



**Australian Government**

**Australian Transport Safety Bureau**

**ATSB TRANSPORT SAFETY INVESTIGATION REPORT**

Aviation Occurrence Investigation – AO-2007-014

Final

**VFR into IMC**  
**83 km north-east of Broome Airport, WA**  
**20 June 2007**  
**VH-NRT**  
**Cessna Aircraft Company C208 Caravan**





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*Published by:* Australian Transport Safety Bureau  
*Postal address:* PO Box 967, Civic Square ACT 2608  
*Office location:* 15 Mort Street, Canberra City, Australian Capital Territory  
*Telephone:* 1800 621 372; from overseas + 61 2 6274 6440  
Accident and incident notification: 1800 011 034 (24 hours)  
*Facsimile:* 02 6247 3117; from overseas + 61 2 6247 3117  
*E-mail:* [atsbinfo@atsb.gov.au](mailto:atsbinfo@atsb.gov.au)  
*Internet:* [www.atsb.gov.au](http://www.atsb.gov.au)

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### Prepared by

Australian Transport Safety Bureau  
PO Box 967, Civic Square ACT 2608 Australia  
[www.atsb.gov.au](http://www.atsb.gov.au)

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### Acknowledgements

Figure 1: Airservices Australia

Figure 2: Bureau of Meteorology

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### Abstract

On 20 June 2007, at approximately 0615 Western Standard Time, a Cessna Aircraft Company C208 Caravan float plane, registered VH-NRT, departed Broome Airport, WA on a Visual Flight Rules (VFR) charter flight to Talbot Bay. On board the aircraft were the pilot and 10 passengers.

About 35 to 40 minutes into the flight, the weather conditions deteriorated and the pilot elected to discontinue the flight and return to Broome. During the return flight, the aircraft entered an area of reduced in-flight visibility that resulted in the loss of the visual horizon.

Whilst manoeuvring the aircraft to regain visual meteorological conditions (VMC), the pilot became disoriented. The pilot made a general radio broadcast requesting assistance, which was intercepted by the crew of another aircraft who then provided advice and reassurance to the pilot. The pilot was able to regain control of the aircraft and, shortly after, resume the remainder of the flight.

The approach to Broome required the non-instrument-rated pilot to descend through cloud before becoming visual and landing.

This incident highlighted the risks of inadvertent flight into Instrument Meteorological Conditions (IMC) and of the recovery from those conditions, particularly in respect of a pilot that does not hold an instrument rating.

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# THE AUSTRALIAN TRANSPORT SAFETY BUREAU

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The Australian Transport Safety Bureau (ATSB) is an operationally independent multi-modal bureau within the Australian Government Department of Infrastructure, Transport, Regional Development and Local Government. ATSB investigations are independent of regulatory, operator or other external bodies.

The ATSB is responsible for investigating accidents and other transport safety matters involving civil aviation, marine and rail operations in Australia that fall within Commonwealth jurisdiction, as well as participating in overseas investigations involving Australian registered aircraft and ships. A primary concern is the safety of commercial transport, with particular regard to fare-paying passenger operations.

The ATSB performs its functions in accordance with the provisions of the *Transport Safety Investigation Act 2003* and Regulations and, where applicable, relevant international agreements.

## **Purpose of safety investigations**

The object of a safety investigation is to enhance safety. To reduce safety-related risk, ATSB investigations determine and communicate the safety factors related to the transport safety matter being investigated.

It is not the object of an investigation to determine blame or liability. However, an investigation report must include factual material of sufficient weight to support the analysis and findings. At all times the ATSB endeavours to balance the use of material that could imply adverse comment with the need to properly explain what happened, and why, in a fair and unbiased manner.

## **Developing safety action**

Central to the ATSB's investigation of transport safety matters is the early identification of safety issues in the transport environment. The ATSB prefers to encourage the relevant organisation(s) to proactively initiate safety action rather than release formal recommendations. However, depending on the level of risk associated with a safety issue and the extent of corrective action undertaken by the relevant organisation, a recommendation may be issued either during or at the end of an investigation.

The ATSB has decided that when safety recommendations are issued, they will focus on clearly describing the safety issue of concern, rather than providing instructions or opinions on the method of corrective action. As with equivalent overseas organisations, the ATSB has no power to implement its recommendations. It is a matter for the body to which an ATSB recommendation is directed (for example the relevant regulator in consultation with industry) to assess the costs and benefits of any particular means of addressing a safety issue.

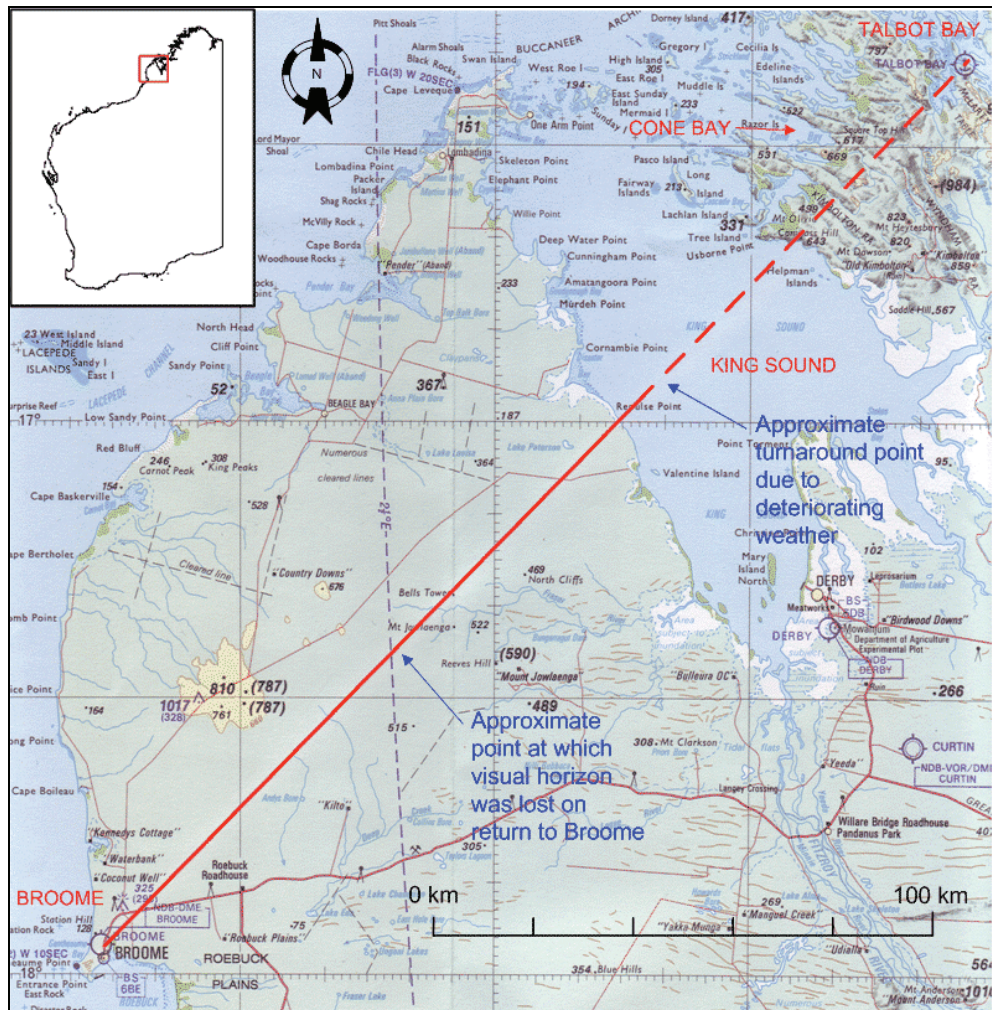
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# FACTUAL INFORMATION

## History of the flight

On 20 June 2007 at about 0615 Western Standard Time<sup>1</sup>, a Cessna Aircraft Company C208 Caravan (Caravan) floatplane<sup>2</sup>, registered VH-NRT, departed Broome Airport, WA on a Visual Flight Rules (VFR) charter flight to Talbot Bay in the Kimberley region of Western Australia (Figure 1). On board the aircraft were the pilot and 10 passengers.

Figure 1: Planned route



The pilot reported that, on departure from Broome, he intended to climb to 5,500 ft above mean sea level (AMSL). However, approaching 2,500 ft, it became apparent that continued climb would not be possible due to the presence of cloud along the

- 1 The 24-hour clock is used in this report to describe the local time of day, Western Standard Time (WST), as particular events occurred. Western Standard Time is Coordinated Universal Time (UTC) + 8 hours.
- 2 An aeroplane supported on water by usually two or three separate floats.



intended flight path. The pilot therefore decided to level the aircraft at about 2,500 ft and to continue towards Talbot Bay. The pilot recalled that, when about 56 km from Broome, a lower layer of cloud began to build up below the aircraft.

About 167 km from Broome (approximately 35 to 40 minutes into the flight), the weather conditions deteriorated further with increasing cloud. The pilot reported showers and ‘a wall of cloud’ ahead, around which he was unable to divert.

The pilot was in communication with the pilot of a second company aircraft that was a short distance ahead, also en-route to Talbot Bay. The pilot of that aircraft was reported to be operating at a lower altitude, and described improved weather conditions in the vicinity of King Sound (Figure 1). The occurrence pilot was unable to descend into those reported improved flight conditions as he was between two layers of cloud and unable to see the ground.

Recognising that the deteriorating weather conditions were making visual flight impractical, the pilot elected to discontinue the flight and return to Broome. The return leg of the flight was conducted between the two layers of cloud. The lower layer was described by the pilot as being essentially overcast at approximately 2,000 to 2,200 ft. The upper layer of cloud was reported by the pilot to have been at approximately 2,500 ft, with observed gaps in the clouds.

The pilot recalled that, when about 83 km from Broome, the aircraft entered an area of rain showers that reduced the visibility to the point that there was no discernible visual horizon. In an attempt to regain visual flight conditions, the pilot commenced a left turn, without reference to the aircraft’s instruments, to what he recalled was an area of improved visibility. The pilot reported that, following the turn, he began to feel disorientated and had difficulty controlling the aircraft’s roll attitude.

The pilot made a general radio broadcast on the West Kimberley Common Traffic Advisory Frequency (CTAF) seeking assistance. That broadcast was received by the crew of another aircraft that was approaching to land at Cone Bay, approximately 130 km to the north-east (Figure 1). The crew discontinued their approach at Cone Bay in order to provide assistance to the pilot of the Caravan.

The copilot of the assisting aircraft initially advised the pilot of the Caravan to concentrate on maintaining the aircraft’s orientation using its attitude indicator<sup>3</sup>. After confirming that the Caravan pilot was maintaining the aircraft’s attitude with reference to its instruments, the assisting copilot coached the pilot to set cruise power, and to maintain level flight with reference to the vertical speed indicator<sup>4</sup>.

The crew of the assisting aircraft reported that, about 5 minutes after the initial radio contact, ‘the pilot of the aircraft sounded less stressed and advised us he was in level flight’. On request from the crew of the assisting aircraft, the pilot of the Caravan advised that ‘he was 15 NM [28 km] north-east of Broome and at an altitude of A028 [2,800 ft]’. The pilot of the Caravan subsequently advised that he was continuing to Broome, that he required no further assistance and that he was commencing a descent for a short period of time in an attempt to regain visual flight conditions.

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3 An attitude indicator, also known as an artificial horizon, uses a gyroscope to display an aircraft’s orientation relative to the earth.

4 A vertical speed indicator detects the rate of change of static air pressure to provide an indication of the rate of climb or descent of an aircraft, in feet per minute.



The descent was commenced from above the Broome 25 NM (46 km) minimum sector altitude (MSA)<sup>5</sup> of 2,200 ft, although the pilot stated that he was not aware of the lowest safe altitude (LSALT)<sup>6</sup> applicable to his location at that time. The pilot indicated that he was using a Global Positioning System (GPS) moving map display to provide an indication of the surrounding terrain.

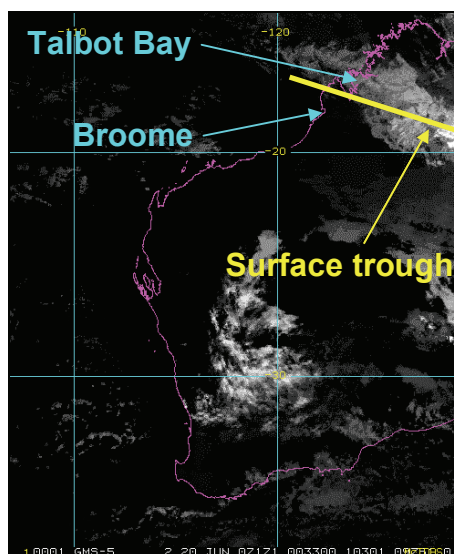
During the descent, the pilot contacted Broome Radio (see Aerodrome information discussion on page 5) and advised them of the incident and requested that they monitor his return to Broome. A short time later, the aircraft descended clear of cloud at an undetermined altitude, and the pilot was able to regain sight of the ground.

The pilot reported landing at Broome at about 0730.

## Meteorological information

The Bureau of Meteorology (BoM) advised that, at the time of the incident, a surface trough that was orientated north-west to south-east was located about 130 km to the north-east of Broome, across the intended flight path (Figure 2).

**Figure 2: Infrared satellite picture at 0830, showing the main cloud band and associated widespread areas of low cloud.**



The overnight passage of a cloud band and associated area of rain increased the humidity throughout the area, creating an environment conducive to widespread areas of low cloud (Figure 2) and isolated showers.

The relevant Area Forecast (ARFOR)<sup>7</sup> was issued at 0212 and was valid from 0400 until 1800 on the day of the occurrence. In the vicinity of the intended flight, the

- 
- 5 MSA - Flight at MSA provides an aircraft with a minimum clearance of 1,000 ft above all objects within a circle of either 25 NM or 10 NM radius from an aerodrome or radio navigation aid.
  - 6 LSALT - The lowest altitude that will provide a safe terrain clearance at a given place.
  - 7 ARFOR - For the purposes of providing aviation weather forecasts to pilots, Australia is subdivided into a number of forecast areas. The occurrence flight was contained in Area 69.

forecast indicated areas<sup>8</sup> of precipitation and broken<sup>9</sup> stratiform cloud with a base of 800 to 1,000 ft and extending up to 3,000 ft. Cumuliform cloud was forecast above that layer of cloud, with tops up to 15,000 ft. Forecast visibility was 3,000 m in showers and 2,000 m in rain.

A subsequent BoM analysis of the available weather data from the area indicated that the cloud base was likely to have been as initially forecast.

The relevant Terminal Area Forecast<sup>10</sup> (TAF) for Broome was issued at 0003 and was valid from 0000 until 2000 on the day of the occurrence. The TAF indicated scattered cloud at 1,200 ft, broken cloud at 2,000 ft and visibility in excess of 10 km. From 0900, conditions were forecast to improve with broken cloud at 2,500 ft. No precipitation was forecast.

An updated TAF, issued at the approximate departure time of the flight, forecast broken cloud at 2,500 ft from 0800. The pilot was unable to access that updated TAF prior to departure.

Data produced by the Broome automatic weather station (AWS)<sup>11</sup> during the flight included:

- a METAR<sup>12</sup> that was issued at 0600 and indicated no significant cloud
- a SPECI<sup>13</sup> that was issued at 0630 (about 15 minutes after the flight departed Broome) and indicated that there was broken cloud at 1,400 ft
- a second SPECI that was issued at 0700, and indicated overcast cloud at 1,400 ft
- a METAR that was issued at 0800, indicating scattered cloud at 1,400 ft and broken cloud at 6,500 ft.

The pilot reported that he obtained the relevant meteorological data, including the 0212 ARFOR, prior to commencing the flight. He stated that the forecast conditions

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8 A subjective term that is used by BoM forecasters to indicate the presence of significant weather. Those 'areas' are of no defined dimension.

9 Broken meaning 5 to 7 oktas. An okta is the unit of measurement that is used to report the total sky area that is visible to the celestial horizon. One okta is equal to 1/8<sup>th</sup> of that visible sky area. The term okta is also used to forecast or report the amount of cloud in an area, along a route or at an airfield. The numbers of oktas of cloud are reported or forecast as follows: Few (FEW), meaning 1 to 2 oktas; Scattered (SCT), meaning 3 to 4 oktas; Broken (BKN), meaning 5 to 7 oktas, and Overcast (OVC), meaning 8 oktas.

10 TAF - A statement of the meteorological conditions expected for a specified period in the airspace within a 5NM radius of the centre of a runway complex. Cloud heights are given above the aerodrome elevation.

11 AWS - Electronic recording device at prescribed locations that automatically takes observations of a number of actual meteorological conditions including, in the case of an advanced AWS (such as located at Broome Airport): wind direction and speed, temperature, humidity, cloud and visibility.

12 Routine observation reports of the meteorological conditions at specified locations. METARS are issued at fixed times, hourly or half-hourly and made available as part of a pilot's pre-flight briefing, or on request to an aircraft in flight.

13 Special reports of meteorological conditions at aerodromes issued whenever weather conditions fluctuate about or below specified criteria.

were similar to those experienced on the previous day, when he had successfully completed the same flight to Talbot Bay and return.

The chief pilot and the crew of the assisting aircraft all described the weather conditions at the time of the incident, and in the preceding days, as worse than the fine conditions that generally prevailed in the Kimberley region during the dry season.

## **Aerodrome information**

Within the prescribed hours of operation, Broome Airport includes the provision of an Automatic Aerodrome Information Service (AAIS) Certified Air/Ground Radio Service (CA/GRS). In addition, 'Broome Radio' provided a CA/GRS on 126.0 MHz. The pilot's arrival at Broome was within the prescribed hours of operation.

A CA/GRS is an aerodrome-based radio information service that enhances aircraft safety by providing pilots with operational information at a particular aerodrome. Notwithstanding, pilots retain authority and responsibility for the application of any information received from a CA/GRS.

The information provided by a CA/GRS can include:

- known relevant traffic in the vicinity of, and manoeuvring on the aerodrome
- local operational information relevant to the safety of operations
- weather conditions and operational information including:
  - wind direction and speed
  - aerodrome QNH
  - estimated cloud base, visibility and present weather.

This information is broadcast on a discrete AAIS radio frequency, the weather information being derived from approved measuring equipment. The Broome AAIS was available on frequency 126.55 MHz.

There was no evidence that the pilot accessed the information available on the AAIS.

## **Operational information**

### **Pilot and operator information**

The pilot held a Commercial Pilot (Aeroplane) Licence and a valid Class 1 Medical Certificate issued by the Civil Aviation Safety Authority (CASA). He was employed as a pilot on a seasonal basis, and remunerated according to the number of hours that he flew.

The pilot had accumulated 1,665.2 hours total flying experience, of which 629.4 hours were on type. He did not hold an Instrument Rating or a Night VFR Rating.

The pilot reported that his total instrument flying experience was 10.5 hours gained while training for his private and commercial pilot licences. His most recent

instrument flying was of 0.2 hours duration as part of a flight review in March 2005.

The chief pilot reported that the operation was conducted solely under the VFR and, due to the seasonal nature of the operation, predominantly in fine weather. As such, company line checks did not include training in recovery from inadvertent entry into Instrument Meteorological Conditions (IMC)<sup>14</sup>. Localised weather effects, including the possibility of reduced visibility due to widespread smoke, were emphasised by the chief pilot during pilots' induction training.

Similarly, the operator's operations manual provided limited guidance to assist pilots' in their weather-related decision-making, and did not specify any recovery procedures in the event of inadvertent entry into IMC.

### **Relevant Visual Meteorological Conditions criteria**

Flight under the VFR requires specified minimum conditions of visibility and distance from cloud that are collectively known as Visual Meteorological Conditions (VMC). The variables that can affect those specified conditions include: the class of airspace in which a flight is undertaken, the height of that flight and the type of aircraft.

Flight at the originally intended altitude of 5,500 ft would have required the following VMC criteria:

- a minimum flight visibility of 5,000 m
- the flight to have been conducted 1,000 ft vertically and 1,500 m horizontally from any cloud.

The pilot's flight at the amended altitude of about 2,500 ft required the following VMC criteria:

- minimum flight visibility of 5,000 m
- flight to be conducted clear of cloud and in sight of the ground or water.

### **VFR flight on top of more than scattered cloud**

In relation to VFR flight on top of more than scattered cloud, Aeronautical Information Publication (AIP) ENR 1.1 – Navigation Requirements included the following notes:

- Paragraph 19.2.1b.

Flight above more than SCT cloud, or over featureless land areas, or over the sea, may preclude visual position fixing at the required intervals and may therefore make visual navigation impracticable.

- Note 3 to, paragraph 19.2.1g.

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<sup>14</sup> IMC. Conditions in terms of visibility and distance from cloud that are less than the minima for flight under the VFR.

Pilots should not initiate VFR flight on top of more than SCT cloud when weather conditions are marginal. Before committing to operate VFR flight on top of more than SCT cloud, pilots should be confident that meteorological information used is reliable and current and clearly indicates that the entire flight will be able to be conducted in VMC.

In addition, the navigation requirements of AIP ENR 1.1 paragraph 19.2 for flight above more than SCT cloud included that a pilot that was not qualified<sup>15</sup> to navigate by the use of radio navigation systems must navigate by visual reference to the ground or water. AIP GEN 1.5 paragraph 8.5.4.1(a). allowed the use of GPS 'to supplement map reading and other visual navigation techniques.' The term 'supplement' did not absolve the pilot from the VFR navigation requirements of AIP ENR 1.1 paragraph 19.2.1.

## **Weather-related decision-making**

There has been extensive research into pilot weather-related decision-making. That research was most recently reviewed during the Australian Transport Safety Bureau (ATSB) investigation into the VFR into IMC occurrence that occurred 76 km north of Brisbane, Qld on 11 October 2005 and involved a Kawasaki Heavy Industries BK117 B-2 helicopter, registration VH-BKS (investigation report BO/200505107, available at [www.atsb.gov.au](http://www.atsb.gov.au)).

Pilots can increase their understanding of weather-related decision-making, and potentially reduce the incidence of VFR into IMC events, via the CASA-produced DVD *VFR into IMC - Weather to Fly* (available at [www.casa.gov.au](http://www.casa.gov.au)).

## **Additional information**

### **Spatial disorientation**

In order to correctly sense the orientation of the body relative to its environment, information is processed from the:

- eyes (Visual system)
- inner ear (Vestibular system)
- skin, muscles, joints and tendons (Proprioceptive system).

Spatial disorientation results when the brain receives conflicting or ambiguous information from those sensory systems. The resulting state of confusion is dangerous for a pilot, as it can lead to incorrect control inputs and the resultant loss of aircraft control.

A more in-depth examination of spatial disorientation as a factor in aviation occurrences can be found in the ATSB aviation research and analysis report B2007/0063 *An overview of spatial disorientation as a factor in aviation accidents and incidents* (available at [www.atsb.gov.au](http://www.atsb.gov.au)).

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<sup>15</sup> Meaning the holder of an instrument or night VFR rating.

## **VFR flight into IMC**

The risks associated with VFR flight into IMC have been discussed previously in a number of ATSB safety investigation and research reports, including BO/200304282, BO/200505107 and B2005/0127. The consequences of that event include that 76% of VFR into IMC accidents result in fatalities.

In addition, VFR flight into IMC has been identified by CASA as a critical factor in many incidents. In response, CASA has attempted to educate pilots of the associated risks via its *Flight Safety Australia* magazine, and examined those risks as part of its recent Crash Scene Investigator workshops.

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## ANALYSIS

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This incident highlights the risks of inadvertent flight into Instrument Meteorological Conditions (IMC) and of the recovery from those conditions, particularly in respect of a pilot that does not hold an instrument rating. The following discussion examines the factors that contributed to the development of the incident.

### **Weather-related decision-making**

Prior to departure, the available Terminal Area Forecast (TAF) and observed weather at Broome indicated that the weather in the vicinity of the aerodrome was suitable for the visual departure and, if required, a landing. However, the special weather report that was issued 15 minutes after the pilot's departure from Broome, and to which the pilot did not have ready access, indicated that those weather conditions had deteriorated since that time.

The observed build-up of cloud as the flight progressed was consistent with the area forecast, and alerted the pilot to the risk of his not being able to maintain Visual Meteorological Conditions (VMC) as he climbed to his planned cruise altitude of 5,500 ft. The pilot's decision to amend his departure and cruise altitudes was intended to reduce that risk.

The difficulty experienced by the pilot flying between the two layers of cloud, and inability of the pilot to descend due to extensive cloud cover, was reflective of the forecast weather. Ultimately, by the time that the pilot elected to return to Broome, his inability to see the ground meant that he was not in VMC, and could not satisfy the requirements for navigation under the Visual Flight Rules (VFR).

As a result of the generally fine conditions that prevailed in the Kimberley region during the dry season, the pilot had limited recent exposure to weather-related operational decision-making. Similarly, the limited weather-related decision-making guidance provided in the operator's operations manual most likely increased the difficulty faced by the pilot during the preparation for, and conduct of the flight.

It could be expected that remotely-based pilots facing circumstances similar to those experienced in this occurrence would benefit from the periodic review of the Civil Aviation Safety Authority (CASA)-produced DVD *VFR into IMC - Weather to Fly*.

### **Recovery from inadvertent entry into IMC**

The conditions affecting the pilot's return to Broome resulted in flight by the pilot in weather conditions that were less than VMC and for which the pilot was not qualified. The pilot's attempts to manoeuvre the aircraft with limited or no visual cues contributed to his disorientation and resulting difficulty controlling the aircraft, with potentially severe consequences.

The pilot's decision to request assistance, and the ability of the flight crew of the aircraft at Cone Bay to provide appropriate input and guidance, helped resolve the pilot's disorientation and allowed him to continue the return to Broome. That



interaction indicated the application of sound crew resource management (CRM) on the part of all concerned.

The descent on approach to Broome was made with no consideration by the pilot of the potential utility of the relevant Broome safety heights, or of the operational information available from the Broome Automatic Aerodrome Information Service (AAIS) Certified Air/Ground Radio Service (CA/GRS). In that case, the pilot may have unwittingly restricted the availability of other more appropriate options for the approach and landing. The result was an elevated risk of collision with terrain.

The inclusion of recovery options in the operator's operations manual, for application in the event of inadvertent entry into IMC, may have influenced the pilot's actions in those circumstances.

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## FINDINGS

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From the evidence available, the following findings are made with respect to the Visual Flight Rules (VFR) flight into Instrument Meteorological Conditions (IMC) that occurred 83 km north-east of Broome Airport, WA on 20 June 2007 and involved Cessna Aircraft Company C208 Caravan, registration VH-NRT. They should not be read as apportioning blame or liability to any particular organisation or individual.

### **Contributing safety factor**

- The aircraft was flown into conditions that deteriorated below Visual Meteorological Conditions (VMC) and for which the pilot was not qualified.

### **Other safety factors**

- The pilot manoeuvred the aircraft in weather conditions that were conducive to pilot disorientation.
- The pilot descended the aircraft in IMC without consideration of the relevant Broome safety heights.
- The company operations manual provided limited guidance to assist pilots in their weather-related decision-making during the preparation for, and conduct of flights. (*Safety issue*)
- The company operations manual did not specify any recovery procedures in the event of inadvertent entry into IMC. (*Safety issue*)

### **Other key finding**

- The pilot's decision to seek assistance contributed to the resolution of the disorientation experienced, and indicated the application of sound crew resource management (CRM).

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## SAFETY ACTION

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The safety issues identified during this investigation are listed in the Findings and Safety Actions sections of this report. The Australian Transport Safety Bureau (ATSB) expects that all safety issues identified by the investigation should be addressed by the relevant organisation(s). In addressing those issues, the ATSB prefers to encourage relevant organisation(s) to proactively initiate safety action, rather than to issue formal safety recommendations or safety advisory notices.

All of the responsible organisations for the safety issues identified during this investigation were given a draft report and invited to provide submissions. As part of that process, each organisation was asked to communicate what safety actions, if any, they had carried out or were planning to carry out in relation to each safety issue relevant to their organisation.

### Australian Transport Safety Bureau

#### Weather-related decision-making

##### ***Safety issue***

The company operations manual provided limited guidance to assist pilots in their weather-related decision-making during the preparation for, and conduct of flights.

##### ***Operator comment***

During the investigation and its consideration of the draft report, the operator indicated that it would consider the development of procedures that would support pilots' weather-related decision-making during the preparation for, and conduct of flights. The indication was that that guidance would be included in its operator's operations manual.

##### ***ATSB comment***

The ATSB made a number of attempts to obtain confirmation of any safety action taken by the operator in response to this safety issue. However, due to circumstances beyond the operator's control, the operator has, as yet, been unable to respond.

This investigation report could be expected to prove relevant to a number of other operators and to pilots in general. That relevance is timely, given the approach of winter and the accompanying weather patterns in a large part of Australia. On that basis, it was decided to progress the release of the final report to the public, rather than delaying the release pending the operator's input.

A safety risk analysis was carried out by the ATSB and, on that basis, it was determined that safety action would be sought by the operator via the following safety recommendation.

***ATSB safety recommendation AO-2007-014-SR-029***

The Australian Transport Safety Bureau recommends that the operator address this safety issue.

**Recovery from inadvertent entry into Instrument Meteorological Conditions**

***Safety Issue***

The company operations manual did not specify any recovery procedures in the event of inadvertent entry into Instrument Meteorological Conditions (IMC).

***Operator comment***

During the investigation and consideration of the draft report, the operator indicated that it would develop procedures for application by pilots in the event of inadvertent entry into IMC for inclusion in its operations manual. The operator suggested that those procedures would be incorporated into existing emergency training, and would include the initial requirement to control the aircraft and options for recovery to Visual Meteorological Conditions (VMC).

***ATSB comment***

The ATSB made a number of attempts to obtain confirmation of any safety action taken by the operator in response to this safety issue. However, due to circumstances beyond the operator's control, the operator has, as yet, been unable to respond.

This investigation report could be expected to prove relevant to a number of other operators and to pilots in general. That relevance is timely, given the approach of winter and the accompanying weather patterns in a large part of Australia. On that basis, it was decided to progress the release of the final report to the public, rather than delaying the release pending the operator's input.

A safety risk analysis was carried out by the ATSB and, on that basis, it was determined that safety action would be sought by the operator via the following safety recommendation.

***ATSB safety recommendation AO-2007-014-SR-030***

The Australian Transport Safety Bureau recommends that the operator address this safety issue.