet: Yes: well I didn't have much contact with them because it was an agreement between the World Conservation Monitoring Centre and BP for the funding. I think we did ask for a bit extra time, and I can't remember now whether we got any more money or not from them.

[00.44.55] Chris: Are there any anecdotes about having to work with all these map-makers in other countries, did you come face to face with them from time to time ?

Janet: Oh dear, no I can't think of anything, I mean I did, every two years we had meetings under the umbrella of the scientific committee on Antarctic research, in my first one was when I asked them if they would contribute and the next one was in '92 when we were just about to complete the work and by the next time in '94 we had already published so the real thing was to try and maintain the momentum and keep them interested, and whenever they did any improvements themselves to send it to us to incorporate in the data, that's what happened. They were always very supportive of the project.

[00.46.00] Chris: So nobody seemed to mind that BAS was taking the lead role in this ?

Janet: No they were relieved I think that somebody was [laughs], but we always made sure that it was a SCAR product so that it was there for everybody to use, even though we were managing the data.

[00.46.19] Chris: How was this digital database being used to expand the role of Magic, were you able then to sort of spread your wings a bit more, as a map-making company ?

Janet: Well, I think one of the things was an idea that Mike had that we started what we called a dial-a-map series, where you could - all the different scientists if they wanted a map of a particular area focussed on their area of interest, then they came to Magic and said 'I want a map of this area, please can you produce one'.

Initially as a paper copy, but then over the years when other scientists got more au-fait with computer software, then it was digital data that they wanted and in the end we were able to combine a couple of the posts, there had been staff changes over the years and when I left we had one person, Peter Fratwell who was able to do GIS work and generate all of these wide range of maps and that was helped by Adrian Fox and his colleagues going down and taking digital aerial photography that would then be incorporated into the map so that you got an aerial photo as an image backdrop and then line data overlaid on that so it all helps with visualisation of where you are showing the crevasses as well.

I don't know if Adrian told you but there was one year when he went down they were doing some mapping near Rothera and there were a lot of crevasses on the way up to where they were wanting to put the control points in and they made a camp and took various control points and then took some aerial photography and when he was making the map he realised that their base camp had been on a snow-bridge over a rather large crevasse, which they couldn't see on the ground but from the air was very obvious [laughs].

[00.48.47] Chris: Crevasses by definition are moving, aren't they; you map them and two seasons later they've moved ?

Janet: Yes, yes, but that was trying to plan a safe route over the crevasse field up onto the plateau from Rothera that was the main reason why the base wanted to ...

[00.49.12] Chris: Marking danger areas ?

Janet: Yes, and they chose a really dangerous area to ..... [laughs]

[00.49.18] Chris: I think the mapping came in quite useful when they were trying to site the Rothera air-ops tower, that right ?

Janet: Yes we had got a reasonable map of the Rothera area but then Adrian went and took lots of aerial photographs, and part of that season I think he got the control in, so it all helped to visualise the terrain around the area and the airstrip.

[00.49.48] Chris: That was the beginning perhaps of maps being used for development, actually being used rather than mapping for mapping sake, that of using maps to actually decide what to do next, cause the whole business of where to build that new base in that part of the Antarctic was quite a debatable thing wasn't it, there was some discussion about where it should go - Rothera could have been built elsewhere ?

Janet: Yes but that was pre-Magic ...

[00.50.21] Chris: Right, the runway presumably was during your terms ?

Janet: Yes, yes because we had a before and after map of that, but yes, that decision had already been made and we just helped to make it clear where the best place was. Again we were asked to produce a map of Sky-blue which was a blue ice runway on Palmer Land where they were wanting to get the Dash-7 to land and again we did some work for that and produced a map showing the extent of the blue ice that would make it safe as a runway, landing strip.

[00.51.05] Chris: Quite difficult to produce a map where nearly all of it is white, isn't it, [laughs] ?

Janet: Ah but then you can see that it's blue ice you see underneath, because the aerial photography shows that up.

[00.51.16] Chris: ' Bit more of the international liaison then through SCAR, presumably part of the purpose of doing this was, because the various countries who were producing maps at their own need, and duplicating the effort ?

Janet: Well it was to avoid duplication of effort actually that we bit the bullet about making the comprehensive digital topographic database, because Australia had been thinking about doing this for some time as well and I think probably the Americans, so if everybody was concentrating on one digital database that did save a lot of effort, yes and money but people continued to enhance their own maps that covered their area of work in the Antarctic. We did have - we participated in an international GPS programme over a number of years so that Andrew when he went down did take a few - occupy a few stations as part of that round the Antarctic network that was trying to be set up to improve the overall network around the Antarctic.

[00.52.43] Chris: I want to talk to you about bedmap and also the coastal-change maps but which came first - or were they both at roughly the same time ?

Janet: Well coastal-change, I think probably came first but didn't get published until much later.

[00.53.06] Chris: What was the thinking behind that ?

Janet: Well the coastal-change mapping project was setup by the United States and they had been producing maps for a number of years and because I liaised with the Americans quite a bit on the digital database and at SCAR meetings, I said 'Well you could really do a lot of more detailed work in the Antarctic Peninsula', because they had just been using satellite imagery to produce their coastal-change maps in Marie Byrd land and they said 'Yes that sounds good', but nothing happened and then I met up with Jane Ferigno at a Antarctic geology conference in Wellington in 1999, and she was really masterminding this coastal-change mapping project by then.

I said 'Is anything happening about doing the Antarctic peninsula - you know I think we really could do much more detailed work because we've got the aerial photography from 1955, '56 as well as the American photography further south from the 1960's, so it's taking it back before satellite imagery, and I think we could get a good story out of it'.

Jane thought that sounded good, but I said we really hadn't got enough staff to be able to do this and we came up with the idea of them providing us with money to have another member of staff employed to do just that work - Alison Cooke - she was brilliant at it and I think it was three years - I can't remember whether it was on a yearly basis that we had to get the funding, but a pretty daunting task y'know this huge area to look at and that's when we got all of the digital satellite imagery as well so that helped with as a basis and then she looked at the aerial photography as well to see what the changes were.

[00.55.40] Chris: And we're talking about the peninsula here on the whole, not the whole continent ?

Janet: Yes we are - it was just the Antarctic peninsula and that produced three 1: 1 million sheets.

[00.55.48] Chris: So there was a whole new mapping exercise, aerial photography or satellite mapping exercise of the peninsula, and a whole new map produced and that was then compared to earlier maps ?

Janet: Yes, to begin with she had the Antarctic digital database as the digital basis for her work and that had been produced by the Germans actually for the topographic database. They had done quite a bit of mosaic-ing of satellite images for their own work in the Filchner / Ronne Iceshelf area and over into the Antarctic Peninsula, so they provided a reasonable grounding for satellite imagery from the 1970's 1980's, and then Alison used this and overlaid it on new imagery that we were getting from the Americans and using - of course the German mosaic had been based on the control that we had in the Antarctic peninsula and then she had to sort of manipulate the new imagery and study old maps and the aerial photography to see the changes, so she came up with multi layers of information, and a mega database [laughs].

[00.57.24] Chris: So you were the first people to see just how much the glaciers were retreating ?

Janet: Yes, although we had noticed this, I mean when I was doing geological compilations back in the 70's, we got a new image of Alexander Island 1979, and the previous one had been 1973 and there we saw how much, where the ice-shelf was breaking up and the northern part of the George VI ice-shelf had retreated and various other locations so we were aware that things were happening and then on the Larsen ice-shelf was beginning to break up as well, so there was a lot of documentation and the glaciologists had also written papers about this, so ...

[00.58.17] Chris: Producing a map is quite a firm thing to do, it's a finite indicator isn't it, is that when the media began to pick up on it, when that map was published ?

Janet: I don't think so, I think it was when, ... the Americans usually if any, if there was any major breakout of the Larsen ice-shelf, it always seemed to hit the headlines and the internet you know, and people would pick it up so we would get people coming in and saying "What's all this about the ice breaking up" but it had happened before.

[00.58.49] Chris: Adrian Fox seemed to think that about 87% of the glaciers had retreated between the two sets of maps being produced, is that your memory ?

Janet: It is quite probable, I don't have that figure in my mind but yes I'm sure he's right.

[00.59.04] Chris: What about the bed-mapping project because this was to try and map what was beneath the ice wasn't it ?

Janet: Yes well that's where we were just acting as the map producers so it was the glaciologists who had come up with all the data and then asked us to make a map out of it so it was a combination of glaciologists and map compilers producing something that was rather beautiful to look at and also very scientifically instructive.

[00.59.48] Chris: Maps are quite nice things to have and when I went to the Antarctic in the year 2000, I was given a map of the Antarctic which looked to me a bit like a tourist map, was that something that you were working towards as well ?

Janet: It was something that people were wanting us to do because the number of tourist ships going to the Antarctic was increasing quite significantly towards the end of the 90's and by mid 2000's it was I think quite significant actually, the number of people that wanted to have a map. We produced lots of little maps for them to put in their pockets but we produced, we had one of the whole continent and one of the Antarctic peninsula and those were standard maps that even the DOS had produced but ours were a lot more accurate by the time that we came to produce them because there was so much more knowledge available. But since I left Adrian has produced a much better map with I think detail of the northern part of the Antarctic peninsula which is where most of the tourist ships go to.

[01.01.07] Chris: A bit of a culture shock suddenly realising you were producing maps for sightseers - I mean it's a good way of making money isn't it ?

Janet: Yes, but then maps were always very expensive to produce because until the tourist came along you could only have a limited print run of probably 500 for scientific maps, and maybe a 1000 for the more general topographic maps and that's still very small as far as map producers, printers are used to running off so we never really got much of our money back on those, I don't know what the print runs are now but it improved our capability to be able to print in-house, you know using our own printers, instead of having to go to a cartographic production firm.

[01.02.08] Chris: Good for profile for BAS as well isn't it ?

Janet: Oh yes ....

[01.02.11] Chris: You've got tourists wandering round with BAS maps in their pockets. Were you getting external funding from other sources and other projects as well, I presume that's part of your responsibility, once we got past millennium, everything had to be funded from different sources ?

Janet: Yes, the coastal change mapping was externally funded and we were hoping to get some money from the foreign office to make a map of South Georgia because again that was one area where there had been a reasonable map but it needed to be improved for work that the biologists were doing there as well and the foreign office needs, and we finally got approval for funding I think just as I was about to retire, so I didn't really see how that developed afterwards, that became Adrian's remit.

[01.03.10] Chris: What was your greatest achievement, in your career as a mapping guru ?

Janet: Well I think my biggest achievement probably was getting the opportunity to go and work in the deep field as a geologist because that had been a no-no when I first joined BAS. I finally managed to get there with the Americans, and that really was a fantastic experience and one that I had begun to think I never would be able to experience.

[01.03.48] Chris: And grappling with digits, 'cause you are the generation that moved from pen and ink to computer programming ?

Janet: Yes, I suppose that was quite a big challenge and I still relied on my team to do most of the computing in that respect, I mean I was ok with word processing and editing but actually making a map from scratch was not something that I did very much of.

[01.04.22] Chris: Did you have mixed feelings when you reached sixty and you were obliged to retire ?

Janet: Yes I didn't really want to retire because I enjoyed the international collaboration particularly and also seeing how the team was progressing and achieving things for themselves as well as for BAS.

[01.04.50] Chris: Were you able to walk away or were you doing a Swithinbank ?

Janet: No, having experienced that I didn't want to be on top of whoever took over from me and the fact that we also moved within a month of my retirement, you know moved to North Yorkshire which is quite a long way away from Cambridge so I went back a couple of times for meetings with Jane Ferigno and Alison Cook and Adrian Fox about the progress of the coastal change mapping because that was sort of coming towards the end of its life from the funding point of view but there was still quite a bit to do before they did actually get published, and that was US Geological Survey publication so that was out of our hands but we still you know like to have a bit of input to it and, so I went down when Jane was able to get over to Cambridge I went to BAS, but I haven't been back very much since then.

[01.06.01] Chris: I've got a note finally to ask you about, I hope I've got the pronunciation right, the Erehwon Nunatak - why am I asking you about that ?

Janet: [laughs] Well that was part of the remote deep field work that I did with the US Geological Survey and it was a pretty awful weather pattern during whole the of the program, and we went on various over-snow traverses to different nunataks and we always seemed to set off in the sunshine and then get a white-out within a few miles and we were on skidoos and I was always on skis at the back being pulled along because I didn't like driving the skidoos, my hands got too cold [laughs].

There was one traverse that we set out and we were heading for a particular Nunatak and we went into a white-out and we camped and the white-out lasted a couple of days and we hadn't a clue where we were.

Finally the white-out disappeared and we woke up, it was brilliant sunshine and there were huge ice crystals on top of the snow surface because of the fog. It was just fantastic, and in the distance we could see a dark piece of rock and we had no idea whether it was a distant mountain that we could see or whether it was a small rock close by.

So a couple of chaps went out on recce and it was a small piece of rock about a mile away. It actually had significance because it had a fossil flora in it which we hadn't seen anything like it before and we looked at the aerial photographs, the American aerial photographs that we had with us and we couldn't see where this little nunatak was at all but when they got, we had camped in a basin which is why we couldn't see any of the surrounding peaks at all.

When they got to this nunatak they were able to get sightings of other peaks around but didn't have a name and when we were all back in camp again they were talking about giving it a name and I said "it should be Erehwon". They said "what's Erehwon", not having read the book and I said "Well it's nowhere backwards essentially". Unfortunately they took me at my word and they now write it as nowhere backwards, whereas Samuel Butler's book it's 'wh' is the reverse way round because you can't pronounce it if it's 'hw' so the Americans have it as Erehwon 'hw' and we have it as Erewhon 'wh', [laughs] it really was nowhere.

[01.09.39] Chris: You've left a little joke in the Antarctic [laughs].

It's been a real pleasure, thank you very much Janet ?

Janet: Right .... thank you.

END