

EGNOS SERVICE NOTICE

Number: 006

Revision: 1.1

To: EGNOS SoL and Open Service Users

Date: 21/06/2013

Subject: Status of EGNOS performances – North and North East of Service Area

This Service Notice describes the status of the EGNOS performances since the beginning of the month of November 2012, during which degradation have been observed in APV-I and Open Service performances measured in the North and North East of Europe. The purpose of this updated Service Notice is to provide clarifications on to the causes and potential solutions/way forward.

The following services are impacted: APV-I (availability and continuity) and Open Service performances. En Route to NPA service levels are not impacted.

EGNOS SoL Service integrity was not compromised at any moment remaining safe at all times and locations within the coverage area of EGNOS.

1 DESCRIPTION OF THE ISSUE

From the end of October until the end of December 2012, APV-I performances over the North and North East of the EGNOS SoL Service Area (as defined in EGNOS SoL SDD) have presented, during some periods, APV-I Availability values lower than 99% over a day and APV-I Continuity risk figures above $5 \times 10^{-4}/15\text{sec}$ over a day over the Northern part of Europe, affecting in particular the Scandinavian Peninsula. Several periods of loss of APV-I service have occurred during some days of this period (most frequently around midnight) over the Northern part of Europe. In particular, the period from the beginning of November until mid-December 2012, has been the most impacted by this kind of degradations.

Next maps show the APV-I Availability and Continuity results in that period (31st October – 15th December 2012).

EGNOS SERVICE NOTICE

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Revision: 1.1

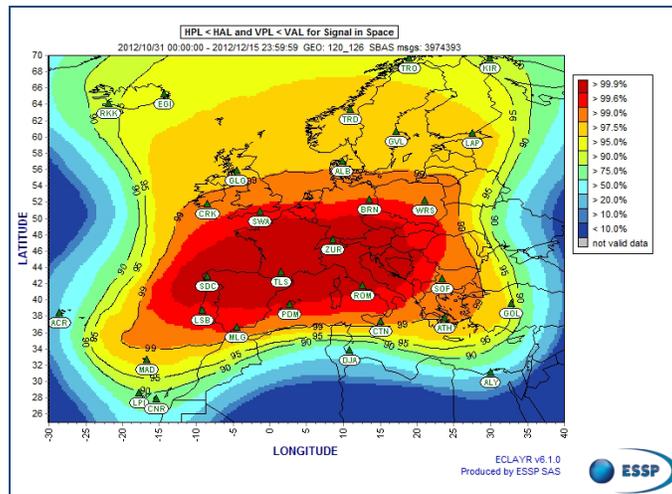


Figure 1 - APV-I Availability from 31 October to 15 December 2012

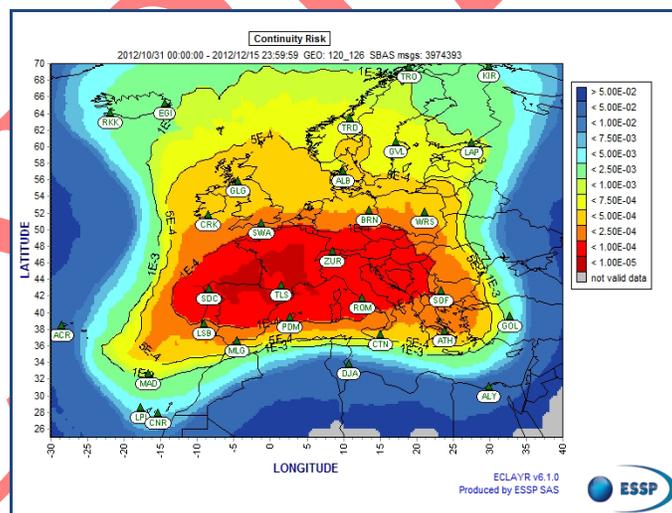


Figure 2 - APV-I Continuity from 31 October to 15 December 2012

EGNOS SERVICE NOTICE

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The analyses performed show that part of the APV-I performance degradations in the North are directly caused by two main issues related to the behavior of the ionosphere in the North of Europe:

- On one side, under specific low ionospheric activity observed in some areas of the North, a filter is activated in the system which detects some conditions which do not comply with some of the specified Ionosphere observability criteria (some IGP's are set to Not Monitored).
- Some degraded performances are also observed during periods with very high geomagnetic activity. This problem, which also affects to other SBAS systems, is closely related to the increase of the solar activity as we approach the peak of the solar cycle #24.

2 STATUS ON THE EGNOS SERVICE AND MITIGATION ACTIONS

According to the analyses performed by ESSP, the highest probability of occurrence exists during the last months of the year, and in particular, during the months of November and December.

This issue has been given the highest priority. ESSP, together with European Commission, ESA and Industry, have been working to identify the correction of this issue. The EGNOS System Release 2.3.2, which is planned to be deployed before the end of 2013, will mitigate the effect of those events, as it can be observed in next figures, and further tasks ongoing to remove the residual degradations:

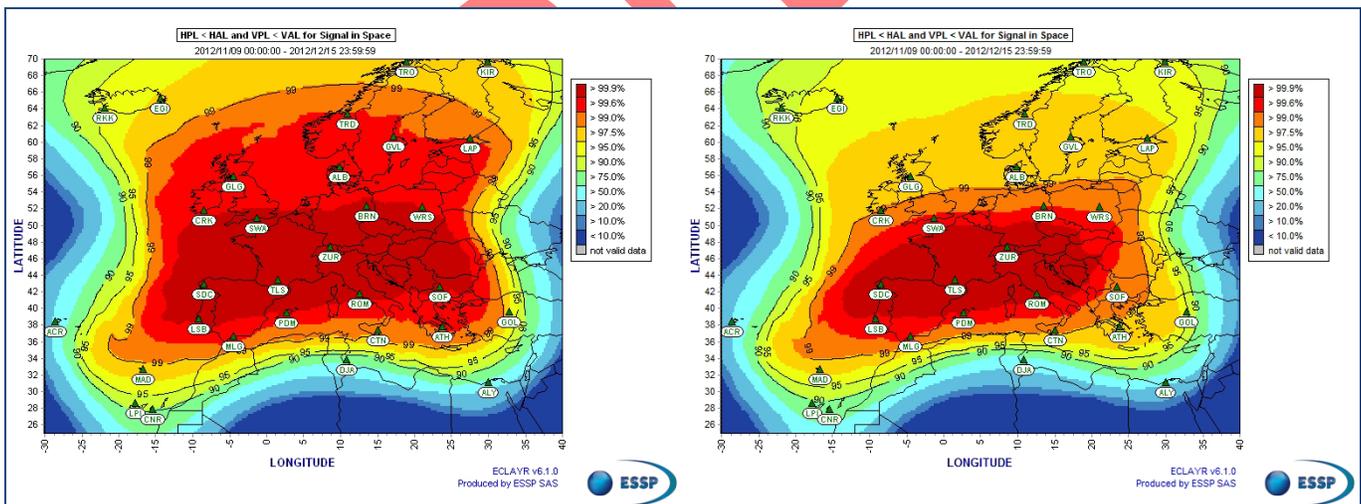


Figure 3 – APV-I Availability from 9 November to 15 December 2012 – ESR 2.3.2 (left)¹ & ESR 2.3.1 (right)

¹ Predicted APV-I performance with ESR 2.3.2.

EGNOS SERVICE NOTICE

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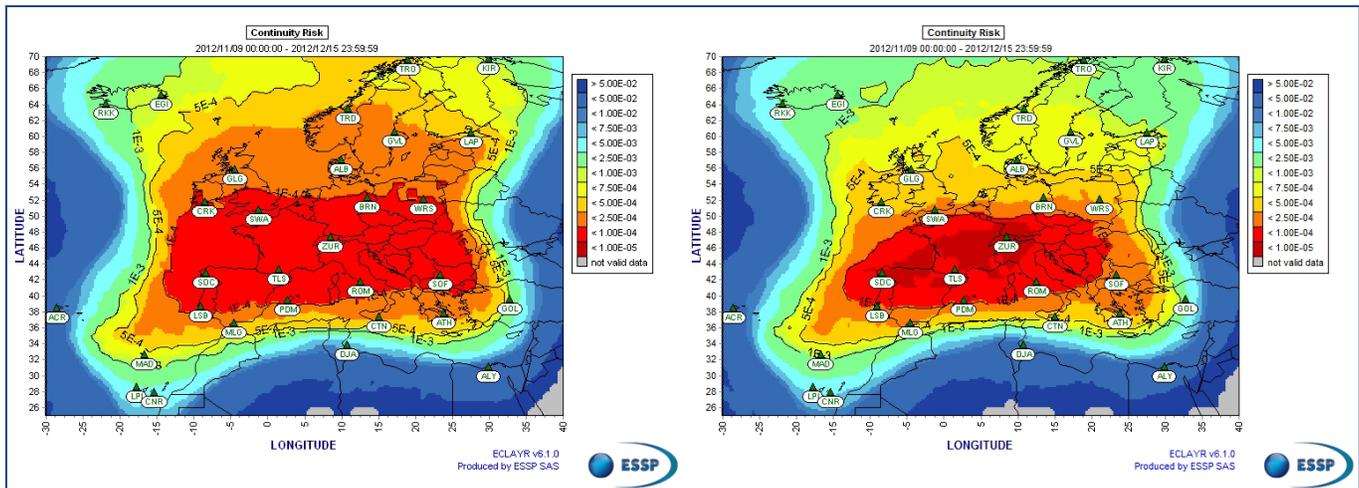


Figure 4 – APV-I Continuity from 9 November to 15 December 2012 – ESR 2.3.2 (left)² & ESR 2.3.1 (right)

More detailed information and results can be found at the EGNOS User Support website (<http://egnos-user-support.essp-sas.eu>) including daily performance results, real-time status of EGNOS performances, trending for the last 14 days and real-time LPV availability for all the airports with published procedures using EGNOS (specific information for the aviation users can be found at section Service Performances → Aviation).

2.1 CONTACT US

Should you have any question related to this Service Notice or EGNOS Service Provision, please, contact egnos-helpdesk@essp-sas.eu or +34 911 236 555

For more information about EGNOS Service Provision, please, visit ESSP website at www.essp-sas.eu and user support website at <http://egnos-user-support.essp-sas.eu>

² Predicted APV-I performance with ESR 2.3.2.