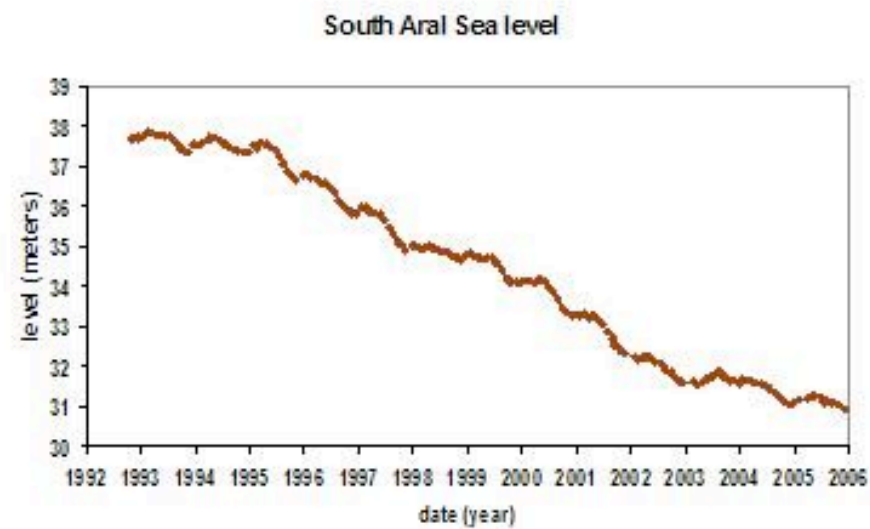
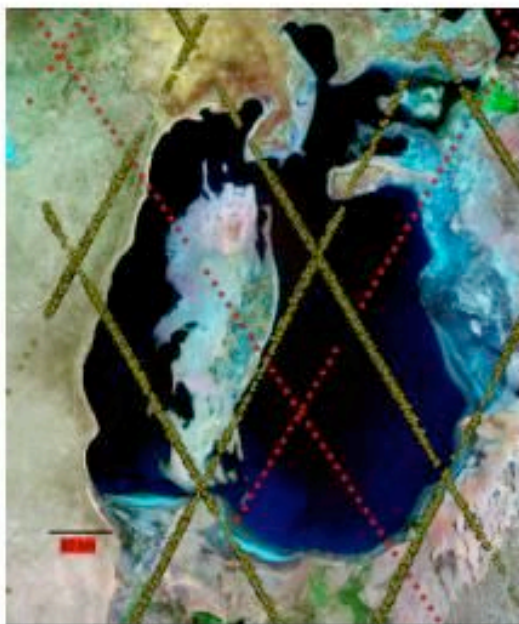
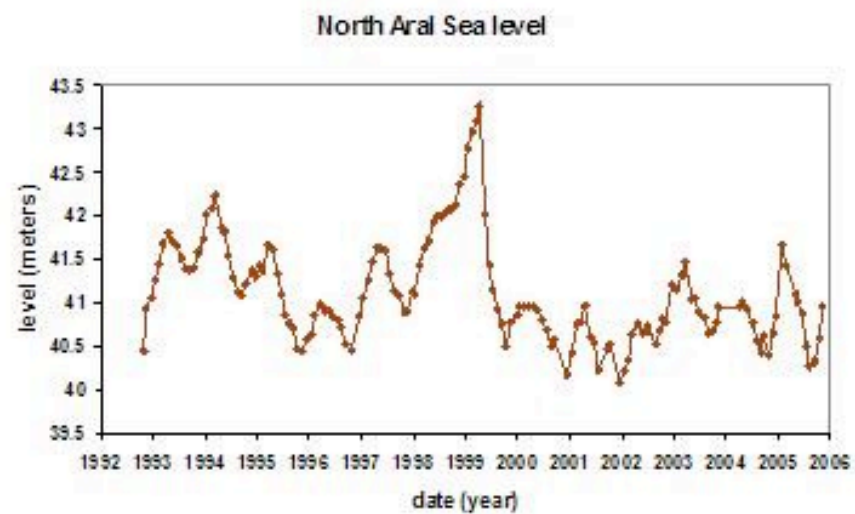
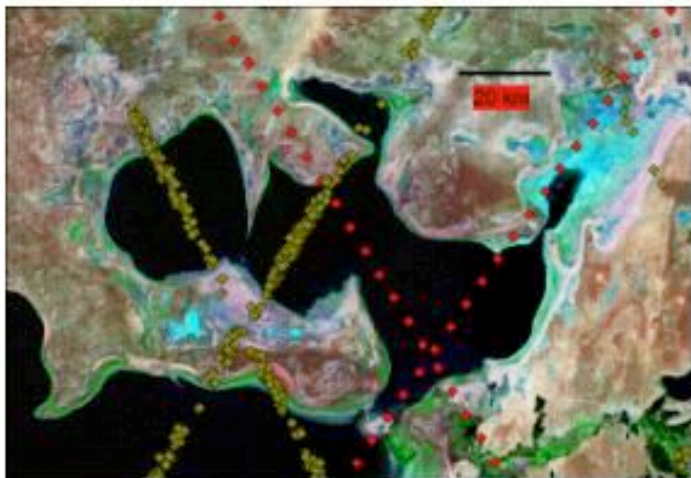
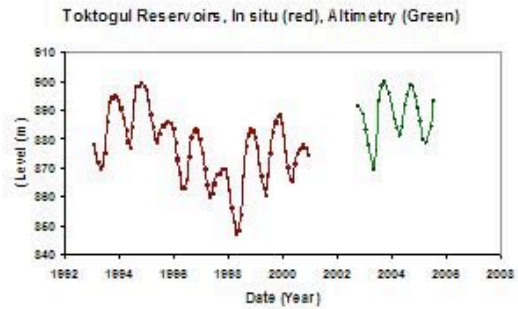
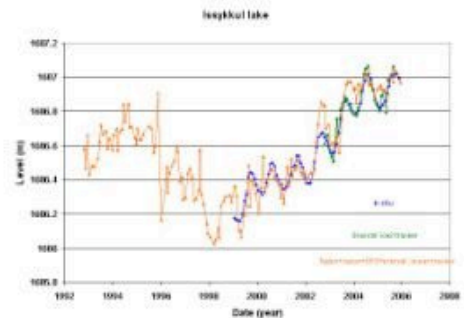
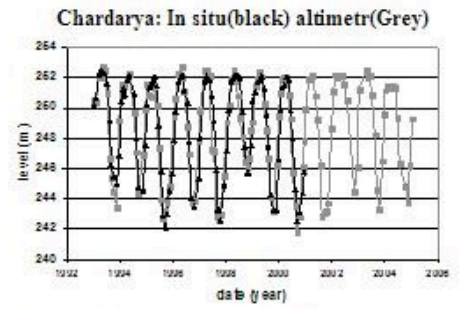
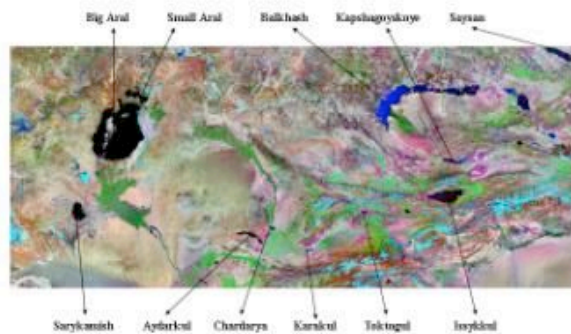


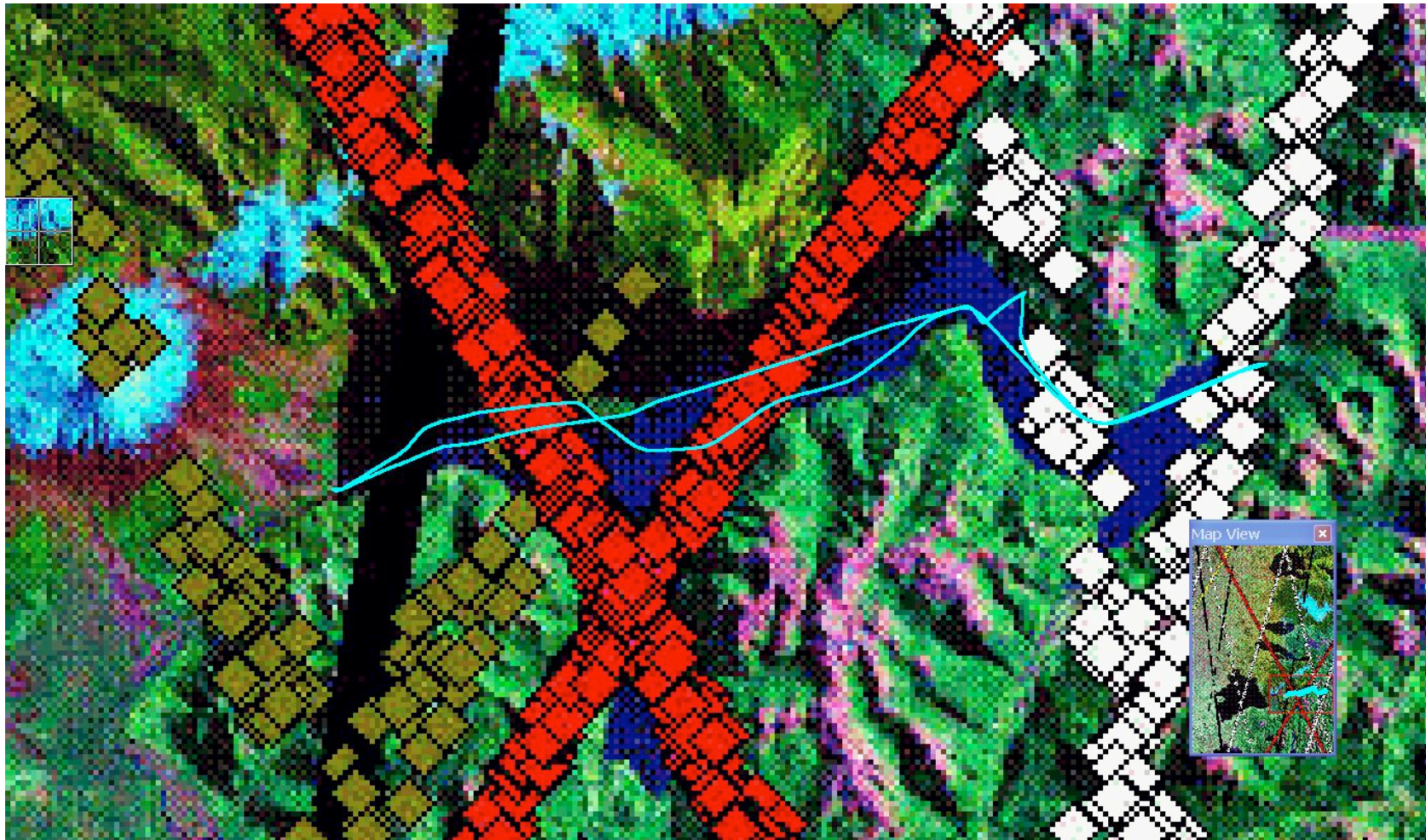
<http://www.legos.obs-mip.fr/soa/hydrologie/hydroweb/>



Altimetry data: for a better understanding of Central Asia water resources monitoring



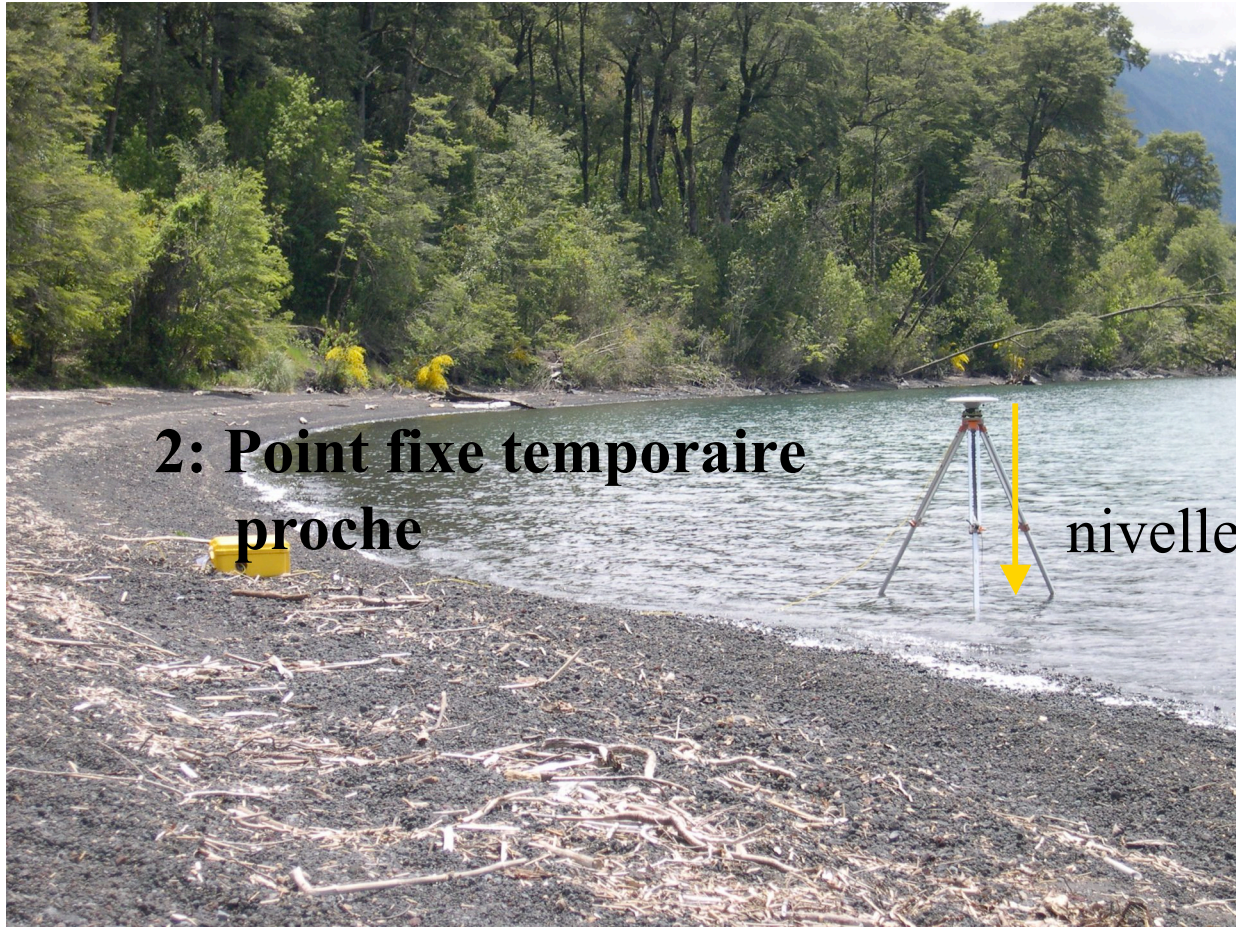
Mesures GPS cinématique sous les Traces alti croisant un lac



Mesures GPS cinématique sous les Traces alti croisant un lac:

1- Installation d'un site de référence (4-6 jours)





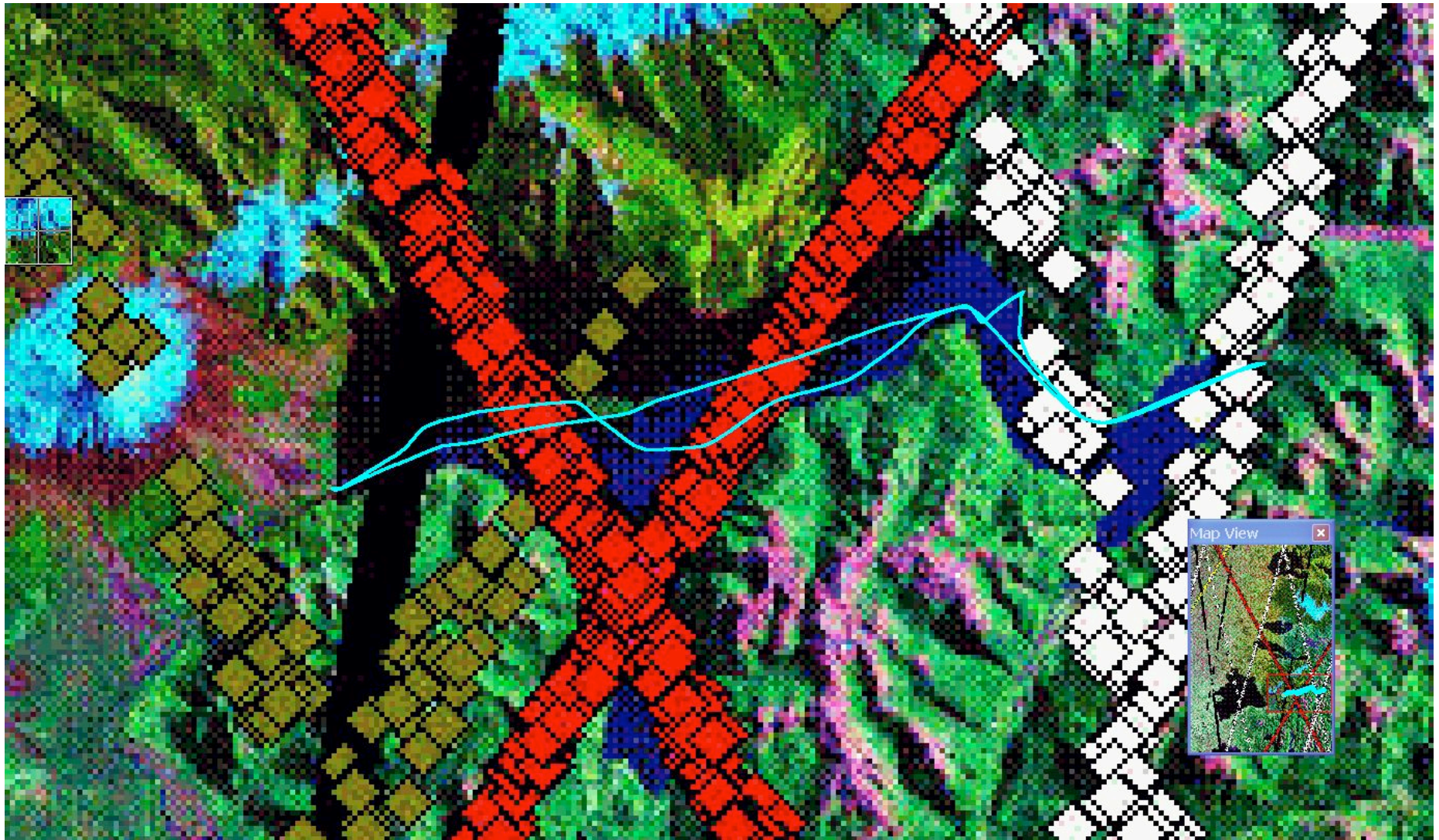
**2: Point fixe temporaire
proche**

nivellement

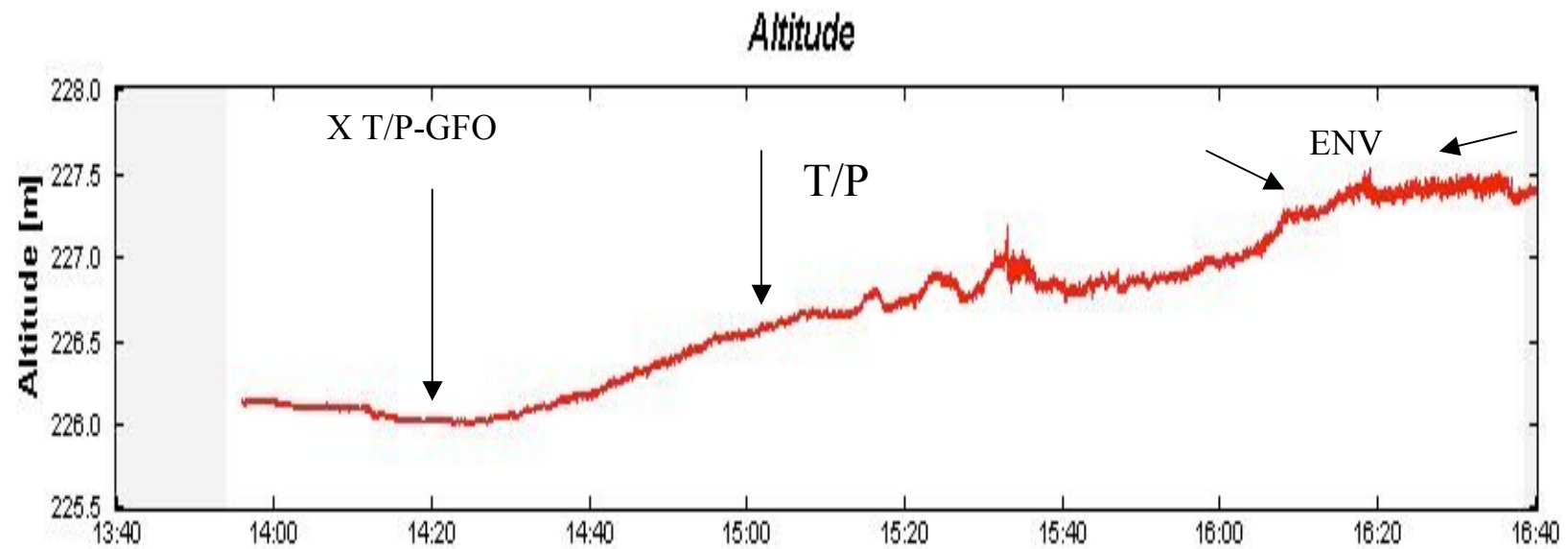


3: Mobile

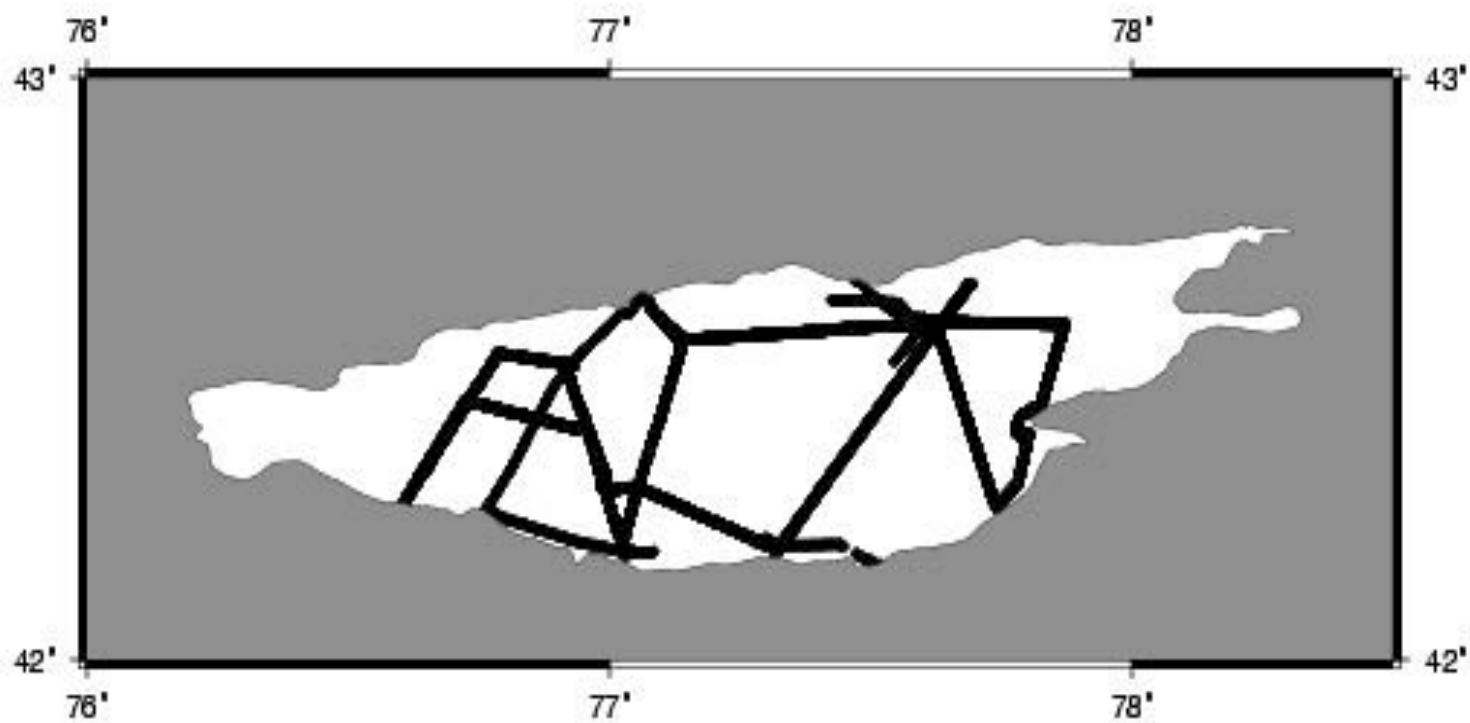


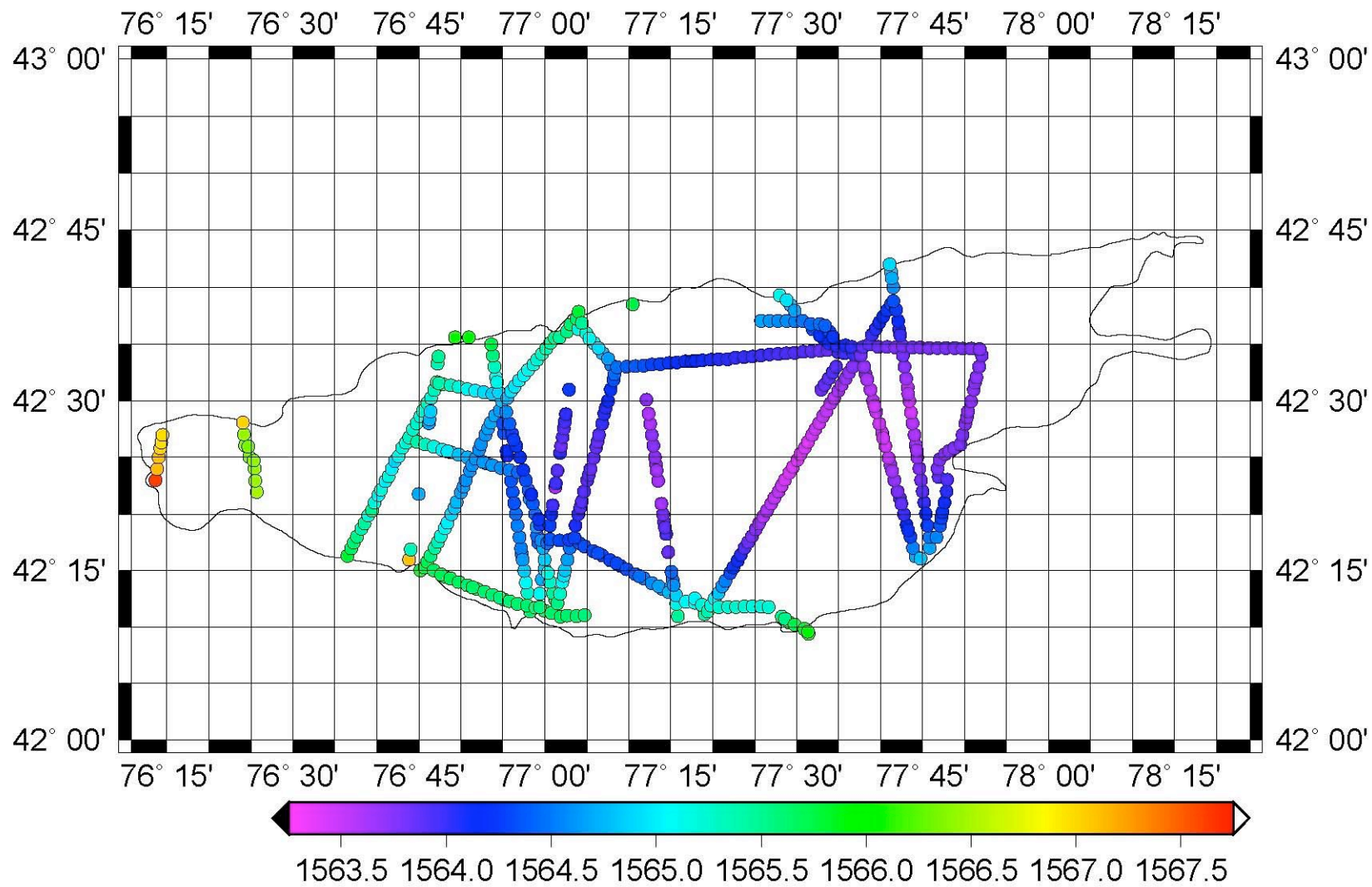


Profil W-E sur le lac Todos los Santos

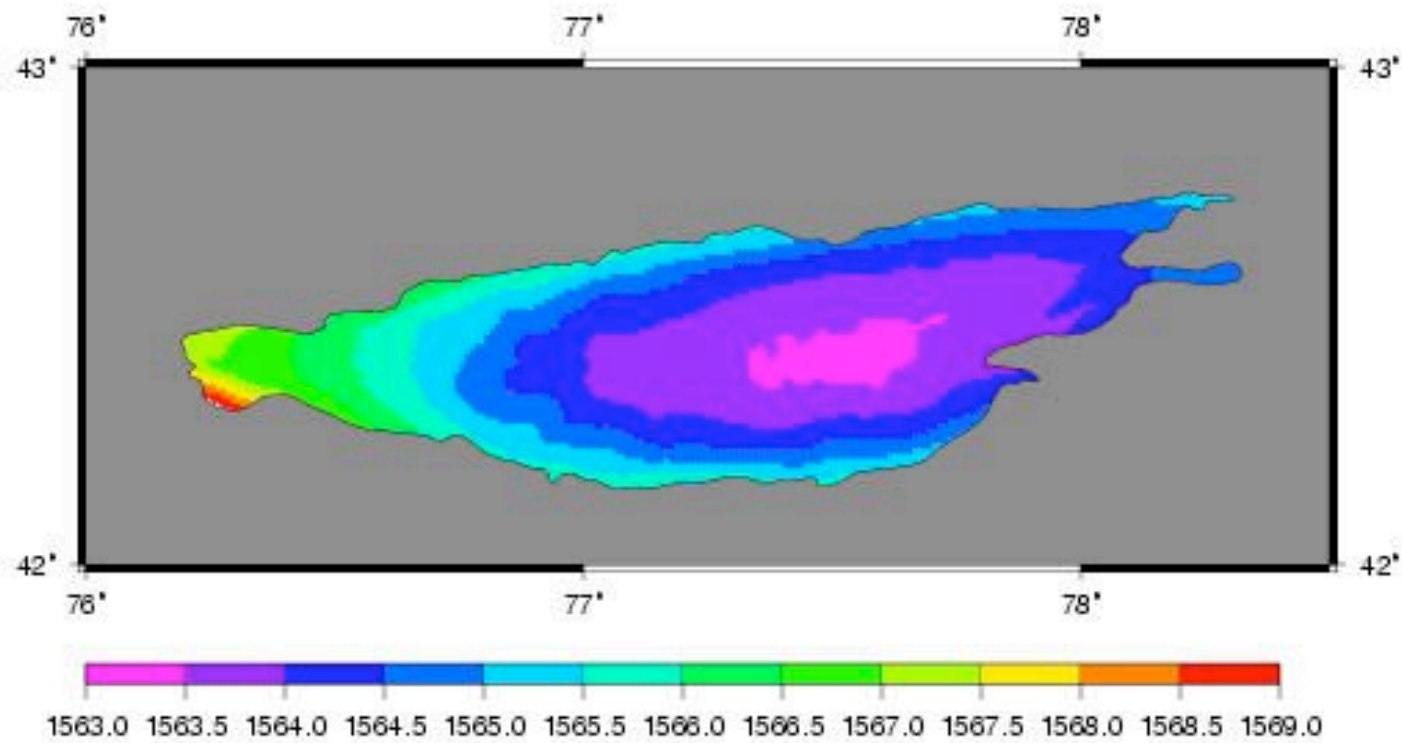


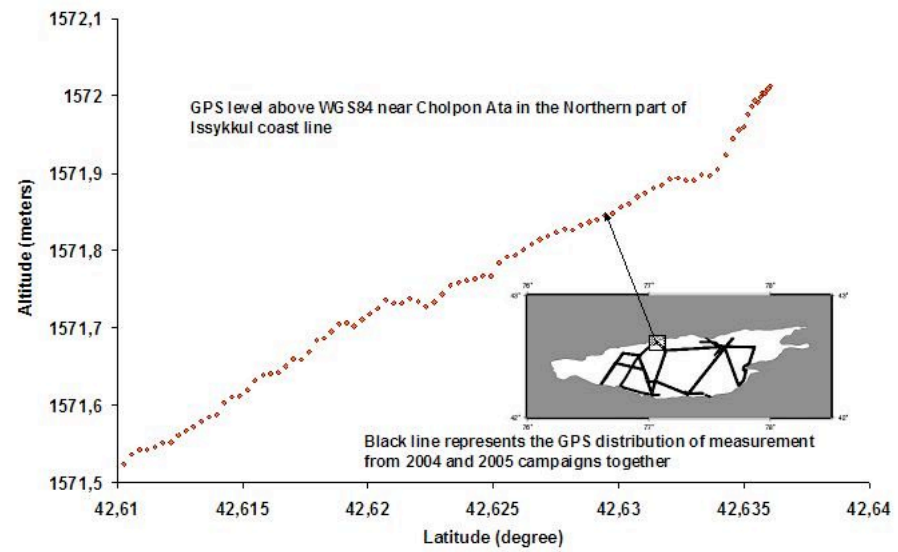
GPS cinématique sur le lac Issyk-kul



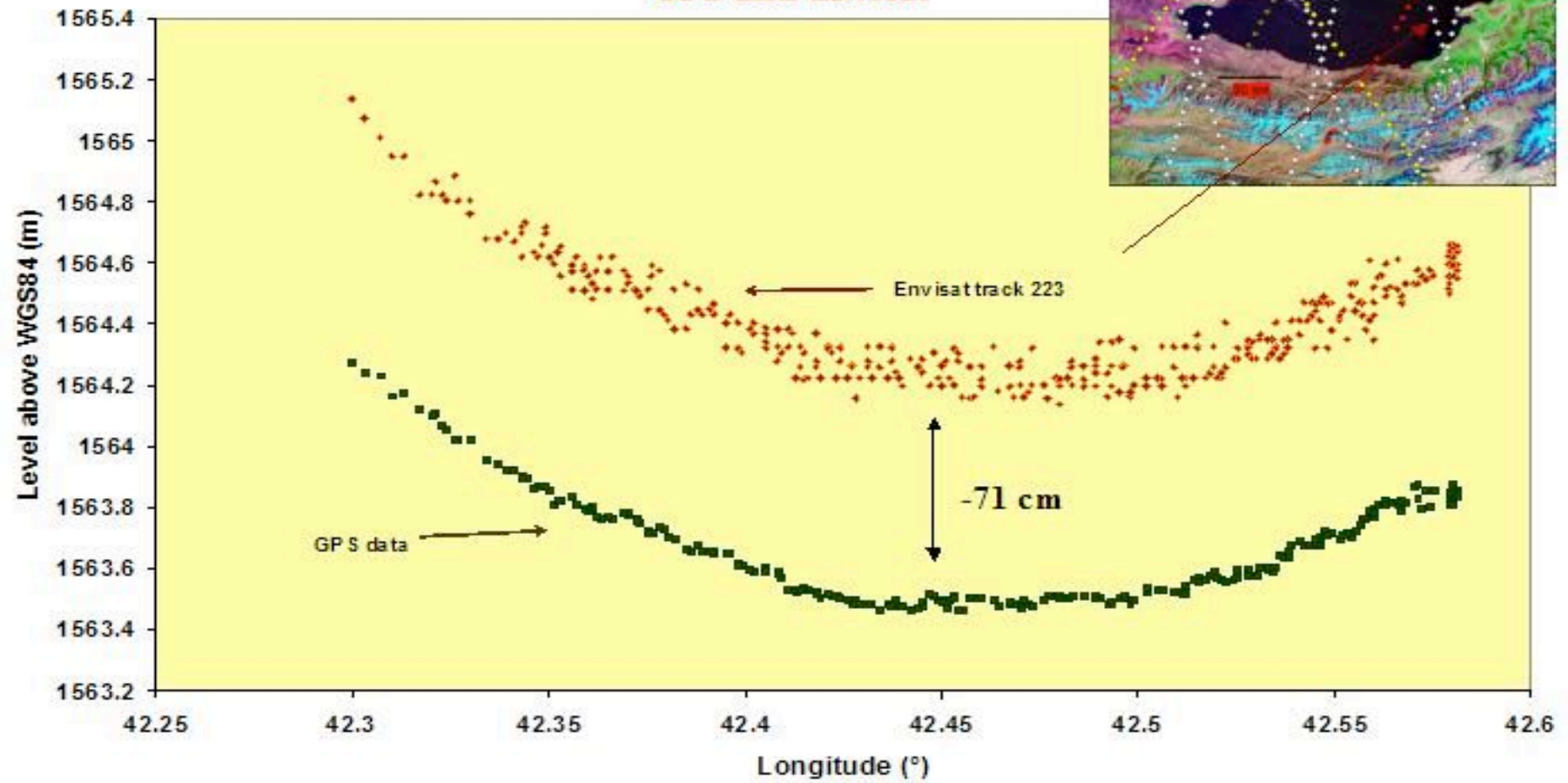


Surface du lac Issyk-kul / GRS80

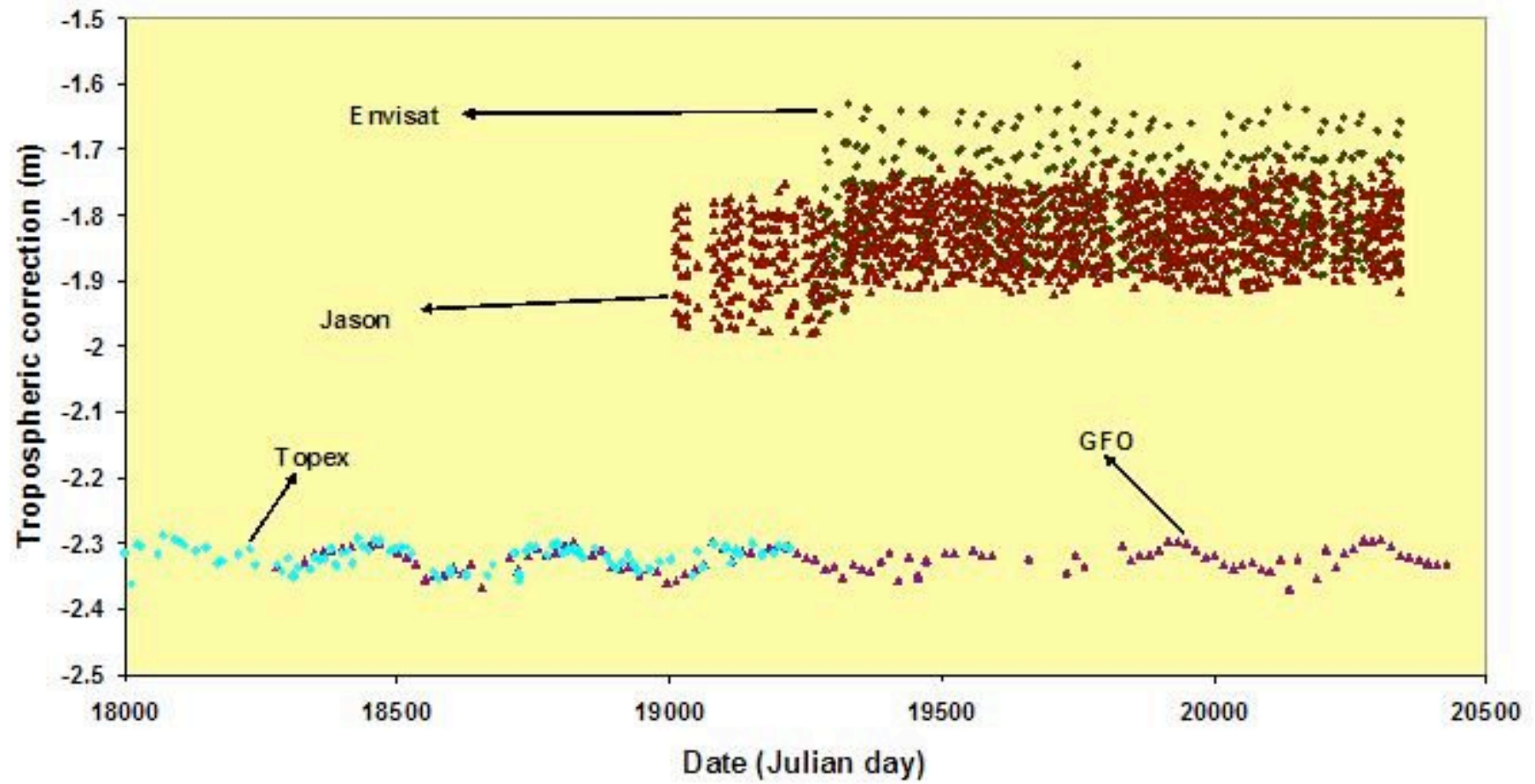




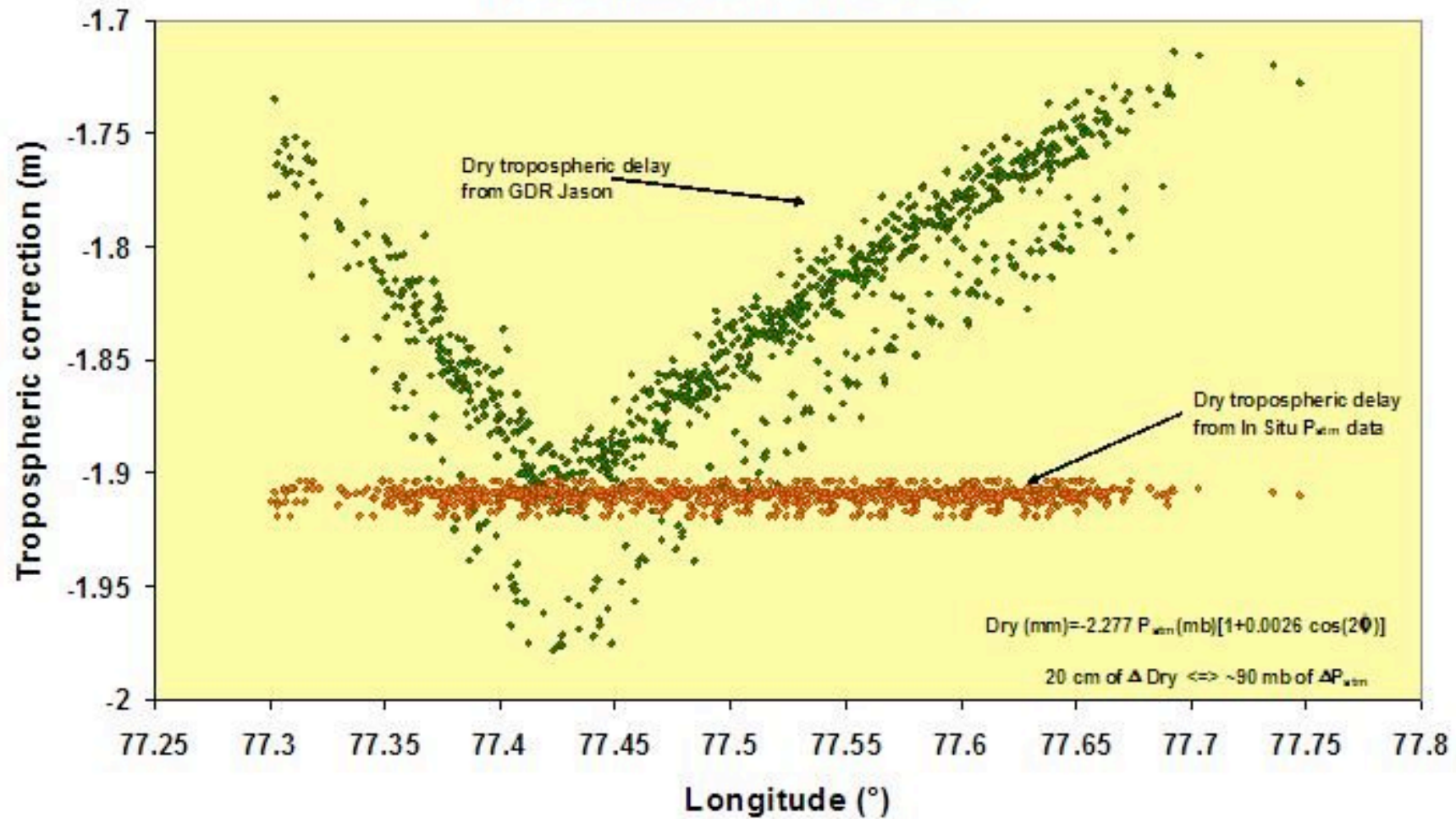
Issykkul, bias between GPS and Envisat



Altimetry on Issykkul lake,
Dry tropospheric correction



Altimetry on Issykkul lake,
dry tropospheric correction, Jason satellite

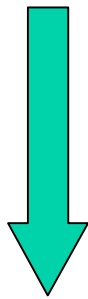


**Satellite altimetry missions : bias deduced from
GPS 2005 campaign (cm)**

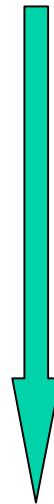
| | Icel | Ice2 | Ocean |
|--------------------|---------------|---------------|-----------------------------|
| Envisat | 71.3 (+/-5.8) | 47.5 (+/-6.4) | 46.0 (+/-7.6) ^{*1} |
| GFO | | | 7.7 (+/-4.2) ^{*3} |
| Jason-Topex | | | 5.8 (+/-2.4) ^{*4} |

Prochaine etape:

calcul de surface moyenne par collocation



Reference commune
a toutes les missions alti



Anomalies de gravi à la
Surface des lacs

Collocation:

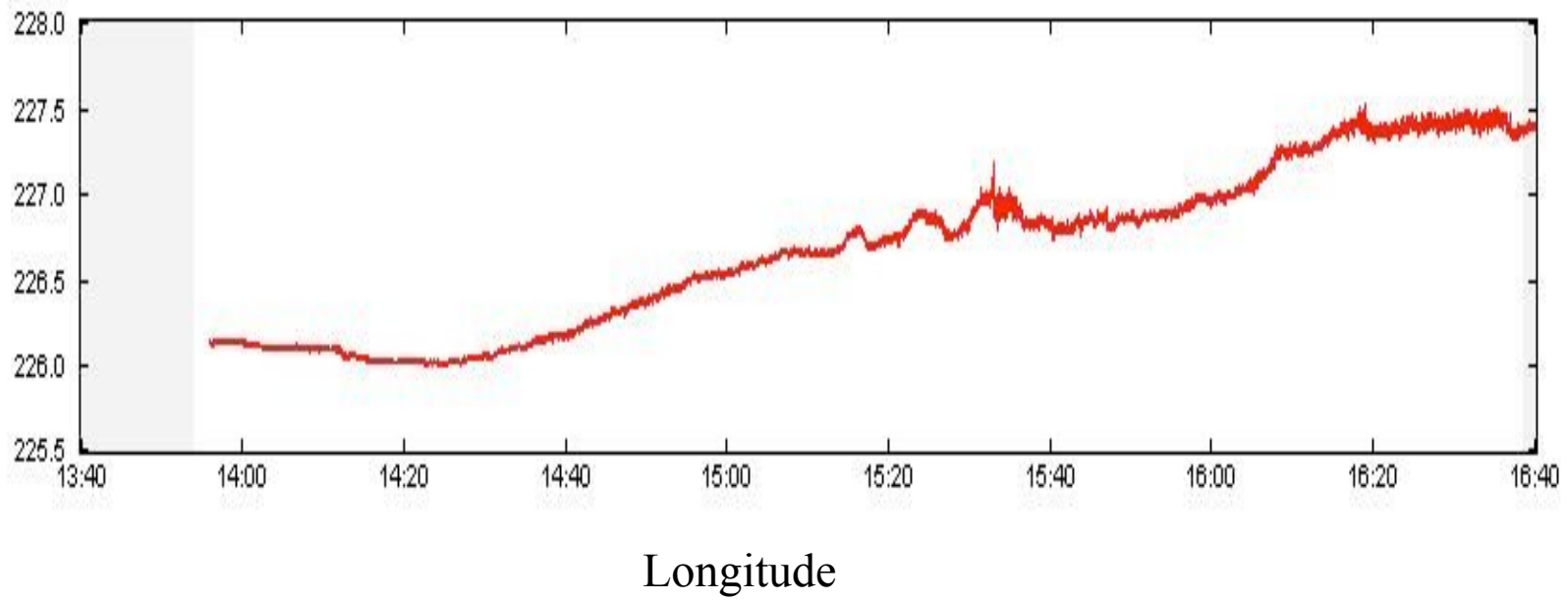
$$s = C_{sl} C_{ll}^{-1} l \quad \text{et} \quad \Sigma_{ss} = C_{ss} - C_{sl} C_{ll}^{-1} C_{ls}$$

l : données de potentiel gravi sous une forme
(géoïde, déflexion de la verticale, anomalie de gravi)

s : signal recherché sous une autre forme

C : covariances

Variations W-E de hauteur
à travers le lac Todos los Santos

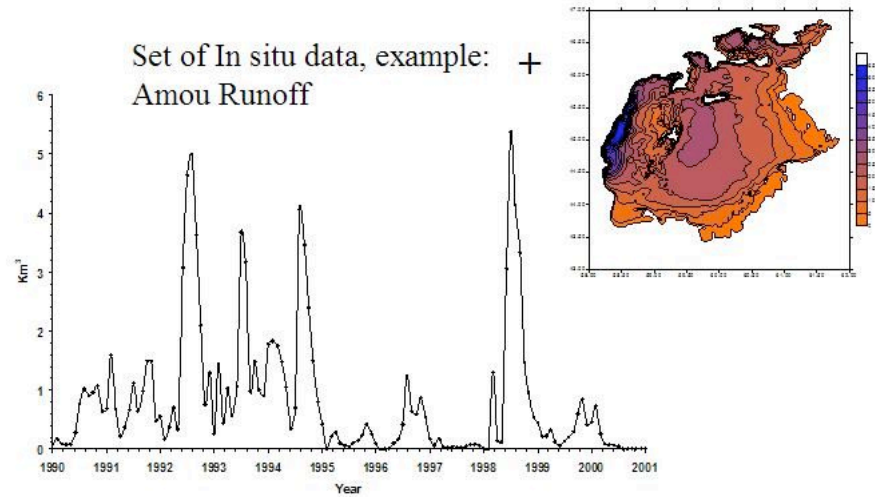


Water balance equation:

$$\frac{dV}{dt} = [R + P + Gi] - [D + E + Go]$$

Bathymetry of the Aral Sea:
0 on the map is +53 m above the 0 Baltic sea
(Shoreline of Aral in 1962)

Set of In situ data, example: +
Amou Runoff



South Aral volume variation

