

UNITED STATES OF AMERICA

NATIONAL TRANSPORTATION SAFETY BOARD

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Investigation of:

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CESSNA 208B DAMAGED IN ACCIDENT

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NEAR SALT LAKE CITY INTERNATIONAL

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Accident No.: WPR22LA251

AIRPORT IN SALT LAKE CITY, UTAH

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ON JULY 13, 2022

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Interview of: NICOLE DESMET, Meteorologist
Salt Lake Weather Service

Salt Lake City, UT



APPEARANCES:

PAUL SUFFERN, Operational Factors Investigator
National Transportation Safety Board

ALBERT NIXON, Investigator-in-Charge
National Transportation Safety Board

SCOTT BIRCH, Western Region Aviation Meteorologist
National Weather Service, Western Region Headquarters
Salt Lake City

DARREN VAN CLEAVE, Meteorologist-in-Charge
National Weather Service, Weather Forecast Office
Salt Lake City

<u>ITEM</u>	<u>I N D E X</u>	<u>PAGE</u>
Interview of Nicole DeSmet:		
By Mr. Suffern		5
By Mr. Birch		14
By Mr. Nixon		17
By Mr. Suffern		19

I N T E R V I E W

(2:13 p.m.)

MR. SUFFERN: Well I appreciate everybody's time today and I appreciate, Nicole, for you coming in today. As I mentioned earlier, my name is Paul Suffern, I'm the NTSB Meteorologist and I'm working part of the weather group for an accident that occurred on July 13th in Salt Lake City.

I am again leading the weather groups. I'm just looking at that and trying to figure out the facts from a weather point of view. The NTSB is an independent agency and so we are not part of the DOT, not part of the weather service, not part of the FAA and what we do is just look at the facts as they are and try and come up with the probable cause of the accident.

It may have nothing to do with the weather and nothing to do with air traffic control, anything like that, but we're just trying to learn the facts of the accident. And you here are the expert. As I mentioned earlier I'm not from the Salt Lake City Area and things like that, and so and you were working shift on the day of the accident and you know more about all the tools.

And so, Nicole, are you okay with us recording the interview today?

MS. DESMET: Yes.

MR. SUFFERN: Okay. Well we will go on the record at 2:13 Mountain Time. If I could have Scott and Albert and Darren, you guys introduce yourself for the recording. I'll start with

1 Albert.

2 MR. NIXON: Okay. Once again, my name's Albert Nixon and I'm the
3 Investigator-in-Charge of this accident.

4 MR. BIRCH: I'm Scott Birch; I'm the Western Region Aviation
5 Meteorologist from Western Region Headquarters in Salt Lake City.

6 MR. VAN CLEAVE: And Darren Van Cleave, Meteorologist-in-
7 Charge of the Weather Forecast Office in Salt Lake City.

8 MR. SUFFERN: Okay, thank you all.

9 INTERVIEW OF NICOLE DESMET

10 BY MR. SUFFERN:

11 Q. And, Nicole, we're just going to start out. I know it's
12 uncomfortable, first of all, us being here but again I appreciate
13 your time and, again, you're the expert. At any point in time if
14 you want to take a break, need to confer with your -- with Darren
15 on anything, you're more than welcome to.

16 But all the answers, just for the interview have to come from
17 you and so we get your record and your understanding of things
18 again because you're the expert. So some of the questions may
19 seem silly but we just need to have that for the record, if that's
20 okay.

21 So if you can start off with your full name, would be great.

22 A. Okay. Nicole DeSmet.

23 Q. Okay. And what is your title here at the weather service
24 office?

25 A. Meteorologist.

1 Q. Meteorologist, okay. And then you mentioned you've been with
2 the National Weather Service about how many years?

3 A. Since June of 2015.

4 Q. June of 2015, okay. And how long have you been at the Salt
5 Lake City Office?

6 A. Since April of 2021.

7 Q. Okay. And then -- so and then had you -- have you ever had
8 any other experiences at the Salt Lake City Office, like this is
9 your second time here or is this just April of last year is your
10 first year?

11 A. Well, no, just, yeah, since April of last year.

12 Q. Okay, great. And then as far as backgrounds, do you have any
13 degrees or anything like that?

14 A. Yes, a bachelor of science in atmospheric sciences.

15 Q. Okay. Where did you go to school at?

16 A. University of North Dakota.

17 Q. Awesome, very good indeed. That's a good school. Do you
18 hold any other licenses like pilot's license or anything else?

19 A. I do not.

20 Q. Okay, great. Well we'll step right into the day of the
21 accident which happened to be July 13th, 2022. I know at this
22 point it's about, you know, a month and a half later but if you
23 can recall anything about that day or that shift?

24 You know, could you just step me through how that shift went
25 and specifically anything aviation wise that you recall?

1 A. Okay. So how -- what kind of details should I recall for
2 you?

3 Q. Yeah, yeah. So if you just want to step through, it was
4 going to be, you know, what kind of weather day were you expecting
5 as you're, you know, expecting, you know, rain that day, what time
6 was it going to be as you're -- and what shift were you working
7 that particular day and things like that, if you can recall those?

8 A. Okay. So I was assigned to do the aviation forecast that
9 afternoon. I did not get on shift until early that afternoon --

10 Q. Okay.

11 A. -- and I worked until 6:00 that evening. So I was in the
12 office for about six hours that day.

13 Q. Okay.

14 A. From what I recall it was a fairly, I'll say typical monsoon
15 pattern, so meaning we were expecting an active thunderstorm day
16 so several thunderstorms were expected to develop in the area that
17 -- actually throughout the day so -- that morning it was already
18 active, we were expecting that afternoon and that evening to also
19 be active --

20 Q. Okay.

21 A. -- for thunderstorms.

22 Q. And so you came in at noon and then worked until 6 p.m. that
23 day?

24 A. Yes.

25 Q. Is that a normal shift for the office or were you called in

1 to do special support or anything like that?

2 A. It's usually eight, nine or 10 hour shifts.

3 Q. Okay.

4 A. I just happened to have had a dentist or a doctor's
5 appointment that morning that I was off shift for two hours for.

6 Q. Okay. And then did you have any other responsibilities
7 besides the aviation desk or anything like that for that 12 to 6
8 timeframe?

9 A. I don't recall specifically if I had an additional task but I
10 can't specifically --

11 Q. Okay.

12 A. -- for sure recall if I had an additional task.

13 Q. For writing the TAFs that day, Salt Lake's your primary TAF,
14 you know, out of the all the TAFs you're probably responsible,
15 Salt Lake's probably the biggest airport support wise?

16 A. Yeah, it is the biggest airport that we are responsible for
17 10 TAF locations.

18 Q. Okay. And then as far as writing the TAFs just in general,
19 can you kind of step me through that process of how you as a
20 forecaster, you know, review weather data or certain things for
21 writing the TAFs and such?

22 A. Okay. So in general or on that particular day how I would go
23 about writing a TAF?

24 Q. Let's just go in general and then if you can recall that
25 particular day, I know it's a month and a half for you.

1 A. Yeah.

2 Q. So, yeah.

3 A. Yeah. So I ask that specifically because there may be a
4 different weather impact of the day that you might want to look at
5 additional tools for.

6 Q. Okay.

7 A. Depending on what could be impacting your client which is the
8 aviation community for TAFs on that day. So you might be looking
9 at additional tools in particular. So my process, what would be
10 impacting our partners? You want to know timing and what -- so
11 ceilings, visibility and any and everything else that could be
12 impacting an aviator, right?

13 So and then in addition things like wind shear, things like
14 turbulence and we don't forecast for. But that particular day
15 though we were interested in thunderstorms and what timing those
16 thunderstorms were going to be impacting the Salt Lake Terminal.
17 And then what impacts of visibility restrictions and potential
18 ceiling, ceiling restrictions could be impactful for the terminal.

19 So there was three or four, maybe even five things we were
20 concerned with that particular day.

21 Q. Okay. And so -- and then so once you know those impacts,
22 like you mentioned there, what tools do you find useful to help
23 you, you know, learn on time -- kind of narrow down the timing as
24 far as when those impacts will hit the operation? Is there model
25 guidance, soundings, you know, a program, I don't know, that kind

1 of helps you narrow down those things?

2 A. Yeah. So, essentially all of the above of what you
3 mentioned.

4 Q. Okay.

5 A. Model guidance, trying to -- for me it's choosing which model
6 has initialized best or trying to figure out the combination of
7 models that have initialized. In a thunderstorm pattern it's
8 really difficult to do that.

9 Q. Okay.

10 A. Especially a thunderstorm that will form very -- or develop
11 quickly and dissipate just as quickly.

12 Q. Okay.

13 A. Models tend to have a difficult time doing that.

14 Q. Okay. Okay. So does that -- because I'm assuming that's
15 probably a mountain west type of issue as far as developing and
16 dissipating more quickly, do you feel like you -- the TAFs are
17 more challenging or you feel like you need to amend them because,
18 you know, maybe it formed a little closer or just do models
19 struggle with that or it's just kind of following radar trends, I
20 don't know what works best in the area?

21 A. I'm not sure that it's a mountain. Yeah, I wouldn't say it's
22 a mountain problem --

23 Q. Okay.

24 A. -- at least in my opinion.

25 Q. Okay.

1 MR. VAN CLEAVE: I mean, it could certainly be made worse by
2 mountains like you'd have things that start to -- you could have
3 convection that fires up over the Oquirrhys that wouldn't have
4 happened if Oquirrhys weren't there. But, yeah, it can happen
5 anywhere in the country.

6 MS. DESMET: Uh-huh.

7 MR. SUFFERN: Okay.

8 BY MR. SUFFERN:

9 Q. So as far as writing the TAFs, I guess, for Salt Lake on a
10 thunderstorm day and the day of the accident, if you can recall,
11 you know, what tools or what guidance do you put in the TAFs to
12 kind of give aviators an idea of, you know, that there could be
13 thunderstorms in the airfield, do you use vicinity thunderstorms,
14 do you use TEMPO or at what point in times would you use those
15 tools to let the partners know about that potential for the
16 thunderstorms?

17 A. Yeah. So you would have a couple of different options. Like
18 you mentioned, you have the option of putting in the vicinity
19 thunder or you could put in a TEMPO group or you could just put
20 the thunderstorm on station. The philosophy there is confidence,
21 when are you confident enough to put the thunderstorm just
22 directly on station versus putting in a vicinity thunderstorm or
23 the TEMPO group.

24 That particular day I opted to put in a vicinity
25 thunderstorm, I believe for two periods, one between 0Z and 2Z and

1 then I expected another round of thunderstorms later that evening.
2 So what that should be telling the pilot is we're expecting two
3 rounds of thunderstorms between those two time periods.

4 At the time there were not thunderstorms yet developed in the
5 10 mile radius of the terminal, so once thunderstorms would be
6 close enough to the terminal that's when either an amendment to
7 put in a TEMPO group or to put the thunderstorms on station would
8 be appropriate.

9 Q. Okay. Is that typical for the monsoon pattern, kind of to
10 or, you know, to use that kind of step-by-step or does it just
11 depend on --

12 A. I wouldn't say it's monsoon based.

13 Q. Okay.

14 A. It would be for any thunderstorm that developed.

15 Q. Any thunderstorm?

16 A. Yeah.

17 Q. Okay, okay. That's helpful. And I believe on the accident
18 day you wrote the aviation section of the AFD. Do you recall your
19 philosophy behind writing that AFD that day? I know it's a year -
20 - or a month and a half later so.

21 A. Yeah. I mean, I went back and read it.

22 Q. Yeah.

23 A. To me it read as we were expecting additional thunderstorms
24 for that afternoon and evening, and then talked about what could
25 potentially change conditions from VFR to either MVFR or IFR

1 conditions. So I recall talking about reducing visibility so
2 there was the potential for a reduction in visibility that day.

3 And then I think I talked about the next day and that
4 thunderstorms were again possible for that next afternoon. That's
5 what I recall --

6 Q. Okay.

7 A. -- talking about.

8 Q. That's totally, totally fine.

9 A. Okay.

10 Q. As far as radar tools that you have aviation wise, I know
11 locally you've got the WSR-88D and then you've got the Terminal
12 Doppler Weather Radar. Do you find both of them useful, one of
13 them more useful than another, or it just depends on where the
14 storms are coming from as far as monitoring connective trends?

15 A. Yeah, they're both useful.

16 Q. Go ahead.

17 A. I'm not sure what more to, what more to add.

18 Q. Yeah. No, I didn't know if the TDWR is maybe more helpful
19 for monitoring things here in Salt Lake and then the WSR-88D is
20 better for a broad view or looking for wind shifts or things like
21 that? I didn't know if one tool is better for another or what
22 works best for you?

23 A. Yeah. Yeah, we definitely will use the TDWR for the -- I
24 mean, in particular for winds and for localized thunderstorms
25 right along the Wasatch front. That doesn't mean we won't look at

1 MTX for the exact same storm and compare the two. But, yeah, it
2 can be particularly helpful for the TDWR for looking at --

3 Q. Okay.

4 A. -- for velocities and what it's estimating for wind speed.

5 MR. SUFFERN: Okay. That's helpful. That's all the
6 questions I have for right now. Scott, if you'd like to ask any
7 questions?

8 MR. BIRCH: Okay.

9 BY MR. BIRCH:

10 Q. So you are -- you're a forecaster. What grade level are you?

11 A. 12.

12 Q. 12, thanks. So Brandon took over the aviation shift that day
13 and what time did that occur and what was the, what was the
14 reason, is that the normal, the normal operation for the shift?
15 He was, what -- I guess, what time do you remember that occurring
16 and why did you change roles?

17 A. Yeah. So I left at six that evening and that's when he took
18 over the TAFs. Our shifts here are you might leave at four, you
19 might leave at five, you might leave at six, you might leave at
20 seven and that's, one, the nature of our schedule and it's also,
21 two, the nature of how busy the day could be.

22 So whether it's normal or not is kind of -- it's difficult to
23 say if it's normal.

24 Q. Okay. So they could hold you over if they, if they needed
25 you?

1 A. Yeah.

2 Q. And does that happen often?

3 MR. VAN CLEAVE: I mean, you've worked a number of overtime
4 hours at the end of shifts, right?

5 MS. DESMET: Yeah.

6 MR. VAN CLEAVE: Yeah, when we had convection happening and
7 monsoon is probably the most, most common.

8 MS. DESMET: Okay. So I'll say, yes, then.

9 BY MR. BIRCH:

10 Q. Yeah, so it occurs?

11 A. It occurs.

12 Q. Okay. Do you remember on that day if you provided a shift
13 briefing for Brandon and is that a normal thing that you would do
14 for the shift swap?

15 A. It is a normal thing we would do. This particular day I
16 honestly do not remember what we said to each other.

17 Q. Okay. Yeah, I understand. The AFD; so, yeah, you wrote the
18 AFD and so it's included, you know, with the entire AFD, the
19 aviation section of the bottom. And the timestamp was 4 p.m. for
20 the AFD, so is that the time that the aviation section was
21 updated, is that normal, they're all -- the whole entire
22 discussion is updated at the same time?

23 A. Yes.

24 Q. Okay. What's the office's philosophy about coordination with
25 the CWSU and do you remember on this event any coordination?

1 A. Yeah. We will chat to them essentially anytime we're unsure
2 of something or we see something that we think they should know
3 about. That day I was chatting with Sue, it was Sue that morning.
4 So there were a couple of storms before this storm that had
5 impacted this aircraft that I thought she should know about
6 because the visibility had gone down.

7 So I was chatting her, hey, this is upcoming, this storm is
8 approaching.

9 Q. Right.

10 A. So she let who she needed to know what was upcoming. So and
11 then I know the person before me was chatting with the CWCU about,
12 hey, we want to put in vicinity thunder during this broad
13 timeframe, what do you think?

14 So it's kind of a collaborative effort of we want to put
15 something impactful during this TAF period time, do you agree with
16 this?

17 Q. Okay, okay, that's good. What about -- do you call the
18 TRACON or the tower?

19 A. No.

20 Q. And you don't remember doing that on that day?

21 A. No.

22 Q. Okay. So wind sensors around the airport, besides the ASOS,
23 what other wind sensors are available to you on your -- at the
24 operational desk and you're monitoring the wind for the airport?

25 A. So the main ones are ASOS, so like ASOS, the FAA sensor and

1 then this wind sensor we have right outside.

2 Q. Okay, so those three?

3 A. Yeah.

4 Q. Okay. So the FAA sensor and where is that located?

5 A. Mid field.

6 MR. BIRCH: Okay. I think that's all my questions, Paul.

7 MR. SUFFERN: Okay, thanks, Scott. Albert, do you have any?

8 MR. BIRCH: Thanks, Nicole.

9 MS. DESMET: Sure.

10 MR. SUFFERN: Do you have any questions?

11 MR. NIXON: No, you guys covered most of it. I just have a
12 couple points of clarification, I guess (indiscernible) but --

13 BY MR. NIXON:

14 Q. You mentioned the accident day was a typical -- I think you
15 used the word, I think you may have said monsoon, but typical
16 thunderstorm day, is the word you used?

17 A. Uh-huh.

18 Q. When you say that, was the area they were building up and the
19 amount and intensity of them, was that pretty standard too, or
20 does this one have anything different as the date developed?

21 A. Essentially that day was very similar to the day prior. So,
22 no, the intensity of --

23 Q. So very similar, nothing out of the ordinary that you'd seen
24 basically?

25 A. No.

1 Q. And, I guess, you had two summers here, you know, so you've
2 seen, I'm sure you've seen the build-ups and, you know, the stuff.
3 Is the track of that one, was it very similar, because that one
4 went, I think over the field, is that pretty common, of these
5 build-ups here in Salt Lake?

6 A. That storm that impacted? So I wasn't even in the office --

7 Q. After that, okay.

8 A. -- that storm.

9 Q. You saw it getting close, type thing?

10 A. No, because by the time that storm developed I was gone.

11 Q. Gone, okay, gotcha.

12 A. I don't know.

13 Q. Okay. But do you know in your past experience, is the track
14 where they track through because of the valley, do they usually --
15 is it not -- is it common for a thunderstorm convective activity
16 to be over the airport or in the vicinity of the airport?

17 A. Is it common for a storm to go over the airport?

18 Q. Yeah.

19 A. Is that what you're asking?

20 Q. Yeah, in the summertime? Have you seen it before?

21 A. Yes, I've seen storms go over the airport. I've seen them
22 build right up over the airport --

23 Q. Over the airport, okay.

24 A. -- and dissipate right on top of it.

25 Q. So it's not uncommon then?

1 A. Yeah.

2 MR. NIXON: Okay. I'm just trying to get a feel because, you
3 know, I'm not from the area either. I think that's all I had
4 there, Paul, thank you.

5 MS. DESMET: Okay, sure.

6 BY MR. SUFFERN:

7 Q. Okay. I just, I think, had one follow-up question, Nicole.
8 If there's anything, any weather tool that you could have that
9 could help you do a better -- help you out, you know, doing
10 aviation and writing TAFs and things like that. You know if you
11 had a million dollars and wanted to donate it to the weather
12 service or somebody to help you get better tools.

13 A. Well that's a good tool if it's a million dollars.

14 Q. Yeah, I don't know. So what kind of tools could you think of
15 if there is anything that could help you out to do that?

16 A. I mean, I would love a microburst tool.

17 Q. Okay. So do you all have access to the ITWS here or is that
18 only at the Center Weather Service Unit or do you even know what
19 was in that?

20 A. Don't know what that is.

21 Q. Okay, okay. Okay, a microburst tool, okay. Anything else?
22 You've got a bunch of money now so you can --

23 A. Okay.

24 MR. BIRCH: Any questions for us?

25 MS. DESMET: (No audible response).

1 MR. VAN CLEAVE: So you're answering about which wind sensors
2 are in the area, so there is the Northwest end of the field?

3 MS. DESMET: Yeah.

4 MR. VAN CLEAVE: Wind sensor 2, so FAA, so there's two FAA
5 sensors, the mid field which was the one that sounds like you
6 mentioned and then the Northwest one kind of on the far, the
7 Northwest --

8 MR. BIRCH: So that is an FAA wind sensor, it's the
9 Northwest?

10 MR. VAN CLEAVE: That I don't think it's FAA because I think
11 we maintain that. Sorry, I'm not trying to answer -- you know,
12 I'll try to answer that question for you but you had mentioned
13 like what sensors are around airports, so I thought I would --

14 MR. BIRCH: Right. Yeah.

15 MR. VAN CLEAVE: You know.

16 MR. BIRCH: And that, we were wondering about that Northwest
17 sensor but it was we were under the impression it was not FAA.

18 MR. VAN CLEAVE: I don't believe it is because I believe on
19 MesoWest it shows our office as the data provider which I can
20 check here.

21 MR. BIRCH: Okay. So it's similar to the one you have out in
22 the back here, but you have one up in the Northwest too?

23 MR. VAN CLEAVE: Yeah. We can ask our, our electronic
24 technician staff at the office here that would have the more
25 definitive answer but it's one more at surround edge of the field,

1 yeah.

2 MR. BIRCH: Okay.

3 MR. VAN CLEAVE: So the data is provided from our office.

4 MR. BIRCH: Okay.

5 MR. SUFFERN: All right. Anybody have any more questions?

6 (No audible response).

7 MR. SUFFERN: Okay. We'll go off the record at 2:39.

8 (Whereupon, at 2:39 p.m., the interview was concluded.)

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CERTIFICATE

This is to certify that the attached proceeding before the
NATIONAL TRANSPORTATION SAFETY BOARD

IN THE MATTER OF: CESSNA 208B DAMAGED IN ACCIDENT
NEAR SALT LAKE CITY INTERNATIONAL
AIRPORT IN SALT LAKE CITY, UTAH
ON JULY 13, 2022
Interview of Nicole DeSmet

ACCIDENT NO.: WPR22LA251

PLACE: Salt Lake City, UT

was held according to the record, and that this is the original,
complete, true and accurate transcript which has been transcribed
to the best of my skill and ability.

