

# Case Studies in SDI Components (Geodetic Datum, Data Transformations, Cadastre, Planning etc)

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**Key words:** Case studies in SDI components (Geodetic Datum, Data Transformations, Cadastre, Planning, etc...)

## SUMMARY

In nineteen seventy two, the National Geographical Service was created from the former Topographical Service. In nineteen ninety, it was promoted as a full department of the Ministry of Infrastructures, Equipment and Transports.

In other hand, Cadastre, Land Registration and Land Administration belong to the Ministry of Finance.

In Senegalese geodetic network there are five reference systems:

- Adindan Datum
- Yoff 200 Datum
- 1974 Datum
- Datum
- Hatt Datum

The first three of them use the UTM projection and the assigned ellipsoid is Clark 1880, while the last one refers to a stereographical projection.

It is clear that the adoption of the GDS (Geocentric Datum of Senegal) will enable the production of a homogeneous series of Senegalese maps. There has been clear evidence in recent years that Senegalese Geodetic Datums are inadequate for some current and emerging applications. A new geocentric datum, New Senegalese Geodetic Datum 2004 (NSGD2004), designed and built during 2004, is realized through ITRF2000 and uses the GRS80 ellipsoid. The new datum will be implemented in conjunction with the updating of the map at the scale of 1:200 000 and the extension of the Geodetic Network. . A description of the new datum, its design, planning and implementation will be presented.

The basic needs to access, organize, update and analyze the host of data in any way led to the concept and the development of geographical information system with narrow into the field of digital data visualization. That allows improving quality and reducing costs related to geographic information with the view to make geographic data more accessible to the user. This study will show how Cadastre and Survey Department is moving from analogue to digital data. Then it is to highlight on application of Data transformation knowledge to manage spatial information.