

# Snow Products development on Mountainous area by Turkish H-SAF team (TSMS-METU)

- a. Snow Recognition (SNOBS1-b)
- b. Fractional Snow Cover (SNOBS2-b)
- c. Snow Water Equivalent (SNOBS3-b)





## a-Snow Recognition

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# SN-0BS1b Sample for 27.12.2008



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#### 17 February 2008 SN-0BS1b Product







#### 24 February 2008 SN-0BS1b Product







# Validation of SN-OBS1b

For the first 3 months period of 2008 over:

TurkeySlovakia

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#### **Metrics**

	Satellite Product				
Ground Observations		Snow	No-Snow		
	Snow	а	b		
	No-Snow	С	d		

Slovakia

POD = a / (a+b)
FAR = b / (a+b)

	а	b	С	d
January	386	198	72	128
February	319	194	35	132
March	207	72	46	165
Total	912	464	153	425

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Turkey

Comparisons made for 78 climatic stations where 1736 measurements have been used.

3 months POD = 99 % FAR = 9 %



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# Slovakia

Comparisons made for 72 climatic stations where 1954 measurements have been used.

3 months POD = 69.7 % FAR = 31 %



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#### Merged Products (FMI & TSMS)





# **b**-Fractional Snow Cover

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Angles involved in the computation of illumination angle (i).





#### Merged Products (FMI & TSMS)



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# c-Snow Water Equivalent

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#### **EMPRICAL EXTINCTION COEFFICIENT FUNCTIONS-TEDESCO(2006)**

-SA

Tedesco et. al (2006) have investigated extinction coefficient versus frequency and grain size relationship for 6 types of snow which are defined by Sturm et. al. (1995) who classified snow into six classes based on **physical properties of snow and climate characteristics**. He tested it over Northern Hemisphere.







![](_page_18_Figure_0.jpeg)

![](_page_19_Figure_0.jpeg)

![](_page_20_Picture_0.jpeg)

#### Future Works

- Fine tuning of Snow Recognition Product
- Topographic correction of Fractional Snow Cover products
- Producing the SWE product for the HSAF domain
- Encouraging the usage and validation of products by related institues of partner countries.

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