

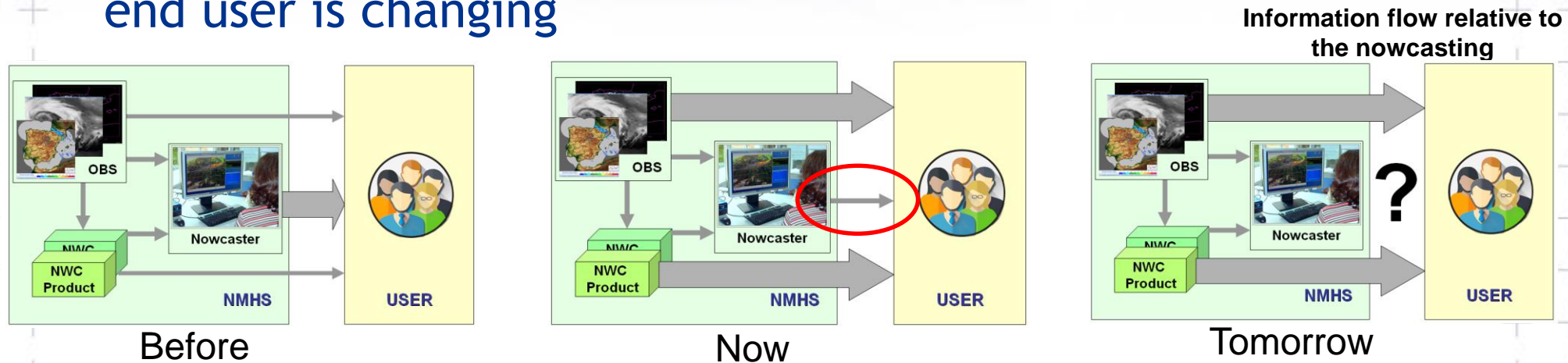
# NOWCASTING DECALOGUE: Ten essential ideas

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# The importance of a Nowcasters team

- The flow of information between the nowcaster and the end user is changing



- A nowcasters team is only required for the most difficult and more severe situations (only a few per year)
- So, do we really need a team of nowcasters?
  - No
  - Yes → Great repercussion  
→ NMHS's prestige at stake

THANKS FOR YOUR ATTENTION

SOME POINTS ABOUT THE  
NOWCASTERS TEAM

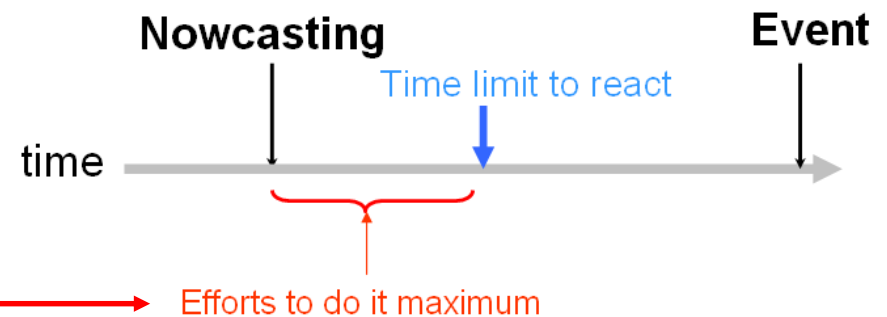
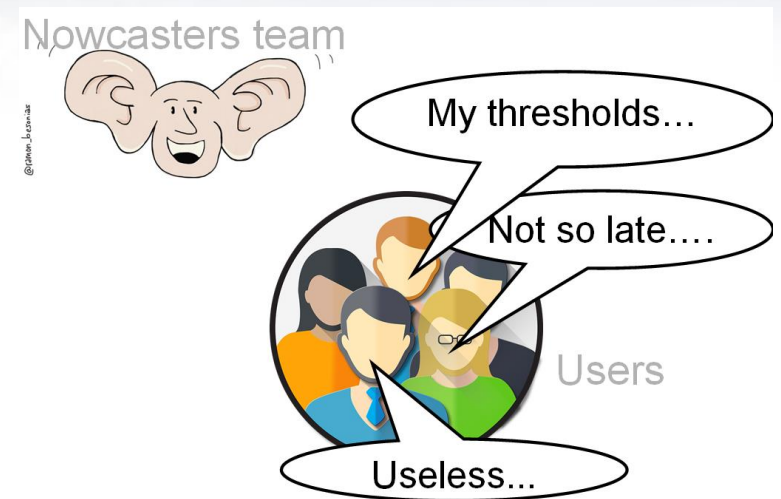
# 1.- Who is Nowcasting for?

- Because Nowcasting...

- Expire right away
- Is oriented to specific areas
- It implies action

→ Relationship trained with users

- Who are they?
- What and how do they need?
- What reaction time do they have?



Let's work on increasing it

Efforts to do it maximum

## 2.- Well trained Nowcasters

- Trained in making quick decisions

***“The best is the enemy of the good”. Voltaire***

- Trained in intuitive decisions:

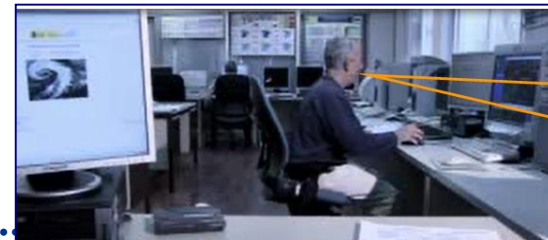
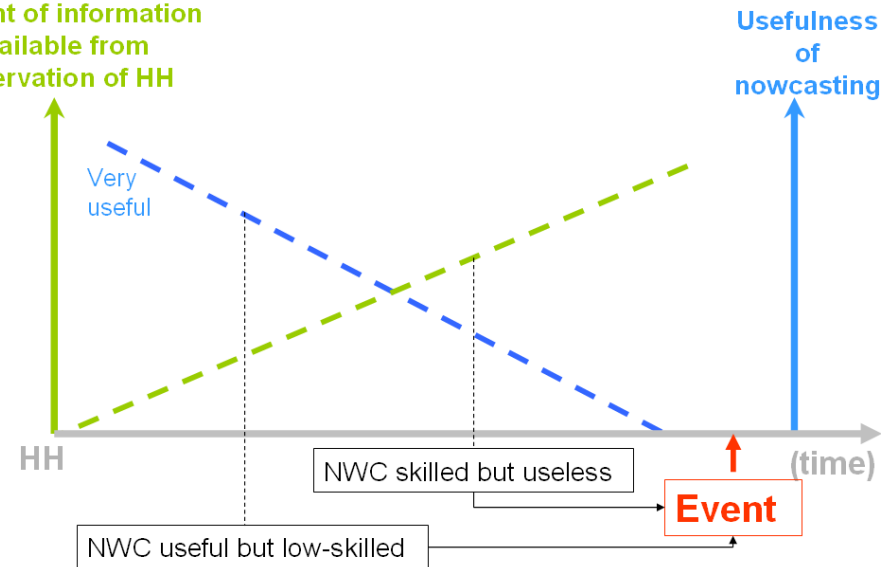
***“Your intuition is not accidental, it reflects your experience”. Gary Kein***

- Trained in critical thinking  
(vs confirmation bias)

- Good weather? → Training in decision making:

- Tx-Tmin / breezes / break of thermal inversion / wind shifts / converge lines / ...

Amount of information  
available from  
observation of HH



DO YOU HAVE  
ANY DATA THAT  
CONFIRMS MY  
NOWCAST?

***“Give me six hours to chop down a tree and I will spend the first four sharpening the axe.” Abraham Lincoln***

### 3.- Organization of work

- Nowcaster  $\neq$  Forecaster
- Situational Awareness (SA)
- How many Nowcaster positions?
  - Good weather  $\rightarrow$  minimum
  - Severe weather  $\rightarrow$  Sized according to:
    - Surveillance area
    - People affected
    - Weather severity
    - Duration of severity
    - Panic button



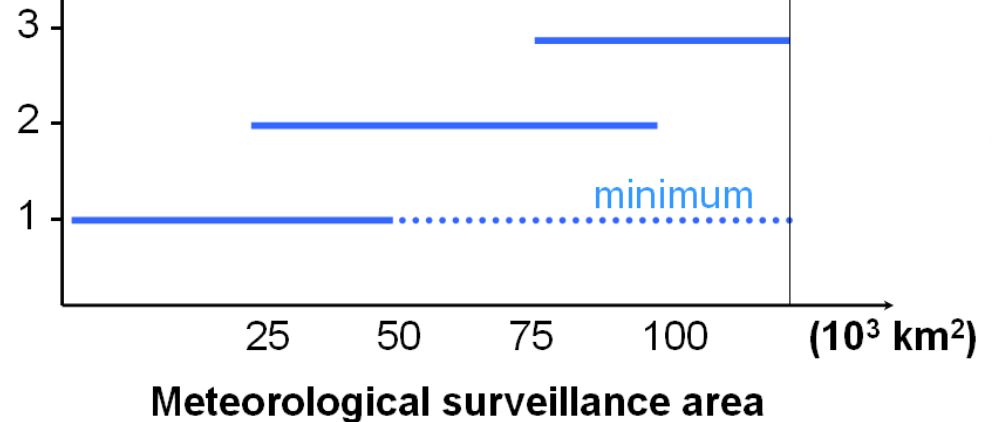
$\rightarrow$  1+position

**Guidelines for Nowcasting Techniques (WMO-No. 1198):**  
Proficiency in forecasting does not necessarily translate into nowcasting proficiency and vice versa



**WARNING DECISION TRAINING DIVISION**  
NOAA/ NATIONAL WEATHER SERVICE

**Nowcaster  
positions**





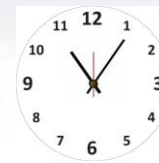
## 4.- Workplace correctly adapted

- SA → Ergonomic place that favors the concentration
- Key information at his fingertips
- Rules or Normative folder:
  - User's thresholds
  - Telephone numbers,...
- Meteo folder:
  - Conceptual models,...
- Techniques folder:
  - Radar coverage and limitations
  - System and tools specifications
    - Resolutions
    - Delays,...

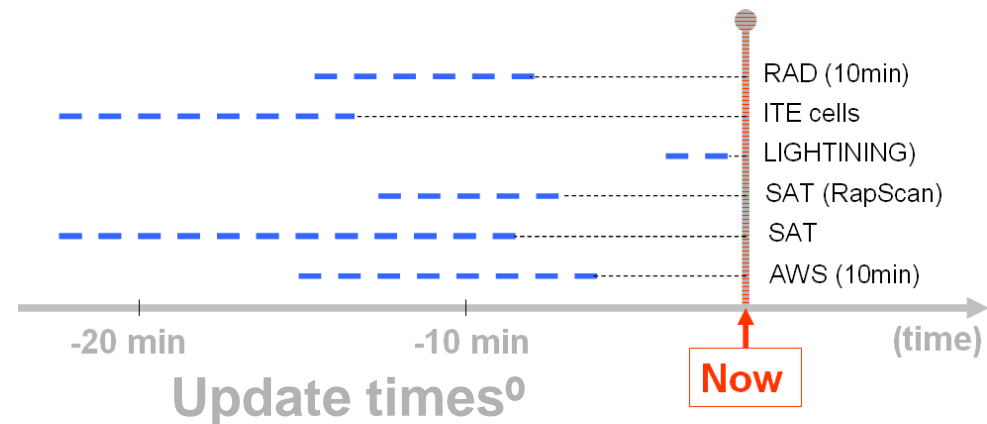


## 5.- Quick access to weather information

- 5 minutes before, please!
- Obs availables asap
- Analyze and minimize times by:
  - Reducing the delay in viewing the products and observations



- Optimizing QC
- Faster AWS interrogations
- Radar 5 min
- Optimal NWC processes (Remember Voltaire)



How long ago was this observation?

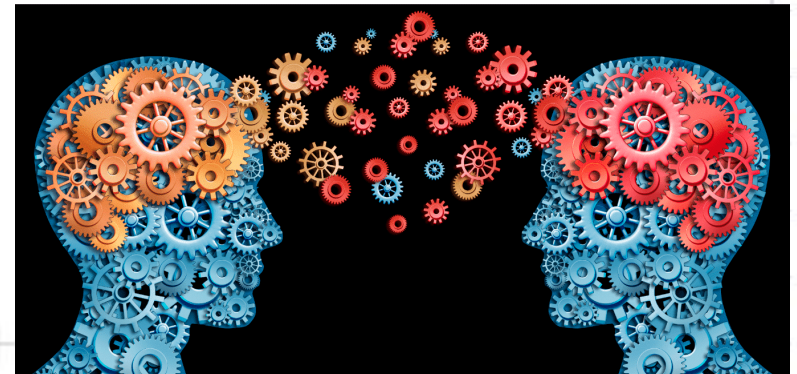
## 6.- Nowcasters need help

- Support team, who...
  - Filter the data
  - Draw attention to extreme data
  - Follow media and social networks
- ➔ decreases the % of making mistakes



Adapted from: Studiostoks / [Shutterstock](#)

- In a psychological security environment
  - The team feels that can share ideas
  - That the information flow

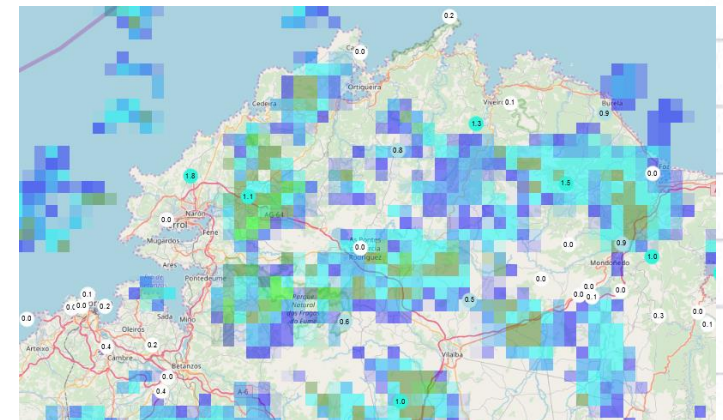




## 7.- Adequate visualisation of the right tools

The tools for the Nowcaster:

- Integrative but not delaying
- Seamless products (trends, accumulations)
- Probabilistic (prob. > thresholds of users)
- Uncertainty
- Georeferenced
- Friendly and intuitive
- Windows suitable for NWC.
- Alternatives: SAT for RAD when failures or no coverage



Radar + AWS on VISOR

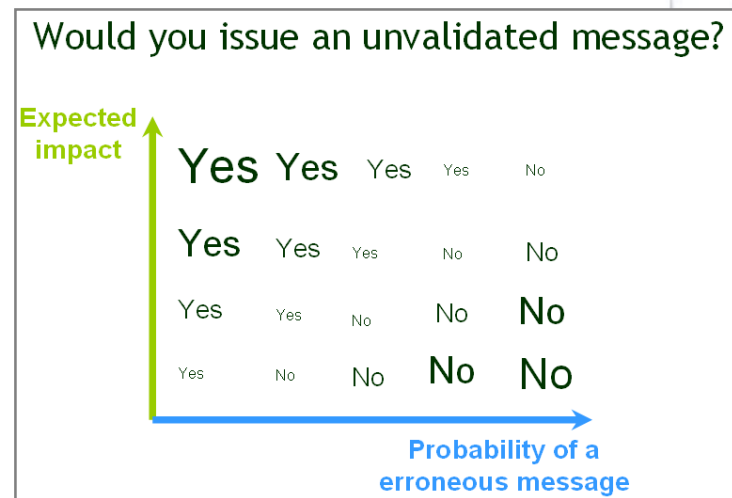
## 8.- The importance of automatic messages



- If adversity persist hours → auto messages will be wellcome

Observations exceeding thresholds	Rainfall	Gust	Tb
Phenomena in the vicinity of sensitive areas	Lightning	Fog	Cb
Objects that go to sensitive areas	Lightning	SAT	RAD

- Validation by the nowcaster
- What to do if the message is not attended?
- What if the nowcaster is overwhelmed  
→ Panic button



# 9.-Verification



- Nowcasting is rooted with the user → needs a qualitative verification, too

## Was the nowcasting useful for our users?

- Qualitative verification
  - Talk to the users after each adverse episode
  - Was it useful? Was it punctual?
  - Source of the discontent of the users
- Quantitative verification
  - Taking into account the users thresholds
  - Appropriate attributes, metrics and graphs
  - Depending on the variable and the reference observation



Guidelines for Nowcasting Techniques (WMO-No. 1198)

# 10.- Analysis post-mortem

1. Analyze. What did not work?
  - Unprejudiced
  - Not about looking for a guilty
  - Look for bottlenecks and malfunctions
2. Locate the causes
  - Observations, process, human



Adapted from  
<http://blog.uvm.edu/farmvia/files/2017/03/premortem-business.jpg>

## Lost of situational awareness as a result of a lack of resources

- Too large surveillance area
- Lack of adequate training
- Excess of tasks unrelated to the practice of nowcasting



3. Find or propose a solution
  - Priorities with optimal cost/benefit ratio
  - Recommendation to the developers and testbed proposals
  - Adapt and improve conceptual models



## In summary

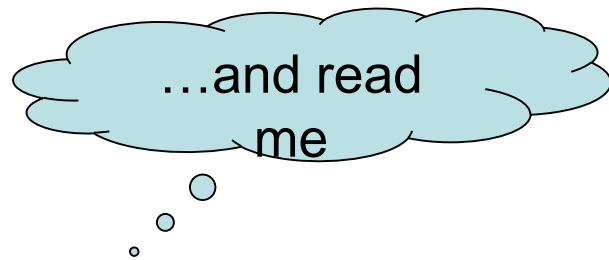
1. Who si nowcasting for?
2. Well trained nowcasters
3. Organization of the work
4. Workplace correctly adapted
5. Quick acces to weather information
6. Nowcasters need help
7. Adequate visualization of the right tools
8. The importance of automatic messages
9. Verification
10. Post-mortem analysis

And now, let's nowcast!



# Gracias por su atención

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