



Validation and Documentation of Methods developed in the Convection Working Group

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... it depends ...



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- Type of application
- Geographical region
- Coverage issues
- Manpower and workload issues
- Status (experimental, pre-operational, operational, ...)
- Warning philosophy - examples:
 - „We do not want to miss a single event, but false alarms are less critical.“
 - „We mainly focus on the big-impact events and care less about minor and more frequent events.“
- Seamless forecasting issues
- Probabilistic versus deterministic approach
- ...

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... stands for a critical, scientific and outcome-oriented approach, relatively independent from e.g. national met-service policies, historically grown structures ...



ESSL approach - consequences

- High degree of freedom – *typically correlated with low budget*
- Main asset of ESSL in the long run: **trust** of our partners in what we do and how we do it
- Service to the community and very specialized support
- Main own interests out of painful past experience:
 - exchange of knowledge
 - exchange of data
 - scientifically based approaches
 - applications with high usability
- bridge communication gaps (for example: R&D – forecasters works best when people meet in person ...)



Convection Working Group (CWG)

1. Is a group of researchers that develop **tools** for monitoring and analysing deep, moist convection and attendant hazards
2. Many of these tools have an **application** in forecasting severe weather (goal to feed into operations)
3. The CWG has historically focused on making an inventory of these tools
resulting in the “**Document on Recent Concepts and Practices**” by König, Mecikalski and Bedka (originally called “Best Practices”)

A recurring question was which of those really are the **Best Practices** ...



Validation

ESSL believes that the **validation** of tools is a necessary (next) step, that should be promoted within the CWG.

Validation consists of two or three components:

1. a validation of the underlying theory
2. a validation in which the tool is applied to real data
important: not only a case study, but rather a representative sample

-> these steps can be considered accomplished by passing peer-review publication process

For forecasting tools:

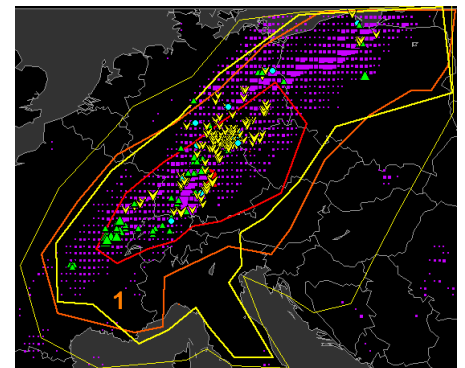
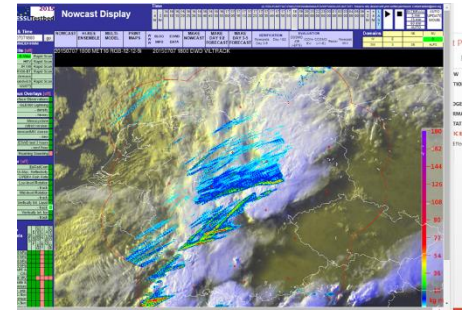
3. a validation by use in practice by forecasters:
not biased by ... hierarchy or national habits or self-energizing closed communities ... **the broader the better!**

-> for instance, at the ESSL Testbed or similar



ESSL Testbed

- Systematic evaluation of forecast-supporting tools for severe weather forecasting
- Both documented and direct feedback from forecasters and developers
- Experts in forecasting, satellite and radar from across the world
- Best argument for the Testbed: Martin, Kris, Kathrin, Zsofia, Vesa, and Ralph and ... have already taken part in the past :-)





Discussion points

In which ways can CWG support method/tool **validation**?

- support for Testbed participation by EUMETSAT (already exists!)
- evaluation of satellite-based tools (in discussion)?
- ...

Is another **form of documentation** of CWG methods and tools desirable?

- wiki (Q: will it be used?)
- modular webpage (easier to update than long document?)
- more condensed document version – as suggested on Wednesday?
- ...

Can more interactivity be created within the CWG?

- an internet discussion forum?
- teleconferences?
- ...