

# Ski tourer 1

## SUMMARY KEYWORDS`

avalanche, maps, ski touring, slope, tour, super, snow, ski, mountain, avalanche danger, nice, guess, region, aspect, terrain, touring, people, weather stations, books, information

## SPEAKERS

Vivien van Dongen, Ski tourer 1, Ski tourer 1

**Vivien van Dongen** 00:55

RIGHT. HI, Vivian. Hi. Nice to meet you.

**Ski tourer 1** 00:59

Nice to meet you too.

**Vivien van Dongen** 01:01

Beautiful background.

**Ski tourer 1** 01:04

Yeah, it's Mitch Spitzer. It was in, I guess, October last year. Oh, wow. That's that's a, that's a friend of mine. It's Yan. And there are a lot of people on top there.

**Vivien van Dongen** 01:20

So you must be really enthusiastic about ski theory.

**Ski tourer 1** 01:24

A little bit a little bit. So I did 170 teetering days in a row. So I started in end of November, I think it was the 27th of November until the 15th. of May, every day teetering. Around 150,000. Vertical me just,

**Vivien van Dongen** 01:50

Oh, wow. That's a lot. Very impressive.

**Ski tourer 1** 01:56

It's a hobby started with Kona a little bit so I did it before but then I had to do it because it was freeriding before so lift resisted, but there was no lift available during the corner time. And that was the reason why I started only to go skateboarding.

**Vivien van Dongen** 02:13

Yeah, perfect. So I'm doing my thesis about ski theory. And I'm actually like I said in enlightenment, enrolled in to Munich, and then to Vienna.

**Ski tourer 1** 02:24

It's one study program or that to study program study program.

**Vivien van Dongen** 02:29

It's an international cartography. It's a master program. And it's from Erasmus. So we study every semester we study somewhere else. But Munich is our is our base. So we are all every semester, we are enrolled in Munich. But then we started also in Vienna, and then traced and, and now I'm writing my thesis again in Vienna. Place and that's really bad, because the ups are far away. The arms are far away. Yeah, it was dark and gray in winter, I really prefer Munich or Vienna.

**Ski tourer 1** 03:01

And you also enthusiastic in scheduling, or Why have you chosen that topic

**Vivien van Dongen** 03:07

I have chosen. It's because I really like maps, and mostly Alpine maps. And I was talking with my supervisor and the Alpine maps for hiking are. Yeah, I would say more well developed them for ski touring, even if I don't know much about ski touring. And that's why that's why it was really interesting to get to know more about the people using this key touring maps and keep doing maps and understanding the user better than only using my own perspective. So that's why I chose this topic, even though I haven't done it before. But I do really like the Alps. And I do really like snowboarding. So it won't surprise me if I will pick up ski touring as a hobby afterwards.

**Ski tourer 1** 03:51

Should Yeah.

**Vivien van Dongen** 03:55

Yeah, and because this is for my thesis, I was wondering if it's okay with you if I record a session and then I can use it. Yeah, in my thesis.

**Ski tourer 1** 04:06

Yeah. So I'm also at home but I'm a postdoc at Stone. So I did my PhD at home at the combos installing. I don't know if you know, no compass for sustainability. It's north of Munich, one and a half hours north.

**Vivien van Dongen** 04:27

No, I started in Munich in September 2020. So I went to the campus at the Ark RC stressor, maybe four times and that's all I've seen of the university. Yeah, I don't really

**Ski tourer 1** 04:43

have fled in Munich.

**Vivien van Dongen** 04:44

Yeah, yeah. I spend a lot of time at home.

**Ski tourer 1** 04:46

But it was okay. Were you actually from?

**Vivien van Dongen** 04:49

I'm actually from the Netherlands? Yeah. Yeah.

**Ski tourer 1** 04:53

A lot of yeah, a lot of Dutch people go ski touring. Oh,

**Vivien van Dongen** 04:57

really go skiing. go skiing. Definitely, yeah. And always I

**Ski tourer 1** 05:03

had one flatmate. So I studied in Prague, and I had flatmate. She was from the Netherlands. And she was super enthusiastic about skiing. She was also ski and structure and a lot of her friends also were living in Austria to be ski instructor.

**Vivien van Dongen** 05:22

Yeah, I yeah, sometimes that we don't have our own mountain so always have to go south. But yeah, we I think that people really like to go outside so. Yeah. Perfect. Okay. Can we start with the interview? Yes, sure. Okay, perfect. So, welcome to the interview. First of all, I would like to know, how experienced are you with ski touring?

**Ski tourer 1** 05:50

Yeah, I guess, I would not claim that I'm an expert. But I would claim I'm somehow experienced in ski touring, I go ski touring over 150 days a year and over 150,000 vertical meters per year. And I also do some first ascents, and so on in different countries, so also in Japan, or Iceland, and also in the Alps. So I would say I'm pretty much experienced in ski touring.

**Vivien van Dongen** 06:32

Okay, perfect. And how do you prepare for ski tours if you know the area?

**Ski tourer 1** 06:38

So actually, I guess the next question is, how I would do it for an unknown area. But actually, it's more or less the same, because every day is different. Because of the weather. Sometimes there is something like a high pressure weather than then it stays actually somehow the same. But because of the avalanche risk, you have to check it every day. So you go through each of the steps every day again. And first you go to the avalanche report. And you actually record also with video? not the video, only, because otherwise, I could share my screen and then you can see what I'm doing.

**Vivien van Dongen** 07:08

I could record the video as well

**Ski tourer 1** 07:10

Yeah. Yeah, I think that's better for you.

**Vivien van Dongen** 07:10

Then you have to give me permission

**Ski tourer 1** 07:35

to permission can you clearly to the host think now you are the co host?

**Vivien van Dongen** 07:55

Oh, yes. recording in progress, yes.

**Ski tourer 1** 08:03

Okay, so I will share share my screen and things and easier to understand what I'm actually do every day when I go ski touring Can you see my screen?

**Vivien van Dongen** 08:17

Yes.

**Ski tourer 1** 08:22

So first, I go to the avalanche report, actually. And then just look what is the general status of all the regions. So this is an example from second of February this year. So it was really intense for avalanches, as you can see. And especially if I know, okay, I'm I go ski touring some way here because I'm located in Canton. So at weekends, I'm actually located in Canton. I can jump here and can see, okay, the avalanche risk is really high. And on the right hand side, you have some information about the aspects. So where does the avalanche risk exists? Is it only in the south aspect or only in the north aspect or something like that, and also the altitude. So I guess if we go to a different region here, you can see, okay, it's in all aspects. And here, it's over the tree line. So it's not as dangerous under the tree line. And that's super important to me, that I know that because then I know, okay, if I'm under the tree line, it's only considerable risk so I can get steeper slopes, for example. That's actually the first step to get somehow an overview, how the avalanche risk look like. And then the next step is actually I go and check the weather for tomorrow, especially if I want. So I get some hints here, because there's something about snowpack tendencies, there will be some new snow tomorrow, blah, blah, blah. But I don't know exactly where the region is quite big here. And therefore I've also checked the weather here. So actually, I use the super high definition model. And it's Swiss weather model, model, which I use here. Because it, there are different weather models. And actually, if you look at the weather somewhere, they use the European one or the US one. But the resolution is really bad. So and that's the Swiss weather model, but it only is there for next few days. Okay, as you can give for 72 hours. And just to show you. Oh, yeah, that's, you can see the resolution is really bad. Yeah. Because it's 28 to 28 kilometers, I guess. The one point is 28 to 28 kilometers, which is really, really bad in mountains. But if you use the Swiss model, it's one to one kilometer one point. And that's really, really nice to see. And to also see that here's Kampen, and you really see the mountain ranges here. And you really, really, really good can see how much north pole there will be in the next few hours. So if you want to find the best snow, then you should check this weather model and not go to Bergfex or somewhere else. So all other people go to Bergfex and somewhere else. But actually, they use the GFS beta model or the or the US weather model. And it's really bad because of the resolution. I think that's somehow clear. And also I can see here. Yeah, there are more parameters about the clouds and so on. And it's really, really good for ski touring, especially in winter. So I especially use it in winter for the tours in summer tours, not as often because then it's bad resolution from other models are good enough. But especially if you go skiing and you find to want to find fresh snow, then and it's something like that. So that's the second step, then my next step is actually that I know where I want to go, for example. Okay, I want to go here, because there's a lot of snow, so you can check it. So in the next few hours, there's a lot of snow here. And I also know the region really, really well. And then the next step is actually okay. I have to define where I go directly. And therefore I go to open topo map I don't know if you know it.

**Vivien van Dongen** 13:32

No, I've not seen this before.

**Ski tourer 1** 13:36

Perfect. And so actually, adopting slope map is really, really nice. Because then you can select the map you want. So I always take actually the open topo map, and then you have the slope. And for Germany, in this case, the slope map is really, really bad because there's only resolution from 10 to 10 meter or 20 to 20 meter. But for Austria, there's really really good slope map because the resolution is 2.5 meters for each point. That's really good. And because the avalanche risk is really, really high. So I want to avoid something like avalanche terrain. And what you have to know is below 30 degrees, there couldn't be an avalanche. Because it's physics, more or less. So it has to be steeper so if there is something like avalanche danger four then I have to stay below 30 degrees. If it's something like three then I stay below 35 degrees, and it's two actually stay below 40 degrees for example, which is often used by ski touring people. And what you see here, what is really nice, you see all the degrees of 30 degrees. So it's yellow between 30 and 34 degrees and it's orange, between 35 and 39 degrees and there I can figure out where I want to go. So it is really high avalanche danger. And on this day, so I had mountain look where exactly know where I was on that day, hit Begawan I found Ramstein, all my skitouring added is also all decided you that on only the vintage was. But so I decided to go to to avoid thirty degrees. I went from Schwarzenburh over the pass, but the piste was closed on that day here through this, and here is a little bit avalanche terrain. So I went to the ridge here and up to the mountain. And then I also go back there and went up and went down here, and then up here and go back to my car. And what you can see what's really nice, there was no slope, which was higher than 30 degree. So there was actually no avalanche risk. So for me, your ski touring suddenly. So but that's actually the slope is super, super important as well as the aspect. So it could be the case that in, in early winter, the sun is low. Still. So in northern aspects, there's no sunlight. And so you can get there persistent layers, a lot of that's really, really bad. But on the other side, on South sides, there's no avalanche danger because the sun broke all persistent layers then. And so it's super important also to know the aspect of value. So so that's really good, that map is oriented to the north. So I exactly know, okay, that's an not north aspect. And that's like south or south east and that is east and so on. So that's what's actually decision here. And then actually, I go more into detail. Because I I want to know exactly how was the weather there. So and therefore, I guess you also did not know lavis, you know, lavis. And obviously, it's really good because there are all weather stations, especially in Austria, not from Germany. But there's also translate. So actually, I go there and check out. So there's no weather station here where I plan my tour because there is a variant site also for that. But this site is more comfortable. So I want to show you the site. So you can see here the weather stations, there's no height, the wind, the sun exposure, the wind, the wind direction, as well as the temperature. And it's all given there. And then you can check how was the weather exactly for this region, or for this tour.

**Vivien van Dongen** 19:15

It's okay if the weather for the last two days and for the next day, or

**Ski tourer 1** 19:20

no no not there's no forecast. Oh no. just history but actually, yeah, because of the avalanche danger you have to know what's the event because that can be winds thrifts which are super dangerous, according to avalanches, but you can see it really rally well here. So, so you can see the wind direction is itself then the wind at the snow goes from south to northern aspect. So the avalanche danger in northern aspect is much higher than in the southern aspects because there's no snow because all the snow went to the underside. So that I think that's somehow clear. But that's super important because that could be slight changes within the region, because there is some valley. And it's yeah, the wind direction is west to east and the valley is north to south, and there was no wind inside the valleys. snow conditions are really good there. Or if it's from west to east, then there's a lot of drifted snow, for example. So you have to check it afterwards after the avalanche report, actually.

**Vivien van Dongen** 20:51

Yeah. Okay.

**Ski tourer 1** 20:53

Because avalanche report is for a huge region. So it's like, a video back here. I guess it's yeah. 150 kilometers, 240 kilometers. And so it's too gross.

**Vivien van Dongen** 21:14

Yeah, yeah.

**Ski tourer 1** 21:15

take it into account.

**Vivien van Dongen** 21:19

And yeah, these are all steps that you do for both areas.

**Ski tourer 1** 21:27

Before ski touring, right. Okay. And also, in lavis there is something like incidents, so avalanches, which happened which happened in the last days. That's, for example, that's my avalanche here. And guess one of the avalanches here, the first one in the off the season was mine. Mine, but nothing happened. Perfect. So you see if there was an avalanche close by your region where you plan to go ski touring, as well as what you have here is snow profiles, so that you can see the avalanche situation or the snowpack for especially the region knew how to go.

**Vivien van Dongen** 22:28

Yeah. Okay. And these are all steps, basically, to determine to which area to go to because that area is the safest, given avalanches.

**Ski tourer 1** 22:43

By the best find snow, right? Yeah, or for

**Vivien van Dongen** 22:45

the best snow. And how do you then find the final route that you want to do? How do you? Yeah,

**Ski tourer 1** 22:53

let's do it, actually. So that's kind of map research. So either I take a book and say, Okay, now has figured out which region I want to go. So I have several books, and I take the book out and look where, so I actually know now, where, which region, which aspect, and also, which slope is okay for me. And then I can grab the book. And I say, there's something like a table and all of the books. And there you can see the aspect, the attitude of the tour, as well as the slope, maximum slope, yeah. And then you can figure out, okay, which is the most suitable route? And or you can go to the internet and try to find something that's next one, or it's just network research. So as I have shown you here, it's really, yeah, I really could know the area here. So it's easy for me to just check around and I know where I have to look to find a good, suitable route for me. They're just not in a book or something like, it's just out of my mind.

**Vivien van Dongen** 24:14

Okay, perfect. Yes. I think then, we can go to the next question, which is more related on ski terrain maps? And the first question is, well, do you use ski touring maps? And then the follow up question is then also which kind of ski touring maps do you use? Because there are two different kinds that the kinds the ski touring maps in the guidebooks you were just talking about, but then they're also just keep touring maps, for example, from the Austrian Alpenverein with the foldable ones with the scale of 1:50.000.

**Ski tourer 1** 24:53

So actually, I used the books but actually in the books, the maps are really, really bad, because of there's no altitude, there's no real aspect in the book. And, and there are no stops. So there's something in the text, okay? Maximum slope is so is that blah, blah, blah, blah, blah. But on the map, you can't see any slope. That's actually really bad. If you want to go ski touring, you actually need to know where is the maximum slope? Or where is which slope that I am aware of there? Can I trigger an avalanche or not?

**Vivien van Dongen** 25:35

Yeah. Yeah, I agree. And yeah, continue

**Ski tourer 1** 25:40



There are also another one. Do you know Ski touring Guru? No, so ski touring, it's really, really good. The project by some Swiss people. What you actually have here, it's all ski tour routes panicle books, so. And what they do is they match all the avalanche reports to the tours, and some attitude maps behind it, and so they can exactly figure out how dangerous the risk is. And so you can click on route. So it's not working now, because there is no avalanche report anymore, because it's summer. But you can see here, that's really nice, too. So you can see somehow the slopes here, which was really good. And then you see exactly points in the map. Which are dangerous, or somehow dangerous, or more dangerous than others. Oh, wow. And that's actually really good. And also, you can see the avalanche. I don't know when. So on the 28th of January 2015, there was an avalanche and avalanche risk was three. Yeah. Oh, wow. That's actually really, really helpful. But there are not a lot of tools in it. Right now.

**Vivien van Dongen** 27:33

Yeah. Not yet.

**Ski tourer 1** 27:35

But I, I guess it's two years old. And they keep on developing the page. And that's actually really nice to the actually I do my ski touring planning before, and then I recheck my decision with ski touring guru. Sometimes there are routes and ski touring guru says it's not possible to do the tour because it's too dangerous. But it's especially in oberguren. I don't know if you know. You've heard about over oberguren. On the homepage is super slow. That's the biggest problem of ski touring guru.

**Vivien van Dongen** 28:42

Yeah, probably lots of data to load.

**Ski tourer 1** 28:48

I think that's really good example, this tours are always red, even if the avalanche risk is one, this tour is always read, because yes, it is actually a path. But off the path. There are a lot of avalanche safety equipment. So actually, you can do this path. Even if there is avalanche danger three, because there's a lot of evidence safety construction above the path. Yeah. And so there's no actually there's no avalanche risk. That's actually the biggest problem, because they can't figure it out because they just have the maps with the altitudes. And so they calculate slopes. And then they say, oh, that's super dangerous here. But they don't know that there's some avalanche equipment, which Yeah, deployed here.

**Vivien van Dongen** 30:02

Yeah. Oh, okay. Yeah, that's interesting.

**Ski tourer 1** 30:04

That that's actually the biggest problem. And that's the ski touring maps I actually use. And there's also another one that this swisstopo map, but it's actually the same like, or it's super similar to ski touring guru.

**Vivien van Dongen** 30:21

yeah. And coming back to the maps in the guidebook, we were talking about for what, for what purposes do you use those maps? You already said you use them to plan your route beforehand? And do you use them during?

**Ski tourer 1** 30:45

Yeah, I guess it's just a schematic overview for me so that I have I know where I am, so it's just a navigation. So I know where I am, which mountains around where to go. And if I really know the area there, then it's super easy to navigate with these maps. And there's just there, yeah, there's almost no information on the maps, just some huts, a little bit of glacier, a little bit mountain of riches and mountains. And so it's, it's yeah, super close an overview of the map? And I guess that's, that's really good that you know, where you are, and where to go? And where is super important infrastructure, like a hut or something like that, which you need in emergency cases, but actually, you can't use it during the tour, because then you will have to know, how steep is this slope and so on? Yeah. And, yeah, that's, that's the biggest problem. So you can use it before the tour, just to get a big overview.

**Vivien van Dongen** 32:09

And how do you navigate during the tour, if you're not using those maps, or the tour guide maps I mean?

**Ski tourer 1** 32:21

actually, I use apps. Because it's easier to it's easier than paper. Because if it's snowing, and you have a paper map, it's it's getting destroyed easily. So therefore, I actually use the open topo map. And I actually plan my tours before with outdoor active sometimes, I don't know if you know outdoor active, that you can plan you tour and you get a GPX file, and that GPX file, you can upload to your open topo map. And then I see exactly what you're actually how it works. And also the panicle books, they are also have the GPS flights with it. So

**Vivien van Dongen** 33:11

yeah, okay. Yeah. Okay. Um, and then just a question, which elements of ski touring maps are most important for you?

**Ski tourer 1** 33:27

The elements, which are most important, I guess it's some altitude, so that you see the lines have the height, then the aspect where you are, and as the slope so how steep is it? Yeah. And actually, that's

what you have seen here before and also in the avalanche report. And somehow you need to map this information to use ski touring map. Otherwise, you have some kind of fucked up because you can't interpret but described here. Yeah. Yeah. And, and I think that's the biggest problem with the maps you have sent to me.

**Vivien van Dongen** 34:25

Yeah, I can go to the next question where there are four maps um, I'm not sure if you have them there. Otherwise, I can share my screen.

**Ski tourer 1** 34:34

Sure, but I have to share my screen. I guess. I hope it's big enough?

*Ski tourer 1 shows map A*

**Vivien van Dongen** 35:10

Yeah, that should be fine. Um, so my my question about those maps is, are the four maps that I sent to you sufficient for your purpose of ski touring maps?

**Ski tourer 1** 35:23

No, they are not. Let's go to the map. So this is the first one, it's North oriented, that's really good, because then I have kind, I can kind of guess the aspects here. If it's north, west or east, then I don't have any information about the slope. So I just can guess it. Sometimes. You can figure it out if you have a scale, but there is no scale on the map. So I can't figure out if this is 30 degrees or 40 degrees, because there's no scale on the methods really, really bad for me. And then what's also missing? It's super hard to find the altitude because there's only 1000 is given. But if you go up, I think that 10, lines two, to 1000. No five lines. That's 1100, and then, almost 1300, but it's really hard. So I'm located here. So which altitude do I have? That's super complicated, too. Especially if the avalanche risk is high, and you're riding on a dangerous part on the mountain, and then you have to count the lines. That's, that's really, really bad.

**Vivien van Dongen** 37:01

Yeah, yeah, I agree.

**Ski tourer 1** 37:04

And also, the background, the yellow background, and here, actually, the name of the mountain is given, but it's stated here again, and with the yellow background, so I miss a lot of information here about the map. That's also really, really bad at what I also don't like, but it's the same for all the all the maps, actually, you have something like corridors where you can go down or go up. And what you

have here is just you have something like arrows. So you don't know if it's possible to use the whole terrain here. Or it's just one way down.

**Vivien van Dongen** 37:53

Yeah. Yeah, because sometimes, a corridor is that you can like use the whole the whole slope to go down, right, instead of just this specific trail. Yeah, yeah.

**Ski tourer 1** 38:07

Yeah. But it could be the case that I don't know, some has a bit of terrain in the middle here. And that's the reason why you can't shouldn't go down here. But I don't see it here. Yeah. And if there was something like a corridor or something like, oh, it's not drivable here. It would be much better for me. Yeah. Information.

**Vivien van Dongen** 38:32

Okay, perfect.

*Ski tourer 1 shows map C*

**Ski tourer 1** 38:35

So to your to the next one, there's a scale that's better. It's also north oriented. Also good. But the problem here is that you actually have no information about rocks or trees or something like that. So if we go back here, you can see some trees. You can see some rocks and so on. So it has more information. And this information is missing here. Yeah. And also there's, there's no such thing as 1500. And then there is, it's hard to figure out. If I say okay, I'm here to figure out which altitude do I have?

**Vivien van Dongen** 39:26

Yeah, and knowing that altitude is important because then, you know, that height difference between the isolines and therefore you can calculate the slope or you just also do you need to know the altitude for different reasons.

**Ski tourer 1** 39:41

Yeah for the avalanche risk. Yeah. There's sometimes often you have an avalanche risk, which is really high, above 2000 meters, or above 2300 meters. So it's dependent on wind and some weather and the temperature so on so on, and therefore you actually have to know exactly on which altitude you are.

**Vivien van Dongen** 40:08

Okay. And one more question about this. Why is it important for you to know where rocks are for example, and where trees are?

**Ski tourer 1** 40:22

Because if there are rocks, or cliffs or something like that I can pull down. That's really, really, really bad. And actually with trees, the avalanche risk is much less than in open terrains. So actually, you should also know the density of the woods somehow that would be great if you can ride through the woods or not. That would be great information. And I think that's difficult to show. I don't know. And, and especially rocks or big rocks, if there is not enough snow, especially in early winter, and then there's the danger that you hit the rock or something like that. So and, for example, you want to know if there are some tubes which you can ride down or not? Or is it possible or not, that would be nice here, actually, as you can see here, as some kind of shoots, maybe I can write them down here to this terrain. But there's no information here. So I don't know if there is tubes, or is it all open terrain, and it's all grass? Or it's their rocks or something like that? I don't know it here.

**Vivien van Dongen** 41:56

Yeah. Okay.

*Ski tourer 1 shows map B*

**Ski tourer 1** 42:00

This map is really, really bad because it's not north oriented. And it seems like it's a little bit tilted. I don't know. And so that's, I guess, even if there would be a scale, it would not be possible to calculate the slope or something like that. Yeah. Because it's something called tilted. And yeah, it's, I guess it's from a book, right.

**Vivien van Dongen** 42:31

Yeah they are all from tour guide books.

**Ski tourer 1** 42:34

Yeah. But this one is actually super stupid, because it's not north oriented. So if you exactly, you have to know which aspect you ride because of the avalanche danger. So it's super hard, because then you have to move your head somehow like this, to see what's north, and so on. Yeah. And do you have questions for that map? So what's really nice here you see really good to tubes. That's, that's really nice. Yeah.

**Vivien van Dongen** 43:13

So those are those areas where you could go down?

**Ski tourer 1** 43:17

Yeah, maybe there is possibility to go down? If there was would be also information about slope here. So if it's less than 45 degrees, then there's a good possibility to go down. So it's steeper than 55 degrees, there's actually no chance to go down. Yeah. Because it's too steep. And if it's all over 65 degrees, there's no snow because it's too steep. That's no can stay on the rocks down. So that's really nice. Yeah, actually, the as you can see, here, as I guess, some trees here is something like a wood. Yeah. Forest. Yeah. And yeah, that that's actually really nice. And to tubes are also really nice. So something like a combination between all the three maps right now would be great. But then there's still the missing slope.

**Vivien van Dongen** 44:26

Okay. Yeah. So how steep the slope is. Yeah,

**Ski tourer 1** 44:29

yeah. And maybe some information about that aspect. Yeah.

*Ski tourer 1 shows map D*

**Ski tourer 1**

Okay, now the last map, so there's a scale that's good. It's north oriented. That's really good, but now it's super hard to figure out. So the altitude, there is no information about the altitude. Only the mountains have altitudes here. Then you don't know how steep the terrain is actually the crevasses look random because they are changing every year. So that's actually really dangerous information. Not enough information. That's yeah. Yeah. It's a really nice overview. You see all the huts here and the mountains here. And it's really good for orientation before the tour. But during the tour, it's actually doesn't make sense to use this kind of map.

**Vivien van Dongen** 45:41

Yeah. Okay. Thank you. My next questions were supposed to be about avalanches, but we already answered them all during the interview.

**Ski tourer 1** 45:56

There's one I haven't answered yet. Determined avalanche risk during the tour.

**Vivien van Dongen** 45:59

Yeah, how do you determine the avalanche risk during the tour?

**Ski tourer 1** 46:06

They actually I. I tried to look at the snow. So if I lay the first flag, you see exactly what does the snow do. So at there cracks at the no cracks and so on. And if there is something like cracks, so then I look

at the slope, and the slope is okay, I continue. But if the slope is a critical cut slope, then I decide to do something like a hasty pit. I don't know if you know what a hasty pit is, it's a snow profile that you can just do with your hand, you cut with your hand, something like in the snow, and then you can check the stability. But if it's there, looks dangerous, and it's not nice than I do, and ETC, it's it called it's an extended column test. So, then that's a really big snow profile, which you have to dig. And that's actually what I do to figure out if it's okay to continue to or to break up. Okay.

**Vivien van Dongen** 47:20

Yeah. Okay. And then coming back to the tour guides maps, you say you use them beforehand to plan your tour, but that they don't not contain sufficient information to use them during the tour? Would you use the tour guide maps, if they would contain the information you need during material which you use them during the tour?

**Ski tourer 1** 47:51

If they're somehow digital, then I would use them for sure. Because it doesn't make sense to the what I often do is I have my two books at home, and I take a picture, and then I look at a picture with my cell phone. But they could be actually if there would be more sufficient information and think for sure. I would use them more.

**Vivien van Dongen** 48:19

Okay. Yeah. Okay. And then my final question is actually, do you have anything you would like to add?

**Ski tourer 1** 48:33

Actually, there is a lot, which we can add. So the problem here is we have more than one tour on the map. Right? So it's really hard to give precise information for each of the tours because then it's getting too difficult. But maybe what I was thinking about is you add exactly now if you have one tour, there is one tour, so you exactly know, okay, from 832 to I guess, were here 1500 meters, the maximum slope is what the slope ranges between, I don't know five degrees and 25 degrees and the aspect is North. North, actually, and then you can say okay, from 1500 to the mountain, it's more or less west side and the maximum sort of is that or that that would be actually great. What what also would be super great is as you have seen it in the skitour guru, if you have something like, the colors for the different slopes would be nice. Because then you exactly know, here or this tube is, I don't know, 45 degrees. So I also have the alternative to go down there or something like that. And what would be also great if if we have something like more corridors. So I guess in the beginning, it just has to pass cheering? Yeah. In the forest. So there's no option. But I guess here, it doesn't matter if you go down here, or if you go down here, or if you go down here. So it's more like a corridor here. And that would be really nice. Here, I guess he has something like it live. That should be marked that it's dangerous, I guess. Yeah. But then you have very more information, which you can add to the map. Also can can add to the map

is actually the region. So I don't know. So it's me back. I can Google it. But I actually don't know the region here. So maybe if you have something like the region is, I don't know where Schneeberg is. Tirol and you have Tirol at faller alpen. And maybe there could be a QR code on the left hand side where you can scan and then you get the avalanche report. That would be great. Yeah, I guess, for all the people using the the maps. What would be also really nice if you have seen the weather stations, if you have something like if there is maybe here in polen, there is a registration, something like that, they should be marked. And also they could be in something like a QR code, which you can scan and then you come directly to the weather station, then we have exactly the information about the weather station. What's also super important what I forgot until now, our webcams, some sometimes you use webcams to see how it looks like there. And sometimes there is a webcam two mountains away, but the direction is the right one where you can see somewhere in the back from the mountain mountain or something like that. So what would be also great if you have something like information of here at the beginning, so it's 872 meters. So it's, I would say there's not much snow. So there would be good information to have something if here is a webcam, something like also QR code and say here that webcam and then you can see if there is snow or not, or something like that. That would also be super nice information, and super helpful for other people. As severe weather stations, webcams, the slope, aspect, the aspect, then, that's kind of all you need to do for ski touring. Yeah. But what you actually have to know a lot of people are most of the people use that books, they go there, and that is that, is that still a track? Because some of the people are earlier and so on and so they just follow the track. So actually, they don't need any information, or they don't care about the information, because they see oh, there's a track or it seems to be okay. I get that. I guess most of the people do it like that.

**Vivien van Dongen 54:17**

Yeah, they rely on others.

**Ski tourer 1 54:23**

Yeah, but especially with respect to the avalanche danger, the slope and aspect is really, really important. And super nice information as to weather stations and the webcams. Yeah, that's and maybe the region that you know, which which is the right avalanche report. Yeah. Yeah, I guess there's so much evidence reports. And especially there are some tours which are super close to the border or they go over the border so between Italy and Austria or between Germany and Austria, then you have to check both of the avalanche reports because they don't say the same.

**Vivien van Dongen 55:17**

Yeah, okay. Very informative.

**Ski tourer 1 55:23**

I hope I could help to you a little bit. Yeah, definitely some insights.



**Vivien van Dongen** 55:27

Yeah, no, definitely. Very Yeah. Many new insights, which were helped me a lot with hopefully better design part, partly based on this interview, so very, very grateful. Do you have anything else you would like to add to this interview? Any final remarks?

**Ski tourer 1** 55:52

I think I have that a lot. Yeah. That should be fine. And then get now you know, the tools which you can use to make are designed to create is featuring map, I guess. Yeah, somehow.

**Vivien van Dongen** 56:11

Yeah, definitely. Yeah, I'll start soon with the design. And then my thesis deadline is beginning of September. So I will definitely keep you in the loop and let you know about my design choices.

**Ski tourer 1** 56:26

Yeah, that would be great

**Vivien van Dongen** 56:27

. Yeah. So for my flute every time and hopefully, hopefully, my design will be used in those tour guide books later

**Ski tourer 1** 56:38

in the future, hopefully. Great. So how many interviews have you done so

**Vivien van Dongen** 56:44

far? You're the first one the first one okay. Yeah, um, it's difficult to find ski tours who are yeah enthusiastic and willing to do an interview but my supervisor is helping me Yeah, finding more ski tours but so far it's just you

**Ski tourer 1** 57:11

so I think of other people maybe I find one or two other people's but but but the problem is they do it like with no no more new information.

**Vivien van Dongen** 57:30

Yeah.

**Ski tourer 1** 57:32

Maybe you should talk to Lucas with

**Vivien van Dongen** 57:36

because that's what

**Ski tourer 1** 57:39

he says. He do us a lot of ski tours I guess 120 or more than 120 and he has the big blog about ski touring

**Vivien van Dongen** 57:51

okay because

**Ski tourer 1** 57:58

that's what you should write him tell me green Swan so he's an expert I would say and also there is definitely a guest I don't know late this afternoon remember the block name just finished Yeah, she

**Vivien van Dongen** 59:22

yeah you know her No, I don't know her. But

**Ski tourer 1** 59:27

mountain silence is help look.

**Vivien van Dongen** 59:29

Oh, I can definitely reach out to her as well. Yeah.

**Ski tourer 1** 59:34

Yeah. And guest She's really good. And for sure, you can also ask something like add like an IRA. He is in charge of the avalanche report. In two role,

**Vivien van Dongen** 1:00:01

Oh, yeah.

**Ski tourer 1** 1:00:03

I don't know if he is interested, but you can reach out and see what happens.

**Vivien van Dongen** 1:00:09

Yeah. No, I will definitely do that. That's good advice. Thank you.

**Ski tourer 1** 1:00:14

So, these are really good actually. Yeah. So naturally related to scattering. Are they one of the best people you can? Interview?

**Vivien van Dongen** 1:00:32

Okay. And then I'll, I'll try. And let's hope he wants to get interviewed. Yeah. Okay. Um, thank you very much again. And thank you for your time. You're welcome. And like I said, I will, I will keep you up to date on my progress. If you have any other remarks. You can of course, send me an email.

**Ski tourer 1** 1:00:57

If you have any questions, or if you don't understand something, yeah.

**Vivien van Dongen** 1:01:01

Okay. Yeah. Thank you very much. Yeah. Thank you. Thank you. Okay, and I wish you a good evening. You too. Yes. I thank you. Bye.

# Ski tourer 2

**Vivien van Dongen**

I would like to start with the personal information part to get to know you better. How much experience do you have with ski tours?

**Ski tourer 2**

Yes, I've been doing it for a while. Since my college days. In 1988 it was that I made my first ski tour. And in 2020 is the only year I haven't done a ski tour.

**Vivien van Dongen**

Ah yes

**Ski tourer 2**

And actually from that time I tried mountain climbing and that has gradually become less but tour skiing I still do, and also several times a year if possible. And actually always independently without a guide, but I did avalanche courses and ski tour training and in recent years a little divided overlap and the last ten years there is also ski touring competitions. But very modestly, I'm not very fast. Also a part of the tour skiing and then you take the experience also to the ordinary touring.

**Vivien van Dongen 2:37**

And how do you prepare for a tour ski trip if you know the area?

**Ski tourer 2 2:40**

Well me, I always follow winter developments through websites. And especially of the areas that I know or the areas that I think I will go to. A major source of mine is skitour.fr and especially areas where I've been more often, and there's a lot of posting there. So based on that you get a little bit of a sense of how the situation develops in the winter. So what's happening. And I also look at the area with family on winter sports go on ski vacation in Austria, what is it like there? Then I go there to look a little bit more. So yes, I'm over a longer period of time preparing what you can do, and over the years and if you go somewhere with a group, then I prepare the trip. But then I usually make 3 or 4 plans, to have alternatives, so that if plan A does not go through, then there is also a plan B or plan C. So you always have plans that can be followed. So you always have plans that you can do later. So over the years I have a lot of plans that I want to do someday.

**Vivien van Dongen 4:38**

Yes that is convenient, and how does the preparation differ if you don't know the area yet?

**Ski tourer 2 4:44**

Yes, not that much in itself, because that's why I responded to your mail, because I can stare endlessly at maps, because I like that very much. That alone is a huge part of the preparation.

So when I go to an area, that I don't know yet, I know it the moment I'm there for the first time. Then I've read so much about it and I know the mountains in the area, and when I'm there I recognize them.

**Vivien van Dongen 5:22**

So you actually pick an area to go to, and then how do you finally pick the real final route that you're going to ski?

**Ski tourer 5:34**

Yes there are nowadays I think all websites, which have topo's on them and that actually differs per area which websites they are, and therefore you look what is being done in what period of the year. And what does that look like, what is permissible with the current conditions. And in that way you start puzzling.

**Vivien van Dongen 6:19**

Okay yes exactly, then I'd like to go on now about ski tour maps. What kind of ski tour maps do you all use?

**Ski tourer 2 6:28**

Nowadays it depends on what is available of that particular area. Yes the maps that vary quite a bit from country to country. Especially in the last few years there have been a lot of developments in the field of digital maps. So nowadays you actually look at digital maps to plan in the first place, and then I often draw the routes in there as well, and look for GPS files. So that you can also use them with gps on your watch, but also in combination with a paper map. But is a paper map also always the basis and the mechanical tools yes, are very useful tools, so I use them often.

**Vivien van Dongen 7:44**

And when you say you have the paper map as a base, is that the topographic map which is often like 1:25000 or 1:50000 scale?

**Ski tourer 2 7:49**

Yes absolutely, preferably 1:25000 with as much detail as possible.

**Vivien van Dongen 7:55**

And each country has a different style, do you happen to know off the top of your head which countries have a good style?

**Ski tourer 2 8:04**

Yes, yes definitely, there is only one country that really has the best map, the Swiss map. Those are the most detailed and also the most accurate. And particularly, those are also in your examples, Austrian maps I don't think excel in that either. There are bits in a tour where you have a bit of a messy area. With rock outcroppings, gullies, cluttered terrain. I don't think this is a strong point of the Austrian maps, and certainly not of the French maps. Swiss maps are really accurate and in any case Swiss maps are much easier to read than the French and

Austrian maps. What is important nowadays, especially with touring skiing, is that you have a digital map, and the digital map can be printed out, that you can overlay the slope angles in color. And especially what is steeper than 30 degrees, where should I pay attention to avalanche danger. And especially for ski touring that is very important information.

**Vivien van Dongen 9:38**

Yes, and do your then print out that map the tour itself, the Swiss map with the avalanche layer over it?

**Ski tourer 2 9:48**

Yes

**Vivien van Dongen 9:49**

Yes, and then you use that during the tour itself?

**Ski tourer 2 9:50**

Right, you have to be very careful to print that in the right scale. And then on an A3 or A4 and that you insist on not having it rescaled, then you can just use it as a normal card.

**Vivien van Dongen 10:07**

Okay, thank you

**Ski tourer 2 10:08**

Yes and that's more difficult with French maps and with Austrian maps I have less experience with that, but you also have all kinds of apps that do that. Yes, a little bit like junction.

**Vivien van Dongen 10:28**

And could you say again what are all the purposes of using the topographic map in tour skiing?

**Ski tourer 2 10:37**

Yes, ultimately that map is there to find your way. And it's your navigational tool. And it's also the tool that always works. So those apps and watches and all that kind of stuff, I'm aware of that they can fail. Batteries can be dead, bad weather reception can make it bad to use and also it's important that also the route that you have plotted there is not necessarily the route of that moment. Because that's also what you find on websites, people have made a trip but that is now 6 years ago. Maybe the route was different then, the glacier was different. So even in the fog, I've experienced, it's not that you necessarily have to follow that line. Because I say then that the people can be just outside of that. Yes the paper map is ultimately the basis of yes paper navigation.

**Vivien van Dongen 12:07**

Yes, and you also said that you also study the paper map before you go to an area,

**Ski tourer 2** 12:16

Before? Yes yes, well usually I study the digital map before I go to an area. Once I've made the decision, that's where I'm going, I make sure I have that topographical paper map too. Either printed or I order a copy of the map.

**Vivien van Dongen** 12:40

Okay great, is there anything that you miss in the ski maps, that you use now or use mostly, so in the topographic maps?

**Ski tourer 2** 12:48

Well, detailed information. And I'm talking mostly about the French and Austrian maps in cluttered terrain. Look, not every trip is over uncluttered terrain. When I'm hiking up next to the area during a family winter trip, it's generally very clear terrain and then you can rely on your phone alone. So that does depend a little bit on the character of the anyway. But if you're really going to do a day hike in an alpine area, then it's just a serious hike and then you take it seriously. And as I'm used to, then you just really take the paper map with you.

**Vivien van Dongen** 14:07

And then I would now like to go to the examples that I sent you, I can share my screen for a moment, to have another look at the maps. So I'm going to go by the paper maps in a moment and then my question with it is, would this ski map meet for you purpose of a ski tour map, so does this meet your expectations or what you want to use it for.

*Vivien van Dongen shows map A*

**Ski tourer 2** 14:48

Yes I think this is an Austrian map

**Vivien van Dongen** 14:50

Yes

14:54

**Ski tourer 2** 14:48

Okay, this is kind of that style. This is kind of what you're used to from those Austrian maps, the contour lines are already on there . This looks like a 1:50000 map to me

**Vivien van Dongen** 15:10

Yes correct

**Ski tourer 2** 15:12

Yes really too little detail. And this map would offer fairly little detail. Because if you look at that Karl Ludwig haus right there, you can't see everything. Would I take that variant of the

Neuer Seehut, that would be a big one. Is hard to see on this map. Whereas if you wanted to ski such a trail, I would really want to look for some good information myself. What does it look like there.

**Vivien van Dongen** 16:10

Okay, then we will now

**Ski tourer 2** 16:15

would, I don't know if you know Fedmap, that is currently very trending, with beautiful visualizations of Google Earth. The map is not the only source anymore, and that used to be the case.

**Vivien van Dongen** 16:40

Yes

**Ski tourer 2** 16:42

This map I would give a 6.

**Vivien van Dongen** 16:52

Okay, then we have the next map B

*Vivien van Dongen shows map B*

**Ski tourer 2** 15:54

Yes yes, that looks a little better already. Is also a different scale, so you can estimate the terrain a little better with that. Of course, what's crazy about this map is the 3D formation. Because the projection on this map is of course very strange, this is not. Because the other map is of course Mercator, although you would know more about that than I do. But this is not a This is a sort of shaped map, the landscape comes through in this map. So yes, you do have to think hard about this how you interpret this map then. But then when it comes to the descent from the summit, you do have good detail here. But on the other hand, if you get closer to the starting point, then the projection reduces the detail. So that's a big disadvantage of this map. Furthermore, there are contour lines as you would expect, every 20 meters, which is nice. And you can clearly see how steep it is.

**Vivien van Dongen** 18:28

And could this map meet your expectations of a map for ski touring or live up to your needs.

**Ski tourer 2** 18:42

Could be, as far as the part near the top at least, yes, but the part near the little elevator to the Edelweisschütte, there you run the risk of really searching, because that is reduced by the projection.

**Vivien van Dongen** 19:09

Ja okay great, then we will go to the next map C.



*Vivien van Dongen shows map C*

**Ski tourer 2** 19:16

Yes that one is beautiful, I don't know where this is.

**Vivien van Dongen** 19:25

Greece

**Ski tourer 2** 19:26

By itself, it's not even very bad. It's a little puzzling how far apart those contour lines are, maybe 50 meters. But this is actually a classic map. The contour lines are easy to read, the tours are well marked, but the typical landscape features are rarely seen. But in itself not a very bad map actually.

**Vivien van Dongen** 20:21

And would this be sufficient?

**Ski tourer 2** 20:22

Well look, it kind of depends. Probably there's nothing better and then you have to do with it. But what I would do is to start carefully and then look. So if you're in an area for a few days, use your own observations, if at all possible. So I would not immediately go on a six-day trip based on such a map. But that's a risk. On the other hand, when I toured Russia, or actually in the Caucasus I made a trip. And then if we had had such a map, we would have been very happy.

**Vivien van Dongen** 21:16

Yes, and the finally map D

*Vivien van Dongen shows map D*

**Ski tourer 2** 21:20

2 Yes, this was about the level, well not even yet, of what we had in Russia then. Well, lean though, this area I know well anyway, have been there several times. Did there a number of trips. Anyway, there are no contour lines on it. So you hardly, you can figure out what is high and low and what are glaciers. But those crevasses are also just kind of random. The lines and the dotted lines, yeah that's a question mark for me too. Because that col de passon is very steep, and the normal route is. And then you have to abseil. So here is a lot of information not on. And if you're an unsuspecting skier touring this map along, then you come to surprises.

**Vivien van Dongen** 22:34

So it is not sufficient?

**Ski tourer 2 22:36**

No absolutely not. This is a 4, no not even that. Fun for planning your tour approximately, like oh what are we going to do but..

**Vivien van Dongen 22:56**

And then I'll stop screen sharing again, then we'll talk about snow avalanche risk. How do you determine in advance what the snow avalanche risk is for the tour you have in mind.

**Ski tourer 2 23:21**

Yes, it's quite complicated, but as I just said, in advance, and I'm talking about weeks or even months in advance, actually the whole winter, you follow the ski news. So I look at what kind of weather it has been, where did the snow fall, what are the weather reports. And if possible focused on the areas where you plan to go. And certainly what have people in that area already done. So a trip report and photos of ski tour is also a very relevant source. And they do say something about the local conditions. And in addition, the map is always with the slope angles a very important source of information. So those two are in the run up to the tour, because I'm not looking at that every day, but maybe weekly and the week before daily. And in those ways, you try to develop a sense of how is it there and where are you going to pay attention?

**Vivien van Dongen 24:47**

Yes, and how do you determine the risk during the tour itself?

**Ski tourer 2 24:53**

Well, during the tour itself it's really the local assessment, so with the history you have planned the trip, so that you also know a little bit about what you need to pay attention to, then during the execution of the trip you have a very interesting part, with the touring it's observing along the way, what are the signals, what have I seen in that preparation. When I see those avalanche reports, what do I see of that in the landscape, do I see the wind, the new layer of snow that's there, do I see that melt that's there. All those signals am I seeing them back or am I seeing maybe other signals and how does that translate into risk. And add that together, to make a risk assessment.

**Vivien van Dongen 26:10**

Would the four maps I just showed be enough of an aid to assessing snow avalanche risk?

**Ski tourer 2 26:26**

Well, actually none of them. Because with all the maps you would still have to go and measure yourself with your ruler where it is 30, 35 or 40 degrees, has the slope angle. And that's very easy to solve, you put a color over it. And that's what the digital maps do. And then you can see it at a glance. So that's very easy to do, and none of the maps have done that.

**Vivien van Dongen 27:07**

Okay then I don't really have any further questions, except I wonder if you would like to add anything to the interview. Or would you like to say anything else?

**Ski tourer 2 27:17**

No, well, I hope you can do something with these answers. And I'm actually very curious later on about the outcomes as well.

**Vivien van Dongen 27:23**

My thesis is publicly available so I will email it to you as well.

# Ski tourer 3

**Vivien van Dongen** 0:00

Actually, my first question is, how experienced are you with tour skiing?

**Ski tourer 3** 0:02

Well I have been an independent alpinist for a long time, since the seventies. And from then on I always did ski tours in the Alps and I still do. About 45 years I think.

**Vivien van Dongen** 0:29

And do you then tour independently without a guide?

**Ski tourer 3** 0:31

Yes, yes. Also with friends and for the last 15 years with a regular group and before that it was less stable. And we also go everywhere. We've been to the Alps a lot, we've been to the Pyrenees twice. We've also been in the Atlas, in Morocco, also relatively recently. So yes, I have some experience

**Vivien van Dongen** 1:03

Okay super, and how do you prepare a ski tour if you know the area?

**Ski tourer 3** 1:09

If I know the area, I mainly take a map as detailed as possible. So where the tours are indicated. And then I'm going to look very closely through the eye of an alpinist. Because with ski touring it is of course important that you keep an eye on what the obstacles are on the road, how steep it is, all that kind of stuff, and then you don't use the maps that are in the tour books, but you really use the detailed maps. With us, it's also true that we are always very flexible. The weather is of course very important, so we always have a plan, or maybe two plans. But it can sometimes happen that we change course on the way, and then we dive into our suitcase with maps and still adjust the plan on the way. So we hardly ever use those guides, because of course together we know the Alps very well.

**Vivien van Dongen** 2:32

And then if you choose a route, from one of those topographic maps with a scale of 1:25,000 or 1:50,000. Then you automatically start thinking of a route actually?

**Ski tourer 3** 2:48

Well, of course there are a lot of routes on it. Usually they are drawn in. In the 1:50,000 but preferably the 1:25,000, but you don't usually have that much choice. The Swiss draw the tour routes only on 1:50,000. Austrians and the Germans do on 1:25,000, so do the Italians. So we use the best there is. Yes, and if you are going to a relatively new area and you have such a booklet or you get such a booklet on your birthday, then of course we look in it, but those maps are of course more intended for where is it approximately, what are the important mountains in

the neighborhood? Really for your tour to prepare, then you don't have much use for them. The books are way too small for that. Whether a map is good or not depends rather on the purpose of the map.

**Vivien van Dongen 4:00**

Yes, and for you, what is the purpose of a ski map is so actually navigating, or?

**Ski tourer 3 4:01**

Well you need both. For example, when we went to the Atlas mountains in Morocco five years ago, it was important to know whether you could do some ski touring in the Atlas mountains. The first thing you come across are these sketch maps and that gives you the idea that yes, you can. And you need to be in this or that corner. And then you go on looking. But then you quickly realize that you order maps. And if you have no ski tour trails drawn on those maps, then you use the description and the map in the booklet, to draw the route yourself in the map. That's how you do it.

**Vivien van Dongen 5:02**

And what elements of touring ski maps are important to you?

**Ski tourer 3 5:07**

Do you mean the topographic maps or the maps in the guidebooks?

**Vivien van Dongen 5:17**

For both.

**Ski tourer 3 5:19**

Both.

**Vivien van Dongen 5:21**

You can start with the topographical maps.

**Ski tourer 3 5:22**

Then we'll start with the topographic maps. I've already made a list, I thought there would be questions like this. Well what's very important of course, it's a bit in no particular order, is that you can estimate distances well. That the scale of the map is clear, and with a topographic map this is of course always clear. And that it has a good grid, which of course makes it easier if you have such a kilometer grid. The same goes for contour lines, perhaps even more important. Like contour lines with a distance of 10 or 20 meters, and then the height reasonably often indicated on such a map. Sometimes I have to walk half a meter around the map because the altitude is not clearly visible. Furthermore, it is useful if more or less the difficulty of the tour is indicated, in a continuous line with a dash or dots, and also a somewhat clear definition of what that means. And then it is also important that you have a specific shading for slopes above 30 degrees.

**Vivien van Dongen 7:03**

yes

**Ski tourer 3 7:05**

Have you ever tour skied yourself? Then you know that the slopes above 30 degrees can cause avalanches. Yes you really want to know that and the conditions are optimal to go down.

**Vivien van Dongen 7:18**

Yes and ideally you would like to have that visualized in the map in addition to the contour lines

**Ski tourer 3 7:26**

Yes, you can see that very clearly on the modern Swiss map. And then things like wildlife areas are also drawn in with shading, which is nice to know. Well, the other thing I miss a bit in the maps is that with symbols, specific local difficulties could be indicated more clearly. You can think of and that is often on it, also always different. Glacier crevasses and areas. Rockfalls or crevasses, or pass transitions where there are real ski tour specific problems or the corridor of the glaciers where the passes are often really more difficult.

Yes and if you are with a group of good mountaineers then it usually works, but if you have others in the group then it is really important to know what you need to do. Swiss map on the back is a small indication or small description of the tours, but they are very minimal. If you have enough room it would be nice to have a more comprehensive report. A bit of touring skiing is also really about looking at the map properly.

**Vivien van Dongen 9:09**

Yes and being able to read it well

**Ski tourer 3 9:11**

Yes and being able to read well. Because that's just very important. Then of course you also want the hutw to be on it. That's almost always the case. Well then it is also important for touring ski maps that the summer paths are on it. Because you often ski partly along those trails. Or that it offers alternative routes, sometimes you can see them but sometimes not. So that's kind of what I have to say about it. Oh what I'm also thinking now is that it's important that the map shows when it was made and from when the glacier position is.

**Vivien van Dongen 10:11**

Yes that changes every year of course

**Ski tourer 3 10:13**

Yes that is getting less every year, if you know the stand then you can make a bit of an estimate.

**Vivien van Dongen 10:22**

Perfect, then I would like to share my screen to take a look at the ski cards that I also sent you in advance.

**Ski tourer 3** 10:24

Yes I already have them here in front of me.

**Vivien van Dongen** 10:27

Map A, does this

**Ski tourer 3** 10:32

Oh wait a second, I have to change to my other screen

*Vivien van Dongen shows map A*

**Vivien van Dongen** 11:07

Does this map meet your expectations, or would you use this map when planning your ski tour or during the ski tour, and what are elements that are missing?

**Ski tourer 3** 11:29

Well you can kind of see it on how it is. I don't have a legend with it, I assume the red and blue means on this map that they're both touring tours, that they don't run along summer trails.

**Vivien van Dongen** 11:52

Red is to ascend and blue is to descend

**Ski tourer 3** 11:56

Yes I see that, and yes okay, blue is down. Well I think it's nowhere near enough detail to really plan a trip on but it does give a bit of a feel and an insight. Is this a one mile grid?

**Vivien van Dongen** 12:23

The scale is 1:50.0000

**Ski tourer 3** 12:27

1:50,000 with a grid of two kilometers if I see it that way. At least, I don't know how big the picture is in real life.

**Vivien van Dongen** 18:10

Approximately A5 format

**Ski tourer 3** 18:15

A5 approximately? Okay. If you have such a picture of one or two tours like this I would just look at it of so yes that this you can do there, and then I grab a detailed map. If you have such a map and you have a little more overview, and you can see a number of huts on it and see how you can go from hut to hut, then of course it is nice to have that overview at once. But that's not the case here, because it's only about one hut and a bit around it. Yes, it is nice as a kind of teaser in a guide book to get ideas, but really not to go on the road.

**Vivien van Dongen** 19:19

Okay, and are there really any specific elements that you miss on this map?

**Ski tourer 3** 19:23

Yes

**Vivien van Dongen** 19:27

Or things you would like to see done differently?

**Ski tourer 3** 19:33

Ehm of course it's all just too little detail and that's what makes it crowded. Um, with all those yellow stickers on it, I would leave those out in that map though, and just use the black letters for objects that need a name. Yeah that's kind of it I think.

**Vivien van Dongen** 20:16

Okay, then we can continue to Map B

*Vivien van Dongen shows map B*

**Ski tourer 3** 20:24

Yes Map B

**Vivien van Dongen** 20:29

Yes in Schneeberg, it clearly looks to me like a small cutout from the topographic map. There is more some usable detail in it, but it is again a tiny piece of the one tour. I wouldn't navigate on it, but I think it is more useful than the earlier map in preparing for a trip. It is the kind of map you see more often in books these days. The first map seems to me to be from an older booklet, from the eighties or so.

**Vivien van Dongen** 21:33

Okay, and are there any elements?

**Ski tourer 3** 21:34

Is that correct?

**Vivien van Dongen** 21:37

Actually, it was made fairly recently, in 2021. Are there any elements you miss in this map?

**Ski tourer 3** 22:07

Well what I can't see, for example, is the starting point, where that is, in the big picture. There are no place names on it, so with that map alone, that's hard to look up. You need the description with it, to be able to figure out where this is. Or unless you know the local surround



very well. Furthermore, the level of detail is not high enough to really navigate on it, that's obvious. Also, is it, does this have to have a legend?

**Vivien van Dongen 23:02**

There is some explanation of the map, but so otherwise no legend that is next to the map.

**Vivien van Dongen 23:33**

Okay, then we can move on to Map C.

*Vivien van Dongen shows map C*

**Ski tourer 3 23:37**

Yes

**Vivien van Dongen 23:41**

This is a map from Greece

**Ski tourer 3 23:41**

Okay, my first guess was that it was a cutout from a Kompas map. That one looks pretty similar to that. Yes, it's a pretty nice little map that gives a bit more of an overview. Where are you actually, where can you match together some trails. You can also see that there are some parts that are problematic. At least, I see dotted lines, so that would mean that you might have to ski there. Yes, roads and trails are correctly on it. It even has a scale on it, a city meter, or what do you call it.

**Vivien van Dongen 24:56**

A scale bar

**Ski tourer 3 24:57**

A scale bar, yes as far as that goes I think for a map in a booklet this is the best of the three so far. But if I had to use it to navigate, I would say it is the worst of the detailed maps I know. Kompas maps, those are really lousy maps to navigate on. Sometimes you can't do otherwise, but it really doesn't give enough detail. But for the overview, this is pretty good I think. And what is missing

**Vivien van Dongen 25:40**

And what do you miss in this map, that you cannot navigate with it?

**Ski tourer 3 25:45**

Just way too little detail. For example the contour lines, I can't see how far apart they are, that would be pretty far apart. Every 50 meters or so I think. You also can't really see where any rock formations are. Pass crossings, well glaciers aren't here of course. Yes I think it is too little detail to feel comfortable with.

**Vivien van Dongen 26:37**

You mentioned rock formations, do you also miss, for example, that it doesn't say where there is forest or where there are grassy areas?

**Ski tourer 3** 26:49

Yes, yes that's good that you note that, because forests are obviously very relevant with tour skiing. And I can see that on the first map, but also not very well on the second map. So a legend is obviously important anyway, and that's a bit of a guess here. You say it's not there, but I can't see it. It could be that all the dark green is forest, but it's shadows by the looks of it.

**Vivien van Dongen** 27:34

Okay then I would like to go to the last map, map number D.

*Vivien van Dongen shows map D*

**Ski tourer 3** 27:40

Yes, that's for the overview, but it doesn't tell you anything else about what you'll encounter in the terrain. So it's a nice tease, the huts are on it the tour is on it there are some alternatives on it, the ridges are approximately on it. You can see glaciers and a very little bit of the crevasses, but I wouldn't dare to navigate on it. Or to make any judgments about the difficulty of those trails. So yeah, as a very rough indication it's worthy but otherwise you can't do anything with it.

**Vivien van Dongen** 28:41

What are the most important elements that you miss in this map?

**Ski tourer 3** 28:46

Well, yes the slopes, how steep are they, the contour lines I can't see, I can't see what the passes transitions, I can't see much in them, I can't estimate the distances properly. Rock formations that will undoubtedly be here and there I can't see anything. Of those ridges that are drawn in, you have no idea what the shape really is. So even if you have such a picture and you're standing at the edge of such an area, I still think it's difficult to see what is true. That's kind of my idea of it. Anyway, if the purpose of the booklet is to give an idea, of where the tour ski possibilities in that area are approximately with a nice description attached, that may invite more and in that sense achieve its purpose. But it plays no role in real preparation.

**Vivien van Dongen** 30:04

okay great, and then I have a few more questions about snow avalanche risk. How do you prepare for snow avalanche risk, or how do you determine snow avalanche risk, before you start a tour?

**Ski tourer 3** 30:22

Well for starters, a few of us in this group have a habit of following the avalanche reports from the beginning of the season. Not really daily but every few days. So you have for yourself a bit of an image of how it actually is. And how is the situation now created. That is very important

and as the date gets closer, we will of course look at it more often, and you will also be more emphatic. Just before you set off and also during, you can still follow avalanche reports. And you use those to pick out your tour. So it is, many people do it the other way around, they choose a tour and then look at the avalanche reports, whether they can go or not, but we do it rather the other way around. We plan a tour according to the avalanche situation. Yes, in a detailed preparation we look very well in advance for each tour, through which terrain it runs, where are the avalanche danger slopes, also in combination with avalanche messages. Where are the forests, yes, what orientation should you take into account. That sort of thing, even during the trip we still do that, where do we see avalanches, you take into account going out on time, coming back on time. Sometimes even your feelings can be decisive. I don't really know why, when you oversee everything, but I don't like it.

**Vivien van Dongen 32:37**

Yes, and do you also use maps for estimating avalanche risk?

**Ski tourer 3 32:40**

Certainly, that's why the extra shading for slopes above thirty degrees is very useful. Because you can calculate that based on the contour lines, but that's still pretty complicated, you have to have the distance between contour lines in your head to estimate that correctly for each slope. And then it is also important, such a slope can also be higher with a slope below with an avalanche that can still run. Or a forest so you are much better protected, such things are all on the map and you can take into account. You can also take into account the orientation of the slope in relation to the avalanche messages. So yes, in many ways you need to take a good look at the map.

**Vivien van Dongen 33:36**

Yes, many different factors.

**Ski tourer 3 33:39**

a lot of factors, and gullies. That again is important, you also come along chamber where the wind can play a major role. Yes actually all those details in an avalanche report, as indicators, you can often by looking closely at the map to find.

**Vivien van Dongen 34:01**

And would the maps that we just went through, would they be sufficient to assess the risk of an avalanche?

**Ski tourer 3 34:08**

I think you already know the answer, no, all four of them wouldn't suffice

**Vivien van Dongen 34:13**

okay

**Ski tourer 3 34:15**

So what I would actually prefer are the, most beautiful maps in my opinion would be the Swiss maps with 1:25,000 with that avalanche shading and the touring ski tours drawn in, but that does not exist.

**Vivien van Dongen 34:37**

Yes for that I am there. Then I wonder, what navigation tools do you use on a ski tour?

**Ski tourer 3 34:48**

Well, classically of course map and compass and an altimeter. But nowadays I use navigation apps myself. Yes it's a bit different, I'm not planning to pay a lot for it, in swisslanf you have that swisstopo app, which is very good in itself. I also use mapi.cz, I don't know if you know that one. It takes all of Europe, and you can download the maps in advance. So you have them on your phone. But those are a little bit less, cartographically a little bit less good than the swiss swisstopo maps. But if you can deal with that a little bit, that's of course very nice, because you know exactly where you are. But what you miss of course is the overview, I find that a very fine addition, it helps a lot if the situation is not clear or if you're in the fog. But yes, a GPS or your phone, they are not guaranteed to always work. So that map and compass still go with me and they are still used. And some of my friends are a little less progressive, so, but those are the two friends who are super good at navigating. And if they're looking at the map, don't interfere, it'll be fine. And if it's really difficult, then I keep track of it on an app, and then I can just give the last push and say, yes, it's really that way.

**Vivien van Dongen 36:58**

Okay super, other than that I don't have any further questions myself. I don't know if you want to add anything to the interview.

**Ski tourer 3 37:13**

Yes I do think it's a shame that it's only feed the maps in the booklets, as far as I'm concerned that could be expanded. I think it would be nice to read it when you have finished your thesis. And if you want to spar in the meantime, or you don't get enough volunteers, I can help you with that too. I do know the process of thesis writing, I was a university lecturer myself a long time ago, albeit in a different field. Feel free to contact me, to ask. I'll be away a lot this summer, mostly in the Alps.

# Ski tourer 4

## SUMMARY KEYWORDS

map, route, avalanche, tour, ski, people, mountain, prepare, nice, books, terrain, important, switzerland, elements, navigation, depends, ski touring, question, snow, interactive map

## SPEAKERS

Vivien van Dongen, Tour skier 4

**Vivien van Dongen** 00:00

Thank you for joining my study and doing an interview with me. I was wondering, how experienced are you with ski touring?

**Tour skier 4** 00:09

Yeah, well, my experience dates back to when I was little. Well I started skiing when I was like two or three years old, and then that was most likely at piste skiing and a little bit of off piste, skiing, and ski touring, I started when I was in my Well, starting my studies. And I really engage into ski touring in 2019. I also started with computations in ski touring. And from there on I well, I did a few tours myself and a lot of tours with my parents and also friends with my parents. So that's my background.

**Vivien van Dongen** 00:52

Okay, cool. And how do you prepare for a ski tour if you know the area?

**Tour skier 4** 00:58

If I know the area, I don't use a map from any books or maps. However, I tried to find specific points where when to go so which which kind of mountains do I want to go or especially if you know the route, you don't even look at where you want to go on any kind of maps or books. You just look at okay, what's what's the what are the snow conditions? And what's the avalanche risk? And then you just go.

**Vivien van Dongen** 01:39

And how do you prepare for ski touring if you do not know the area?

**Tour skier 4** 01:42

If you don't know the area? Well, first of all, what I do, it really depends on the person is I asked around, okay, what kind of mountain are nice to go to? Because based on that experience, well, I tried

to find, okay, that mountain is nice. And so when you have an idea when you want to go, then you can well, of course use a map. However, I tour ski most of the time in Switzerland, and in Switzerland, there are interactive map online. And that is a really detailed map. And in that map, there are already all the major tour ski routes written down. So I don't use maps in books, or magazines or, or paper maps. Because yeah, you need to buy those. And while the online map is free, and it's really detailed, so I only use that map. And when you have your route, you can also look at the world at forums, blogs, where people make a review, okay, how do you approach is this route or this mountaintop? So those are the two information sources. So an online map and reviews from people.

**Vivien van Dongen 03:12**

Yeah, and you mentioned the online map of Switzerland. Does that mean you often go to Switzerland? Or do you also go to other areas?

**Tour skier 4 03:21**

I mostly go sometimes to France or, not Austria, but France and Switzerland. When I go to France I only to ski areas where I know where I want to go, okay, Switzerland because they have an interactive map and it's really easy to pinpoint where I am and especially also with your phone and with your GPS location. You can look okay, there you are. Well, it's not that I use that one but it is it is more intuitive and more easy to approach in mountain without having a lot of guiding or experiments to finding your best route.

**Vivien van Dongen 04:05**

Yeah. Okay. And in a map for ski touring, either the online version or paper one, which elements are most important for you?

**Tour skier 4 04:19**

The amount of detail I would say. Well, you have the winter map in the summer map that's also different. When I look at the examples, most of the maps have a lot of gadgets on them, you know really big names or already routes written in them. So basically when I look at a map, I want to have first the map without the route or the summer routes, and how are they winter routes connected. So there are two types of roads. So similar roads, because those most of you do. When you're in Naruto setting, you have two poles that you see or

**Vivien van Dongen 05:10**

some similar routes you mean like for hiking?

**Tour skier 4 05:14**

Yeah, for hiking? Yeah. Because those, those hiking trails are, well, most of the time, you can still see them while in the beginning, and when you go in and glacier, it's also nice to see okay, where are the

cravasses and stuff like that. And but in practice, especially in the summer or no, before summer, you don't, well, most of the time you don't tour ski on on fresh snow, there will always be traces when you go. Yeah. So it's actually fairly easy. You just see the path, there is already a track. And you just follow the track because you want you you know where to go. Yeah, so this is the most basic route that you take, or trail. But with that, you need a detailed map, because you want to use the map while you tour ski. So yeah, I think that's the most important. You have the preparation phase, and then you have a map for tour skiing in a moment itself. So I would say those two and mapping for preparation needs to be the same map that you use while you tour ski.

**Vivien van Dongen 06:34**

Okay. So you would like to have one map that you can use for both purposes, or they should have this is

**Tour skier 4 06:42**

That is the reason why it needs to be detailed. Okay. Yeah. If you have like a simple drawing. Yeah. Oh, nice, for inspiration it is nice. But you're only looking at them at once for okay, that's a nice and get this is a little bit of the route. But then again, when you really want to prepare for a tour or track or whatever you're going to use the more detailed map. Either way, you always come back to the more detailed map. And the other reason is why you don't use the books, the big books, is while traveling is because the weight concerns.

**Vivien van Dongen 07:23**

Yeah. Let me think, Do you know of any other elements in the map that are important for you?

**Tour skier 4 07:38**

Well, I often hear the, the angle of attack of the slope, it's pretty important if that's 30 degrees, 40 degrees, and depending on the avalanche risk, it can be tricky. So that one, and a second point, I would say, the amount of up to date it is, especially in the current climate change. A lot of maps that what you will see is that, especially the books, take pictures of older books. And there's little to no updated pictures in the new route that you see in, in the books that you buy. So really having updated picture of how it is now it's really important because it can really make a difference between yeah, 50 meters, or even 100 meters or no ice. Yeah. So the big, there's a big, big difference between 20 years ago, and now in even bigger 30 years ago and now. Yeah, but the best pictures are from 30 years ago. So yeah, take those pictures, and then say, okay, this is the mountain super nice. And this is the route. It also takes the maps from 30 years ago, then you see the difference.

**Vivien van Dongen 09:11**

thank you. And I will now share my screen because I will show you the maps that I already sent you beforehand. And I would like to go, Yeah, I would like to go through them. Take your time. And I was

wondering for those maps. Would those maps be sufficient for you to prepare for your ski or ski trip beforehand? And also would you use them during your trip? And what elements are you missing in the maps if you miss any elements?

*Vivien van Dongen shows map A*

**Tour skier 4** 09:46

Well, the first comment I have on this map is just too much text. And the lines on the map that indicate the route are way too big. So it's really hard to see that how you gonna walk? So really finer, and it will be will be nicer. The amount of detail is nice. But then again, when you see here, this is the summer map, not the winter map. So there's also a difference. Yeah, and it depends, you know, depends on the what you're used to, because I'm used to at digital map really zooming in and seeing, okay, how do you walk and how do you tour. But if you take, for example, how my parents provide compared or my grandparents didn't prepare, they're going to use the bigger map. So the large paper one map and see, okay, how are you going walk? So there's a difference between your customer segment I would say

**Vivien van Dongen** 11:01

I was wondering if you could, if you personally would use this map, either before during your tour?

**Tour skier 4** 11:09

No, because it's, it's no, no. No, because most of the time you, yeah, it's to the route is easy enough that you don't need a map. If you prepare good enough. You don't bring really a map with you. That is the trick. Yeah, but yeah, depends on what kind of terrain you are. If you're, for example, if you really climb also, well, you take a map of the route, but that's not really this kind of map. Yeah. So you will be using map for a really good navigational map. And this is more like this is another navigational map of more a map for preparing so that is okay. Yeah, but not taking it with you because yeah, yeah. Okay. Are the means

**Vivien van Dongen** 12:12

And are there any other elements that you miss you already mentioned it's a summer map would you like to add anything to this map?

**Tour skier 4** 12:21

Or especially remove? Remove the yellow boxes? And then the big text? You know, you want to use it for for navigation also? .

**Vivien van Dongen** 12:37



Okay, then we can move to the next map. Again, the question, would you use this map before or during your ski tour? And do you miss any elements?

*Vivien van Dongen shows map B*

**Tour skier 4** 12:50

Oh this looks like a 3d map? Right, yeah. Yeah, it's nice that they make a 3d map out of it, but it's for a 3d map it's not detailed enough. And for 3d map view, you really want to have a digital version of it to really look around at the mountain and okay, what kind of complex route are men going to take? So for 2d applications I would strongly not advise using a 3d method or more like flat because if you're experienced with reading a map, you will see the lines while closing in on to each other and the distance between the lines you can read okay, how steep is it? If they want to illustrate how steep it is they can use the colors you know 30 degrees is for example purple and 40 degrees and other color, so that's how you can differentiate between a is it steep or not, but if you make the flat version of this one, this can be a better map yeah. And this kind of routes, markings and a map I would use during the tour also preparing preparing this this gives a good feel about the route but yeah, no distance. You know, the grid is no grid indicating how much kilometres is it or stuff like that?

*Vivien van Dongen shows map C*

**Vivien van Dongen** 14:50

Yeah. Okay. Then a map from Greece this time. And again, could you use this before during your tour. What do you think of the elements? Are there too many? Or do you miss any elements?

**Tour skier 4** 15:08

Yeah, this is the first thing I look at this is like it is a profile map. It's not a map of the environment. If you compare that the second map and the third map is too little details here. It looks like okay, you have an hill, a grass hill, and it changes colors. And that's all. So you don't see okay, where's the tree line? Or is it Rocky? And what kind of terrain do you feel? So I really lack a lot of details in this one, I would say.

**Vivien van Dongen** 15:45

Yeah. Okay. And would you use this map?

**Tour skier 4** 15:48

No. Okay. Maybe as inspiration? And then see, okay. Oh, do well, there's this sound a route can be. But really preparing if it's like unknown terrain, I would use another map. For inspirational purposes maybe. But for really see how I'm gonna walk or travel, no.

**Vivien van Dongen** 16:22

Okay. And then we go to the last map

*Vivien van Dongen shows map D*

**Tour skier 4** 16:26

Oh the fun part is actually this map is quite interesting. You will definitely not use this for for guiding or for tracking purposes. But for inspirational purposes, this is actually even better than a third map. Why? Because it really shows, well, the essence of this map is really showing the routes, okay, what kind of possibilities do you have to travel from one hut to the other one, and you see the Tête Blanche. That also you have different routes going up there. And well, next to this map, you can really say okay, route 2000x. And then explain, okay, how heavy is the route or what kind of type of route it is and explained a little bit of the background. So this is a no nonsense map. And it's pretty nice. Of course, after you have gained inspiration, okay, and want to take this route, you're going to prepare it in the most detailed map. But for for getting an idea, and especially in the in the travel guides, more than this is not needed. Okay. And you can even just take a random picture, as in the wall climbing guides, you can make a reference in your, in your resource to the climbing guides. They just, they have a picture and just a line over over over the over the picture. So you don't even need a map, you can also have a real life image and just say, Okay, this is the ride and we explained the route. And if you really want to get the details, you can look on the internet or on the topos to really have the, all the all the big pictures together. And all that idea is kind of like the same with this map. And the final preparation phase.

**Vivien van Dongen** 18:40

Yeah, that's for during the tour, I think you wouldn't use it?

**Tour skier 4** 18:44

No, no, no, that's true.

**Vivien van Dongen** 18:47

Yeah. And are there any elements that you miss in this map?

**Tour skier 4** 18:54

Well, not particularly the map itself and more like the explanation with it. Yeah. Okay. So, you can even take this map with you for the different kinds of options. So, if you are for example, in the in the hut d'Argentiere or Tête Blanche, if you have a map indicating all the different routes from that hut in this kind of manner, that is quite nice. Especially if you remember the routes and explain okay, just

why is this hard or this long? Then you know, you don't need a detailed map. You just need to know the route. And then for for inspirations and then.

**Vivien van Dongen 19:45**

Okay, and then I have some more questions about avalanches, because those are of course, dangerous, risky tours. And my first question is, how do you assess the avalanche risk before you start your ski tour?

**Tour skier 4 20:02**

Well, first of all, you have the avalanche bulletin. Now first of all you have the availability in Switzerland and a nice one in French and in German, even in English are things that they can just read up. And then if it's low enough, like one or two or, or even three, yeah, it's possible to start your tour, but depending on the level you choose, okay, what kind of tour so especially with at a 30 degree angle, if it's one on tour, you can choose for the route for 30 degree or more. But then again, you will need a map to well, you will well not particularly the map itself, you will need a description or an image of a map describing okay, you're traversing a terrain, that can be steep. Yeah. And also the face that northeast southwest that's also really dependent because that information is in the avalanche bulletin. It's it says, well, the north face is really dangerous. So try not to do it. So it's also nice to have a map that's facing north or a particular way. So yeah. So you have a kind of like standards, standard things that the map does need to have, you know, it does need to face north. I don't know all the details. Yeah. And a second step. So after reading the avalanche bulletin, I would ask more experienced people, like, Okay, do you think like this route that I chose with friends is safe enough? And if they say it's okay, it's fine. It's always we just go. And then in the moment itself, you assess the situation. So you well, that is also where experience comes in. And you feel the snow when you walk on it and that it's experienced that comes with the years.

**Vivien van Dongen 22:21**

Yeah, yeah, exactly. So that was my follow up question, how do you assess avalanche risk during the tour?

**Tour skier 4 22:27**

Well, it depends, you know, I've never had any official Well, training and avalanche yet, you know, I know the theory from one sometimes, of course, or whatever, but really, in depth experience with okay, how do you detect an avalanche? How to use feel the different types of snow? And what are the risks? Yeah. Well, I don't know that in detail. But most of the time, you tour ski when it's really safe, and well, because we have like already, like 25 years of experience in snow conditions, you already feel okay. All different types of snow. And this is kind of this can break or not, and you just feel it. Yeah. It's also a little bit of gut feeling most of the time. If the snow is feeling good, you know, and what is good yet, it's also a kind of feeling. You can you can just go up. But if it's already sketchy, and you you feel you

you, you can also hear that the snow sometimes when you stand up it, it makes it sound, then it's like, okay, staying well, in more like flatter terrain, then it's still okay. But yeah, it feels a little bit uncomfortable. But because you're staying on a little bit more flatter terrain.

**Vivien van Dongen** 23:52

Would you during the tour, if it doesn't feel right, or like if you think there might be an avalanche risk in the original routed, would you then change your routes, while you're already on your way?

**Tour skier 4** 24:05

Well, that is a really guiding question, because the answer is of course, you must, because you're taking unnecessary risk. Yeah. Of course, there are cases that you say yeah, no, this the route and you just go on? Because there's no other way. Yeah, it's also possible.

**Vivien van Dongen** 24:25

Would you then search for an alternative route, or would you just go back?

**Tour skier 4** 24:32

Depends on the options. Yeah. So there again, having a map with different possibilities. And if you really want to investigate or prepare for a new route, you want to have a detailed map directly on the slope. So having the paper map like really big one, or the digital map. Well, those two options are the only options actually, I've never seen people using other types of maps than those two, especially maps from books. Because nobody brings with them the books or the photocopy or whatever, for the description. Not for the map itself

**Vivien van Dongen** 25:20

Yeah. Also because it's so heavy, I think.

**Tour skier 4** 25:24

Yeah, yeah.

**Vivien van Dongen** 25:27

Okay, um, then I don't have any other questions from my sides. Is there anything you would like to add? Or?

**Tour skier 4** 25:35

My question is, what are you trying to achieve? Like, are you giving final advice to make use of those books or?

**Vivien van Dongen** 25:49

So? While I'm Yes, first of all, I'm just interested in doing any kind of research on ski tours, because there is no research done yet. So I think it's really important because there are still so many people ski touring, it's just important to better understand them. And that is just, I would see my research as a start of academic research that can hopefully be continued. Persnally, I am in the process of designing a ski tour map that displays specific routes or visualizes specific routes. But then, hopefully, with avalanche risk and with other elements that ski tourers think is important. So they will be made for ski tour guide books. But then also hopefully good enough to actually use for navigation.

# Ski tourer 5

0:00

**Vivien van Dongen 0:00**

Welcome once again, I would like to start by asking some questions about your experiences in ski touring. And my first question is, how experienced are you with ski touring?

**Ski tourer 5 0:06**

Yes, I used to do a lot of ski touring, I also used to teach some courses, but that was also quite a few years ago, and then I just did a lot of ski touring myself. Not very difficult or challenging, but just in the winter when you are on ski vacation. Then just a little tour along, I don't have to do it over glaciers, or very heavy and high peaks. But I do try to make one or two tours every year when I'm on ski vacation. Yes, you can do that easily, in the mountains it is always so that if there is a lot of snow you can actually just tour as if you were in a forest. You can experience beautiful things on cleared paths.

**Vivien van Dongen 1:10**

Okay super, and how do you prepare for a ski tour if you already know the area?

**Ski tourer 5 1:18**

Yes mainly by viewing and requesting information. To see what the snow conditions are, you do have to be in the area. So you go and see what the snow conditions are like, if there's a lot of snow and then you can see what others are doing and ask what others are doing. And, you follow the weather report and the avalanche bulletin. And, of course, you do search on the Internet. Last winter I was in Switzerland, and on the website of the local ski area were also a number of tours mentioned. So you can also just do that, it's becoming much more popular nowadays, so you don't have to search so much on a map. There's always something to do, you can always go. And also in Austria there is so much touring nowadays, local people just go touring.

**Vivien van Dongen 2:30**

And is your preparation any different if you don't know the area at all yet? Or is it the same?

**Ski tourer 5 2:36**

Yes, then you pick up a map, of course, then you read the map. I try to get a map in the Netherlands and then you look what there is to do on the map, a little overview of what mountains and peaks and what is like actually. If I'm somewhere, I often look around and you see which mountains are good or nice, and which are not. That sometimes speaks for itself, which mountain or how snowy mountains are. Yes, there are always tracks that you find and that help you on your way. And then you can choose with your experience the right tracks or the tracks you should not follow.

**Vivien van Dongen 3:29**

Yes okay, and do you use ski tour maps, or how is your use of ski tour maps?

**Ski tourer 5 2:41**

Yes, I always have a map, and then you try to find the good ski touring map, because otherwise it does not have much use. And yes it is very convenient that those routes are on it. I found that an advantage from the beginning onwards, so a map does have paths on it, but if you go off the beaten track, then a ski touring map is very handy.

**Vivien van Dongen 4:13**

And, so you use both the topographic maps and the tour guide or the booklets?

**Ski tourer 5 4:23**

Yes, I do use the booklets and I did buy the booklets. So it's more that I look on the internet and see what's available. There are plenty of websites where you can find the tours. Even though you have to look carefully because there are also extreme things between which I think oh that's too crazy. It is also and I think so, if you go look on the Internet then you often see the more extreme things and people who then say look what I did, but then that's not for me and then I look for things that are fun for me. I look for nice descents and it does not have to be very extreme as far as I'm concerned, because then it also becomes a lot more dangerous. Yes because there is always a risk that you run and I try in the winter always on the safe side to keep. That as a Dutchman you are not so often there and then you do not know so well of the gosh here is something wrong so that is much harder to assess, so you also have to look at the weather because otherwise you see things overlooked.

**Vivien van Dongen 5:55**

Yes okay, and what are all your purposes for the cards in the tour guide books?

**Ski tourer 5 6:05**

Mh yes what are the purposes, mh yes what do you want to know. I

**Vivien van Dongen 6:10**

Or what do you use those maps for? Did you use them beforehand or also during the tour?

**Ski tourer 5 6:20**

Yes, of course, both, even in advance you try to make an image of it but when you're on the spot it is often something else. And certainly the real topographic maps because they are often older than the booklets, booklets are often more recent and you do not have to be so surprised that there is a lot less snow or the conditions are very different or the routes are very different. So yes, then you prefer a booklet or a description on the Internet from people who have done it that same year or a year earlier. Then of course you have more reliable information. And yes, of course, you take that with you on such a trip. To still have a look on the spot should I go right or left. Or should I go up or down again. Also on the road it is your experience that you let lead you, whether you go up or down. Or you must have a very recent description of what you see before you.

**Vivien van Dongen 7:45**

Okay, and what elements of ski tour maps are most important to you?

**Ski tourer 5 7:55**

Yeah right the steepness of the maps, the steepness of the terrain what's on the map. That's what you really want to know. How steeply do I go up and is it not dangerous there yes or no. Yes that is the most important thing.

**Vivien van Dongen 8:10**

And do you have any preference as to how the steepness is indicated?

**Ski tourer 5 8:18**

Yes that would be handy if it is done in a convenient way. Those lines or contour lines is difficult to estimate. That's nice yes, nowadays you also have websites that indicate the steepness and that's handy. So yes, that would be handy. Because that's the most important thing, that steepness. And you can do that with contour lines but then it can be a little bit steep and you can't do that with contour lines.

**Vivien van Dongen 9:05**

Okay, and then I'm going to like share my screen now to look at the maps I sent you as well.

*Vivien van Dongen shows map A*

**Ski tourer 5 9:15**

Yes I have seen those.

**Vivien van Dongen 9:20**

I would like to know from you do you find these maps sufficient for you use of ski touring. Would you find this map sufficient to use. And then my second question is are there elements that you miss in this map or that you would like to have different?

**Ski tourer 5 9:44**

Yes, with what is up, blue is up and red is down. No maybe the other way around, red is up and blue is down. So yes then those lines are a bit coarse, yes a bit thick. Thick arrows and that also hides precisely details that you want to see underneath. Also because there's not a lot of detail in that map already. Um, yes then with those thick arrows you lost even more detail. And then there's the naman, the names on it, yes that's nice but those yellow areas also hide what's underneath and what you actually want to see underneath. So yes I'm not very happy with this map.

**Vivien van Dongen 10:32**

And would be sufficient for you?

**Ski tourer 5 10:35**

Yes I do think I could do the route with these, but that is more that I know yes I have to go up here somewhere and then down here into the forest, yes I do think it is adequate but it could be better so to speak.

**Vivien van Dongen 10:58**

Yes okay, now I will go to map B. Again the same question, would this map be sufficient or are you missing elements.



*Vivien van Dongen shows map B*

**Ski tourer 5** 11:08

Yeah this is a lot more zoomed in anyway, so more detailed. So this is definitely very adequate. So yes up there you can see that on the path, it's also very nice to see that difference.

**Vivien van Dongen** 11:25

Yes, and why is that nice to see?

**Ski tourer 5** 11:28

Yes because it often differs anyway, mh yes you can't see that as inexperienced ski tourer very easily. If you do not know the area. Because that descent here and then take if you're on the mountain, is here also better indicated that it runs around it.

**Vivien van Dongen** 12:00

Okay, now I'll go to map C. What do you think of this map? Is it sufficient? Are you missing any elements?

*Vivien van Dongen shows map C*

**Ski tourer 5** 12:14

Yes, how do I say this. Even though I know enough about the area, it is unclear if they are difficult routes, but the route is not very clear whether it is easier or harder not. Usually the other variant is a bit harder, but it could also be that the variant is meant to avoid certain parts if it is avalanche dangerous and cannot be done. You also see some bones and some dotted lines, so you can also see that it's harder there. Yes I do think this is a bit more summative than the others.

**Vivien van Dongen** 13:00

Sorry what did you say?

**Ski tourer 5** 13:06

Then again I think this is more summary, more summarized information with just that line.

**Vivien van Dongen** 13:13

Yes okay, and then are there any elements that you miss in this map?

**Ski tourer 5** 13:18

Well the ones that are on there now of course still refer to descriptions that go with this. So that also seems to be worth a lot. And then the difference is also more clear I think. Anyway, you would like some more details, especially in the middle part there of the map. There are a lot of lines, so it looks like anything is possible, but you would like to see some more details.

**Vivien van Dongen** 13:48

Yes okay, then I will go to the last map. Map number D, what do you think of this card, is this sufficient for you or for your purposes?

*Vivien van Dongen shows map D*

**Ski tourer 5** 14:00

Yeah, no I don't like this. And the contour lines that are missing and I mean, no, you know yourself that this is not it. And then if you don't know environment, you follow your experience more than this map

**Vivien van Dongen** 14:56

And which elements do you miss on this map?

**Ski tourer 5** 14:21

Yes contour lines and also especially pass transitions, it's clear that you have pass transitions but how steep and do you have to go there, and can you go over there with skis and with you but have scaffolding irons and a sickle with you and a rope and I know what. Yeah that the map here totally doesn't. And you know it from experience that most passes really do require it. So not really of you have to go up there, no you don't even know that, where exactly you have to go up. Because there are really several passes there and they are not even on. It is very brief. I would not use this if you do not know the area. This only says you have to go from hut A to hut B and you have to cross two passes. But no, if you don't know the area, this is not going to work. t.

**Vivien van Dongen** 15:23

Okay super, then I will stop my screen sharing again. Then I have couple of questions about snow avalanche risk. And my first question is how do you determine snow avalanche risk before starting a tour?

**Ski tourer 5** 15:43

Yes necessary that you know the avalanche and the steepness of the route you are taking and the orientation. And yes you may also need to ask around before you go on that trip, to other people or locals or tourist office or wherever you are, or the lodging of people where you are. Any tour skiers that have experience of yes what should I look for?

**Vivien van Dongen** 16:09

Okay, and how do you determine snow avalanche risk during a tour?

**Ski tourer 5** 16:19

Yes during a tour, yes especially looking around you for danger. Yes how do you do that, looking around like that for what's going on. Yes, the snow firmness, there is no one who is going to dig another snow trial before you go out. Yes of course you look at the snow, whether it is built up. And usually I go anyway in the spring when I go tour skiing, and I don't have to deal with very fresh snow anymore. I can always avoid that anyway. And if there is fresh snow, then I stay on the slopes, and no crazy things. So yes, avoid the dangerous moments, and you might also see people who go ski touring in December and

January, and then do things, yes, you look for the risk. Yes, they... yes then I understand that you do, and know. But yes, you do know that you have more risk when you go up.

**Vivien van Dongen 17:48**

Okay, and do you use maps for determining snow avalanche risk?

**Ski tourer 5 17:55**

Yes, well, I look at the steepness on maps and what you can expect. But yes, it is necessary to know the terrain and when you're there 'yes, where is the snow and where is the snow accumulated' because yes, that can also be very different with the year. Where is it and where are the big packs of snow and where can it come down.

**Vivien van Dongen 18:25**

Okay, and could you determine the snow avalanche risk on the 4 maps I just showed you. Would those maps be sufficient to determine the risk?

**Ski tourer 5 18:39**

Well that last one certainly doesn't, no. No that one anyway. But yes, that Austrian map, also the one with little detail it was also quite difficult. That was really too little detail to determine it properly. That can still give a lot of surprises. Yes, the Swiss map with that rise and fall, yes that is also difficult to determine although there are height lines on it. Yes that bowl through which you descend can also be full of snow. It is also important how often such a route is done, if a route is often skied the snow is much firmer than if it is never done. The ski tracks make it a lot more varied.

**Vivien van Dongen 18:50**

Okay, other than that I don't really have any more questions, you have actually answered all my questions. I also have one more question, do you actually have anything to add or would you like to say?

**Ski tourer 5 19:03**

No yes, I like that you are doing this research and that you are interested in this.