

DRIAS portal as a climate service

<http://www.drias-climat.fr>

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- **A growing need for climate information**

- Wide spectrum of users involved in impact and adaptation issues: Research, Institutional Communities, Local Association, Business, Consulting...
- Complicated access to information, complex to use

- **A support need for Scientists**

- To deliver scientific productions
- To promote research work to a wide public

- **A system to bridge between the offer & demand**

- Facilitate and simplify access and use of regional climate informations
- Provide a service and facilitate the link between users and researchers

The DRIAS Project

DRIAS : To provide Access to French Regional Climate data and products for Impact and Adaptation of our Society and environment

- **Funding & Support:** Management and Impact of Climate Change program of the French Ministry of Ecology and Sustainable Development
 - Project duration of 2 years.
 - Launching of the web portal: July 2012
- **Coordination:** Direction of Climatology of Météo-France
 - Know-how on system, development and distribution of climate products
- **Implication of the major French teams of climate modelling**
 - Institut Pierre-Simon Laplace (**IPSL**) : Laboratoire de Météorologie Dynamique (**LMD**) & Laboratoire des Sciences du Climat et de l'Environnement (**LSCE**)
 - Centre Européen de Recherche et Formation Avancée en Calcul Scientifique (**CERFACS**)
 - Centre National de Recherches Météorologiques (**CNRS / Météo-France**)

Development and implementation of a web portal, mixing the operational know-how of Météo-France & the scientific vision

Interaction with users

- A users committee from the beginning of the project
 - Public sector
 - Research community
 - Engineering consultancy
 - Industry
 - Territorial authority
- Keeping contact with them through :
 - Drias hotline
 - 'Users feedback event'



Drias^{Futures of climate}, climate projections for adaptation of our societies.

Drias^{Futures of climate} aims to provide regionalized climate projections computed by several French laboratories involved in climate modeling (IPSL, CERFACS, CNRM-GAME). Climate informations are delivered in a variety of graphical or numerical forms.

Drias^{Futures of climate} offers a process of appropriation in three steps: **Education Space** shows a user guide and best practices for climate projections. **Discover Space** allows to view and **locate geographically** "nearest you" climate projections, in **France and Overseas** : you can get all the informations provided by the different climate models for the **most recent scenarii** which are showed in the **last IPCC report (RCP)**. Finally in **Data and Products Space**, you can download all these parameters and climate indices as numerical data.

News ...

[23/09/14]
The Climate of France in the 21st century (V4)

[06/08/14]
RCP Scenarios Integration

 **METEO FRANCE**
Toujours un temps d'avance



AREA Education

The user and good practice guide for Data and Products Drias^{Futures of climate}.



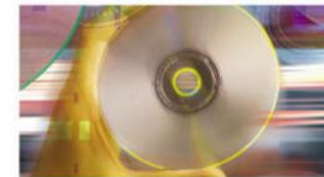
AREA Discover

Exploratory paths of climate projections: temperature, precipitation, models, IPCC scénarios.



AREA Data and Products

Data and products Drias^{Futures of climate}



An appropriate support, facilitating the use of the different informations and communicate good practices

- General notions on Climate Change

- Access to general resources specific to the portal: documentation on the models used, description of DRIAS products, publications, FAQ

- Fitted Support to users: Hotline to initiate a service



Accompagnement > Drias[CLIMAT]

Drias^[CLIMAT]

Un service pour contribuer à l'adaptation au changement climatique

Le changement climatique est sans équivoque au niveau planétaire comme sur le territoire français. La prise de conscience des problématiques liées à ce changement s'est renforcée, notamment depuis le 4e rapport du GIEC (2007). Les études sur les effets du changement climatique sont menées dans tous les domaines et secteurs d'activité concernés. Des mesures sont prises pour réduire les émissions de gaz à effet de serre (réduction), mais aussi, de façon impérieuse désormais, pour réduire les vulnérabilités et limiter les impacts du changement (adaptation). Le projet Drias, soutenu par le programme GICC du MEDDE, s'est inscrit dans cette logique. Le service Drias^[CLIMAT] en est issu. Vous trouverez dans ces pages l'essentiel des informations pour le comprendre et l'utiliser au mieux.

Drias[CLIMAT]

- Objectifs
- Pour qui ?
- Quelles informations?
- Par qui ?

Le Changement Climatique

- Une réalité
- Quelles causes?
- Impacts
- Adaptation

Les Projections Climatiques

- Méthodologie
- Disponible sur le portail

Recommandations

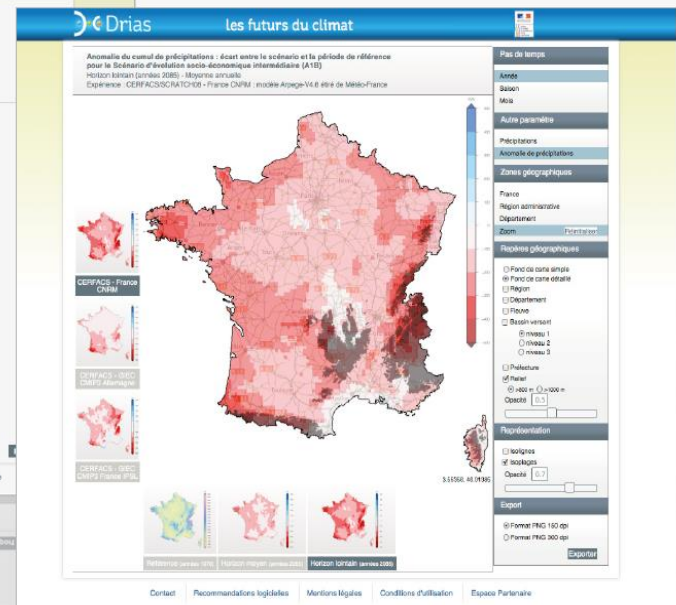
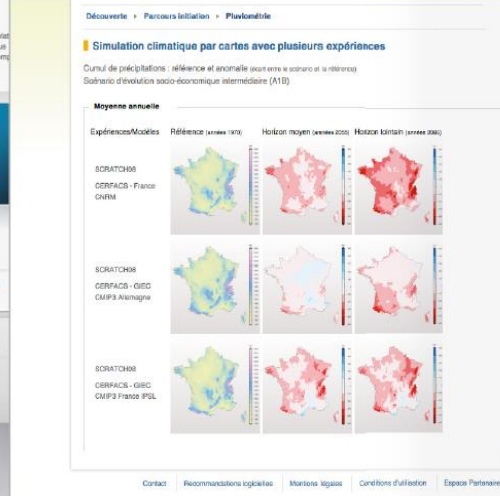
Glossaire

- A à F
- G à L
- M à R
- S à Z

FAQ

2) Discovery Area

Quick visualisation of Interactive maps of climate indices, allowing a first and fast analysis

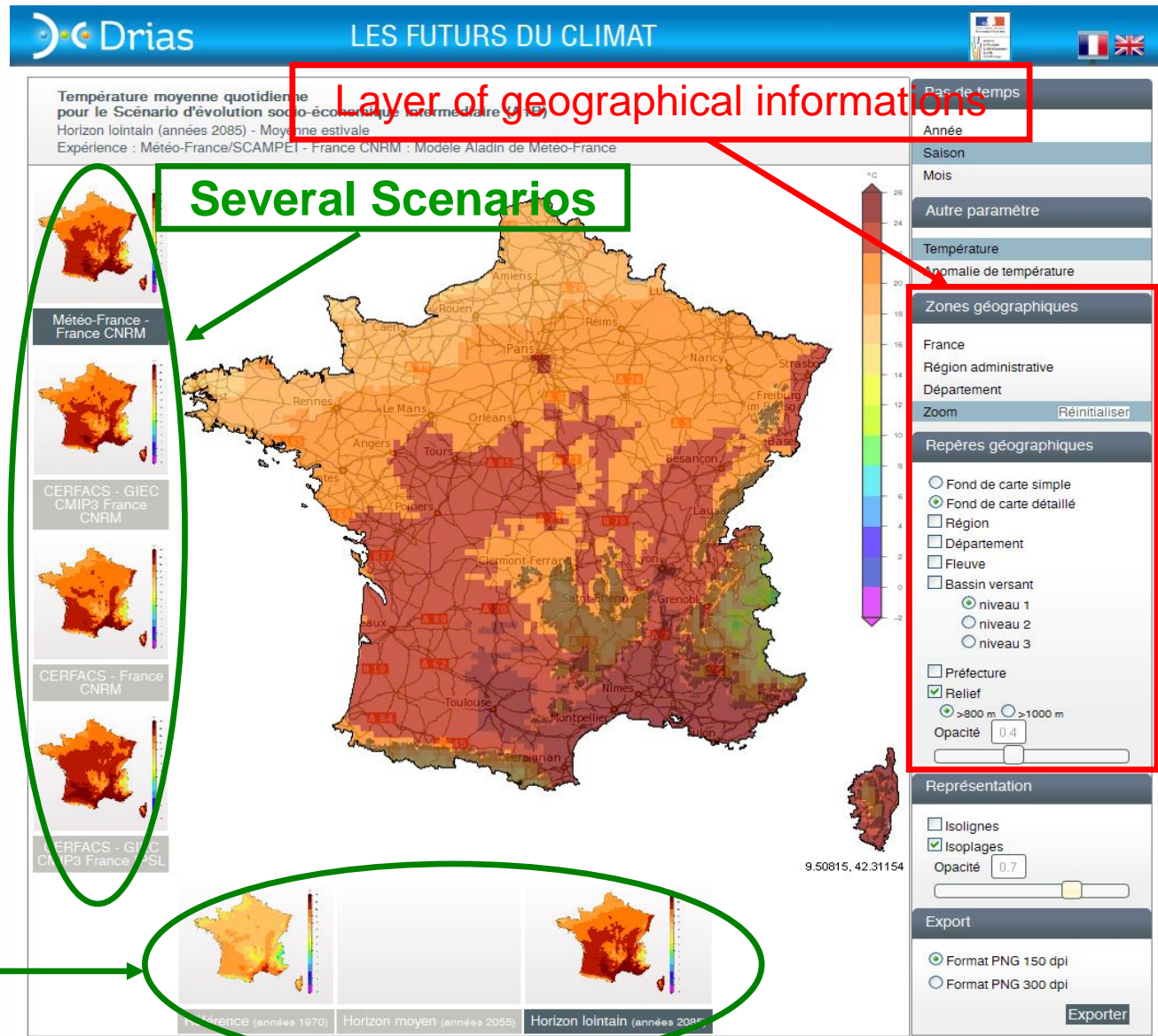


- Two access way:
- *Initiation path* for unskilled users
- *Expert path* for skilled users

2) Discovery Area

- Several hypothesis of emission, several models, allowing a first assessment of uncertainty

- Geographical tools
 - Zoom (up to the level of a French department)
 - Geographical layers (i.e. relief, cities, administrative areas, watershed...)



Several Horizons

Several Scenarios

Layer of geographical informations

3) Data & products Area

- Order & reception of numerical data
- Authentication needed before the download
- Public and free Data

Drias [CLIMAT] LES FUTURS DU CLIMAT

[ACCUEIL](#) [ACCOMPAGNEMENT](#) [DÉCOUVERTE](#) **[DONNÉES ET PRODUITS](#)**

[Catalogue des produits](#) | [Mon panier](#) | [Mes commandes](#)

Utilisateur connecté

Compte:

Identifiant:

Nom:

Prénom:

Mail:

[Se déconnecter](#)

Sous-période : préciser si nécessaire les saisons ou les mois

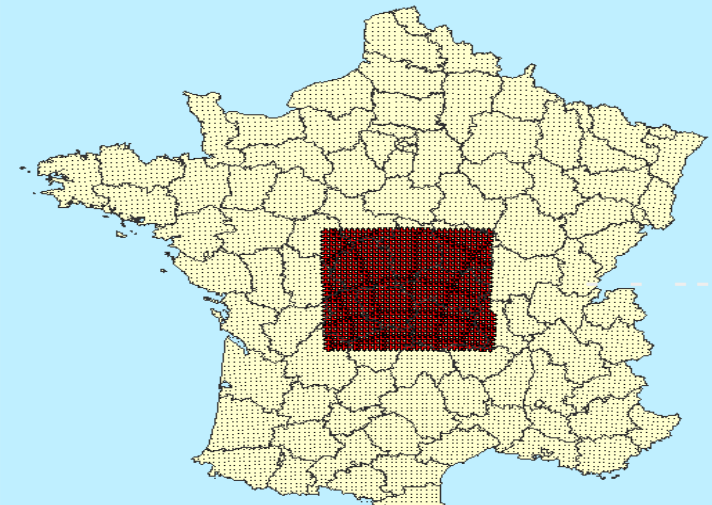
<input checked="" type="checkbox"/> Hiver	::	<input checked="" type="checkbox"/> Janvier	<input checked="" type="checkbox"/> Février	<input checked="" type="checkbox"/> Mars	<input type="button" value="Toute l'année"/>
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<input checked="" type="checkbox"/> Été	::	<input checked="" type="checkbox"/> Juillet	<input checked="" type="checkbox"/> Août	<input checked="" type="checkbox"/> Septembre	<input type="button" value="Vider la sélection"/>
<input checked="" type="checkbox"/> Automne	::	<input checked="" type="checkbox"/> Octobre	<input checked="" type="checkbox"/> Novembre	<input checked="" type="checkbox"/> Décembre	

Référence géographique

- Cliquez sur le bord ■ de la zone (ou) pour l'étendre

- Cliquez sur le centre de la zone (ou) pour la déplacer

Sélection des points de grille



Couches géographiques

Régions administratives

Départements

Fleuves et lacs

Relief

Réseau routier

Autour d'une commune (insee)

● Atmospheric variables (13) : (daily data)

▼ Températures ... (* Sélectionnez l'unité de votre choix)

Température à 2 m **K** **C**

Température minimale journalière à 2 m **K** **C**

Température maximale journalière à 2 m **K** **C**

▼ Précipitations ... (* Sélectionnez l'unité de votre choix)

Précipitations liquides **kg/m²/s** **mm**

Précipitations solides **kg/m²/s** **mm**

Précipitations totales **kg/m²/s** **mm**

▼ Vent ...

Vitesse du vent horizontal à 10 m [m/s]

▼ Humidité ...

Humidité spécifique à 2 m [kg/kg]

Humidité relative à 2 m [%]

Humidité relative minimale journalière à 2 m [%]

Humidité relative maximale journalière à 2 m [%]

▼ Rayonnement ...

Rayonnement visible incident à la surface [W/m²]

Rayonnement infra-rouge incident [W/m²]

● Indicators (monthly, seasonal, yearly)

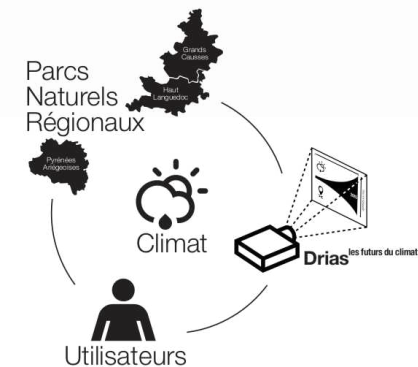
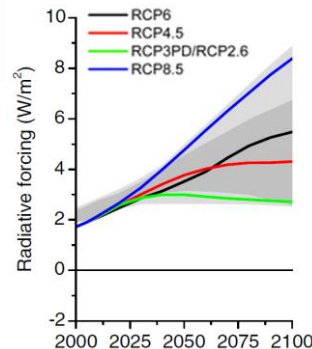
● Température (19)

- Mean temperature - °C
- Minimum temperature - °C
- Maximum temperature - °C
- Thermal amplitude - °C
- Smaller value of minimum temperature (90th centile of ...)
- Larger value of the maximum temperature (90th centile ...)
- Number of summer days (maximum temperature > 25°C) -
- Number of tropical nights (minimum temperature > 20°C) -
- Number of unusually warm days (maximum temperature I ...)
- Number of unusually warm nights (minimum temperature ...)
- Number of warm-spell days (maximum temperature higher ...)
- Larger value of the minimum temperature (10th centile ...)
- Smaller value of the maximum temperature (10th cent ...)
- Number of frost days (minimum temperature ≤ 0°C) - NBJ
- Number of ice days (maximum temperature ≤ 0°C) - NBJ
- Number of unusually cold days (minimum temperature low ...)
- Number of cold-spell days (minimum temperature lower by ...)
- Heating Degree-days - °C
- Cooling Degree-days - °C

● Precipitation (7)

- Daily precipitation - mm
- Mean precipitation for wet days - mm
- Precipitation sum - mm
- Number of wet days (precipitation sum ≥ 1 mm) - NBJ
- Number of heavy precipitation days (precipitation sum ≥ 20 mm) - NBJ
- Maximum number of consecutive wet days (maximum number of consec ...)
- Percentage of intense precipitation (precipitation above the 90th annual per ...)
- Drought period (maximum number of consecutive days with precipitations sum < 1 ...)

- Integration of a new set of climate projections with RCP scenarios
 - Scénarios RCP 2.6, RCP4.5 et RCP8.5
- Integration of impact indicators issued from Climsec project : soil wetness index SSI, SSWI
- Integration of data on french overseas territories : Réunion, Nouvelle-Calédonie, Antilles, Guyane, Polynésie
- English version of Drias



Next evolutions

- Integration of other impact studies results
 - Agriculture, Energy, Forest, Water, Biodiversity
- Integration of uncertainty products as percentile products
 - Q25, Q50, Q75 produced with eurocordex scenarios
- Integration of past data as in situ data and re-analysis
- Technical improvements
 - news formats
 - Improved download capabilities

C25 - 2021-2050



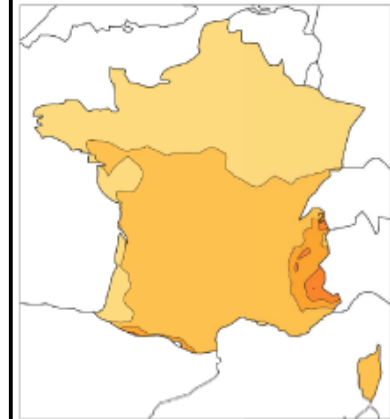
WRF - 2021-2050



Aladin-Climat - 2021-2050

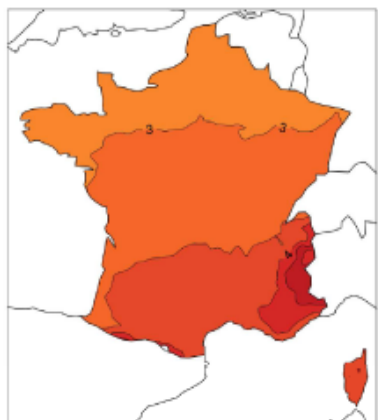


C75 - 2021-2050

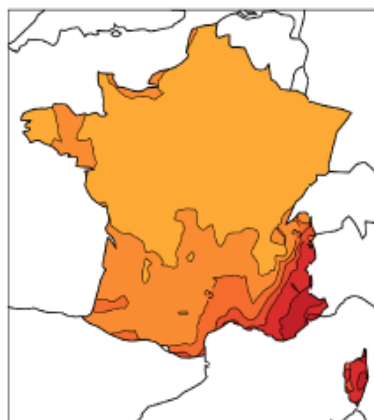


Percentiles (25, 75)

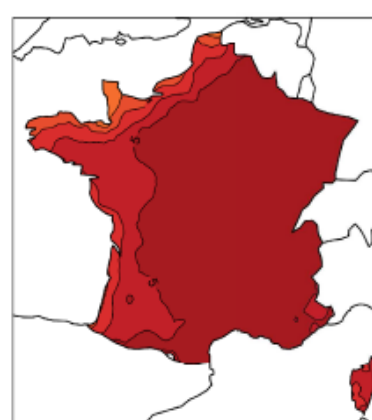
C25 - 2071-2100



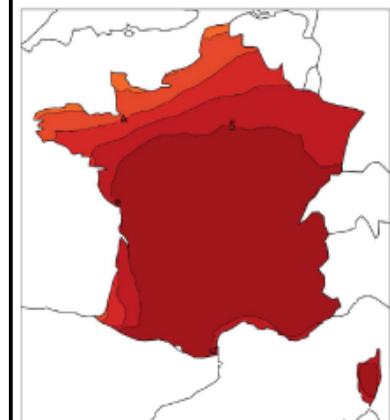
WRF - 2071-2100



Aladin-Climat - 2071-2100



C75 - 2071-2100

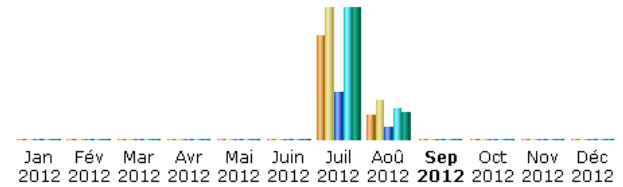


Overview on Drias technologies

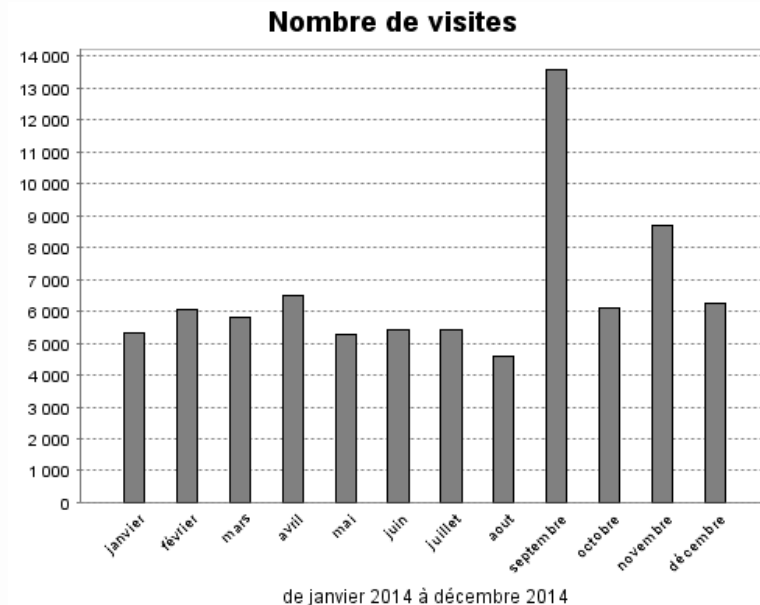
- Drias portal is based on J2E technology
 - Play framework has been used
 - Support area is based on CMS functionalities
 - Discovery area is based on web map services (OGC standard)
 - For the Delivery area the Okapi/Climatheque system has been re-used
- Data formats
 - Daily climate projections in netcdf format ; file system
 - Indices stored in a posgreS data base

Some statistics

- Launched: 1st July 2012
 - Press Event 24th July at ministry level
- Visiting
 - 2014 : 80 000 visits
 - Total of 3 000 000 pages visited
- Accounts for the delivery area
 - 1000 accounts opened
- Hot-line : around 100 answers/year concerning the portal and the data sets

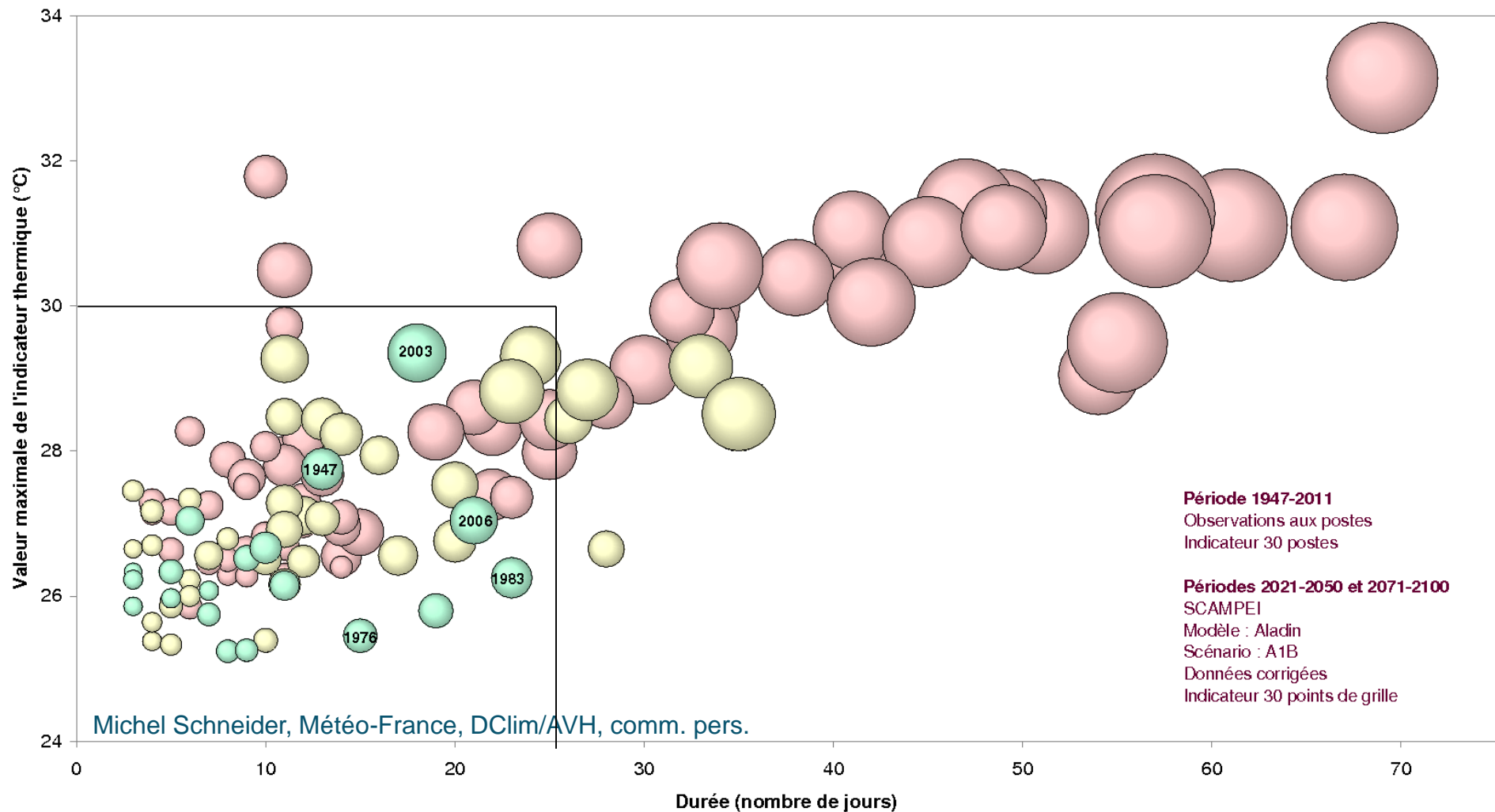


Mois	Visiteurs différents	Visites	Pages	Hits	Bande passante
Jan 2012	0	0	0	0	0
Fév 2012	0	0	0	0	0
Mar 2012	0	0	0	0	0
Avr 2012	0	0	0	0	0
Mai 2012	0	0	0	0	0
Juin 2012	0	0	0	0	0
Juil 2012	68 413	85 714	2 963 708	8 299 674	187.76 Go
Aoû 2012	16 873	25 723	774 646	1 978 196	39.54 Go
Sep 2012	591	829	24 490	57 929	933.94 Mo
Oct 2012	0	0	0	0	0
Nov 2012	0	0	0	0	0
Déc 2012	0	0	0	0	0
Total	85 877	112 266	3 762 844	10 335 799	228.21 Go



Past and future climate data...

Heatwaves from 1947 to 2100



La surface des sphères symbolise l'intensité globale des vagues de chaleur, les sphères les plus grandes correspondant aux vagues de chaleur les plus sévères

- *DRIAS, les futurs du climat: a web portal & a service*
 - A tool for adaptation in France, consistent with research strategies
 - Facilitate access to climate informations for users involved in impact and adaptation to climate change issues (Free)
 - Regionalised climate simulations over France
 - Support and highlight of research works
 - Structure: Education, Discovery and Delivery areas which represent 3 levels of information from the simplest to the most complicated
- The seed for future demands
 - Very positives users feedback
 - Important needs of support and training
 - For the producers: daily support for diffusion of climate simulations
 - To extend with past data



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Thank you for your attention !