GPROF-GMI precipitation retrievals V4 & V5 over different surface types

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PMM Land Surface Group Discussions

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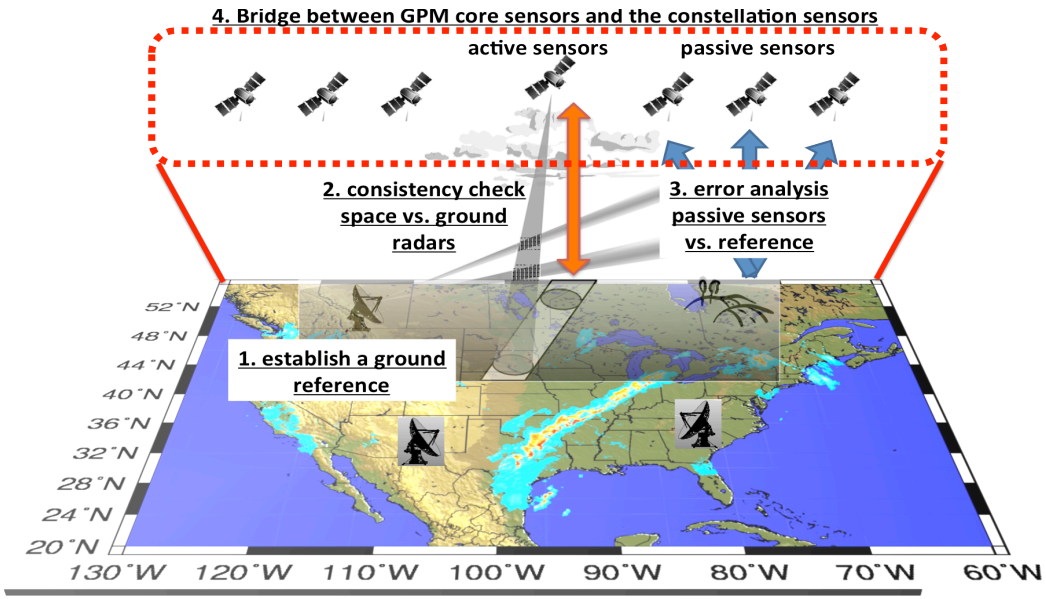
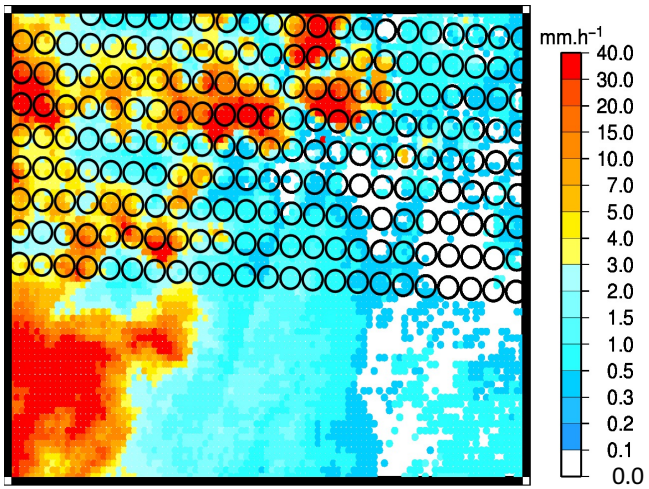


- **period: 05/14 – 10/16**
- **~6.5 millions matched pairs**

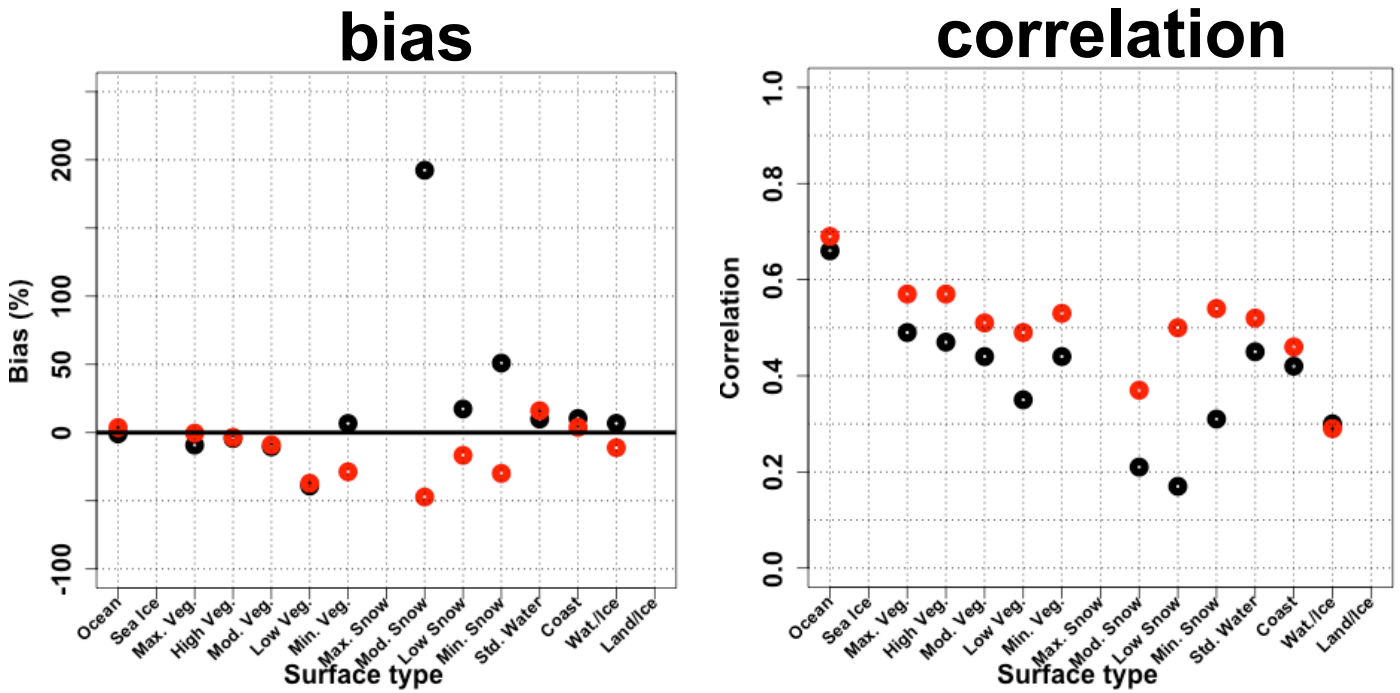


- **quantification**
- **precipitation detection**
- **rain / snow classification**

GMI surface type – V04 vs V05: bias and correlation

Conditions of comparison:

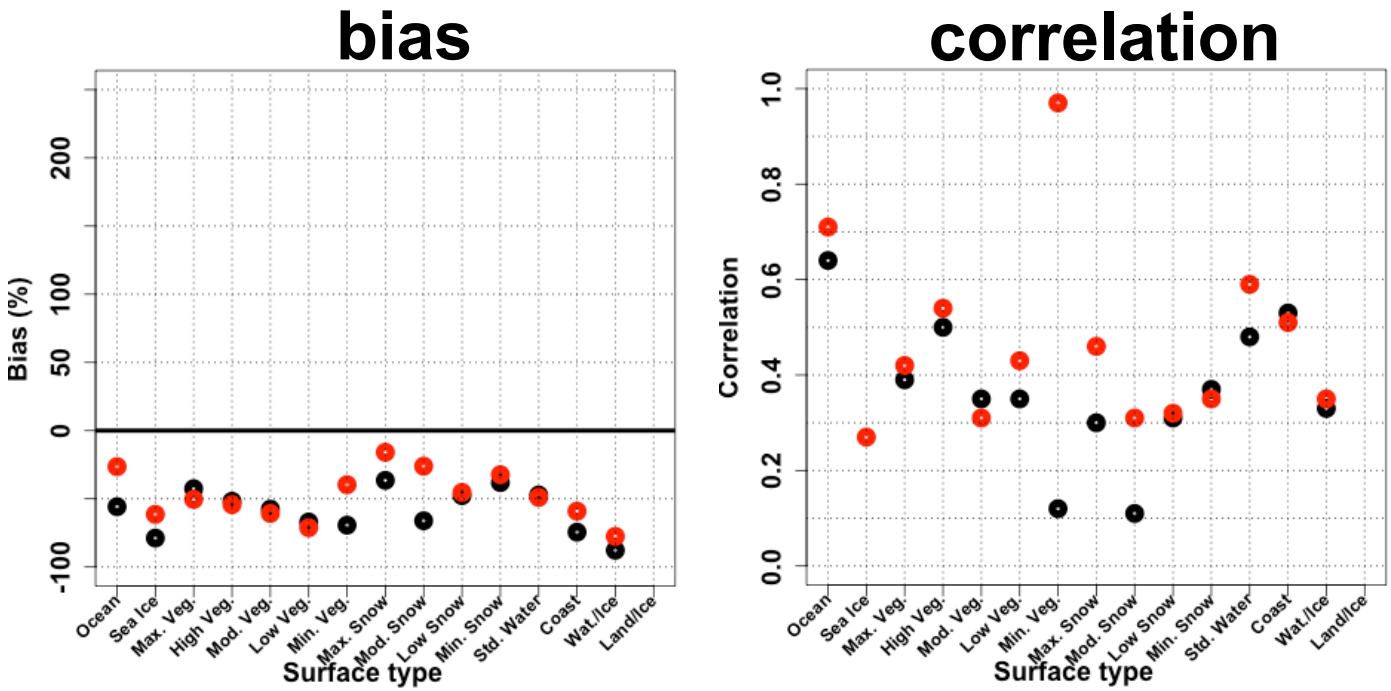
- **rain estimates (GPROF & reference)**
- **reference beam filling > 50%**
- **rates > 0.01 mm/h (GPROF & reference)**



GMI surface type – V04 vs V05: bias and correlation

Conditions of comparison:

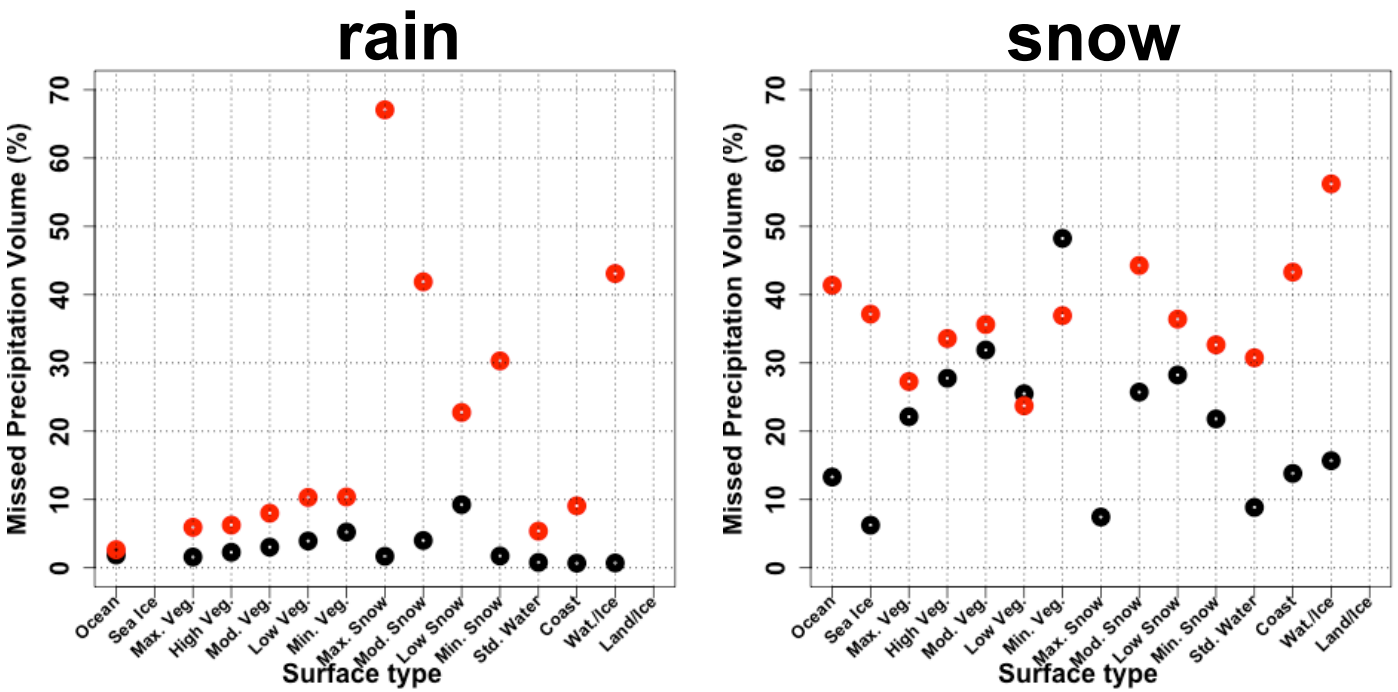
- **<u>snow</u> estimates (GPROF & reference) – *careful with current snow reference***
- **reference beam filling > 50%**
- **rates > 0.01 mm/h (GPROF & reference)**



GMI surface type – V04 vs V05: missed precipitation volume

Conditions of comparison:

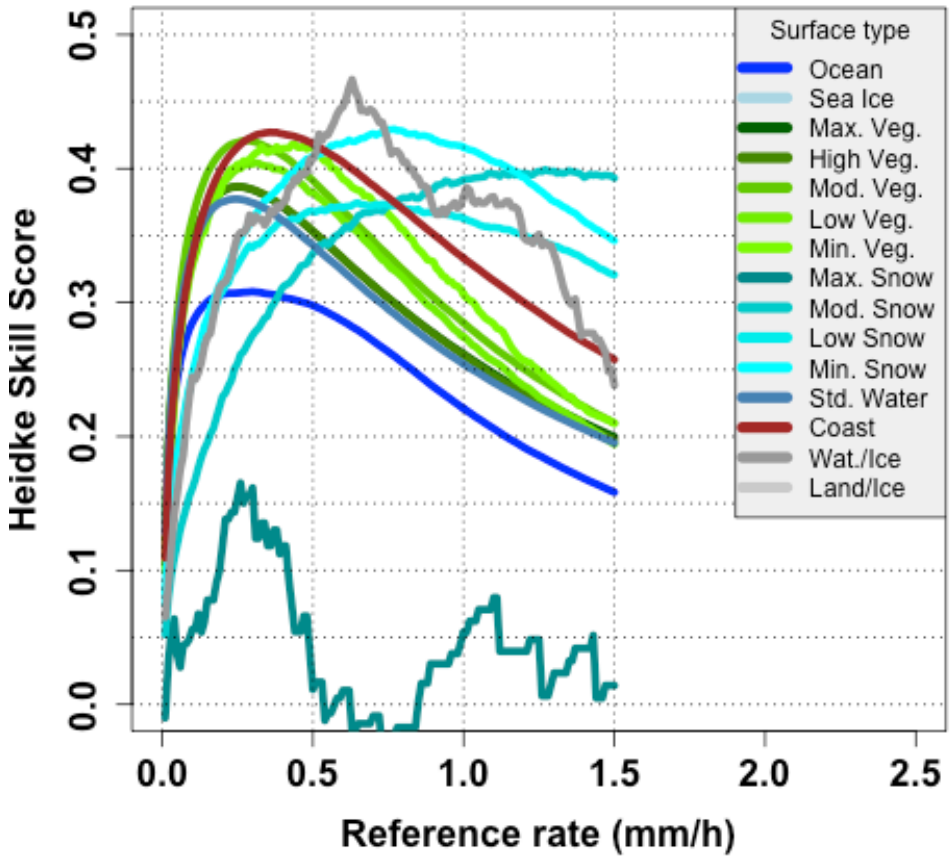
- ***all GPROF-GMI V04 considered***
- **reference beam filling > 50%**
- **reference threshold rate = 0.01 mm/h**



GMI surface type – V04 vs V05: detection rain

Conditions of comparison:

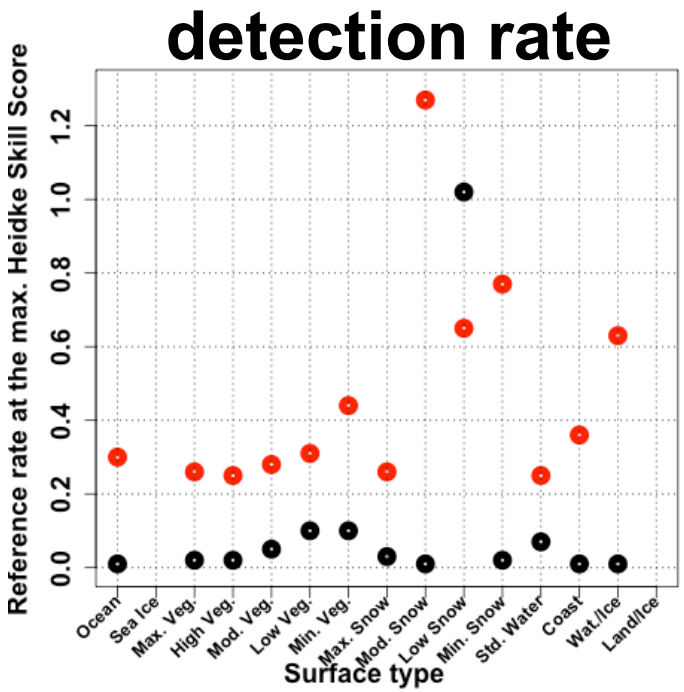
- **rain reference > 0 mm/h**
- **rain GPROF >= 0 mm/h**

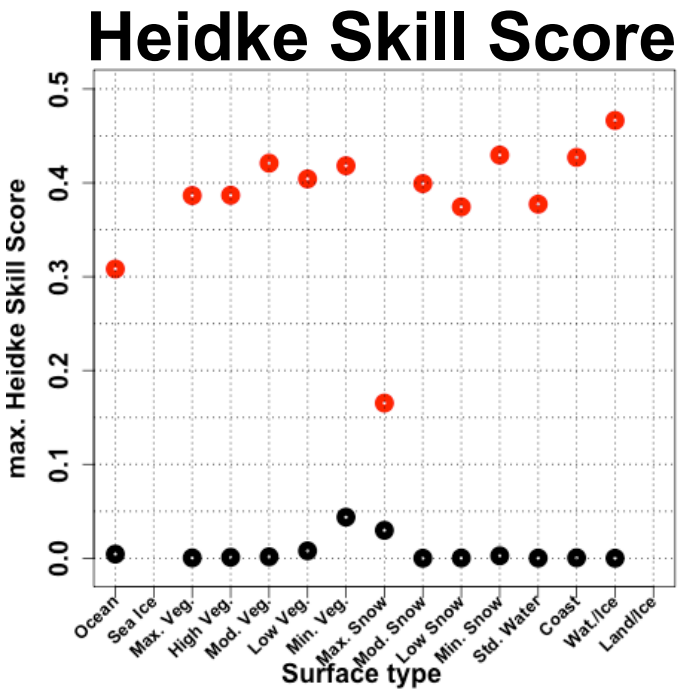


GMI surface type – V04 vs V05: detection rain

Conditions of comparison:

- **reference > 0 mm/h**
- **GPROF >= 0 mm/h**

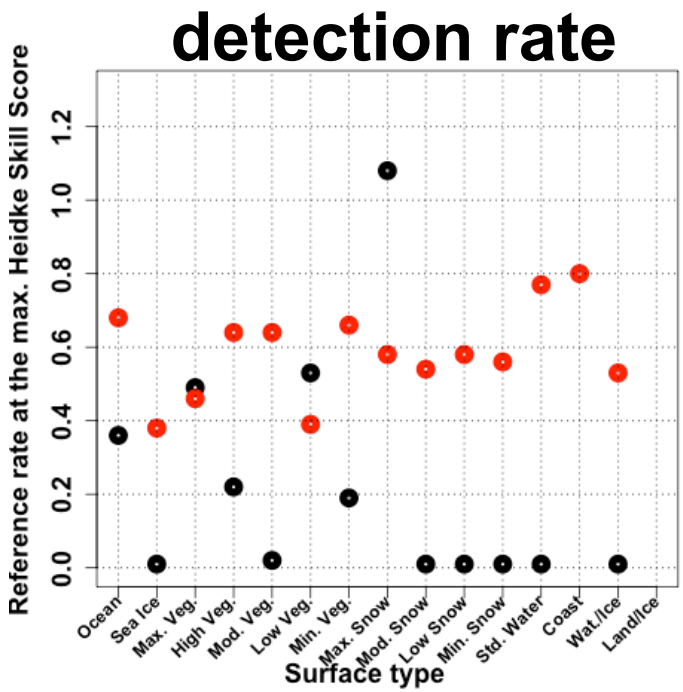


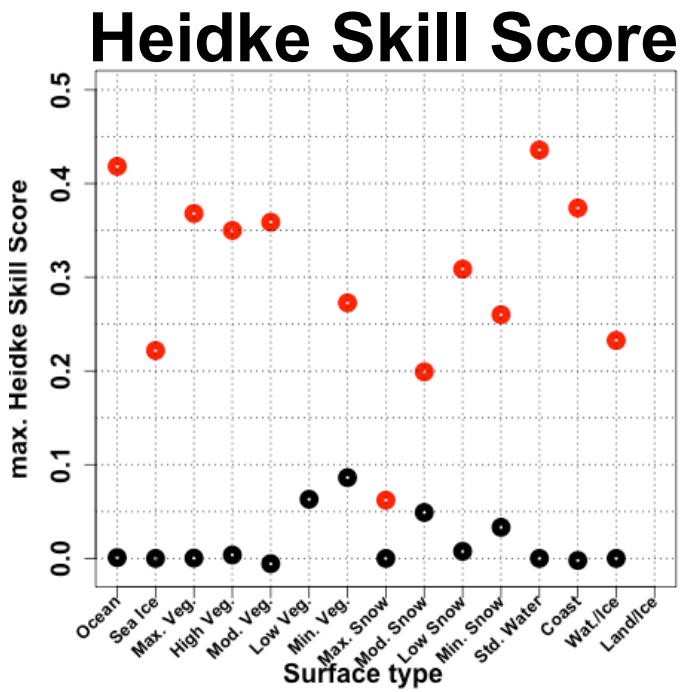


GMI surface type – V04 vs V05: detection snow

Conditions of comparison:

- **reference > 0 mm/h – *careful with current snow reference***
- **GPROF >= 0 mm/h**





GMI surface type – V04 vs V05: rain/snow delineation

Conditions of comparison:

- **reference > 0 mm/h**
- **GPROF > 0 mm/h**