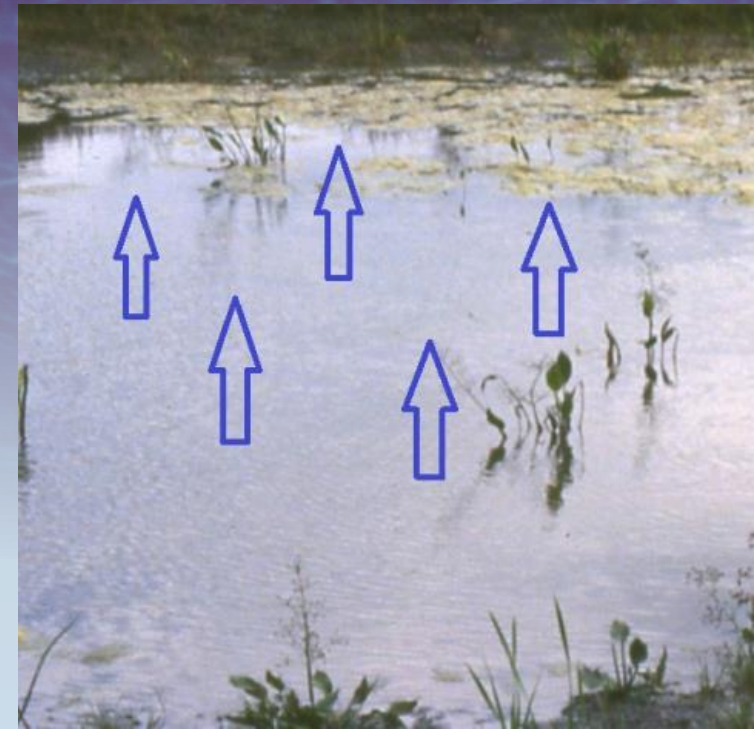# ON THE RELATIVE IMPORTANCE OF WATER TEMPERATURE VERSUS RADIATION FOR ANN-BASED PAN EVAPORATION MODELLING

Point of departure:
- Water temperature data increasingly become available
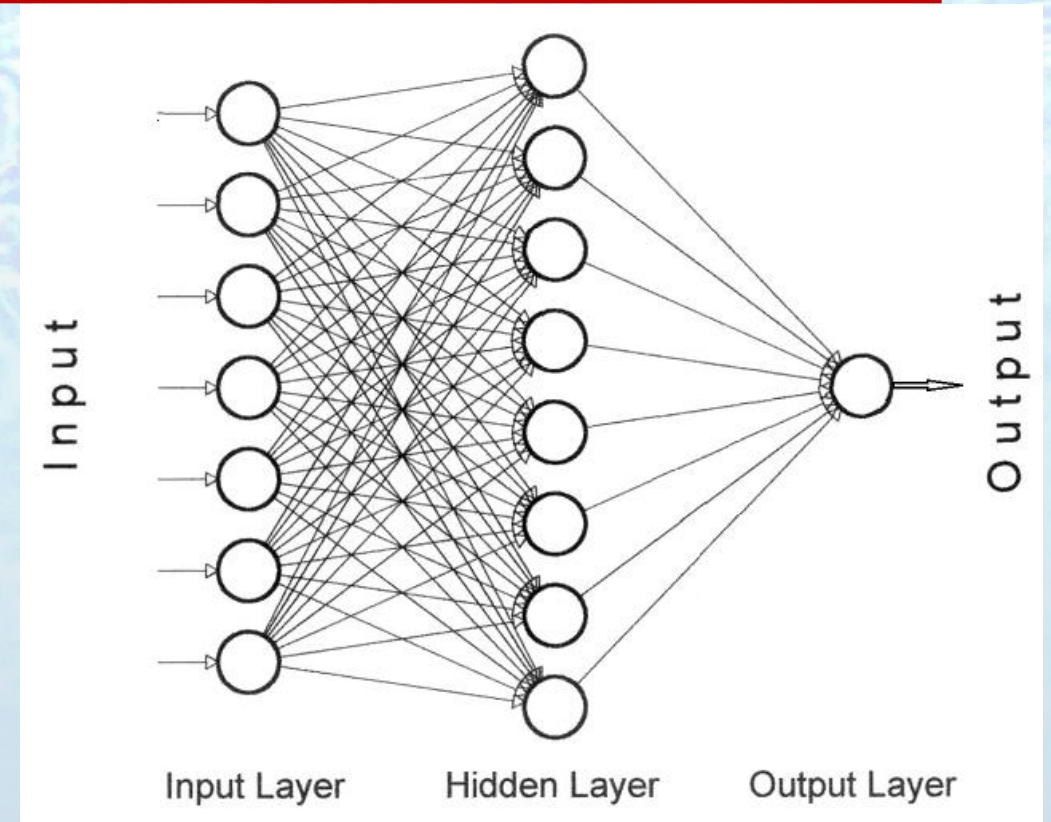- Do we still need radiation data as well?

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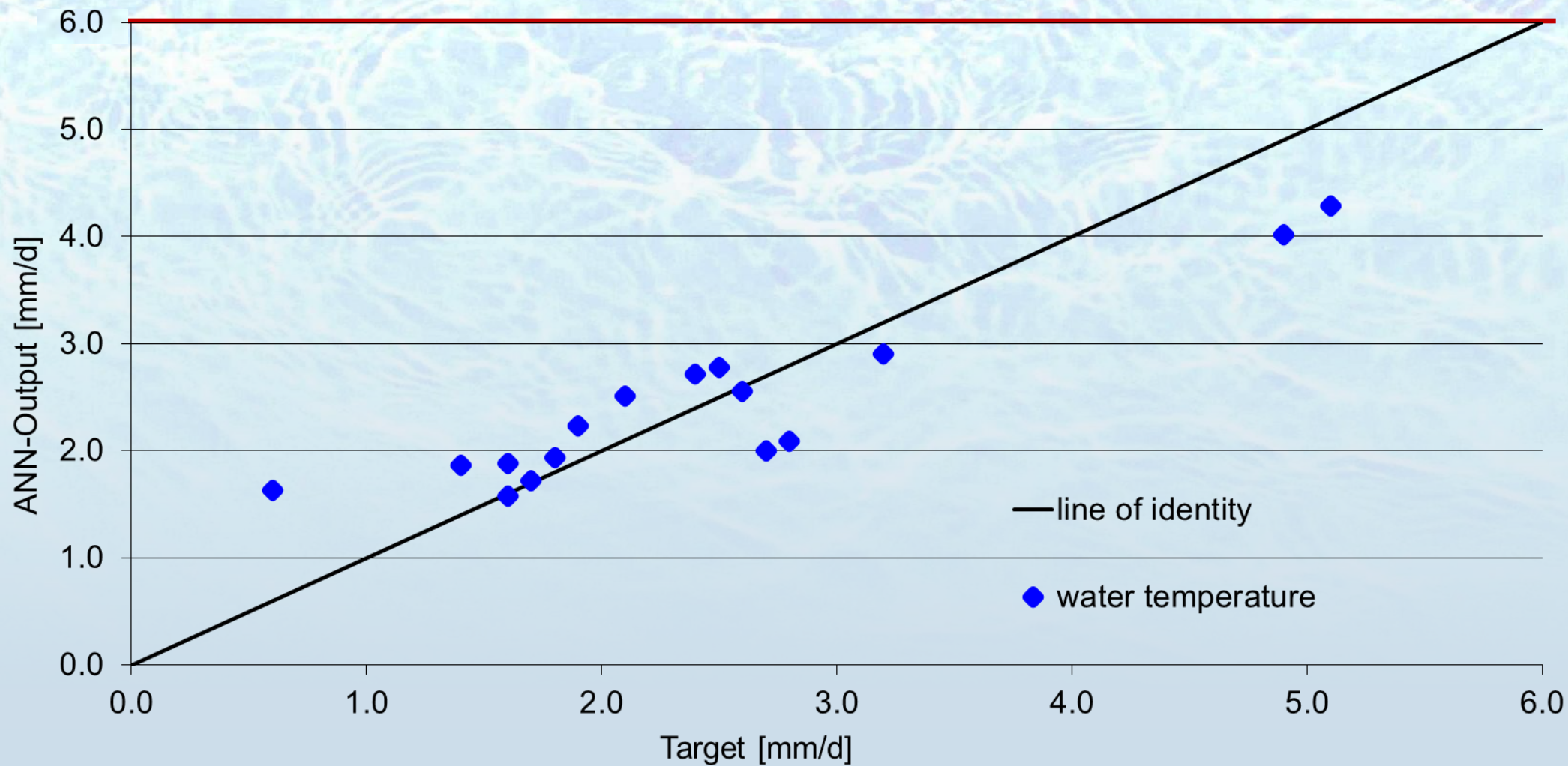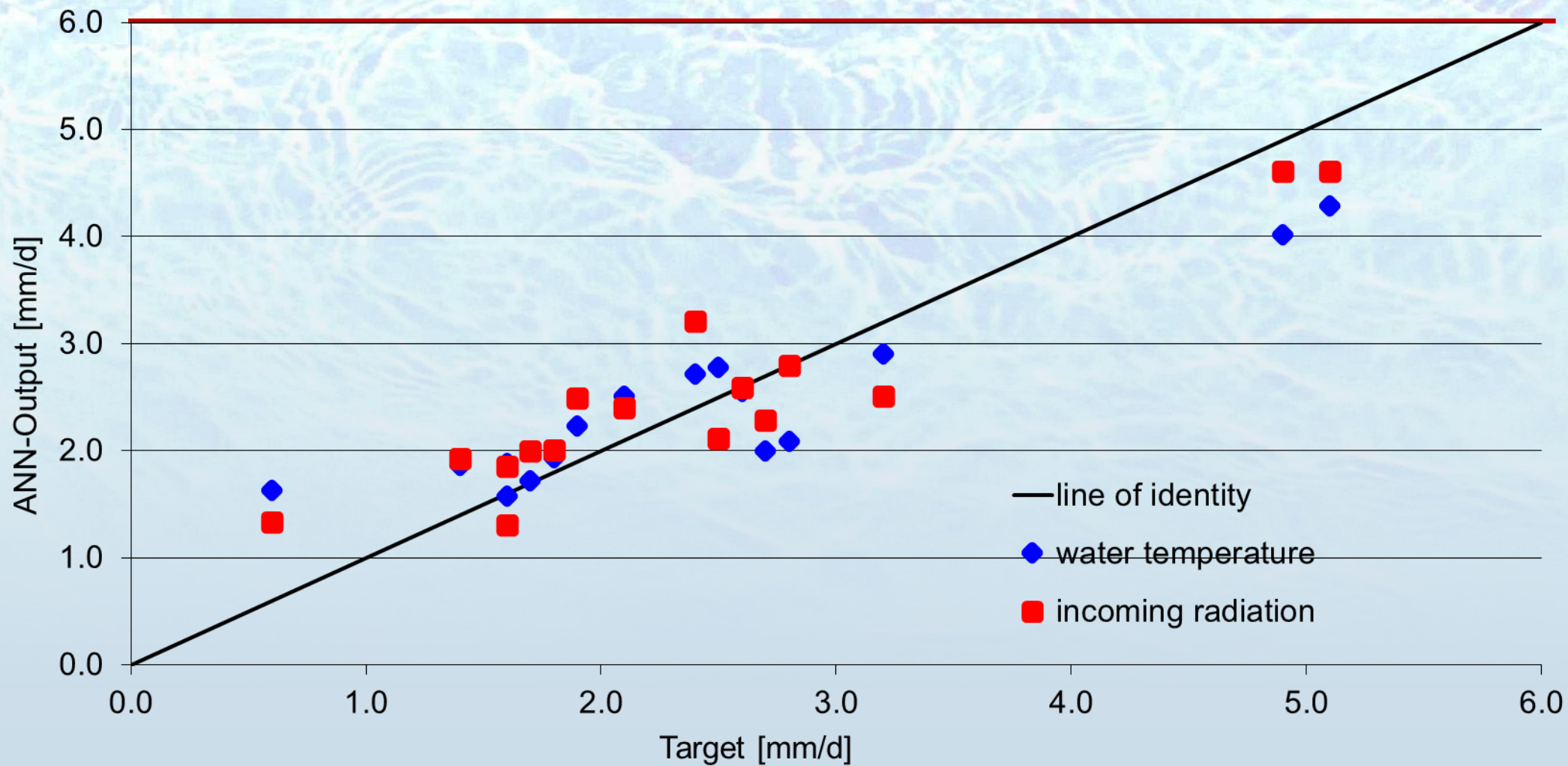Technische Universität Wien

METHOD

- ANN of the MLP type with varying inputs
- Inputs:
  - air temperature
  - wind speed
  - relative humidity
  - air pressure
  - radiation
  - water temperature
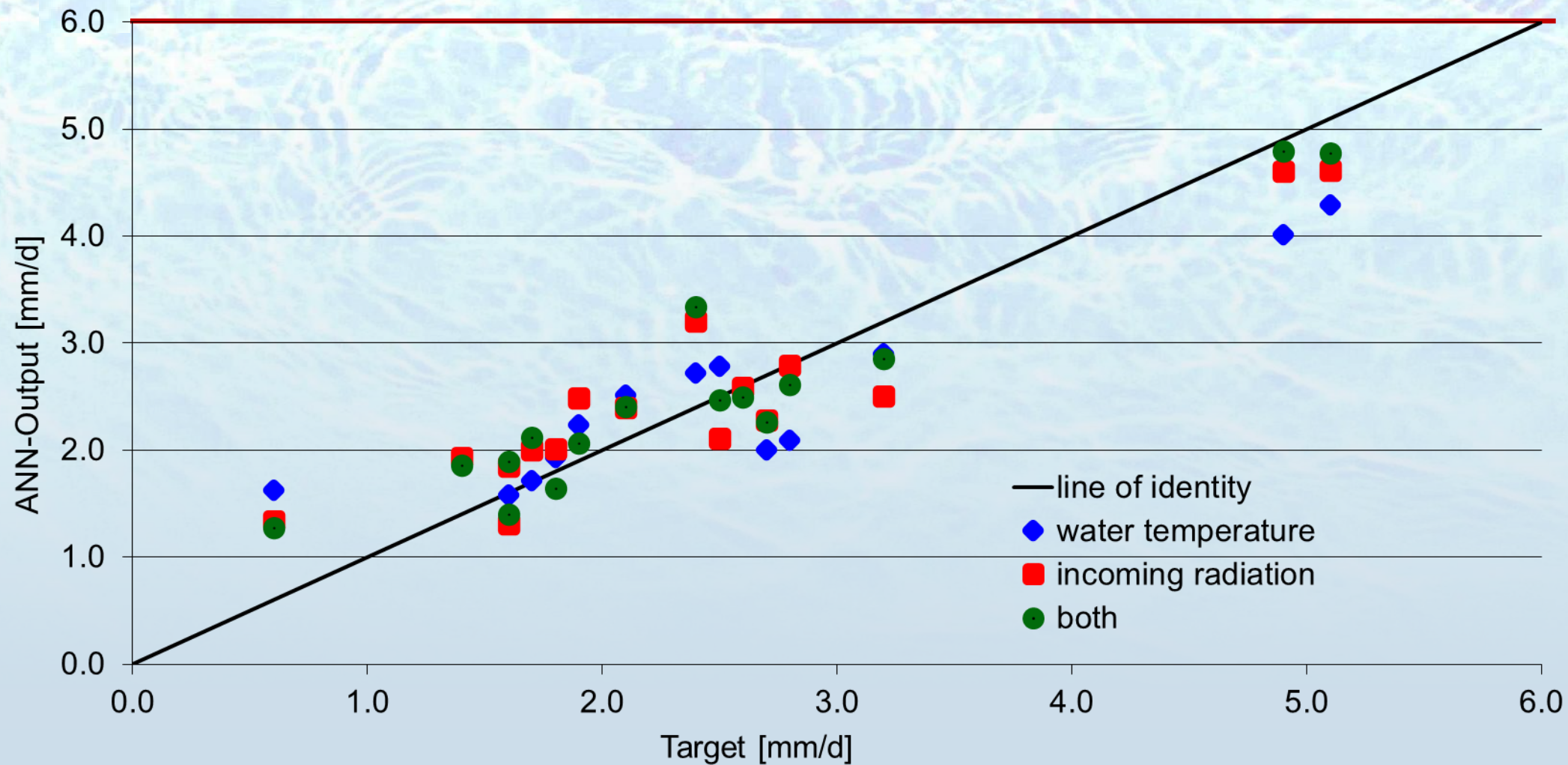- Data set: white class A pan (Qiu et al., 2022)

Input

Output

Input Layer   Hidden Layer   Output Layer

RESULTS

RESULTS

RESULTS

RESULTS:

Output ANN testing (scaled between 0.1 and 0.9):

- 4 inputs + water temperature: RMSE = 0.0887

- 4 inputs + incoming radiation: RMSE = 0.0775

- 4 inputs + both: RMSE = 0.0669

CONCLUSIONS

- Do we still need radiation data as well?
  - ➢ Answer: We should have both!

Thank you for your attention!