

DEFINITIONS

Une carte est une représentation plane de la surface terrestre. Elle contient les informations sur les objets naturels (végétation, hydrographie...) et artificiels (routes, constructions,...)

Éléments fondamentaux d'une carte

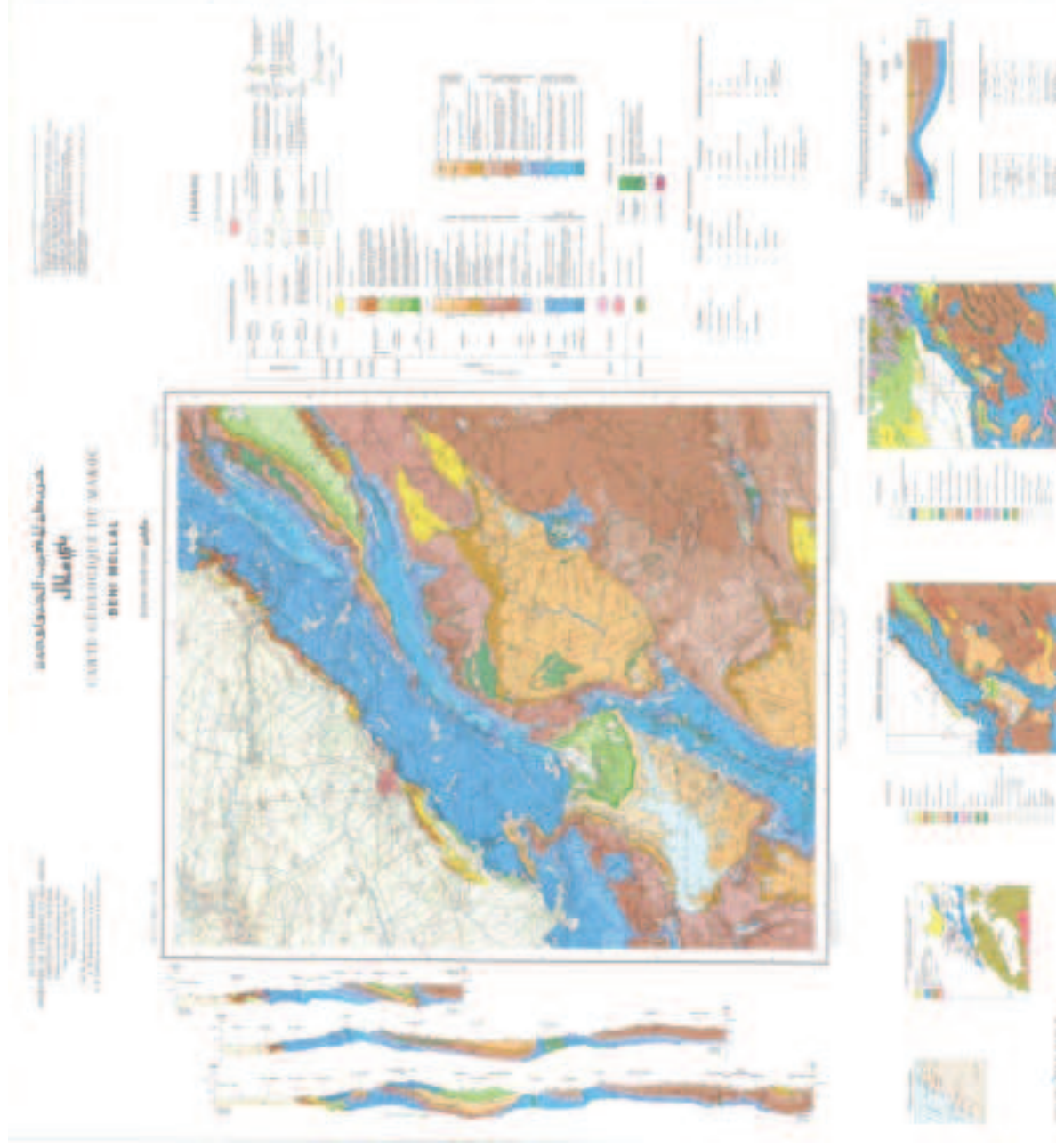
- Titre
- Echelle
- Légende
- Orientation
- Système de coordonnées

Voir Carte Topographique de BM

Types de carte

- Carte topographique
- Carte Géologique
- Carte forestière
- Carte du type de sol
- Carte minière
- Carte thématique diverses...

Exemple de carte : carte Géologique



**Extrait de Carte géologique de Béni Mellal
1/100 000**



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BENI MELLAL

LÉGENDE

	Primary	Secondary
Rate of change in output	High	Low
Rate of loss from capital	Low	High
Rate of labor productivity	High	Low
Rate of income elasticity	High	Low
Rate of price elasticity of demand	High	Low
Rate of inflation	High	Low
Rate of unemployment	High	Low
Rate of population growth	High	Low
Rate of technological change	High	Low
Rate of capital accumulation	High	Low
Rate of government expenditure	High	Low
Rate of government revenue	High	Low
Rate of government debt	High	Low
Rate of government deficit	High	Low
Rate of government surplus	High	Low
Rate of government balance	High	Low
Rate of government budget	High	Low
Rate of government spending	High	Low
Rate of government saving	High	Low
Rate of government investment	High	Low
Rate of government consumption	High	Low
Rate of government production	High	Low
Rate of government distribution	High	Low
Rate of government allocation	High	Low
Rate of government management	High	Low
Rate of government organization	High	Low
Rate of government structure	High	Low
Rate of government culture	High	Low
Rate of government values	High	Low
Rate of government beliefs	High	Low
Rate of government attitudes	High	Low
Rate of government behaviors	High	Low
Rate of government actions	High	Low
Rate of government decisions	High	Low
Rate of government choices	High	Low
Rate of government preferences	High	Low
Rate of government interests	High	Low
Rate of government concerns	High	Low
Rate of government worries	High	Low
Rate of government fears	High	Low
Rate of government hopes	High	Low
Rate of government dreams	High	Low
Rate of government aspirations	High	Low
Rate of government ambitions	High	Low
Rate of government goals	High	Low
Rate of government objectives	High	Low
Rate of government purposes	High	Low
Rate of government missions	High	Low
Rate of government visions	High	Low
Rate of government futures	High	Low
Rate of government potentials	High	Low
Rate of government possibilities	High	Low
Rate of government opportunities	High	Low
Rate of government prospects	High	Low
Rate of government outlooks	High	Low
Rate of government perspectives	High	Low
Rate of government viewpoints	High	Low
Rate of government standpoints	High	Low
Rate of government positions	High	Low
Rate of government stances	High	Low
Rate of government attitudes	High	Low
Rate of government behaviors	High	Low
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Rate of government hopes	High	Low

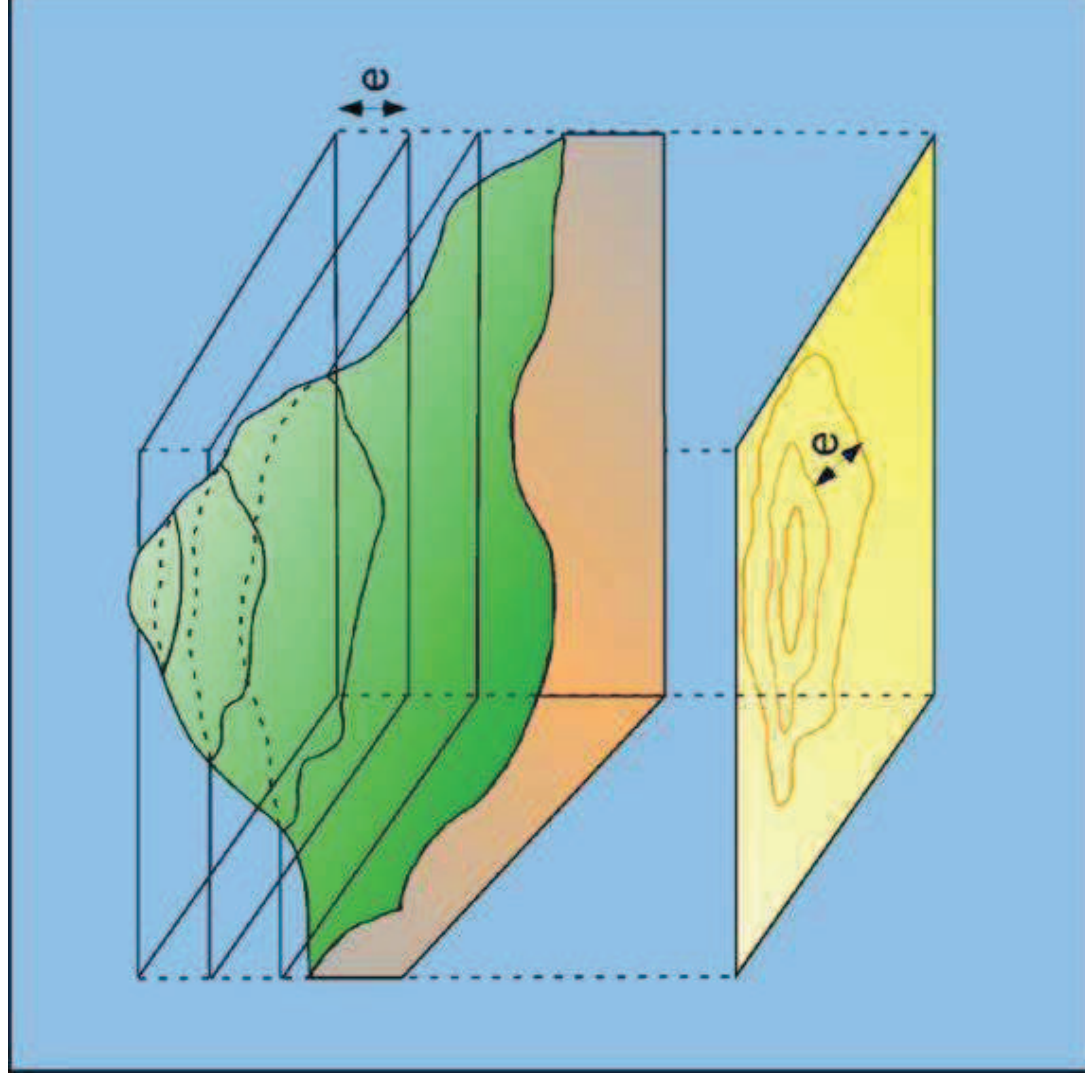


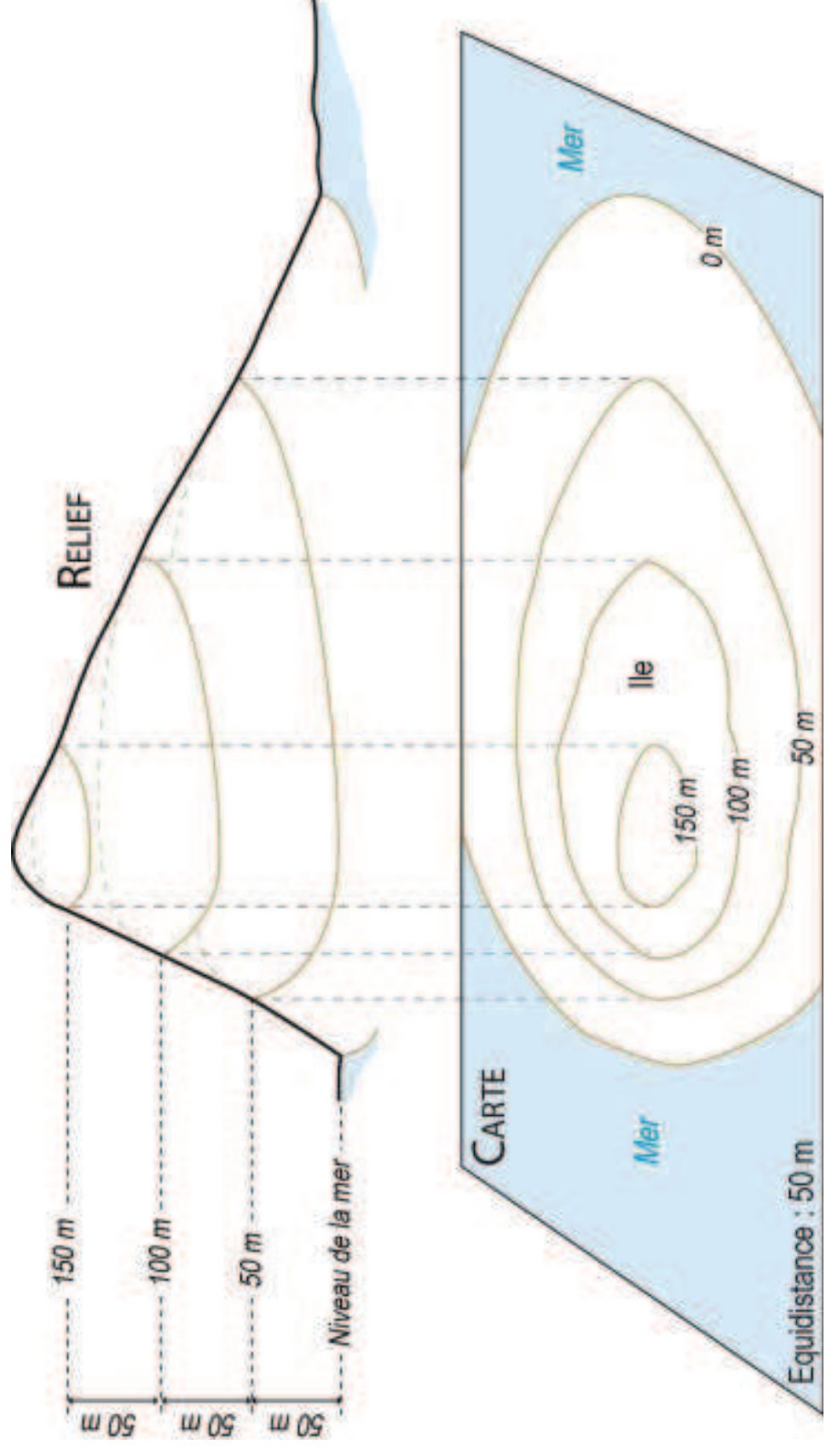
Extrait de la carte topographique de Béni Mellal



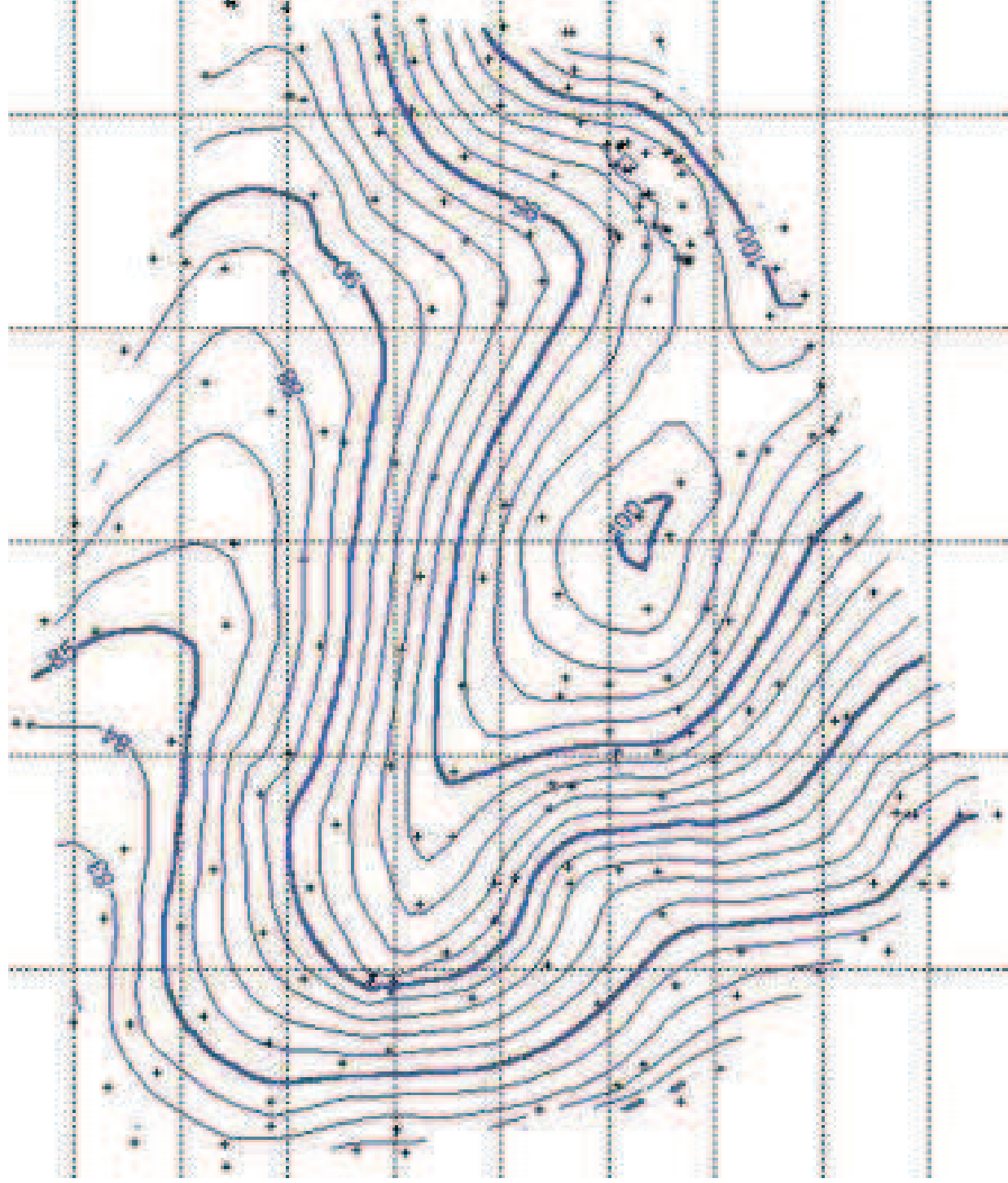
Courbes d'égale hauteur

Courbe de Niveau

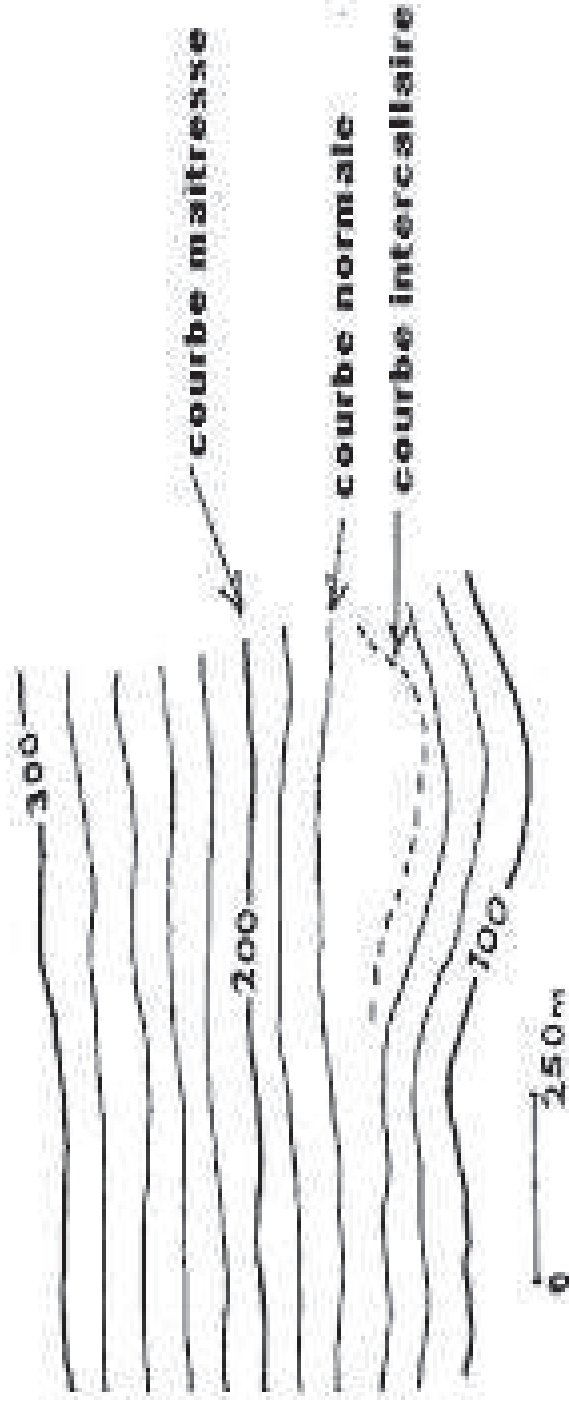




Courbes de Niveau



Classification des courbes de niveau



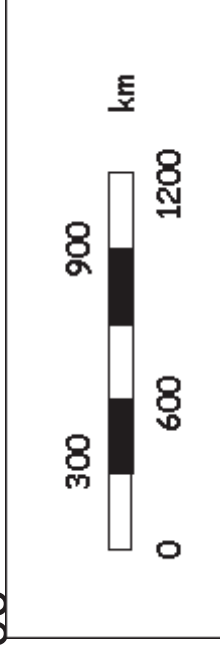
- Equidistance : entre deux courbes ici 20m
- Courbes maîtresses : 100, 200, 300m
- Courbes normales : chaque 20m

Echelle de la Carte

E = Longueur mesurée sur la carte divisée par la Longueur Horizontale correspondante mesurée sur le terrain ($E=L/L$)

Echelle numérique : 1/1000 ; 1/50 000 ;
1/100 000 ; 1/500 000

Echelle graphique :

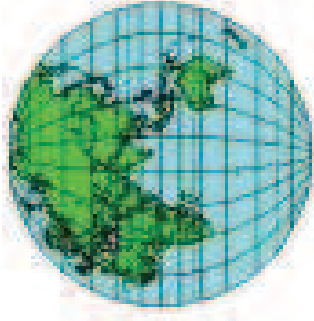


Exemples

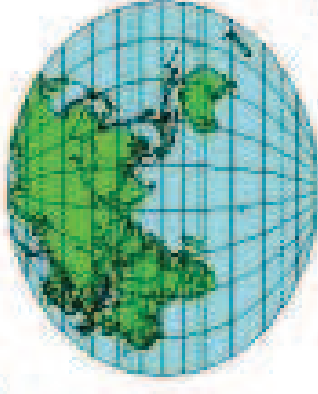
1. Soit deux points séparés par une distance de **15mm** sur une carte à l'échelle **$E=1/50000$** . Calculer la distance réelle (**L**) qui sépare les deux points.
2. Sur une carte dont l'échelle est inconnue, deux points sont séparés par une distance de **6mm**. Sachant que la distance réelle entre ces deux points est de **1200m**, calculer l'échelle de cette carte.
3. Si deux points séparés par une distance réelle de **5km**, quelle sera la distance (**l**) entre ces deux points sur une carte au **25000^{ème}**

Forme de la Terre

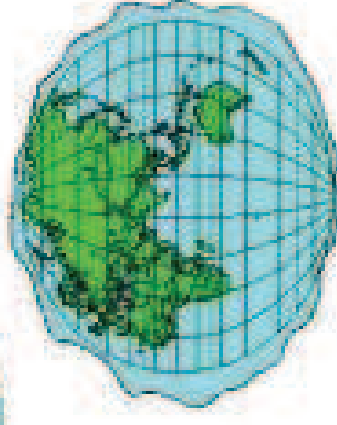
⇨ La Terre : *sphère*



⇨ La Terre : *ellipsoïde*



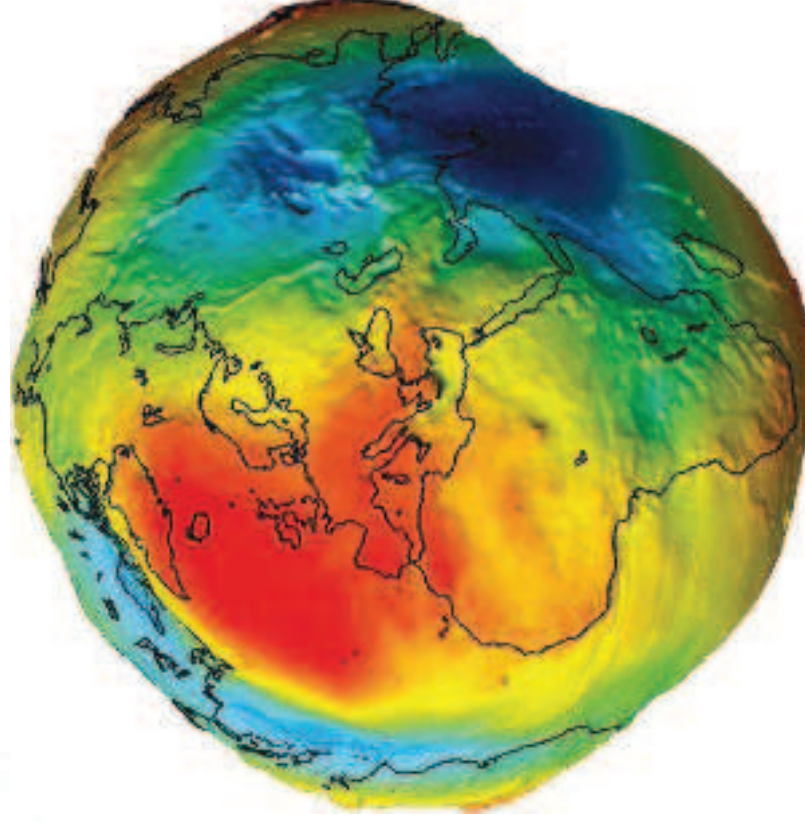
⇨ La Terre : *surface physique réelle*



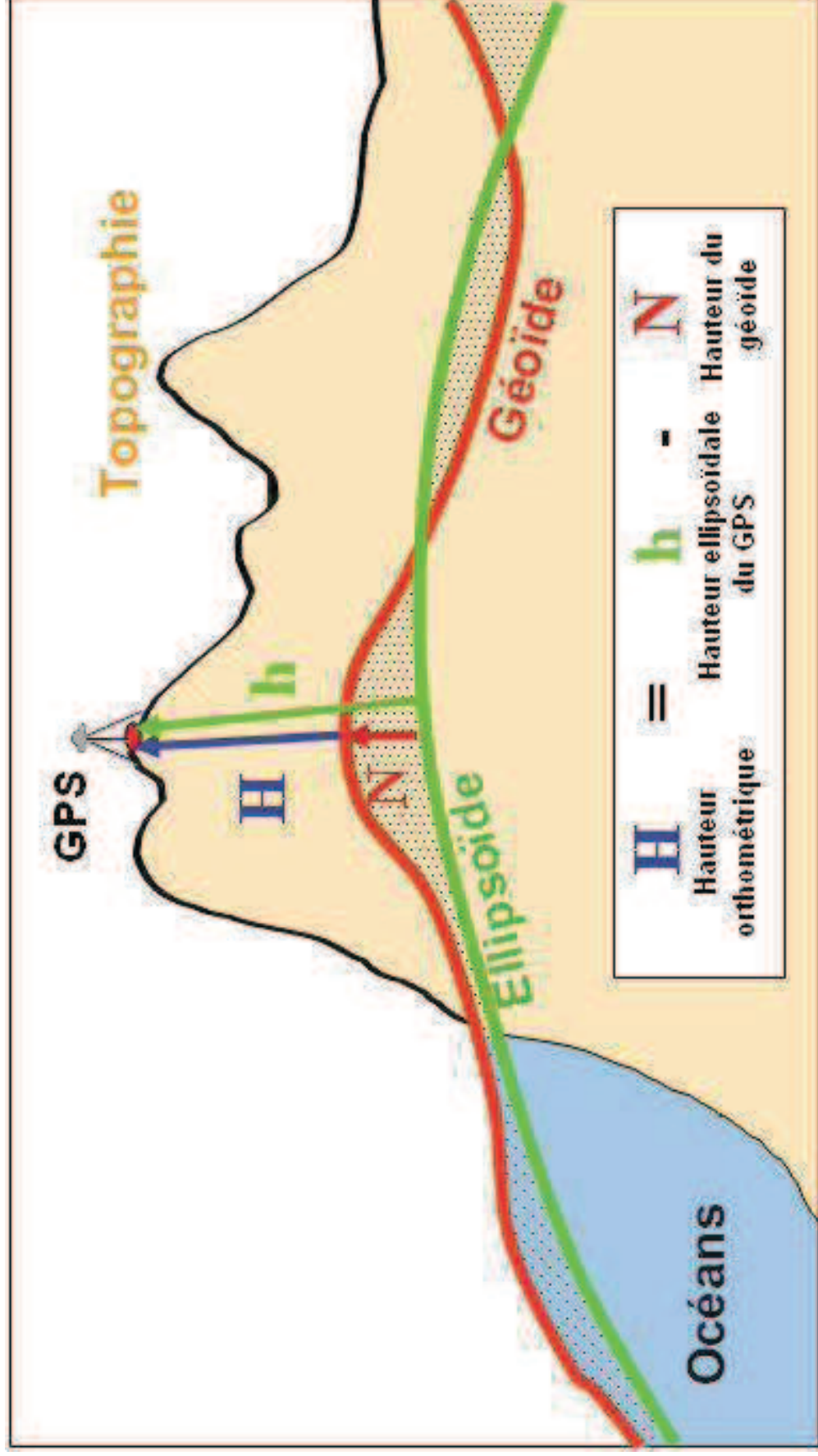
Modèle terrestre



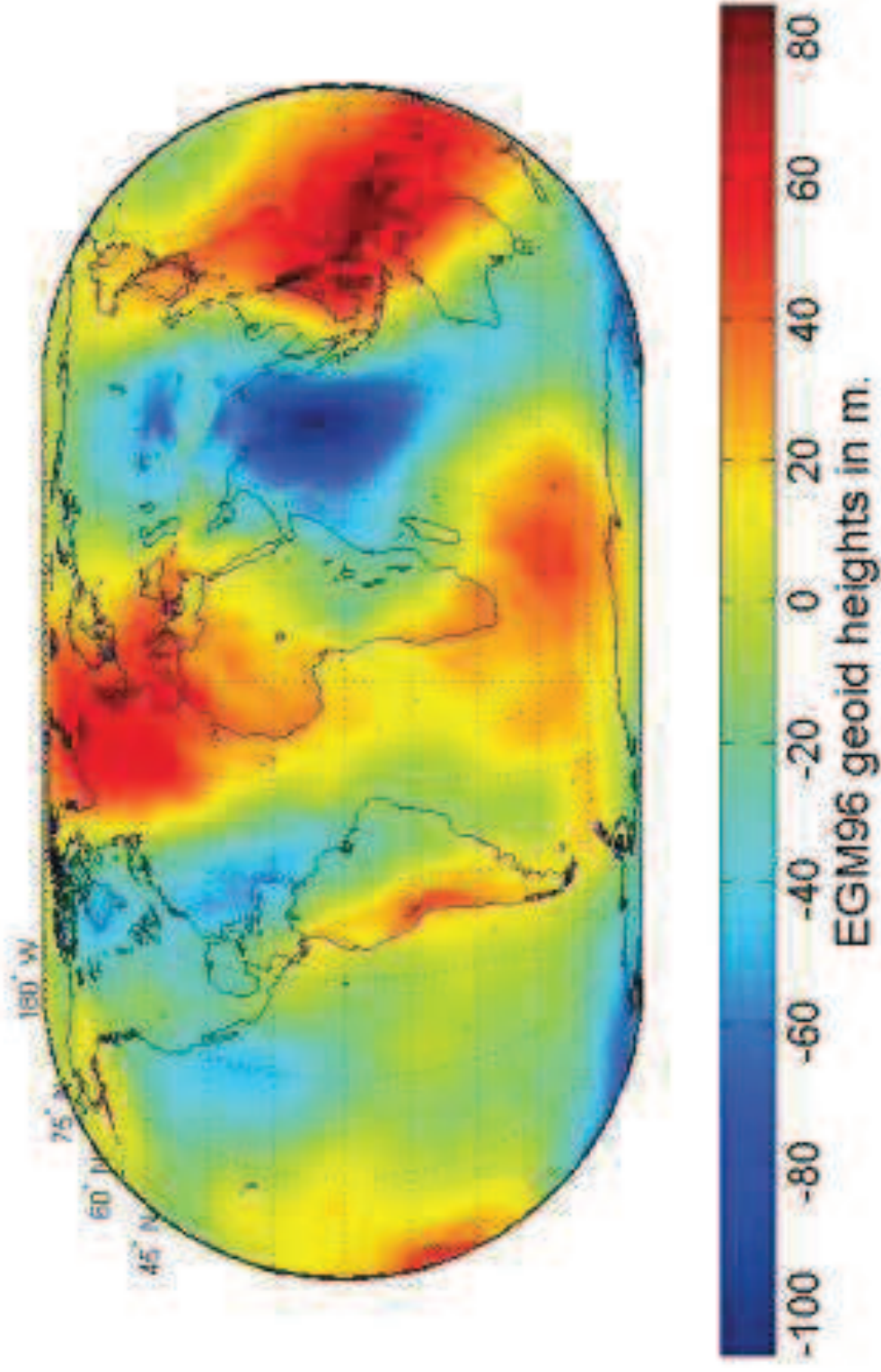
Géoiide



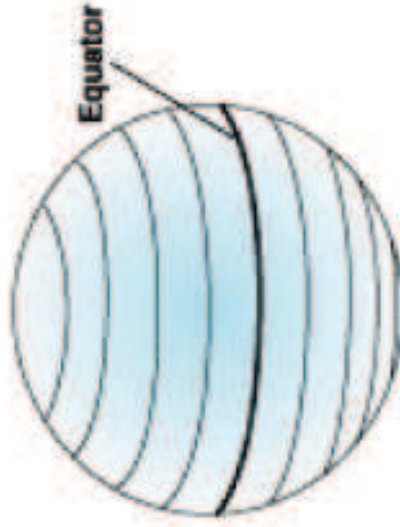
Surface topographique-Géοide-Ellipsoide



Ecart entre l'Ellipsoïde et le Géoïde



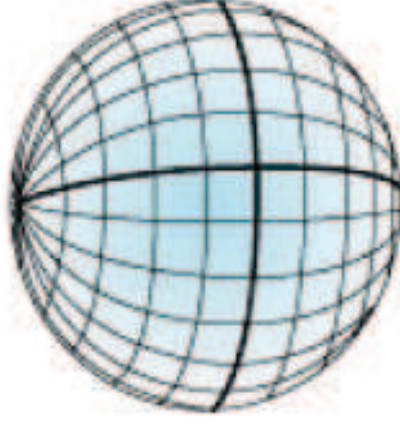
Coordonnées géographiques



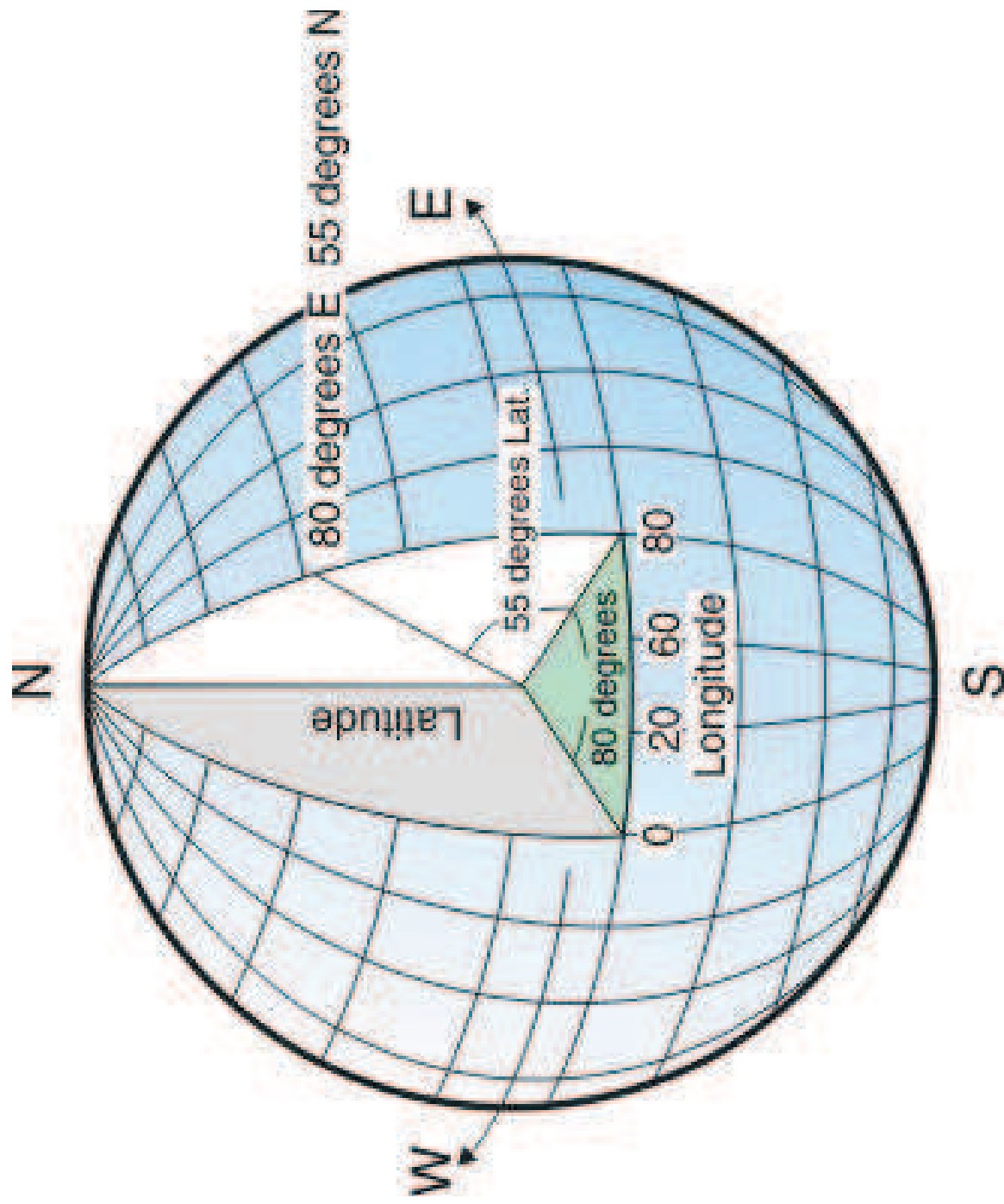
**Parallels
(Lines of latitude)**



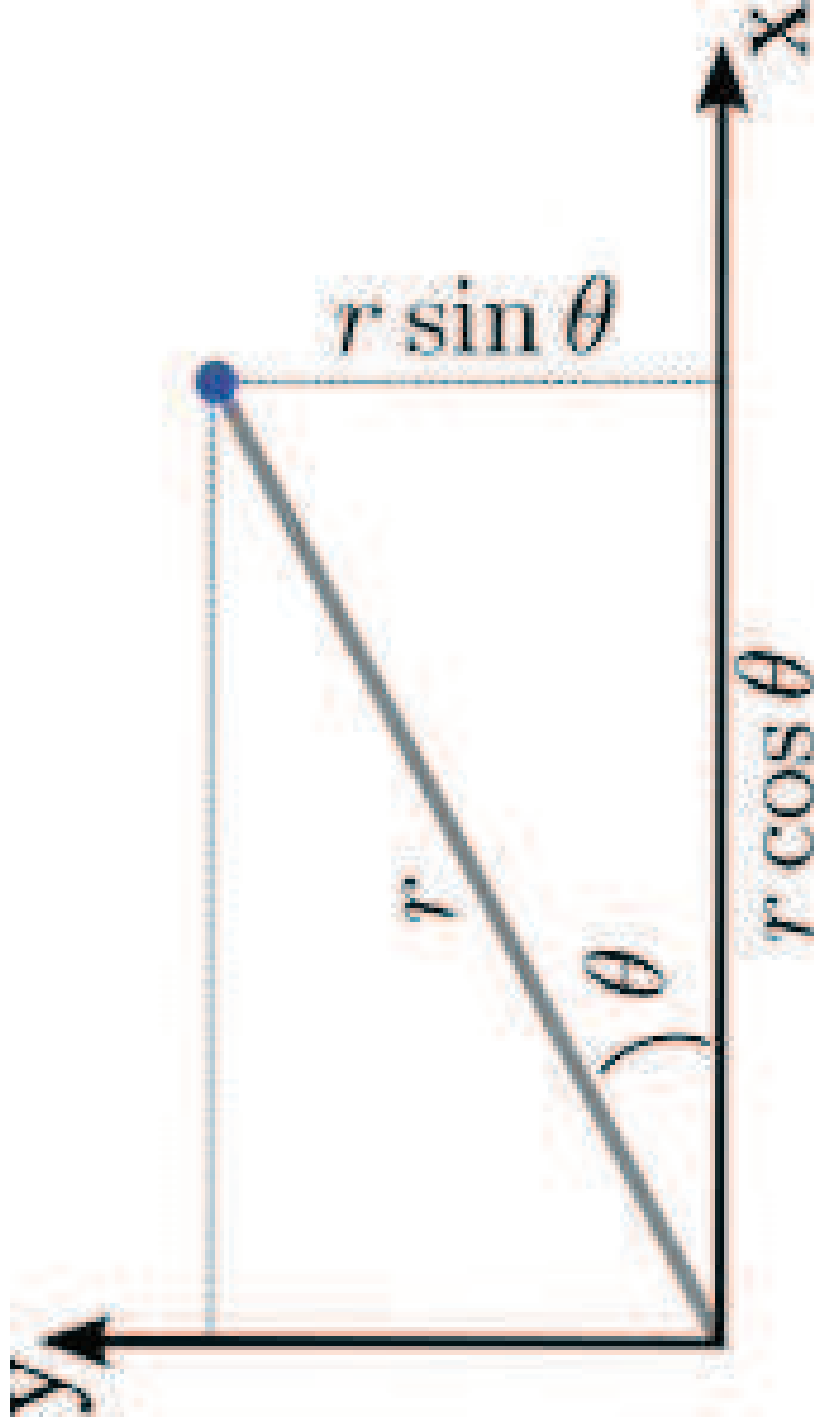
**Meridians
(Lines of longitude)**



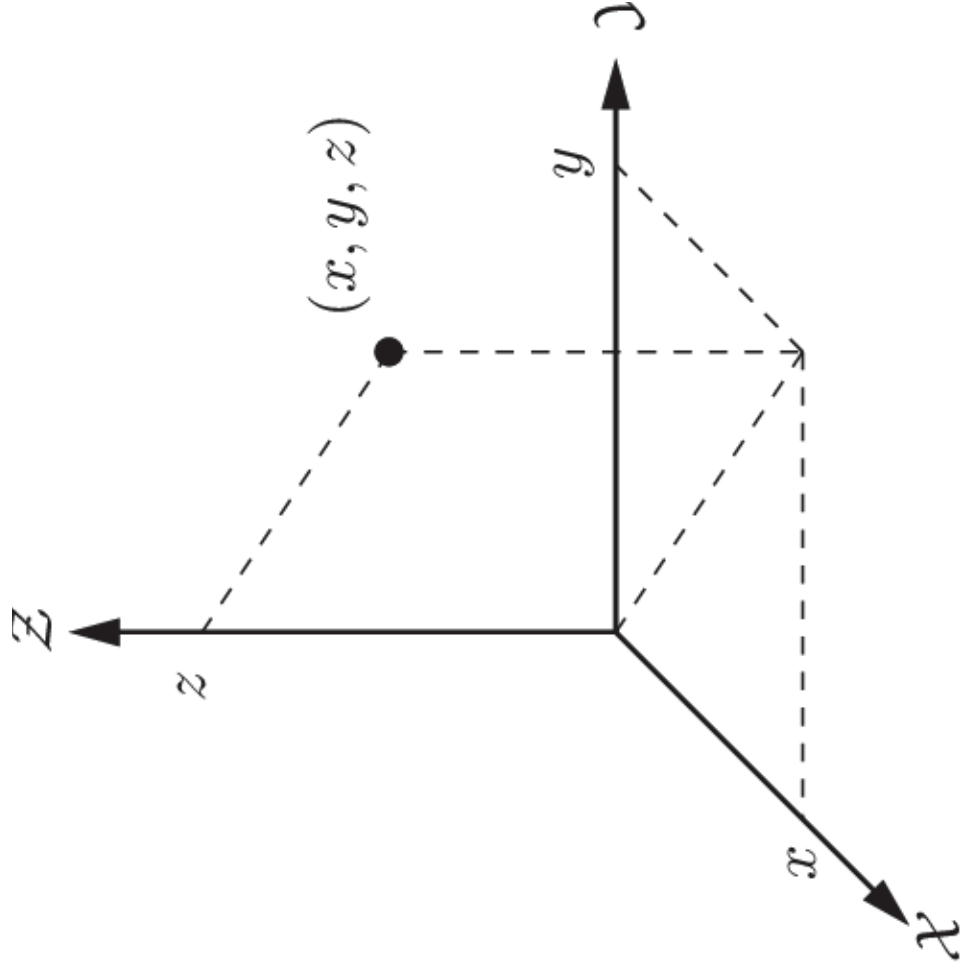
**Graticular
Network**



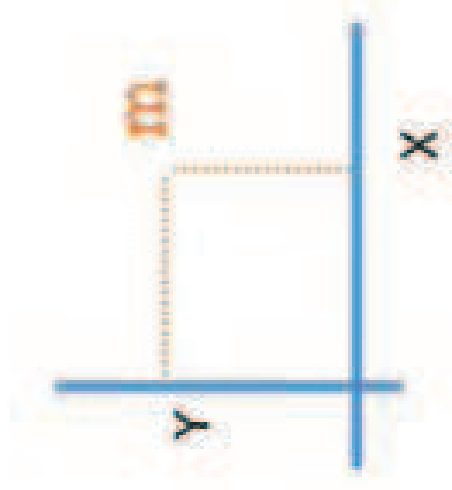
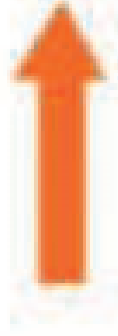
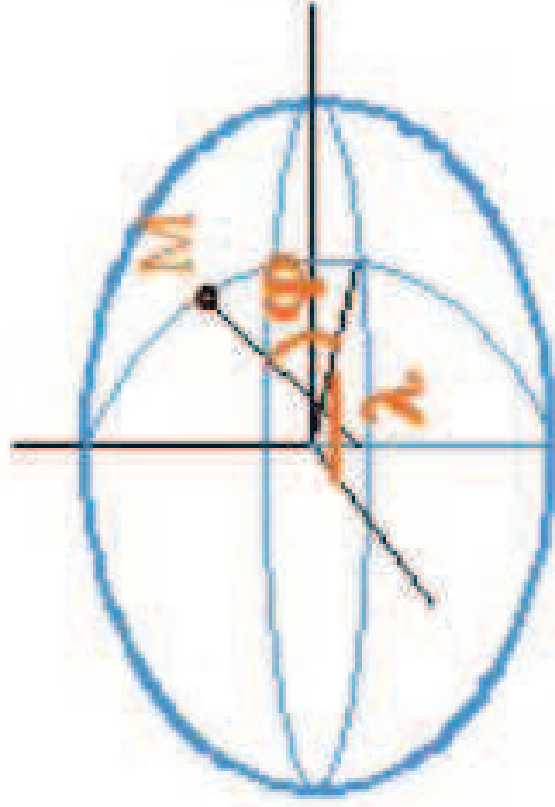
Coordonnées Polaires



Coordonnées cartésiennes

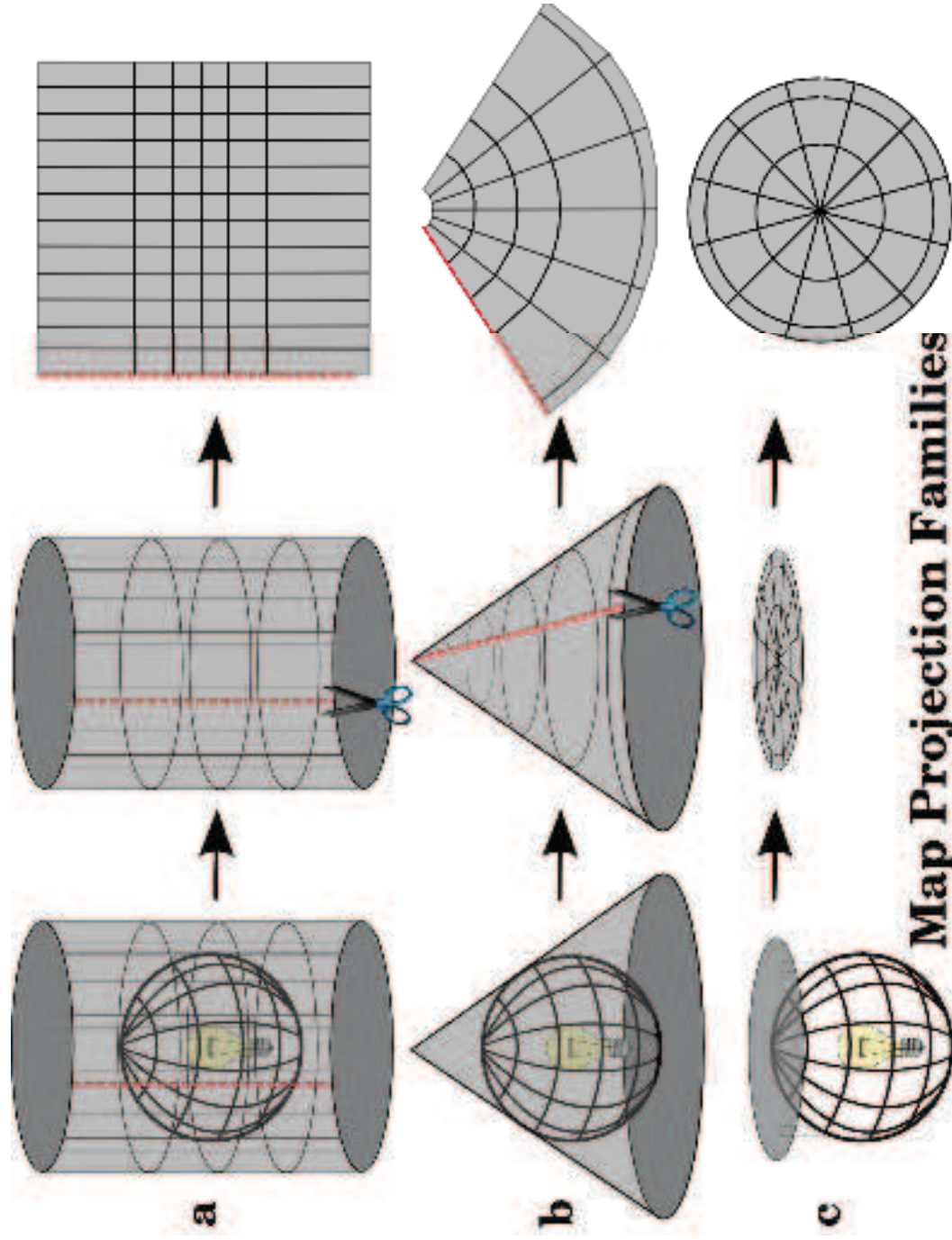


Transformation de coordonnées



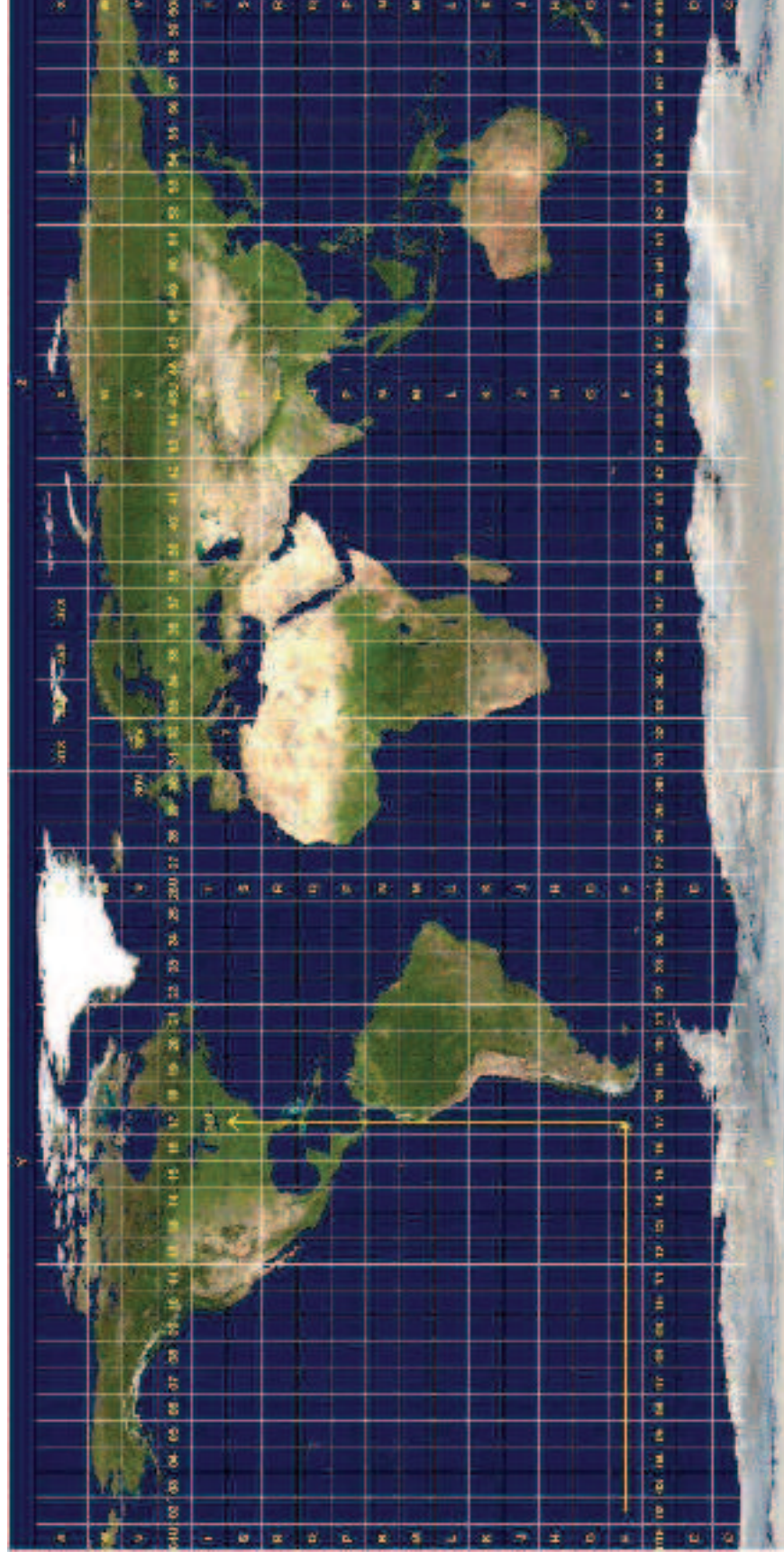
Projections cartographiques



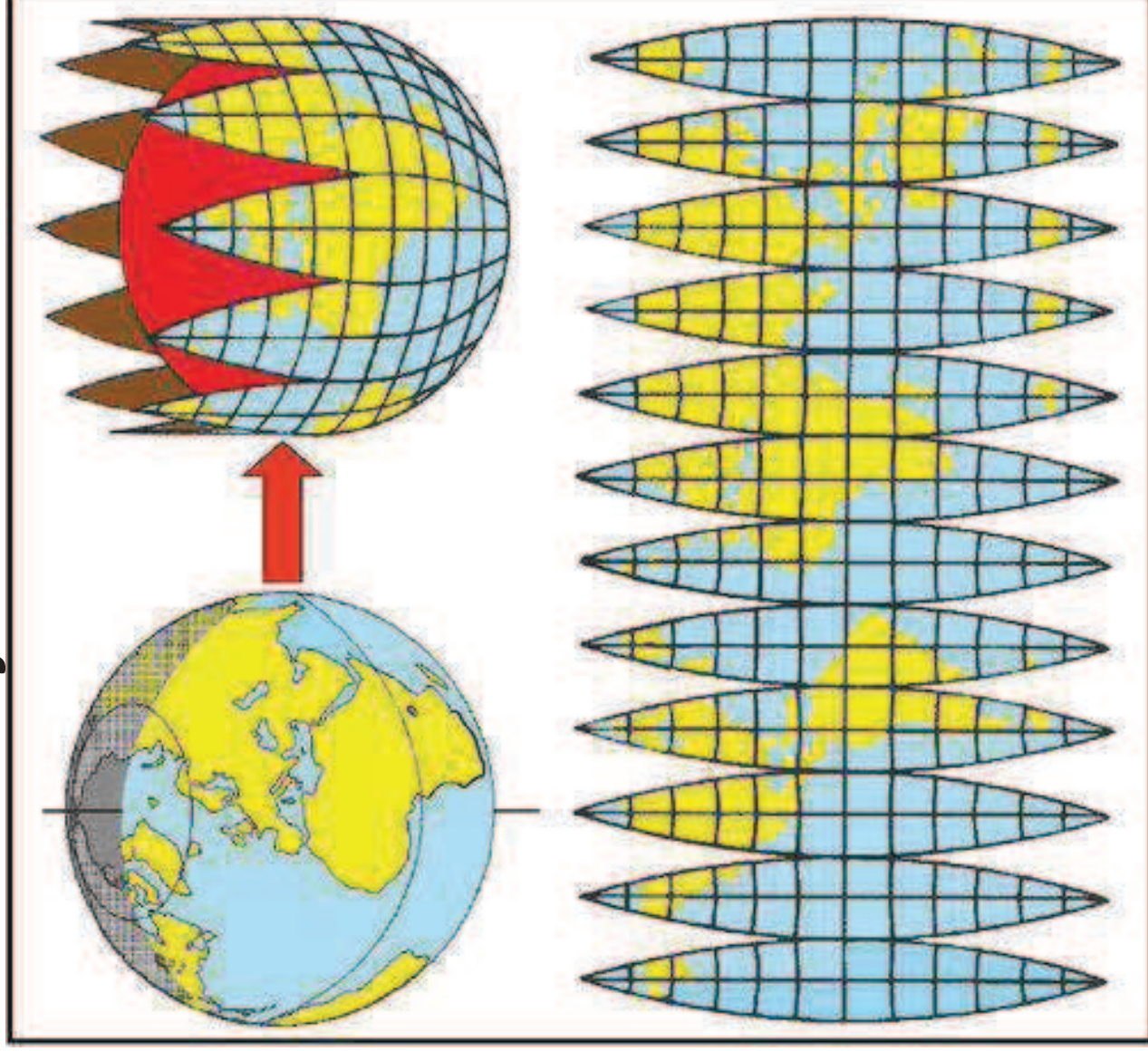


Map Projection Families

Exemple de carte UTM



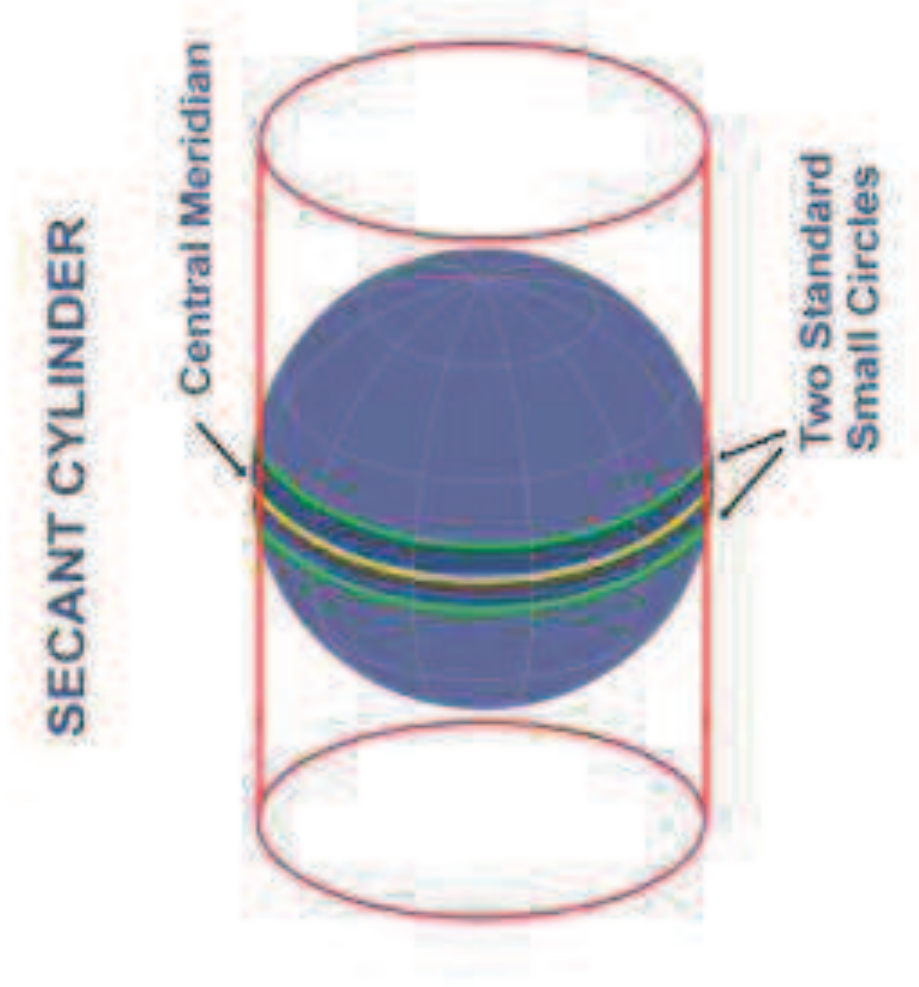
Projection UTM



Projection conique



UTM Sécante



Mesures altimétriques

Voir cours en classe

Mesures planimétrique

- Rayonnement
- Cheminement (calcul de cheminement encadré)

Démonstration en classe

Travaux pratiques

- TP1 : Mesures altimétrique

Calcul des altitudes et compensation des erreurs

- TP2 : Observation d'Angles et de distances

Mesure d'angles horizontaux

Mesure d'angles verticaux

Mesure de distances