Global Geophysical Fluids: an IERS RS/PC Perspective

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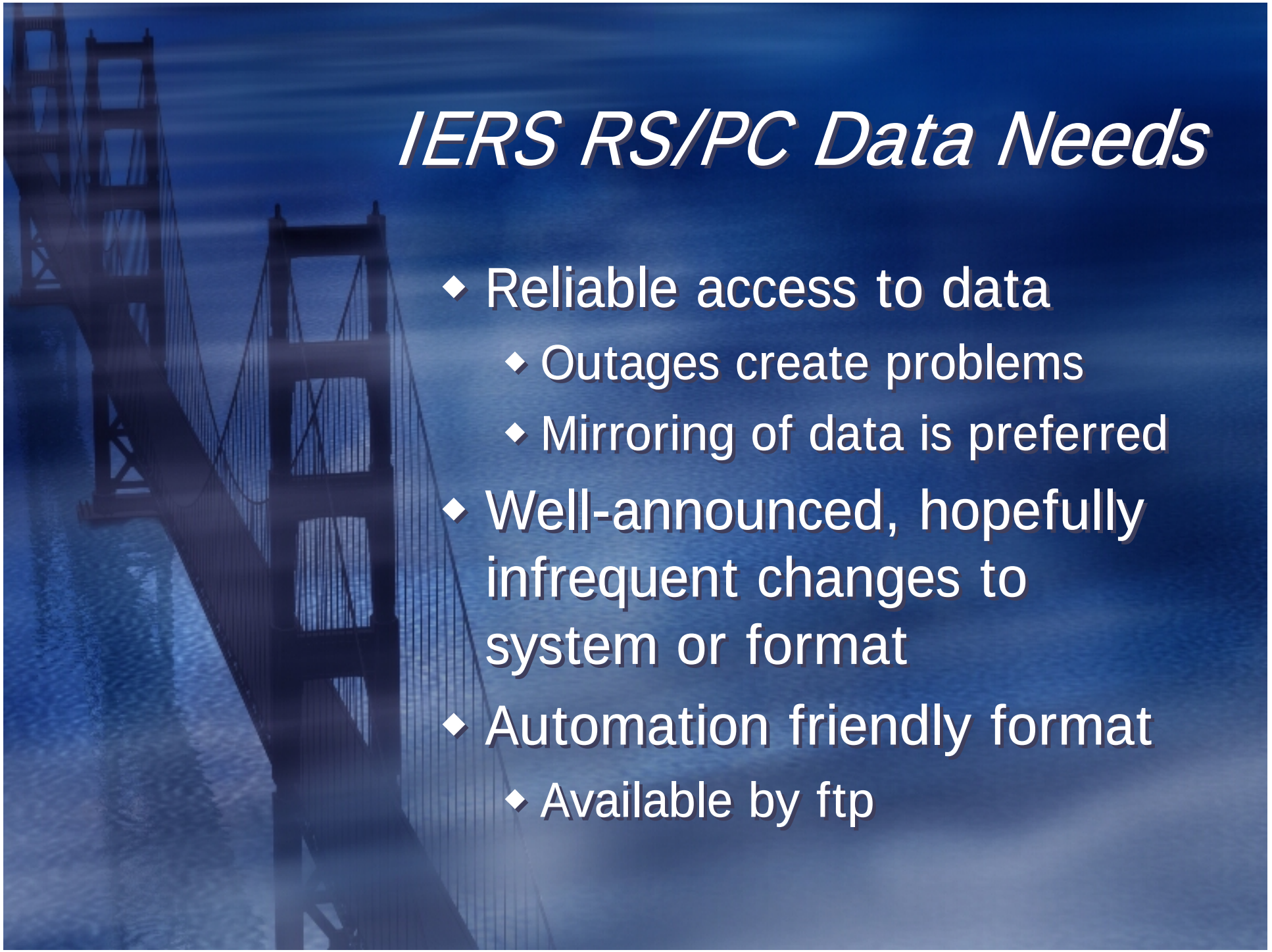
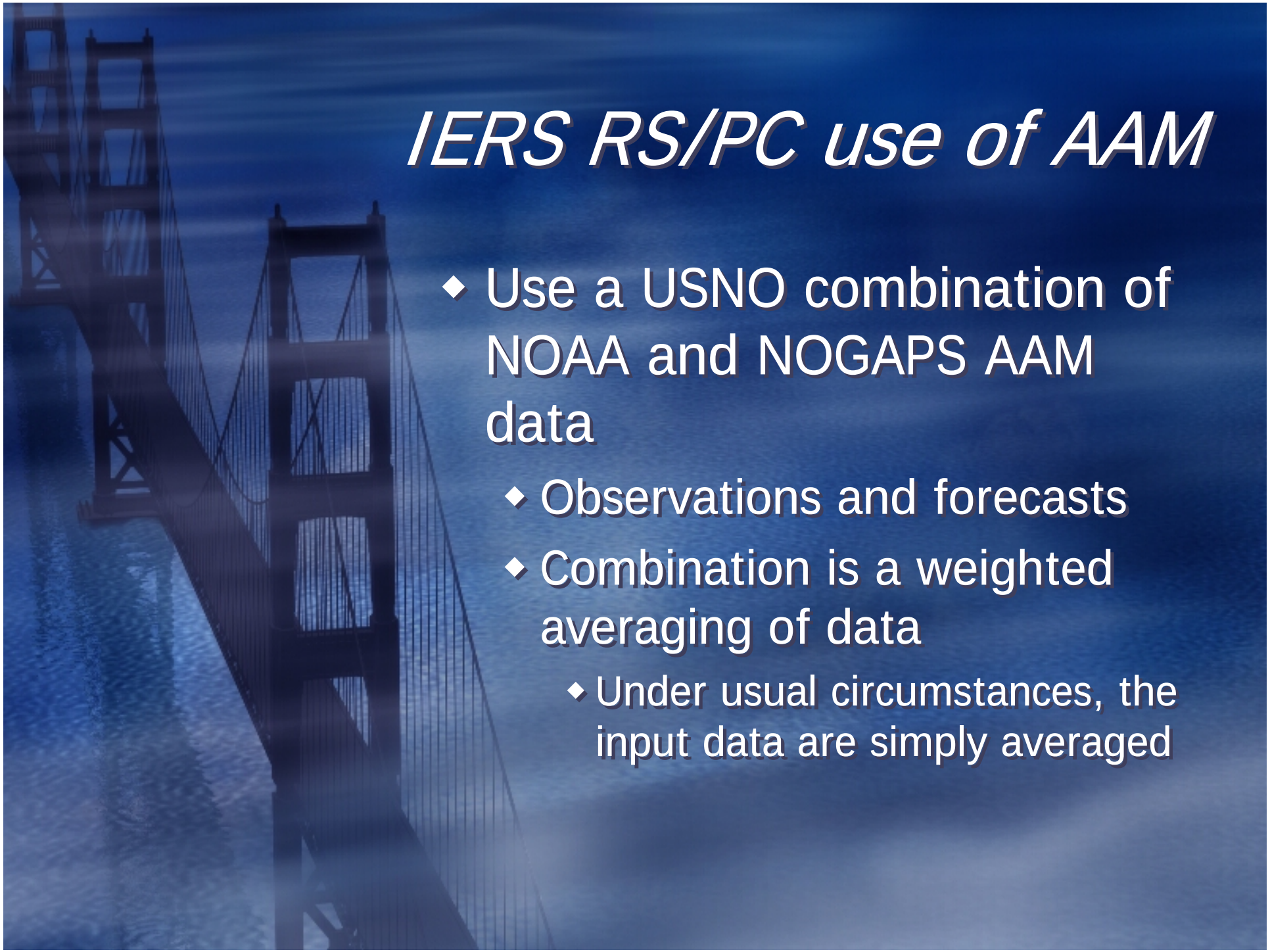
IERS RS/PC

- Produce daily and weekly EOP combination solutions
  - Solutions produced every day of the year
  - Includes AAM, GPS, SLR, and VLBI data
  - Over 1500 users
    - Most use the data for non-research purposes (~90%)
    - Not all are technically skilled



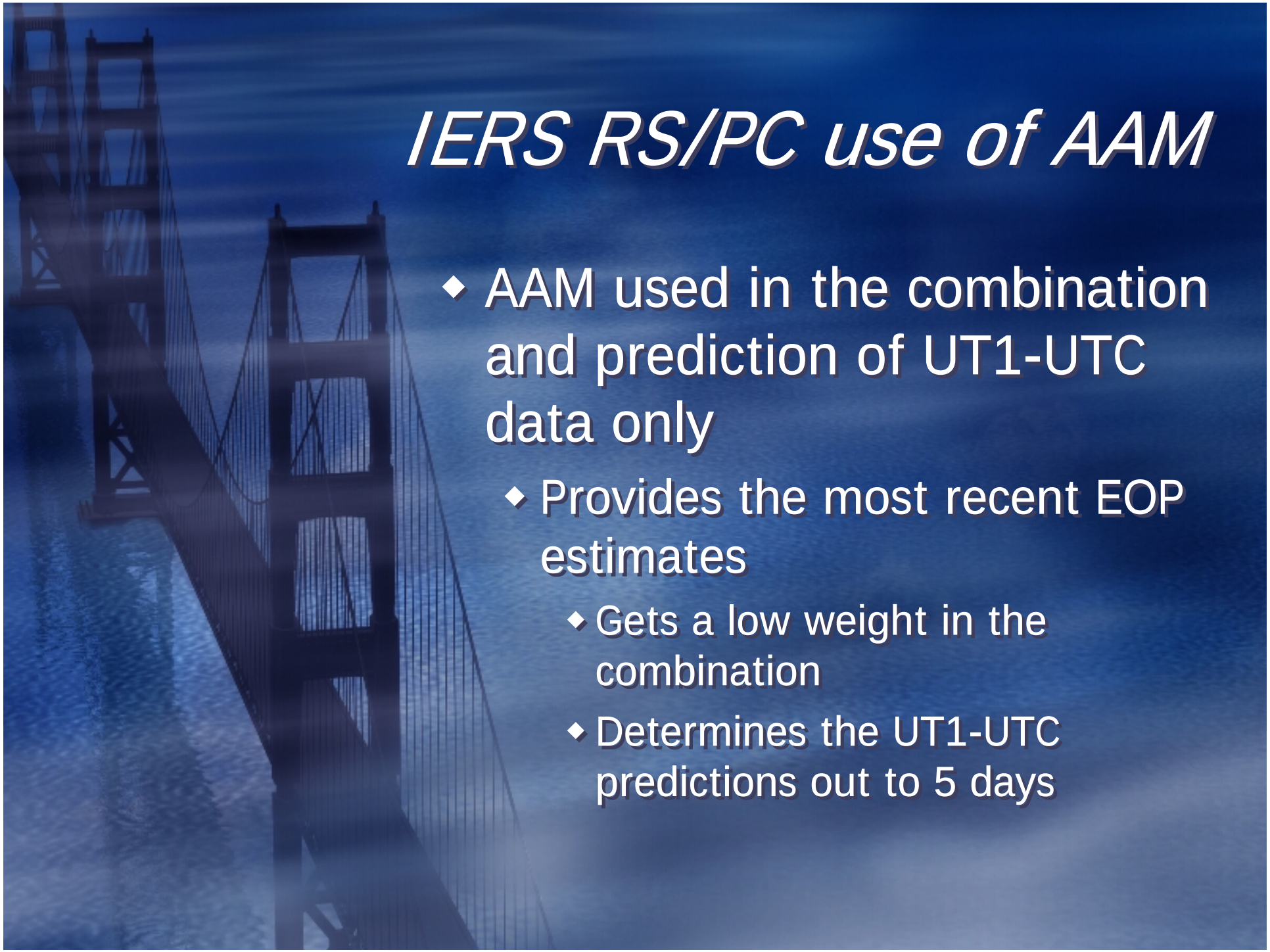
IERS RS/PC Data Needs

- Reliable access to data
  - Outages create problems
  - Mirroring of data is preferred
- Well-announced, hopefully infrequent changes to system or format
- Automation friendly format
  - Available by ftp



IERS RS/PC use of AAM

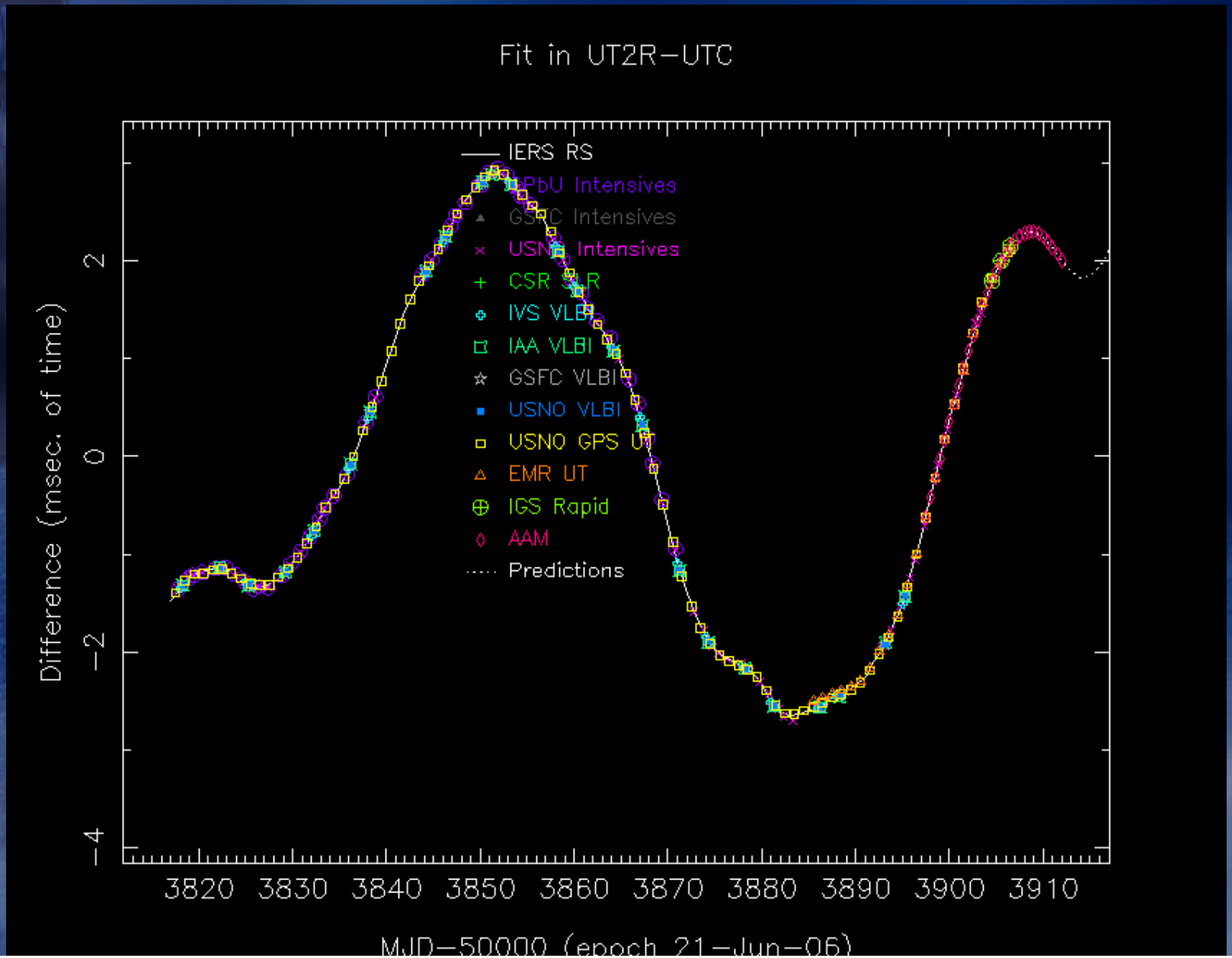
- Use a USNO combination of NOAA and NOGAPS AAM data
  - Observations and forecasts
  - Combination is a weighted averaging of data
    - Under usual circumstances, the input data are simply averaged



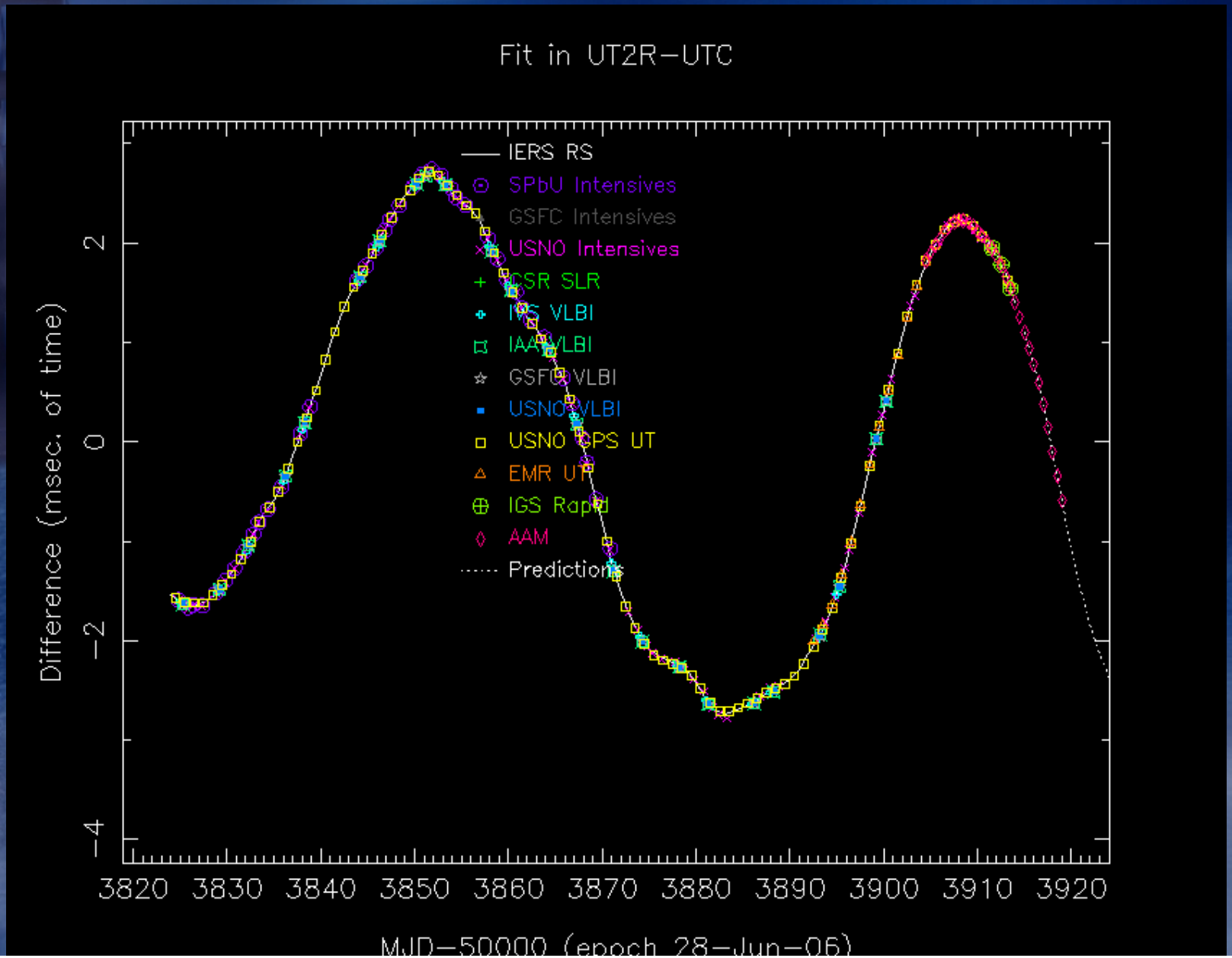
IERS RS/PC use of AAM

- AAM used in the combination and prediction of UT1-UTC data only
  - Provides the most recent EOP estimates
    - Gets a low weight in the combination
    - Determines the UT1-UTC predictions out to 5 days

Effect of AAM on UT1 Prediction

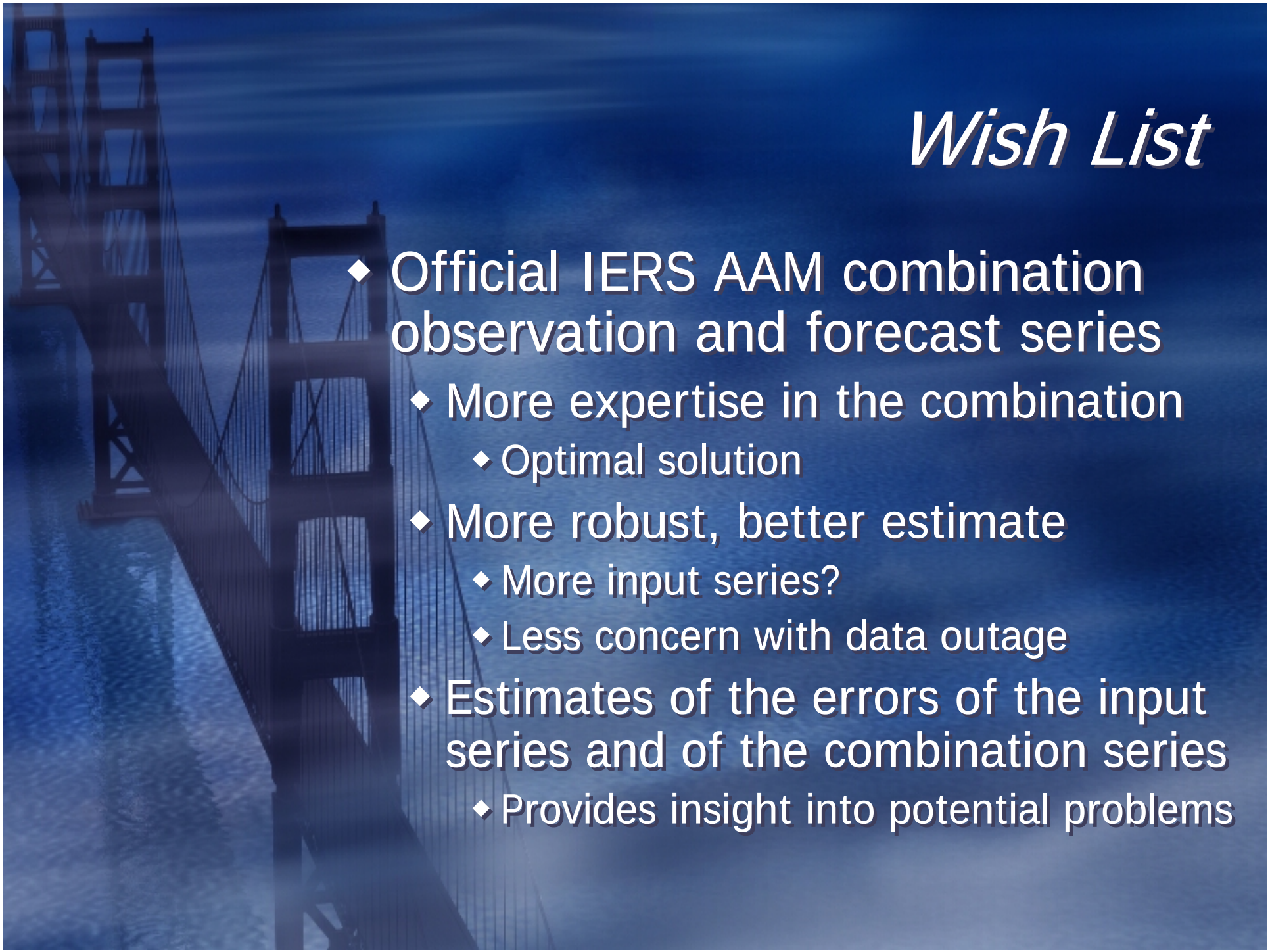


Effect of AAM on UT1 Prediction



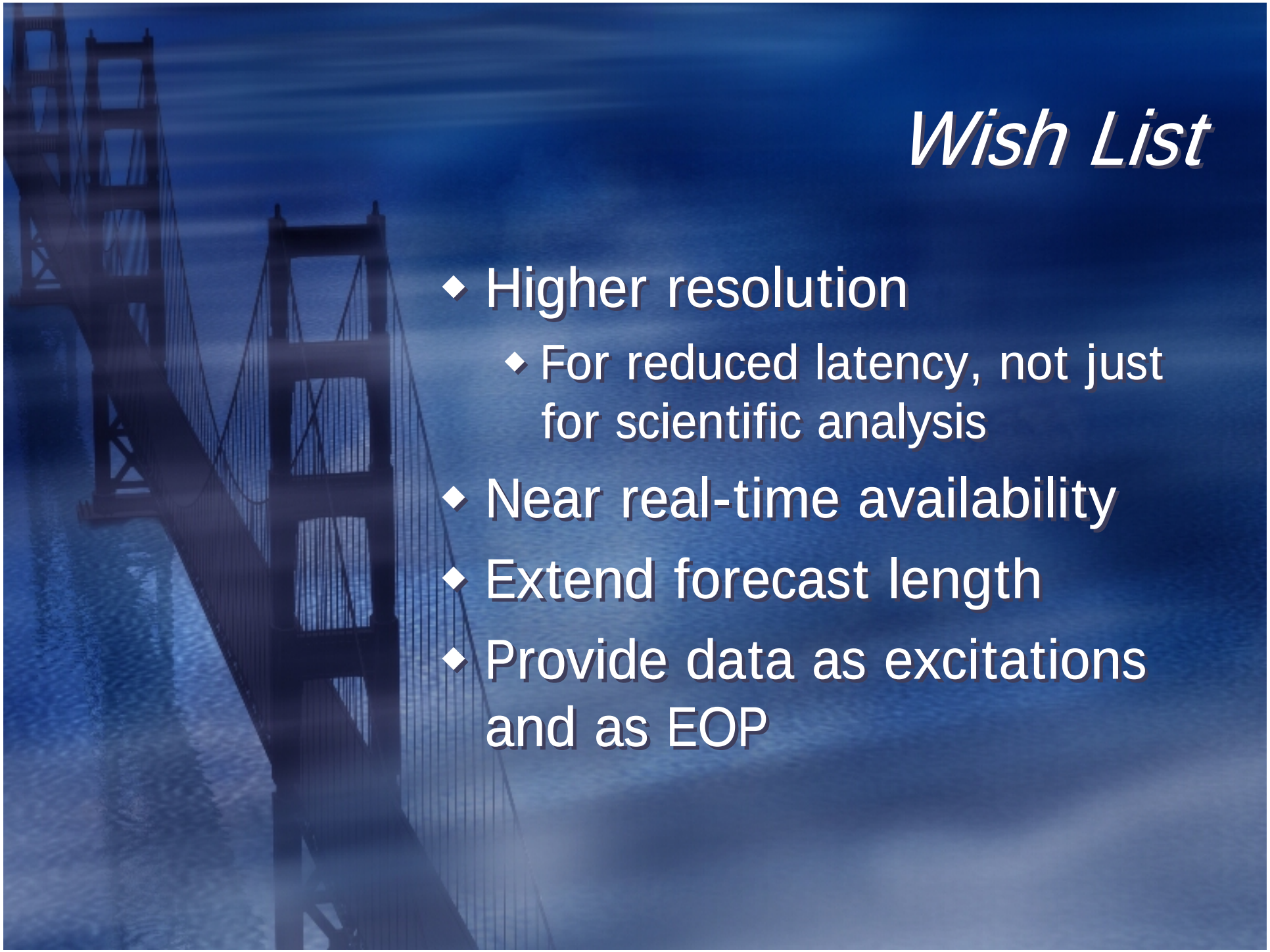
Anticipated Future Use

- Use of AAM in polar motion prediction
- Use of OAM in EOP prediction



Wish List

- Official IERS AAM combination observation and forecast series
  - More expertise in the combination
    - Optimal solution
  - More robust, better estimate
    - More input series?
    - Less concern with data outage
  - Estimates of the errors of the input series and of the combination series
    - Provides insight into potential problems



Wish List

- Higher resolution
  - For reduced latency, not just for scientific analysis
- Near real-time availability
- Extend forecast length
- Provide data as excitations and as EOP

Wish List

- Official OAM combination observation and forecast series
- Official HAM combination observation and forecast series

Summary

- IERS RS/PC uses GGF (AAM) data in our operational, daily products
  - Products used by scientists, but predominantly by non-researchers
- Anticipate future use of additional IERS GGF products
  - Especially if the products are made operationally