

AWS Network of HNMS : A brief presentation and the experience gained of its use

Nick Kalamaras HNMS, Department of Weather Stations

International Conference on Automatic Weather Stations (ICAWS-2017), 24-26 October 2017

Offenbach am Main, Germany

"Automatic weather stations for environmental intelligence – the AWS in the 21st century."





OHNMS Weather Station Network

• Consists of 110 weather stations :

- 27 fully manned
- 33 semi-automated
- 50 automatic



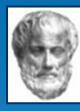


Circles: Fully manned Triangles: Semi-automated Squares: Automatic



•HNMS Automatic Weather Stations (AWS):

- Vaisala MAWS 110 and MILOS520
- They measure:
- Wind
- Temperature
- Humidity
- Pressure
- Precipitation



•AWS Sensors

• Temperature-Humidity (QMH102 or HMD45D)





•AWS Sensors

• Pressure (PMT16A)



• Wind (WAA151 & WAV 151)







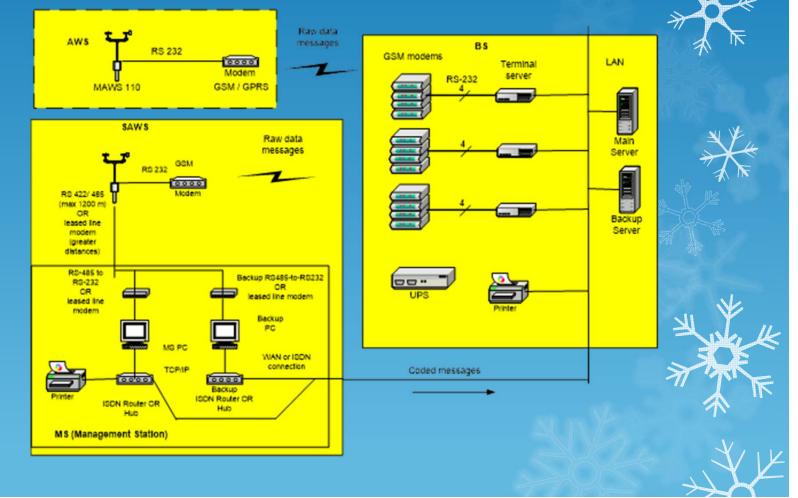
•AWS Sensors

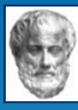
• Precipitation (RG13)

• Precipitation detection



●SAWS-AWS system architecture *





•SAWS-AWS software



(for)	5(10	Pol Persally Apply Setup	J						
(letion(A)		[Ostal)	1	ent Oboervedon Time	damietie	Previous Po	ano⊺ere	e Nex Poling Time	Ŀ
RakovO01				005-03-25 11:34:00		3005-00-25 11:34:02			12
200role5				3005-09-25 11:34:00		33075-00-275			1
Ration(033)			2	005-09-2511-34:00					1
2260H054			2	0025-08-25 11 34:00		2005-08-25	11:34:06	2005-08-26 11:34:00	
adopr035		Station is not included in data of	detier						
200roite5				3005-08-25 11:34:00		2005-06-25 11:34:16			
Padiori007				005-08-2511:04:00		2005-08-25 11:34:18			
800roite5				905-08-2511:34:00		2005-06-25 11:34:24		2005-06-26 11:34:00	
F340+029				2005-00-25 11:34:00		33075-009-375	11:34:25	3005-00-36 11:34:00	
Palioritit			1	2005-00-25 11:34:00		3305-00-25	11:34:30	2005-00-26 11:34:00	ŀ
Johen Log			Pat Stal	No					
System Log			Pat	[Oesogeard]	Succe	so Flate (32)	Ties	Communicating New With	T-
MM Information (2005-08-25 11:34:35)			C0M2	Valuate 0094421			-		13
			COMI	Nolise 30 GSM Moder	Ukknow	Uriancen 0.00		CON1 laterer	T
			LAN	Etvanet Adapter					
			COMO						
			C0144						
			COMS						
Autocrolite last recourse CDM			CDMS						1.

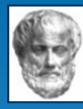


• Experience gained

• Maintenance

- Availability in spare parts.
- Cost of the necessary infrastructure (appropriate tools, standard devices for sensor calibration etc.).
- Technicians have to stay away from their base (at a hotel) during their transition to maintain or to repair a fault at AWS sites.
- The cost of transportations is often high.

• Malfunction of sensors (False rain)



OConclusions

- It is absolutely necessary to boost maintenance infrastructure. All the aspects of maintenance are strongly depended on financial support. Having in mind the current financial problems, it is very important to minimize the cost of maintenance. Therefore, more efficient financial management requires a better organization of the maintenance system.
- The second point is clearly stated by WMO excerpt, which refers to the need of technical personnel retraining:
- "As an AWS is based on the application of technology that differs considerably from the equipment at conventional stations and networks, a comprehensive review of existing training programmes and of the skills⁴ of the necessary technical staff is obviously required."



Thank you very much for your attention !

