CARIBBEAN METEOROLOGICAL ORGANIZATION

CARIBBEAN METEOROLOGICAL COUNCIL **Doc.10**
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CMO WEATHER RADAR NETWORK
(Submitted by the Coordinating Director)

Introduction

1. Doppler Weather radar observations are an important component of the observing infrastructure supporting the Caribbean governments' collective ambition to strengthen disaster risk preparedness and response in the region, the United Nations (UN) *Early Warnings for All* (EW4All) initiative, and the *World Meteorological Organization* (WMO) *Regional Basic Observing Network* (RBON). The radars provide high-resolution, real-time rainfall and wind estimates essential for severe-weather monitoring; now-casting; impact-based, multi-hazard forecasts and warnings; routine aviation and marine services. Analysis of radar data are also valuable for understanding long-term trends in precipitation and severe weather.

2. In the Caribbean, where migrating weather systems cross multiple national boundaries, the value of radar observations extends beyond the countries in which the radar system is located. The CMO Weather Radar Network is considered to be a joint facility of the CMO; from the old analog systems in the 1960s and 1970s to the modern Doppler radar systems. Five of six radars in the network were implemented by the CMO Headquarters through project funding from the European Union. Its effectiveness depends on sustained operational availability of individual radars, reliable transmission of data and the timely exchange of observations among Members, so that the benefits of the network can be realized across the region.

3. This report provides an update of the network since November 2025, drawing on 2026 CMO Operational Radar Group (CORG) meetings' records and individual country updates, which shows that the year brought important progress across the regional radar network, strengthened technical cooperation and maintenance practices through the CORG, but at the same time major vulnerabilities remain on the network. The update also shows that the radars operational reliability must be assessed across the full-service value chain: radar hardware, local processing, communications, access by forecasters, and onward sharing to the regional mosaic or data-exchange platforms. This is important because a radar can be technically functional, while remaining operationally unavailable to forecasters, if its communications link is down.

4. In this report, the Council is invited to focus on three linked areas:

1. Operational reliability and service availability – the functionality of this critical observing infrastructure, in terms of uptime of the weather radars, and the availability of radar observations to forecasters and other users in terms of percentages.
2. Modernization and strengthening of regional capabilities – progress towards improved radar systems, interoperable data exchange and enhanced early warning services, including the initial preparatory arrangements for implementation of the GCF-funded SAP063 project.
3. Long-term sustainability, operational resilience and regional cooperation – which hinges on predictable maintenance funding, access to critical spares, manufacturer support, trained local technicians, resilient power and communications, better data archiving, and coordinated regional arrangements to support the effective operation of meteorological services.

(a) CMO's Mission-Critical Regional Asset

5. The CMO Weather Radar Network (CWRN) comprises weather radars in six (6) Member States: Barbados, Belize, Cayman Islands, Guyana, Jamaica, and Trinidad and Tobago. This network, together with other national weather-radar systems operating across the Caribbean contribute to the wider regional observing capability, and remains a mission-critical regional asset to operational meteorological services. However, the information available for 2026 does not yet demonstrate consistent improvement in end-to-end reliability across the network.

6. The year brought important progress: Jamaica's radar has returned to full operations following replacement of key parts; the Cayman Islands radar upgrade was completed in December 2025 and the system is reported in service; Barbados has automated integration of radar data with its WMO Information System (WIS 2.0) node; and the CORG has continued to provide technical coordination, facilitate the resolution of operational and maintenance challenges, and promote the sharing of expertise and practical solutions to strengthen the reliability and sustainability of the radar network.

7. At the same time, major vulnerabilities remain. Trinidad and Tobago's S-band radar, even though functional, remains offline; Tobago's X-band radar is experiencing outage; while Saint Lucia's X-band radar continues to be unavailable. Outside of the general reporting period January to October 2026, Belize radar experience outage on 7 November 2026.

(b) Radar Availability Indicators

8. For assessing the radars performance on the CRWN, two complementary indicators are used in this report. Radar Equipment Functionality, which measures the proportion of the reporting period, excluding planned maintenance, during which the radar equipment was mechanically and technically capable of operating; and Radar Availability to Forecasters (Service Availability), which measures the proportion of the reporting period during which usable radar observations are successfully transmitted and accessible to forecasters for operational use.

9. These indicators are reported separately because a radar may be mechanically functional but unavailable to forecasters owing to failures in power supply, processing systems, telecommunications or data transmission. Planned maintenance is recorded separately and excluded from the equipment-functionality calculation.

10. The indicators provide an objective basis for assessing the reliability and operational effectiveness of national radar systems and the wider CMO Weather Radar Network. Together, they would help with distinguishing equipment-related problems from failures in the infrastructure that is needed to deliver observations to forecasters, identify recurring weaknesses, guide maintenance and investment priorities, and assessing the extent to which Members can depend on radar data for forecasting, warning services and regional data exchange.

11. A consistent regional approach to monitoring and reporting would strengthen CMO's ability to assess network performance, identify common challenges, coordinate technical support and make evidence-based recommendations for improving the reliability and sustainability of radar services.

12. The Council is therefore **invited to encourage** Members to have their National Meteorological and Hydrometeorological Services (NMHSs) maintain and submit regular records of these indicators, supported by equipment, maintenance and data-availability logs, together with any other relevant performance measures to the CORG for reporting at Council.

(c) CWRN Operational Status and Reliability

13. The operational status of the CMO Weather Radar Network (CWRN) and other national radar systems contributing to regional coverage must be considered in terms of their ability to deliver reliable

and timely observations to users. The 2026 updates indicate a mixed picture of operational performance across the region. While there have been important restorations and improvements at some sites, other radars continue to experience equipment failures, infrastructure constraints and interruptions in data availability. The CORG and Members radar updates provided below, give a snapshot of the reported status of individual radar systems, including significant developments, outstanding limitations and maintenance or technical interventions.

(d) CMO Operational Radar Group (CORG) Report to Council

14. During January to October 2026, the CORG convened three meetings: its 13th meeting on 19 February, 14th meeting on 15 May and its 15th meeting on 17 September, which continued on 23 September. The meetings attracted an average of approximately 19 participants per meeting, representing six CMO Member States, CMO Headquarters, the Caribbean Institute of Meteorology and Hydrology (CIMH) and three Observer Member States. The meetings provided an important regional forum for addressing issues affecting radar reliability and data availability, sharing operational experiences and identifying opportunities to strengthen cooperation among Members.

15. The meetings addressed several interconnected areas of regional cooperation, including:

- **Radar operations, maintenance and restoration**: Sharing national radar status reports, technical inspection findings, equipment failures, corrective maintenance measures and experiences in restoring radar systems to operation.

- **Technical capacity and knowledge-sharing**: Promoting peer-to-peer learning, maintenance training, the exchange of technical documentation and the development of common operational and maintenance practices.

- **Regional radar-data exchange and integration**: Advancing discussions on radar-data sharing through WIS 2.0, the Caribbean radar mosaic, data archiving and the potential assimilation of regional radar observations into numerical weather prediction models.

- **Protection and sustainability of radar infrastructure**: Addressing radio-frequency interference (RFI), wind turbines, power supply, communications, environmental conditions, spare parts and access to specialist technical support.

- **Regional cooperation and institutional arrangements**: Continuing discussions on radar-sharing arrangements, including cooperation involving Barbados and potential expanded cooperation with Brazil.

16. The CORG is also working on establishing a regional *Working Group on the Assimilation of Caribbean Radar Data into NWP Models*, with the aim of identifying opportunities to incorporate observations from national radar systems into regional forecasting capabilities.

17. The discussions highlighted that maintaining reliable radar services requires attention not only to the radar equipment itself, but also to the supporting infrastructure, including dependable power supplies, communications links, cooling systems, buildings and access to specialist technical support. Experiences shared by Members illustrated how electrical faults, communications failures, mechanical and electronic defects, moisture ingress, corrosion and shortages of qualified technical personnel can interrupt radar operations or prevent observations from reaching forecasters, even where the radar equipment remains mechanically functional.

18. Practical solutions and lessons included manufacturer-supported maintenance and training, more detailed preventive inspections, maintaining stocks of critical spare parts, the use of maintenance checklists, and ensuring that backup power, communications and radar-data storage arrangements are in place. The restoration experiences shared by Belize and Jamaica, the identification of radio frequency (RF) leakage associated with waveguide connections in the Cayman Islands, and Barbados' demonstration of automated radar-data publication provided valuable examples for regional learning.

19. The CORG also proposed to work towards more consistent regional maintenance practices, improved radar-data archiving and exchange, and the development of technical guidance on radar operations during hurricanes, Radio Frequency Interference, the effects of wind turbines and radar-data quality control.

20. The Council is invited to encourage Members to strengthen preventive maintenance and technical support arrangements, ensure that radar functionality and data availability to forecasters are routinely monitored, and support CORG's work on common maintenance practices, technical capacity-building and regional radar-data exchange.

(e) Radio Data Quality: Radio-frequency Interference, Anomalous Propagation and Protection of Weather Radar Spectrum

21. The Council is informed that Radio Frequency Interference (RFI) remains a concern for the Caribbean weather radar network. The Council will recall that the CMC69 report documented interference affecting radar imagery in several locations. Discussions during CORG meetings in 2026 confirmed that this remains an issue requiring continued technical attention. Examples of radar imagery on 5 November, 2026 (Figure 1**)** show radial streaks and other patterns potentially associated with interference, which can degrade the quality and interpretation of radar observations. The discussions at the CORG emphasized the importance of distinguishing genuine RFI from anomalous propagation and ordinary ground clutter before attributing a source.

22. The CORG discussions also highlighted the need for **stronger coordination between NMHSs and national telecommunications and spectrum regulatory authorities**. This includes ensuring that weather radar installations are appropriately registered to ensure protection of the associated frequencies, establishing national radio-frequency coordination focal points, and developing arrangements for investigating and addressing sources of persistent interference. CORG identified the preparation of a regional technical briefing on RFI, together with further capacity-building on interference detection and the potential effects of wind turbines on weather radar observations.

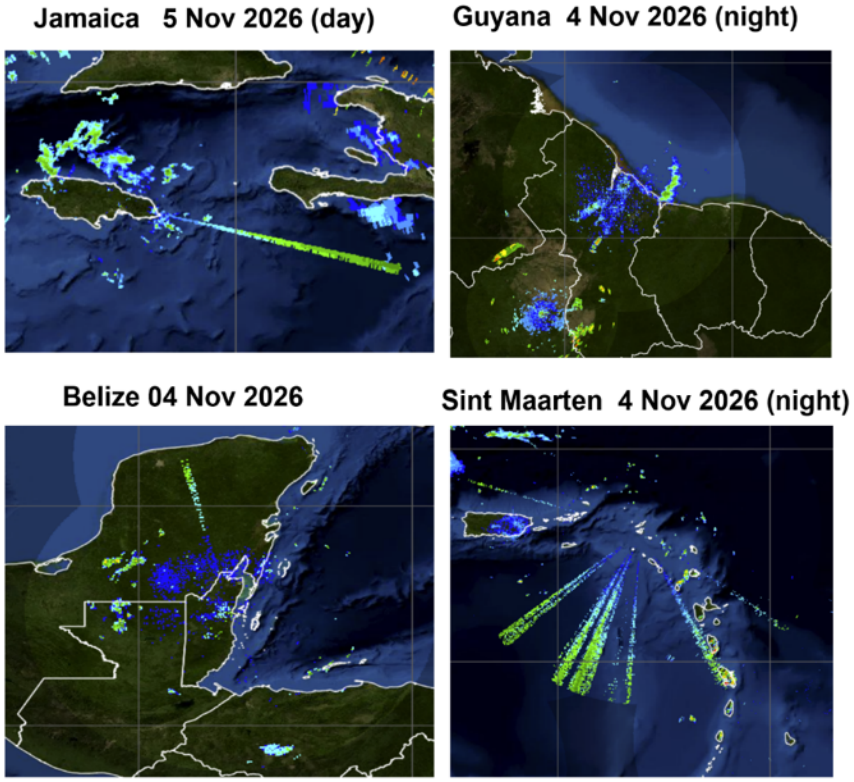


Figure 1. Examples of Caribbean weather radar imagery showing radial streaks and other patterns potentially associated with radio-frequency interference.

23. These regional concerns are particularly relevant in the context of the *World Radiocommunication Conference 2027* (WRC-27) and the frequency bands identified for new international mobile telecommunication. The WMO has identified several agenda items with implications for meteorological observing systems and is encouraging **NMHSs to work with their national radiocommunication authorities to protect frequencies used for meteorological purposes and public safety**.

24. Of particular relevance to the Caribbean weather radar network is **WRC-27 Agenda Item 1.13**, which considers the possible allocation of additional frequencies between 694 and 2700 MHz for mobile-satellite services, including direct satellite-to-mobile phone connectivity. The WMO does not oppose the introduction of these services, provided that they do not cause harmful interference to meteorological radars operating in the 2700–2900 MHz band. This is particularly important for the Caribbean, where several Members operate S-band weather radars within this frequency range.

25. Council is reminded that CMO Headquarters has been engaging with the WMO, the *Caribbean Telecommunications Union* (CTU), the *International Telecommunications Union* (ITU), the *International Civil Aviation Organization* (ICAO) and advocating for the protection of radio frequencies that are vital to monitoring and forecasting of severe weather and heavy rainfall. The WMO and CMO positions emphasize ensuring that any new satellite services introduced under WRC-27 agenda item 1.13 do not compromise the operation and performance of meteorological radars or the quality and reliability of the observations they provide.

26. Council is informed that interference from non-compliant WiFi devices has contaminated radar observations, with 90% of C-band radars in Europe reporting interference. The C-band radars in the Caribbean are experiencing increasing interference. While the interference reported by Members cannot automatically be attributed to changes in spectrum allocations or the issues under consideration at WRC-27, it demonstrates the operational consequences of an inadequately managed radio-frequency environment. **Members should therefore engage directly with their national telecommunications regulators in the WRC-27 preparatory process, communicate the importance of weather radar observations and support the protection of relevant frequency bands**. This should be complemented by regional coordination through the CORG to document interference cases, share technical evidence and promote a consistent approach to spectrum protection across the Caribbean.

(f) Current Operational Status and Reliability of the Six CMO Network Radars and Others Radars

(i) Trinidad and Tobago

Trinidad Meteorological Service Division (MSD): S-band Weather Radar

27. The Trinidad and Tobago Meteorological Service (TTMS) operates a Leonardo Meteor 600S S-band Doppler weather radar installed at Brasso Venado, in the Central Range, at approximately 223 m above mean sea level.

28. Based on the information provided by the TTMS, for the period January–October 2026, as of October 2026, the radar was reported to be mechanically functional. However, it has not been providing a continuous operational data feed to forecasters at the Operational Forecast Office at Piarco for approximately eight (8) months. Radar data transmission to the main operational office ceased on 1 March 2026, following a power outage at the radar site, failure of a workstation at the Operational Forecast Office, and loss of internet connectivity at the radar site.

29. During the reporting period, the radar was subject to several preventative maintenance and corrective interventions. On 5 March, it was turned off following repairs to an oil leak at the azimuth gearbox. It was subsequently shut down shut down for the five-day annual maintenance programme from 13-17 April. From 17 April to 4 August, the radar remained shut down because of a severe grease leak in the elevation mechanism (Figure 2).

30. The manufacturer recommended a complete change of the lubricant; however, owing to resource constraints, the TTMS was only able to undertake a lubricant top-up using grease supplied by the Barbados

Meteorological Service. This intervention appears to have been successful, with no further leakage reported since August 2026. The radar was also briefly operated on 3 June, 11 June, 2 July, 4 August, and 14 October for testing and maintenance-related checks.



Figure 2. Radar housing and elevation mechanism showing grease leakage and grease expelled from the mechanism

31. Despite restoration of the radar's mechanical functionality, the absence of a secure and reliable communication link between the radar site and the Operational Forecast Office continues to prevent its use as regular operational forecasting tool. The TTMS has therefore kept the radar out of operational service pending the establishment of a suitable communication network. The ICT Unit is working with telecommunications contractors to install the required wireless bridge. In addition, the radar system, its supporting utilities and compound continue to require parts, upgrades and corrective maintenance.

32. In the interim, radar technicians continue to visit the site weekly and operate the system for approximately three hours to check for lubricant leakage, generate test images and confirm its mechanical integrity. The TTMS has indicated that the radar could be switched on to support the tracking of an approaching weather system where critical radar data are required.

Trinidad Indicative Radar Uptime and Availability January – October 2026

33. For the January–October 2026 reporting period, the Trinidad and Tobago S-band radar was functionally available for approximately 50.5% of the January–October 2026 reporting period, equivalent to 151 days, while it was unavailable for 148 days (49.5%). More significantly, radar data was accessible to forecasters for only 19.4% of the period (59 days), leaving the service without radar imagery for the remaining (245 days) 80.6%. (Figure 3).

34. The difference between radar equipment functionality and forecaster access to radar products, highlights the impact that supporting radar infrastructure and data-transmission constraints can have on operational service delivery. It also underscores the **need to address communications and other system-integration issues in order to translate equipment functionality into effective forecasting capability**.

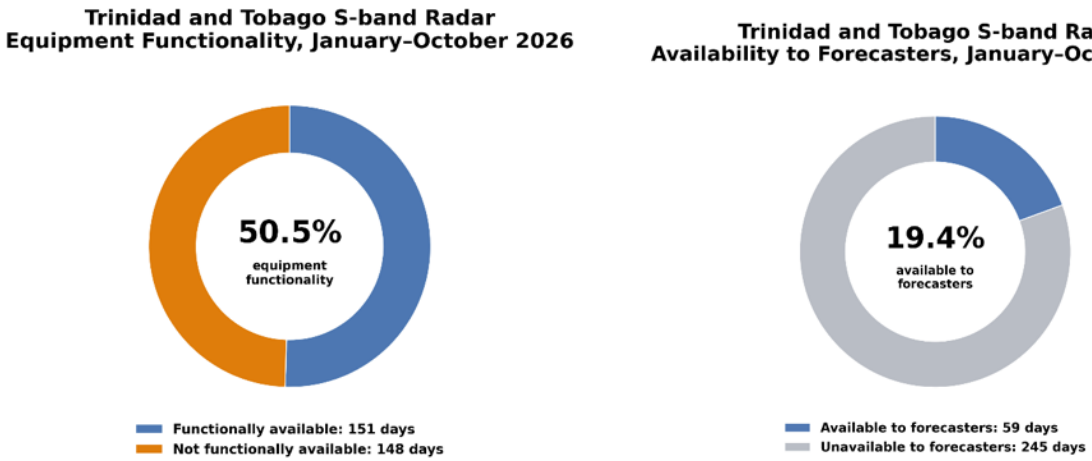


Figure 3. Estimated radar equipment functionality and availability to forecasters of Trinidad S-band Doppler radar, January–October 2026

New Trinidad and Tobago X-Band Radar Project

35. The Government of Trinidad and Tobago, through the MSD-Trinidad is implementing a newly procured modern Ranger X5 X-Band Dual-Polarization Weather Radar System. The project forms part of the Government's ongoing efforts to modernize national meteorological infrastructure, strengthen weather surveillance and enhance the delivery of forecasts, warnings and early warning information.

36. The radar system and its associated spare parts have arrived in Trinidad and are currently being stored at the Trinidad and Tobago Air Guard (TTAG) Headquarters, Piarco, pending completion of the installation preparations. Civil works commenced on 4 November 2026 at the designated TTMS installation site adjacent to the TTAG Headquarters, with radar installation, on-site technical training, system testing and commissioning targeted for completion in December 2026.

37. Upon successful installation and commissioning, the X-Band radar is expected to enhance the monitoring of precipitation and weather systems affecting Trinidad and Tobago, improve the availability of radar information for operational forecasting and severe-weather monitoring, and strengthen early warning services for hazardous weather events. It is also expected to support meteorological services associated with aviation safety and the Piarco Flight Information Region, while complementing existing meteorological observing systems and strengthening the national observing network. The Service noted that to support effective operation and long-term sustainability, on-site training is planned as part of the implementation programme to strengthen the technical and operational capacity of TTMS personnel in radar operation, monitoring, maintenance and troubleshooting.

Tobago Meteorological Service Division: X-band Weather Radar

38. The Meteorological Services Division (MSD)–Tobago operates an X-band Doppler weather radar, with an approximate range of 150 km, which was commissioned in November 2022. The radar operated at full capability from January to April 2026, notwithstanding residual soot contamination from an earlier fire incident that affected the workstation environment. From approximately 15 April, forecasters began observing increasing clutter in the radar imagery, including the development of a small ring around the 15 km range (Figure 4). Despite the deterioration in image quality, the radar remained accessible and continued to be used operationally until 14 May 2026, when the system became unavailable to forecasters.

39. The loss of operational service was attributed mainly to the failure of the radar workstations, particularly the Edge workstation, which had deteriorated under unsuitable environmental conditions. These included the absence of air-conditioning, exposure to soot from the fire, and concerns about irregular voltage supply and power surges at the facility. The incident highlighted the importance of maintaining suitable environmental conditions and reliable power supply for the radar's supporting equipment.

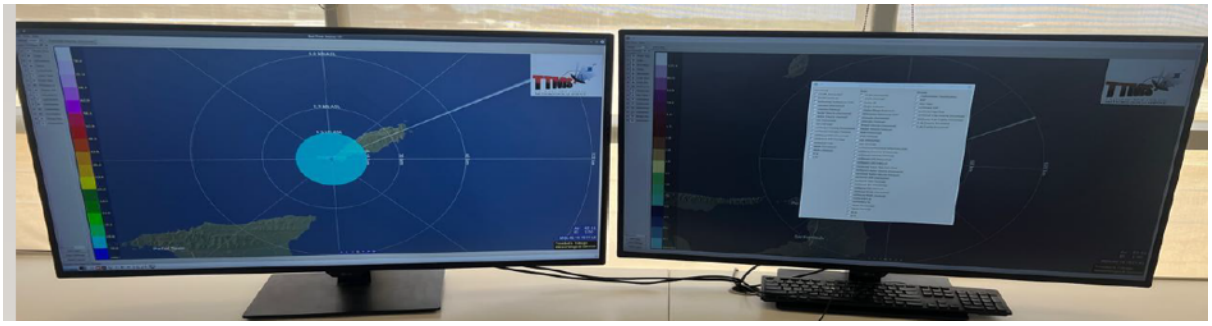


Figure 4. Tobago radar workstation displays showing clutter as small ring around the 15 km range

40. A new voltage regulator was successfully installed and commissioned to address the power-supply problems (Figure 5). The MSD–Tobago is also pursuing the procurement of a replacement workstation for the radar system. Meanwhile, rehabilitation work on the office building housing the radar equipment is progressing, with arrangements being made to ensure that the building is fully air-conditioned before the end of 2026. These improvements are intended to provide a more suitable operating environment for the radar and its associated equipment.

41. The physical condition of the radar tower and supporting platform is also a concern. Visible rust and corrosion have affected sections of the tower structure and associated components, consistent with prolonged exposure to the coastal environment and sea spray (Figure 5). The replacement of the deteriorating platform is being pursued, with attention given to procuring a robust structure incorporating appropriate anti-rust treatment and protective coatings to extend its service life.

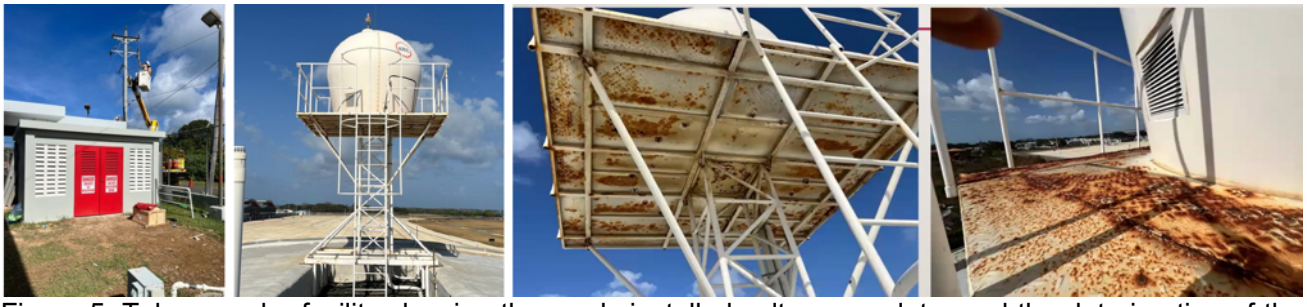


Figure 5. Tobago radar facility showing the newly installed voltage regulator and the deterioration of the radar tower and supporting platform

42. Access to manufacturer support was another challenge during the reporting period, following the expiry of the previous Service Level Agreement (SLA) with Enterprise Electronics Corporation (EEC). At the end of September 2026, the MSD–Tobago renewed its arrangement with EEC through a one-year Ranger-X-S Remote Maintenance Support Agreement. The agreement provides remote hardware and software support, including up to 80 hours of hardware assistance and 20 hours of software support, remote diagnostics, and emergency on-call engineering assistance in the event of a system outage. However, the agreement does not include on-site repair services or spare parts, which would be provided at additional cost. The MSD-Tobago will therefore need to make provision for these expenses should physical intervention or component replacement become necessary.

Tobago Indicative Radar Uptime and Availability January – October 2026

43. During January–October 2026, the Tobago radar was functioning for 43.8% of the period (133 days), while it was not operational for the remaining 56.2% (171 days). Access to radar data by forecasters was even lower, at 34.2% (104 days), meaning that forecasters were without radar data for almost two-thirds of the period (Figure 6). This highlights the need to improve both equipment reliability and the supporting communications and data-delivery arrangements to strengthen the radar's contribution to forecasting and early warning.

44. The MSD–Tobago's ongoing rehabilitation and procurement activities, together with the renewed remote support arrangement with EEC, are important steps towards restoring the radar to operational service.

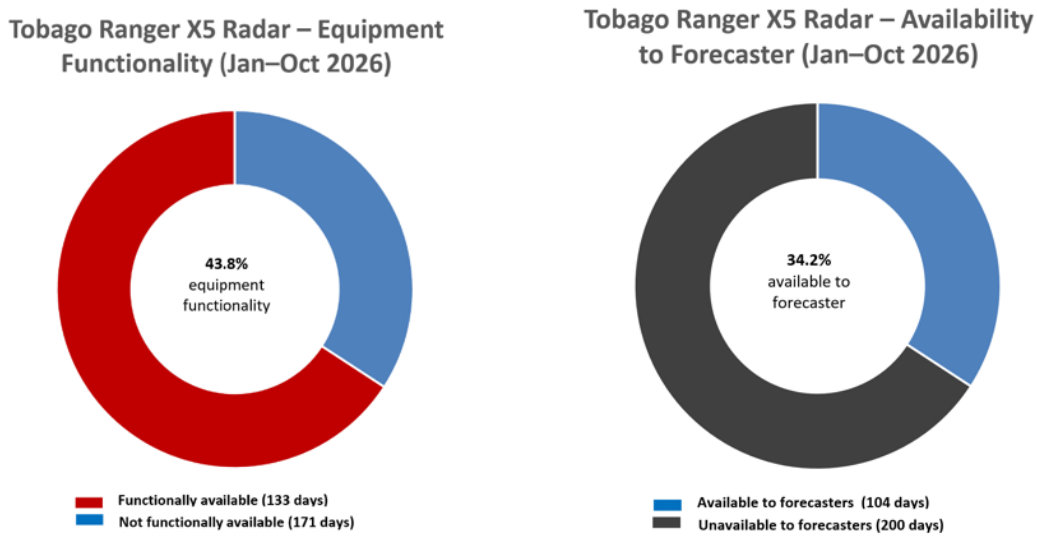


Figure 6. Estimated radar equipment functionality and availability to forecasters of the Tobago X-band Doppler radar, January–October 2026.

(ii) Jamaica

Jamaica Defender dual-polarized S-Band Weather Radar

45. The Jamaica Meteorological Service (JMS) operates an Enterprise Electronics Corporation (EEC) dual-polarization S-Band Doppler weather radar, located at Coopers Hill, St Andrew, approximately 700 metres above sea level. The Council is reminded that the Jamaica weather radar, was first installed in 2021, however a mechanical failure occurred in March 2022 involving the antenna assembly, approximately two weeks before its intended commissioning on World Meteorological Day (23 March 2022). The radar was subsequently restored to full functionality in 2025, using funds from the CMO Radar Network Fund allocated for Jamaica. The CMO Headquarters facilitated the procurement of parts and services, which allowed the radar to become operational ahead of the Hurricane season and serve as a vital monitoring and forecasting tool for Hurricane Melissa.

46. The Council is informed that, in February 2026, Jamaica reported to the 13th CORG that, following the passage of Hurricane Melissa in October 2025, the radar became unavailable on 18 November 2025 due to operational difficulties, including a non-responsive radar antenna. Subsequent diagnostic work and physical inspections identified a broken elevation gearbox and a failed azimuth servo amplifier.

47. During the first week of March 2026, the elevation gearbox was removed and the antenna was fixed at an elevation of 0.9°, enabling the radar to resume limited operations pending acquisition of a replacement gearbox. At 0.9°, the radar was able to provide general observation scans showing the movement and intensity of rainfall and lower-level wind speeds. However, its elevation capability remained restricted, preventing observations of upper atmospheric levels and the production of volume scans requiring multiple elevation angles.

48. At the 14th CORG Meeting in May 2026, Jamaica reported that the radar slip rings were in good condition and were since lubricated. The radar's dual-polarization capability was restored following the repair of a faulty relay coil. Other maintenance included updating the display software and the operating systems of the associated computers; replacing internal computer batteries and configuring NetCDF radar data-production and transfer protocols for data transmission to Barbados for inclusion in the Caribbean radar mosaic. The mass-storage backup system was also confirmed to be operational. However, the UPS backup power supply remained out of service, pending replacement of its batteries following a software upgrade.

49. In September 2026, at the 15th CORG Meeting, Jamaica reported on the latest radar maintenance and inspection. The damaged gearbox was replaced by a newly manufactured unit, which had taken approximately six months to produce, together with the associated motors. Extensive calibration and alignment checks were then undertaken to verify the accuracy of the radar's positioning and scanning.

50. The inspection covered electrical grounding, the radar structure and shelter, cabinets, cooling systems, radome, antenna, safety switches, pedestal and associated equipment. The power systems, UPS and communications links between the radar and the various meteorological offices were also checked. Following these comprehensive repairs, and the restoration of the radar's full operational capability, the Jamaica dual-polarization Defender S850 S-Band Doppler weather radar was officially commissioned on 28 October 2026 (Figure 7), the one-year anniversary of the landfall of record-breaking Hurricane Melissa.



Figure 7. Jamaica Meteorological Service Doppler weather radar installation at time of commissioning of the radar, 28 October 2026 by the Most Honourable Dr. Andrew Holness, Prime Minister of Jamaica and radar reflectivity imagery showing precipitation across Jamaica and surrounding areas, 5 November 2026.

Jamaica Indicative Radar Uptime and Imagery Availability January – October 2026

51. The Jamaica weather radar showed a marked improvement in equipment functionality during January–October 2026. The radar progressed from being unavailable during January–February (19.4% of the period), to partially functional during March–August (60.5%), and fully functional during September–October (20.1%). Following the restoration of full functionality, radar data were available to forecasters from March to October, representing an estimated availability of 80.6% for the reporting period (Figure 8.). This improvement strengthens the capacity for weather monitoring and forecasting, although the period of partial functionality highlights the importance of timely maintenance and reliable technical support.

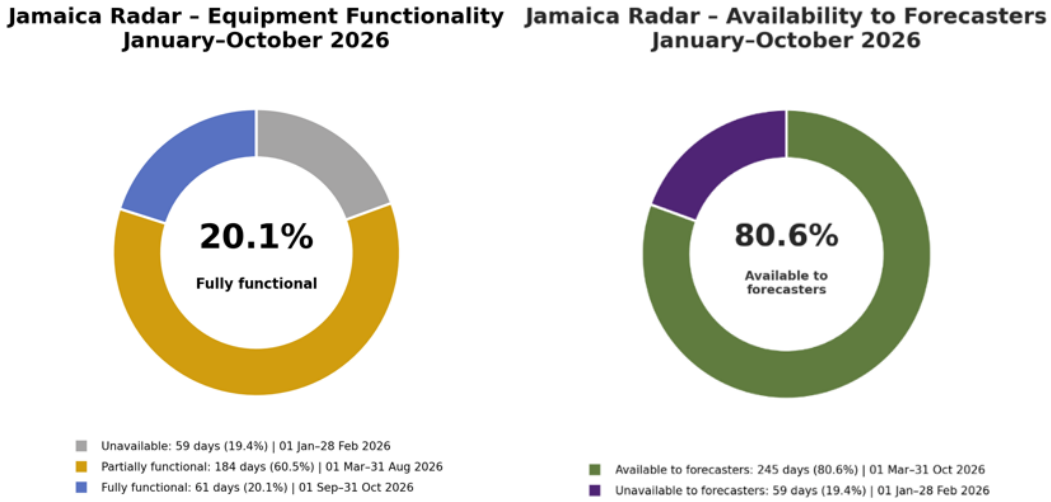


Figure 8. Estimated equipment functionality and availability of the Jamaica weather radar to forecasters during January–October 2026

52. At the 15th CORG Meeting, the JMS emphasized the importance of regular monitoring and preventive maintenance, noting the high electrical demands of radar systems and the diagnostic alerts provided by the EEC EdgeRadar software. A maintenance checklist adapted from the manufacturer's recommendations has been developed for quarterly inspections, complementing the more detailed annual servicing requirements.

53. JMS confirmed that the Service has three radar technicians supporting its operation and maintenance. The restoration and associated improvements to the Jamaica radar represent an important strengthening of the country's national radar capability and contribute positively to the operational capability and resilience of the Caribbean weather radar network. The maintenance experience highlights the importance of systematic technical inspections, timely access to specialized spare parts, manufacturer support and regular maintenance of critical radar components.

(iii) Cayman Islands

Cayman Islands dual-polarized S-band Weather Radar

54. The Council will recall that in 2025, the Cayman Islands indicated its plans to commence a radar upgrade in collaboration with the manufacturer, Leonardo Germany GmbH, to replace aging components and incorporate technological enhancements. Council is informed that the Cayman Islands National Weather Service (CINWS) reported that its weather radar upgrade, undertaken in December 2025, was completed (Figure 9.). The radar was operational and in service at the time of the September 2026 CORG meeting. All radar data and products were reported to be available to the Service.

Cayman Islands Indicative Radar Uptime and Availability January – October 2026

55. Notwithstanding the successful completion of the upgrade, the radar experienced three significant periods of interruption during 2026. The first outage occurred from 14 February to 9 March, following the discovery of loose bolts on the waveguide, which resulted in radio-frequency (RF) leakage and affected the Antenna Control Unit (ACU). A failure of the switchboard controller also contributed to the interruption. The second outage, from 3 May to 17 June, was associated with intermittent failures of the air-conditioning system at the radar site. A third interruption occurred from 28 August to 12 September, following two further switchboard-controller problems.



Figure 9. The Kearney Gomez Doppler Radar installation at High Rock, Grand Cayman, showing radar system components and a sample reflectivity image showing precipitation on 5 November 2026.

Collectively, these incidents resulted in 86 days of downtime during the period 1 January to 21 October 2026. Of the 294 days in the reporting period, the radar was functionally available for 208 days, representing an estimated uptime and availability of 70.7% (Figure 10).

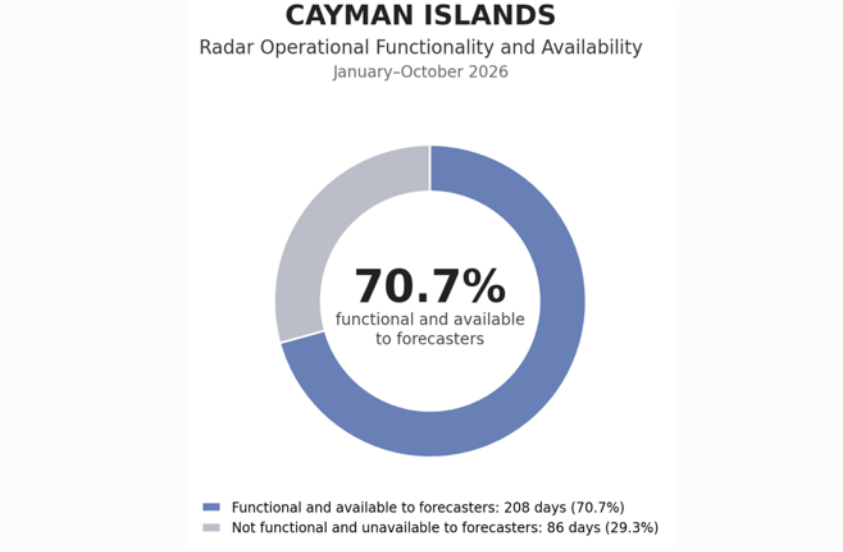


Figure 10. Estimated operational functionality and availability of the Cayman Islands weather radar to forecasters during January–October 2026.

56. CINWS also highlighted several challenges affecting the reliability and continuity of radar operations. These included the limited availability of suitably qualified radar engineers within the country, the time difference between the Cayman Islands and the manufacturer's technical support team in Germany, and difficulties obtaining technical assistance outside normal working hours, particularly on weekends. These constraints complicated troubleshooting and the restoration of service, especially when specialist assistance was required. The interruptions were particularly challenging for CINWS given the public scrutiny and pressure experienced during outages, as the public expects radar information to be consistently available to support weather monitoring and warning services.

57. The experience reinforced the importance of proactive preventive maintenance, not only of the radar equipment but also of its supporting infrastructure, together with careful assessment of the critical spare parts required to minimize service interruptions. CINWS noted that the switchboard controller, which failed on three occasions, was not included in the manufacturer's recommended inventory of critical spare parts held in stock. This has highlighted the need to **review the recommended spare-parts inventory to ensure adequate provision for components with a history of failure**.

58. The Cayman Islands experience demonstrates that completing a radar upgrade does not, on its own, guarantee sustained operational reliability. Continued attention to supporting infrastructure, preventive maintenance, manufacturer support, technical staffing and the availability of critical spare parts is necessary to maintain service continuity. It also highlights the importance of incorporating redundancy and appropriate business-continuity arrangements into the planning and management of national radar infrastructure.

(iv) Belize

Belize S-band Weather Radar

59. The National Meteorological Service of Belize (NMSB) reported that its weather radar remained operational throughout the period January–October 2026, with no interruption to radar services. Both the radar's functional availability and the availability of radar data to forecasters were reported at 100% for the period. However, on 07 November 2026, the radar became non-operational following a system failure.

60. Notably, during the 14th meeting of the CORG, held in May 2026, NMSB reported on several maintenance activities undertaken to support the continued operation of the radar. These included the replacement of the front-end receiver, gearbox and slip ring, as well as the receipt of previously ordered spare parts. In addition, the radome was repainted and its joints resealed by a local contractor using fibreglass paint and silicone sealant.

61. Further technical maintenance was undertaken by a Leonardo technician during a visit to Belize from 31 August to 4 September 2026. The work included a full system backup, inspection of the RF circuit and associated equipment, and replacement of several components, including the dehydrator, digital receiver fan cascade, signal processor battery and touchscreen battery. Measurements and checks were also conducted on the transmitter and receiver, followed by calibration and testing of the radar (Figure 11).

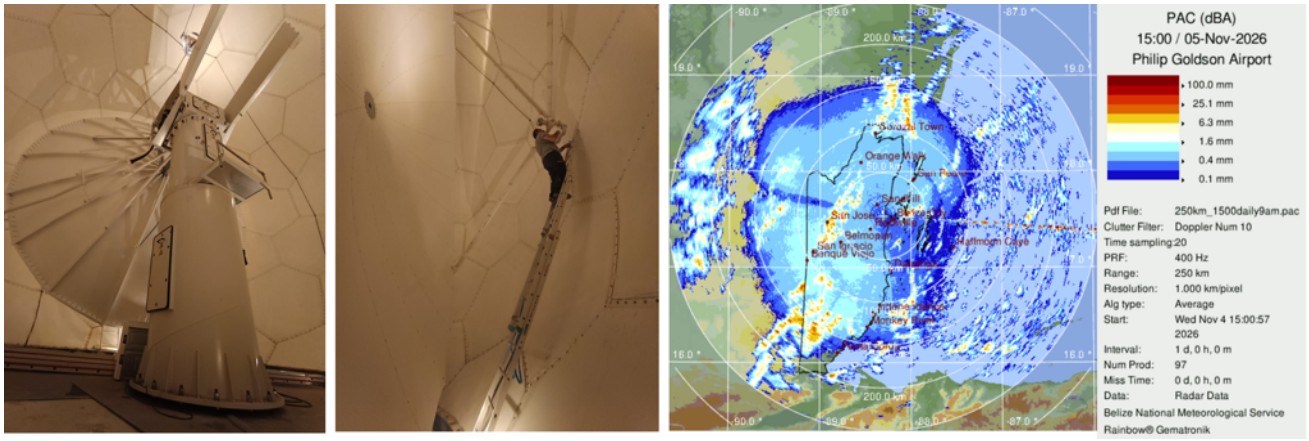


Figure 11. Leonardo technical personnel undertaking maintenance and inspection of the Belize weather radar antenna assembly, alongside an example of accumulated precipitation imagery over Belize generated by the radar on 5 November 2026.

62. Although the maintenance visit helped address a number of equipment issues, the inspection identified several matters requiring further attention. These included a 20mm crack in the feedhorn membrane, which was causing a persistent air leak and could not be repaired temporarily; a lubricant leak from the azimuth gearbox, likely associated with failed seal rings; and water ingress, which had resulted in rusting and seized screws. A warning associated with the transmitter switchboard was also observed during scheduled operations.

63. While the radar maintained 100% functional availability during January to October 2026, the failure on 7 November reinforces the importance the importance of sustained preventive maintenance, timely replacement of critical components and adequate stocks of spare parts.

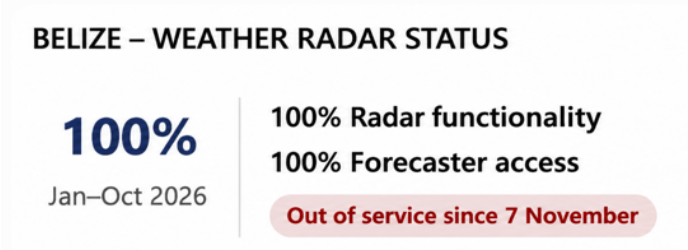


Figure 12. Functional availability of the Belize weather radar and availability of radar data to forecasters, January–October 2026.

(v) Barbados dual-polarized S-band Weather Radar

64. The Barbados Meteorological Service (BMS) operates a Leonardo dual-polarized S-band Doppler weather radar located at Castle Grant, St. Joseph, Barbados. The BMS confirmed that the radar was fully operational at the time of preparation of this report. Spare parts were reported to be adequate, and both the test instruments and the radar have been calibrated. Overall, the Service indicated that downtime affecting radar operations was minimal during the January–October 2026 reporting period.

65. Notwithstanding the radar's generally reliable operation, two events affected the availability of radar imagery during 2026, apart from the 9 to 11 June, when the radar was taken out of service for scheduled biannual maintenance. The first event occurred from 14 to 24 July 2026, when imagery was unavailable

on both the BMS website and RainDart, although checks confirmed that the radar itself remained operational. Investigations identified an insect-infested and corroded connection box associated with the internet service at the radar site (Figure 13).

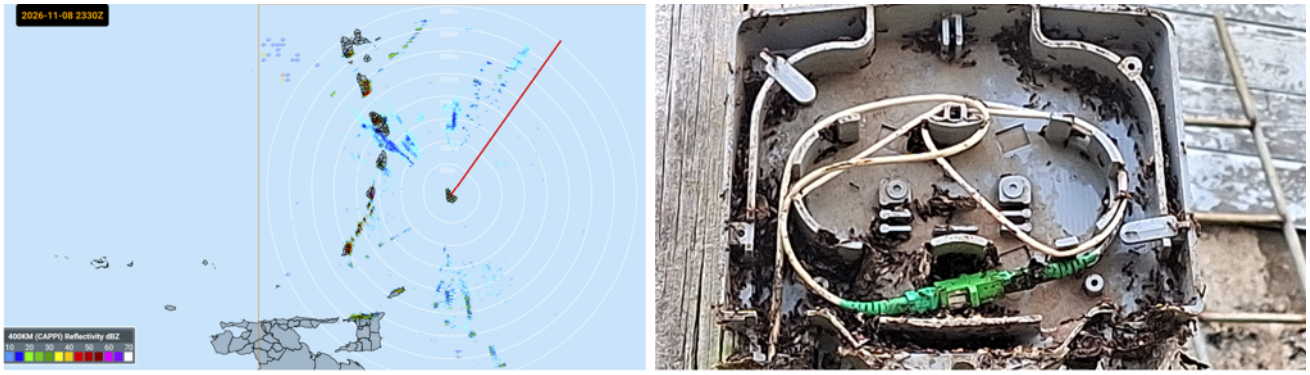


Figure 13. Barbados weather radar reflectivity imagery (left) and photograph of bee infestation within the radar equipment (right), illustrating an operational maintenance challenge affecting the radar system

66. A separate incident in July involved slight misalignment of the microwave-link antennas, resulting in the temporary loss of imagery on the RainDart client workstation for approximately three days. Based on this, Barbados radar recorded 99% functional availability, however availability of radar imagery to forecasters was lower at 94.2% (Figure 14).

67. The BMS also reported the replacement of an air-conditioning unit on 19 June 2026 following severe corrosion and deterioration of its condenser unit. In January 2026, the battery for the standby generator was replaced, supporting the readiness of the site's backup power arrangements. Routine operational checks and preventive maintenance continue to be undertaken using the BMS weekly quality-assurance sheet.

68. Beyond the radar operational use, the BMS confirmed that it is already undertaking radar-data assimilation in its Numerical Weather Prediction (NWP) modelling activities. Its radar data are also integrated into the Barbados WIS 2.0 Node and published as recommended data.

69. These applications demonstrate the value of Barbados' radar infrastructure for operational forecasting, numerical modelling and regional data exchange, and provide useful experience for other CMO Members as CORG advances wider regional radar-data integration and assimilation. The BMS also reported to CORG that it was arranging a further visit by Leonardo to undertake scheduled maintenance, provisionally planned for December 2026. The Service also intends to have the radome cleaned.

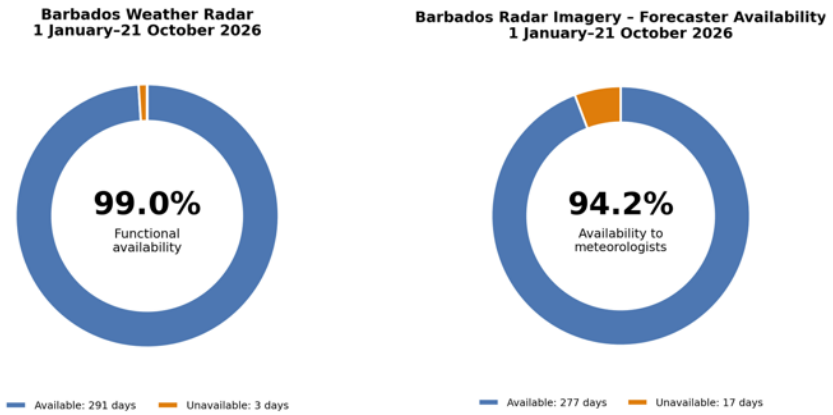


Figure 14. Barbados Weather Radar Operational Uptime and Imagery Availability, January–October 2026.

(vi) Guyana

Guyana S-band Weather Radar

70. The Guyana Hydrometeorological Service (GHMS) reported that its Doppler weather radar, located near the airport, remained operational throughout the 2026 reporting period, with minimal downtime. Operations were interrupted briefly on two occasions, each lasting approximately one hour, to facilitate the replacement of two centrifugal fans during routine maintenance. Weekly preventive maintenance activities were carried out as scheduled, while radar data continued to be recorded and archived and remained available to forecasters for operational use, research and analysis.

71. During the year, the GHMS identified a build-up of residue on the radar radome, which posed a risk of attenuation of the electromagnetic signals transmitted and received by the antenna. To protect the integrity of radar products and preserve the radome, the Service engaged Siggen Technology of Malaysia, a company recommended by the radar manufacturer, Leonardo Germany GmbH, to undertake cleaning, sealing and painting works. The work started on 4 June and was completed on 11 June 2026 (Figure 15). The radar was switched off daily between 08:00 and 17:00 during the works, which also included a facelift of the radar tower. Based on the reported interruptions, the radar's functional availability and availability to forecasters were estimated at 99.0% during the reporting period from January to October 2026.



Figure 15. Guyana's Doppler weather radar following the cleaning, sealing and painting of the radome and refurbishment of the radar tower, June 2026.

72. Guyana's continued low radar downtime reflects the value of its structured preventive maintenance programme and annual manufacturer-supported maintenance arrangements (Figure 16). The Leonardo specialist also provides guidance on maintenance activities that can be undertaken locally, supporting the development of in-country technical capacity. Looking ahead, the GHMS plans to arrange hardware and software refresher training in 2027, in keeping with the manufacturer's recommendation for training approximately every two years. This will further support the Service's capacity to maintain the reliability and operational longevity of the radar system.

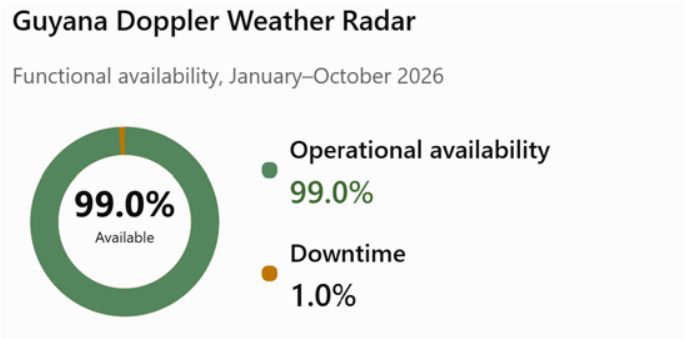


Figure 16. Equipment functionality. The radar was estimated to be available for 99.0% of the reporting period

(vii) Saint Lucia

Saint Lucia X-band Weather Radar

73. The Saint Lucia Meteorological Services (SLMS) operates an ELDES SRL WR-25XP weather radar system located at Hewanorra International Airport, La Tourney Hill, Vieux-Fort. Installed in May 2023, the radar became inoperable in February 2024 and has remained unavailable for operational forecasting since. Following formal engagement with the manufacturer, ELDES SRL, in June 2025, arrangements were made for corrective maintenance. After several revisions to the maintenance schedule, the manufacturer's technical representative undertook the work from 10 to 12 February 2026, with assistance from personnel of the Ministry of Infrastructure and SLMS (Figure 17.).



Figure 17. ELDES SRL technical representative, assisted by local personnel, undertaking corrective maintenance on the Saint Lucia WR-25XP radar in February 2026

74. The inspection identified a major mechanical fault involving misalignment between the antenna elevation mechanism and its limit switches, which restricted antenna movement and resulted in the failure of the elevation motor (Figure 18.). The motor was replaced, restoring the elevation system to proper functionality. The inspection also revealed minor rust and fungal growth inside the radar unit, requiring appropriate cleaning and anti-rust treatment.



Figure 18. Conditions identified during the manufacturer's inspection, including damage and misalignment in the antenna elevation mechanism, corrosion and fungal growth within the radar unit

75. Despite the successful mechanical repairs, the radar was not restored to full operational service. Further inspection identified software-related abnormalities, including inadequate power supply to several computer boards. The affected boards were sent to the manufacturer for repair, with their return and

reinstallation dependent on completion of the necessary electrical works. Virtual technical support from ELDES SRL is expected to assist with the reinstallation and subsequent system checks.

76. Several additional interventions remain necessary before the radar can be returned to service. These include the installation of enhanced grounding and lightning protection systems, completion of the electrical works, and reinstallation of the repaired electronic boards. A contractor has been engaged to undertake the electrical works. The manufacturer also recommended upgrading the radar operating system to Windows 11 following completion of the hardware interventions. Treatment of the observed corrosion using anti-rust paint was also scheduled for a subsequent maintenance window.

77. The SLMS also raised a potential concern regarding the Airport Authority's construction of a proposed 60-foot tower near the radar installation, at a site shared by the Authority and the Meteorological Service. Given the proximity and height of the proposed structure, a technical assessment would be necessary to determine any potential impact on radar performance, coverage and the quality of its imagery.

78. The corrective maintenance undertaken in February 2026 represented an important step towards addressing the problems affecting the Saint Lucia radar. However, while the major mechanical fault has been resolved and most other components were assessed as being in acceptable condition, the outstanding electronic, electrical and software interventions have prevented the complete system from being restored to operational service.

79. The radar therefore remained unavailable to forecasters throughout the January–October 2026 reporting period. Priority attention is required to complete the outstanding works and secure the manufacturer's technical support to facilitate the system's return to service (Figure 19).

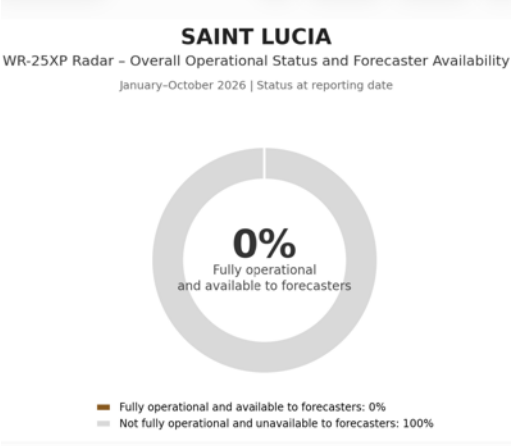


Figure 19. Overall operational status and availability of the Saint Lucia WR-25XP weather radar to forecasters during January to October 2026

(viii) Bahamas Weather Radar Network

80. The Bahamas Department of Meteorology operates a network of five weather radars located at Marsh Harbour (Abaco), Nassau (New Providence), Millerton (Long Island), Abraham’s Bay (Mayaguana) and Duncan Town (Ragged Island).

81. The latest update indicates that three of the five radar sites are fully operational, with the remaining two affected by power and communications issues. The Marsh Harbour, Nassau and Long Island radars are operational. Sustained power has now been established at the Mayaguana site; however, a G-Net internet connection is still required to enable remote access to its radar output from New Providence. Once connected, the feed is expected to be accessible through the Department’s public webpage. **The radar’s coverage extends to the Turks and Caicos Islands**.

82. The Duncan Town radar in Ragged Island remains non-operational due to an electrical supply problem that causes the radar's switch to trip. Investigation and resolution by the electricity provider are required before the site can resume normal operations.

83. The Department confirmed that radar information can be accessed remotely through G-Net, provided that the radar site has both power and internet connectivity. Generators provide backup power during interruptions, although remote access is lost when generator power and associated connectivity are no longer available.

84. The Department also clarified that its radar feeds are not included in the Caribbean radar mosaic generated in Barbados, as redistribution is restricted under an agreement with a private company. The Department intends to make the feeds available through its own public webpage. This limitation relates to regional data redistribution arrangements rather than the operational status of the radar equipment. Once the G-Net connection at Mayaguana and the power supply issue at Ragged Island are addressed, all five radar sites are expected to be operational, with their outputs accessible remotely.

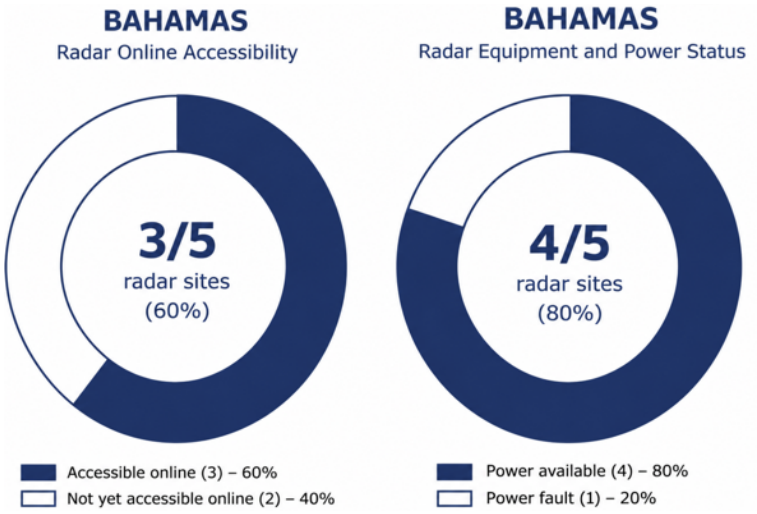


Figure 20. Bahamas weather radar network status, showing online accessibility and equipment power availability across the five radar sites, based on the latest update.

(ix) St Maarten Weather Radar

85. The Meteorological Department of St. Maarten reported that its weather radar was performing well, with no major operational issues. The main challenges were related to intermittent internet connectivity rather than the radar system itself. The Department indicated that it had a contractual 24-hour support and maintenance arrangement with Vaisala, which was scheduled to remain in effect until 2027. The Department expressed satisfaction with the support provided under the arrangement and confirmed that spare parts were available, with no immediate concerns regarding their availability.

86. The Department also reported investigations were undertaken by the Bureau Telecommunications and Post (BTP) on the radio-frequency interference experienced by the radar. However, the investigations did not identify the source of the interference, and a newly installed antenna was ruled out as the cause. Nevertheless, the source of the interference remained undetermined. Since this is a C-band radar, it may be experiencing interference due to wireless LAN equipment. Since WRC-2003, RLAN are required to comply with Dynamic Frequency Selection (DFS) and change channel when a weather radar is detected. However, interference to C-band weather radars is a significant problem, mostly caused by illegal RLAN devices where the Dynamic Frequency Selection is not functioning or is turned off.

87. To strengthen communications resilience, the Department also installed Starlink backup internet service at its administration and operations buildings and was working to extend the service to the radar site at St. Peter's Hill. The radar installation, servers and operational data were distributed across three separate locations, making reliable connectivity between the sites important for maintaining the flow of radar information. Installation of the Starlink service at the radar site had been delayed pending an

assessment by BTP to determine the source of the interference. The Department confirmed that the radar was insured and included in the Department's disaster and business-continuity arrangements.



(g) Expansion and Continued Operational Value of the Caribbean Radar Mosaic

88. During 2026, the **Barbados Meteorological Service** (BMS) made further progress in expanding the geographic coverage of the **Caribbean Radar Mosaic**, with **Mexican radar reflectivity incorporated** into the mosaic through the **technical assistance and coordination of CMO Headquarters and the WMO RA IV Regional Office**. This represents an important development in extending regional radar coverage beyond the Caribbean basin and strengthening the availability of radar observations for monitoring weather systems across the wider region. It builds on the earlier integration of radar data from Brazil's Boa Vista and contributions from the Dominican Republic, as reported in the previous Council report.

89. The BMS continues to play a central role in the operation and maintenance of the regional mosaic, committing technical expertise, staff time and resources to its development and continued availability. This contribution is particularly important to sustaining the mosaic as a shared regional resource, benefiting NMHSs beyond Barbados.

90. The accompanying images, dated 3 October 2026, illustrate the expanded mosaic, providing a consolidated regional view of precipitation activity and offers forecasters a broader perspective on weather systems that may affect more than one country. Its continued development will depend on maintaining reliable contributions from participating radar operators, improving data continuity and processing, and formalizing arrangements for data exchange and access.

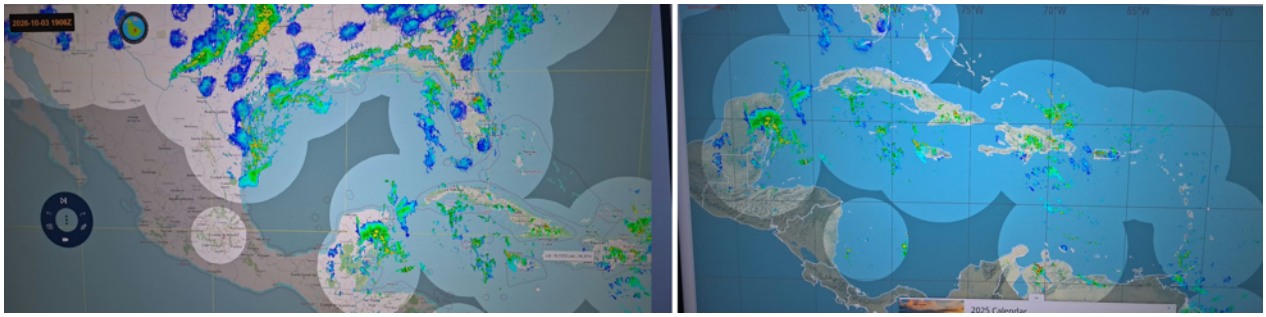


Figure 21. Caribbean Radar Mosaic showing expanded regional coverage, including the integration of Mexican radar data, on 3 October 2026, supported by CMO Headquarters and WMO RA IV office.

(h) GCF-supported modernization in Belize and Trinidad and Tobago

91. At CMC69, Council was informed of the approval of the Green Climate Fund (GCF)-supported programme, "***Scaling Up of Caribbean Hydrometeorological and Multi-hazard Early Warning Services in Belize and Trinidad and Tobago***" (SAP063). The programme is intended to strengthen

national hydrometeorological capabilities and multi-hazard early warning services in the two countries, while contributing to wider regional capacity and cooperation.

92. Following approval by the *Caribbean Development Bank* (CDB) Board of Directors in June 2026, the Bank and the GCF have advanced efforts to finalize the arrangements required for implementation. The GCF is expected to provide a draft Funding Activity Agreement (FAA) for negotiation. In parallel, the CDB has been discussing the way forward on the agreement with the Caribbean Meteorological Organization (CMO), including establishing of the Project Management Unit.

93. Discussions have also progressed on procurement arrangements, staffing of the Project Management Team and other requirements for implementation readiness. Subject to the successful conclusion of negotiations, the CDB anticipates that the FAA will be signed in early December 2026. Project start-up arrangements would then be finalized, with implementation expected to commence during the first quarter of 2027.

94. At the time of reporting, the project remains in the preparatory phase, with the contractual and implementation arrangements yet to be concluded. Accordingly, no major procurement or physical implementation milestones are being reported at this stage. The CDB has reaffirmed its commitment to working with the CMO and other stakeholders to facilitate the timely commencement of the project. The project represents an important investment in strengthening hydrometeorological and multi-hazard early warning services in Belize and Trinidad and Tobago, with potential benefits for regional cooperation, technical capacity and the modernization of observing and forecasting capabilities.

(i) Exploring Transition to WIS 2.0 for Regional Radar Data Exchange

95. The Council is informed that a significant development in 2026 has been CORG's consideration of how the transition to the WMO Information System (WIS 2.0) could strengthen the exchange and retrieval of weather radar data across the Caribbean. The intent is to build on the existing regional arrangements, under which participating NMHSs transmit radar data to Barbados, where the information is received, organized and processed for regional use, including the development of the regional composites produced by the Barbados Meteorological Service.

96. At the 15th CORG meeting, the Barbados Meteorological Service demonstrated its implementation of automated radar data publication in BUFR format through its national WIS 2.0 node. This provides a practical example of how radar data could be published and exchanged through an automated, machine-to-machine process.

97. CORG is therefore exploring a transition towards using WIS 2.0 as an extra mechanism for regional radar data exchange, while retaining the existing FTP arrangements during the transition and as a complementary means of data transfer. Operating both mechanisms in parallel would provide redundancy, strengthen the reliability of data delivery and support business continuity should either mechanism experience technical or communications difficulties to ensure that radar data from the network is always available for operational forecasting.

98. The Barbados Meteorological Service and other NMHSs or authorized data users, subject to agreed data-sharing arrangements with the respective data-providing NMHSs, would configure their WIS 2.0 environment to subscribe to the relevant topics, retrieve the available radar data and undertake the necessary processing and organization activity currently undertaken through the FTP arrangement. This would retain Barbados' role in facilitating regional radar-data processing and while making use of the WIS 2.0 infrastructure for data discovery, notification and retrieval.

99. A number of technical and operational matters would need to be agreed and addressed by the CORG and participating NMHSs before the arrangement could be implemented. These include:

- **Data format**: Agreement on the format to be used for regional exchange, including whether the BUFR format currently used for FTP transfers should be retained for WIS 2.0 publication, and whether additional formats or datasets may be required.

- **Dataset registration and publication**: Each participating NMHS would need to identify and configure the relevant radar dataset on its national WIS 2.0 node, including the necessary metadata and publication arrangements. As radar observations are categorized as recommended data under the WMO Unified Data Policy, the applicable data-sharing conditions and licensing arrangements would also need to be addressed by the data providers.

- **Publication topics and subscriptions**: Participating NMHSs would need to provide Barbados with the WIS 2.0 topic under which their radar data are published, allowing the Barbados Meteorological Service to configure subscriptions and retrieve the relevant datasets.

- **Automated data transfer and retrieval**: NMHSs would need to establish the necessary scripts or other automated processes to transfer radar files to their national WIS 2.0 nodes. Barbados would need the appropriate software and configuration to subscribe to participating nodes and retrieve, organize and process the published data.

- **Metadata and station identification**: Radar datasets would need to be supported by appropriate metadata and station information, including the required WIGOS Station Identifiers and registration in OSCAR/Surface, as applicable.

- **Interoperability and operational testing**: Further testing would be required to address compatibility between BUFR editions, data structures, topic hierarchies, authentication, communications bandwidth, data volumes and the end-to-end publication and retrieval process.

100. The proposed dual-mode arrangement would allow the region to maintain the established FTP data flow while progressively testing and validating WIS 2.0 as an alternative and complementary exchange mechanism. Once the WIS 2.0 process has been demonstrated to provide reliable and timely delivery, CORG could assess whether it can become the primary mechanism for routine exchange, with FTP retained as a contingency or alternative means of transfer where necessary.

101. CORG will therefore need to coordinate the technical assessment and pilot implementation with the Barbados Meteorological Service and participating NMHSs, initially involving those Members already exchanging radar data. The experience gained would inform the technical requirements, operational procedures and arrangements needed to extend the approach to other Members.

102. This initiative represents an important opportunity to strengthen the Caribbean Weather Radar Network as a shared regional capability. By combining national WIS 2.0 publication with regional subscription and retrieval, while retaining complementary data-transfer arrangements, Members would be better positioned to improve the availability, continuity and regional use of radar observations in support of severe-weather monitoring, forecasting and multi-hazard early warning.

(j) Demonstrated Value of the Radar Network to Early Warning and Disaster Preparedness

103. Weather radar remains an important component of the Caribbean's multi-hazard early warning capability. Its value extends beyond the detection of rainfall to the monitoring of developing thunderstorms, the identification of areas of intense precipitation, the assessment of storm movement and organization, and the detection of potentially damaging wind-producing features. These capabilities are particularly important in the Caribbean, where severe weather can develop rapidly, sometimes outside the influence of tropical cyclones, and affect several communities or countries within a relatively short period.

104. A good example of this value was demonstrated in Guyana on 24 June 2026, when a line of severe thunderstorms affected Regions 2 to 5, producing heavy rainfall and unusually strong winds. More than 100 properties were initially reported affected in Region 2, including homes, schools and public infrastructure.

105. Radar observations from Guyana's S-band Doppler radar at Timehri were used to examine the development and movement of the thunderstorms. The imagery showed the organization of convective

echoes into an elongated band of precipitation, while radar-derived products identified gust-front signatures at approximately 1746 UTC and 1846 UTC. A maximum radar-derived velocity of 21.7 m/s (approximately 78 km/h) was also reported south of Region 2. **These observations provided valuable information for understanding the evolution of the event and the potential for damaging thunderstorm outflows**.

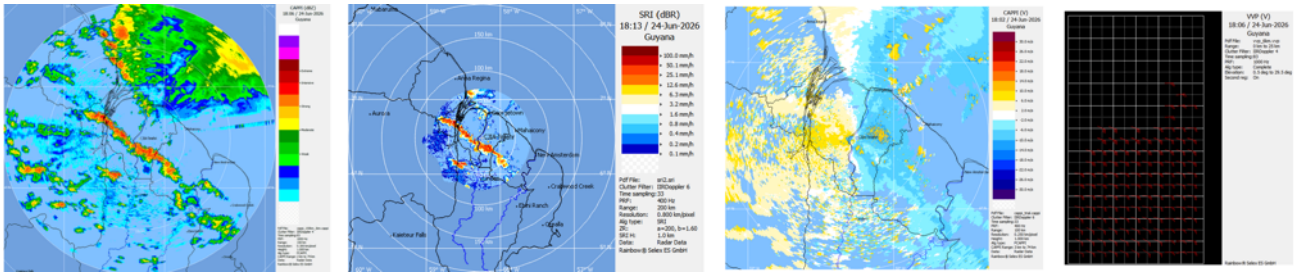


Figure X. Guyana S-band Doppler radar imagery from 24 June 2026, showing the severe thunderstorm line, rainfall intensity and associated wind features over Regions 2–5.

106. The case demonstrates how radar observations can support the early identification and monitoring of severe convective weather, including events that are not associated with tropical cyclones. When combined with satellite imagery and atmospheric analysis, radar provides forecasters with important information on storm development, movement and intensity that can inform nowcasting and warning decisions.

107. The wider 2026 country reports reinforce this value. Jamaica's radar, for example, provided rainfall and lower-level wind observations even while operating with restricted elevation capability, while Barbados' progress in publishing radar data through WIS 2.0 and advancing their use in data assimilation highlights the potential to derive greater forecasting value from observations through improved data exchange and their integration into numerical weather prediction systems. These developments, together with CORG's work on data sharing, archiving and maintenance, highlight the importance of ensuring that radar data are not only generated but remain accessible and usable by forecasters.

(k) Strengthening Radar Maintenance, Technical Support and Regional Cooperation

108. The 2026 country reports and CORG discussions highlighted continuing challenges in maintaining radar systems, particularly the limited availability of locally qualified radar technicians, dependence on overseas manufacturers for specialized repairs, delays in obtaining replacement components and constraints in recurrent maintenance budgets. The Cayman Islands, for example, reported difficulties accessing qualified local engineering support, while Tobago's experience highlighted the consequences of limited technical training and inadequate facility conditions. Saint Lucia's restoration also remains dependent on substantial electrical works and the availability of funding.

109. The year also provided practical examples of the value of regional technical cooperation. Barbados supplied lubricant to Trinidad and Tobago to address an issue with the elevation mechanism of its S-band radar. Jamaica shared its experience in developing a more detailed quarterly maintenance checklist based on manufacturer recommendations, while CORG continued discussions on sharing maintenance practices, training materials and technical knowledge. These initiatives provide a useful foundation for strengthening collective capacity and reducing reliance on individual NMHSs working in isolation.

110. The availability of critical spare parts remains a concern. The Cayman Islands experienced repeated switchboard-controller failures, while Belize's manufacturer inspection identified several components requiring replacement or replenishment. Council is reminded that under the previous CMO Weather Radar Network project, spare parts were held at the CIMH. At the 59th Board of Governors meeting (BOG59), the Principal reported that CIMH had developed a Web Application – Stock Inventory Application, which had been deployed for in-house use and would soon be rolled out for the public. With the recognition of the continuing need for a regional spare-parts arrangement, the CORG would like to invite the CIMH to collaborate in a focused discussion on monitoring of spare parts inventory, including reviewing access procedures, replenishment responsibilities, and funding.

(l) Securing the Reliability and Sustainability of the Caribbean Weather Radar Network as a Regional Public Good

111. The 2026 reporting reinforces the importance of treating the Caribbean Weather Radar Network as a mission-critical regional capability. Radar coverage extends beyond national boundaries, and an outage or interruption in data delivery at one site can reduce the information available to neighbouring Members. The experience during the year also demonstrated that the operational value of a radar depends not only on the functionality of its equipment, but on the reliability of the entire service chain, including power, cooling, communications, data processing and access by forecasters.

112. While progress was recorded, including the restoration of Jamaica's radar to full functionality, continued operation of the Guyana and Belize radars, and the implementation of automated radar-data publication to WIS 2.0 by Barbados, significant vulnerabilities remain. The Trinidad and Tobago S-band radar, although mechanically functional, remains unavailable to forecasters because of communications difficulties; Tobago's X-band radar is non-functional; and Saint Lucia's radar remains inoperable. The Cayman Islands also experienced repeated equipment and air-conditioning failures. These experiences highlight the need for sustained investment in maintenance, infrastructure, technical capacity and operational continuity.

Action Proposed to Council

113. The Council is invited to:

(i) **Reaffirm** that the Caribbean Weather Radar Network is a mission-critical regional asset and that its reliability and continuity are essential to strengthening national and regional early warning services, disaster preparedness and climate resilience.

(ii) **Recognize** that the sustainability of the network requires predictable funding for routine maintenance, critical spare parts, supporting infrastructure, technical support and the continued development of skilled personnel.

(iii) **Encourage** Members to give priority to restoring and maintaining end-to-end radar data services, recognizing that equipment functionality alone does not constitute operational availability if data cannot be accessed by forecasters or shared with regional partners.

(iv) **Encourage** Members to provide adequate recurrent budgetary allocations to NMHSs for preventive maintenance, critical spare parts, supporting infrastructure and manufacturer technical support, including service agreements where feasible.

(v) **Encourage** the continued development of regional technical capacity through CORG, including peer-to-peer knowledge exchange, structured training, access to diagnostic equipment and the transfer of technical knowledge from experienced personnel.

(vi) **Note** the strengthened technical cooperation and maintenance practices presented in the report of the CMO Operational Radar Group (CORG) and **support** the work of the CORG on common maintenance practices, technical capacity-building and regional radar-data exchange.

(vii) **Request** CMO Headquarters, in collaboration with CORG, to introduce a common radar performance reporting framework covering equipment availability, data availability to forecasters, downtime and causes, maintenance activities and data transmission to regional platforms. This would provide Council with a more consistent basis for assessing the reliability and performance of the network.

CMO Headquarters
November 2026