1. **What are the session key findings? What are the new Lesson(s) learned / Scientific progress (since AR5 release, if relevant)?**

There is increasing progress for GHG monitoring including atmosphere, ocean and ecosystems through extended and structured monitoring networks. There is more reliable and precise information/data obtained through automated and/or global observing systems (satellite, PCO2 reconstruction, buoys, etc.) Local initiatives to provide regional or national GHG emissions estimates are under development also providing interesting case studies for specific GHG gases and/or mechanisms and sometime give access to mitigation pathways. Model developments are also progressing enabling a better understanding of emission levels and of associated processes.

2. **What are the major knowledge Gaps and Research Needs identified in the session?**

These points were not really discussed during the short session.

3. **Did the session discuss/identify promising approaches in the fields of Adaptation and Mitigation, or both?**

A few examples have been illustrated during the session but this was not the main topic of this session.
4. Are there take-home messages from the session?

(When relevant, please specify targeted group of stakeholders. For example, policy-makers / COP21 negotiators, practitioners (experts, etc.), NGOs, private sector, citizens, media, etc.)

The main message is that GHG concentrations are continuously increasing: this is observed in the atmosphere and in the ocean, reproduced by models, which estimate the corresponding GHG emission increase using various inverse methods.

5. Are there Important Quotes from the session?

6. Please include any other remark that you might have.