



Agenda Item 3: Other matters

**NEED TO CREATE A CONTINGENCY PLAN IN CASE OF PRESENCE
 OF VOLCANIC ASH**

(Presented by Argentina)

Summary	
<p>This working paper was prepared based on the experience gained with the events involving volcanic activity with dispersion of ashes and their impact on the provision of air navigation services, and proposes the need to create a contingency plan for this type of events when they affect more than one FIR.</p>	
References:	
<ul style="list-style-type: none"> • Annex 11 to the ICAO Convention • Annex 15 to the ICAO Convention • Document 4444, Procedures for Air Navigation Services - ATM • Doc 9426, Air Traffic Services Planning Manual • Doc 9766, Handbook on the International Airways Volcano Watch (IAVW) 	
ICAO Strategic Objectives:	<i>A – Safety</i>

1 Background

1.1 In June of this year, the Puyehue/Cordón Caulle 1507-15 volcano (4042S 07220W) erupted and dispersed a considerable amount of ashes in the form of a cloud/plume, an event that still persists on a regular basis.

1.2 The intensity of volcano activity, combined with the winds, dispersed the ashes, intermittently affecting large portions of Argentina and, to a lesser degree, of Chile.

1.3 The maximum height of the cloud/plume was between FL 400 and FL 120, and extended down to the surface (GND).

1.4 Based on the warnings of the Buenos Aires Volcanic Ash Advisory Centre (VAAC), information about the phenomenon was issued through ASHTAMs at 6-hour intervals (see examples of ASHTAMs and guiding graphs).

1.5 The purpose of this working paper is to submit this experience to the consideration of the participants, with a view to generating recommendations or actions that will permit air navigation services to be prepared to face similar situations in the future.

2 Discussion

2.1 Argentina has five FIRs, all of which have been affected concurrently and to different degrees during given periods of time.

2.2 From the moment the event started, the Buenos Aires VAAC Aires has been issuing warnings regularly, describing the characteristics of the ash cloud/plume and providing 6-, 12- and 18-hour dispersion forecasts.

2.3 Upon receiving the warning, the ACCs immediately analyse the airspace affected within their area of responsibility and issue a report with their conclusions to the Ezeiza NOF, which, after collecting all the reports, publishes the ASHTAM.

2.4 At the same time, at the beginning of the contingency, the national civil aviation administration (ANAC) created a CRISIS COMMITTEE made up by:

- a) ANAC authorities (the National Director of air navigation services, and the Director General of airport infrastructure and services);
- b) Airport service concessionaires;
- c) Representatives of the regulatory body (ORSNA);
- d) IATA representatives;
- e) Representatives of the board of airline representatives (*Junta de Representantes de Compañías Aéreas - JURCA*);
- f) Operators (Aerolíneas Argentinas, LAN, amongst others);
- g) Media representatives;
- h) Experts (volcanologists, meteorologists); and
- i) Representatives of the national meteorological service (*Servicio Meteorológico Nacional - SMN*).

2.5 The Committee met as soon as the first eruption occurred and met again whenever conditions changed. Decisions were made by consensus as described in the CDM (collaborative decision-making) concept.

2.6 Likewise, a free-of-charge telephone line (0800) was established for user queries, and teleconferences were held with ICAO through a free platform over the Internet.

2.7 Based on forecasts—which turned out to be effective—, assistance was provided to companies for deciding on the prediction of departures and arrivals of domestic and international flights.

2.8 The complexity, extent and varied features of the airspace led to a certain degree of harmonisation of the assessment and decision-making by ACCs. In the presence of similar scenarios, it might be efficient to establish a unit (like an ATFM unit) or service to centralise these processes, somehow releasing the ACCs from the responsibility of adopting measures that exceed their powers and/or hinder their natural duties.

2.9 The nonexistence of alternate routes agreed between adjacent States and which were

appropriate for this type of contingency restricted the possibility of giving more options to operators.

2.10 Although the level of coordination with volcanologist and meteorologists is acceptable, it is possible to strengthen it in order to expedite the decision-making process.

3 **Suggested action**

3.1 The Meeting is invited to consider the possibility of developing guidance material and promoting the adoption of multilateral contingency plans by the States of the Region for events related to volcanic activity and dispersion of ashes.

3.2 The aforementioned plans could cover the following topics:

- a) Development of alternate routes based on different dispersion models, and which, if necessary, expedite operations by flying over neighbouring countries in accordance with agreements between the States;
- b) Assignment of roles and responsibilities for deciding on the qualification of the alert (colour code according to the level of volcanic activity), temporary closure of airspace, and the establishment of alternate routes during the contingency, and the creation of a unit or service to centralise these tasks when the size or complexity of the airspace warrants it.
- c) Establishment of agreements with meteorological services, volcanic watch centres, or other professionals that might provide advice on, and forecasts of, the behaviour of factors affecting ash dispersion;
- d) Adoption of measures to collect information on the concerns of operators and users, providing them with tools to assess the possibility of safely continuing their operations, avoiding the areas affected by the phenomenon.

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APPENDIX A

VASA0055 06132000

(ASHTAM 0055 A) SAEF SAVF SACF SAMF B) 06041400 C) CORDON CAULLE
1507-141 D) 4052S/07220W E) NIL F) SFC/FL250 VOLCANIC ASH AREA FROM
THE SUMMIT S4052 W07220- S3930 W06800- S3900 W06500 - S3830
W06300- S3800 W06100- S4100 W05900 -S4300 W06300- S4200 W06700-
S4052 W07220 G) NIL H)

A307-W8-W6-W24-W5-W15-W19-W9-W65-W10-W23-W16-W25-W69 TMA CBA-TMA
TRC-TMA SRC I) NIL J) GOES 12-GFS MODEL -HYSPLIT MODEL K) FCST ASH
CLD +06HR: 140200Z SFC/FL240 S4052 W07220- S4100 W06800 - S4000
W06500 - S3830 W06000 - S3900 W05700 - S4200 W05700 - S4300
W06000 - S4200 W06900 - S4052 W07220

FCST ASH CLD +12HR: 140800Z SFC/FL240 S4052 W07220 - S4100 W06500 -
S4100 W06200 - S4000 W06000 -S3800 W05700 - S4000 W05500 - S4500
W05500- S4400 W06500 -S4052 W07220

FCST ASH CLD +18HR: 141400Z SFC/FL240 S4052 W07220
- S4100 W06500 -S4300 W06000 - S4000 W05700 - S4000 W05000 -
S4600 W05000 - S4600 W06000 - S4500 W6300 - S4052 W07220

REMARKS: MULTISPECTRAL SATELLITE IMAGERY SHOWS AREA OF
REMANENT VA ASH FROM PREVIOUS EMISION

FL120 MOV ENE 50KT AREA

S3700 W06200 - S3400 W06000 - S3100 W05600 -
S3100 W05000 - S3600

W05200 - S3700 W05600 - S3700 W06200

AND FL100 TREND DISSIPATING

AREA S3700 W06800 - S3400 W06800 - S3100

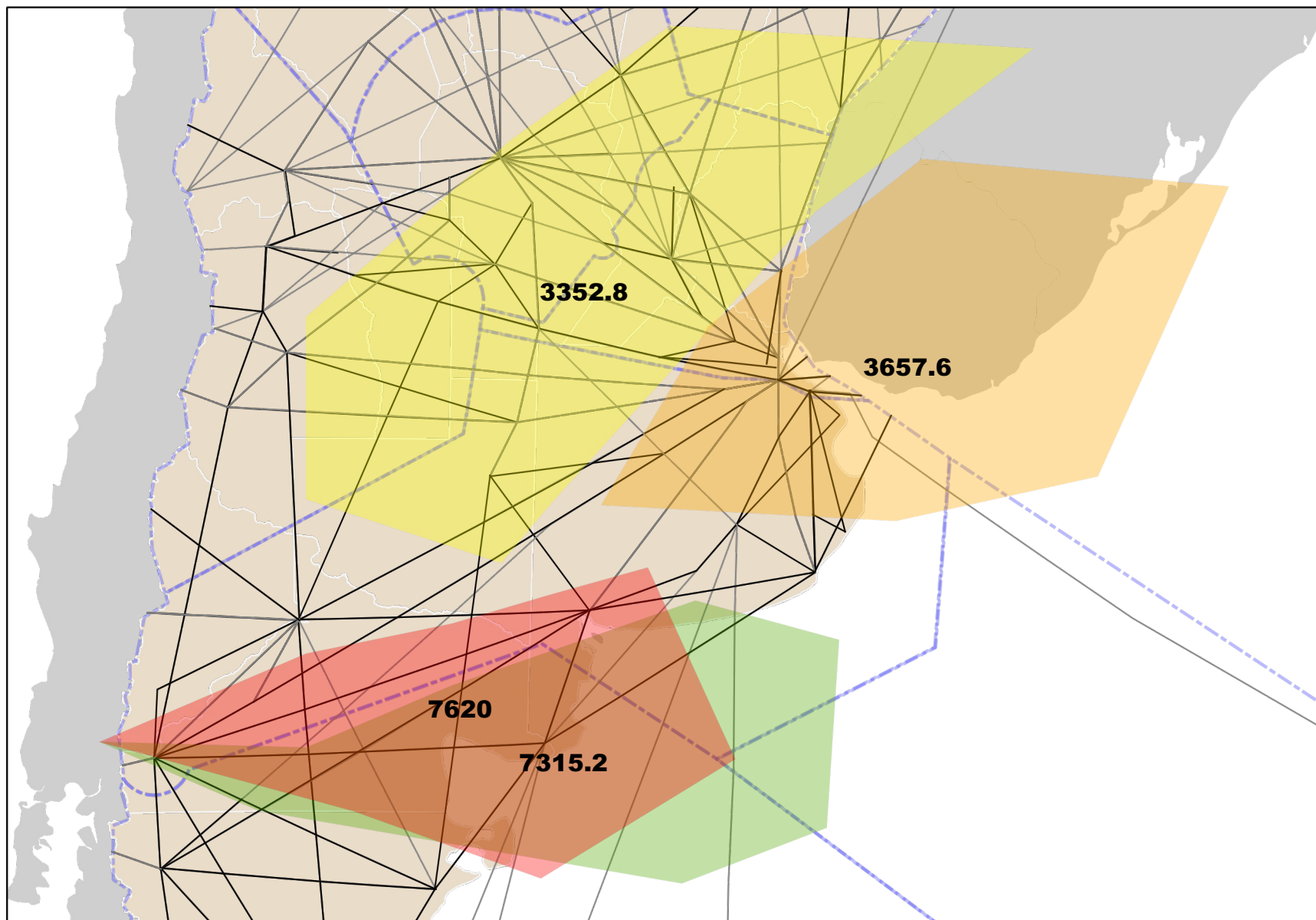
W06400 - S2900 W06100 -

S2900 W05400 - S3200 W05800 - S3700 W06300 -

S3800 W06400 - S3700

W06800

NEXT ADVISORY: WILL BE ISSUED BY 20110614/0200Z)



PENACHO



FCST+6 06140200Z



Previa

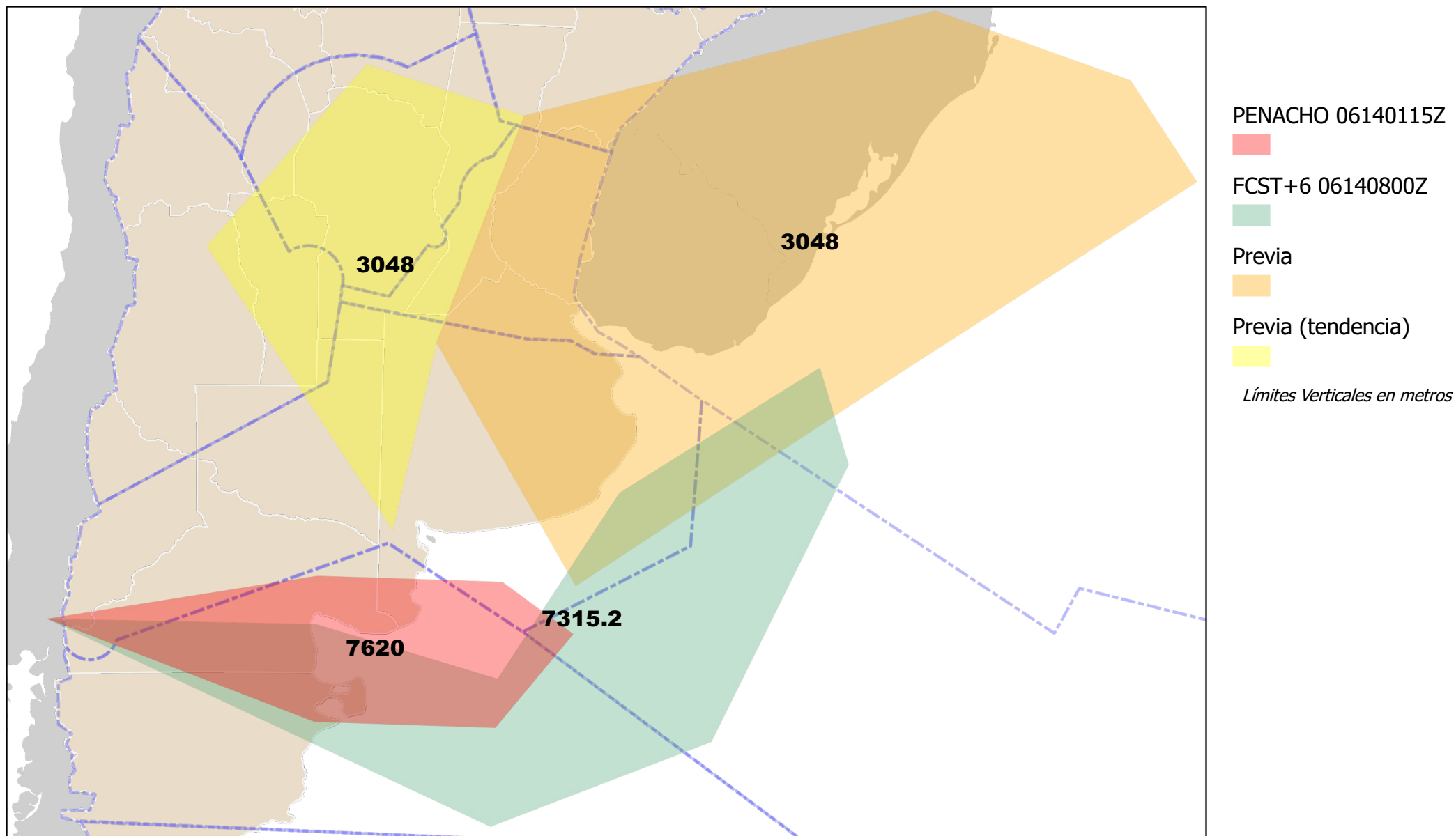


Previa (tendencia)

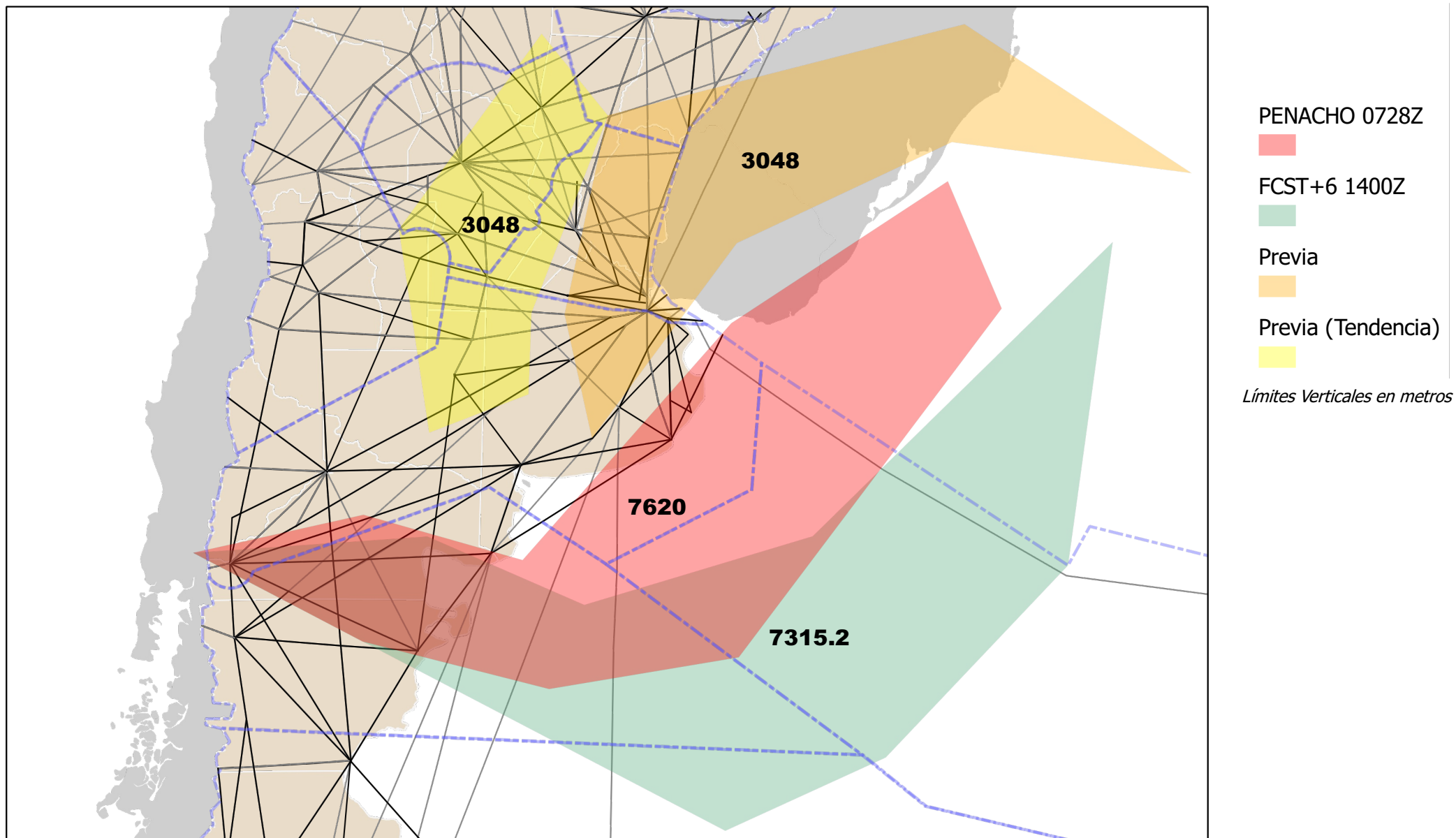


Límites Verticales en metros

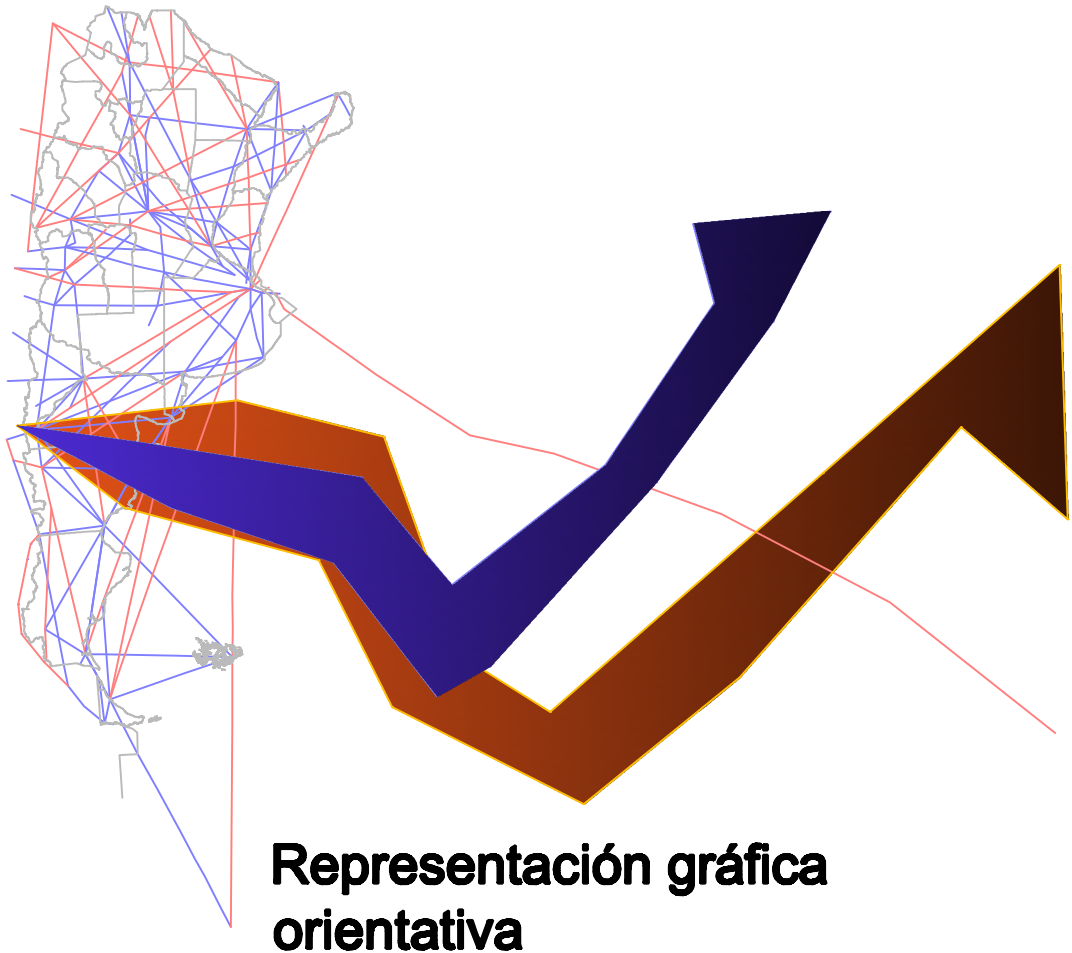
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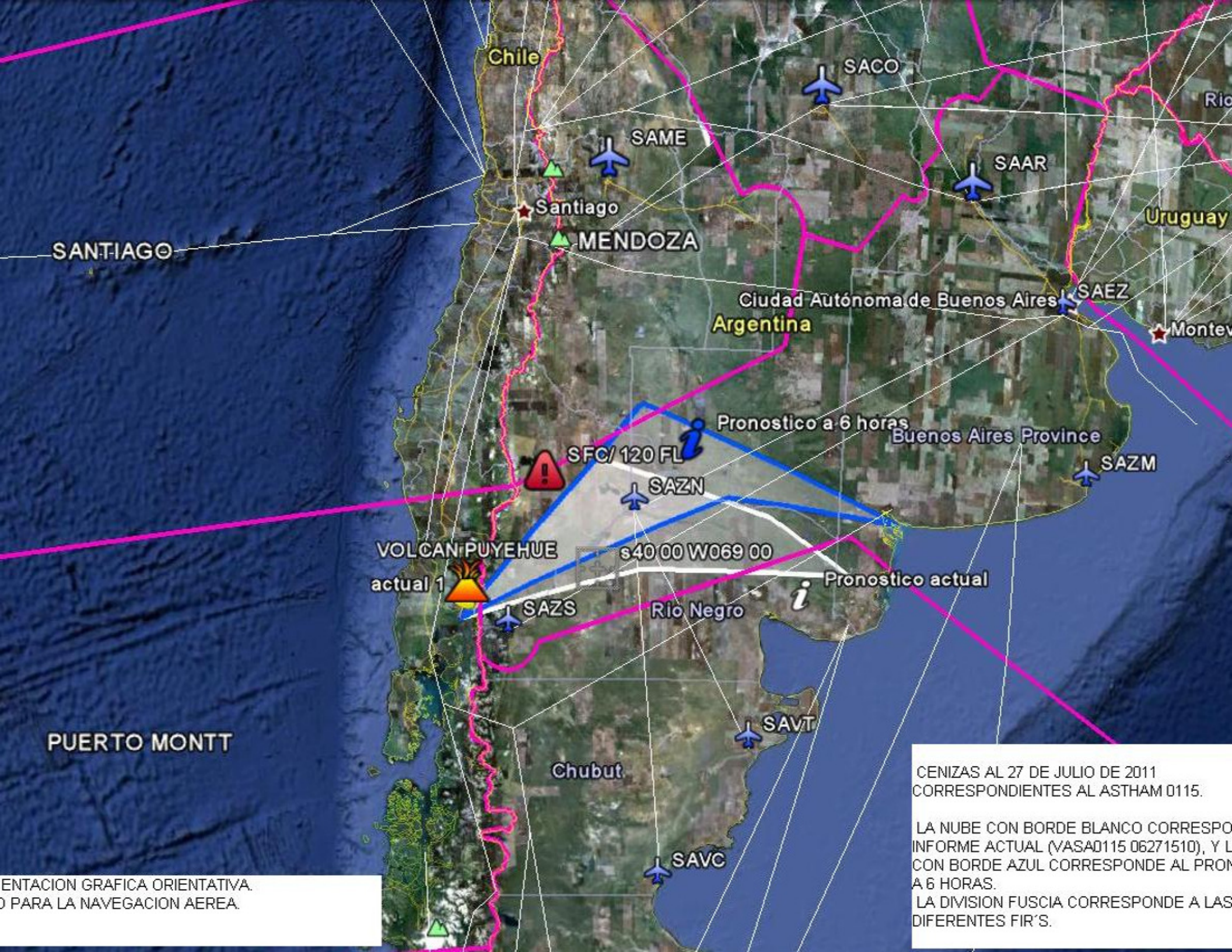
Corresponde ASHTAM VASA0058 20110614 08.00UTC



Cenizas volcánicas al 15 de junio de 2011



Expansión de las cenizas volcánicas al día 15 de junio de 2011. La nube violeta representa el aviso actual del informe (20110615/1400z) y la nube naranja representa el pronóstico a 6 horas.



PRESENTACION GRAFICA ORIENTATIVA.
 NO PARA LA NAVEGACION AEREA.

CENIZAS AL 27 DE JULIO DE 2011
 CORRESPONDIENTES AL ASTHAM 0115.

LA NUBE CON BORDE BLANCO CORRESPONDE AL INFORME ACTUAL (VASA0115 06271510), Y LA NUBE CON BORDE AZUL CORRESPONDE AL PRONOSTICO A 6 HORAS.

LA DIVISION FUSCIA CORRESPONDE A LAS DIFERENTES FIR'S.