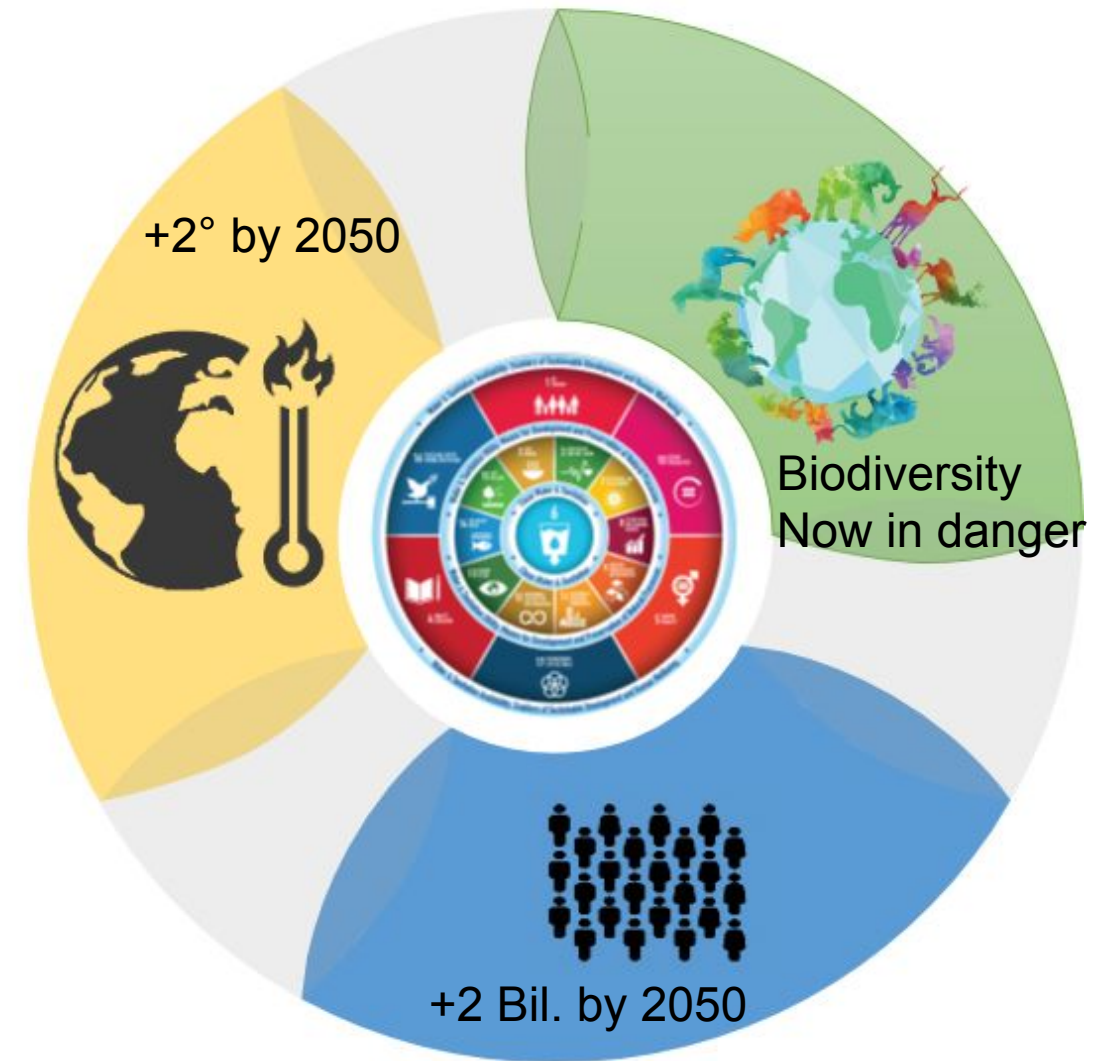


**Satellites and water resources management:
towards a revolution?”
-Introductory remarks-**

Philippe Maisongrande, CNES
Land and Hydrology Science Program Manager

**Adaptation and mitigations issues
Requiring Management**

**=>A need for available reliable
metrics**



Water cycle monitoring and Satellites Assets



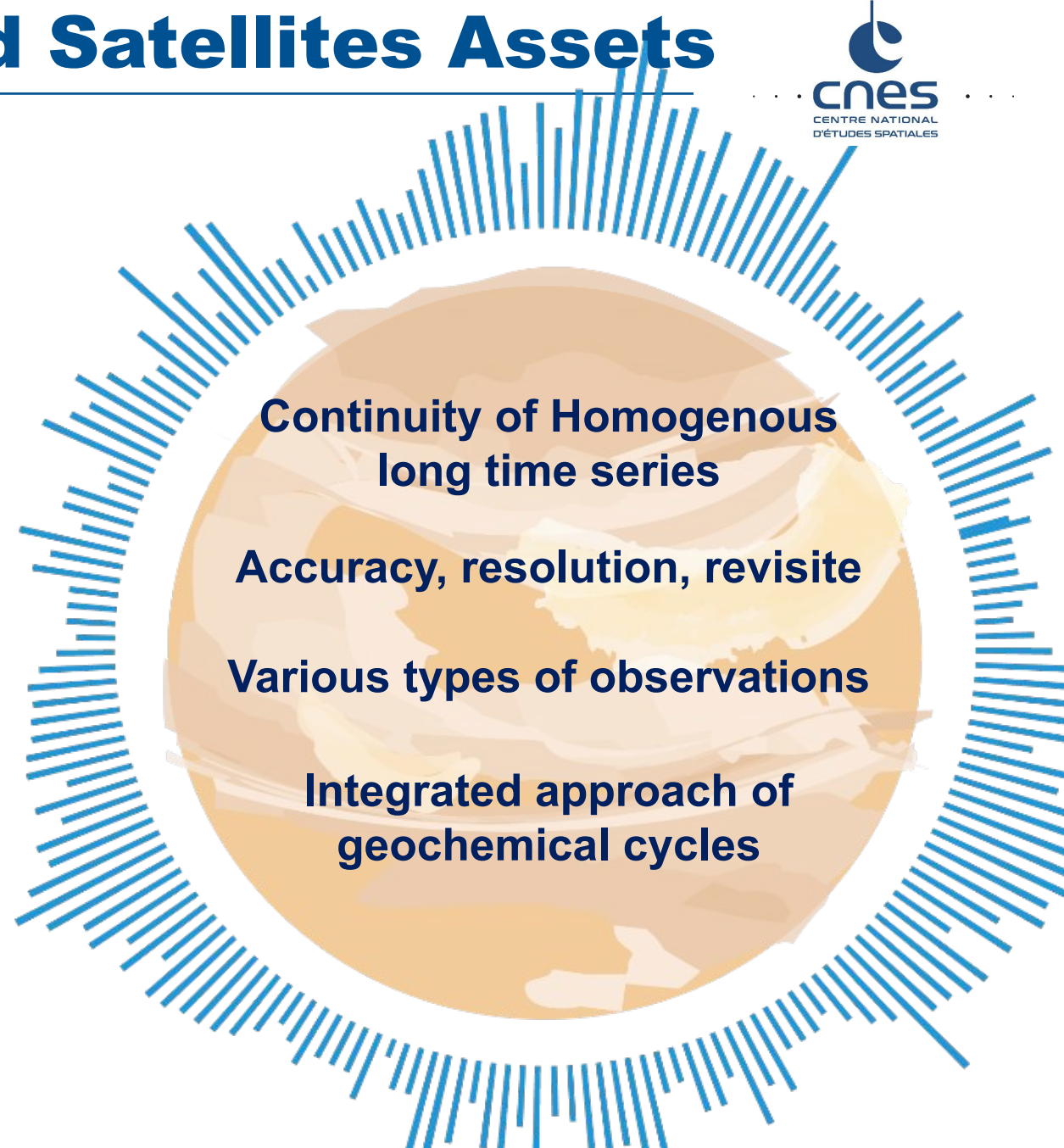
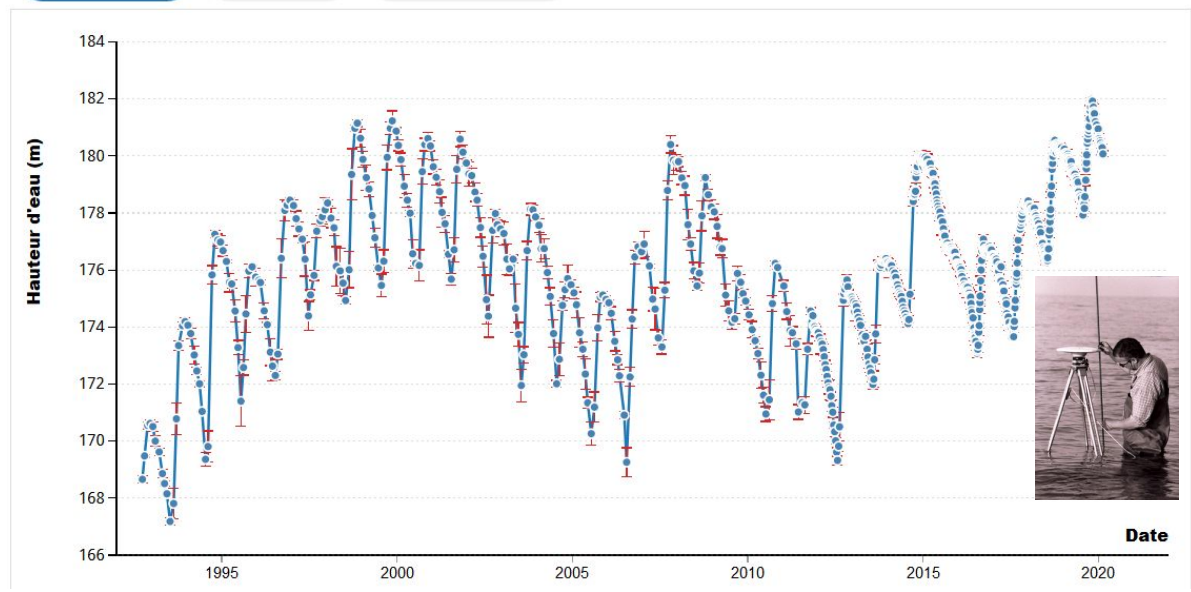
Se Connecter | S'inscrire |   Outils | Aide

Séries temporelles de hauteurs d'eau sur les fleuves et lacs du monde

Accueil » L_nasser

Lac Nasser

- Hauteur d'eau (m)
- Surface (km²)
- Ecart de volume (km³)



The regional water budget equation and its satellites measurements

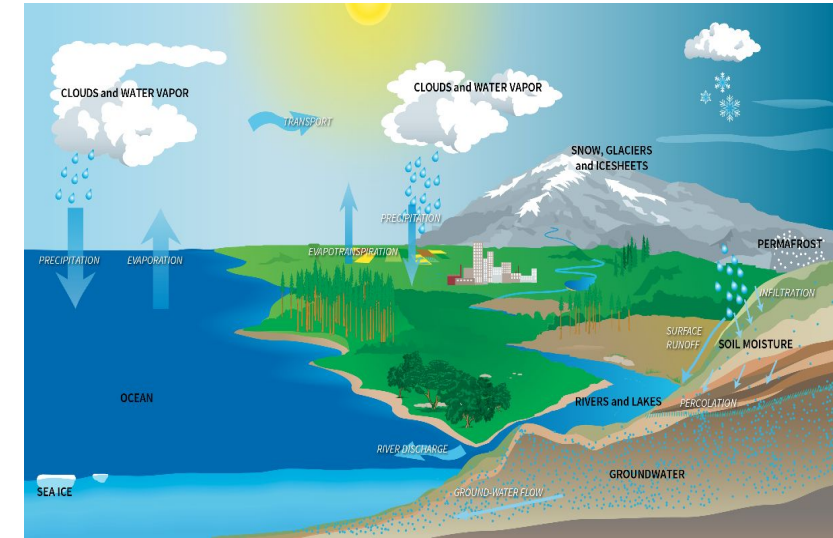


SMOS,
SMAP,
AMSR-E, SSMI

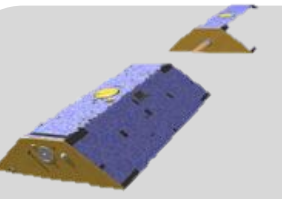


Jason, S3
SaraI Altika
SWOT, S1

Ground
water



$$\frac{dS_{SM}}{dt} + \frac{dS_{SW}}{dt} + \frac{dS_{GW}}{dt} = P - E - Q$$



GRACE,
GRACE-FO
(Marvel)

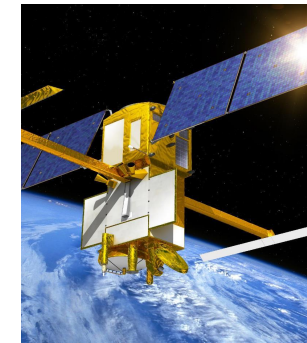
GPM,
Megha-Tropiques
(C2OMODO)



S2/S3
Landsat, Venϋs
TRISHNA
2025

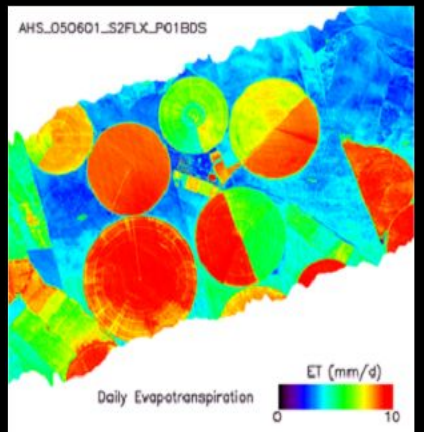
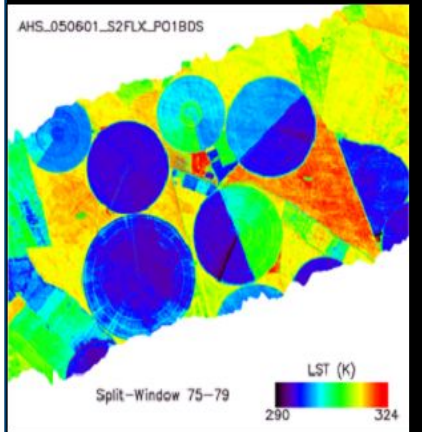


Jason, S3
SaraI Altika
SWOT
2022





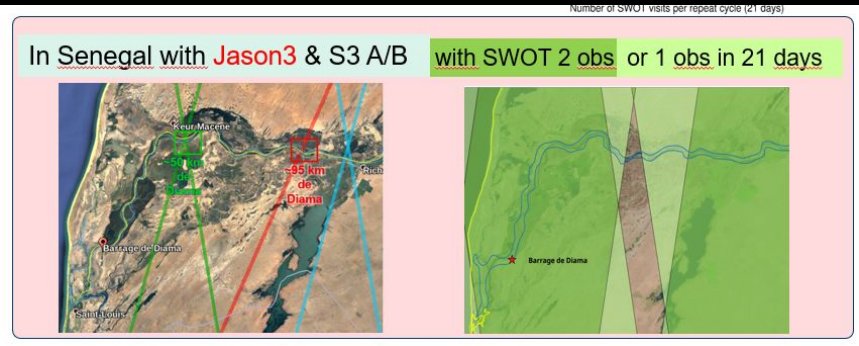
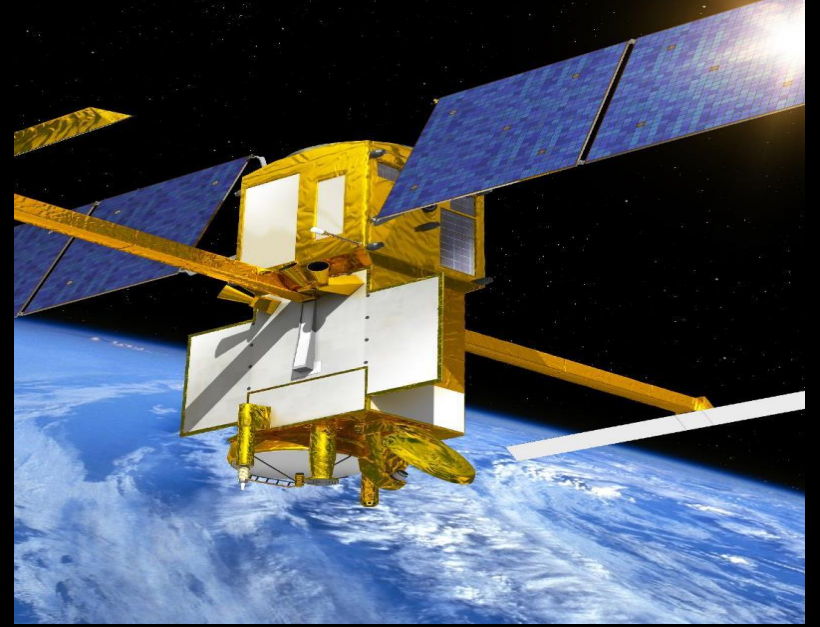
Ground surface temperature and daily evapotranspiration



**Launch scheduled
2025**

Downstream programs

- Water database
- Geospatial analysis & modelling platform
- Regional coconstruction with users, engineers & research



**Launched scheduled
Nov. 2022**



Summary

- Important Challenges
- Available reliable historical & news metrics
- Geospatial analysis & modelling platforms for science & downstream applications

Thank you

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