

***Watershed: Natural Scene for Integrated Water
Resource Management in the jurisdiction of
Corantioquia – Antioquia , Colombia. SA***



EURO-RIOC 2010

***Luis Alfonso Escobar Trujillo
RELOC - Colombia***



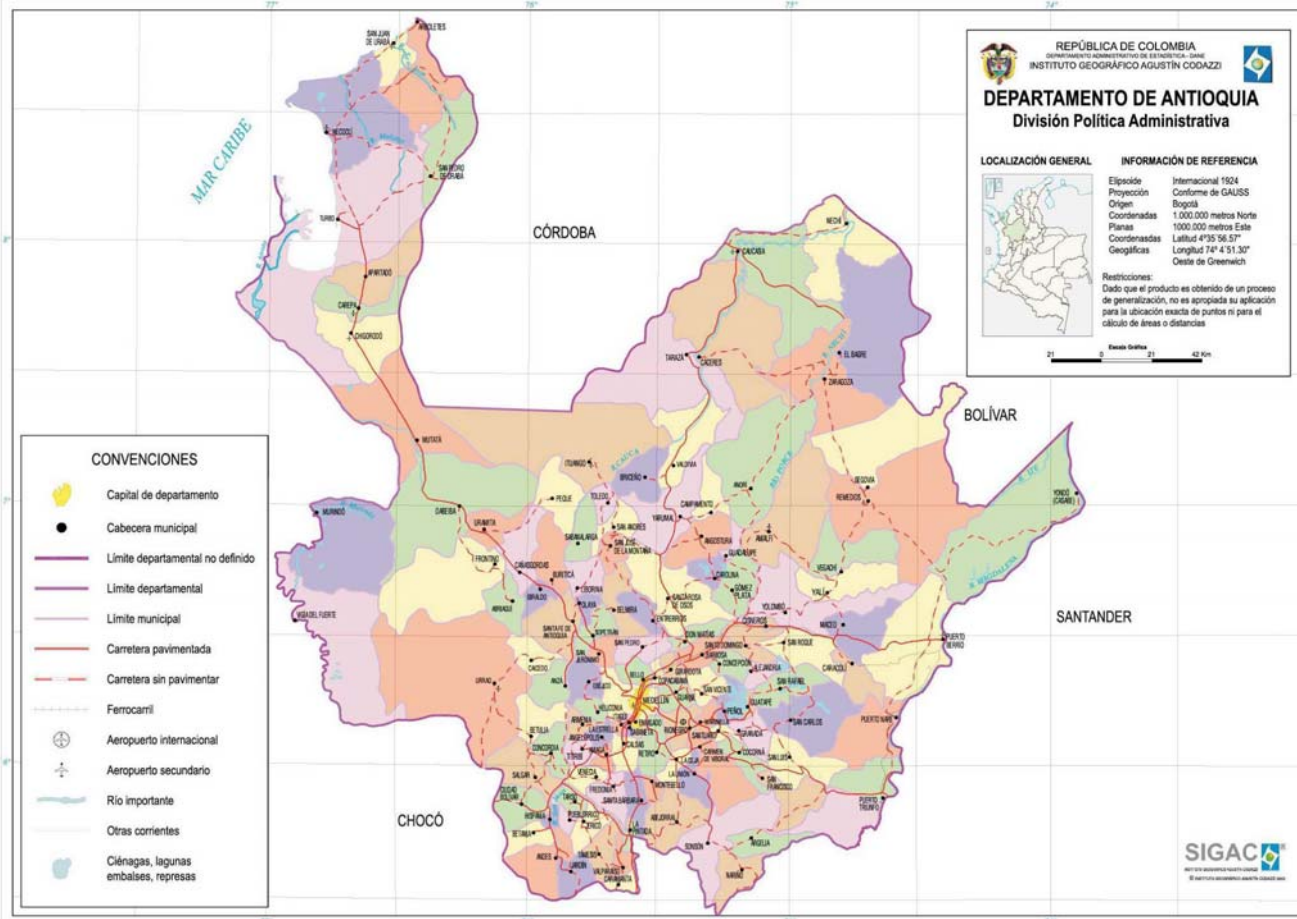
Corantioquia is an environmental agency of Colombia, with its own assets, legal and administrative and financial autonomy, consisting of eighty municipalities whose territories are located in the lower and middle basins of the rivers Cauca and Magdalena

***Corantioquia has an extension of 36,000 km²
4.200.000 population***



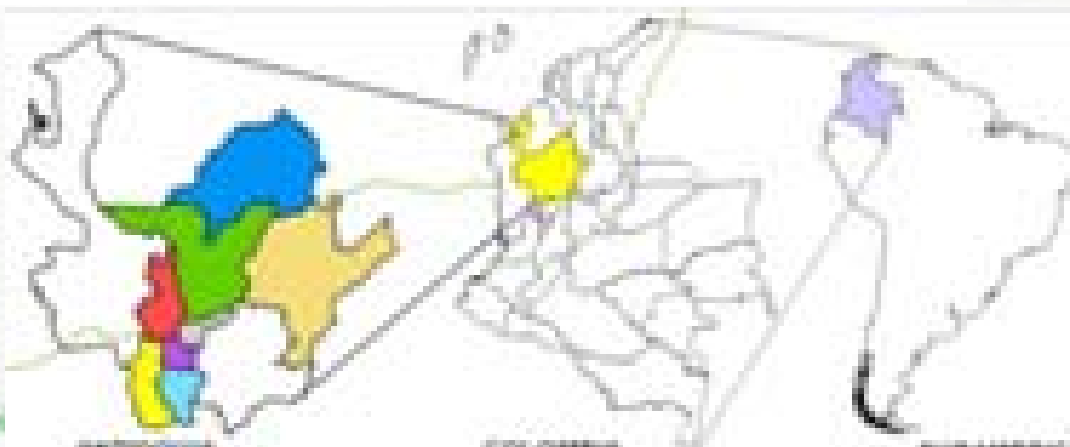
CORANTIOQUIA

Where are we?



80 municipalities
 Extension: 36,000 km²
 (66% of the municipalities of the state)

Rivers:
 Magdalena, Cauca, Grande, Anorí, San Juan, Aburrá, Porce, Man, Nechí, Amagá, Dolores, Guadalupe, Ité, Poblano, Piedras, Tonusco, Espíritu Santo, San Bartolomé, ...



The background of the slide features a soft-focus image of green plants and trees. A central horizontal band is a solid light green color, containing the title text. The bottom right corner contains a logo and the organization's name.

WATER RESOURCES

The water in the jurisdiction of CORANTIOQUIA

***The Cauca river crosses the
Antioquia territory of South to
North***

***presence of stop high Andean
wetlands complexes***

aquifer system

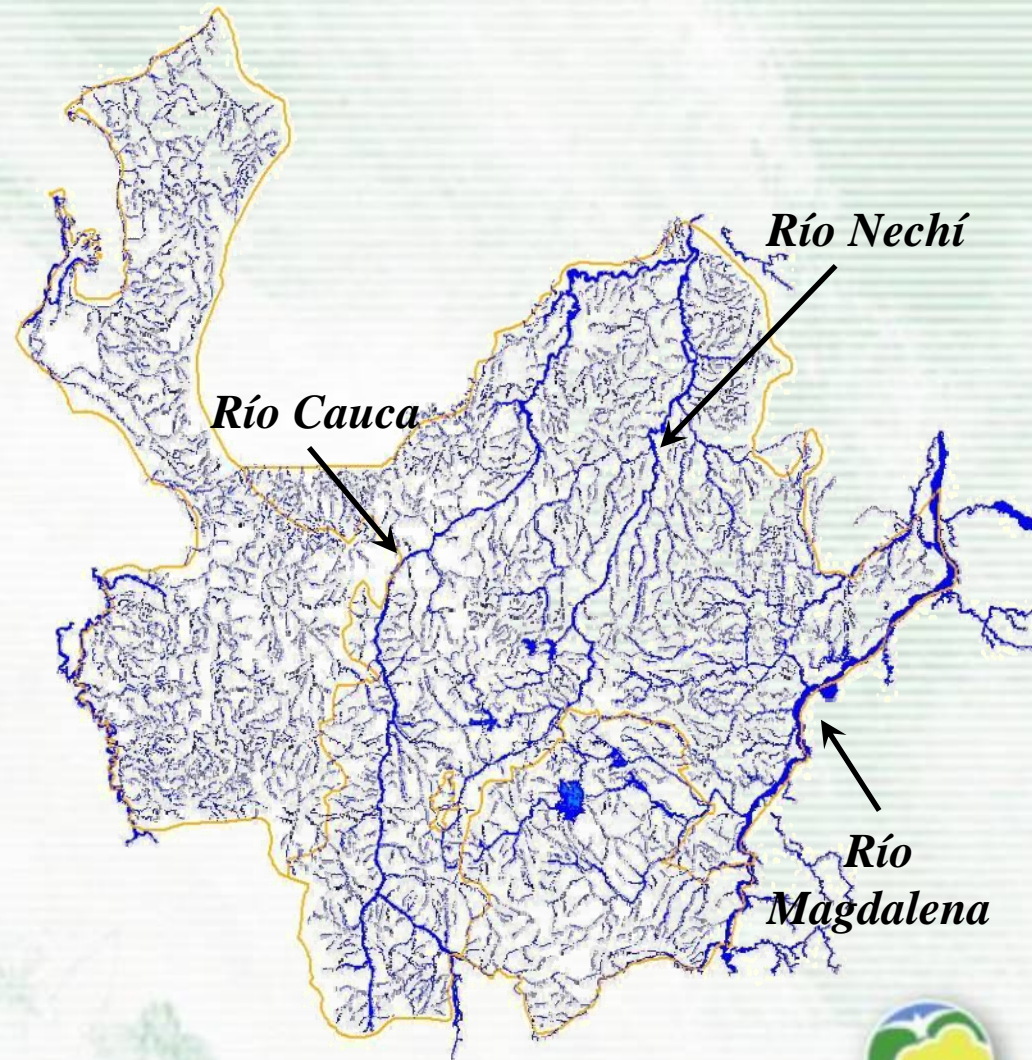
***variability and abundance of
rain***

more than 17000 km drains

***densities drainage which vary
from 0.35 to 17.6 km/km²***

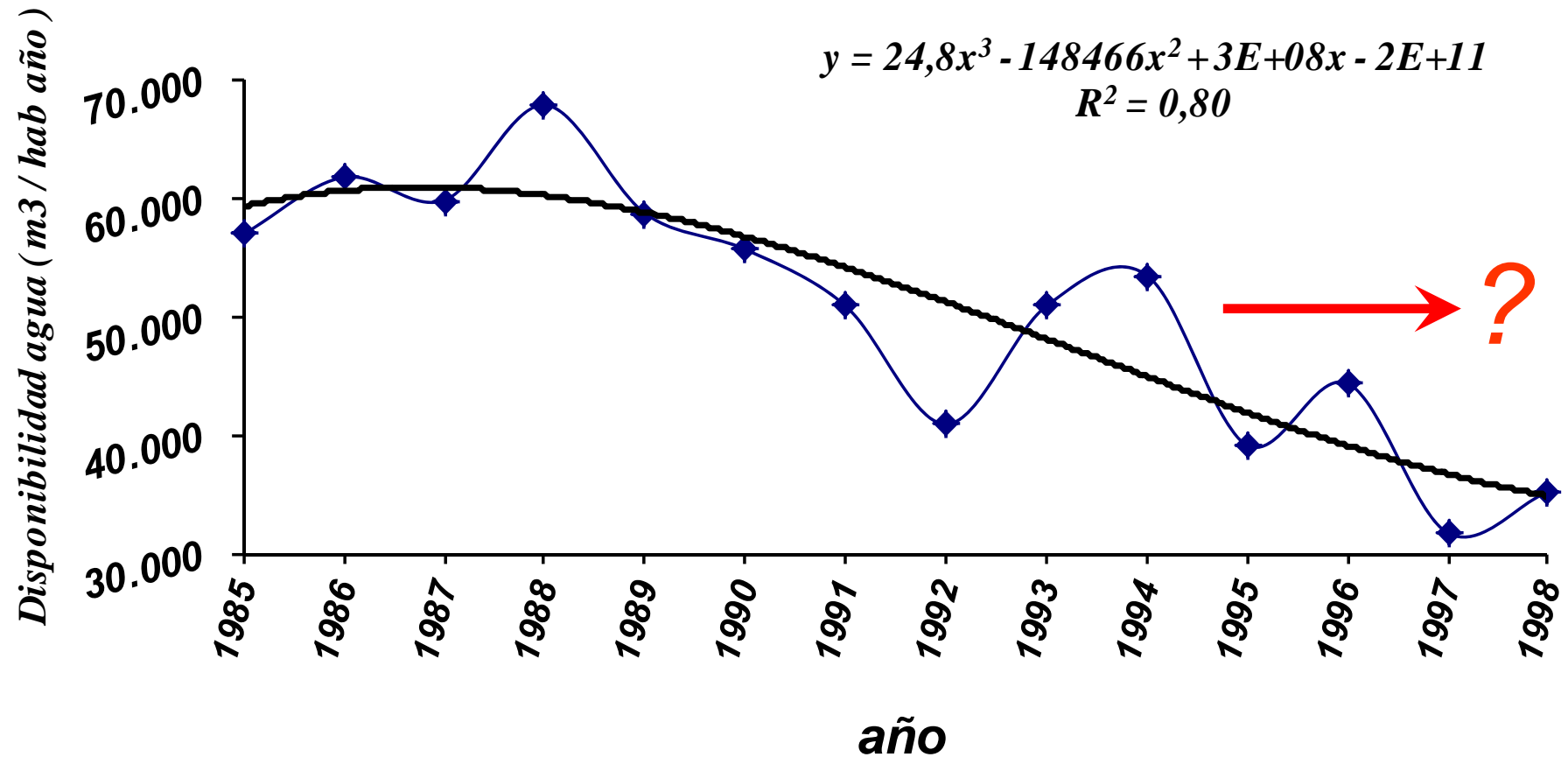
***plus 360 km² in water systems
lotic***

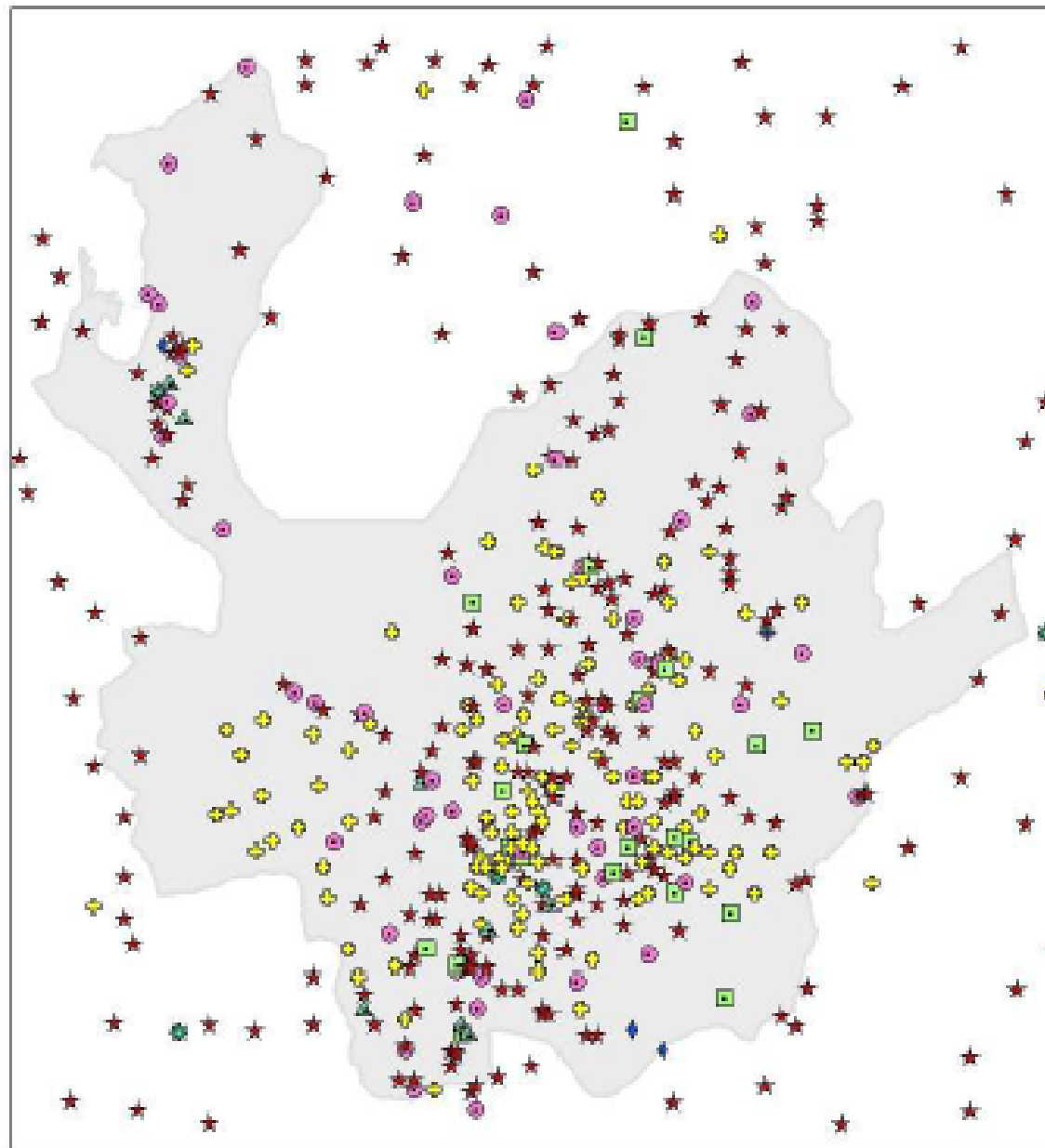
multiplicity of uses and users



CORANTIOQUIA

Water availability index in Colombia





**Distribución y tipo de Estaciones
Hidrometeorológicas en el
Departamento de Antioquia
y zonas aledañas**

Gestión de
la Demanda Hídrica
Subdirección de Recursos
Naturales
2006

CONVENCIONES

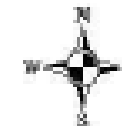
ESTACIONES_HM_ANTIOQUIA

TIPO

-  AM (Agrometeorológica)
-  CO (Climatológica Ordinaria)
-  CP (Climatológica Principal)
-  ME (Meteorológica)
-  PG (Pluviográfica)
-  PM (Pluviómetrica)
-  SP (Sinóptica Principal)
-  SS (Sinóptica Secundaria)

 Antioquia

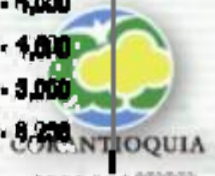
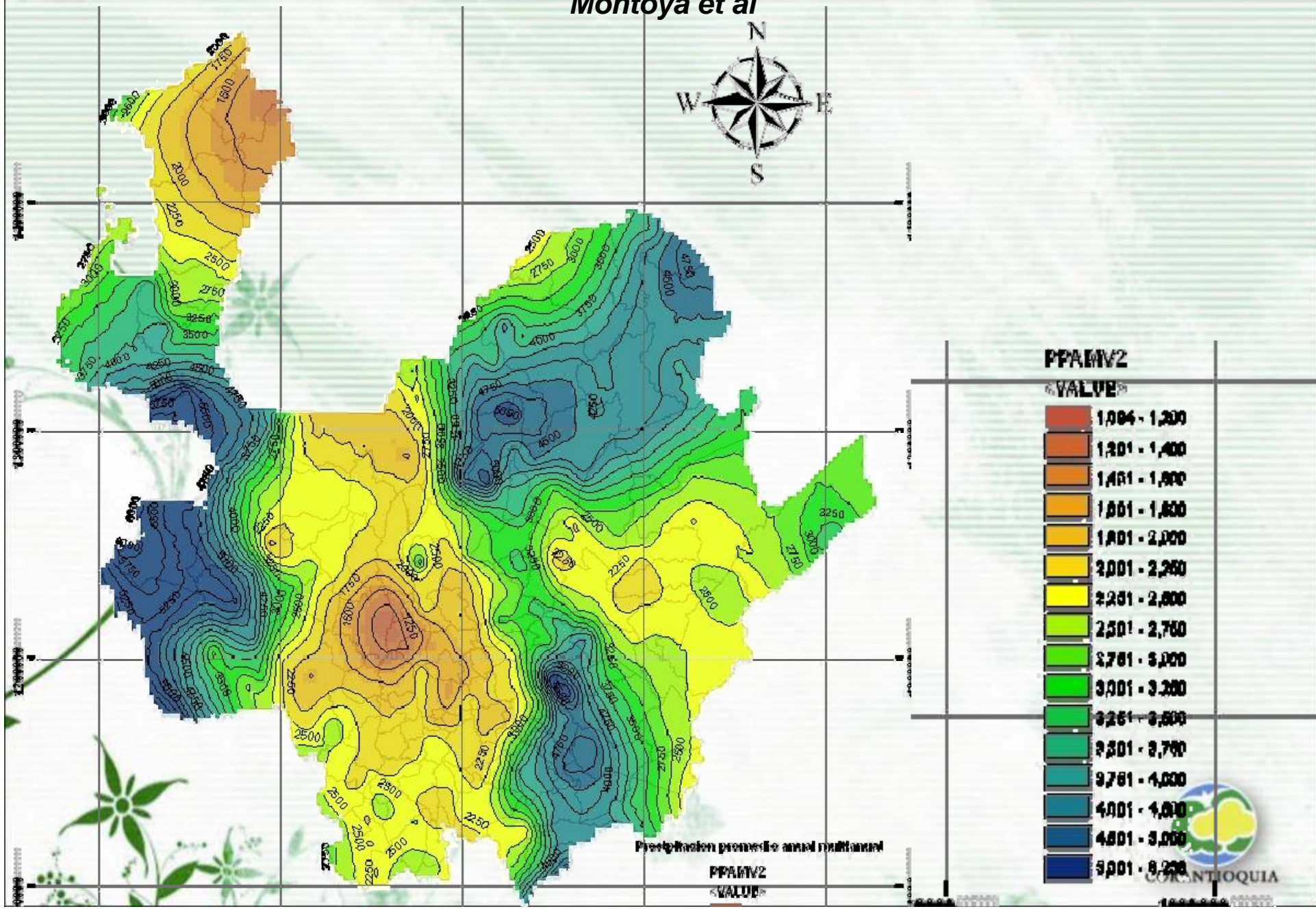
Fuente de los datos: IDEAM



Network hidromeorological

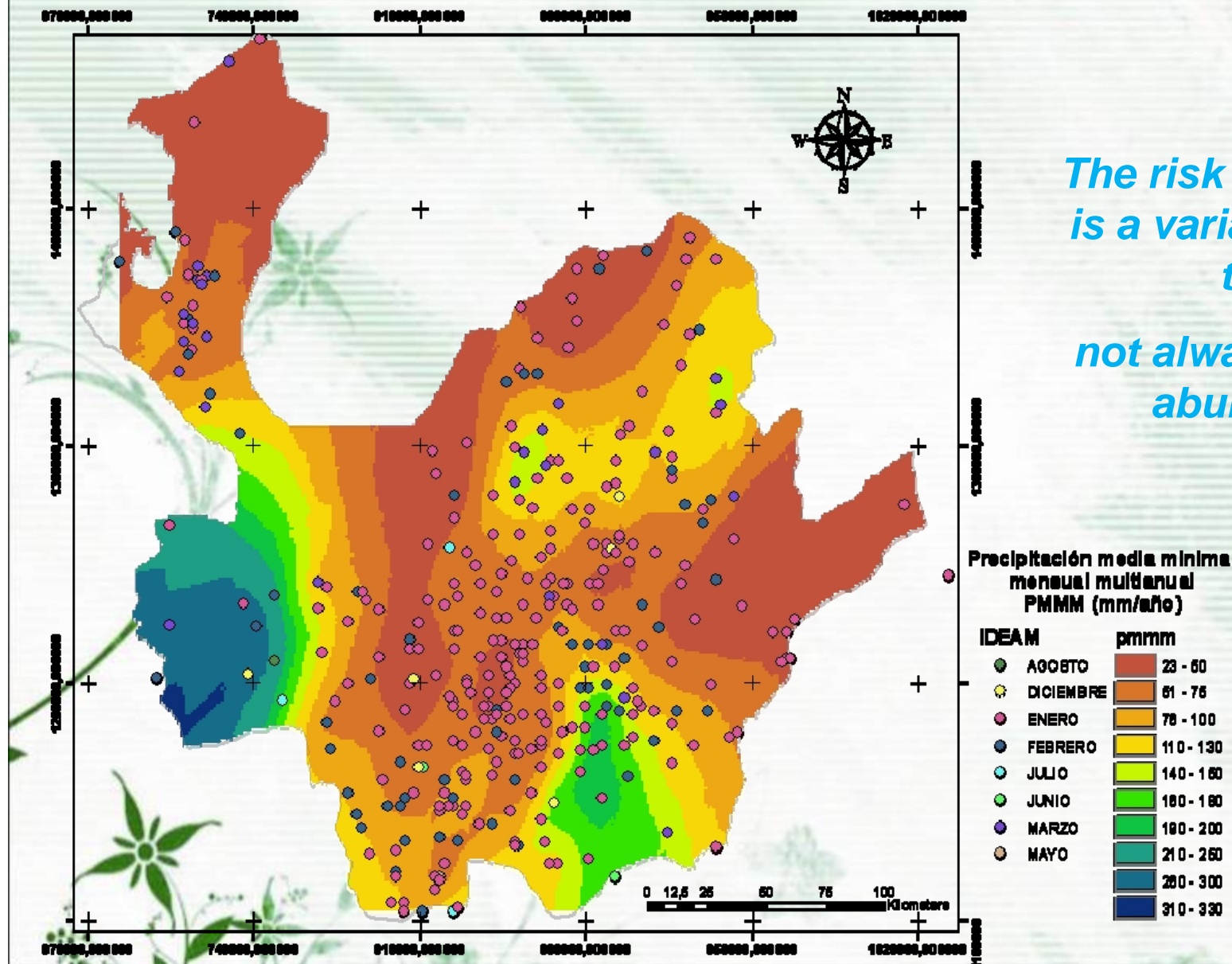
Distribution of the multi-year average annual precipitation in Antioquia

Montoya et al



Spatial and temporal variability: the months minimum availability

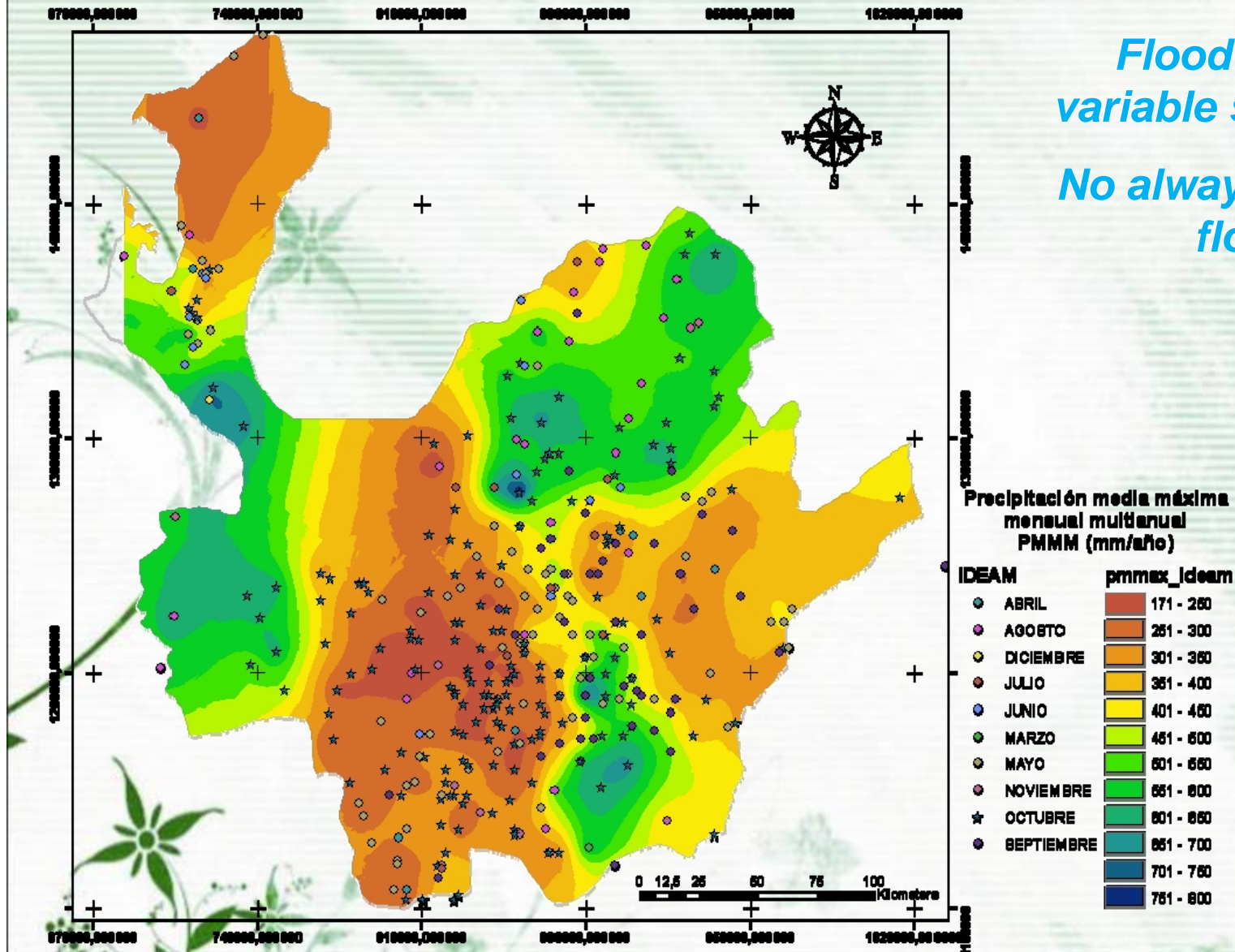
*The risk of shortage
is a variable space-
time
not always there is
abundance*

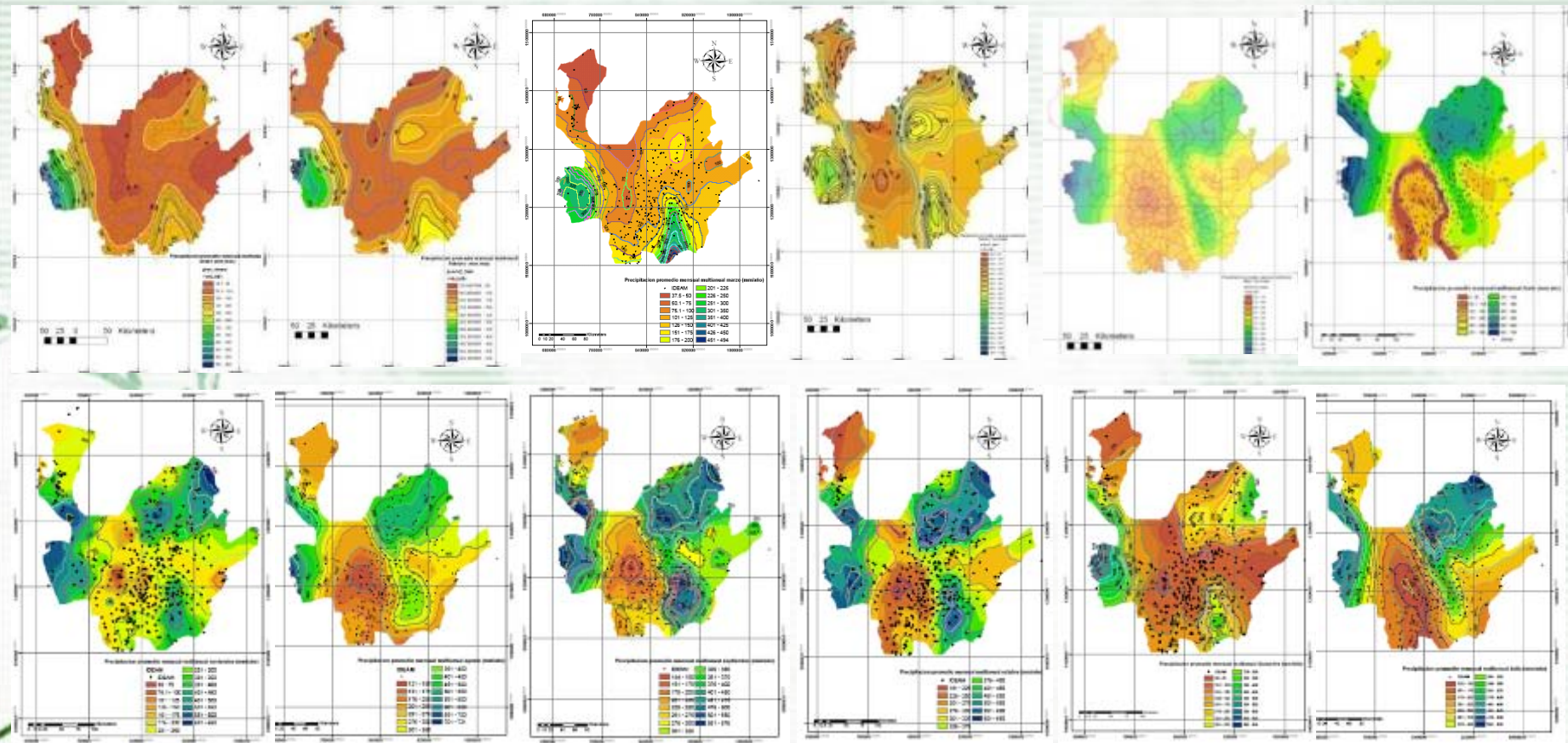


Spatial and temporal variability: the months maximum availability

Flood risk is a variable space-time.

No always there are floods



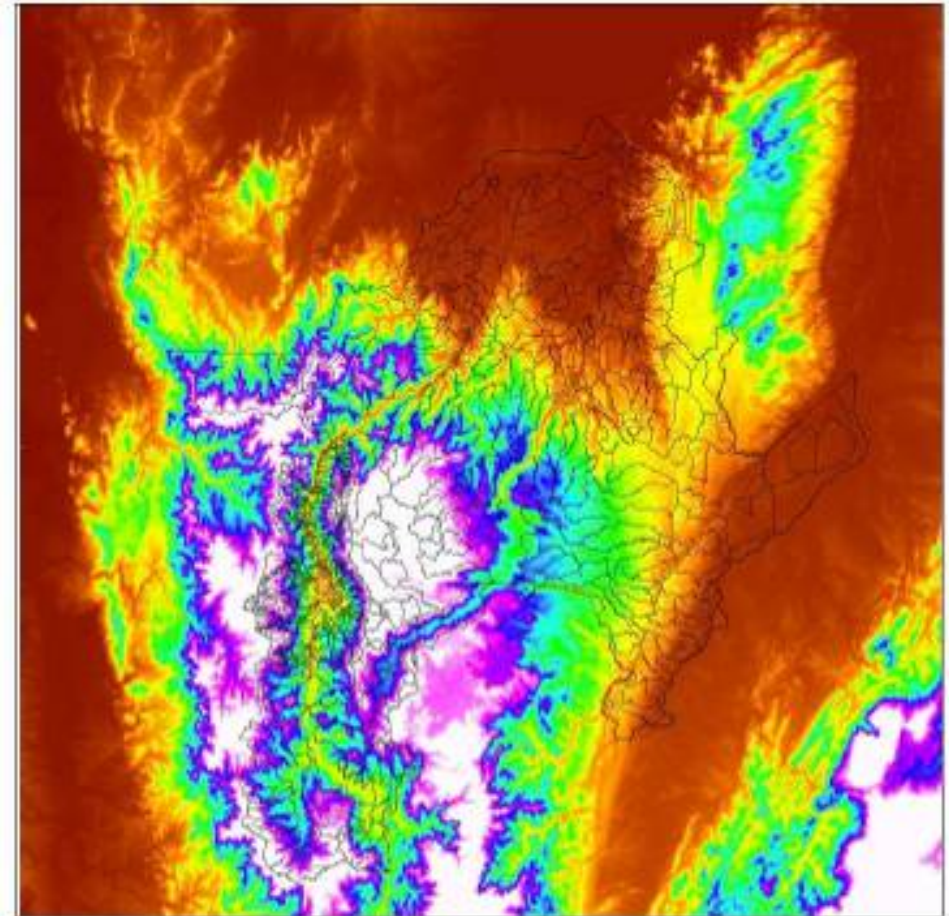
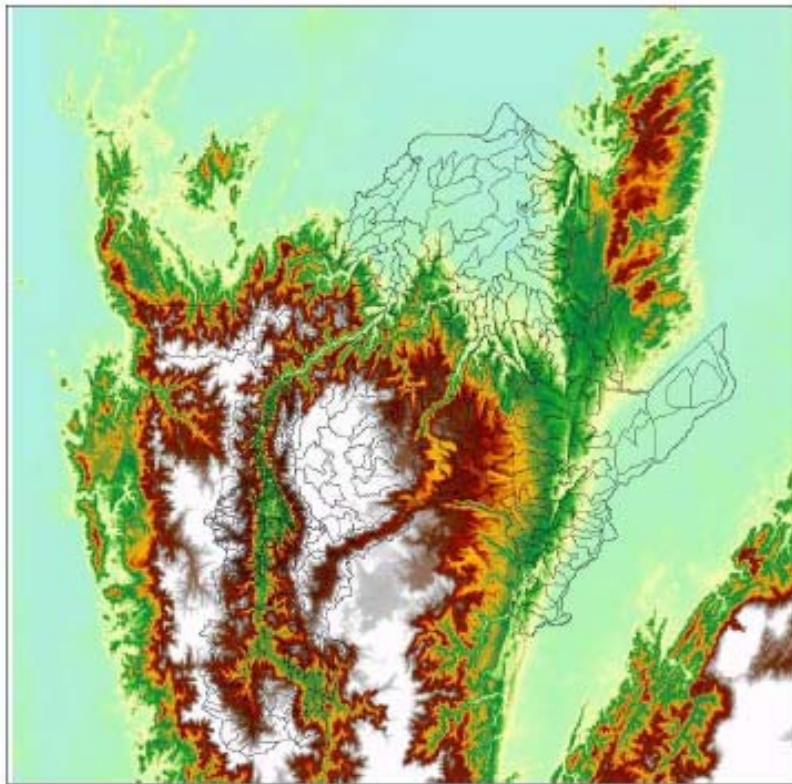


*The monthly distribution of precipitation.
A key variable. Montoya, 2006*



CORANTIOQUIA

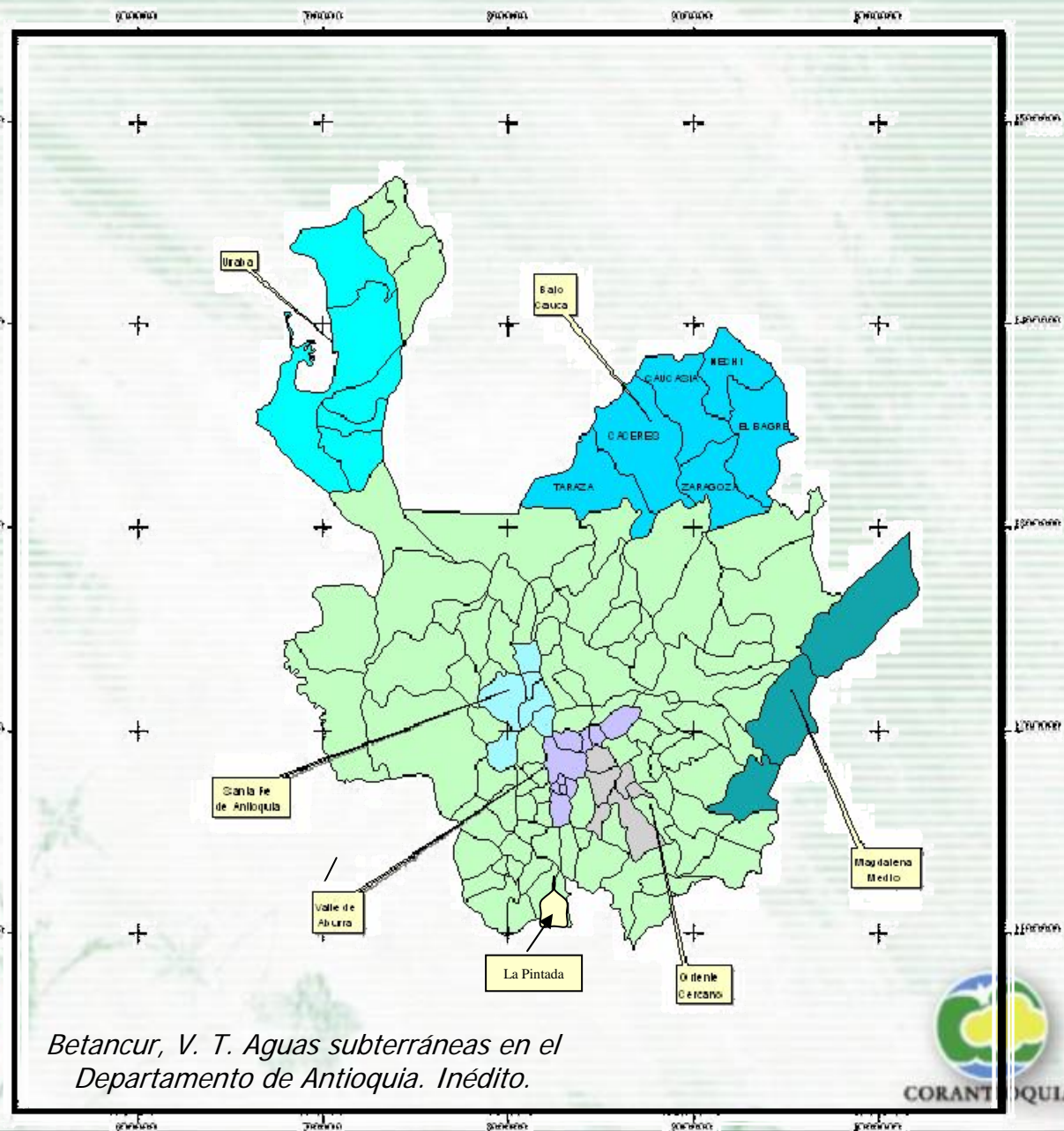
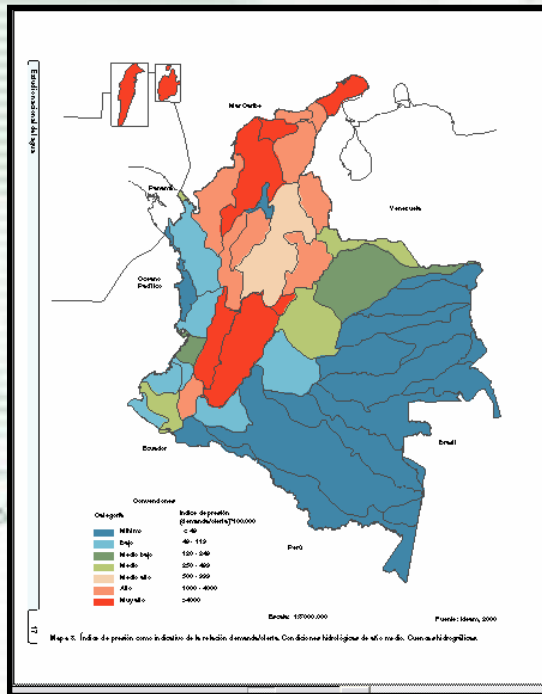
The topographical complexity and variation of temperature



Requires knowing the temperature depending on the height variations



Subterranean water: A strategic resource but unknown



Betancur, V. T. Aguas subterráneas en el Departamento de Antioquia. Inédito.



***Cooperation with neighbouring
countries not members of the
European Union for the
implementation of the principles
and methods of the WFD***

three recommendations



CORANTIOQUIA

Article 3 WFD. Coordination of administrative arrangements within river basin districts

Where a river basin district extends beyond the territory of the Community, the Member State or Member States concerned shall endeavour to establish appropriate coordination with the relevant non-Member States, with the aim of achieving the objectives of this Directive throughout the river basin district.

Recommendation 1. Achieving this is desirable in all cases, but essential to achieve the WFD objectives when the neighbouring country is located in the upper basin



Given that the WFD sets the "river basin" as the primary unit of management and that the common implementation strategy envisages the exchange of information and data management:

Recommendation 2. We recommend to install stations for monitoring of quality and quantity of water at points of input and output of the water systems of river basin districts border countries non-members. This will allow a framework of fairness with countries members and implementation of controls countries non-members When there is risk to the objectives of the WFD



CORANTIOQUIA

Given that the groundwater provides 65% of all European drinking water contamination can be dangerous to human health, which constitute flow base of many rivers so it can influence the quality of surface waters and which are essential to conserve wetlands:

Recommendation 3. It is essential to establish the concept of availability of groundwater referred not only to annual average recharge but also to the maintenance of the long-term annual average outgoing flow required to achieve surface water quality objectives and associated ecosystems conservation. This requires a knowledge of aquifers - ecosystems relations.



Andes





Ciudad Bolívar




Gómez Plata

Jardín



Tarso





Venecia

*... Nor we have another world
which can we move*

Gabriel García Márquez

Thanks

