



Agenda Item 6: Assessment of operational requirements in order to determine the implementation of communications and surveillance (CNS) capabilities improvement for en-route and terminal area operations

FOLLOW-UP TO IMPLEMENTATION ASPECTS ON NAVIGATION IN THE SAM REGION

(Presented by the Scretariat)

SUMMARY	
This working paper presents information on the navigation implementation aspects taken under consideration in the Project on air navigation systems in support of PBN.	
Referencias: <ul style="list-style-type: none">• Reunión SAMIG/7 (Lima, Perú, 23-27 de mayo de 2011);• Lista de facilidades que operan con frecuencias dentro de la banda LF/MF (190-1750Khz) (Lista 1); e• Indice de las frecuencias VHF asignadas a las ayudas para la navegación VOR e ILS en el Caribe y Sudamérica (Lista 2).	
ICAO strategic objectives:	<i>A - Safety C – Environmental Protection and Sustainable Development of Air Transport</i>

1. Introducción

1.1 SAM/IG/7 meeting analyzed the PBN supporting air navigation systems project of the CNS/ATM Subgroup's PBN Programme with the aim of aligning it with the SAM PBN programme, in view of GREPECAS Decisions 16/45 and 16/47 approving the new GREPECAS structure and transforming the Subgroups into programmes and projects for the CAR Region and SAM Region.

1.2 In this regard, the meeting took the following under consideration:

1.2.1 Activity A2.1 - *Feasibility of regional application, technical aspects, operational benefits, associated costs, for an SBAS (WAAS/SACSA) implementation.* Implications for airborne equipment (factory delivered and retrofits) and other relevant aspects, would not taken under consideration in the SAM Region in the short and medium term (2012-2018), since there was no SBAS requirement for PBN implementation. With regard to the studies for SBAS implementation, there is a completed study carried out by RLA/00/009 project (WAAS type SBAS trial), and RLA/03/902 project, is currently carrying out studies for the implementation of a SBAS system.

1.2.2 With regard to Activity A2.2 - *Provide practical guidance for the implementation of GBAS systems,* the Meeting noted the offer made by Brazil to draft practical guidance material for the implementation of GBAS systems in the SAM Region.

1.2.3 As to Activity A2.3 - *Review and update the regional conventional nav aids infrastructure Table FASID-AIP and ICAO List 1 and List 2*, the Secretariat would be presenting at next SAM/IG/8 meeting with a new Table CNS 3 model including PBN elements, with the aim that the States of the Region can examine and complete it. In addition, the Secretariat will circulate the ICAO Lists 1 and 2 to all SAM States for their review.

1.2.4 The Meeting considered that in Activity A 2.4 - *Analyse the DME/DME and GNSS infrastructure and coverage supporting PBN implementation*, the deliverable analysis of the DME/DME and GNSS infrastructure supporting PBN implementation had been completed, as it had been presented and examined during this SAM/IG/7 meeting. The coverage study was carried out through the EMACS tool, and the result delivered was a KMZ file permitting DME/DME coverage visualization over a SAM Region geographical map through Google Earth.

1.2.5 With regard to Activity A2.5 - *Development of guidance on use of and available tools required for assessment of GNSS performance and service prediction*, the Meeting took note that for RNAV5, the RAIM availability prediction would not be required due to the continuous availability of the 24 GPS constellation satellites, but that studies will continue for a regional solution for the implementation of RAIM availability prediction in other PBN based air navigation procedures.

2. **Análisis**

Provide practical guidance for the implementation of GBAS systems

2.1 A preliminary practical guide for the implementation of GBS systems in the SAM Region drafted by Brazil is presented in SAM/IG/8-WP/18.

Review and update FASID Table CNS 3 and ICAO Lists 1 and 2

2.2 **Appendix A** to this working paper presents Table CNS 3 with some updatings received since its date of amendment (13 July 2009). During the Meeting, it is expected that States present information to update Lists 1 y 2.

Analyze the DME/DME and GNSS infrastructure and coverage required to support PBN implementation, in completion of deliverable DME/DME coverage in support of RNAV5

2.3 During the Meeting, changes in the DME/DME coverage will be presented, taking into account the changes received from some States of the Region to the VOR/DME data base.

Development of guidance on use of and available tools required for assessment of GNSS performance and service prediction

2.4 Information on the progress in the implementation of this task is presented in SAM/IG/8-WP/28.

Seminar on Flight and Ground Testing of Navigation and Surveillance systems

2.5 In follow-up to the activities for the holding of the above indicated Seminar, **Appendix B** to this working paper presents its tentative Agenda, including the list of expositors and topics to be dealt with. The Seminar will be conducted in San Jose Dos Campos, Brazil, from 21 to 23 November 2011 and the members of the project can make use of a fellowship for their attendance.

3. **Action suggested**

3.1 The Meeting is invited to:

- a) Take note of the information provided;
- b) Review SAM FASID Table CNS 3 and propose actions with the aim of starting a new amendment process to said Table;
- c) Examine ICAO Lists 1 and 2;
- d) Analyze the results to the updating of the DME/DME coverage;
- e) Review the tentative agenda for the Seminar on Flight and Ground Testing of Navigation and Surveillance systems shown in Appendix B to this working paper; and
- f) Analyze any other aspects related with this item that the Meeting might deem necessary.

APPENDIX A / APENDICE A

CAR/SAM FASID

IV-CNS 3-1

TABLE CNS 3 - TABLA CNS 3

TABLE OF RADIO NAVIGATION AIDS - TABLA DE AYUDAS PARA LA RADIONAVEGACIÓN

EXPLANATION OF THE TABLE

Column

- 1 Name of the country, city and aerodrome and, for route aids, the location of the installation.
- 2 The designator number and runway type:
 NINST - Visual flight runway
 NPA - Non precision approach runway
 PA1 - Precision approach runway, Category I
 PA2 - Precision approach runway, Category II
 PA3 - Precision approach runway, Category III
- 3 The functions carried out by the aids appear in columns 4 to 8 and 10 to 12.
 A/L - Approach and landing
 T - Terminal
 E - En route
- 4 ILS - Instrument landing system. Roman numerals I, II and III indicate the acting category of the ILS I, II or III. (I) indicates that the facility is implemented.
 The letter D indicates a DME requirement to serve as a substitute for a marker beacon component of an ILS.
Note. Indication of the category refers to the performance standard to be achieved and maintained, in accordance with pertinent specifications in ICAO Annex 10, and not to specificati Xons of the ILS equipment, since both specifications are not necessarily the same.
 An asterisk (*) indicates that the ILS requires a Category II signal, but without the reliability and availability which redundant equipment and automatic switching provide.
- 5 Radio beacon localizer, be it associated with an ILS or to be used as an approach aid at an aerodrome.
- 6 Radiotelemetrical equipment. When an X appears in column 6 in line with the VOR in column 7, this indicates the need that the DME be installed at a common site with the VOR.
- 7 VOR - VHF omnidirectional radio range.
- 8 NDB - Non-directional radio beacon.
- 9 The distances and altitude to which the VOR or VOR/DME signals are required, indicated in nautical miles (NM) or thousands of feet, or the nominal coverage recommended of the NDB, indicated in nautical miles.

10, 11,12 GNSS global navigation satellite system (includes ABAS , GBAS and SBAS).

ABAS (aircraft-based augmentation system)

GBAS (ground-based augmentation system) implementation planned to be used in precision approach and landing CAT I, CAT II, CAT III.

SBAS (satellite-based augmentation system) implementation planned to be used for route navigation, for terminal, for non precision approach and landing. An X indicates service availability; exact location of installation will be determined.

Note. GPS receiver is under standard rules and ABAS (aircraft-based augmentation system).

13 Remarks

Note. Columns 5 to 12 use the following symbols:

D - DME required but not implemented.

DI - DME required and implemented.

X - Required but not implemented.

XI - Required and implemented.

>year – planned deactivation year

< year – planned in-service year

EXPLICACIÓN DE LA TABLA

Columna

- 1 Nombre del país, ciudad y aeródromo y, para las ayudas en ruta, el emplazamiento de la instalación.
- 2 Número de designador y tipo de pista:
 NINST C Pista de vuelo visual
 NPA - Pista de aproximación que no es de precisión
 PA1 - Pista de aproximación de precisión, Categoría I
 PA2 - Pista de aproximación de precisión, Categoría II
 PA3 - Pista de aproximación de precisión, Categoría III
- 3 La función efectuada por las ayudas figura en las Columnas 4 a 8 y 10 a 12.
 A/L - Aproximación y aterrizaje
 T - Terminal
 E - En ruta
- 4 ILS - Sistema de aterrizaje por instrumentos. Los números romanos I, II y III indican la categoría de actuación del ILS, I, II o III. (I) indican que la instalación está en servicio.
 La letra D indica que se requiere un DME para sustituir a un componente de radiobaliza de un ILS.
Nota. La indicación de la categoría se refiere a la norma de performance que ha de alcanzarse y mantenerse, de conformidad con las especificaciones pertinentes del Anexo 10 de la OACI, y no con las especificaciones del equipo ILS, ya que ambas especificaciones no son necesariamente las mismas.
 Un asterisco (*) indica que el ILS requiere una señal de Categoría II, pero sin la fiabilidad y disponibilidad que proporcionan el equipo de reserva y la conmutación automática.
- 5 Localizador de radiofaro, asociado a un ILS o para utilizarlo como ayuda de aproximación en un aeródromo.
- 6 Equipo radiotelemétrico. Cuando figura una X en la Columna 6 junto con el VOR de la Columna 7, quiere decir que el DME debe instalarse en un sitio común con el VOR.
- 7 VOR Radiofaro omnidireccional en VHF.
- 8 NDB Radiofaro no direccional.
- 9 Las distancias y altitud a las cuales se requieren señales VOR o VOR/DME indicadas en millas marinas (NM) o miles de pies, o la cobertura nominal recomendada del NDB indicada en millas marinas.
- 10, 11, 12 GNSS sistema mundial de navegación por satélite (incluye ABAS, GBAS y SBAS).
 ABAS (sistema de aumentación basado en las aeronaves)
 GBAS (sistema de aumentación basado en tierra) según lo previsto se utilizará en las aproximaciones y aterrizajes de precisión de CAT I, CAT II y CAT III.
 SBAS (sistema de aumentación basado en satélites) según lo previsto, se utilizará en navegación en ruta, terminal, y aproximaciones y aterrizajes que no son de precisión. La X indica disponibilidad de servicio; se determinará el emplazamiento exacto de la instalación.
Nota. El receptor GPS se ajusta a reglas uniformes y ABAS (sistema de aumentación basado en la aeronave).

13 Observaciones

Nota. En las Columnas 5 a 12 se utilizan los símbolos siguientes:

D - DME requerido pero no en servicio.

DI - DME requerido y en servicio.

X - Requerido pero no en servicio.

XI - Requerido y en servicio.

>año – año planificado para su desactivación

< año- año planificado de entrada en servicio

Station/Territory Station/Territoire Estación/Territorio	Rwy type Type de piste Tipo de pista	Function Fonction Función	ILS	L	DME	VOR	NDB	Coverage Couverture Cobertura	GNSS			Remarks Remarques Observaciones
									ABAS	GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12	13
ANGUILLA (United Kingdom)												
THE VALLEY WALL BLAKE, Anguilla I.	10 NPA	A/L					XI >2018		XI		X	
ANTIGUA AND BARBUDA												
SAINT JOHNS/V.C. Bird, Antigua I.	07 PA1 25 NPA	A/L A/L T E E	II* D		XI XI XI	XI XI XI	XI >2018 XI >2018	200/45 400	XI	X X	X X X	
ARGENTINA												
BUENOS AIRES/Aeroparque Jorge Newbery	13 PA1	A/L	II D (I)		XI	XI	XI >2018			X		
BUENOS AIRES/Ezeiza Ministro Pistarini	11 PA3 35 PA1	A/L A/L T E	III D (I) II (I)		XI XI XI XI	XI XI XI XI	XI >2018	160/45		X X	X X	
BUENOS AIRES/San Fernando	23 NPA	A/L T			XI XI	XI XI						
CATARATAS DEL IGUAZU/My. D. Carlos Eduardo Krause	31 PA1 13 NPA	A/L A/L T/E	I D (I)		X X	XI XI XI	XI >2018	190/45		X	X	
CERES		E			XI	XI		200/45			X	
COMODORO RIVADAVIA/Gral. Mosconi	25 PA1 07 NINST	A/L E E	I (I)		X XI	XI XI	XI >2018 XI >2007	200/45		X	X	
CORDOBA/Ing. Aer. A. L. Taravella	18 PA1 36 NINST	A/L T E E	II* D (I)		XI XI XI	XI XI XI	XI >2018 XI >2007 XI >2007	200/45 90		X	X X X	
FORMOSA/Formosa	03 NPA 21 PA1	A/L A/L T E	I D (I)		XI XI XI XI	XI XI XI XI	XI >2018 XI >2018 XI >2018	200/45		X	X X X	
GENERAL PICO		E A/L				XI	XI >2015 XI >2018	160/45			X	
GUALEGUAYCHU		E						190/45			X	
JUJUY/Jujuy	33 PA1 15 NINST	A/L T/E E	I (I) D		XI XI	XI XI	XI >2018 XI >2007 XI >2007	200/45 200		X	X X	
JUNIN		E E A/L				XI	XI >2015 XI >2018	200/45 100			X X	

Station/Territory Station/Territoire Estación/Territorio	Rwy type Type de piste Tipo de pista	Function Fonction Función	ILS	L	DME	VOR	NDB	Coverage Couverture Cobertura	GNSS			Remarks Remarques Observaciones
									ABAS	GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12	13
LABOULAYE		E			X	XI		200/45			X	
LA PLATA		E E				XI	XI >2015	230/45 110			X X	
LAS LOMITAS		E				XI		200/45			X	
MALARGUE		E E			XI	XI	XI >2018	250/45			X X	
MAR DE PLATA/Brig. Gral. B. de la Colina	13 PA1 31 NINST	A/L T E E	II D (I)		XI XI XI	XI XI XI	X >2018 XI >2018 XI >2018	250/45 110		X	X X X	
MARCOS JUAREZ		E			X	XI		200/45			X	
MENDOZA/EI Plumerillo	18 NPA 36 PA1	A/L A/L T E	II (I) D		XI XI XI XI	XI XI XI XI	XI >2018 XI >2018 XI >2018	210/45			X X X X	
MONTE CASEROS		E			X	XI		210/45			X	
NEUQUEN/Presidente Peron	08 PA1 26 NINST	A/L T/E E	I (I)		XI XI	XI XI		200/45 XI >2018		X	X X	
ORAN		E					XI >2018	70			X	
POSADAS/Libertador Gral. D. José de San Martín	01 NPA 19 PA1	A/L A/L T E	II D (I)		XI XI XI XI	XI XI XI XI	XI >2018 XI >2018	200/45		X	X X X	
RECONQUISTA		E			XI	XI	XI >2018	200/45			X	
RESISTENCIA/Resistencia	21 PA1 03 NINST	A/L T/E E	II (I)		XI XI	XI XI	XI >2018 XI >2015	200/45 200		X	X X	
RIO GALLEGOS/Piloto Civil N. Fernández	25 PA1 07 NPA	A/L A/L T/E E	II (I) D		XI XI XI	XI XI XI	XI >2018 XI >2007 XI >2007	200/45 80		X	X X X	
RIO GRANDE/Rio Grande	25 PA1	A/L T/E E	I D (I)		X X	XI XI	XI >2018 XI >2015	200/45 200		X	X X	
ROSARIO/Rosario	19 PA1 01 NINST	A/L T/E	I (I)		XI XI	XI XI	XI >2018	200/45		X	X	

Station/Territory Station/Territoire Estación/Territorio	Rwy type Type de piste Tipo de pista	Function Fonction Función	ILS	L	DME	VOR	NDB	Coverage Couverture Cobertura	GNSS			Remarks Remarques Observaciones
									ABAS	GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12	13
SALTA/Salta	01 PA1 19 NINST	A/L	I (I) D		XI	XI	XI >2018	200/45		X		
		T/E			XI	XI					x	
SAN ANTONIO DE ARECO		E E			X	XI					X X	
SAN CARLOS DE BARILOCHE/San Carlos de Bariloche	11 NPA 29 PA1	A/L A/L T/E E	I D (I)		XI XI XI	XI XI XI	XI >2018	200/45 150		X	X X X	
SAN JUAN		E E			XI	XI	XI >2006 XI >2018	230/45			X X	
SAN RAFAEL		E				XI		180/45			X	
TANDIL		E			XI	XI	Xi >2018	210/45			X	
TRELEW		E			XI	XI	Xi >2018	200/45			X	
TUCUMAN/Tte. Benjamín Matienzo	01 PA1 19 NINST	A/L T/E	I (I)		XI X	XI XI	XI >2018	290/45		X	X X	
USHUAIA/Malvinas Argentinas	25 PA1 07 NPA	A/L A/L E	I D (I)			XI XI XI		200/45		X X	X	
ARUBA (Netherlands)												
ORANJESTAD/Reina Beatrix, Aruba I.	11 PA1 29 NPA	A/L A/L T E	II* D (I)		XI XI XI	XI XI XI		200/45	XI	X X	X X X	
BAHAMAS												
ALICE TOWN/South Bimini, Bimini I.	NINST	T E E			XI XI	XI XI	XI	200/45 285	X		X X X X	
CAPE ELEUTHERA/Cape Eleuthera, Eleuthera I.	NINST								X		X	
FREEPORT/Intl, Grand Bahama I.	06 PA1	A/L	II		XI	XI	>2004		XI	X		NDB is out of service, since 2004, decommissioned schedule for 2009
	24 NPA	A/L T			XI	XI			XI	X	X	
		A/L			XI	XI	XI			X		
GEORGE TOWN/EXUMA Intl, Exuma I.												
GOVERNOR'S HARBOUR/Governor's Harbour, Eleuthera I.	15 NPA	T E			XI XI XI	XI XI XI	>2008		XI	X	X X	

Station/Territory Station/Territoire Estación/Territorio	Rwy type Type de piste Tipo de pista	Function Fonction Función	ILS	L	DME	VOR	NDB	Coverage Couverture Cobertura	GNSS			Remarks Remarques Observaciones
									ABAS	GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12	13
MARSH HARBOUR/Marsh Harbour, Abaco I.	NINST						>2008		X		X	
NASSAU/Intl, New Providence I.	14 PA1 32 NPA 09 NPA 27 NPA	A/L T E E	II* D		XI XI XI	XI XI XI	 XI	200/45 400	X XI XI XI	X X X X	 X X X	
NORTH ELEUTHERA/North Eleuthera, Eleuthera I.	NINST								X			
TREASURE CAY/Treasure Cay, Abaco I.	14 NPA 32 NPA	T E			XI XI XI	XI XI XI			X X		X X X X	
WEST END/West End, Grand Bahama I.	11 NPA				X	X			XI		X	
BARBADOS												
BRIDGETOWN/Grantley Adams Intl.	09 PA1 27 NPA	A/L T E E	II* D		XI XI XI	XI XI XI	XI >2009 XI >2009 XI >2009	200/45 355	XI	X	X X X X	
BELIZE												
BELIZE/ Philip S.W. Goldson Intl.	07 PA1 25 NPA	A/L T E E	II* D (I)		XI XI XI	XI XI XI	XI >2015 XI >2015 XI >2015	200/45 50	X	X	X X X X	
BOLIVIA												
COCHABAMBA/Jorge Wilsterman	31 PA1	A/L E E	I D	XI	XI XI	XI XI	 XI >2017	100/45 100		X	X X	
LA PAZ/EI Atlo Intl.	10 PA1	A/L T E E	II* D (I)	XI	XI XI XI	XI XI XI	XI >2017 XI >2017 XI >2017 X	100/45 275		X	X X X	
RIBERALTA		E E			X	XI	 XI >2017	100/45 100			X X	
SANTA ANA		E					XI >2017	100			X	

Station/Territory Station/Territoire Estación/Territorio	Rwy type Type de piste Tipo de pista	Function Fonction Función	ILS	L	DME	VOR	NDB	Coverage Couverture Cobertura	GNSS			Remarks Remarques Observaciones
									ABAS	GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12	13
SANTA CRUZ/Viru Viru	15 NPA 33 PA1	A/L A/L T E E	I I	XI	XI XI XI	XI XI XI	XI >2017	200/45 200		X X		
SUCRE		E E			XI	XI	XI >2017	125/45 125			X X	
TARIJA/Oriel Lea Plaza	13 NPA	A/L E E			XI	XI XI	XI XI >2017	100 80			X X	
TRINIDAD/Tte. Av. Jorge Henrich Arauz	14 PA1 32 NPA	A/L A/L E E	IIX		XI	XI XI	XI >2017 XI >2017	180/45 80		X X	X X	
YACUIBA		E					XI >2017	100			X	
BRAZIL												
ABROLHOS		E					XI >2021	90				
ALDEIA	07 NPA 25 NPA	A/L A/L T E			XI XI	XI XI	XI >2012 XI >2012 XI >2012 XI	30				
ALTA FLORESTA	03 NPA 21 NPA	A/L A/L E E				XI XI XI	XI >2012 XI >2012 XI >2012	200/45 200				
AMAPA	07 NPA 25 NPA	A/L A/L E					XI >2019 XI >2019 XI >2019	180				
ARACAJU	11 NPA 29 NPA	A/L A/L E E			XI XI	XI XI XI	XI >2012 XI >2012 XI >2012	120/45 100	X X			
BAGE	06 NPA 24 NPA 32 NPA	A/L A/L A/L E E				XI XI XI	XI >2012 XI >2012 XI >2012 XI >2012	100/45 100				
BARREIRAS		E E				XI	XI >2012	200/45 200				
BAURU	14 NPA	A/L E					XI >2019 XI >2019	200				

Station/Territory Station/Territoire Estación/Territorio	Rwy type Type de piste Tipo de pista	Function Fonction Función	ILS	L	DME	VOR	NDB	Coverage Couverture Cobertura	GNSS			Remarks Remarques Observaciones	
									ABAS	GBAS	SBAS		
1	2	3	4	5	6	7	8	9	10	11	12	13	
BELEM/Val De Caes	02 NPA	A/L	ID	XI	XI	XI	XI >2019	200/45 150	X				
	06 PA1	A/L			XI	XI	XI >2019		X				
	20 NPA	A/L			XI	XI	XI >2019		X				
	24 NPA	A/L			XI	XI	XI >2019		X				
		T/E			XI	XI	XI >2019						
	E												
BELO HORIZONTE/Tancredo Neves Intl.	16 PA1	A/L	I	XI	XI	XI	XI >2019		X				
	34 NPA	A/L			XI	XI	X						
		T/E			XI	XI	X						
BOA VISTA/Boa Vista Intl.	08 PA1	A/L	ID		XI	XI	XI >2012	200/45 200	X				
	26 NPA	A/L				XI	XI >2012		X				
		E					XI >2012						
		E											
BONSUCESSO		E/T			XI	XI		200/45					
BRAGANCA		T			XI	XI		100/25					
		E			XI	XI		200/45					
BRASILIA/Brasilia Intl.	11L PA1	A/L	ID	XI	XI	XI	XI >2012	200/45 200	X				
	11R NPA	A/L			XI	XI	XI >2012		X				
	29 L NPA	A/L	XI	XI		X							
	29R PA1	A/L	ID	XI	XI	XI >2012	X						
		T		XI	XI	XI >2012							
		E		XI	XI	XI >2012							
	E												
CAMPINAS/Viracopos	15 PA1	A/L	I	XI	XI	XI	XI >2019	200/45	X				
	33 NPA	A/L			XI	XI			X				
		T			XI	XI							
		E			XI	XI							
CAMPO GRANDE/Campo Grande Intl.	06 PA1	A/L	ID	XI	XI	XI	XI >2019	200/45 200					
	24 NPA	A/L				XI	XI						XI >2019
		T				XI	XI						XI >2019
		E				XI	XI						XI >2019
		E											
CAMPOS	07 NPA	A/L					XI >2019	120					
	25 NPA	A/L					XI >2019						
		E					XI >2019						
CARAJÁS	10 NPA	A/L	ID		XI	XI	XI >2012	200/45 200					
	28 NPA	A/L				XI	XI >2012						
		E					XI >2012						
CARAUARI		E					XI >2019	120					
CARAVELAS	06 NPA	A/L				XI	XI >2012	200/66 130					
	18 NPA	A/L				XI	XI >2012						
	24 NPA	A/L				XI	XI >2012						
	36 NPA	A/L				XI	XI >2012						
		E				XI	XI >2012						
	E												
CAROLINA	29 NPA	A/L				XI	XI >2012	130/45 130					
		E				XI	XI >2012						
		E					XI >2012						

Station/Territory Station/Territoire Estación/Territorio	Rwy type Type de piste Tipo de pista	Function Fonction Función	ILS	L	DME	VOR	NDB	Coverage Couverture Cobertura	GNSS			Remarks Remarques Observaciones
									ABAS	GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12	13
CAXIAS	15 NPA 33 NPA	A/L A/L T E			XI XI XI XI	XI XI XI XI	XI >2012 XI >2012 XI >2012	200	X X			
CONGONHAS		E			XI	XI		200/45				
CORUMBÁ/Corumbá Intl.	09 NPA 27 NPA	A/L A/L T E					XI >2019 XI >2019 XI >2019 XI >2019	200/45 100				
CRUZEIRO DO SUL/Cruzeiro do Sul Intl.	10 NPA 28 NPA	A/L A/L E E			XI XI	XI XI	XI >2012 XI >2012 XI >2012	200/45 150				
CUIABÁ/Marechal Rondon	17 NPA 35 PA1	A/L A/L T E E	ID		XI XI XI	XI XI XI	XI >2012 XI >2012 XI >2012 XI >2012	200/45	X X			
CURITIBA/Afonso Pena Intl.	15 PA2 33 NPA 11 NPA 29 NPA	A/L A/L A/L A/L T E E	II		XI XI XI XI	XI XI XI XI	XI >2012 XI >2012 XI >2012 XI >2012 XI >2012	200/45	X X			
FLORIANÓPOLIS/ Hercílio Luz Intl.	14 PA1 32 NPA 03 NPA 21 NPA	A/L A/L A/L A/L T E E	I		XI XI XI XI	XI XI XI	XI >2012 XI >2012 XI >2012 XI >2012 XI >2012	200/45 150				
FORTALEZA/ Pinto Martins	13 NPA 31 NPA	A/L A/L T E E	I		XI XI XI XI	XI XI XI	XI >2019 XI >2019 XI >2019	200/45	X X			
FOZ DO IGUAÇU/Cataratas Intl.	14 PA1 32 NPA	A/L A/L T E	I		XI XI XI	XI XI XI	XI >2019 XI >2019	200/45				
GABRIEL	05 NPA 23 NPA	A/L A/L E E			XI XI	XI XI	XI >2012 XI >2012 XI >2012	200/45 200				
GUAJARÁ	35 NPA	A/L E					XI >2019 XI >2019	50				

Station/Territory Station/Territoire Estación/Territorio	Rwy type Type de piste Tipo de pista	Function Fonction Función	ILS	L	DME	VOR	NDB	Coverage Couverture Cobertura	GNSS			Remarks Remarques Observaciones
									ABAS	GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12	13
ILHEUS	11 NPA 29 NPA	A/L A/L E					XI >2019 XI >2019 XI >2019	95	X X		X	
IMPERATRIZ	07 NPA 25 NPA	A/L A/L E			XI XI	XI XI XI	XI >2012 XI >2012	200/45				
ITACOATIARA	14 NPA 32 NPA	A/L A/L E					XI >2019 XI >2019 XI >2019	125				
JACAREACANGA	08 NPA 26 NPA	A/L A/L E E			XI XI	XI XI XI	XI >2012 XI >2012 XI >2012	135/45 75				
LAGES	16 NPA 34 NPA	A/L A/L E					XI >2019 XI >2019 XI >2019	120	X X			
LAPA	18 NPA 36 NPA	A/L A/L E E				XI XI XI	XI >2012 XI >2012 XI >2012	200/45 200				
LONDRINA	13 NPA 31 NPA	A/L E			XI XI XI	XI XI XI	XI >2012 XI >2012	200/45	X X			
LUZIANIA		T T			X	X	XI >2012					
MACAE	06 NPA 24 NPA	A/L A/L E			XI XI XI	XI XI XI	XI >2012 XI >2012	120/25	X X			
MACAPA/Macapa Intl.	08 NPA 26 NPA	A/L A/L E E			XI XI XI	XI XI XI	XI >2012 XI >2012 XI >2012	90/25 50	X X			
MACEIO	12 PAI1 30 NPA	A/L A/L E E	ID		XI XI	XI XI	XI >2012 XI >2012 XI >2012	150/45 70	X X			
MANAUS/Eduardo Gomes Intl.	10 PA1 28 NPA	A/L A/L T E	ID		XI XI XI XI	XI XI XI XI	XI >2014 XI >2014 XI >2014	200/45	X X			
MARICA		T E			XI XI	XI XI		230/45				
MONTES CLAROS	30 NPA	A/L E					XI >2019 XI >2019	100				

Station/Territory Station/Territoire Estación/Territorio	Rwy type Type de piste Tipo de pista	Function Fonction Función	ILS	L	DME	VOR	NDB	Coverage Couverture Cobertura	GNSS			Remarks Remarques Observaciones
									ABAS	GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12	13
MOSSORO	05 NPA 23 NPA	A/L A/L E E			XI	XI XI XI	XI >2012 XI >2012 XI >2012	200/45 90				
MOZ		E					XI >2012	90				
NATAL/Augusto Severo Intl.	16 L PA1 16R NPA 34L NPA 34 R NPA 12 NPA 30 NPA	A/L A/L A/L A/L A/L A/L	I		XI XI	XI XI	XI >2012 XI >2012		X X X X X X			
		T E E			XI XI	XI XI	XI >2012	200/45				
PALMAS	14 NPA 32 NPA	A/L A/L E			XI XI XI XI	XI XI XI XI	XI >2012		X X X			
		E					XI >2012	150				
PARANAGUA		E					XI >2019	70				
PARNAIBA	09 NPA 27 NPA	A/L A/L E					XI >2019 XI >2019 XI >2019	30				
PAULO AFONSO	32 NPA	A/L E E				XI XI	XI >2012 XI >2012	200/45 120				
PELOTAS	06 NPA 24 NPA	A/L A/L E E				XI XI XI	XI >2012 XI >2012 XI >2012	130/45 130				
PETROLINA	13 NPA 31 NPA	A/L A/L E E			XI XI XI	XI XI XI	XI >2012 XI >2012 XI >2012	200/45 150				
PIRAI		E E			XI	XI	XI >2012	200/45 150				
POCOS	09 NPA 27 NPA	A/L A/L E					XI >2019 XI >2019 XI >2019	90				
PONTA PORA/Ponta Pora Intl.	03 NPA 21 NPA	A/L A/L E					XI >2019 XI >2019 XI >2019	70				
PORTO ALEGRE/Salgado Filho Intl.	11 PA1 29 NPA	A/L A/L T E E	I	XI XI	XI XI XI XI	XI XI XI XI	XI >2019 XI >2019 XI >2019 XI >2019	160/45 160	X X			

Station/Territory Station/Territoire Estación/Territorio	Rwy type Type de piste Tipo de pista	Function Fonction Función	ILS	L	DME	VOR	NDB	Coverage Couverture Cobertura	GNSS			Remarks Remarques Observaciones
									ABAS	GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12	13
PORTO	05 NPA 23 NPA	A/L A/L T E			XI XI XI	XI XI XI XI	XI >2012 XI >2012	100 200/45				
PORTO VELHO	19 PA1 01 NPA	A/L A/L E	ID		XI XI XI	XI XI XI	XI >2019	200/45	X X			
RECIFE /Guararapes	18 PA1 36 NPA	A/L A/L T E E	ID		 XI XI XI	XI XI XI	XI >2019 XI >2019	200/45 200	X X			
REDE		T E			XI XI	XI XI		200/45				
RIO BRANCO	06 PA1 24 NPA	A/L A/L E E	ID		XI XI XI	XI XI XI	XI >2012 XI >2012 XI >2012	200/45 100				
RIO DE JANEIRO/Galeão Antônio Carlos Jobim Intl.	10 PA2 28 PA1 15 PA1 33 NINST	A/L A/L A/L	II I I	XI XI XI	 XI	 XI XI	XI >2014 XI >2014 XI >2014					
RONDONIA		E					XI >2019	50				
SALVADOR/Deputado Luis Eduardo Magalhaes	10 PA1 28 NPA 17 NPA	A/L A/L A/L T E	I ID	XI	XI XI	XI XI XI XI	XI >2019 XI >2019 XI >2019 XI >2019	200	X X			
SANTA CRUZ	05 NPA 23 NPA	A/L A/L T E			 XI XI XI	XI XI XI XI	XI >2012	125/45				
SANTANA		T E			XI XI	XI XI		100/45				
SANTAREM/Santarem Intl.	10 NPA 28 NPA	A/L A/L T E	ID		XI XI XI XI	XI XI XI XI	XI >2012 XI >2012 XI >2012 XI >2012	200/45				
SAO LUIS/ Marechal Cunha Machado	06 PA1 09 NPA 24 NPA 27 NPA	A/L A/L A/L A/L T/E	ID	XI	XI XI	XI XI XI XI	XI >2012 XI >2012 XI >2012 XI >2012	150/30				
SAO PAULO/Guarulhos Intl.	09R PA2 27L PA1 09L PA1 27R PA1	A/L A/L A/L A/L	II I I I	XI XI XI XI	XI XI XI XI	XI XI XI XI			X X X X			

Station/Territory Station/Territoire Estación/Territorio	Rwy type Type de piste Tipo de pista	Function Fonction Función	ILS	L	DME	VOR	NDB	Coverage Couverture Cobertura	GNSS			Remarks Remarques Observaciones
									ABAS	GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12	13
SOROCABA		T E			XI XI	XI XI		200/45				
TABATINGA/Tabatinga Intl.	12 NPA 30 NPA	A/L A/L T					XI >2019 XI >2019 XI >2019	200				
TEFE	15 NPA 33 NPA	A/L A/L E E			XI	XI XI XI	XI >2012 XI >2012 XI >2012	200/45 50				
TRES MARIAS		E			XI	XI		115/20				
UBERABA	17 NPA 35 NPA	A/L A/L E					XI >2019 XI >2019 XI >2019	130				
URUBUPUNGA		E					XI >2014	80				
URUBURETAMA		E					XI >2014	80				
URUGUAIANA/ Rubem Berta Intl.	27 NPA	A/L T					XI >2019 XI >2019	80				
VITORIA	23 NPA 05 NPA	A/L A/L E			XI XI	XI XI	XI >2012	200/45	X X			
CAYMAN ISLANDS (United Kingdom)												
CAYMAN BRAC/Gerrard Smith Intl.	09 NPA	A/L					XI >2013	200/45	X		X	
GEORGETOWN/Owen Roberts Intl.	08 PA1 26 NPA	A/L A/L E E			XI XI	XI XI	XI >2010 XI >2010	200/45 350	XI	X	X X X	
CHILE												
ANTOFAGASTA/Cerro Moreno	01NPA 19NPA	A/L A/L T/E	<2009	XI	XI XI XI	XI XI XI		200	X X			RNP APCH RNP APCH
ARICA/Chaculluta	02 NPA 20 NINST	A/L T E		XI	XI XI XI	XI XI XI		200	<2011			
ATACAMA/Desierto de Atacama	17 PA1 35 NPA	A/L A/L E	ID(I)		XI XI XI	XI XI XI		200/45				
BALMACEDA	09 NPA 27 NPA	A/L A/L E E			XI XI XI	XI XI XI	XI >2018	200 400	X X			RNP APCH RNP APCH

Station/Territory Station/Territoire Estación/Territorio	Rwy type Type de piste Tipo de pista	Function Fonction Función	ILS	L	DME	VOR	NDB	Coverage Couverture Cobertura	GNSS			Remarks Remarques Observaciones
									ABAS	GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12	13
CALAMA/EL LOA	10 NPA 28 NPA	A/L A/L T/E E			XI XI XI	XI XI XI		70/250 70/250 XI >2018 400	<2011 <2011			
CALDERA		E					XI	350				
CHILLAN		E E			XI	XI		200 400				
CONCEPCION/Carriel Sur	02 PA1 20 NPA	A/L A/L T E E	I(I)	XI	XI XI XI XI	XI XI XI XI		XI >2018 200 400				
COPIAPO	17PA1 35NPA	A/L A/L T E	ID(I)		XI XI XI XI	XI XI XI XI			<2009 <2009			
CURICO		E			XI	XI		200				
DOMINGO		E			XI	XI		200/45				
ISLA DE PASCUA/Matavery	10 PA1 28 NPA	A/L A/L E E	ID(I)		XI XI XI	XI XI XI	XI>2009 XI>2009 XI>2009	200/45 300				
ISLA REY JORGE	11 NPA 29 NPA	A/L A/L T E			XI XI XI	XI XI XI	XI XI XI	200 400				
IQUIQUE/Gral. Diego Aracena	19 PA1 01 NINST	A/L E	ID(I)	XI	XI	XI	XI >2012 XI >2012	200	X			RNP APCH
PUERTO AGUIRRE		E			XI	XI		200				
PUERTO MONTT/EI Tepual	17 NPA 35 PA1	A/L A/L T E E	II*D(I)	XI*	XI XI XI XI	XI XI XI XI		25 200 400	X X			RNP APCH *LOM/LMM-RNP APCH
PUERTO NATALES		E			XI	XI		200/45				
PUNTA ARENAS/Presidente Carlos Ibañez del Campo	07 NPA 25 PA1 12 NPA 30 NPA 01 NINST 19 NPA	A/L A/L A/L A/L A/L T E E	I D (I)	XI	XI XI XI XI	XI XI XI XI		25	X X X X			RNP APCH RNP APCH RNP APCH RNP APCH
							XI >2009	200/45 400				
QUINTERO		E					XI	300				

Station/Territory Station/Territoire Estación/Territorio	Rwy type Type de piste Tipo de pista	Function Fonction Función	ILS	L	DME	VOR	NDB	Coverage Couverture Cobertura	GNSS			Remarks Remarques Observaciones
									ABAS	GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12	13
SANTIAGO/Arturo Merino Benitez	17L PA3 35R NPA 17R PA1 35L NPA	A/L A/L A/L A/L T E	III (I) ID (I)	XI	XI XI XI XI XI XI	XI XI XI XI XI XI	XI XI XI	200/45* 200/45** 25 200/45	X			RNP APCH * AMB **PDH
SANTO DOMINGO		E					XI	400				
TABON		E			XI	XI		200/45				
TEMUCO/Maquehue	06 NPA 24 NPA	A/L A/L E E		XI	XI XI XI	XI XI XI	 XI >2018	25 200 400				
TONGOY		E E			XI	XI	 XI	200 400				
VALDIVIA	17 NPA 35 NPA	A/L A/L E E			XI XI XI	XI XI XI	 XI >2018	200	<2012 <2012			
VENTANAS		E			XI	XI		200/45				
COLOMBIA												
ARAUCA		E			XI	XI		200/45			X	
ABEJORRAL		E					XI >2000	150			X	
AMBALEMA		E					XI >2007	150			X	
BARRANCA BERMEJA		E E			XI	XI	 XI >1994	200/45 150			X X	
BARRANQUILLA/Ernesto Cortissoz	04 PA1 22 NPA	A/L A/L T/E E	I (I)	XI	XI XI XI	XI XI XI	XI XI >1993	200/45 150		X	X	
SANTAFE DE BOGOTA/Eldorado	13 RPA2 31 LNINST 13 LPA2 31 RNINST	A/L A/L T E	II (I) II	XI XI	XI XI XI XI	XI XI XI XI	XI XI XI XI	200/45 180 200/45 180		X X	X	
BUCARAMANGA		E E			XI	XI	 XI >2019	200/45 150			X	
BUENAVENTURA		E			XI	XI	 XI >2005	200/45			X	
BUVIS		E			XI	XI		200/45			X	

Station/Territory Station/Territoire Estación/Territorio	Rwy type Type de piste Tipo de pista	Function Fonction Función	ILS	L	DME	VOR	NDB	Coverage Couverture Cobertura	GNSS			Remarks Remarques Observaciones
									ABAS	GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12	13
CALI/Alfonso Bonilla Aragón	01 PA1 19 NPA	A/L A/L	I (I)	XI	XI XI	XI XI	XI >2008	200/45		X	X	
CARTAGENA/Rafael Nuñez	36 NPA 18 NINST	A/L T/E			XI XI	XI XI	XI >2019	200/45				
CUCUTA/Camilo Daza	15 PA1 33 NINST 02 NINST 20 NINST	A/L T/E	I (I)	XI	XI XI	XI XI		200/45		X	X	
EL BANCO		E			XI	XI		200/45			X	
GIRARDOT		E			XI	XI		240/45			X	
LA MINA		E			XI	XI		200/45			X	
LETICIA/Alfredo Vasquez Cobo	02 NPA 20 NPA	A/L A/L T/E E			XI XI XI	XI XI XI	XI >2018 XI >2018 XI >2018	200/45 300			X X X	
LOS CEDROS		E			XI	XI		200/45			X	
MAGANGUE		E			XI	XI		200/45			X	
MARIQUITA		E			XI	XI		200/45				
MERCADERES		E			XI	XI	XI >1997	200/45			X	
MITU		E E			XI	XI	XI >2008	200/45 200			X X	
MONTERIA		E			XI	XI		200/45			X	
OTU		E			XI	XI		200/45				
PEREIRA		E E			XI	XI	XI >1994	200/45 100			X X	
PUERTO LEGUIZAMO		E			XI	XI		200/45			X	
RIO HACHA		E					XI >2003	150			X	
RIO NEGRO/Jose Maria Cordova	36 PA2 18 NINST	A/L T/E	II	XI	XI XI	XI XI		200/45		X	X X	
SAN ANDRES /Gustavo Rojas Pinilla	06 NPA 24 NINST	A/L T/E E			XI XI	XI XI	XI XI >2019	200/45 200			X X	
SAN JOSE DEL GUAVIARE		E E			XI	XI	XI >1997	200/45 160			X X	
SANTA MARTHA		E			XI	XI	XI >2006	200/45			X	

Station/Territory Station/Territoire Estación/Territorio	Rwy type Type de piste Tipo de pista	Function Fonction Función	ILS	L	DME	VOR	NDB	Coverage Couverture Cobertura	GNSS			Remarks Remarques Observaciones
									ABAS	GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12	13
TULUA		E				XI	XI >1988	200/45			X	
TUMACO		E			XI	XI	XI >2007	200/45			X	
VILLAVICENCIO		E			XI	XI		200/45			X	
		E					XI >2008	150			X	
ZIPAQUIRA		E					XI 2004	150			X	
COSTA RICA												
ALAJUELA/Juan Santamaria Intl.	07 PA1	A/L	II*	X	XI	XI				X		
		T			XI	XI					X	
	25NPA	E			X	X		95/45			X	
		A/L			XI	XI			X		X	
BARRA DE COLORADO		E					XI >2015	100			X	
COTO47		E					XI >2015	100			X	
CHILES		E					XI >2015	100			X	
FIORA		E					XI >2015	100			X	
HORCONES		E					>2015	100			X	
LIBERIA/Daniel Oduber Intl.	07 PA1	A/L	II*		XI	XI				X		
	25 NPA	A/L							X	X		
		T			XI	XI					X	
		E			X	X		200/45			X	
LIMON/Limón Intl.	NINST											
		T			XI	XI					X	
		E			XI	XI		125/45			X	
PARRITA		E					XI >2015	100			X	
PAVAS/Tobias Bolaños Intl.	NINST										X	
CUBA												
CAYO COCO/ Jardines del Rey Intl.	08 NPA	A/L			XI	XI	XI >2015-2020		X		X	
	26 NPA	A/L			XI	XI			X		X	
		T			XI	XI	XI >2015-2020					
CAMAGUEY/Ignacio Agramonte Intl.	07 NPA	A/L		XI	XI	XI	XI >2015-2020		X		X	
	25 NPA	A/L		XI	XI	XI	XI >2015-2020		X		X	
		T			XI	XI	XI >2015-2020					
CAYABO		E					XI >2010-2015	100				

Station/Territory Station/Territoire Estación/Territorio	Rwy type Type de piste Tipo de pista	Function Fonction Función	ILS	L	DME	VOR	NDB	Coverage Couverture Cobertura	GNSS			Remarks Remarques Observaciones
									ABAS	GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12	13
CAYO LARGO DEL SUR/Vilo Acuña Intl.	12 NPA	A/L			XI	XI	XI >2015-2020	170/45 100	X		X	
	30 NPA	A/L T			XI XI	XI XI	XI >2015-2020		X		X	
		E E			XI	XI	XI >2015-2020					
CIEGO DE AVILA		E	ID		XI	XI		170/45				
HABANA/Jose Martí Intl.	06 PA1	A/L			XI	XI	XI >2015-2020		X		X	
	24 NPA	A/L T			XI XI	XI XI			X	X	X	
HOLGUIN/Frank País Intl.	05 NPA	A/L	XI		X	XI	XI > AFTER 2020	170/45	X		X	
	23 NPA	A/L T			X X	XI XI	XI > AFTER 2020		X		X	
		E			X	XI						
MANZANILLO		E			XI	XI		170/45				
MOA		E					XI > 2015-2020	100				
NUEVA GERONA		E					XI > 2015-2020	100				
NUEVAS		E			X	XI		170/45				
SANTIAGO DE CUBA/Antonio Maceo Intl.	09 NPA	A/L			XI	XI	XI >2015-2020		X		X	
	27 NPA	A/L					XI >2015-2020		X		X	
		T			XI	XI	XI >2015-2020	85/45				
VARADERO/Juan Gualberto Gómez Intl.		E	ID		XI	XI						
	06 PA1	A/L			XI	XI	XI >2015-2020		X		X	
	24 NPA	T			XI XI	XI XI	XI >2015-2020		X		X	
		E			XI	XI		170/45				
ZARAGO		E					XI >2010-2015	100				
DOMINICA												
MELVILLE HALL/Dominica	NINST	A/L			XI		XI		X		X	
ROSEAU/Canefield	NINST	A/L E					XI XI				X	

Station/Territory Station/Territoire Estación/Territorio	Rwy type Type de piste Tipo de pista	Function Fonction Función	ILS	L	DME	VOR	NDB	Coverage Couverture Cobertura	GNSS			Remarks Remarques Observaciones
									ABAS	GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12	13
DOMINICAN REPUBLIC												
BARAHONA/María Montés Intl.	12 NPA	A/L			XI	XI	>2008		XI		X	
CABO ROJO		E E			XI	XI		200/45 210			X X	
HERRERA/Herrera Intl.	01 NPA 19 NPA	A/L A/L				XI	> 2008		XI XI		X X	
LA ROMANA/La Romana Intl.	NINST						XI		XI		X	
PUERTO PLATA/Gregorio Luperon Intl.	08 NPA 26 NPA	A/L A/L T E			XI	XI XI XI	XI		XI XI	X X		X X
PUNTA CANA/Punta Cana Intl.	09 NPA	A/L			X	XI	XI		XI		X	
PUNTA CAUCEDO		T E E			XI XI	XI XI	> 2008 > 2008	200/45 365			X X X	
SANTIAGO/Cibao Intl.	NINST								XI		X	
SANTO DOMINGO/De las Américas Intl.	17 PA1 35 NPA	A/L	II* D (I)		XI	XI	> 2008		XI XI	X X		
ECUADOR												
ASCAZUBI		T					XI	40			X	
CHONGON		T					XI	40			X	
CONDORCOCHA		T E			XI XI	XI XI		200/45			X X	
CUENCA/Tablon		E T			XI XI	XI XI		200/45			X X	
CUENCA/Huajibamba							XI	50			x	
ESMERALDAS/Gral. Rivadeneira		T E			XI	XI	XI	140/45 350			X X	
GUAYAQUIL/Jose Joaquin de Olmedo Intl.	03 NPA 21 PA1	A/L T E	II*D	XI	XI XI XI	XI XI XI				X		X X
LATACUNGA/Cotopaxi Intl	18 PA1 36NPA	A/L	ID		XI	XI	XI	30		X		
MACHALA		E			XI	XI		140/25			X	
MANTA/Eloy Alfaro Intl	23 PA1	A/L T	I D		XI XI	XI XI		60/25		X		
PALMA		T					XI	40			X	

Station/Territory Station/Territoire Estación/Territorio	Rwy type Type de piste Tipo de pista	Function Fonction Función	ILS	L	DME	VOR	NDB	Coverage Couverture Cobertura	GNSS			Remarks Remarques Observaciones
									ABAS	GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12	13
QUITO/Mariscal Sucre Intl	17 NPA 35 PA1	A/L	II*D	XI	XI	XI				X X		
SALINAS	31PA1 03NPA	A/L E	ID		XI	XI		100/25				
EL SALVADOR												
Aeropuerto Internacional de El Salvador/ La Paz	07 PA1 25 NPA	A/L T E E	II*	X	XI XI XI	XI XI XI			X	X X		
							X	200/45 235			✖ ✖ ✖	
Aeropuerto Internacional de Ilopango/ San Salvador	15 NPA	A/L T E		XI	XI XI XI	XI XI XI			X	X	✖ ✖	
FRENCH ANTILLES (France)												
FORT-DE-FRANCE/Le Lamentin, Martinique	09 PA1 27 NPA	A/L A/L T E	II* D		XI XI XI	XI XI XI			XI	X X		
							XI >2018	200/45			X X	
POINTE-A-PITRE/Le Raizet, Guadeloupe	11 PA1 29 NPA	A/L T E E	II* D		XI XI XI	XI XI XI			X X	X X		
							XI >2018 XI >2018	200/45 250			X X X	
SAINT-BARTHELEMY/ Saint-Barthelemy, Guadeloupe	NINST								X		X	
SAINT-MARTIN/Grand Case, Guadeloupe	NINST								X		X	
FRENCH GUIANA (France)												
CAYENNE/Rochambeau	08 PA1 26 NPA	A/L A/L E E	II* D (I)		XI XI XI	XI XI XI	XI			X X		
							XI	200/45 300			X X	
GRENADA												
CARRIACOU/Lauriston Intl.	NINST								X		X	
SAINT GEORGES/Point Salines	10 PA1 28 NPA	A/L T E	II*		XI	XI XI XI	XI >2018		X	X X		
								200/45			X X	

Station/Territory Station/Territoire Estación/Territorio	Rwy type Type de piste Tipo de pista	Function Fonction Función	ILS	L	DME	VOR	NDB	Coverage Couverture Cobertura	GNSS			Remarks Remarques Observaciones
									ABAS	GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12	13
GUATEMALA												
FLORES/Aeropuerto Mundo Maya Intl.	10 PA1	A/L	I D		XI	XI	X, >2018	75/45	X	X		
	28 NPA	E			XI	XI		50				
		A/L			XI	XI						
GUATEMALA/La Aurora	01 PA1	A/L	I D		XI	XI	XI> 2018	110/45	X	X	X	
	19 NPA	A/L			XI	XI		100				
		T			XI	XI						
POPTUN	NINST	T					XI>2018	40				
PUERTO BARRIOS/Puerto Barrios	12 NPA	T			XI	XI	XI > 2018	100/45				
	30 NPA	T			XI	XI		50				
		E			XI	XI						
RABINAL		E			XI	XI		200/45				
RETALHULEU	NINST	T					XI>2018	25				
SAN JOSE/San Jose	15 NPA	A/L			XI	XI	XI>2018 XI>2018	50				
	33 NPA	A/L			XI	XI						
		T			XI	XI						
GUYANA												
TIMEHRI/Cheddi Jagan Intl.	06 PA1	A/L			X	XI	X	200/45		X	X	
		T			X	XI						
		E			X	XI						
HAITI												
CAP HAITIEN/Cap. Haitien Intl.	NINST				XI	XI			X		X	
PORT-AU-PRINCE/Port-au-Prince Intl.	09 PA1	A/L	II* D		XI	XI			X	X	X	
	27 NPA	A/L			XI	XI						
		T			XI	XI						
OBLEON		E			XI	XI		200/45			X	
HONDURAS												
COPAN RUINAS		E					X	55			X	
LA CEIBA/Golosón Intl.	07 NPA	A/L			XI	XI	XI	200/45	X	X	X	
		E			XI	XI	110					
	25 NPA	A/L			XI	XI	XI					
ROATAN	07NPA	A/L			XI	XI	XI XI	60	XI	X	X	
		T			XI	XI		180/25				
	25NPA	E			XI	XI						
		A/L			XI	XI			XI			

Station/Territory Station/Territoire Estación/Territorio	Rwy type Type de piste Tipo de pista	Function Fonction Función	ILS	L	DME	VOR	NDB	Coverage Couverture Cobertura	GNSS			Remarks Remarques Observaciones
									ABAS	GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12	13
SAN PEDRO SULA/La Mesa Intl.	04 NPA 22 PA1	A/L A/L T E E	I D		XI	XI XI XI	XI XI	200/45 300	XI XI	X X	X X	
TEGUCIGALPA/Toncontin Intl.	02 PA1 20 NPA	A/L A/L T E E	I		X XI XI	X XI XI	>2008 >2008	300	XI XI	X X	X X	NDB decommissioned
JAMAICA												
KINGSTON/Norman Manley Intl.	12 PA1 30 NPA	A/L T E E	II* D		XI XI XI	XI XI XI	 >2006 X >2006	200/45 400	XI	X X	X X X	NDB decommissioned NDB decommissioned
MONTEGO BAY/Sangster Intl.	07 PA1 25 NPA	A/L T E E	II* D		XI XI XI	XI XI XI	>2008 >2008 X >2008	200/45 325	XI	X X	X X X	
MEXICO												
ACAPULCO/Gral. Juan N. Alvarez Intl.	10 PA1 28 PA1	A/L A/L T E E	II* II*	X X	XI XI XI	XI XI XI	 X	200/45		X X	X X X	
AGUASCALIENTES/ Jesus Teran	17 NPA 35 NPA	A/L E A/L			XI XI	XI XI					X X	
APAN		T E			XI XI	XI XI					X X	
BAHIAS DE HUATULCO/Bahías de Huatulco	07 NPA 25 NPA	A/L E			XI XI	XI XI					X X X	
CABO SAN LUCAS	11 NPA 29 NPA	A/L A/L			XI XI	XI XI						
CAMPECHE/Ing. Alberto Acuña Ongay	16 NPA 24 NPA	A/L A/L			XI XI	XI XI					X X	
CANCUN/Cancun Intl.	12 PA1 30 NPA	A/L A/L T E	II* D (I)		XI XI XI	XI XI XI		135/45		X X	X X	
CHETUMAL/Chetumal Intl.	10 NPA 28 NPA	A/L A/L E			XI XI XI	XI XI XI					X X X	

Station/Territory Station/Territoire Estación/Territorio	Rwy type Type de piste Tipo de pista	Function Fonction Función	ILS	L	DME	VOR	NDB	Coverage Couverture Cobertura	GNSS			Remarks Remarques Observaciones
									ABAS	GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12	13
CHIHUAHUA/Gral. Roberto Fierro Villalobos Intl.	18L NP 36R PA1	A/L A/L T E	II* D		XI XI XI	XI XI XI	XI XI XI			X X	 X X	
CHICHEN ITZA	10 NPA 28 NPA	A/L A/L			XI XI	XI XI						
CHOIX		E					XI				X	
CIUDAD JUAREZ/Abraham González Intl.	03 NPA 21 NPA	A/L A/L T E			XI XI XI XI	XI XI XI XI					X X X X	
CIUDAD OBREGON	13 NPA 31 NPA	A/L E A/L			XI XI XI	XI XI XI		70/45			X	
CIUDAD VICTORIA	15 NPA 33 NPA	A/L E A/L			XI XI XI	XI XI XI		80/45			X	
COLIMA	07 NPA 25 NPA	A/L E A/L			XI XI XI	XI XI XI					X	
CONCEPCION DEL ORO		E			XI	XI					X	
COZUMEL/Cozumel Intl.	11 PA1 29 NPA	A/L A/L T E E	II*		XI XI XI	XI XI XI	XI XI XI			X X	 X X X	
CUAUTLA		T E			XI XI	XI XI					X X	
CUERNAVACA	02 NPA 20 NPA	A/L A/L					XI XI					
CULIACAN/Fidel Bachigualato	02 NPA 20 NPA	A/L E A/L			XI XI XI	XI XI XI					X	
DELICIAS		T E			XI	XI					X	
DURANGO/Pte. Guadalupe Victoria Intl.	03 NPA 21 NPA	A/L A/L E			XI XI XI	XI XI XI		145/45			X X	
ENSENADA/ Alberto L. Salinas	11 NPA 29 NPA	A/L A/L					XI XI					
GUADALAJARA/Miguel Hidalgo Costilla Intl.	10 PA1 28 PA1	A/L A/L T E	II* II*	XI	XI XI XI	XI XI XI		125/45		X X	 X X	

Station/Territory Station/Territoire Estación/Territorio	Rwy type Type de piste Tipo de pista	Function Fonction Función	ILS	L	DME	VOR	NDB	Coverage Couverture Cobertura	GNSS			Remarks Remarques Observaciones
									ABAS	GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12	13
GUAYMAS/Gral. José María Yañez Intl.	02 NPA 20 NPA	A/L A/L					XI XI				X X	
GUERRERO NEGRO		E					XI				X	
HERMOSILLO/Gral. I. Pesqueira García Intl.	05 NPA 23 NPA	A/L A/L T E			XI XI XI XI	XI XI XI XI		105/45			X X X X	
IXTAPA - ZIHUATANEJO/ Ixtapa-Zihuatanejo Intl.	08 NPA 26 NPA	A/L E A/L			XI XI XI	XI XI XI		105/45			X	
IXTEPEC	NPA	A/L			XI	XI						
LA PAZ/Gral. Manuel Marques de León Intl.	18 PA1 36 NPA	A/L A/L T E	II*		XI XI XI XI	XI XI XI XI		135/45		X X	X X	
LEON/ Guanajuato	13 NPA 31 NPA	A/L A/L T E			XI XI	XI XI					X	
LORETO/Loreto Intl.	16 NPA 34 NPA	A/L E A/L			XI XI XI	XI XI XI					X X X	
LOS MOCHIS	09 NPA 27 NPA	A/L A/L E E			XI XI XI XI	XI XI XI XI	X	120/45 120			X X X X	
MANZANILLO/Playa de Oro Intl.	10 NPA 28 NPA	A/L A/L E			XI XI X	XI XI X					X X	
MATAMOROS/Intl.	15 NPA 33 NPA	A/L A/L T E			XI XI XI XI	XI XI XI XI					X X X X	
MAZATLAN/Gral. Rafael Buelna Intl.	08 NPA 26 PA1	A/L A/L T E	II* D		XI XI XI XI	XI XI XI XI		200/45		X X	X X	
MERIDA/Lic. Manuel Crescencio Rejón Intl.	10 PA1 28 NPA	A/L A/L T E E	II*		XI XI XI XI XI	XI XI XI XI XI	XI			X X	X X X	
MEXICALI/Gral. Rodolfo Sanchez Taboada Intl.	10 NPA 28 NPA	A/L A/L T E			XI XI XI XI	XI XI XI XI		70/45			X X X X	

Station/Territory Station/Territoire Estación/Territorio	Rwy type Type de piste Tipo de pista	Function Fonction Función	ILS	L	DME	VOR	NDB	Coverage Couverture Cobertura	GNSS			Remarks Remarques Observaciones	
									ABAS	GBAS	SBAS		
1	2	3	4	5	6	7	8	9	10	11	12	13	
MEXICO/Lic. Benito Juárez Intl.	05R PA1 23L PA1	A/L A/L T E	II* D II* D		XI XI XI	XI XI XI	XI	 60/45	X X	X X	 X X		
MINATITLAN	01 NPA 19 NPA	A/L A/L E			XI XI XI	XI XI XI		 70/45			 X X X		
MONCLOVA/Venustiano Carranza	06R NPA 24L NPA 06L NPA 24R NPA	A/L A/L A/L A/L E			XI XI XI XI XI	XI XI XI XI XI						 X	
MONTERREY/Aeropuerto Del Norte Intl.	02 NPA 11 NPA 20 NPA 29 NPA	A/L A/L A/L A/L T E			XI XI XI XI XI	XI XI XI XI XI						 X X X X X	
MONTERREY/Gral. Mariano Escobedo Intl.	11 NPA 16 NPA 29 PA1 34 NPA	A/L A/L A/L T E A/L	II* D		XI XI XI	XI XI XI XI		 80/45		X X	 X	 X X X	
MORELIA/Gral. Francisco J. Mujica Intl.	05 NPA 23 NPA	A/L A/L E			XI XI XI	XI XI XI					 X X X		
NAUTLA		E E			XI	XI		200/45 400			 X X		
NUEVO LAREDO/Quetzatcoatl Intl.	14 NPA 32 NPA	A/L A/L T E			XI XI XI	XI XI XI		 60/45	X X		 X X X X		
OAXACA/ Xoxocotlan	01 NPA 19 NPA	A/L A/L T E			XI XI XI XI	XI XI XI XI		 110/45			 X X X		
OTUMBA		T E			XI XI	XI XI					 X X		
PACHUCA		T E			XI XI	XI XI		 70/45			 X X		
PIEDRAS NEGRAS	12 NPA 30 NPA	A/L A/L			XI XI	XI XI							
POZA RICA/ Tajin	08 NPA 26 NPA	A/L A/L E			XI XI XI	XI XI XI		 200/45			 X X X		

Station/Territory Station/Territoire Estación/Territorio	Rwy type Type de piste Tipo de pista	Function Fonction Función	ILS	L	DME	VOR	NDB	Coverage Couverture Cobertura	GNSS			Remarks Remarques Observaciones
									ABAS	GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12	13
PUEBLA/ Hermanos Serdan	17 NPA 35 NPA	A/L A/L E T			XI XI XI	XI XI XI					X	
PUERTO ESCONDIDO	09 NPA 27 NPA	A/L A/L E			XI XI XI	XI XI XI					X	
PUERTO PEÑASCO	03 NINST 11 NINST 21 NINST 29 NINST	A/L E A/L A/L A/L			XI	XI		105/45			X	
PUERTO VALLARTA/Lic. Gustavo Diaz Ordaz Intl.	04 PA1 22 NPA	A/L A/L T E	II* D		XI XI XI	XI XI XI		135/45		X X	X X	
QUERETARO	09 NPA 27 NPA	A/L A/L E			XI XI XI	XI XI XI		200/45			X	
REYNOSA/Gral. Lucio Blanco Intl.	13 NPA 31 NPA	A/L A/L T E			XI XI XI XI	XI XI XI XI		135/45			X X X X	
SALTILLO	17 PA1 35 NPA	A/L A/L E	I'D		XI XI XI	XI XI XI					X	
SAN CRISTOBAL	11 NPA 29 NPA	A/L A/L			XI XI	XI XI						
SAN FELIPE	13 NINST 31 NINST	A/L A/L										
SAN JOSE DEL CABO/San Jose Del Cabo Intl.	16 NPA 34 NPA	A/L A/L E			XI XI XI	XI XI XI					X X X	
SAN LUIS POTOSI/ Ponciano Arriaga	14 PA1 32 NPA	A/L A/L E	II*		XI XI XI	XI XI XI					X	
SAN MATEO		T			XI	XI					X	
SAN QUINTIN		E			XI	XI					X	
SANTA LUCIA		T E			XI XI	XI XI						
SANTA ROSALIA		E					XI				X	
TAMPICO/Gral. Francisco Javier Mina Intl.	13 PA1 31 NPA	A/L A/L T E	II* D (I)		XI XI XI XI	XI XI XI XI	XI	200/45		X X	X X	

Station/Territory Station/Territoire Estación/Territorio	Rwy type Type de piste Tipo de pista	Function Fonction Función	ILS	L	DME	VOR	NDB	Coverage Couverture Cobertura	GNSS			Remarks Remarques Observaciones
									ABAS	GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12	13
TAMUIN		E			XI	XI		75/45			X	
TAPACHULA/Tapachula Intl.	05 NPA 23 NPA	A/L A/L E			XI XI XI	XI XI XI		185/45			X X X	
TEQUESQUITENGO		T E			XI XI	XI XI		100/45			X X	
TIJUANA/Gral. Abelardo L. Rodriguez Intl.	09 PA1 27 NPA	A/L A/L T E	II* D (I)		XI XI XI XI	XI XI XI XI		50/45		X X	X X	
TOLUCA/Lic. Adolfo Lopez Matos	15 PA1 33 NPA	A/L A/L E	II D (I)		XI XI XI	XI XI XI			X X		X X X	
TORREON/Torreon Intl.	12 NPA 30 NPA	A/L A/L T E			XI XI XI XI	XI XI XI XI					X X X	
TUXTLA GUTIERREZ/ Angel Albino Corzo	14 NPA 32 PA1	A/L A/L E T	II* D (1)		XI XI XI	XI XI XI					X	
VERACRUZ/Gral. Heriberto Jara Intl.	18 NPA 36 NPA	A/L A/L T E			XI XI XI XI	XI XI XI XI		70/45			X X X X	
VILLAHERMOSA/C.P.A. Carlos Rovirosa Intl.	08 NPA 26 NPA	A/L A/L T E			XI XI XI XI	XI XI XI XI					X X X X	
ZACATECAS/Gral. Leobardo C. Ruiz Intl.	02 NPA 20 NPA	A/L A/L E			XI XI XI	XI XI XI					X X X	
MONTERRAT (United Kingdom)												
PLYMOUTH/W.H. Bramble, Montserrat I.	NINST	A/L					XI >2018		X		X	
NETHERLANDS ANTILLES (Netherlands)												
KRALENDIJK/Flamingo, Bonaire	10 NPA 28 NPA	A/L A/L E		XI	X XI	XI XI			X X		X X X	
ORANJESTAD/F.D. Roosevelt, Saint Eustatius I.	NINST	L							X		X	

Station/Territory Station/Territoire Estación/Territorio	Rwy type Type de piste Tipo de pista	Function Fonction Función	ILS	L	DME	VOR	NDB	Coverage Couverture Cobertura	GNSS			Remarks Remarques Observaciones
									ABAS	GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12	13
PHILIPSBURG/Princes Juliana, St. Maarten I.	09 PA1 27 NPA	A/L A/L T E E	II* D		XI XI XI	XI XI XI	XI	200/45 255	XI	X X	X X X	
WILLEMSTAD/Hato, Curacao I.	11 PA1 29 NPA	A/L A/L T E E	II* D		XI XI XI	XI XI XI	XI XI	200/45 225	XI	X X	X X X	
NICARAGUA												
MANAGUA/Augusto César Sandino Intl.	09 PA1 27 NPA	A/L A/L T E	II*		XI XI XI	XI XI XI		60 200/45	X	X X	X X	
PUERTO CABEZAS BILWI/ Rigoberto Cabezas/ Puerto Cabezas	09 NPA 27 NPA	A/L A/L T E			XI XI XI XI	XI XI XI XI		30 200/45				
BLUEFIELDS/ Monsenor Salvador Shaifer	05 NPA 23 NPA	A/L A/L T E			XI XI XI XI	XI XI XI XI		30 200/45			X X	
BONANZA/ Bonanza	01 NINST	A/L										
CORN ISLAND/ Corn Island	03 NPA 21 NPA	A/L A/L T E			XI XI XI XI		XI XI XI XI	10 25				
CHINANDEGA/ Hernan Pomares	10 NINST	A/L										
LEON/ Fanor Hurroz	09 NINST	A/L										
LOS BRASILES/ Los Brasiles	09 NINST	A/L										
SAN FRANCISCO LIBRE/ Punta Huefe	10 NPA 28 NPA	A/L A/L			X<2012 X<2012	X<2012 X<2012		60 200/45				
SAN CARLOS/ San Carlos	04 NINST 22 NINST	A/L A/L										
ROSITA/ Rosita	05 NINST	A/L										
SIUNA/ Siuna	17 NINST	A/L										
PUERTO RICO (United States)												
AGUADILLA/ Rafael Hernandez Intl.	08 PA1 26 NPA	A/L A/L T E	I		X X X X	X X X X			X X	X		

Station/Territory Station/Territoire Estación/Territorio	Rwy type Type de piste Tipo de pista	Function Fonction Función	ILS	L	DME	VOR	NDB	Coverage Couverture Cobertura	GNSS			Remarks Remarques Observaciones
									ABAS	GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12	13
BORINQUEN		T E			XI (Tacan) XI	XI XI						
DORADO		E					XI	400			X	
MAYAQUEZ/Mayaquez	09 NPA	A/L T E			XI XI XI	XI XI XI			X		X	
PONCE/Ponce - Mercedita	12 NPA 30 NPA	A/L A/L T E			XI XI XI XI	XI XI XI XI					X X	
SAN JUAN DE PUERTO RICO/Luis Muñoz Marín Intl.	08 PA1 10 PA1 26 NPA 28 NPA	A/L A/L A/L A/L	II* II*		XI XI XI XI	XI XI XI XI	XI		XI XI	XI XI	X X	
PANAMA												
PANAMA/Marco A. Gelabert	NINST										X	
BOCAS DEL TORO/Bocas Del Toro	08 NPA 26 NPA	A/L A/L E			XI XI	XI XI					X X X	
CHANGUINOLA/Cap. Manuel Niño	NINST										X	
DAVID/Enrique Malek	04 NPA	A/L E E			XI XI XI	XI XI XI	XI >2010	100/45 100			X X X	
FRANCE/Enrique Jimenez		T			XI	XI					X	
LA PALMA		E				XI		180/45			X	
PANAMA/Tocumen Intl.	03R PA1 21L NPA 03L NPA	A/L A/L A/L T	II*		XI XI XI	XI XI XI	XI >2012			X X X	X	
TABOGA		E E			XI	XI	>2009 XI >2009	200/45			X X	
WANNKANDI		E					XI				X	
PARAGUAY												
ASUNCION/Silvio Pettrossi	02 NPA 20 PA1	A/L A/L T E E	II* D (I)		XI XI XI	XI XI XI	XI XI XI	200/45 300		X X	X X X	
CIUDAD DEL ESTE/Guaraní	23 PA1 05 NPA	A/L A/L	II		XI XI	XI XI				X X		

Station/Territory Station/Territoire Estación/Territorio	Rwy type Type de piste Tipo de pista	Function Fonction Función	ILS	L	DME	VOR	NDB	Coverage Couverture Cobertura	GNSS			Remarks Remarques Observaciones
									ABAS	GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12	13
CONCEPCION		E					XI	65			X	
ESTIGARRIBIA		E				X		200/45			X	
		E					XI	300			X	
FILADELFIA		E					X	180			X	
PERU												
ANDAHUAYLAS		E			XI	XI		150/ 200				
AREQUIPA/Rodríguez Ballón Intl.	09 PA1 NINST	A/L	I D (I)		XI	XI						
		T			XI	XI		150/200				
		E			XI	XI						
ASIA		E			XI	XI		85/45				
AYACUCHO		E					XI >2011	150				
CAJAMARCA		E					XI >2011	150				
CHACHAPOYAS		E			XI	XI		150/200				
CHICLAYO/Cap. José Quiñones González	18 PA1 36 NINST	A/L	I D (I)		XI	XI						
		E			XI	XI		150/200				
		T			XI	XI						
CHIMBOTE		E				XI		150/200				
CUZCO/Velasco Astete	28 NPA	A/L			XI	XI			X<2010			
		T			XI	XI		150/200				
		E			XI	XI						
IQUITOS/Coronel FAP Francisco Secada Vignetta	06 PA1 24 NPA	A/L	I D (I)	XI	XI	XI						
		E			XI	XI		150/80				
		T			XI	XI						
JULIACA		E			XI	XI		150/200				
LIMA CALLAO/Jorge Chavez Intl.	15 PA2 33 NPA	A/L	II D (I)	X	XI	XI						
		T			XI	XI						
		E			XI	XI		150/100				
PISCO/Pisco	22 NPA 04 NINST	A/L	I D (I)		XI	XI						
		T			XI	XI						
		E			XI	XI		150/200				
PUCALLPA		E			XI	XI		150/80				
SALINAS		E			XI	XI		150/100				
SIHUAS		E				XI		150/100				
TACNA/CORONEL FAP Carlos Ciriani Santa Rosa	02 PA1 20 NINST	A/L	I D (I)		XI	XI						
		T			XI	XI						

Station/Territory Station/Territoire Estación/Territorio	Rwy type Type de piste Tipo de pista	Function Fonction Función	ILS	L	DME	VOR	NDB	Coverage Couverture Cobertura	GNSS			Remarks Remarques Observaciones
									ABAS	GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12	13
TARAPOTO		E			XI	XI		150/100				
TRUJILLO/Cap. Carlos Martínez de Pinillos	01PA1 20 NINST	E A/L T E	I D (I)		XI XI	XI XI		150/150 150/100				
URCOS		E			XI	XI		150/200				
SAINT KITTS AND NEVIS												
BASSETERRE/Robert L. Bradshaw, Saint Kitts I.	07 NPA 25 NPA	A/L E A/L		XI	X	X	XI >2018 XI >2018		X X		X X	
CHARLESTOWN/Newcastle, Nevis I.	NINST	L									X	
SAINT LUCIA												
CASTRIES/ George F. Charles Intl.	NINST	L A/E		X			XI >2018	65			X X	
VIEUX-FORT/Hewanorra Intl.	10 PA1 28 NPA	A/L A/L T E	I		XI XI	XI XI	XI >2018 XI >2018		X XI	X X		X X
SAINT VINCENT AND THE GRENADINES												
CANOUAN/Canouan	13 NPA 31 NPA	A/L A/L					XI >2018 XI >2018		XI X			
KINGSTOWN/E.T. Joshua	07 NPA	A/L E		XI			XI	400	XI		X X	
MUSTIQUE	18 NPA	L					X		X		X	
UNION ISLAND/Union Island	NINST	L									X	
SURINAME												
ZANDERY/Johan Adolf Pengel Intl.	11 PA1 29 NPA	A/L A/L T E	I		XI XI	XI XI		200/45		X X		X X
TRINIDAD AND TOBAGO												
PORT OF SPAIN/Piarco Intl. Trinidad I.	10 PA1 28 NPA	A/L A/L T E	II*		XI XI	XI XI XI	XI >2018 XI >2018	200/45 400	XI XI	X X		X X
SCARBOROUGH/Crown Point, Tobago I.	11 NPA 29 NPA	A/L E A/L					XI >2018 XI >2018	150	XI XI		X X	

Station/Territory Station/Territoire Estación/Territorio	Rwy type Type de piste Tipo de pista	Function Fonction Función	ILS	L	DME	VOR	NDB	Coverage Couverture Cobertura	GNSS			Remarks Remarques Observaciones
									ABAS	GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12	13
TURKS AND CAICOS ISLANDS (United Kingdom)												
GRAND TURK/Grand Turk Intl.	11 NPA	A/L		X	XI (Tacan)	X			XI		X	
		E			XI (Tacan)	X	XI	200/45			X	
PROVIDENCIALES/Providenciales Intl.	10 NPA 28 NPA	A/L A/L					XI >2018		XI XI		X X	
SOUTH CAICOS/South Caicos Intl.	NINST	A/L									X	
URUGUAY												
COLONIA/Internacional de Colonia	12 NPA 30 NPA	A/L A/L					XI				X X	
DURAZNO		E				XI		110/45			X	
MALDONADO/Intl C/C Calos A. Curbelo Laguna del Sauce	08 PA1 26 NPA	A/L A/L E	I D		XI XI	XI XI	XI			X X		
MELO		E				XI		200/45			X	
MONTEVIDEO/Aeropuerto Angel S. Adami Intl.	18 NPA NINST						X				X X	
MONTEVIDEO/Carrasco Intl.	06 NPA 24 PA1	A/L A/L T E E	II*		XI XI XI	XI XI XI	XI XI XI	200/45 200		X X	X X X	
RIVERA/Cerro Chapeu Intl.	04 NPA	A/L					XI				X	
SALTO/Nueva Hesperides Intl.	04 NPA 22 NPA	A/L A/L E				XI XI	XI XI				X X X	
VENEZUELA												
BARCELONA/Gral. José Antonio Anzoategui Intl.	15 PA1 33NINST	A/L	I(I)		XI (Tacan)	XI			X > 2015	X		
		E			XI (Tacan)	XI		55/25			X	
		T			XI (Tacan)	XI					X	
BARINAS		E			XI	XI		100/25			X	
BARQUISIMETO/Jacinto Lara Intl.	09PA1 27NIST		I(I)		XI	XI			X > 2015	X		
		E			XI	XI		190/35			X	
CABO CODERA		E			XI	XI		200/45			X	

Station/Territory Station/Territoire Estación/Territorio	Rwy type Type de piste Tipo de pista	Function Fonction Función	ILS	L	DME	VOR	NDB	Coverage Couverture Cobertura	GNSS			Remarks Remarques Observaciones	
									ABAS	GBAS	SBAS		
1	2	3	4	5	6	7	8	9	10	11	12	13	
CAICARA DEL ORINOCO	10 PA1 28NPA	E	IID (I)		X	X			X > 2015	X	X		
CANAIMA		E			XI	XI					X		
CARACAS/Simon Bolivar Intl., Maiquetia		A/L A/L			XI XI	XI XI							
		T E E			XI XI	XI XI					X X X		
CARORA		E			XI	XI					X		
CARUPANO		E					XI	70		X			
CIUDAD BOLIVAR		E			XI	XI		100/45		X			
CORO		E			XI	XI		100/45		X			
CUMANA		E			XI	XI				X			
EL CANTON		E			XI	XI		200/45		X			
ELORZA		E					XI	165		X			
GRAND ROQUE		E			XI	XI		200/45		X			
LA DIVINA PASTORA		E			XI	XI		200/45		X			
MARACAIBO/La Chinita Intl.	03L PA1 21R NIST	A/L A/L	I(I)		XI XI	XI XI		200/45	X >2015	X X		X X	
		T E			XI XI	XI XI							
MARGARITA I./ Intl. Del Caribe, Gral. Santiago Marino	09 PA1 27NINST	A/L	I(I)		XI	XI		200/45	X > 2015	X		X X	
		T E			XI XI	XI XI							
MATURIN		T			XI	XI					X	X	
MENE MAUROA		E				XI		190/45			X		
PARAGUANA/Josefa Camejo Intl.	09 NPA 27NINST	A/L			XI	XI		200/45	X >2015 X >2015		X X X	X X X	
		E			XI	XI							
PUERTO CABELLO		E			XI	XI		200/45			X	X	
PUERTO AYACUCHO		E			XI	XI							
PUNTA SAN JUAN	16 NPA NINST	E			XI	XI		70/45			X	X X	
SAN ANTONIO DEL TACHIRA/San Antonio del Tachira Intl.					X	X							
SANTA BARBARA DEL ZULIA		E			XI	XI					150/45		X
SAN TOME		E			XI	XI					80/45		X

Station/Territory Station/Territoire Estación/Territorio	Rwy type Type de piste Tipo de pista	Function Fonction Función	ILS	L	DME	VOR	NDB	Coverage Couverture Cobertura	GNSS			Remarks Remarques Observaciones
									ABAS	GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12	13
TUCUPITA		E					XI	150			X	
TUY		E T			XI XI	XI XI					X X	
VALENCIA/ Arturo Michelena	10PA1 28 NPA	A/L A/L	I(I)		XI XI	XI XI	XI		X >2015	X	X	
VIRGIN ISLANDS (United Kingdom)												
ROADTOWN/Beef Island	07 NPA	A/L					XI >2018		XI		X	
VIRGIN GORDA/Virgin Gorda	NINST	A/L							X		X	
VIRGIN ISLANDS (United States)												
CHRISTIANSTED/Henry E. Rohlsen, St. Croix	09 PA1 27 NPA	A/L A/L E	II*		XI XI XI	XI XI XI	XI	155/45	XI XI		X X X	
SAINT THOMAS/Cyril E. King	10 PA1 28 NPA	A/L A/L T	I		XI XI XI	XI XI XI			XI XI	X	X X	

**APPENDIX B****INTERNATIONAL CIVIL AVIATION ORGANIZATION
SOUTH AMERICAN REGIONAL OFFICE****SEMINAR ON FLIGHT AND GROUND TESTING OF NAVIGATION AND SURVEILLANCE
SYSTEMS**

(Sao Jose Dos Campos, Brazil, 21 to 23 November 2011)

PROVISIONAL AGENDA**MONDAY, 21 NOVEMBER 2011**

HOUR	SUBJECT	EXPOSITOR
08:30-09:00	Registration	
08:45-09:00	Official opening of the Seminar	Brazilian Civil Aviation Authority and ICAO
SESSION 1	REGIONAL RADIO AIDS NAVIGATION PLAN	
09:00-09:30	SAM navigation system implementation plan	ICAO
09:30-10:00	PBN implementation in the SAM Region	ICAO
10:00-10:30	Brazil PBN implementation	Brazil
10:30-10:50	<i>Coffee Break</i>	
10:50-11:20	GBAS implementation in Brazil	Brazil
11:20-11:30	Questions and answers - Session 1	
SESSION 2:	TESTING OF RADIO NAVIGATION AIDS AND INSTRUMENT FLIGHT PROCEDURES	
11:30-11:40	Current status of ICAO Doc 8071 - Manual on Testing of Radio Navigation Aids	ICAO
11:40-12:30	Validation of instrument flight procedures (ICAO Doc 9906 - Quality Assurance Manual for Flight Procedure Design, Volume V)	Glen Bissonnette, FAA
12:30-13:30	<i>Lunch Break</i>	
13:30-14:15	FAA Global Operational Data Link Document (GOLD) standard process and instrument flight procedure validation methods	Glen Bissonnette, FAA
14:15-14:30	Questions and answers - Session 2	
14:30-16:00	Visit to the facilities of the Institute of Air Space Control [Instituto de Control del Espacio Aéreo (ICEA)]	

TUESDAY, 22 NOVEMBER 2011

HOURL	SUBJECT	EXPOSITOR
SESSION 3	REGIONAL FLIGHT INSPECTION UNIT	
09:00-09:30	Structure of the Brazilian airspace control system and their flight inspection activities	Brazil
09:30-10:30	Flight inspection in the SAM States (the flight inspection units of the indicated States will present their current status, activities and planning for the near and middle term)	Argentina Chile Colombia Ecuador
10:30 -11:30	<i>Coffee Break</i>	
11:30-12:30	Flight inspection in the SAM States	Peru Uruguay Venezuela
12:30-13:30	<i>Lunch Break</i>	
13:30-14:20	ASECNA Flight Inspection Unit	Abdoulaye Camara, ASECNA (to be confirmed)
14:20-14:40	China Flight Inspection Unit	Ting Ouyang, China
SESSION 4:	EVOLUTION OF GROUND AND FLIGHT TESTING	
15:00 -15:30	New tendency for ground and flight testing	Larry Brady, Airfield Technology
15:30- 16:00	GNSS flight inspection and flight procedure validation	Erik Torgersen, Norwegian Special Mission

WEDSDAY, 23 NOVEMBER 2011

HOUR	SUBJECT	EXPOSITOR
SESSION 4:	EVOLUTION OF GROUND AND FLIGHT TESTING	
09:00-09:30	ADS B and multilateration flight inspection	Mareile Langhorst, AERODATA
09:30-10:00	Updated information about ground and flight testings and techniques, data recording and maintenance for Nav aids, GNSS, SSR, multilateration, ADS	Alex Kwastiroff, NXT Inc
10:00-10:30	Id.	Luiz Carlos Paiva Teixeira, IACIT
10:30-11:00	<i>Coffee break</i>	
11:00-11:30	RAIM prediction availability	John Wilde, DWI (to be confirmed)
11:30-12:00	Flight inspection software tool	Mauricio Barroso, IDS (to be confirmed)
12:00-12:30	Questions and answers - Session 4	
12.30-13.30	<i>Lunch break</i>	
SESSION 5:	TRAINING REQUIREMENTS	
13:30-14:00	The Institute of Air Space Control and the Flight Inspection Course	Brazil
14:00-14:30	The FAA Academy and the flight inspection and flight procedure validation	Glenn Bissonette, FAA
14:30-14:50	Questions and answers - Session 5	
SESSION 6:	FINAL RECOMMENDATIONS	
14:50-15:30	Final recommendations	Onofrio Smarrelli, ICAO
15:30-16:00	Closing ceremony and release of certificate	