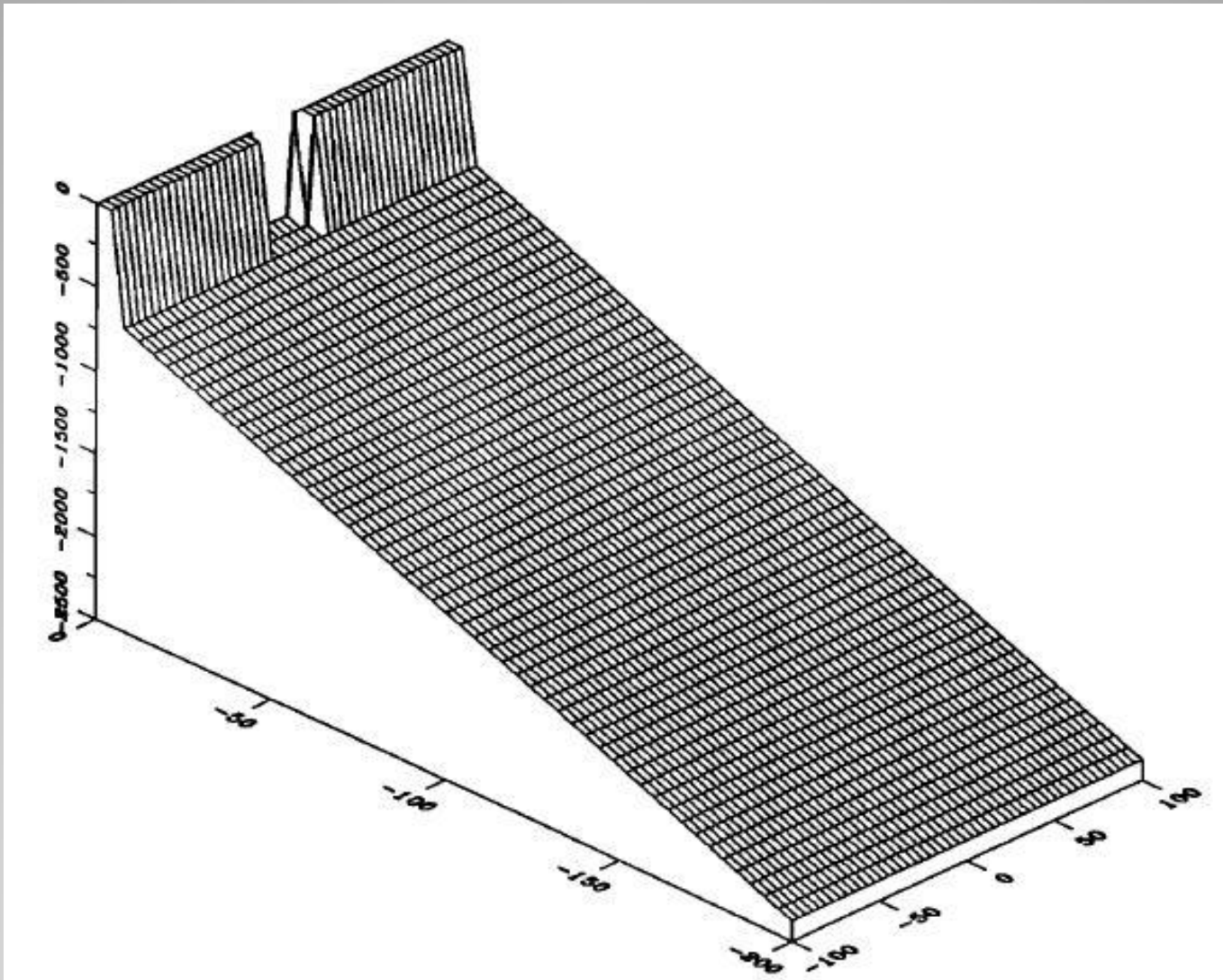


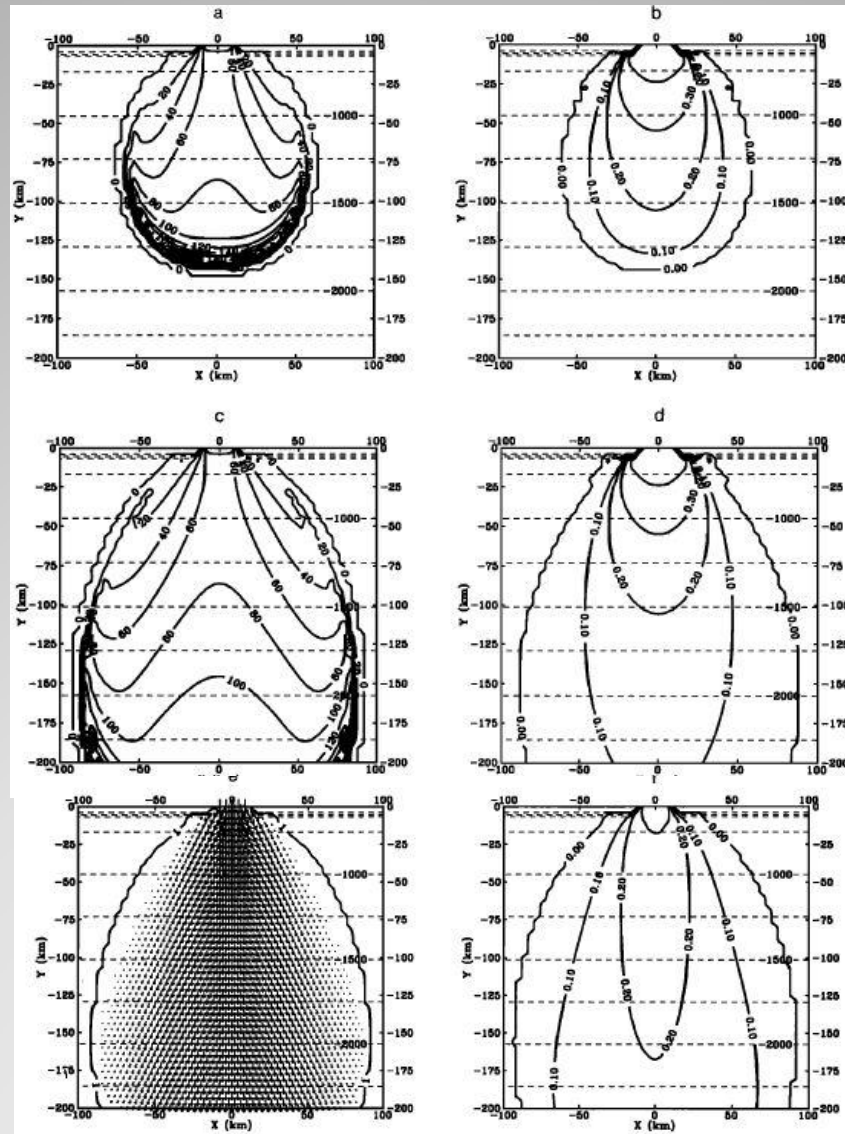
# Application of transient reduced gravity plume model to the Denmack Strait Overflow

Jungclaus, J.H. and Backhaus, J.O., 1994, Journal of Geophysical Research, Vol. 99, No. C6, pp. 12,375-12,396

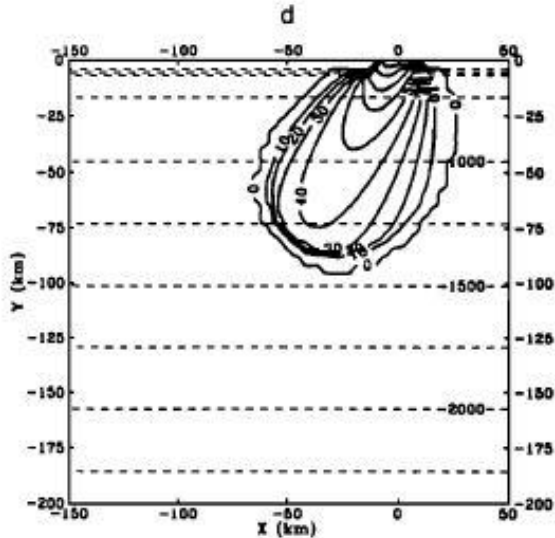
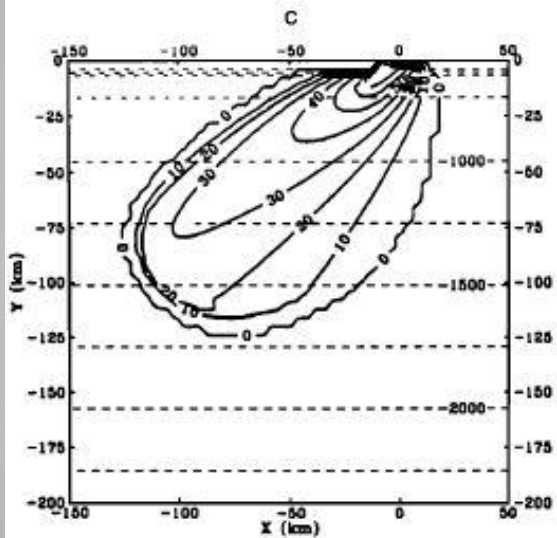
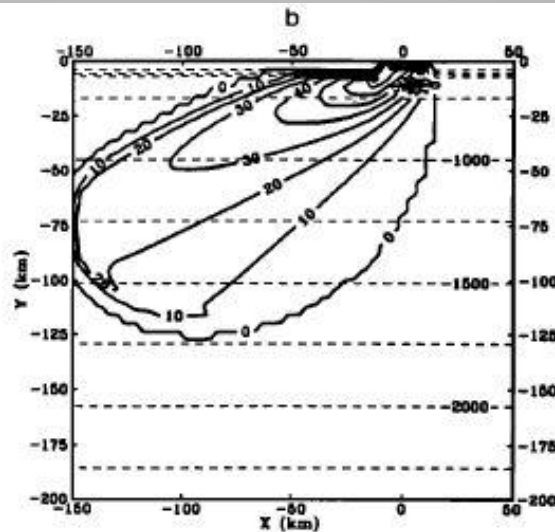
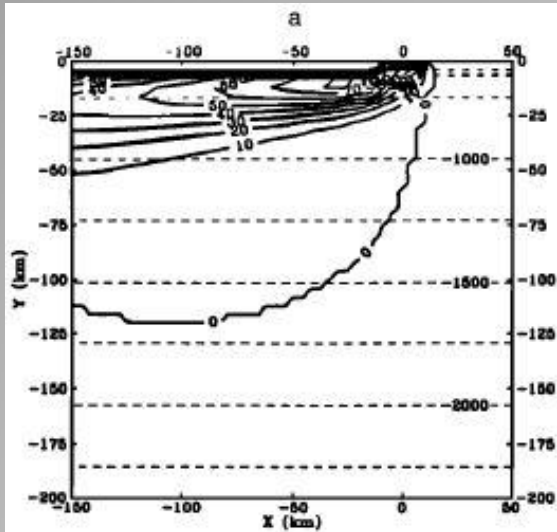
- Modell: hydrostatisch, reduzierter Schwerkraft, 2D primitive Gleichungen
- Vorhersagen: zeitliche/räumliche Entwicklung des Strömungsfeldes und der Änderungen der Wassermassen innerhalb einer Plume auf einer willkürlichen Topografie
- Ergebnis: Gleichgewicht gestört wann immer Plume auf Topografische Störungen trifft



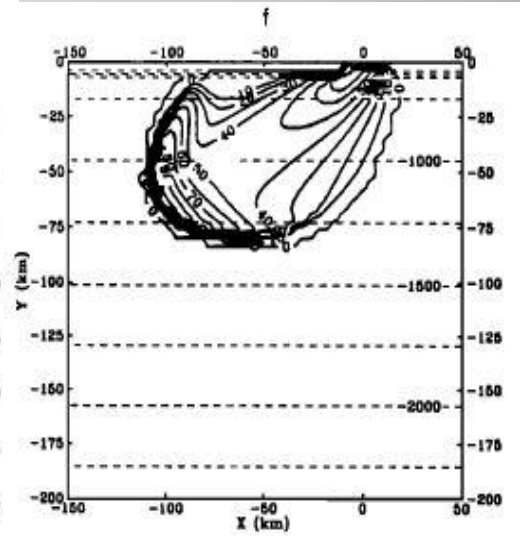
## Topografie für Testläufe



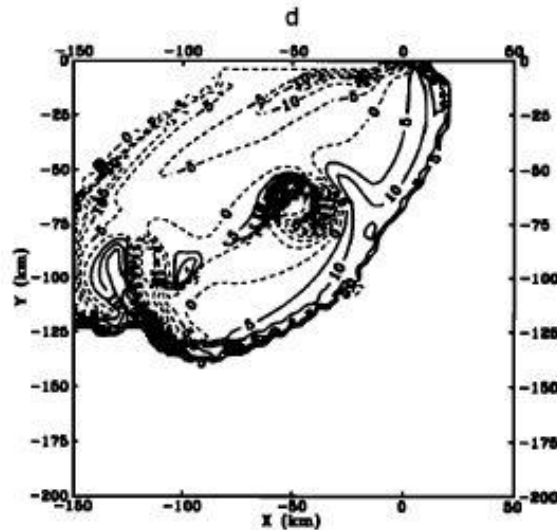
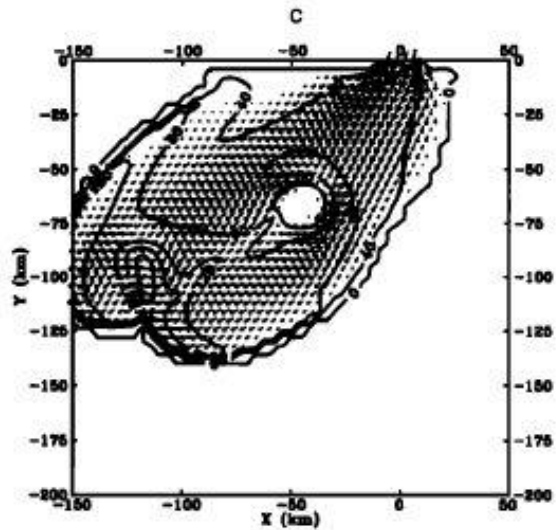
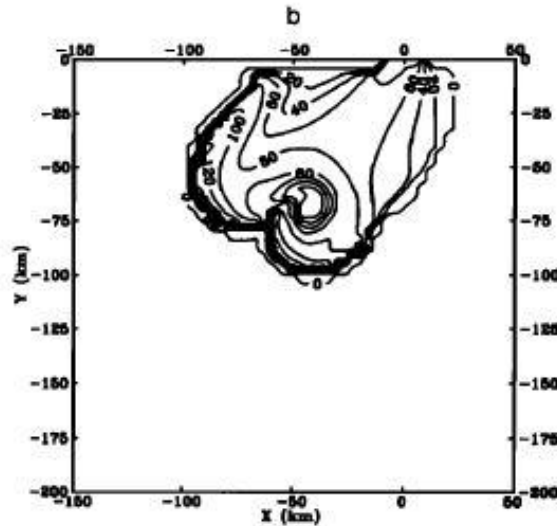
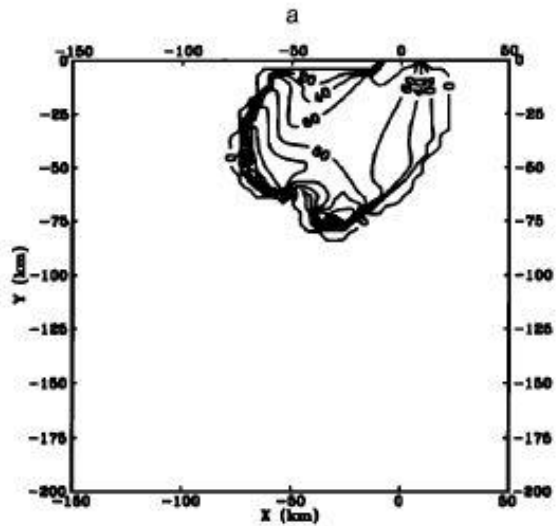
## Experiment A: Ohne Rotation



- a)  $r=0.001$
- b)  $r=0.005$
- c)  $r=0.01$
- d)  $r=0.05$
  
- f) Modell mit  $r=0.01$  +  
Entrainment

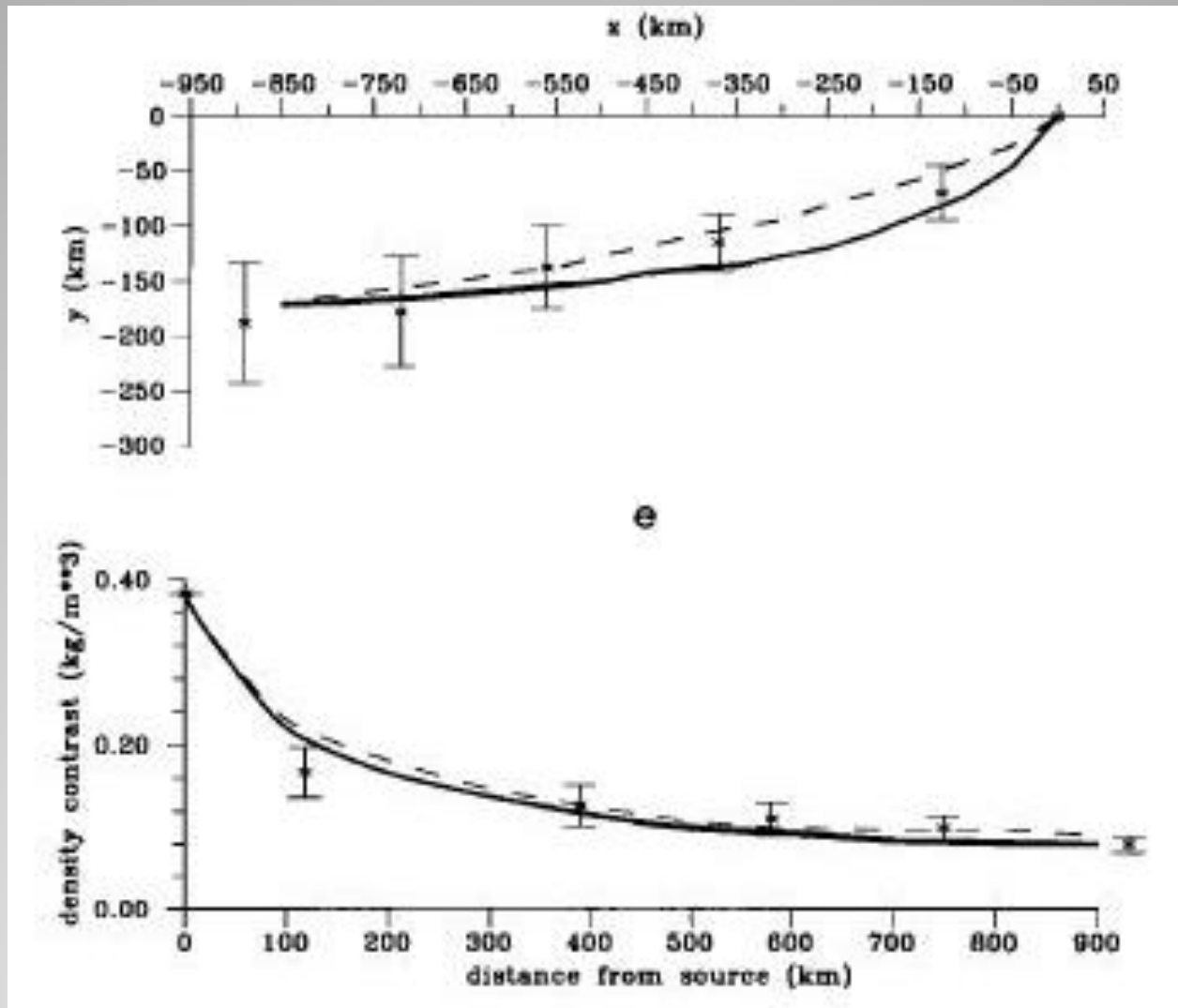


## Experiment B: verschiedene Reibungskoeffizient

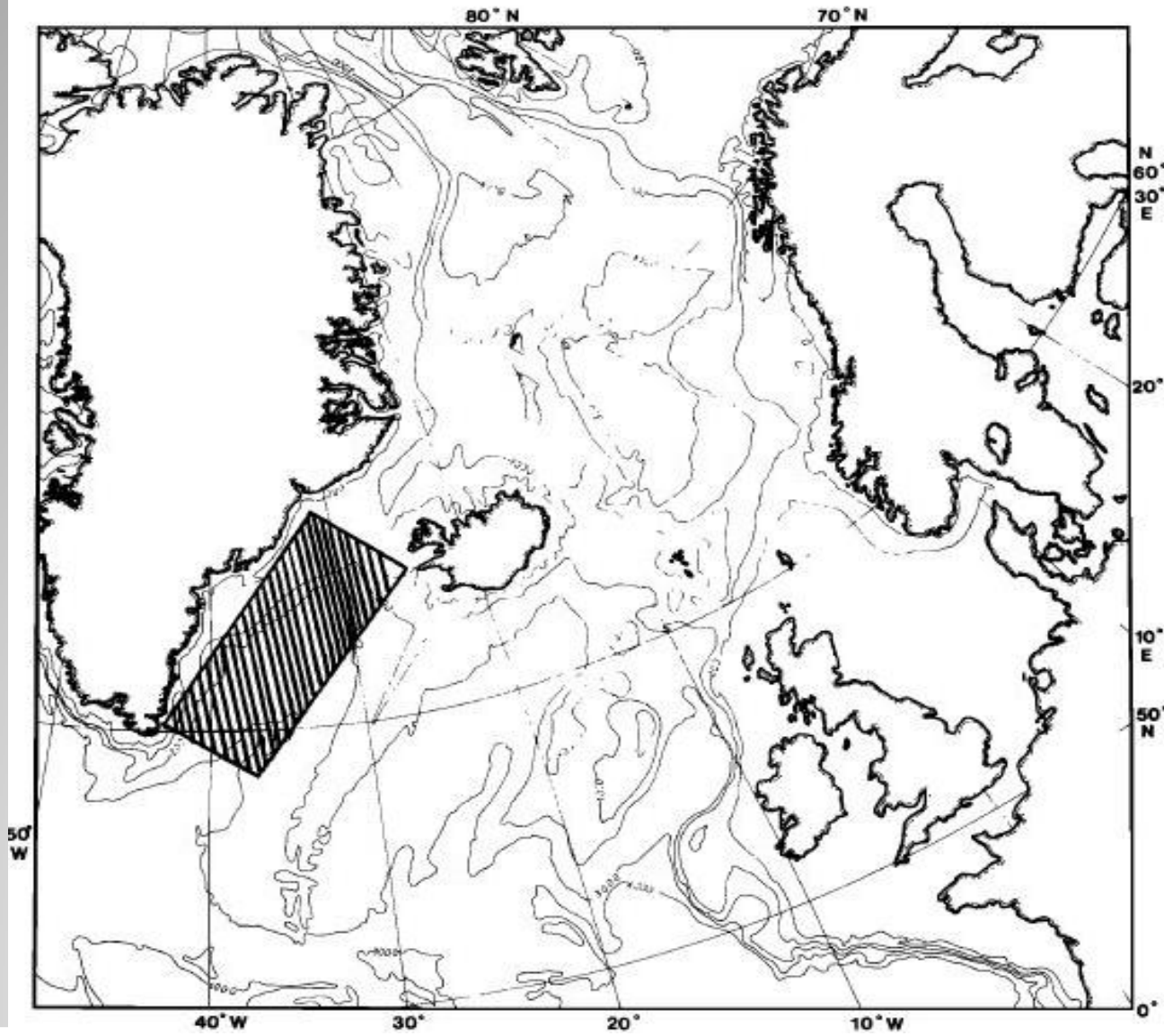


- a) 6 d
- b) 8 d
- c) 28 d
- d) 16 d

## Experiment C: mit Gaussian Bump

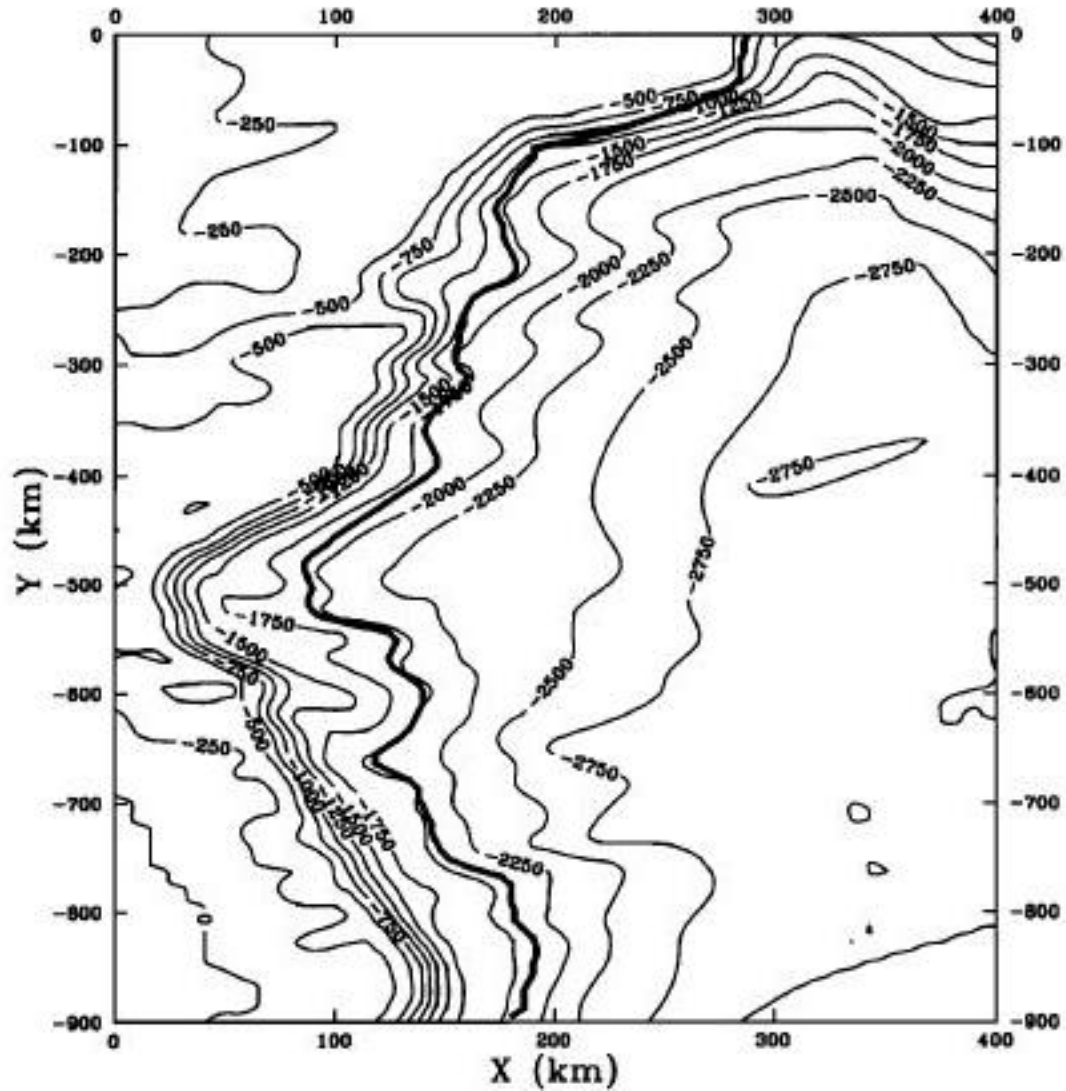


**Experiment D: Vergleich mit Modell von Smith [1975]**

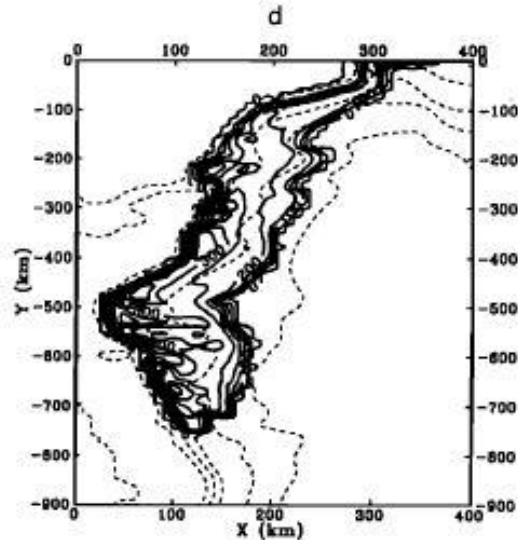
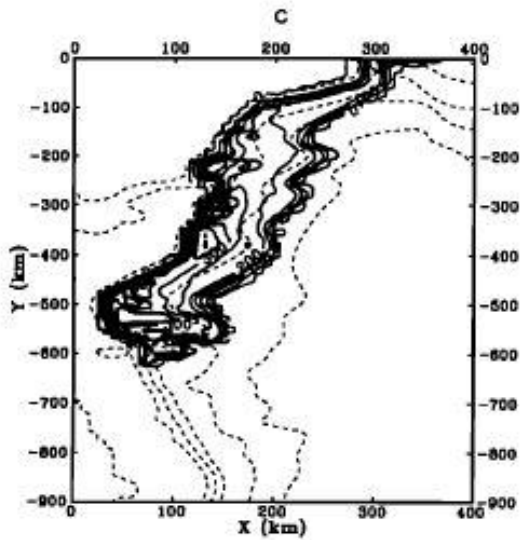
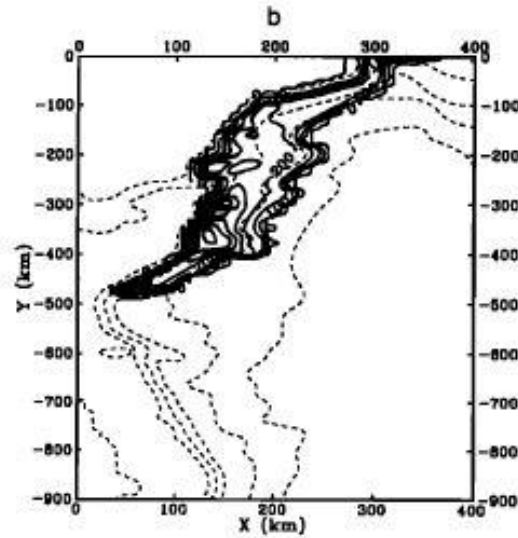
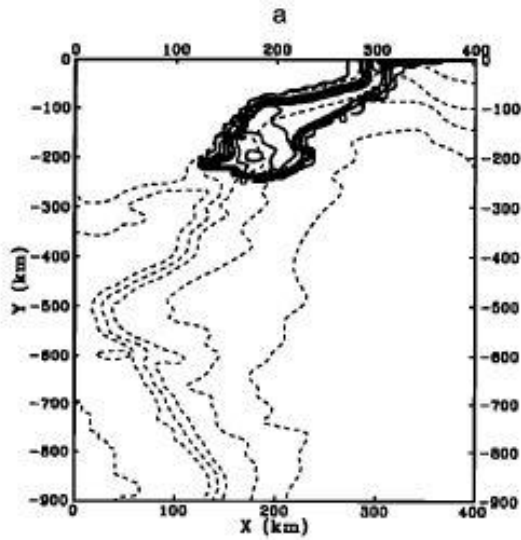


**Modellgebiet**





**realistische Topografie für das 2D Modell**



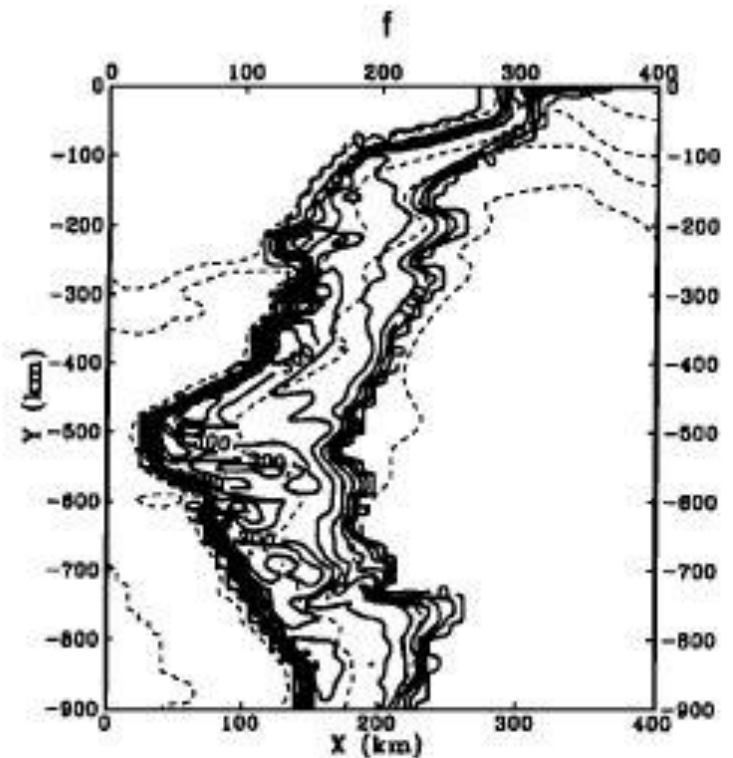
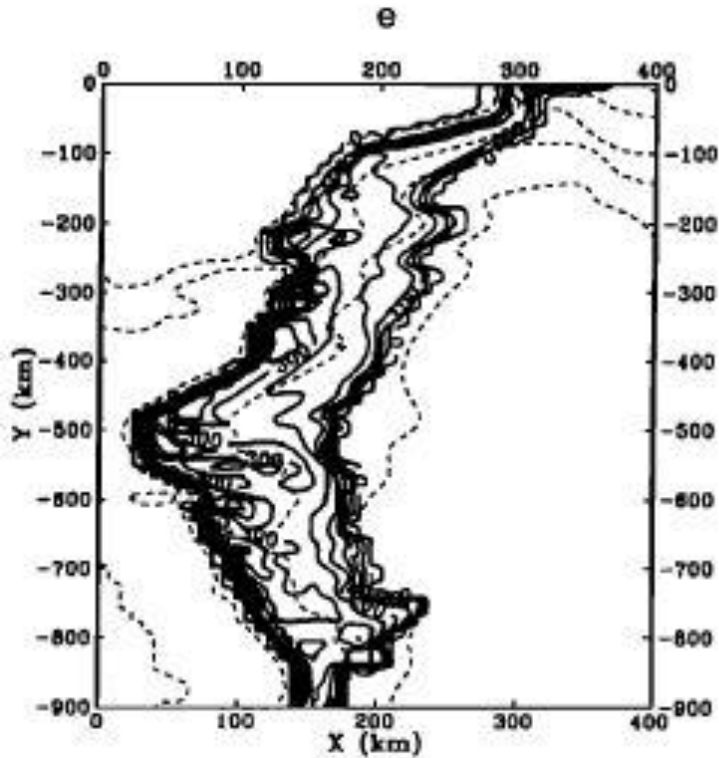
Plume Höhe nach  
a) 20 d  
b) 40 d  
c) 60 d  
d) 80 d  
e) 100 d  
f) 120 d

**Ergebnisse**

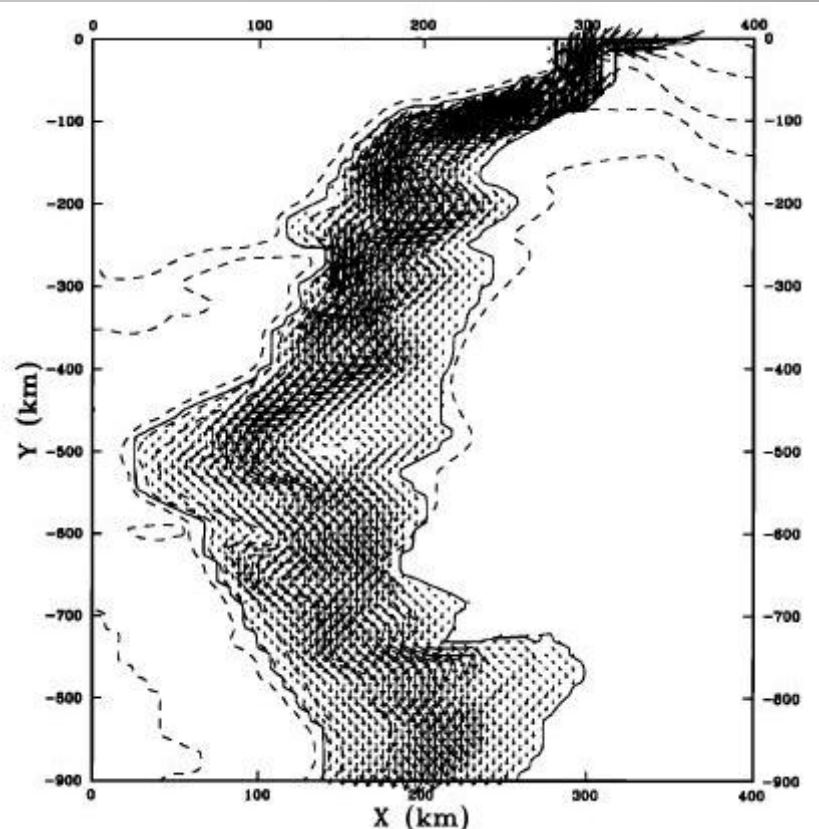
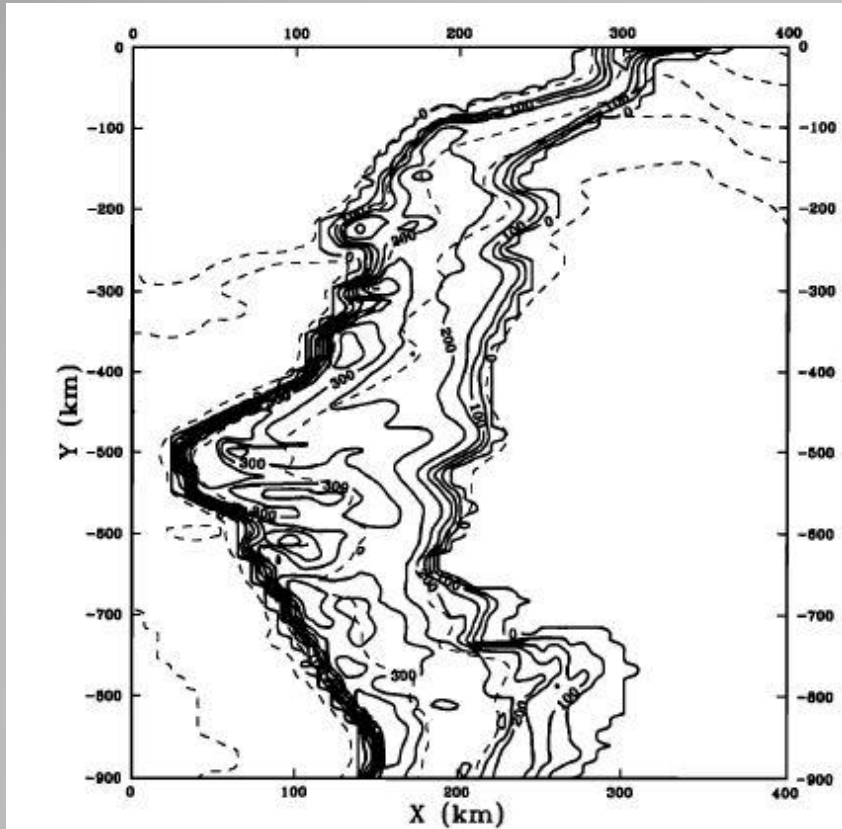
Plume Höhe nach

e) 100 d

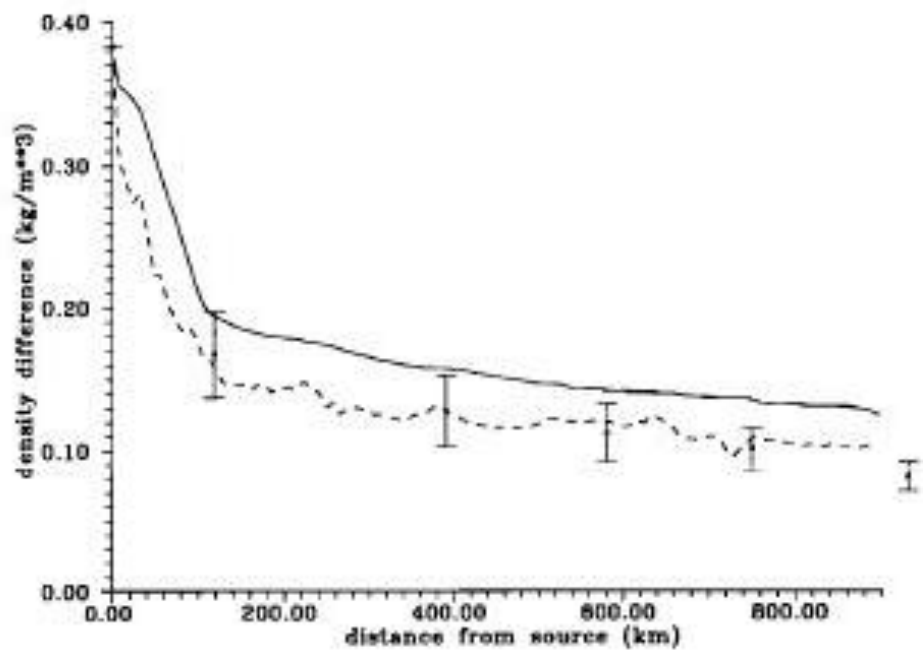
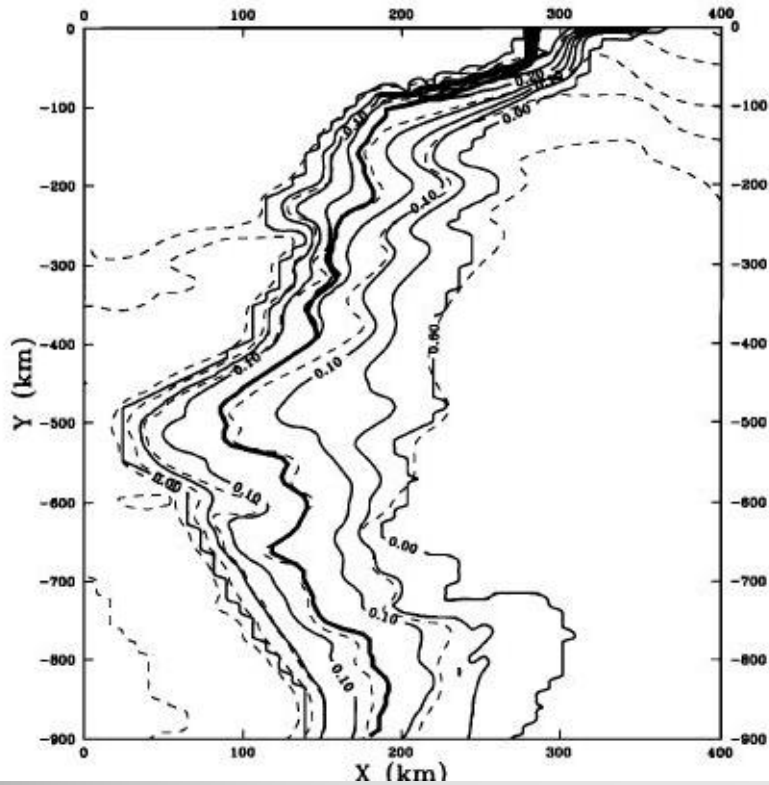
f) 120 d



**Ergebnisse**



**Plume Höhe und Geschwindigkeit nach 300 d**



## Dichtedifferenz & Dichtekontrast an der Hauptachse