



ICAO

International Civil Aviation Organization
North American, Central American and Caribbean Office
SUMMARY OF DISCUSSIONS

New Obstacle Limitation Surfaces (OLS) Workshop for the CAR Region (NACCOLS26)

Mexico City, Mexico, 17 to 18 August 2026

SUMMARY OF DISCUSSIONS

Date The North American, Central America and Caribbean New OLS Workshop was held at the ICAO NACC Regional Office in Mexico City, Mexico, from 17 to 18 August 2026.

Opening Ceremony The Workshop was attended by 42 delegates from 15 States/Territories and One International Organization from the NAM/CAR Regions. The list of participants is shown in **Attachment A**.

1. References

- 1.1 Amendment 18 of ICAO Annex 14 Volume 1
- 1.2 ICAO Doc 9981 – PANS Aerodromes, 5th amendment
- 1.3 ICAO Doc 9137 -Aerodrome Services Manual -Part 6 -Third Edition (Advance unedited) — 2026
- 1.4 Workshop slides

2. Objectives

- 2.1 The activity had the following objectives; -
 - i. To understand the context and concept of the new ICAO OLS surfaces.
 - ii. To appreciate the need for change from the current OLS surfaces
 - iii. To examine the new OLS surfaces and the role of aeronautical studies in assessing obstacles
 - iv. To evaluate the benefits and challenges associated with implementing the New OLS surfaces for States, airports and aviation stakeholders.
 - v. To address key questions relating to the concept, application and implementation of the new OLS requirements
 - vi. To discuss and develop regional recommendations for effective implementation of the new OLS.

3. Introduction

3.1 Mr. Fabio Salvatierra, regional Officer Aerodromes and Ground Aids of the North American, Central American and Caribbean NACC) Office of the International Civil Aviation Organization (ICAO) provided the opening remarks and welcomed the participants to Regional Office and officially opened the two days' workshop.

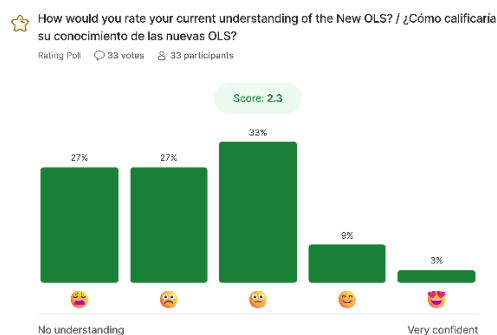
3.2 The new OLS framework was introduced to the Participants giving the applicability date of 21 November 2023 following Amendment 18 to Annex 14, Volume 1. Mr. Salvatierra presented the scope of the workshop, indicating the intentions was not to go to technical details but to create awareness that will open a practical space for work between States, Specialists and the NACC Regional Office in the preparation required for implementation.

3.3 The expectation of the workshop was highlighted in three words:

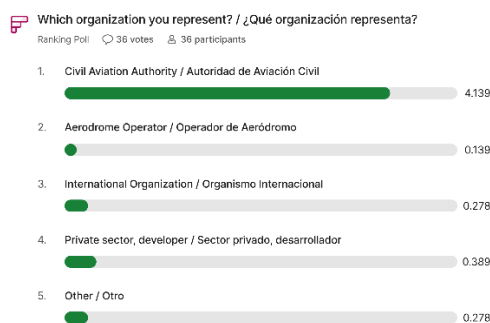
- i. Understand – What changed in the OLS and why? The new concept, in plain language.
- ii. Apply - A practical exercise in groups on the analysis of the changes.
- iii. Recommend - Build together applicable regional recommendations.

This was to be achieved through on-screen content, discussions and guided practical engagement to develop a regional roadmap for implementation.

3.4 At the beginning of the sessions, a quick survey was conducted with all participants, using online application SLIDO. The results were the following:



slido



slido

3.5 Most of the audience (around 87%) rate themselves to have a medium to no understanding of the new OLS amendment. In addition, most of the participants were from Civil Aviation Authorities.

4. Workshop Schedule and Activities

4.1 The workshop webpage is located at:

<https://www.icao.int/nacc/meetingdocs?fid=140990>

- 4.2 The schedule of activities included; -
- i. Presentation of the workshop slides on New OLS
 - ii. GENSLO online tool demonstration
 - iii. Open discussion – Benefits and challenges
 - iv. Q & A session with OLS expert
 - v. Practical exercise in groups
 - vi. Collective construction of regional recommendations

Attachment B gives in detail the schedule of activities

4.2.1 Presentation of the workshop slides on New OLS

Mr. Fabio Salvatierra, Regional Officer Aerodromes and Ground Aids of the ICAO-NACC and Mr. Jonah Kinyua, Assistant AGA Specialist, presented the workshop slides on the new OLS.

- i. Background — Why was it necessary to change the OLS's?
- ii. The new concept: Aircraft Design Group, Obstacle Free Surfaces and Obstacle Evaluation Surfaces.
- iii. Detail of Obstacles Free Surfaces (OFS) and Obstacles Evaluation Surfaces (OES).
- iv. Introduction to Aeronautical Studies.

4.2.2 Open discussion – Benefits and challenges

The participants engaged in an open discussion on the benefits and challenges of the implementation of the new concept and what the States, Aerodrome Operators, and other aviation stakeholders are required to do.

Several questions regarding the new concept were raised on the floor and others recorded using Slido; a cloud-based audience interaction platform. Some questions were answered and forwarded to the OLS expert for further response the following day.

4.2.3 Demonstration of GENLO Online tool

Mr. Alejandro Di Bernardi of the Universidad Nacional de la Plata (Argentina) presented an online software for assessment of obstacles under the conventional framework. The software capabilities were demonstrated to the participants through the generation of the Obstacle Limitations surfaces of an aerodrome based on the threshold details irrespective of the location.

The online tool can be accessed from: <https://genslo-gtaa-web.onrender.com/>

4.2.4 Q &A session with OLS Expert

Mr. Tiago Marques of the Department of Airspace Control (DECEA) in Brazil provided the answers for the questions raised during the open discussions, Slido and any other clarifications. The questions and answers are outlined in **Attachment C**.

4.2.5 Practical exercise in groups

The participants were organized into six groups and engaged in a guided topical discussion in the following dimensions:

- i. **Regulatory and Legal basis**
- ii. **Scale of the problem**
- iii. **Human Capacity (AGA)**
- iv. **Technology Resources and Data**
- v. **Governance among actors**
Note: This point is critical, because without clear governance the technical part remains on paper.
- vi. **Transition and Legacy Obstacles**

This exercise facilitated the conduction of a gap analysis and generated recommendations to facilitate States preparedness for the 18th amendment of ICAO Annex 14. The participation of each State/International Organization/Territory in the exercise and the criteria for developing the exercise in each dimension is detailed in **Attachment D**.

4.2.6 Collective construction of regional recommendations

Each dimension was discussed in the plenary and the key gaps recommendations and actions before 2030 identified by each group in the assigned dimension was agreed upon as attached as **Attachment E**.

5. Outcomes/Recommendations

5.1 The workshop was held as per the agenda creating awareness and the need for States to prepare for applicability of amendment 18 to ICAO Annex 14 Volume 1. This gave the participants an overview of the new requirements and the need to prepare for the required change on a timely matter.

The workshop recommended the following; -

- i. Need for Regional in-depth training on the new surfaces, such as the ICAO OLS Training available at: <https://igat.icao.int/ated/trainingcatalogue/Course/6179>
- ii. State to review their preparedness and the gaps that need to be addressed, considering the OLS expert advice.
- iii. Supporting of the States by various stakeholders including ICAO and regional organization in the implementation process. This regional collaboration will facilitate an harmonize approach to the implementation of this new provision.

6. Accomplishments

6.1 The workshop was considered successful and created a roadmap that diagnosed what need to be done and the regional recommendations on the actions to taken to adopt the new criteria of OLS.

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Attachment A: List of Participants - New Obstacle Limitation Surfaces (OLS) Workshop for the CAR Region (NACCOLS26)

Aruba

1. Eric Martijn

Bahamas

2. Birthlon Renardo Newbold Jr
3. Theodore Ferguson

Barbados

4. Gail M Clarke

Cayman Island

5. Jeremy Jackson (W)

COCESNA

6. Herbert Wedel
7. Denis Mejia (W)
8. Gabriel Flores (W)

Costa Rica

9. Alejandro Rocha Bermúdez (W)
10. Maricruz Esquivel Hernández
11. Luis Alberto Torres Núñez
12. Yuliana Espinoza Monge (W)
13. Alexander Andrés Ramos Sánchez (W)

Cuba

14. Jonas Milhet López

Curaçao

15. Constance Elisa-Plantijn

El Salvador

16. Lidia Carolina Liang Guan

Guatemala

17. Julio Roberto Gálvez Mendizábal
18. Jimmy Roberto Iboy Fajardo (W)

19. Otto Alejandro Girón León (W)
20. Algedy Rocio Cruz Arriola (W)
21. Jerick Apxuac Calderas (W)
22. José Andrés Ardón Argueta (W)
23. Eddie Alejandro Matias (W)
24. Eva María Lima Cordón de Barrientos (W)
25. Juan Pablo Estrada Dominguez (W)

Honduras

26. Roberto Sierra
27. Ricardo Padilla
28. Luis Suazo

Jamaica

29. Karen Dryden
30. Kerri-Ann Morgan

México

31. Álvaro Alcántara Ballesteros (M)
32. Eduardo Arturo Jiménez Ramírez (W)
33. Jared Alejandro Alquicirez Chavez (W)
34. Roberto Giovanni Cruz Rueda (W)
35. Ramón Montoya Zamudio (W)
36. Jennifer Hernandez Garcia (W)
37. Jorge Miguel Lozada Villanueva (W)
38. Jorge Dagur Espejel Márquez (M)
39. Gabriel García González (W)

Trinidad and Tobago

40. Giselle Best

Turks and Caicos Islands

41. Onward Hamilton
42. Floyd Ingham

United States

43. Alberto Rodriguez

Attachment B: Workshop Schedule of Activities

Mexico local times (GMT-6)

Day 1		
Understand: context, concept and Obstacle-Free Surfaces (OFS)		
08:30 – 09:00	S0	Opening Remarks <i>Speaker:</i> Fabio Salvatierra - ICAO NACC
09:00 – 09:30	S1.1	Background — Why was it necessary to change the OLS's? <i>Speaker:</i> Fabio Salvatierra – ICAO NACC
09:30 – 10:00	S1.2	The new concept: Aircraft Design Group, Obstacle Free Surfaces and Obstacle Evaluation Surfaces <i>Speaker:</i> Jonah Kinyua – ICAO NACC
10:00 – 10:20	20'	Break
10:20 – 11:10	S1.3	OFS – Obstacles Free Surfaces in detail <i>Speaker:</i> Jonah Kinyua – ICAO NACC
11:10 – 12:00	S1.4	OES – Obstacles Evaluation Surfaces in detail <i>Speaker:</i> Jonah Kinyua – ICAO NACC
12:00 – 13:00	60'	Lunch Break
13:00 – 14:00	S1.5	Introduction to Aeronautical Studies <i>Speaker:</i> Jonah Kinyua – ICAO NACC
14:00 – 15:00	S1.6	Benefits and Challenges - Open discussion <i>Speaker:</i> Fabio Salvatierra – ICAO NACC
15:00 – 15:30	S1.7	Wrap up of day 1 and practice exercise preparation <i>Speaker:</i> Fabio Salvatierra – ICAO NACC
Day 2		
DAY 2 – Practical exercise and identification of regional recommendations		
08:30 – 09:00	S2.1	Day 2 Opening and Recap <i>Speaker:</i> Fabio Salvatierra – ICAO NACC
09:00 – 09:30	S2.2	GENSLO online tool demonstration <i>Facilitator:</i> Alejandro Di Bernardi – Universidad Nacional de la Plata (Argentina)
09:30 – 10:00	S2.3	Q & A session with OLS expert <i>Speaker:</i> Tiago Marques – DECEA Brasil
10:00 – 10:20	20'	Break

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10:20 – 11:10	S2.4	Practical exercise in groups <i>Facilitator: ICAO</i>
11:10 – 12:00	S2.5	Practical exercise in groups <i>Facilitator: ICAO</i>
12:00 – 13:00	60'	Lunch Break
13:00 – 14:30	S5	Workshop - Collective construction of regional recommendations <i>Speaker: ICAO</i>
14:30 – 15:00	S6	Closing and next steps <i>Speaker: Fabio Salvatierra – ICAO NACC</i>

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Attachment C: Questions and answers on New Obstacle Limitation Surfaces (OLS)

#	Question text	Answer
1	Is there any similarity in the new changes of the ascent surface in the take-off in Annex 14 with the take-off trajectory surface in Annex 4?	Yes. Both share a divergence of 12.5%, a maximum width of 1,800 m and a length of 10,000 m. The difference is in the slope and the purpose: Annex 4 documents (1.2%), Annex 14 assesses the operational impact (2–5% according to GDA).
2	How will the new changes included in Amendment 18 of Annex 14 Vol. 1 affect the information in Document 8168 pans-ops? That is, is the update of doc 8168 foreseen?	Amendment 18 does not modify PANS-OPS — on the contrary, it incorporated PANS-OPS concepts into Annex 14. It is not possible to confirm that an update to Doc 8168 is planned as a direct consequence.
3	Do the modifications to the Areas in Annex 14 imply that a change is also generated in the type B chart of Annex 4?	The changes do not imply immediate modification of Annex 4. The geometric similarity between the two surfaces suggests that in the future some adjustment might be necessary, but it will be an independent AIM process, not AGA.
4	In an airport that has two runways, one for precision and one for instrument and has mixed aviation (general, commercial, etc.), is it essential to adapt the OES to the most critical?	The concept of critical aircraft already existed. The GDA changes the classification criteria, but the logic is the same. For two tracks with different operations, the OES are set per track. First standard OES, then local conditions are evaluated for possible adaptations.
5	Moving thresholds could affect the operation for ADG IV, reduce operational capacities and therefore downgrade to category III or even up to IIC	Yes, that is a very real possibility. However, the key issue is the threshold displacement on runway's declared distances and the operational requirements of the aircraft group, not the ADG classification itself. The displacement changes the runway's ability to accommodate ADG IV operations, its approach minima, payload restrictions, and overall operational capacity.
6	What will happen with VFR flights....	The VFR traffic is not being eliminated or restricted solely because of OFS/ OES introduction. The only change is that the way airspace around aerodromes is safeguarded from obstacles will change. At aerodromes without published instrument procedures, the new OES concept includes protection for visual circuit traffic patterns and OFS are still expected to remain obstacle free as they protect critical phases of flight. It is expected where obstacles trigger and aeronautical study that VFR operations will be one of the considerations.

7	On the previous surfaces, the inner edge of the approach surface was associated in dimensions with the runway strip; and the transition surface extended along the strip, will these new Surfaces no longer be linked to the dimensions of the strip?	One of the major conceptual changes in the new ICAO framework is that the OFS/OES are no longer tied to the runway strip in the same way that the traditional OLS were. The dimensions of OFS are primarily determined by runway type, Aeroplane design group (ADG) and operational performance criteria. One can no longer infer then OFS geometry simply from the strip dimensions. Runway strip remains an aerodrome physical characteristic but not the primary driver of obstacle protection surfaces.
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Attachment D: Dimensions of Practical Exercises

Group	Dimension and Group Participants	Guiding Criteria
A	Dimension 1: Regulatory and Legal Framework 1) Eric Martijn (Aruba) 2) Shorn Darling (Bahamas) 3) Gail M Clarke (Barbados) 4) Karen Dryden (Jamaica) 5) Onward Hamilton (Turks and Caicos) 6) Alberto Rodriguez (United States)	i. Ask yourself whether the legislation supports the protection and limitation of obstacles, ii. Who has the competence to approve or deny developments, iii. Whether there is a basis for requiring aeronautical studies, and iv. Whether the framework supports the concept of OES, not just strict prohibition.
B	Dimension 2: Scale of the problem 1) Alejandro Rocha Bermúdez (Costa Rica) 2) Jonas Milhet López (Cuba) 3) Lidia Carolina Liang Guan (El Salvador) 4) Julio Roberto Gálvez Mendizábal (Guatemala) 5) Roberto Sierra (Honduras) 6) Eduardo Arturo Jiménez Ramírez (México) 7) Herbert Wedel (COCESNA)	i. How many airfields are subject to Amendment 18? ii. How many have instrumental or precision operations? iii. How many are in dense urban environments? iv. Is there a criterion for prioritizing which airfields to check first?
C	Dimension 3: Human Capacity (AGA) 1) Maricruz Esquivel Hernández (Costa Rica) 2) Jimmy Roberto Iboy Fajardo (Guatemala) 3) Ricardo Padilla (Honduras) 4) Jared Alejandro Alquicirez Chavez (México) 5) Gabriel Flores (COCESNA) 6) Luis Suazo (Honduras)	i. How many people work on these issues in the authority? ii. Are there specialists in surfaces and aeronautical studies? iii. Is there articulation with PANS-OPS? iv. Is there a training and succession plan?
D	Dimension 4: Technology Resources and Data 1) Luis Alberto Torres Núñez (Costa Rica) 2) Otto Alejandro Girón León (Guatemala) 3) Algedy Rocio Cruz Arriola (Guatemala) 4) Roberto Giovanni Cruz Rueda (México) 5) Gabriel García González (México) 6) Denis Mejia (COCESNA)	i. Are there tools to model SFM and OES? ii. Is there up-to-date topographic mapping? iii. Is there an obstacle registry and is it kept up to date? iv. Are the e-TOD or GIS data accurate enough?
E	Dimension 5: Governance Among Stakeholders / Actors 1) Birthlon Renardo Newbold Jr (Bahamas) 2) Theodore Ferguson (Bahamas) 3) Jeremy Jackson (Cayman Islands)	i. Do the aeronautical authority and urban planning work together? ii. Are the roles defined?

	4) Constance Elisa-Plantijn (Curaçao) 5) Kerri-Ann Morgan (Jamaica) 6) Giselle Best (Trinidad and Tobago) 7) Floyd Ingham (Turks and Caicos)	iii. Is it known who shoots, conducts and decides on an aeronautical study? iv. Note: This point is critical, because without clear governance the technical part remains on paper.
F	Dimension 6: Transition and Legacy Obstacles 1) Yuliana Espinoza Monge (Costa Rica) 2) Alexander Andrés Ramos Sánchez (Costa Rica) 3) Jerick Apxuac Calderas (Guatemala) 4) José Andrés Ardón Argueta (Guatemala) 5) Eddie Alejandro Matias (Guatemala) 6) Eva María Lima Cordón de Barrientos (Guatemala) 7) Juan Pablo Estrada Dominguez (Guatemala) 8) Ramón Montoya Zamudio (México) 9) Jennifer Hernandez Garcia (México) 10) Jorge Miguel Lozada Villanueva (México)	i. Is there a plan until November 2030? ii. How will existing obstacles that arise when applying the new surfaces be addressed? iii. How will the new rules be communicated? iv. Is there a budget for review, training, data and tools?

Attachment E: Gap Analysis, recommendation and actions for implementing new OLS surfaces

Dimension	Key Gaps	Recommendations	Actions Before 2030
A. Regulatory & Legal Basis	1) Regulations do not fully support zoning and obstacle control outside aerodrome-controlled areas. 2) Existing framework based on Amendment 17 and lacks OES concepts. 3) Need for legislative alignment with Amendment 18.	1) Strengthening coordination between CAA and Planning Authorities. 2) Update legal framework and planning ordinances. 3) Incorporate OES concepts into national regulations.	1) Update zoning regulations. 2) Revise legislation to incorporate Amendment 18 and OES. 3) Establish coordinated decision-making mechanisms.
B. Scale of the Problem	1) Regulations not updated for Amendment 18. 2) Limited training on new OLS requirements. 3) Pilot implementation plans require further development.	1) Develop regulatory material and guidance. 2) Provide implementation training. 3) Continuously improve pilot implementation plans.	1) Implement revised regulations. 2) Train authority personnel. 3) Execute and monitor implementation plans.
C. Human Capacity (AGA)	1) Insufficient staffing level. 2) Lack of specialized training. 3) Shortage of financial resources.	1) Define staffing and funding requirements. 2) Strengthen technical specialization. 3) Expand competency-based training.	1) Increase staffing levels. 2) Expand specialized training programs. 3) Strengthen interdepartmental cooperation.
D. Technology Resources & Data	1) Outdated software/tools for OLS calculations. 2) Outdated topographic mapping. 3) Obstacle databases are not up to date.	1) Upgrade tools and systems. 2) Update e-TOD / topographic mapping. 3) Conduct obstacle surveys and maintain inventories.	1) Secure modern tools and trained personnel. 2) Update terrain and obstacle databases. 3) Conduct obstacle surveys at designated aerodromes.
E. Governance Between Actors	1) Remaining compliance issues despite mature stakeholder relationships. 2) Staffing shortages within CAA and municipal authorities 3) Weak succession planning.	1) Improve stakeholder coordination. 2) Conduct multi-agency workshops and training. 3) Strengthening governance processes.	1) Amend regulations and manuals. 2) Develop guidance materials. 3) Create compliance evaluation tools. Conduct recurring stakeholder workshops.
F. Transition & Legacy Obstacles	1) Limited understanding of Amendment 18 technical requirements.	1) Strengthening communication among	1) Train technical personnel on obstacle liability assessment.

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	2) Insufficient training for implementation. 3) Lack of planning processes and enabling technology.	ICAO, Authorities, and Industry. 2) Develop guidance materials for implementation. 3) Create a practical implementation manual.	2) Conduct regional workshops on OLS/OLS modelling and evaluations. 3) Establish communities of practice and knowledge-sharing forums.
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