

Field trip to Lakes Monoun and Nyos after JCC; March 11<sup>th</sup> to 19<sup>th</sup>, 2014

Yutaka Yoshida, Minoru Kusakabe, IRGM Counterpart

## Measurement of CO<sub>2</sub> concentration in deep water of Lakes Nyos and Monoun by the YY-method, and maintenance of the solar power-driven deep water removal system installed at Lake Monoun

### Background

The YY-method was developed for regular monitoring of Lakes Nyos and Monoun. Since 2009, we obtained five CO<sub>2</sub> profiles at Lake Nyos (Fig. 1). Change with time of CO<sub>2</sub> profiles shown in Fig. 1 indicates the effect of CO<sub>2</sub> removal from the deep water. We expect that the CO<sub>2</sub> profile in March 2014 may be almost vertical at the concentration of around 120mmol/kg. If the natural recharge of CO<sub>2</sub> exceeds the rate of gas removal by weakened degassing pipes, an irregular pattern may appear as the 2014 March profile.

The solar power-driven deep water removal system was installed at Lake Monoun last December (Fig.2). We need to check and adjust the condition of the system. We will also add some parts to reinforce the connection between the pipe raft and solar-panel raft.

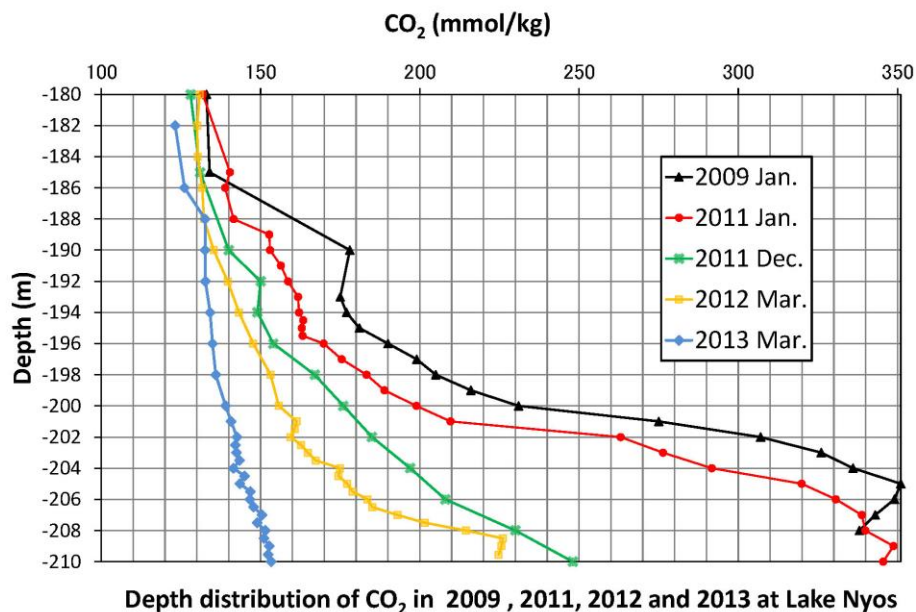


Fig. 1. Change with time in CO<sub>2</sub> profiles at Lake Nyos measured by the YY-method



Fig. 2 The solar power-driven deep water removal system at Lake Monoun  
(Photo by M. Kusakabe)

Work plan

Y. Yoshida and M. Kusakabe will arrive at Yaoundé on March 8<sup>th</sup> evening. Mr. K. Nishio will join us. After the JCC, we will depart for Lake Monoun on 11<sup>th</sup> March. After the field work at Lake Monoun, we will move to Lake Nyos for CO<sub>2</sub> measurement. We will come back to Yaoundé on March 18<sup>th</sup>. YY and MK will leave Yaoundé on March 20<sup>th</sup> late evening.

Lake Monoun: CO<sub>2</sub> measurement by the YY-method

Inspection of a solar power-driven deep water removal system

Check of the existing rafts, boat engines and store house

Lake Nyos: CO<sub>2</sub> measurement by the YY-method

Check of the existing rafts, boat engines and storehouse