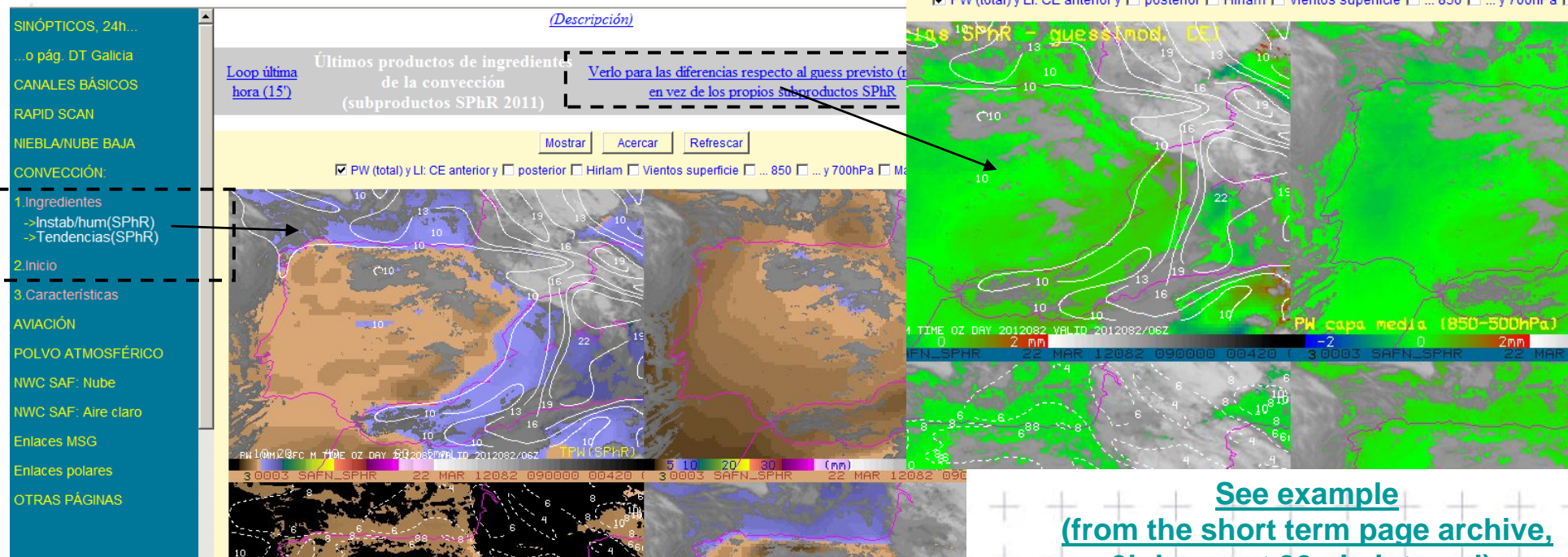# IMPROVEMENTS IN THE OPERATIONAL INTRANET WEB PAGE FOR ACCESSING MSG DATA AND PRODUCTS Subentry Convection-Ingredients: Introducing the NWC SAF SPhR (Physical retrieval) new subproducts and guess differences

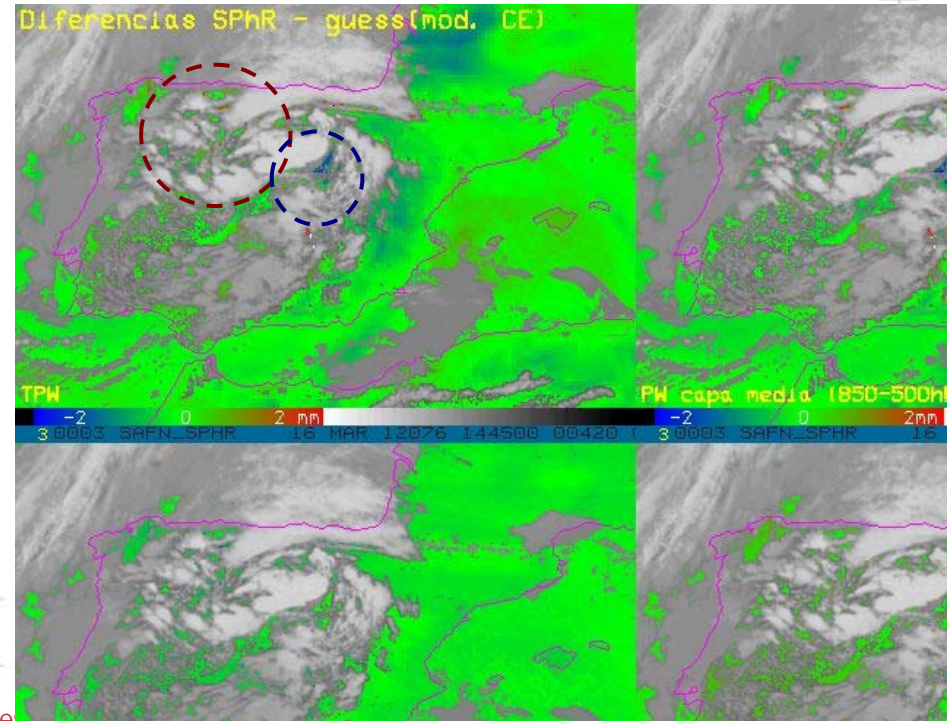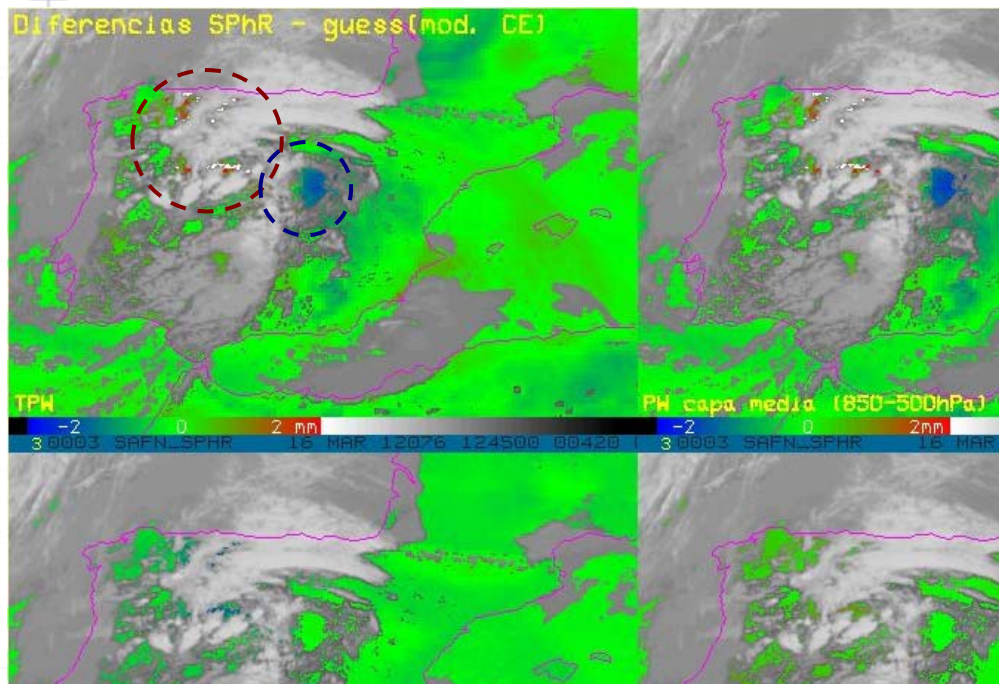José Miguel Fernández-Serdán
jfernandezs@aemet.es
ATAP

- 3 sub-entries in the Convection entry: <u>a-priori conditions</u>, initiation, and characterization.

- A-priori conditions: Instability/humidity NWC SAF (recent, recent evolution) + related and complementary (wind) NWP fields.

- October 2011 – Feb. 2012: SAI/LPW/TPW products are operationally replaced by SPhR/PGE13 – similar derived subproducts (Lifted Index, total PW, 2 layers PW). Revision of NWP fields.

- And new preoperational display: same (recent/last hour) replacing SPhR subproducts by guess differences. Default (NWC SAF) simple but efficient color enhancements are by now used.

**See example
(from the short term page archive,
3h loops at 30min interval):
16/03/2012- 12-15z**

Example 16/03/2012 - 12 to 15z : discussion

- Winter or early spring case, shallow convection in the northwest part of Central plateau, mostly linked to the core of a low (rapidly displacing northwards across western Peninsula), weak instability (LI index >=0°), and water vapour content is rather moderate (total PW < 20mm).

- Guess differences (left image, 12:45z, total and medium levels -upper panels);) indicate (red and white values, great circle) more humid than model (ECMWF) environment in the NW of the Plateau and less humid (blue) spot to the SE. Evolution (right, 14:45z) is consistent, with convective cells that persist or reactivate in the first area while rather Ci bands or cloud free in the second.

- An interpretation could be that satellite was able to "add" humidity (related to the convection itself and not well resolved in the model) or retry it (maybe related to strongest than expected downslope wind component south of the Central mountain ridge acting as airmass boundary). It is however not excluded product errors (e.g. presence of thin Ci not detected, but if so it could be expected that LI index -down left panel- also reflecting and not clearly the case). More studies and evaluation are of course needed for product characterization and guidelines for operational use.

www.aemet.es

Next and future issues

- Improved or nicer display of guess differences. Other improvements in the visualization.

- Use of other SPhR subproducts, as K-Index (and even profiles and differences?).

- Study of further information useful for the interpretation, analysis and use (e.g. channel and LST derived).