Update on Water Budget For ESPAM2

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ESHMC Meeting

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Modifications to Recharge Tool

- More than 255 stress periods
- More than 4 NIR multipliers

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- More than 255 stress periods ✓
- More than 4 NIR multipliers ✓

Input Required for ESPAM2.2.exe

- Model Grid GIS
- Active Cells GIS
- Canal GIS
- Canal Seepage Data Table
- Perched Reach GIS
- Perched Seepage Data Table

Input Required for ESPAM2.2.exe

- Model Grid GIS ✓
- Active Cells GIS ✓
- Canal GIS ✓
- Canal Seepage Data Table
- Perched Reach GIS ✓
- Perched Seepage Data Table

Input Required for ESPAM2.2.exe (2)

- Trib Under GIS
- Trib Under Data Table
- Fixed Point GIS
- Fixed Point Data Table
- Offsite Point GIS
- Offsite Point Data Table

Input Required for ESPAM2.2.exe (2)

- Trib Under GIS ✓
- Trib Under Data Table ✓
- Fixed Point GIS ✓
- Fixed Point Data Table
- Offsite Point GIS ✓
- Offsite Point Data Table

Input Required for ESPAM2.2.exe (3)

- Soils GIS
- Irrigated Lands GIS
- RED Data Table
- Entity Data Table
- Sprinkler Fraction Data Table
- Diversions & Returns Data Tables

Input Required for ESPAM2.2.exe (3)

- Soils GIS ✓
- Irrigated Lands GIS
- RED Data Table
- Entity Data Table
- Sprinkler Fraction Data Table ✓
- Diversions & Returns Data Tables

Input Required for ESPAM2.2.exe (4)

- Precipitation Rasters
- Irrigated-Ag ET Data Table
- Non-Irrigated Recharge Data Table

Input Required for ESPAM2.2.exe (4)

- Precipitation Rasters ✓
- Irrigated-Ag ET Data Table
- Non-Irrigated Recharge Data Table

What's left, and what will it take?

Canal Seepage Data Table

- Diversion & Return data table has to be completed
- Apply algorithm for non-linear relationship
- Adjust per on-farm budget process

Canal Seepage Data Table

- Diversion & Return data table has to be completed *(discussed later)*
- Apply algorithm for non-linear relationship *3 person days?*
- Adjust per on-farm budget process *Non-trivial*

Perched Seepage Data Table

- Flows at gages where data are missing has been predicted
- Data table is waiting on some diversions data that is currently being processed and more recent data from watermaster reports
  - Once this is complete, diversions will be applied to flow data to get seepage.

3 person days to put together files and check?

Fixed Point Table

- Exchange well pumping

  Data in hand, need to be formatted. 1 person day?

- Mud Lake pumping

  Data in hand, need to double-check algorithm & complete data formatting. 5 person days?

Fixed Point Table (2)

- Wetlands & minor uses

  As soon as we get data, need to be formatted.
  2 person days?

- Adjustments for deficit irrigation

  Will not be trivial

Offsite Point Data Table

Data in hand. Need to be formatted.
4 person days?

Irrigated Lands GIS

- 1980 RASA ✓
- 1986 LANDSAT (IDWR) ✓
- 1992 Duane McAndrews BOR/IDWR ✓
- 2000 LANDSAT (IDWR) ✓
- 2006 LANDSAT (IDWR)

See Tony's presentation for final data.
Placeholder data are completed.

RED Data Table

Nearly completed for all current data.
2 more person days?

Final 2006 by definition RED = zero

Entity Data Table

- Entity names ✓
- Water Source ✓
- ET Adjustment Factors

Non-trivial. Waiting for some METRIC estimates. Placeholders can be installed in the interim.

Diversions & Returns Tables

- Snake River Diversions

  Nearly done; 1 more day for QC?

- Snake River Returns

  Done for 2002-2006; working on 2007-2008 returns (lags)

  2 person days

- Big Wood Diversions ✓

- Big Wood Returns ✓

Diversions & Returns Tables (2)

- Non-Snake Diversions

  Data are (nearly) all in hand. 5 person days to format & check?

  1 day to coordinate w/ perched seepage?
- Non-Snake Returns ✓

- Spreadsheet Macro to populate monthly data tables, updated to new entities & tested on monthly stress periods ✓

Diversions & Returns Tables (3)

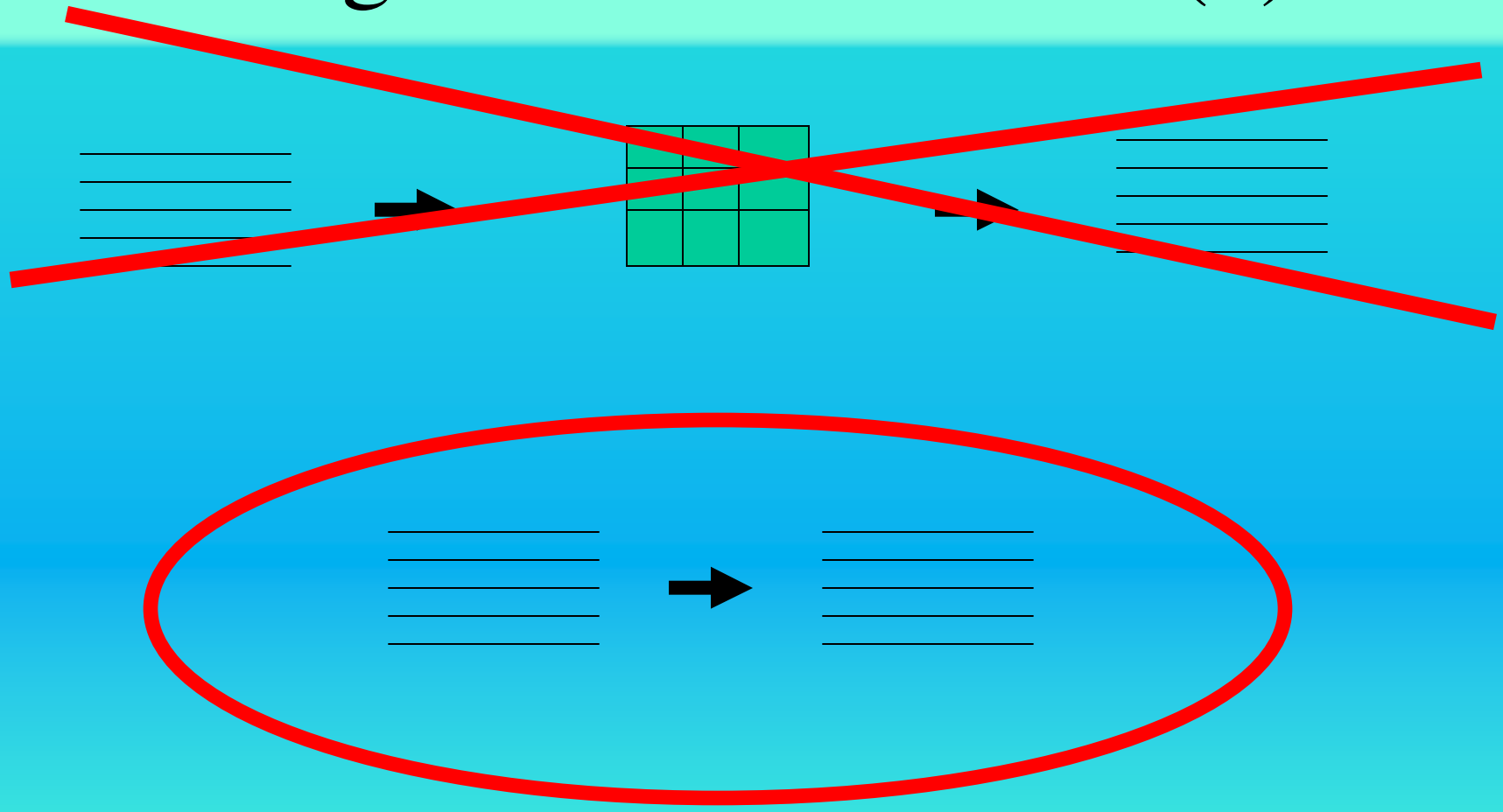
- Possible adjustment per on-farm budget calculations?

Non-trivial

Irrigated AG ET Table

- Waiting for ET Idaho Data ***Just got these!***
- Data will be in tabular format
- Recharge tool wants Rasters
- Processing 300+ rasters would take many person days
- Recharge tool would take rasters and turn them back into tables
- Processing would take many person hours

Irrigated AG ET Table (2)



4 person days?

Non-Irrigated Recharge Data Table

- Waiting for data ***(just got these!)***
- John Lindgren will build Surfer batch process to generate 3 x 300+ data tables (thin, thick, lava, for each stress period)

  (Effort/time required?)
- IWRRI will format data tables for FORTRAN tool

4 person days?

Summary of Required Effort

- Finalizing "routine" tasks

  (37 person-days)

- "Non-Trivial" efforts

  – ET Adjustment Factor ***2 - 5 person days?***

  – Adjustment for Deficit Irr (AKA "on farm" adj)

    - Diversions?
    - Returns?
    - GW fraction?
      ET Adj?
    - Correction points?

10 - 15 person days?

Summary of Required Effort (2)

Routine tasks 37 person days
Non-trivial tasks 12 - 20 person days

Total 49-57 person days

Availability

- Bryce ~ 4.5 days per week,
  (less vacation end of July, moving in August?)
- Stacey ~ 5 days per week
  (possible field work on another project, gone middle of August)
- Greg ~ 3 days per week

(END)