

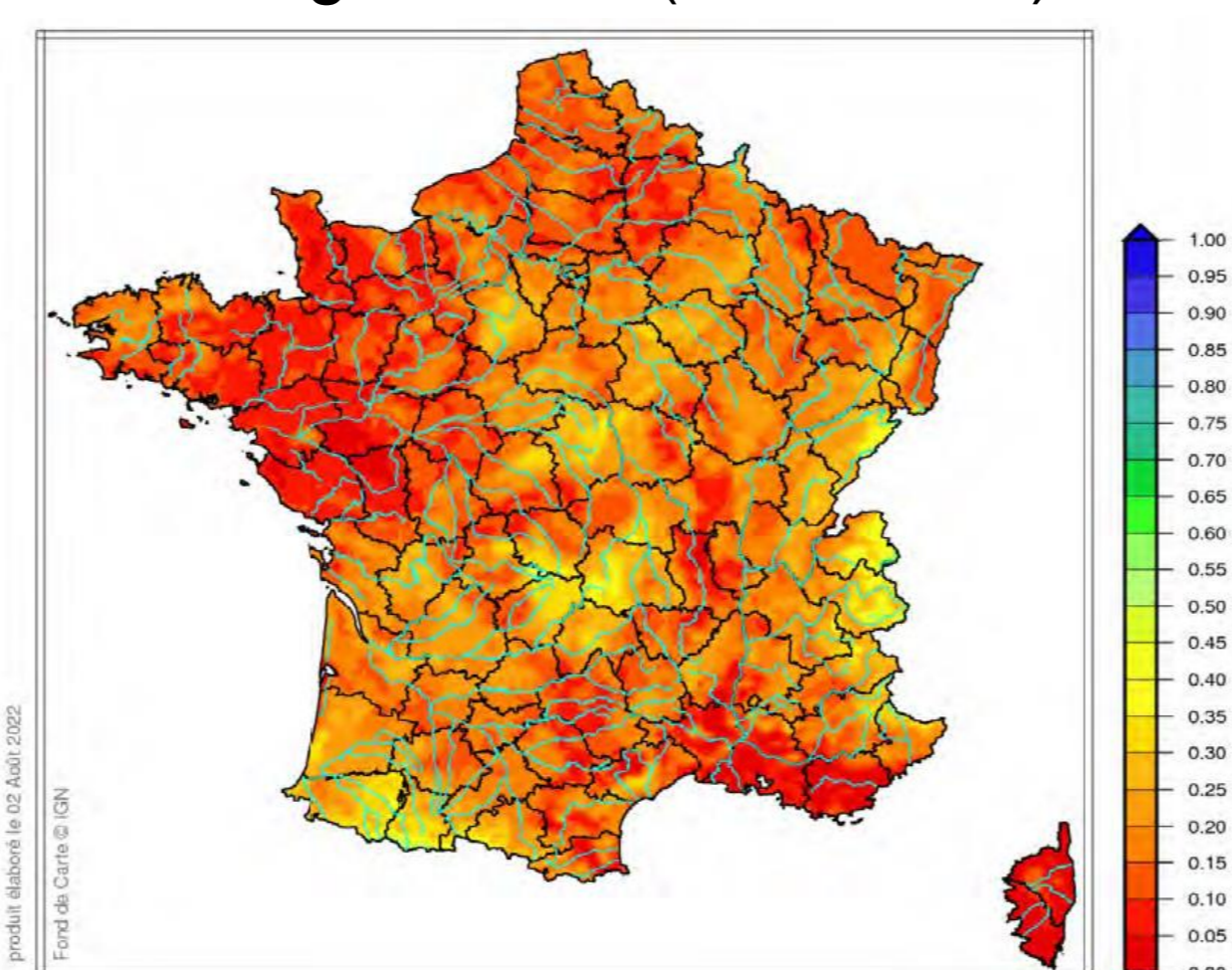
Providing precipitation accumulation forecasts with a probabilistic approach to help farmers during the severe drought episode of summer 2022 in France

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Summer 2022 one of the most severe episodes

France Hydrological Situation on 1 August 2022 (source MF)



Application of EPS for crop protection (Aleksovska et al.)

Application of EPS for crop irrigation (cf présentation of Bachar Tarraf)



Research action
Ensemble Weather forecast for Agriculture

What probabilistic information on rainfall forecasts can help farmers?

=> Provide probability of reaching a certain rainfall accumulation (10mm, 15mm and 30mm) over the next 7 days and the 7 following days.

IFS-EPS

At each point and member sum of precipitation over the next 7 days and the following week

At each point : Probability of reaching a certain rainfall

Visualization as a map

During Summer 2022

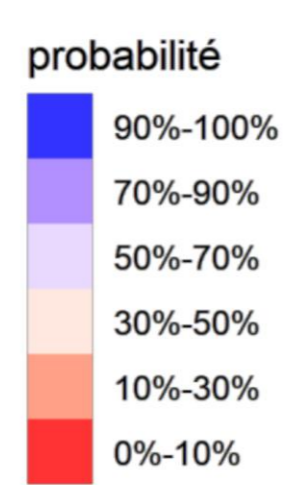
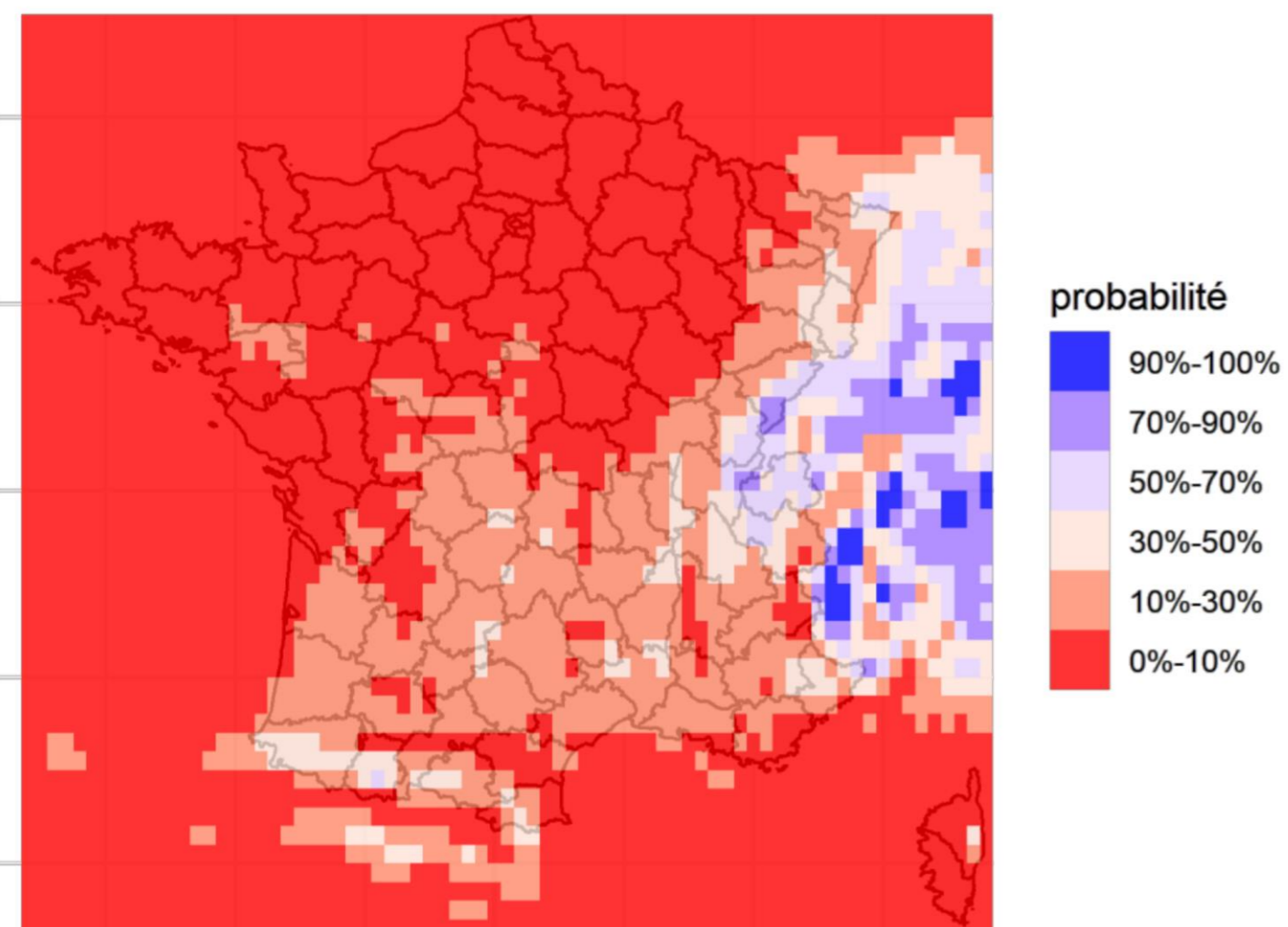
For Summer 2023

A simple app for french farmers

Daily posts on the web

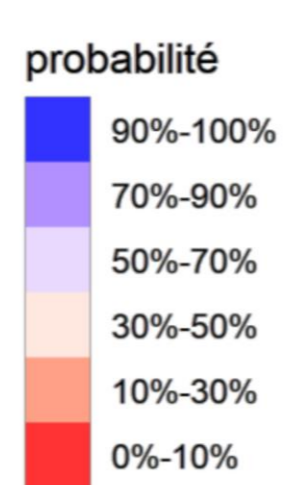
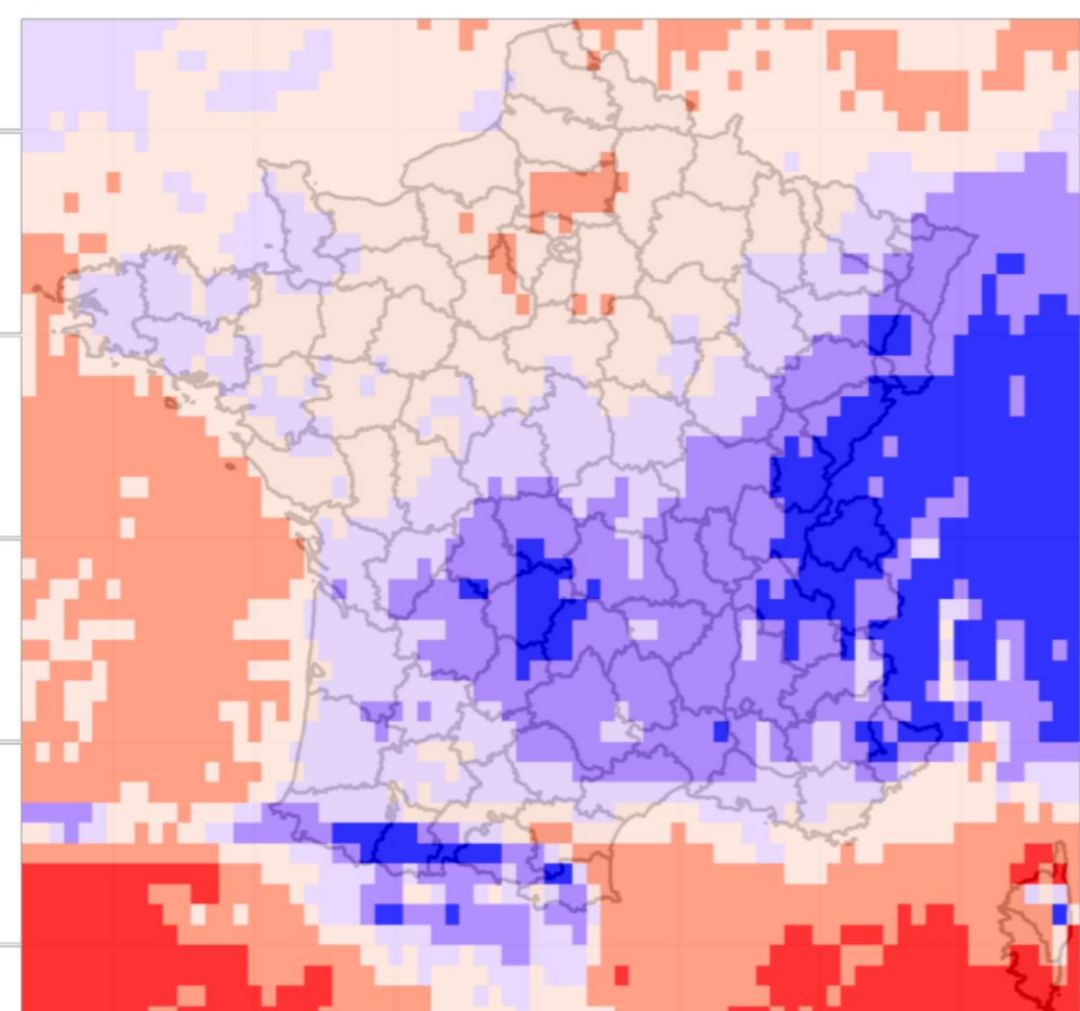
Forecast : Probability of cumulative rainfall >30 mm (26 August 2022)
at 7 days, the whole territory should not reach a cumulative rainfall of 30 mm (<10% in red or <30% in light red).

probabilité somme précipitation >=30mm sur 7jours
période: 2022-08-26 - 2022-09-02



At 15 days, the probabilities increase everywhere, but a large zone (Brittany, Centre and North) where the probabilities remain low (<50% in white-red or <30% in light-red).

probabilité somme précipitation >=30mm sur 15jours
période: 2022-08-26 - 2022-09-10



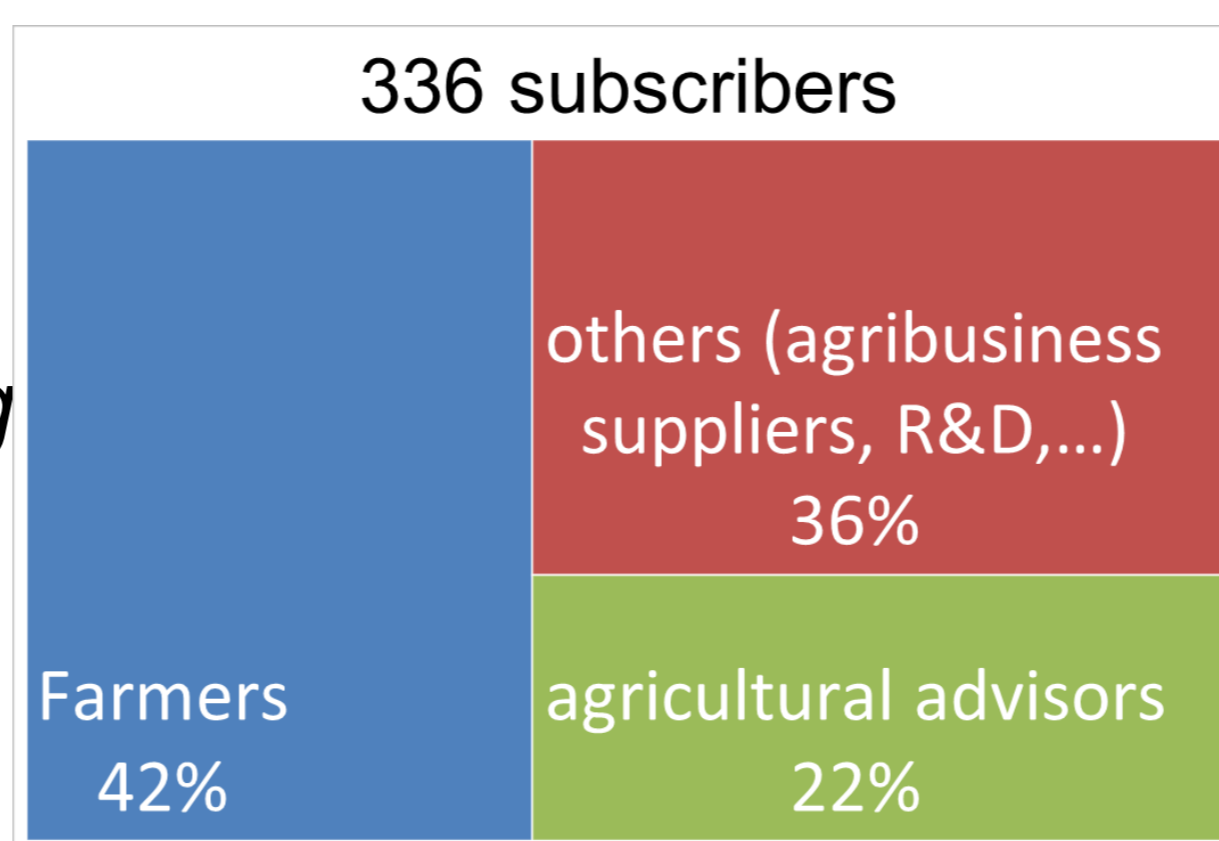
source : ECMWF du 2022-08-26
visualisation : Acta - instituts techniques agricoles / Météo-France

Diffusion

Social networks



Emailing

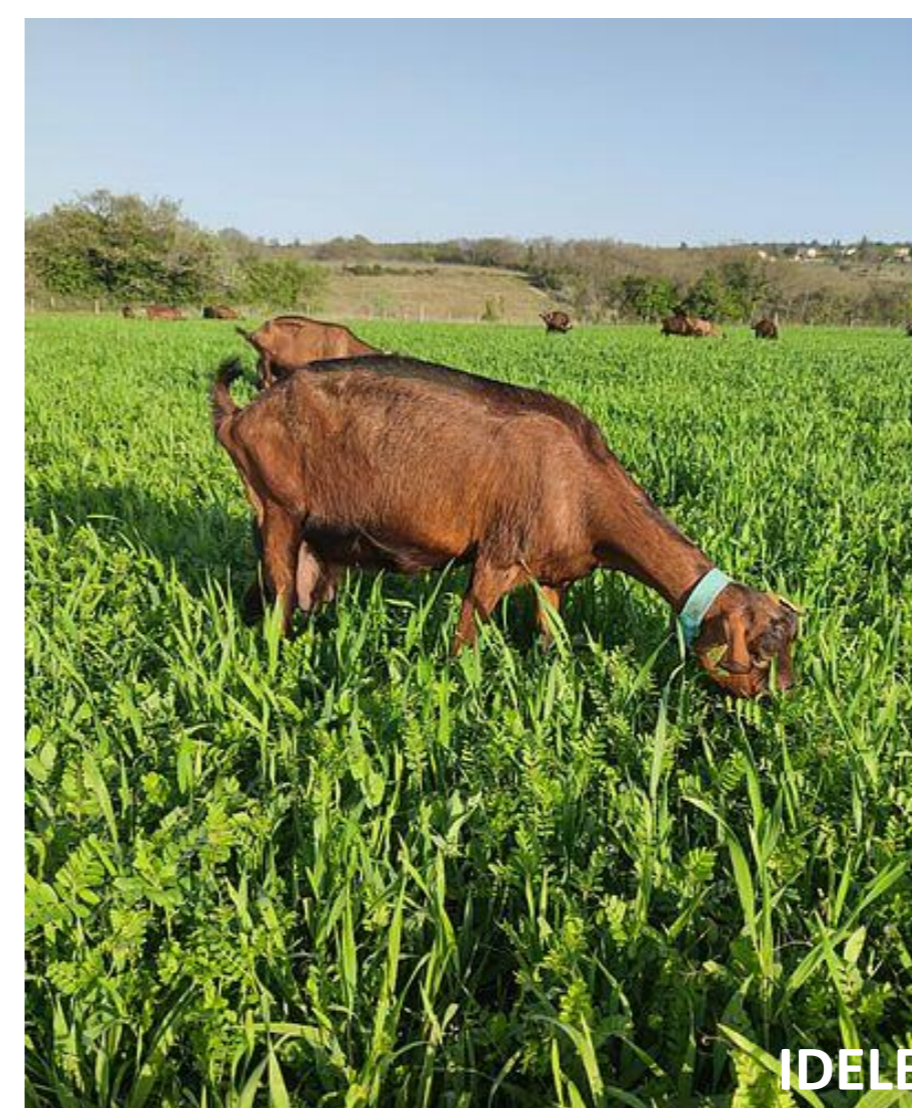


Fields experts

rape sowing

Cartographie Service AléaPluie au 11 août			Conseils au 11 août 2022	
11/08/2022 Seuil 10mm - Cumuls sur 15 jours			Situation la plus favorable. Semis conseillé. Cumul de pluie > 10mm très probable sur le tout le territoire.	
Affiné	Sec	15	Zone 1 : semis possible. *En semis direct : report du semis suivant quantités tombées et des prévisions. Zone 2 : semis conseillé.	
Motteux	Présence de fraîcheur	15	Zone 1 : *Sol superficiel : semis risqué *Sol profond ou avec MO : report du semis reste envisageable pour affiner le lit de semence mais risquée de la levée dépendra de futures épisodes de pluie. Zone 2 : semis possible.	
11/08/2022 Seuil 15mm - Cumuls sur 15 jours			La situation la moins favorable	
Motteux	Desséché	25-30	Zone 1 : Profitez des pluies pour affiner le travail du sol et report de semis. Zone 2 : semis possible.	

grass growth



Outlook

- evaluation of the perception of this information by farmers
- assess the quality with probabilistic score
- combination with specific decision-support tools (irrigation, sowing rules, grazing management,...)