



# Couplage IPSL-CM5A/LIM3

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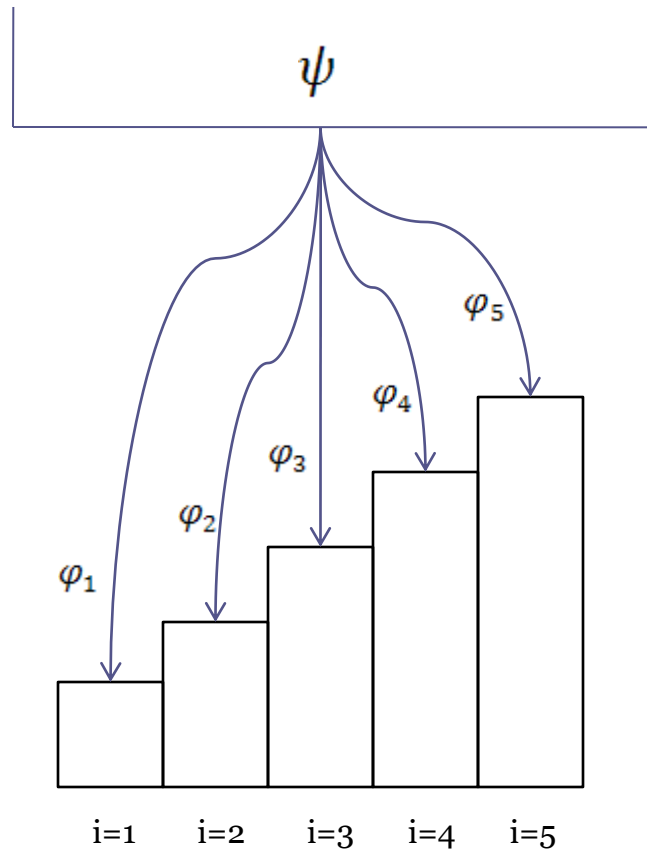
Gif-sur-Yvette, 20 novembre 2012

# Principe du distributeur

**Interface :**

$$\varphi_i = ?$$

$$\theta = ?$$



**Atmosphère :**

$$\psi = f_a(\theta) \quad \text{et} \quad \frac{\partial \psi}{\partial \theta}$$

**Glace/Océan :**

$$T_i = f_g(\varphi_i)$$

# Setup expérimental

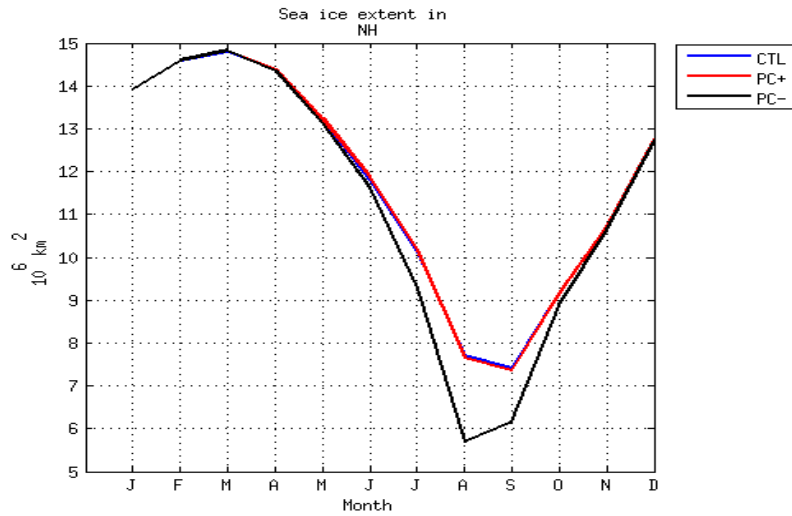
- **Run de contrôle :**
  - ➔ NEMO-LIM<sub>3</sub> (CTL)
- **Runs forcés :**
  - ➔ NEMO-LIM<sub>3</sub> avec atmosphère forcée et avec distributeur (PC+)
  - ➔ NEMO-LIM<sub>3</sub> avec atmosphère forcée et sans distributeur (PC-)
- **Runs couplés :**
  - ➔ IPSL-CM<sub>5</sub>A couplé à LIM<sub>3</sub> (CPL-LIM<sub>3</sub>)
  - ➔ IPSL-CM<sub>5</sub>A couplé à LIM<sub>2</sub> (CPL-LIM<sub>2</sub>)



## Résultats des runs forcés

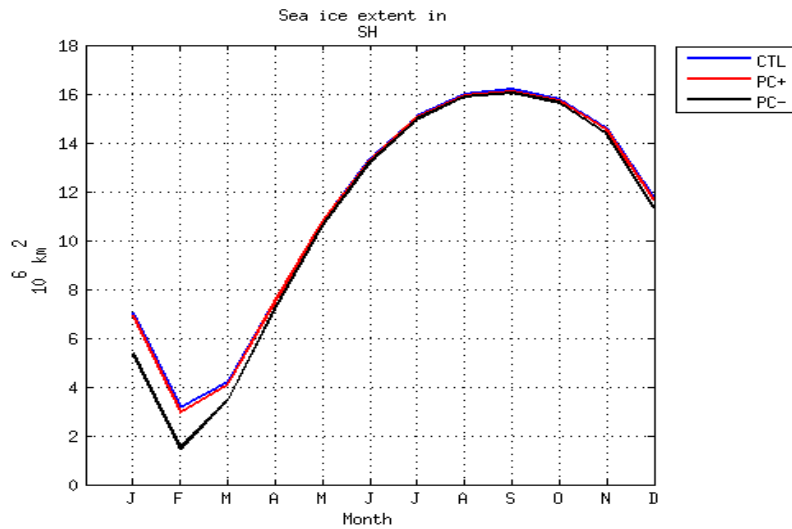
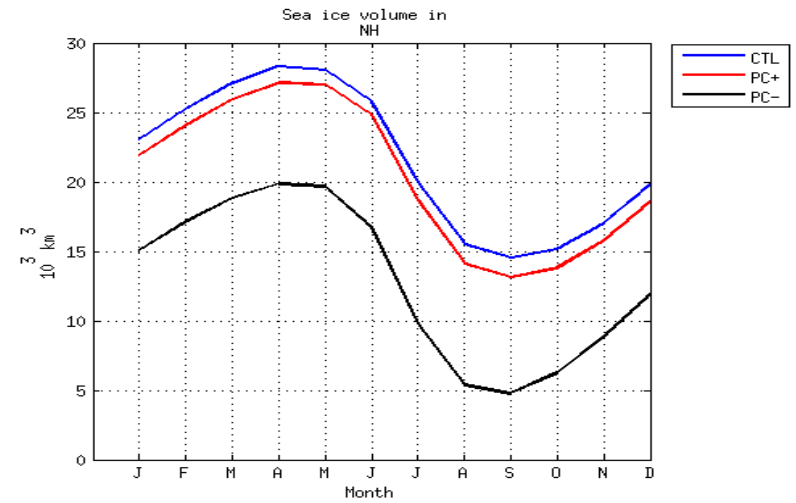
# Cycles saisonniers moyens (CTL / PC+ / PC-)

## Etendue

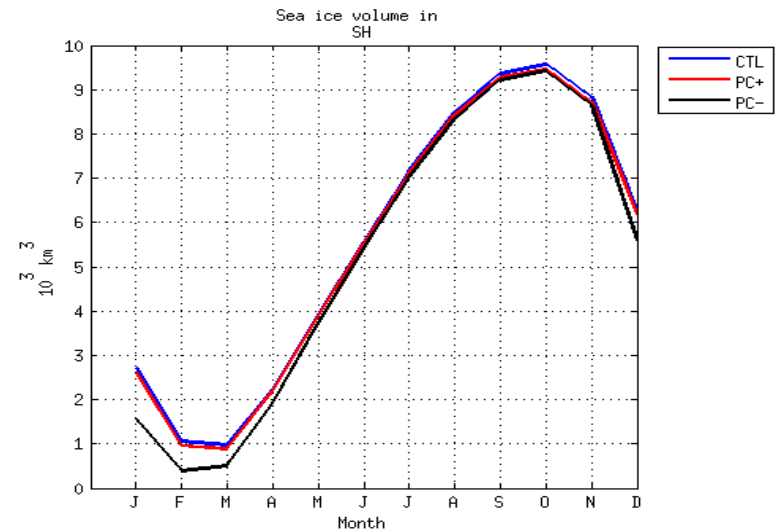


HN

## Volume

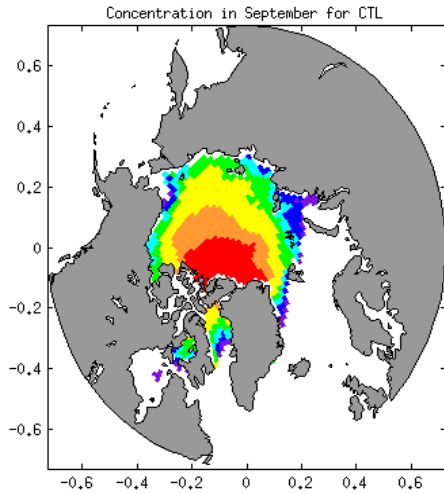


HS

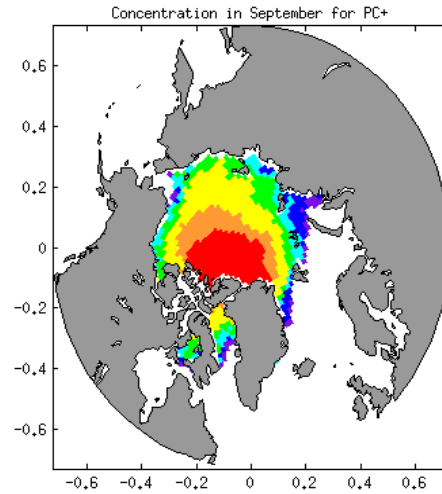


# Concentration de glace

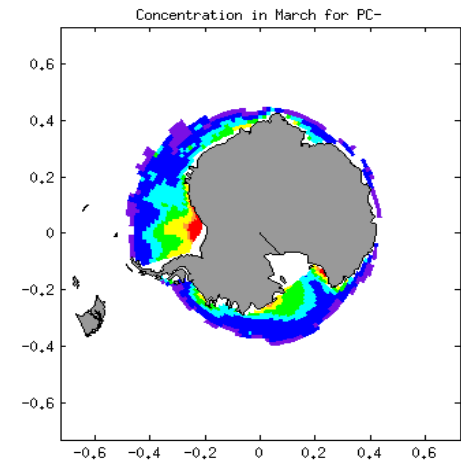
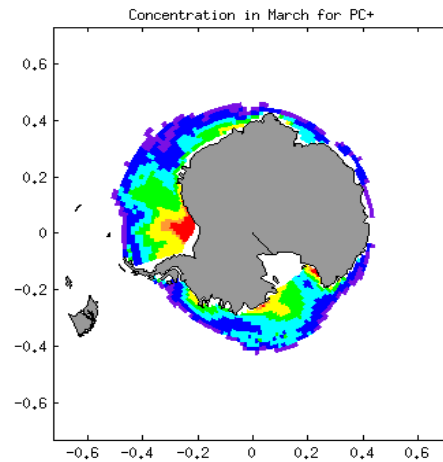
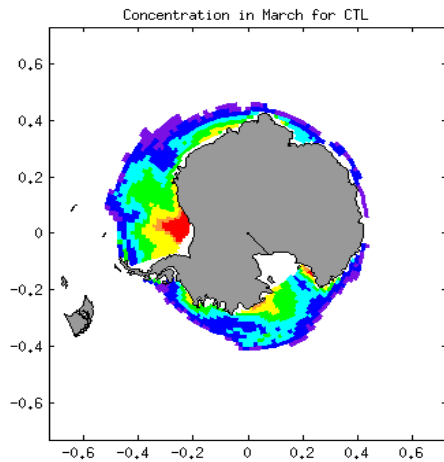
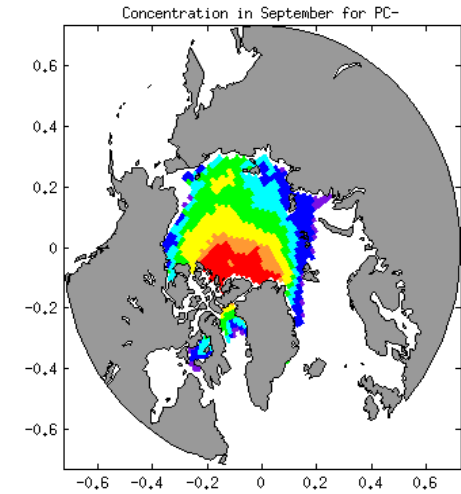
CTL



PC+



PC-

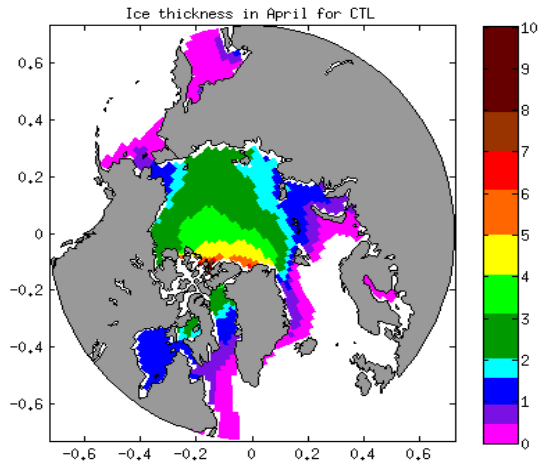


Run de contrôle

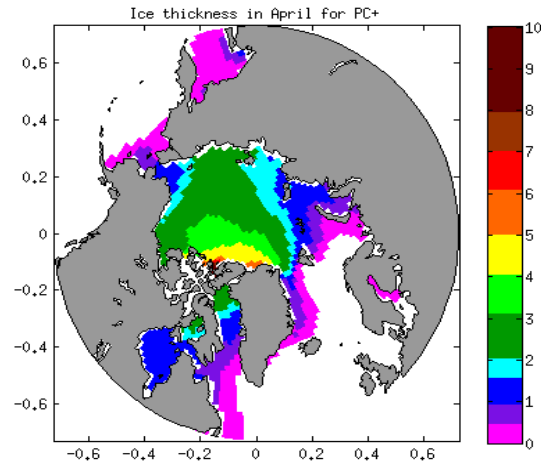
Runs forcés

# Epaisseur de glace

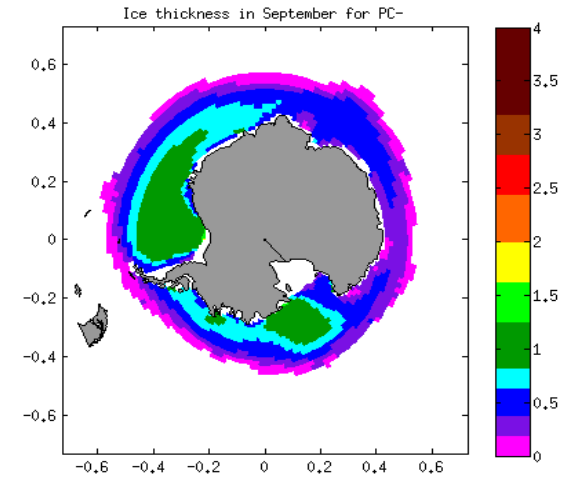
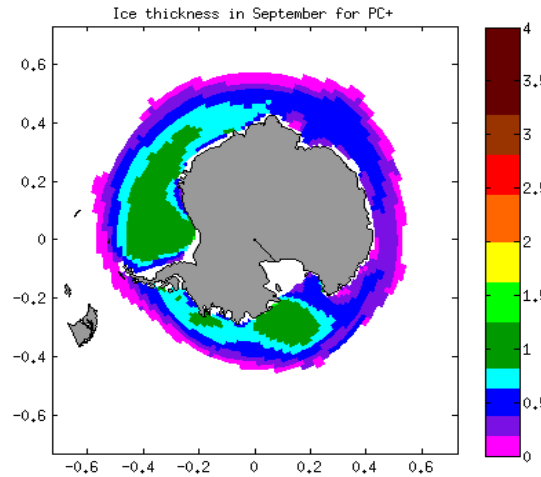
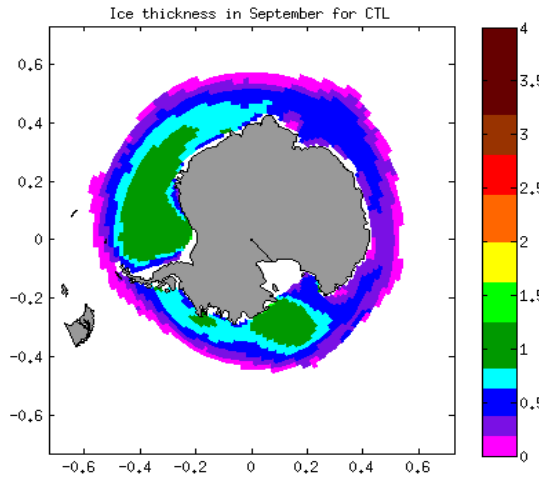
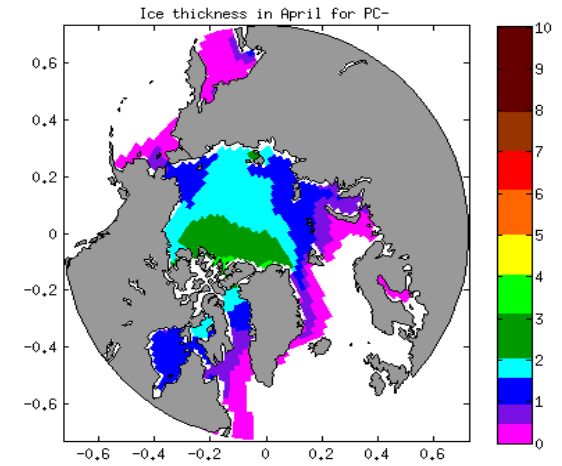
CTL



PC+



PC-



Run de contrôle

Runs forcés

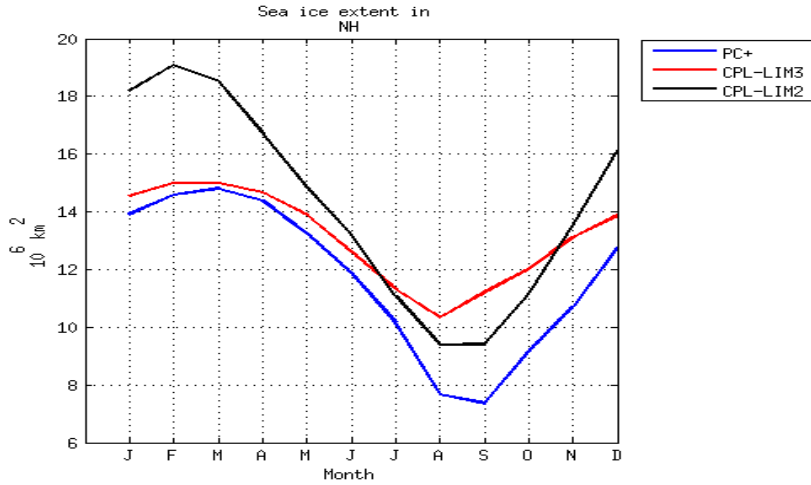


## Résultats des runs couplés



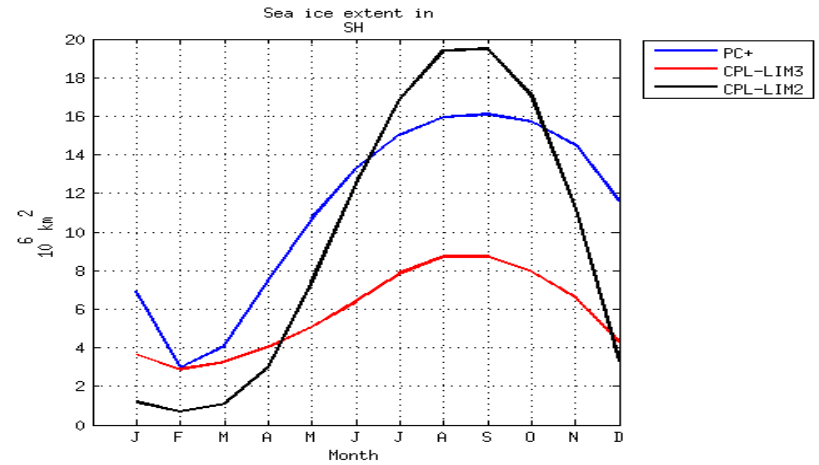
# Cycles saisonniers moyens (PC+ / CPL-LIM3 / CPL-LIM2)

## Etendue

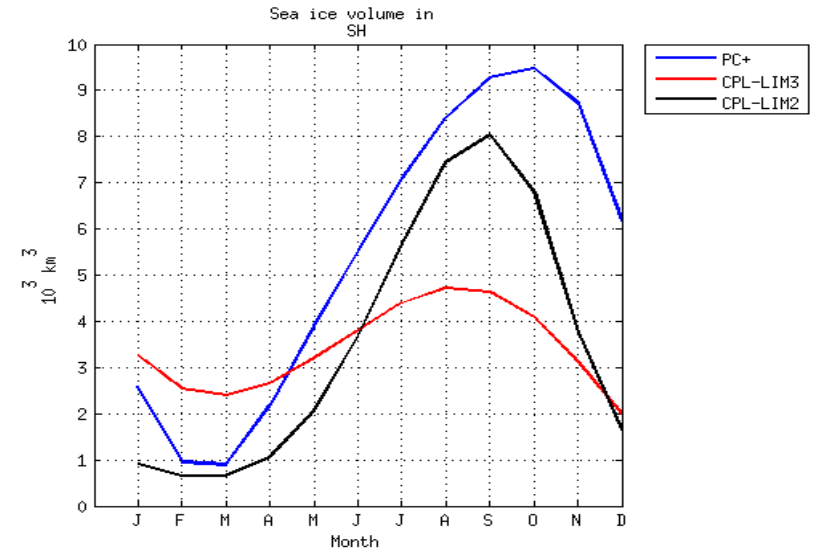
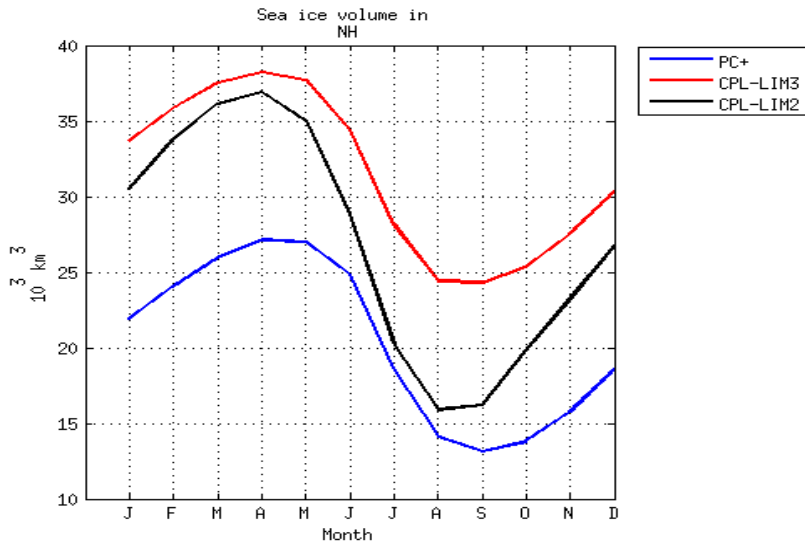


HN

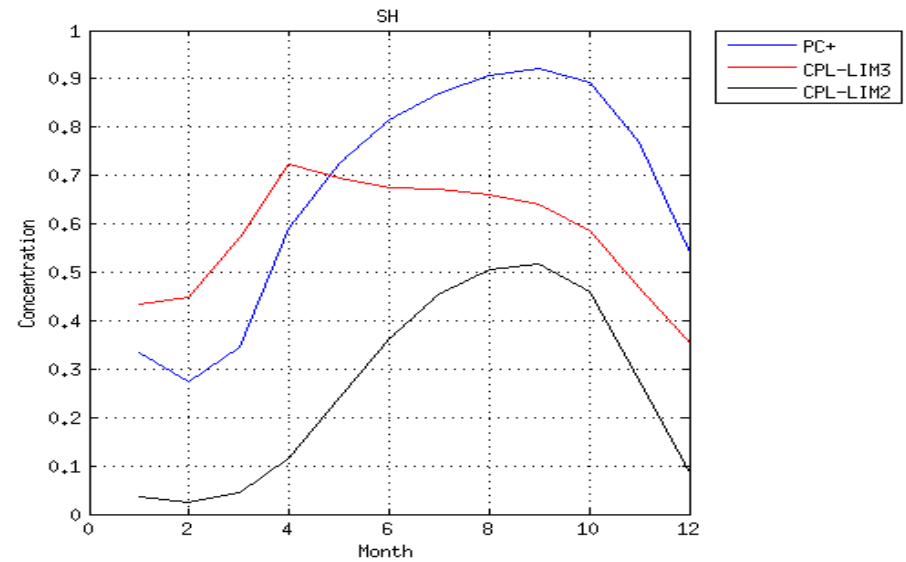
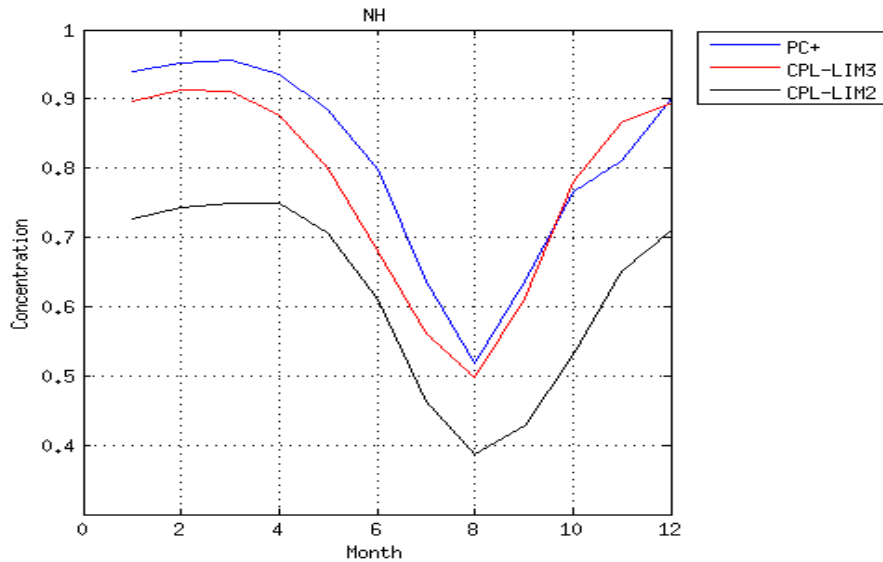
## Volume



HS

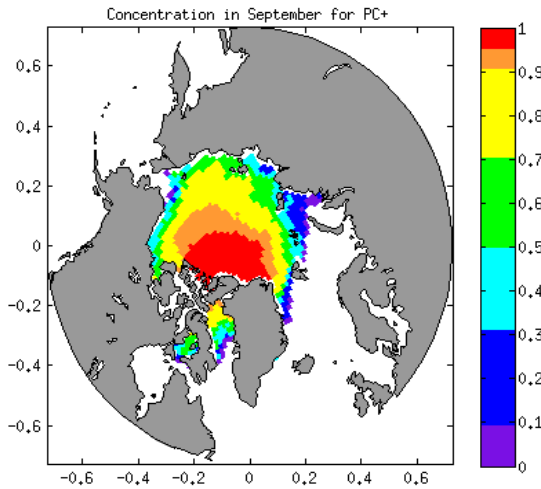


# Concentration de glace (PC+ / CPL-LIM3 / CPL-LIM2)

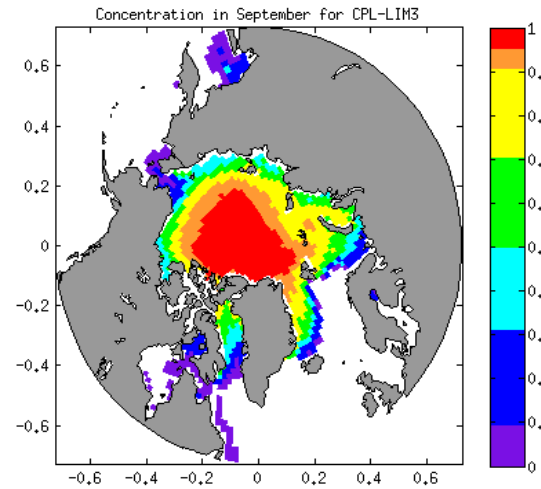


# Concentration de glace

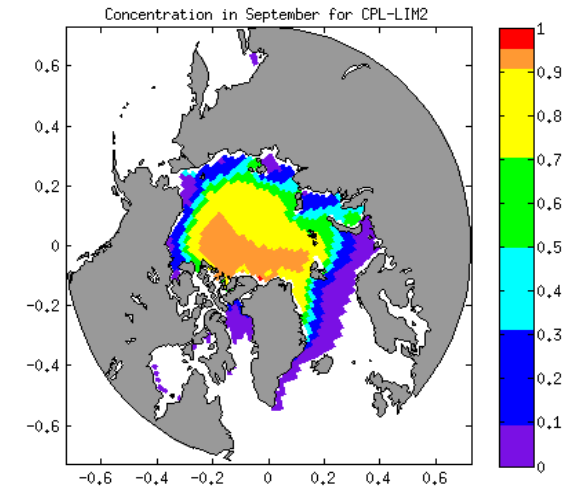
PC+



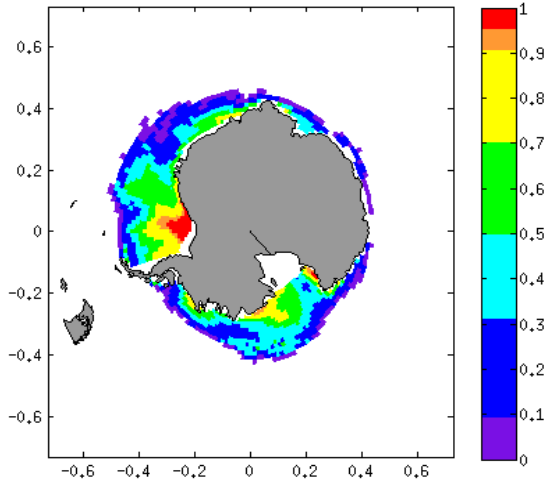
CPL-LIM<sub>3</sub>



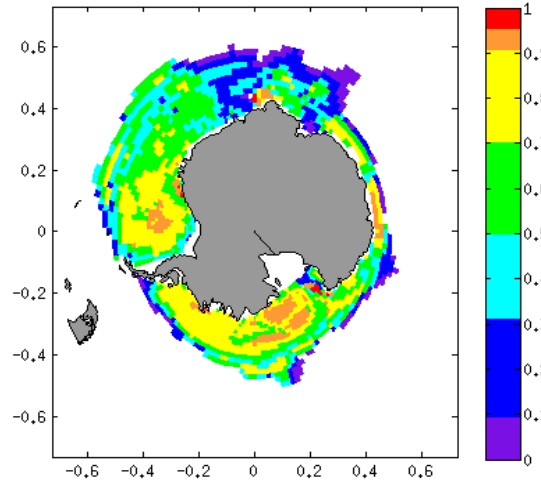
CPL-LIM<sub>2</sub>



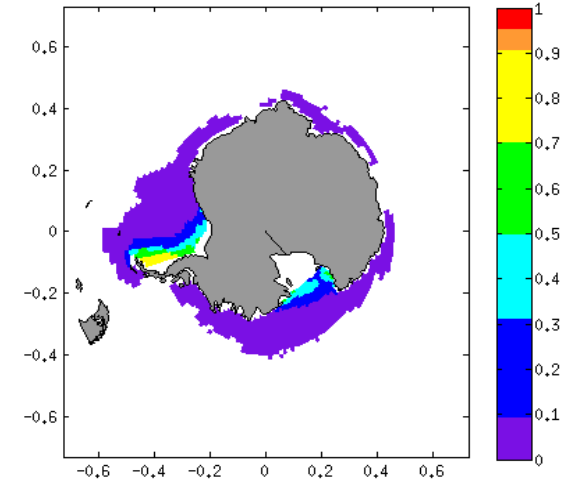
Concentration in March for PC+



Concentration in March for CPL-LIM<sub>3</sub>



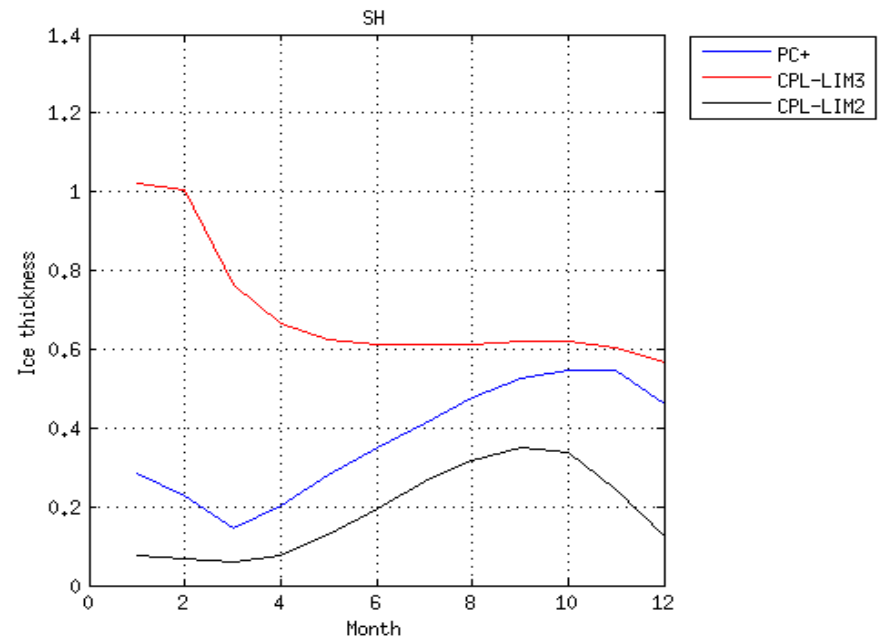
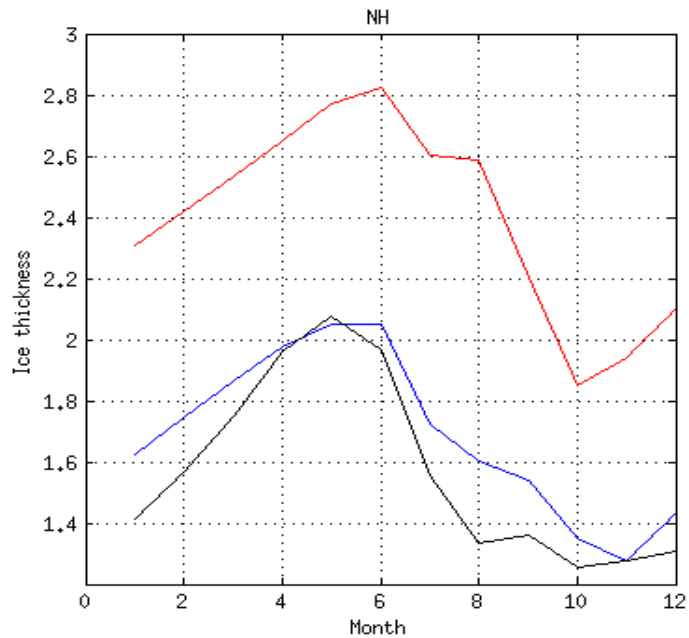
Concentration in March for CPL-LIM<sub>2</sub>



Run forcé

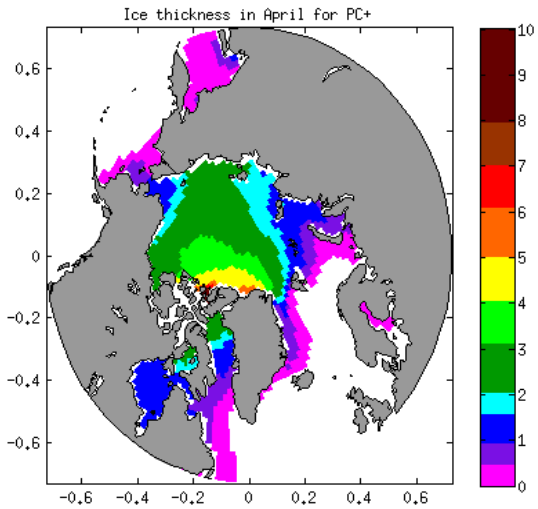
Runs couplés

# Epaisseur de glace (PC+ / CPL-LIM3 / CPL-LIM2)

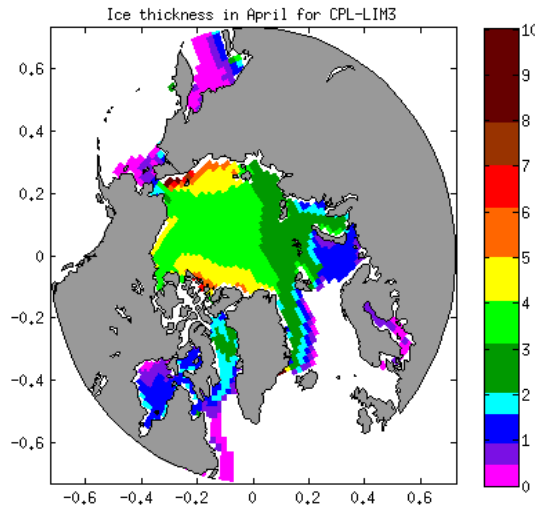


# Epaisseur de glace

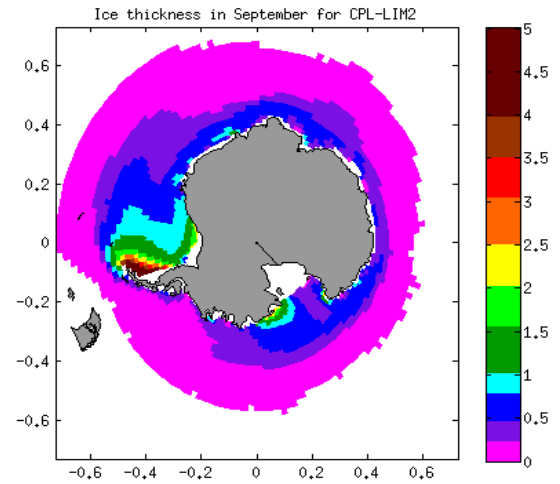
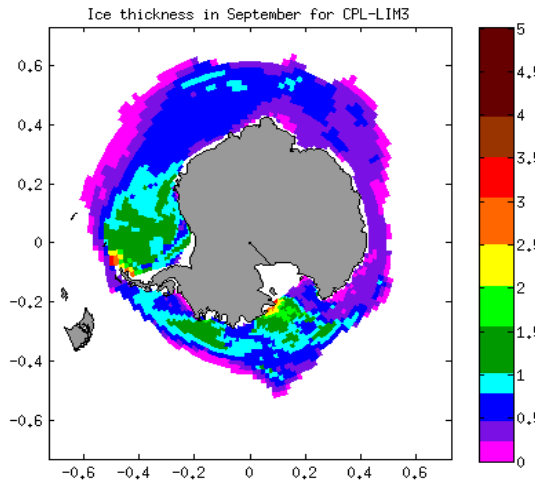
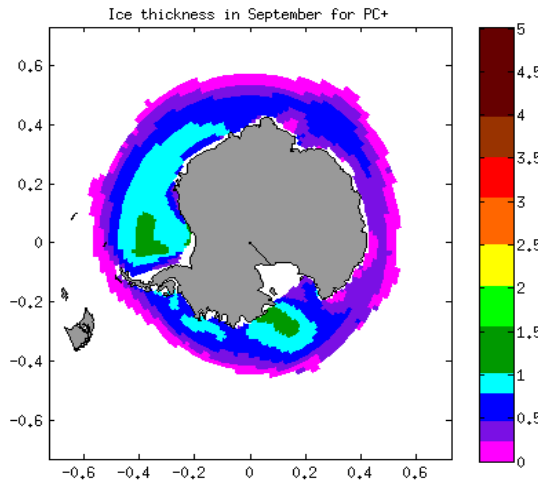
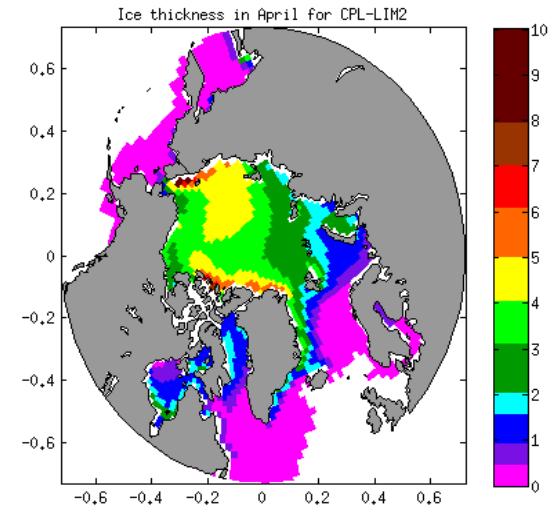
PC+



CPL-LIM3



CPL-LIM2



Run forcé

Runs couplés