The EUMETSAT Network of Satellite Application Facilities / H SAF Support to Operational Hydrology and Water Management	**H-SAF CASE STUDY**		
Product Name	**H13 – SN-OBS-04**	**Validation Institute**	
Case Study Period	**09-02-2010, 12-03-2011**	**Case Study Geographical Area**	**Turkey**
METEREOLOGICAL EVENT DESCRIPTION			
Two case studies have been performed. Since snow water equivalent (SWE) values are important in hydrological modelling, the areal average SWE obtained from H13 product for Karasu Basin, which is the basin used in hydrological impact studies, is compared with the areal average SWE values obtained from hydrological modelling (HBV model) in the basin. The comparison is performed for two dates where maximum SWE was observed in the basin in water years 2010 and 2011. The coarse spatial resolution of H13 product is improved by multiplying with the H12 product. The obtained real average SWE results are shown in **Errore. L'origine riferimento non è stata trovata.**.			

Case study for 09.02.2010

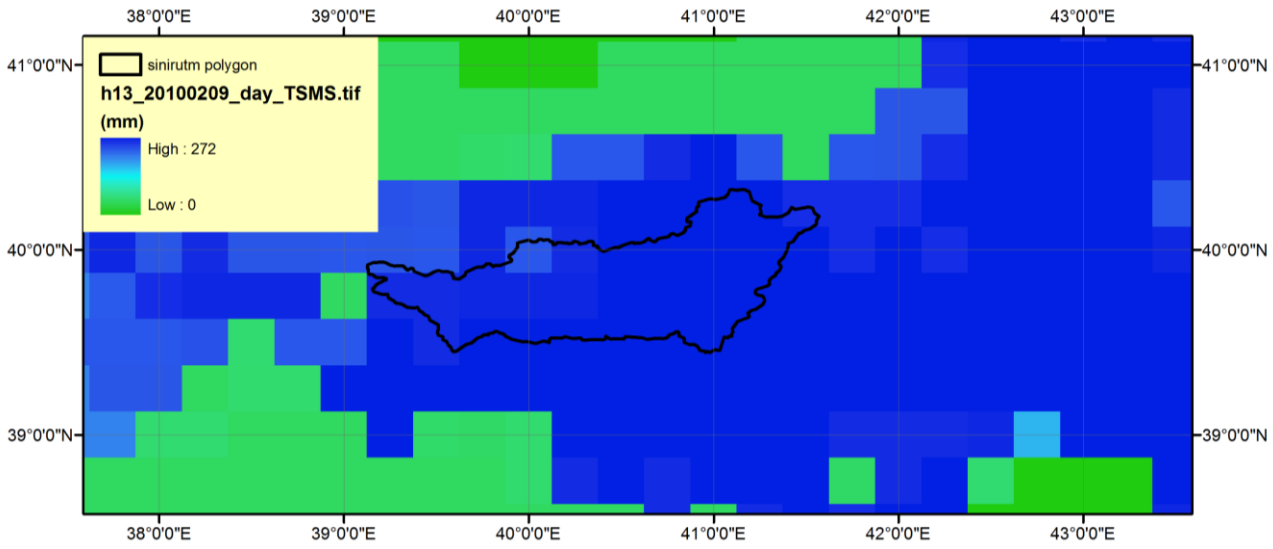

Figure 1 H13 product for February 9, 2010

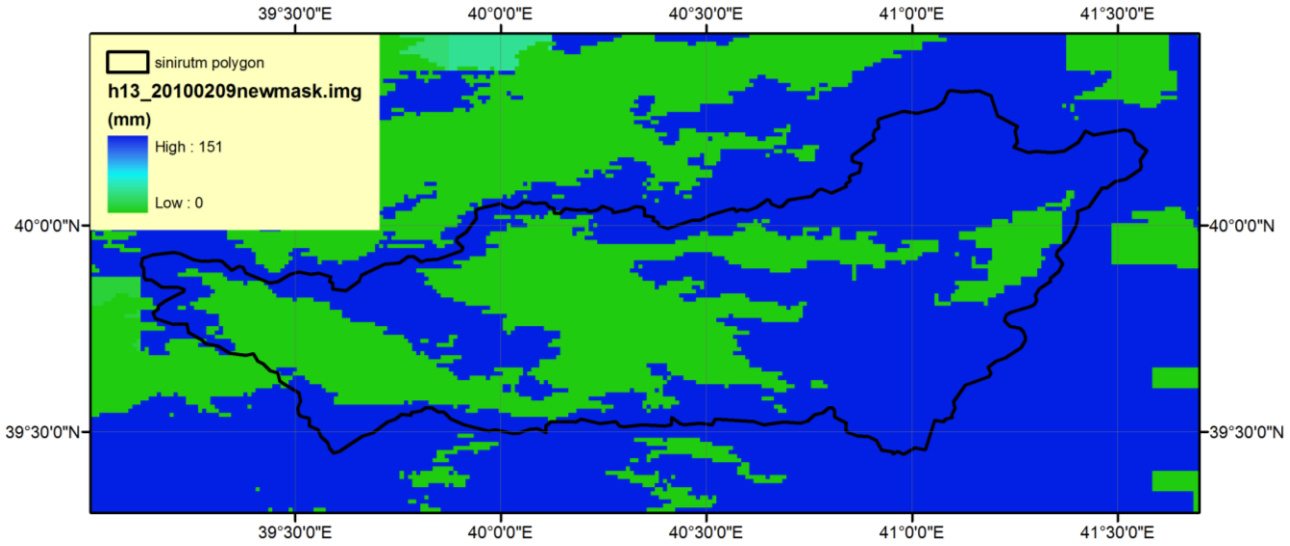

Figure 2 H13 product masked with H13 product for February 9, 2010

Case study for 12.03.2011

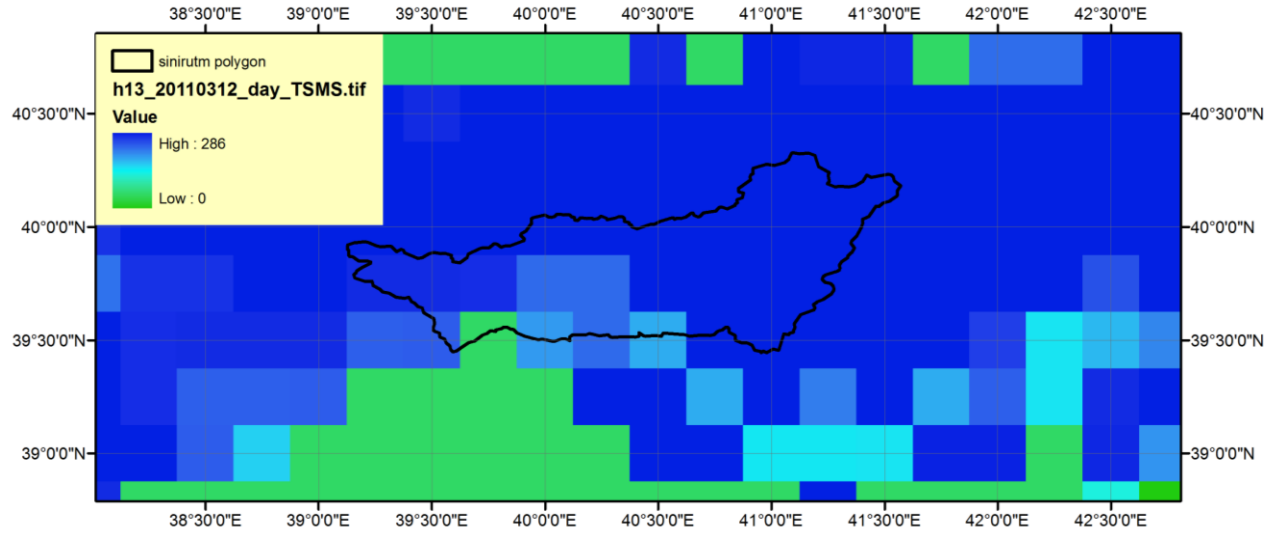

Figure 3 H13 product for March 12, 2011

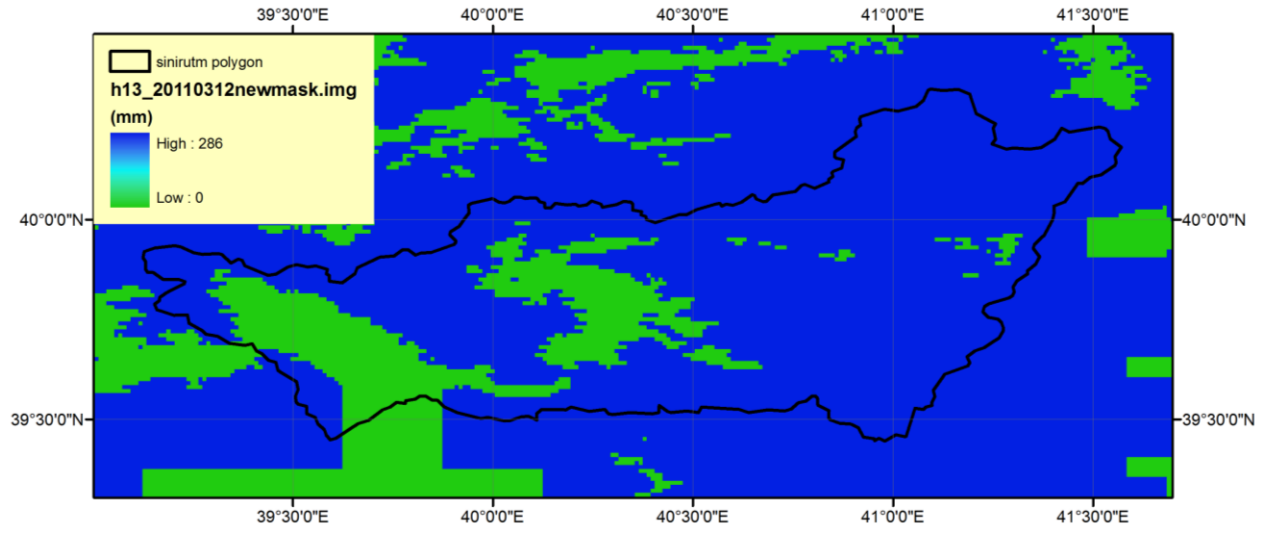

Figure 4 H13 product masked with H13 product for March 12, 2011

	SWE_H13(mm)			SWE_model (mm)	SWE_H13masked(mm)			SWE_measured= SD_measured * density of snow
	min	mean	max		min	mean	max	
9.02.2010	82	**106**	124	**68**	0	**71**	124	18 * 0.27 = **48.6**
12.03.2011	70	**122**	153	**75**	0	**98**	153	42.5 * 0.30 = **106**

Table 1 Areal average SWE values obtained from H13 and hydrological model HBV for Karasu basin

Conclusions

In **Errore. L'origine riferimento non è stata trovata.** the measured SD values (the last column of the table) were also used in the comparison. The dates Feb 9, 2010 and March 12, 2011 were selected due to the maximum SWE observed in the basin. The mean snow depth obtained from the ground observations was 42.5 cm on March 12, 2011.

The measured SWE was calculated as multiplying the SD with a mean density value, where 106 mm is the measured SWE for March 12, 2011. While 75 mm was obtained from hydrological modeling and 98 mm was obtained from HSAF SWE product.

This result indicates the performance of the HSAF SWE product compared to modeled SWE obtained from hydrological modeling