

## ***Interactive comment on “Photochemical production of ammonium in the oligotrophic Cyprus Gyre (Eastern Mediterranean)” by V. Kitidis et al.***

### **Anonymous Referee #1**

Received and published: 19 July 2006

General Comments Overall, the manuscript by Kitidis et al., on photo-production of ammonium, is well thought out and worthy of publication. Most of my concerns have been addressed by the other reviewers so I only have a couple of points to make. The paper should be published after moderate revision.

Specific comments Bottom 453-top 454- The section on the thermocline/pycnocline is confusing. Is there a secondary thermocline at 20 m depth above the primary one at 180-160 m?

Results section- This would benefit from a graph showing the distributions of measured species- at least at one location-such as CDOM, DOC, nutrients and temperature, with

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depth.

Discussion- Freshwaters tend to have much higher levels of humic substances and other UV-adsorbing DOM than saltwaters. Thus it is not surprising that they would have higher rates of photobleaching. This may be a much more important factor than ammonium or iron levels. There are many papers on the subject, one being : Characterization of CDOM in an organic-rich river and surrounding coastal ocean in the South Atlantic Bight Kowalczyk P, Cooper WJ, Whitehead RF, Durako MJ, Sheldon W. AQUATIC SCIENCES 65 (4): 384-401 DEC 2003

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Interactive comment on Biogeosciences Discuss., 3, 449, 2006.

**BGD**

3, S310–S311, 2006

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